

My Other Plane  
is a

# Pilatus PC-12

by Matthew McDaniel



Rick and Bob Urschel with their PC-12 and SR22 at Valparaiso/Porter County Airport (VPZ) in Valparaiso, Ind.

Orville and Wilbur's most famous flight at Kill Devlin Hill, N.C. occurred less than 106 years ago. If a generation is assumed to be 20 to 25 years, that would make aviation as we know it barely four to five generations old. It is a rare family that contains four generations of aviators, yet that is exactly the situation with the Urschel family of Valparaiso, Ind. The two current generations are the father-son team of COPA members, Bob and Rick Urschel.

Valparaiso is in northern Indiana, southeast of Chicago and just below the southern tip of Lake Michigan. In the 1930s, William Urschel was already a well-established "Valpo" area inventor and businessman, designing and producing his first machine in 1910. This machine was the beginning of Urschel Laboratories, Inc., now a fourth-generation family business. William embraced aviation as a key element to his city's long-term growth and survival. Using land adjacent to his plant, he started the city's first airport, Urschel Field. The all-grass airport was used primarily for flight training and crop dusting activities. It was also home to some very early homebuilders and EAA charter members (see page 30). William owned and operated Urschel Field from the 1930s until about 1963, when the larger, paved, Valparaiso/Porter County Airport (VPZ) opened. While William was never a pilot himself, he was an important part of VPZ's aviation history.



Gladys Urschel (Swain) at Urschel Field, Valparaiso, Ind., in 1941. Gladys is Bob's mother and Rick's grandmother. She was the first woman to solo out of Urschel Field. Note the signs of the time; a parachute, a cigarette, and a leather flying jacket!

Joe Urschel (William's son), took his first flying lesson out of Urschel Field in 1936 in a Waco 10. Joe took further training in a Taylor Cub and accumulated about 11 hours of logged time before it is believed that his poor eyesight ended his training in 1939. In 1941, the local newspaper ran a story about Gladys Swain, who in a J-3 Cub was

DATE 19 <u>41</u>	FLIGHT FROM	FLIGHT TO	AIRCRAFT MAKE AND MODEL	AIRCRAFT CERTIFICATE MARK	WEIGHT-ENGINE CLASSIFICATION			DURATION OF FLIGHT	
Nov. 16	Mich. City	Lafayette	Leacombe	NC 25340					60
" 20	160 bart		"	"					45
" 20	"		Aeronca Chief	NC 34531					45
Dec. 6	at Mich. City	-	Aeronca	NC 36817					45
" 7	" "	-	Aeronca	NC 36817					30
									45
THE RECORD ON THIS PAGE IS CERTIFIED TRUE AND CORRECT:									
PILOT _____ ATTESTED BY _____					CARRY TOTALS FORWARD TO TOP OF NEXT PAGE				

A page from Gladys Swain's (Bob Urschel's mother) logbook, showing her final flight on Dec. 7, 1941 – Pearl Harbor Day.

Urschel Field's first female to solo. She would later marry Joe Urschel, but World War II ended her flying. Her last flight was a solo hop in an Aeronca on December 7, 1941 – Pearl Harbor Day.

### A Twist to their Aviation Story

Here's where the Urschel family's aviation story takes a strange turn. After Joe and Gladys (Bob's parents) both stopped flying, they developed a strong distaste, if not an outright fear, of aviation. Why two pilots would become fearful of their once-chosen hobby is not certain, although their son Bob theorizes that his father likely flew in such a way that aviating for him was probably both illegal and highly unsafe. After World War II broke out and they started a family, Joe and Gladys viewed aviation as a fool-hearty pastime and instilled a deep fear of it in their children. Other than a rare airline trip, neither ever flew again.

Meanwhile, the family business of designing and manufacturing food-size-reduction equipment was prospering. Bob (generation three) eventually inherited both the family business and his parents' fear of flying. He'd been raised to believe that small aircraft were death traps that only daredevils flew in. Those thoughts were only reinforced in the 1970s by Bob's first experience in a small plane. The pilot subjected his fearful passenger (Bob) to power-on stalls! Then, in the early 1980s, two Urschel Lab employees were killed in a plane crash. Thereafter, Bob avoided small aircraft and only flew airlines when no other travel option would suffice.

