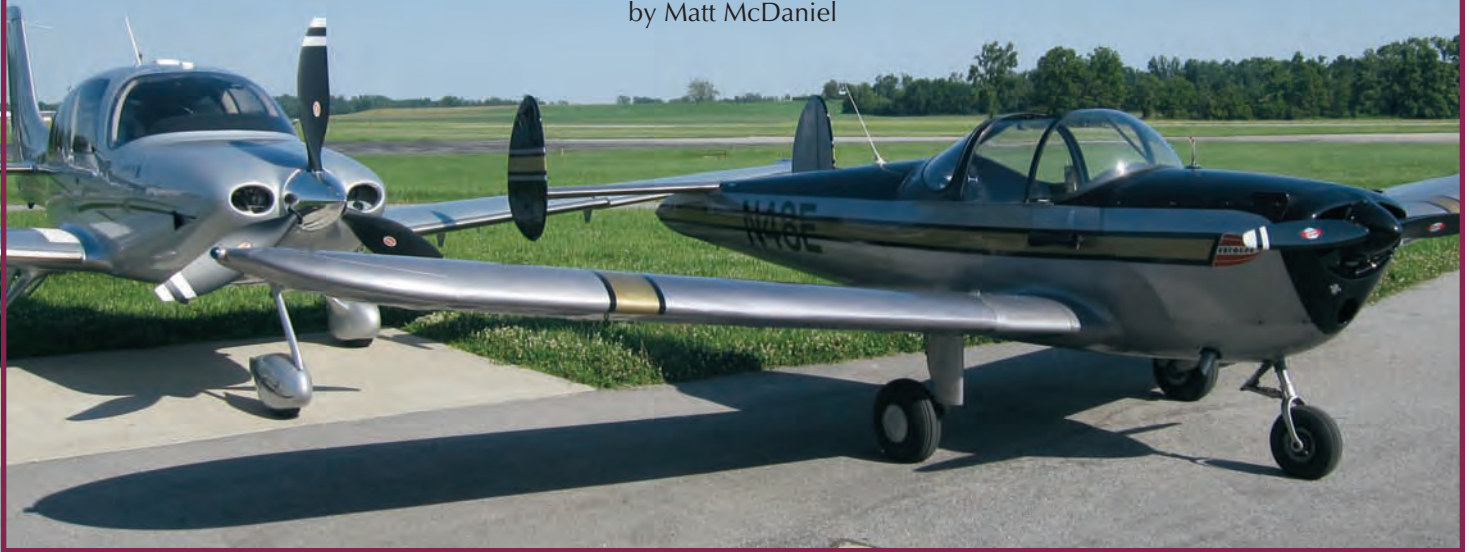


# My Other Plane is an

# Ercoupe

by Matt McDaniel



Dr. Stransky's two aircraft: a 2008 G3 Turbo and a 1946 415-E Ercoupe. This photo gives a good perspective of showing just how small the Ercoupe's twin tails are.

**F**ew among us have many memories of the earliest years of our lives. Nonetheless, those earliest memories can often be the most indelible. For Dr. Ted Stransky, one of those vivid memories revolves around his first flight. While he was only three or four years old, he remembers crawling up on the wing and thinking, "Wow, this airplane is really big and really cool!" In reality, that "really big" plane was a diminutive Ercoupe and Ted's memory of it is forever linked to the man at the controls that day in the late 1940s – his father.

During his early childhood, Ted continued to fly with his father in Ercoupes. The senior Stransky had been a flight surgeon in World War II. While he also flew Cubs and Aeroncas, he preferred the metal construction of the Ercoupe (likely due to his familiarity with flying in the all-metal military hardware). While Ted did not begin flying lessons until nearly five decades later, it was those early childhood memories of his dad and the Ercoupe that held his imagination during those intervening years. While Stransky is a three-time Cirrus owner, it only seems natural that he would eventually own an Ercoupe of his own.



Above, the updated panel of N48E. The carb-ice detector is on the far left, the digital engine analyzer is in the center stack and the original glove box (complete with its cardboard interior) is retained on the right.

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AIRPLANE FLIGHT MANUAL  
NO  
ACROBATIC MANEUVERS  
APPROVED

The required placard found on the panel of the Ercoupe, which you will find on no other U.S. certified aircraft (inset).

