Performance that never fails-
20 years and counting.

By John Morris

At the time of this writing the PC12 has been certified for 20 years [FOCA March 1994 with FAA certification coming in June of 1994]. 1250 + aircraft later and counting. Congratulations to Pilatus Aircraft for making the best single-engine platform/performer in its class!

In 1999 while at Simcom, I began teaching the PC12. Since then there have been many tremendous improvements to the systems, operation and interior of the PC12 by Pilatus, Pratt&Whitney and the avionics industry. The most current production model PC12 47/E (NG), MSN 1451 and after, now has electric landing gear, wireless data downloading and refined external lighting. But the airframe itself and its performance capabilities have basically stayed the same. The only "true" modification to the airframe has been the roll steering [affectionately called the "power steering"] improvement and the only true visual factory change has been the winglets, with 2 versions [original "Biglets" or the one-third size "Biglets"] until the PC12 /47 standard winglet introduction in 2005.

Since we are discussing performance, I thought I would share with you a couple of first experiences that I have had with the PC12 that relate to the performance capabilities and improvements, past and present. I am intentionally going to discuss pre-12/47 Legacy PC12's for the past/present experience. Performance-wise, the NG does everything the Legacy PC12's do but gets you there in less time, carries more weight, and has the latest in avionics technology/integration (APEX) already installed. Outstanding!

One of my "firsts" took place in Feb. 2002. I had the opportunity to fly a 90-hour new; fully factory equipped early Series 10 (late

2001) from Mustique, St. Vincent and the Grenadines (TVSM-2500' runway length) to Atlanta, Ga. for its first 100-hour inspection. I had flown privately in the Caribbean before but not in a PC12 nor as far or from a new country of origin, roughly 1900 nm one-way. The owner, a newly trained PC12 pilot, requested that I fly non-stop back to Mustique from Florida, as he did not fully believe that it could be safely done. Request accepted!

Just to review the full (relevant 2001 equipment) package from the factory: single GPS King KLN 90B, full (optional) co-pilot instruments/ EFIS installation with dual AHRS, along with the dual Nav/Comm King KX 165 transceivers and the ever-important King KN 87 ADF. The weather instruments were the Standard King RDR 2000 weather radar using my still favorite MFD, the King KMD 850 –no other in-flight weather info available back in 2002. At least the weather is quite good in the Caribbean during the winter months. But instrument approaches were, and still are mostly non-GPS. The KLN 90B GPS approach database was limited to published-only GPS approaches. There was no airways database. All other approaches/waypoints must be input manually (paper on-board of course) for GPS supported approach/navigation. And being the good old days, there was no Wi-Fi or other portable, aviation-related, smart stuff.

Accompanying me on the trip were two non-pilot friends of the owner. We took two days to get to Atlanta, with 2 stops enroute due to necessary early refueling and Customs (post 9-11), with a final overnight in Orlando. The return trip took us back to Orlando where we stayed overnight. The following day was to be the non-stop request back to Mustique (Customs/Immigration on TVSM). With approximately no tailwind support but otherwise fair weather we made the 1500 + nm trip in 6.1 hours with 600 lbs of fuel remaining. I operate all PC12s using the maximum cruise performance charts and it was no different for this trip. Of course I kept in consideration that there was no fuel available at Mustique

(VFR only), and that I needed enough fuel to get to the planned next day final destination of Barbados (TBPB-100 nm east) or St. Vincent (TVSV-15 nm north), both of which were alternates in case of bad weather.
Note: The return non-stop trip from Orlando to Mustique was posted on Pilatus' website for many years as a testimonial. It is still my longest nonstop PC12 trip.

My latest "first" was an opportunity to fly with a new owner of an early 1997 (pre 200 MSN) PC12 on his trip home to Jeddah, Saudia Arabia from Daytona Beach, Fl. Normal factory configuration would have been roughly the same as the description given from my previous "first" example with the exception being the original MFD at that time was another 4" EFIS display. However, the cockpit had undergone a significant upgrade prior to this flight. Garmin G-600 PFDs were installed in both the left and right pilot positions replacing the existing EFIS only. [Note: This is not the normal conclusion to the installation but this was an unusual case] Plus, as a result of this installation the original AHRS were removed since each G-600 comes with it's own AHRS. Also installed were the touch screen-GPS/Nav/Com Garmin GTN 750 and GTN 650. This aircraft kept the 4" EFIS as it's MFD for the Radar, which is a very unusual installation. With this present avionics upgrade we had the entire North and South American, European and Middle East GPS waypoint database, along with all enroute High/Low airways. Also installed were all available approach charts displayable on both instrument panels. Nexrad and all available digital en-flight weather info was also installed. A "slight" improvement from 2002! However, the past is still with us on this trip, as in the Caribbean, with mostly published non-GPS instrument approaches.