Bob's fear of flying extended to protecting his children from it as well. As a child, Rick (generation four) had the opportunity to take a free flight in a Stearman that was passing through town. Instead, his parents only allowed him to take a quick taxi around the airport! Yet, something must have stuck with Rick that day.

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Years later, in August 2003, he began taking flying lessons himself, while desperately hiding that fact from his parents. Within a month he soloed, but 30 days later was diagnosed with thyroid cancer.

Within weeks, Rick underwent surgery to remove his thyroid, all while hiding the fact that it was his flying lessons and his FAA physical that had revealed the presence of the cancer to begin with. Knowing his parent's fear of small aircraft, he didn't want to add to their concerns over his cancer. Plus, he knew his dad would be furious about the flying. Ten months passed while Rick followed his cancer protocol. He was then pronounced cancer-free and immediately returned to his flying lessons, again without telling his parents.

Finally Rick began to listen to reason. Those who had learned of his flying activities implored him to tell his dad before Bob discovered it through their small town's grapevine. The Urschels are well-known in town and their distaste for flying was no secret. The fact that their son was flying solo out of VPZ would not stay quiet forever! Rick fessed up to his parents over a year after his first solo. You can imagine Bob's reaction. The news went over like a lead Zeppelin! But, Rick was an adult and in spite of Bob's sleepless nights of worry, he couldn't really stop his son from pursuing his newfound passion. A month later, Rick passed his PPL checkride. He added an instrument rating the following year.

## If You Can't Beat Them, Join Them

One day, a few months later, Bob asked his son to take him on an airplane ride. Rick flew his dad along the Lake Michigan shoreline and past the Chicago skyline. To Bob's surprise he did not hate it, and his son's stance that flying was safe seemed almost feasible (his nerves notwithstanding). What he truly discovered, however, was how much his son enjoyed flying and he realized his resistance was futile.

What's a father to do? A logical choice to Bob was to learn all he could about this his son's newfound hobby. Bob took a discovery flight of his own and, to the amazement of all who knew him, became a student pilot himself. He soon discovered his own passion for aviation and completed his private training within six months. A year later, in March 2006, he took delivery of a new SR22 (the CAPS being a major selling point to him). All of a sudden, he could not stop flying. By the end of 2006, Bob had earned his instrument rating and by early 2008 he was a commercial pilot and CFI! Not bad for a guy who viewed small airplanes as flying coffins for more than a half-century of his life.

With aviation being such a large presence in Rick and Bob's life away from work, they were soon looking for opportunities to incorporate it into their working lives.

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With the regular need to travel for the family business, using their Cirrus seemed to be a natural progression. They soon discovered that all too often trips had to be cancelled due to weather. What they needed was an all-weather aircraft, but the cost of such an aircraft prohibited sole ownership by their relatively small company. Another long-standing Valparaiso business operated a Pilatus PC-12 out of VPZ. Bob and Rick had always admired the aircraft. What they soon learned was that its owner was also having a hard time justifying sole ownership. It seemed a perfect match. Eventually, Urschel Labs bought a 50 percent share of the aircraft and a professional pilot/instructor who'd already been flying it came with the deal. This resulted in the two primary employers in a small Indiana town becoming co-owners of a corporate aircraft.

Obviously, one does not just hop into a PC-12 and fly it solo. Rick and Bob embarked upon a program of ground, simulator, flight, and operational training to learn to fly their corporate aircraft. Plus, they fully intend to keep the PC-12's professional pilot on staff, both to help facilitate their own training and to keep their business trips professionally flown. When I had a chance to fly their PC-12 on a brisk March day in Wisconsin, Rick had already completed a lot of training and was flying the aircraft under the supervision of their instructor, Wally Hekter. Bob's training had not yet reached the point of actual flight training. After a thorough preflight lesson with Wally, I saddled up the big Pilatus from the right seat.

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The Urschel's PC-12 and SR22.

The PC-12's huge aft cargo door is positioned behind the wing to allow easy loading of bulkier items, via pallet and forklift if necessary.