## Data Chart – 1946 ERCO Ercoupe

	Original Configuration (Model 415-C)	Current Configuration (Model 415-E)
Engine	Continental C-75, 75 hp	Continental C-90, 90 hp
Propeller	Sensenich 2-blade, wooden, fixed-pitch	McCauley 2-blade, metal, fixed-pitch
Seats	2	2
Wingspan	30 feet	30 feet
Length	20 ft., 9 in.	20 ft., 9 in.
Height	5 ft., 11 in.	5 ft., 11 in.
Wing Area	142.6 sq. ft.	142.6 sq. ft.
Max Gross Weight	1,260 lbs.	1,400 lbs.
Wing Loading (1g)	8.83 lbs./sq. ft.	9.81 lbs./sq. ft.
Power Loading (@MGW)	16.8 lbs./hp	15.5 lbs./hp
Baggage Capacity	65 lbs.	75 lbs.
Fuel Capacity (usable)	24 gal.	24 gal.
Brakes	Goodyear Expander Tubes	Cleveland Discs
Landing Gear	Tricycle	Tricycle
Cockpit Flight Controls	Dual Control Yokes, no Rudder Pedals, Single Brake Pedal	Dual Control Yokes & Rudder Pedals, Single Hand Brake
Stall in Landing Config ( $V_{SO}$ )	No Flaps, so same as $V_S$	No Flaps, so same as $V_S$
Stall-Clean ( $V_S$ )	48	Unpublished (~56)
Rotation ( $V_R$ )	60	65-70
Best Angle of Climb ( $V_X$ )	Unpublished (~69)	Unpublished (~69)
Best Rate of Climb ( $V_Y$ )	Unpublished (~75)	Unpublished (~75)
Typical Climb	200-300 fpm	300-500 fpm
Cruise Climb	Unknown	200-300 fpm
Economy Cruise	80	90
Max Cruise	110	110
Max Normal Operating ( $V_{NO}$ )	114	114
Never Exceed ( $V_{NE}$ )	144	144
Flaps Extended ( $V_{FE}$ )	N/A	N/A
Maneuvering Speed ( $V_A$ -MGW)	108	108
Final Approach ( $V_{Ref}$ )-clean	75-80	75-80

All Speeds in mph. Some speeds based on best available data or approximations due to lack of specific information in original 1946 aircraft documents.

Major differences between original and current configurations shown in blue.



*Dr. Stransky flies his Ercoupe over the northern Kentucky countryside, just south of his home airport of Henderson, Ky. (KEHR).*

### Innovative Design

Unlike most post-World War II light aircraft manufacturers, the Engineering and Research Corp. (ERCO) actually pre-dated the war. ERCO's model 415 "Ercoupe" had a distinctive twin-tail design, which many thought was intended to reflect highly successful American twin-tailed aircraft of World War II (such as the B-24, B-25 and P-38). In reality, the Ercoupe first flew in 1937 (more than a year before any of those famous warbirds took to the skies). The type was certified in 1940 and 112 were built prior to America's entry into the war. It was late 1945 before 'Coupe production resumed, yet even then, it was still a truly innovative aircraft.

Ercoupe designer Fred Weick's primary goal was to create the simplest and safest aircraft in the skies. To do so, he incorporated:

- A two-control system without rudder pedals. Ailerons and rudders were interconnected and controlled via the yoke in a coordinated manner (which also steered the nosewheel). To facilitate crosswind landings without rudder pedals, a trailing-link landing gear system was incorporated. Touchdown occurred in full crab,





## Theodore Jere Stransky

### PERSONAL DATA:

**Age:** 64

**Born:** Minneapolis, Minn.

**Living:** Newburgh, Ind.

**Status:** Married 38 years, four children

### Education:

1963-67 University of Notre Dame, B.A. in Pre-professional Studies; Notre Dame, Ind.

1967-71 Case Western Reserve University School of Medicine, M.D.; Cleveland, Ohio

1971-72 Family Practice Internship, St. Paul-Ramsey Hospital; St. Paul, Minn.

1972-75 Ophthalmology Residency, Case Western Reserve University Affiliated Hospitals; Cleveland, Ohio

1975-76 Vitreoretinal Fellowship, State University of Ghent; Ghent, Belgium

1976-77 Vitreoretinal Fellowship, Washington University School of Medicine, Barnes Hospital; St. Louis, Mo.