This airframe had just less than 3100 hours total time. The aircraft for both these "firsts" had the executive 8-seat configuration, though not all were executive seats. On the Saudi Arabia trip I had

4 male passengers, two (pilots) who alternated occupying the other driver's seat with me. Along with the "stuff" brought from Daytona for the duration and the overwater gear we were to pick up, we would be operating in a Combi configuration with less than full fuel (~350 gallons).

Most of the flight planning for this long, international trip was done via one of the worldwide flight planning services, whereas I handled the Caribbean trip myself. Services would commence once we departed the USA. The owner had also expressed a wish to arrive in Jeddah (OEJN) no later than Sunday, Dec 9, allowing for some possible sightseeing en route.

The mission started Tuesday, Dec 4, 2013, departing from Daytona Beach, Fl. (KDAB). One of the original items in the aircraft was a less than stellar NiCad battery. So as a result, with my recommendation, our first stop was to Atlanta (Epps Aviation) to replace the battery with a Lead-Acid type. Since we were not in a hurry we stayed the night in Atlanta.

Our plan for Wednesday Dec 5 was to fly to Goose Bay, Labrador (CYYR) via Bangor, ME (KBGR) [1600 nm-6+ hours], to pick up our overwater gear for the next leg. Winter weather can definitely change plans, as happened by the time we reached Bangor. A local blizzard at Goose Bay was forecast to be over by the time we would arrive, but with the alternate with Customs located over an hour away we decided to stay in Bangor. Sometimes even with the performance why chance it? So with the change of plans, the next day was to be the flight to Goose Bay for the overwater gear and then on to Reykjavik, Iceland (BIRK) [1340 nm]. And, if we were feeling lucky, we would continue on to Wick, Scotland (EGPC) [only 650 nm more] to drop off overwater gear.

On Thursday Dec 6, we departed KBGR for Goose Bay. Upon arrival the CYYR FBO had a request to phone Scotland for a

weather update from the planning desk there. When checking available weather information for the crossing to Europe I had seen the weather system the night before on my laptop (times had changed from 2002) as well as an App on my smart phone. As it turned out, there were reported sustained 80+ mph winds over the North Sea into UK/Netherlands/Germany. Needless to say, the briefer recommended, with my complete approval, to delay arrival into Scotland for at least a day. Coupled with the time zone changes and diminishing lack of daylight, we made the decision to stay the night in Goose Bay. Another good reason to have a planning service!

On Friday Dec 7, we departed Goose Bay, and made a stop in Narsarsuaq, Greenland (BGBW) [680 nm] for fuel, due to lack of wind support enroute and "iffy" weather forecasts for southern Iceland. We likely could have made it to BIRK [1250 nm from CYYR] with gas to spare but again, there was no hurry, plus alternates get thin in Iceland if weather arrives. We departed BGBW about 2:00 pm local [DST -2 UCT, Sunset 3:00 pm local], and arrived Reykjavik around 7:30 pm local UCT [Sunset 3:40 pm/Sunrise 11:00 am]. At this point, it did not look like we would make Jeddah by Sunday.

On Saturday Dec 8, we departed BIRK 8:15 am for Wick, Scotland. What would have been a 175 mph tailwind the day before was now about 25/35 mph. But it was mostly smooth air, probably due to lack of winds aloft. We landed at Wick (UCT DST +1) [640 nm], dropped off the overwater gear, refueled and refiled (intended on Ankara, Turkey but changed plan again). We filed and flew to Naples, Italy (LIRN). This route avoided a lingering weather system in northern Europe and offered a more direct route to our final destination (Jeddah). We departed Wick at 12:45 pm and landed Naples 7:15 pm (UCT DST +2) [1300 nm with a 35 mph tailwind]. Fuel performance on this leg was outstanding! Fuel burned this leg – 1601 lbs. Not bad for a 3000 + hour PT6!

Sunday Dec 9, we departed Naples at 9:30 am for Alexandria, Egypt (HEBA) [980 nm] arriving at 2:45 pm local (UCT DST + 3). After refueling and a paperwork snafu for Jeddah (almost no problems for the trip) we departed Alexandria at 4:45 pm for Jeddah (OEJN). We landed in Jeddah at 8:15 pm local (UCT DST + 3). Mission accomplished - on time!

I cannot tell you the exact amount of fuel burned for either of these trips. But I think based on the tidbits of fuel data given; the engine performance speaks for itself. The load capability for range purposes is still amazing, even for the pre- /47 PC12 MGW 9921 lbs. It also does not appear that aircraft age has any impact on performance, if the aircraft is given proper care of course.

I will be posting video's from this flight and others on my website

TVSM to PDK to TVSM	4 Days, Engine hours: 15.3	
	Estimated distance flown	3716 nm
KDAB to OEJN:	6 Days, Engine hours: 28.1	
	Estimated distance flown:	6845 nm
Fun note: Great Circle direct	KDAB to OEJN:	6205 nm

"A safe pilot is always learning" and loving it!

John Morris - ACFT Services

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