The massive fowler flaps help the PC-12 fly at Cirrus-like approach speeds, in spite of it being three times the weight of a Cirrus.

### A Closer Look at the PC-12

The first impression of the PC-12 is its immense size. As single-engine aircraft go, it's huge (at nearly 10,000 pounds gross weight). The cabin is spacious and similar in size to a King Air 200, incorporating readily accessible baggage areas and closets. While there is a lavatory, it is small and awkward. It beats having no lav at all, but only by a little. The cockpit is large and comfortable – much more so than any small or mid-size bizjet I've ever been in. Then there are the doors. The airstair door is similar to most large twin-turbine aircraft, but it's the rear cargo door that really dominates. It is positioned entirely behind the wing and is large enough for a forklift to load a standard pallet through. The door is motorized to close from its towering opened-height. It's an ideal feature for operators wishing to carry the occasional bulky cargo loads.



After a tour of the cockpit layout, Wally fired up the PT-6 in the simple fashion that makes the Pratt turboprop such a user-friendly powerplant. Taxiing away, I was focusing on the high sight picture, but I waited until reaching the practice area to take the controls. The big Pilatus is nothing if not a rock-stable platform. Slow flight and stalls were totally straightforward, with the aircraft responding quickly to power applications. Of course, if you don't add sufficient right rudder, the big PT-6 will produce significant yaw, but the rudder is very effective and compensates easily. Steep turns were equally stable, even over to 60 degrees. It is in roll that the PC-12's controls are extremely heavy and out of harmony with the light and responsive pitch and yaw control. For large roll inputs, the ailerons feel like they are set in wet concrete. The aileron break-out force only increases with speed and I even found myself grabbing the yoke with both hands to muscle the high rolling forces.

The Urschel's PC-12 is a "Slash 45" model. The /45 was introduced in 1996, just two years after the original PC-12/42 was certified in 1994. It features a significant increase in gross weight – over 800 pounds more than the /42. Newer models, the /47 and /47E, incorporate aerodynamically-boosted ailerons that lighten roll forces and better harmonize the PC-12's controls. The /47E is the current production model, equipped with the Honeywell Primus Apex fully-integrated avionics suite.

Other than the heavy ailerons, the PC-12/45 was very pleasant to fly. Takeoffs and climbs were basic, but somewhat flat in pitch attitude. The combination of a thick airfoil and 1,200 shp (shaft horsepower) makes the initial climb feel more like an elevator ride. Pattern work was standard, except I found myself in a mental block about slowing the plane down enough. Despite its size, the PC-12's final approach speed is the same or slightly slower than that of the Cirrus. Having flown many large and small

## Data Chart – Pilatus PC-12/45

	Current Configuration
Engine	Pratt & Whitney PT6A-67B, 1,200 shp
Propeller	Hartzell 4-Blade, fully-reversible, 8 foot, 9-inch diameter
Seats	6+2
Wingspan	53 feet, 4 inches
Length	47 feet, 3 inches
Height	14 feet
Wing Area	277.8 sq. ft.
Max Gross Weight	9,965 lbs. (Ramp) 9,921 lbs. (Takeoff/Landing)
Wing Loading (1g)	35.71 lbs./sq. ft.
Power Loading (@MGW)	8.27 lbs./hp
Baggage Capacity	400 lbs.
Fuel Capacity (usable)	402 gal.
Landing Gear	Retractable, tricycle, trailing-link
Wheels/Tires/Brakes	8.50x10 Mains, Non-Boosted, Triple-disk, Steel Brakes
Cockpit Flight Controls	Dual Yokes
Stall in Landing Config ( $V_{SO}$ )	64
Stall – Clean ( $V_S$ )	91
Rotation ( $V_R$ )	79
Best Angle of Climb ( $V_X$ )	110
Best Rate of Climb ( $V_Y$ )	120
Typical Climb	150
Cruise Climb	160
Max Cruise	265 (TAS)
Economy Cruise	218 (TAS)
Never Exceed ( $V_{NE}$ )	236
Flaps Extended ( $V_{FE}$ )	163 (0-15°), 130 (30°+)
Landing Gear Operating ( $V_{LO}$ )	177
Maneuvering Speed ( $V_A$ -MGW)	158
Final Approach ( $V_{REF}$ )-Clean	118
Final Approach ( $V_{REF}$ )-Full Flaps	84 @ MGW
Certified Ceiling	30,000 feet
Max Range (FL300, VFR reserves)	2,261 NM
All Speeds in KIAS (except as noted).	