**Occupation:** Ophthalmologist - Specializing in diseases and surgery of the retina and vitreous.

**Employer:** Tri-State Ophthalmology Consultants, Professional Medical Corporation

**Hobbies:** Reading, travel, hunting, scouting

### AVIATION DATA:

**Earliest Aviation Memory:** Flying with my father at age three or four in an Ercoupe.

**First Flight:** Summer of 1948-1949, Owatonna, Minn.

**Aviation Mentors:** My dad, Theodore W. Stransky, a World War II flight surgeon who later became a private pilot. He flew the Ercoupe, Taylorcraft, Piper Cub and later, Cessna 172s. My uncle, John J. Stransky, also a flight surgeon and private pilot. He flew a 172 and a Navion.

**Fist Solo:** Nov. 24, 1997, Evansville, Ind.; C-152

**Initial Training:** 1997-1999, Evansville, Ind.; C-152 and Piper Archer.

**Private Certificate:** Oct. 19, 1999

**Instrument Training:** 2000-01, Evansville, Ind.; Piper Archer

**Aircraft Owned:** Piper Archer: 8-30-1998 to 7-15-2001; Cirrus SR22 G1: 8-1-01 to 4-30-2004; Ercoupe 415E: 9-29-01 to present; Cirrus SR 22 G2: 4-30-2004 to 12-29-2008; Cirrus SR 22 G3 Turbo Perspective: 12-29-08 to present.

**Proudest Accomplishments in Aviation:** Achieving my PPL and instrument rating while working greater than full time at a very demanding profession.

**All-time Favorite Flight:** From Evansville roundtrip to San Diego, Calif. with my wife and youngest daughter. We flew first to Santa Fe and over-nighted there. We then flew over Four Corners, through Monument Valley, and into Page, Ariz. along Lake Powell. South of Las Vegas, we passed over part of the Grand Canyon and very close to a restricted area of Edwards Air Force base to avoid a thunderstorm between Daggett and Barstow. Our plans changed because President Bush had landed at LAX and we could not fly into Santa Monica. We deviated to Van Nuys where the air traffic controller wanted to fly us into a mountain because of overtaking traffic. Fortunately it was VFR and we realized the danger. After visiting with our son, we had a beautiful VFR flight from Van Nuys to Lindberg Field in San Diego, via the Shoreline Route VFR Corridor through the LAX Class B. I flew to Santa Monica, hugged the coastline past LAX with 747s flying 500 feet beneath us. It was a beautiful view all of the way to San Diego where we were squeezed in-between a 737 and G4. The G4 turned out to belong to Bill Cosby, who had a casual conversation with my wife and daughter, unbeknownst to me, while I was checking in at the FBO. Our relatively new G2 was parked next to his G4 and was obviously dwarfed by it. The trip back was uneventful.

**Total Time:** 1,250 Hours

allowing momentum to straighten the aircraft after landing with a demonstrated crosswind component of up to 25 knots.

- Limited elevator control, allowing only 13 degrees upward travel, making full stalls nearly impossible. Thus, it was certified as “characteristically incapable of spinning.” The plane would simply fly out of an incipient spin if the controls were released.
- Tricycle landing gear for easier ground handling. At this time, nearly every other production airplane was a taildragger.

Mr. Weick’s secondary design goals included “modern” design features, many of which were revolutionary on this category of aircraft, such as:

- Bubble Canopy with Plexiglas side windows that slid down into the fuselage sides and could be left open in flight to provide excellent visibility.
- Fully cowled engine.
- All metal construction (the wing was also all-metal in later models or could be “metalized” in earlier models which were produced with fabric wing coverings).
- Side-by-side seating.
- Self-balancing fuel system with no mixture control.

## Ercoupe Production History

Company	Model	Years	Qty. Built
ERCO	415-C "Ercoupe"	1940-41	112
ERCO/Sanders	415-C – 415-G "Ercoupe"	1945-52	5,028
Forney	F-1 "Delux," "Explorer," "Execta," "Expediter" & F-1A "Forney Trainer"	1956-60	157
Air Products	F-1A "Forney Trainer"	1960-62	25
Alon	A-2 "Alon Delux"	1964-67	245
Mooney	A-2A "Alon Cadet"	1967-68	21
	A-2A "Cadet"	1968	38
	M-10 "Cadet"	1969-70	59
<b>TOTALS</b>	<b>All Models</b>	<b>1940-1970</b>	<b>5,685**</b>

\*\*Note: Much of the above information and numbers vary slightly between sources.

## Ercoupe Production Highlights

- ERCO-built models are known as "Ercoupes" (a combination of ERCO and the fact that the plane resembles a coupe car of the same era). All subsequent models are commonly referred to as "AirCoupes." As can be seen in the table above, the aircraft was given a wide variety of official names, most of which were never adopted by pilots.
- Many pre-World War II models were pressed into military service during the war for the Civilian Pilot Training Program and the Civil Air Patrol.
- The early post-World War II models were marketed and sold through the Men's Department of Macy's stores for \$2,665.
- The model 415-G was known as the "ClubAir" and was a three-place aircraft, with a "Kiddy Seat" in the enlarged baggage area.
- Alon models were produced with 90 hp engines, sliding canopies, separate bucket seats, improved instrument panels and rudder pedals. The rudder pedal became standard, rather than an option.
- Mooney A-2As and subsequent models had a redesigned fuselage with square windows behind the sliding canopy.
- Mooney M-10 Cadet models had a single, distinctive "Mooney Tail" rather than the traditional Ercoupe twin-tail. As a result, the M-10 could be stalled and spun.
- Univair purchased the type certificate in 1974 and still supplies parts today.

## Distinctive Ercoupes through the Years

- Ercoupe produced three aircraft using wood as the primary material for the military (to avoid using the war-precious aluminum). They were heavier, but quieter.
- The first JATO Rocket Assist takeoffs were done with an Ercoupe (using six JATO bottles).
- On 8-23-1941, the first American aircraft to fly using rocket thrust alone was the same JATO test Ercoupe (but with the prop removed and 12 JATO bottles for thrust).
- Ercoupes were used as unmanned, radio-controlled, target drones in World War II.
- Two Ercoupes were attached side-by-side, with a small stub-wing in between the fuselages and a triple-tail. It was flown in airshows as the "TwinCoupe" in the late 1940s.
- Edo produced floats for the Ercoupe and marketed it as the "First Two-Control Float Plane." It was flown with a windshield, but no canopy or side windows (open cockpit).



A rare color photo of the Edo float-equipped Ercoupe, most likely a marketing photo. Note the open cockpit.



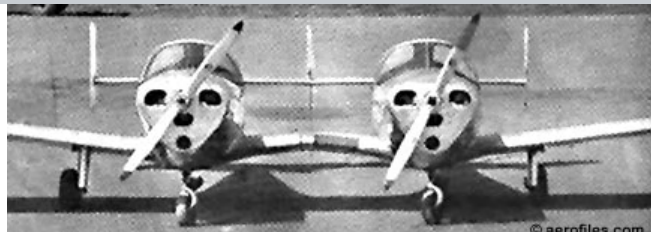
In 1941, the concept of Jet Assisted Takeoff (JATO), also known as Rocket Assisted Takeoff (RATO), was first tested using a military-owned Ercoupe. The Ercoupe (airborne) and the aircraft in the foreground were said to have the same basic takeoff performance (in time and distance required). They began their takeoff rolls together and the photo was snapped just as the lower aircraft broke ground. The picture says 1,000 words about the success of the JATO-assisted performance boost!



A rare shot of the Twin Ercoupe in-flight at an unknown airshow in the late 1940s. Note the cargo parachute drop in the background and the dual-smoke-system trails behind the TwinCoupe.



Two views of the Twin Ercoupe, a novelty idea used as a promotional tool at airshows in the late 1940s.



© aerofiles.com



Like any design that's survived and maintained an audience for over 70 years, the Ercoupe's history is complicated. Ownership and production changed hands many times over the years. As a result, a confusing array of model names, designations and configurations exist (see opposite page). As with most post-World War II light planes, the vast majority were built in 1946 in anticipation of a market that simply didn't exist. Of the nearly 5,700 built, 4,311 were manufactured in 1946 alone (at up to 34 per day). Many early models have been modified to incorporate design changes of later models, making them hybrids. Further complicating the Ercoupe's lineage is a variety of after-market modifications and STCs. Some owners are purists and go to great lengths to keep their 'Coupes as original as possible. Other owners, like Stransky, have embraced modifications which enhance performance, safety and compatibility for today's operating environment.