aircraft types, it was such a foreign experience for me to be going so slow (80 KIAS) in such a large airplane. Wally suggested I focus more on the angle of attack indicator than the airspeed for the approach, which worked quite nicely. While all my landings were surprisingly smooth, I cannot take full credit for it. The PC-12's big trailing-link landing gear is adept at masking less-than-perfect touchdowns. Short field capability is equally impressive – with four people and about half fuel aboard, we were able to be down and stopped in about 1,200 feet, even without the use of reverse propeller thrust and applying only moderate braking. The giant wing and massive fowler flaps make it capable of very low approach speeds. Combine that with the 1,200 shp engine, sturdy gear, big tires, strong brakes, along with a fully-reversible prop, and you have a very versatile aircraft, capable of cruising at 270 KIAS, carrying heavy or bulky loads, and operating from small and unimproved runways.

All this capability serves the needs of Urschel Labs perfectly. As a company that produces machines, they often need to transport large cargo and/or employees. This is an airplane that can carry large machine parts just as easily as it can cradle eight people in executive comfort, or in a variety of combinations. And, for a turbine airplane of the PC-12's size, it flies about as easily as any owner/pilot could hope for. **COPA**

*Author's Note: With the fifth installment of this series, we continue to introduce Cirrus Pilot readers to some of the many COPA members who own and fly multiple aircraft. If you know a COPA member who owns/flyes multiple aircraft types and wish them to be considered for inclusion in this series, please drop me an email at: matt@progaviation.com.*

About the Author: *Matthew McDaniel is a Master & Gold Seal CFII, ATP, MEI, AGI, IGI and CSIP. In 19 years of flying, he has logged over 10,500 hours total and over 4,000 hours of instruction-given. As owner of Progressive Aviation Services, LLC (www.progaviation.com), he has specialized in Cirrus instruction since 2001 and has held the CSIP credential since the first day it was available in late 2003. Currently, he's teaching Cirrus clients nationwide, via personal flight training and seminars. He's also been an airline and corporate pilot, having flown a wide variety of airliners and corporate jets holding five turbine aircraft type-ratings. Matt can be reached at: matt@progaviation.com or (414) 339-4990.*

See side bar: Twister of Fate on page 30.

**PERSONAL DATA**

Age: 60

Born: Valparaiso, Ind.

Living: Valparaiso, Ind.

Status: Married to Nancy, with two adult sons: Rick and Andy

Education: Hamline University, Valparaiso University

Occupation: President &amp; CEO

Employer: Urschel Laboratories, Inc.

Hobbies: Flying, playing piano, bicycle riding, developing computer software (Bob is responsible for the Cirrus Weight &amp; Balance application for the iPhone®)

**AVIATION DATA**

First Flight: August 15, 2005 – discovery flight

Aviation Mentors: Son, Rick – convinced me that flying was safe

First Solo: November 2, 2005, C-172 at VPZ

Initial Training: C-172 at VPZ

Private Certificate: February 19, 2006

Instrument Training: SR22, March-November, 2006

Instrument Rating: SR22, November 3, 2006

Aircraft Owned: Cirrus SR22 G2 (March 2006-present), Pilatus PC-12 (March 2008-present)

Proudest Accomplishments in Aviation: Taking that first discovery flight in a Cessna 172.

All-time Favorite Flight: Flying for the first time with my son along the Chicago lakefront.

Total Time: 850 hours

**Rick Urschel (son)****PERSONAL DATA**

Age: 30

Born: Valparaiso, Ind.

Living: Valparaiso, Ind.

Status: Married, no kids (yet)

Education: B.S. in Management, Purdue University, 2000

Occupation: VP Operations

Employer: Urschel Laboratories, Inc.

Hobbies: Flying, woodworking, poker

**AVIATION DATA**

**Earliest Aviation Memory:** At age 8, my parents met a transient pilot who came through our airport on his way to Oshkosh, with a rebuilt Stearman. My mom took us out to see it, and I won the coin flip with my brother for a quick taxi around the airport (she was too frightened to let us go for an actual plane ride).