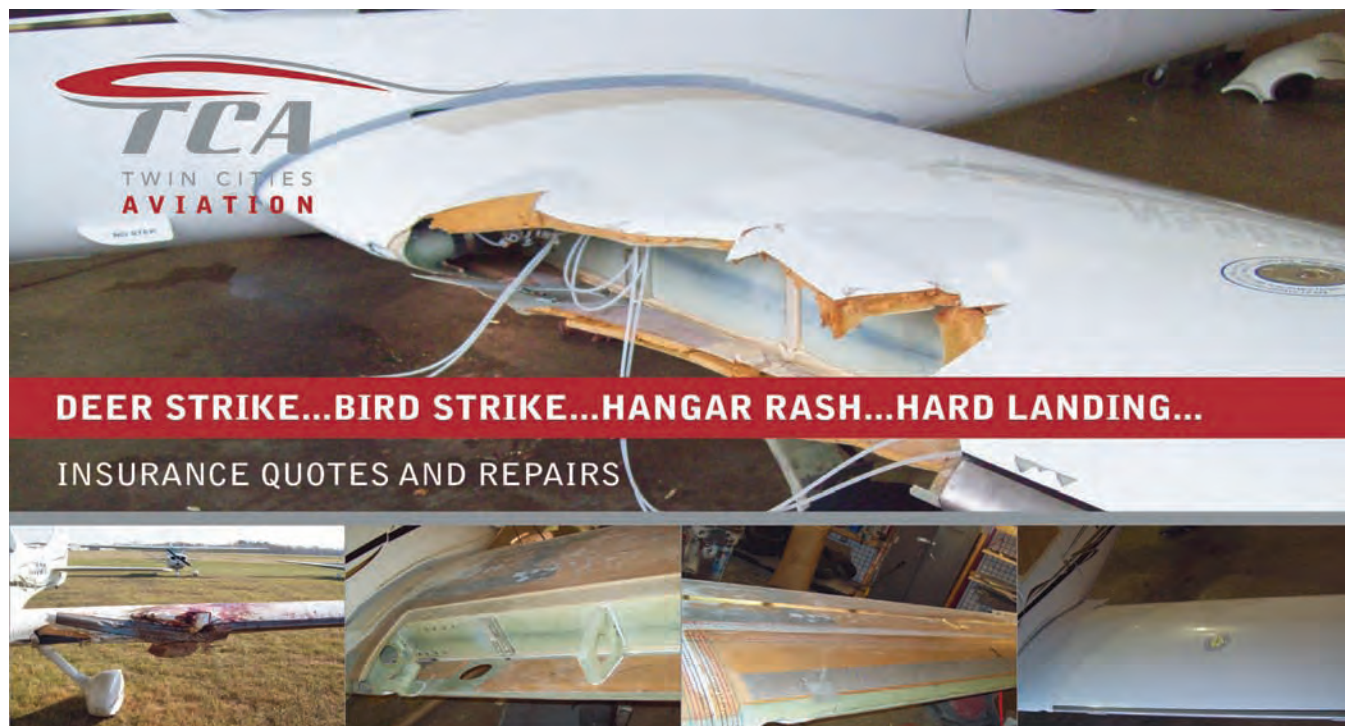
### Dad's Ercoupe, 60 Years Later

Stransky's decision to buy his Ercoupe was based almost entirely on the fond memories of flying in them with his dad, a half-century ago. Ted's father never owned his own Ercoupe, so tracking down a specific aircraft was not the goal. However, as fate would have it, the data plate on the 'Coupe he bought shows it was manufactured on the senior Stransky's birthday. A good omen, Ted thought.