**First Flight:** August 8, 2003 – I took a half-hour discovery flight as part of the Be-A-Pilot program, and it took about two weeks for the smile to wear off my face.

**Aviation Mentors:** In my early days, it was Dante Pergher, my CFI for both my private and instrument training. Now, it's my father. I have tremendous respect for his aviation accomplishments, and we are constantly challenging each other on piloting techniques.

**First Solo:** September 5, 2003, C-172S at VPZ

**Initial Training:** August 2003-November 2004, C-172S at VPZ

**Private Certificate:** November 13, 2004

**Instrument Training:** April-July 2005, G1000-equipped Skyhawk at VPZ

**Instrument Rating:** July 28, 2005

**Aircraft Owned:** Cirrus SR22 G2 (March 2006-present), Pilatus PC-12 (March 2008-present)

**Proudest Accomplishments in Aviation:** The day my dad became a private pilot! For the longest time, he believed that getting in a single-engine aircraft was a recipe for death. I like to think that I had a small part in whatever it was that changed his mind.

**All-time Favorite Flight:** The first time I took my dad for a ride. In hindsight, the weather was not perfect for flying, but it was an opportunity I was not going to let slip by. We took off from VPZ and headed northwest along the shore of Lake Michigan, with a tremendous view of the Chicago skyline. By the time we arrived back to VPZ, the aviation bug had bitten my dad, and it was only a few short weeks until he was signing up for his first discovery flight.

**Total Time:** 600 hours

## Twister of Fate

In the late 1940s and early 1950s, Urschel Field was a beehive of activity. Not only was it a busy little flight training and crop dusting airport, it was also home to one of the EAA's earliest homebuilders. In 1949, Maurice Anderson completed and flew his built-by-plans Knight Twister from Urschel Field. Later that year, it would be one of the 22 aircraft to attend the first EAA fly-in located in Milwaukee, Wis. Anderson also just happened to work as a foreman for Urschel Labs until 1988.

The Knight Twister can trace its roots back to 1928 and a man named Vernon Payne. Payne was teaching a class about aircraft repair, aerodynamics and woodworking. Designing the tiny biplane became a way to keep the students awake. They utilized the advanced airfoil and aerodynamic research work of NACA, which at the time was largely ignored by aircraft designers. The prototype first flew in 1932 with a 45 hp, seven-cylinder radial engine. Considered by many to be a very touchy aircraft to fly, Twister gurus consider it a thoroughbred that responds precisely when flown smoothly. Plans for four versions of the Twister (ranging from 85 to 150 hp) are still available today.

In 1955, after logging over 200 hours in his Twister, Anderson traded it for another aircraft. He was told that his Twister was destroyed in a welding fire sometime shortly thereafter. Fast forward more than 50 years: Bob Urschel noticed a picture that one of his employees, Steve Redelman, had displayed of an intriguing little biplane. When asked about it, Redelman explained that it was Maurice Anderson's Knight Twister and that it had not burned up. In fact, it still existed somewhere in England. Bob immediately recognized the Twister's historical ties to both his grandfather's airport and his family's business. He set out to find the airplane. The hunt required tracking down the name of the last known owner, then sending letters to 25 men in the U.K. with that name. The effort paid off.

In January 2009, Bob and Rick went to retrieve the pieces of the Twister and had them shipped back to VPZ. Redelman and other Urschel Lab employees reassembled it and got it running again. But, the best part was yet to come. Anderson, feeble with age but still very much alive, was invited to visit his creation after 54 years apart. He was lifted into the cockpit and allowed, again, to touch the controls of his svelte little Knight Twister.

The Urschels are undecided about whether their little time machine will ever be flown again, but it is a piece of history that they felt was worthy of preservation. I think we'd all willingly concede that point.

*The Knight Twister as it looks today (left).*

*Maurice Anderson's Knight Twister at Urschel Field in the late 1940s or early 1950s. This homebuilt was flown to the very first EAA fly-in in 1949 and has close ties to the Urschel family's business and aviation histories.*