Manufactured as a model-415C in 1946, Ted's pristine Ercoupe has been upgraded to a model-415E configuration. Previous owners upgraded the engine to 85 hp, then to 90 hp (from 75 hp), metalized the wing, improved the exhaust system and landing lights, added a directional gyro, an oil filter system and rudder pedals. Stransky and his A&P have modernized the airplane with a new six-pack-style panel layout and upgraded avionics, shoulder harnesses, oil pre-heater, auxiliary audio inputs along with XM Music and Weather capabilities via a yoke mounted Garmin 496! Originally, Ercoupes had no mixture control, their carburetors were permanently set to full-rich. N48E now has a Shevler carburetor with a carb-ice detector, a traditional mixture control and a digital engine analyzer system. It is surely one of the best-equipped Ercoupes flying! Ted believes that the compass and clock are the only original instruments left in his 'Coupe.

### Unconventionally Easy To Fly

Flying N48E was not at all difficult, but was certainly atypical. To begin with, you don't taxi the Ercoupe, you drive it. The yoke acts just like a steering wheel, and braking is accomplished via a handle on the panel which was moved there from the original brake pedal on the floor when the rudder pedals were installed. Takeoffs are different because there is no tendency to get "light on the wheels" as speed increases.



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*Dr. Ted Stransky poses with his 1946 ERCO 415-E Ercoupe, manufactured on his father's birthday.*

The wing's angle of incidence is almost neutral and, therefore, the pilot must rotate the nose upward to make the main wing produce any significant lift. Once liftoff occurs, climb out is standard and consistent with what you'd expect out of a 90 hp airplane on a summer day (<500 fpm).

Stalls are different because the aircraft has a significant power-off sink rate. It has no tendency to "break" but instead, will just sink like a stone if the pilot holds back pressure and the high angle of attack. Yet, standard stall recovery procedures are still applicable. The ailerons are nearly full-span and remain very effective at slow speeds. However, the rudders are quite small and only one at a time are they aerodynamically effective, as each only moves outward, therefore, yaw control is adequate, but less "powerful." Landing is straightforward, but a tad faster than one might imagine due to the lack of flaps. The plane can comfortably fly at well below 80 mph, but the sink-rate seems a bit higher than most modern pilots would be comfortable with at those speeds. Approach speeds of 75-80 mph work well, providing a typical sink rate and reasonable deck-angle. As with takeoff, the wing's unusual angle of incidence comes into play. Regardless of the touchdown speed, if all wheels are on the runway, the plane is done flying. This is great for crosswind landings, as a faster approach speed can be utilized for better control effectiveness with the small rudders and the airplane is simply flown onto the runway in a flat attitude. Because the plane was designed to be landed in a crab, its beefy trailing-link landing gear will take more abuse than most of its contemporaries.





The E-model (and later) has less elevator surface, but allows up to 20 degrees deflection for a more standard landing flair, should the pilot choose that technique. Ted's Ercoupe has been modified with the E-model elevator for this reason.

### Lasting Impressions

It's easy to see why Dr. Stransky is so smitten with his Ercoupe. It's a flying history lesson with strong personal family ties. There is absolutely no doubt in my mind that the Ercoupe was a design well ahead of its time. It incorporates far more firsts than space allows me to detail here. Its performance is very similar to a Cessna 150 or a modern light-sport aircraft (LSA). In fact, unmodified 415C and 415CD models can be operated in the light-sport category. This has increased their value and makes them one of the only standard (or normal) category aircraft with tricycle gear that light-sport pilots can fly. If that doesn't prove the design was 60-plus years ahead of its time, I don't know what would. When Ted wants to go somewhere, his beautiful G3 Turbo Perspective is the way to go, but when fun, economical flying is the goal, his auto-fuel STC'd Ercoupe begs for his attention. Best of all, Ted's dad always seems to be along for the ride. **COPA**

*Author's Note: With this sixth installment of the 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/flys multiple aircraft types and wish them to be considered for inclusion in this series, please drop me an email at: [matt@progaviation.com](mailto:matt@progaviation.com).*

*About the Author: Matthew McDaniel is a Master & Gold Seal CFII, ATP, MEI, AGI, IGI and CSIP. In 20 years of flying, he has logged nearly 11,000 hours total and over 4,000 hours of instruction-given.*

*As owner of Progressive Aviation Services, LLC ([www.progaviation.com](http://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 and holds five turbine aircraft type-ratings. Matt can be reached at: [matt@progaviation.com](mailto:matt@progaviation.com) or (414) 339-4990.*



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