

My Other Plane
is a

Cessna 185 Amphibian

by Matthew McDaniel



Workman's "Blue Bird" standing tall and ready to taxi from his hangar at CXO.

What do a Cirrus, a pair of Aerocet amphibious floats and a Smart™ Car have in common? If you said composites, you'd be correct. However, you could also say Bill Workman. Of course, for a guy like Mr. Workman, it is because of the composite commonality that he's a fan of those three products. Such a fan, in fact, that the first airplane he bought was a 2003 SR22. The second was a Cessna 185, which he soon had mounted atop composite amphibious floats. And, he and his wife each drive a zippy little Smart fortwo high-economy car, which sports composite body panels that can be changed in a matter of minutes, in case of damage or if the owner is just itching for a new color. Bill likes his transportation to fit into three categories: modern, fun, and attention-getting. It would appear he's fulfilling all criteria with each vehicle.

Workman is a medical device sales specialist, living in Houston, Texas. His first memories of aviation are not unusual – Goodyear® Blimp sightings and seeing the Blue Angles perform at age 12. But, it was a ride with a freshly minted 172 pilot (a high-school buddy) off a grass strip that set the hook for Bill. For years after that, he considered learning to fly. When he asked a friend why he was taking flying lessons, the reply was, "Because what you get with your pilot certificate is FREEDOM." Bill signed up the next day, at age 40.

Within a month of completing his private training, he bought the Cirrus and a year later he'd earned his instrument rating. Ever since, he's flown about 180 hours a year, mainly for business.

Owning a seaplane or amphibian was a dream Bill suppressed until the opportunity was right. In 2008, he and a partner purchased a 1978 Cessna 185 (on wheels). It was the partner, Greg (a CFII and float instructor), who gave Bill the comfort to leap into the world of tailwheel and floatplane flying.

Background of the 185

The Cessna 180 Skywagon first flew in 1952 with 225 hp, and filled a niche between Cessna's 170 and their 190/195. By the late 50s the nose-wheel-equipped 182 was far outselling the tail-dragging 180. Cessna recognized the need for a purpose-built, heavy-hauling, bush plane, which could easily adapt to wheels, floats or skis. In 1960, the 185 was born and first flew with 260 hp. The primary differences from the 180 were its strengthened fuselage, extended baggage compartment, larger vertical tail and generally "beefed up" design. The 185 also boasted a 6.5% increase in useful load over the 180 (a number which eventually rose to 9% in later production 185s). In 1966, production 185s received a boost to 300 hp for takeoff (285 hp continuous). The airplane quickly developed a reputation as a strong and versatile bush plane, operated by many with an attitude of "if it'll fit through the door, the 185 will carry it."

Workman's composite vehicles all in a row. Each aircraft engine boasts twice the cylinders and more than nine times the cubic-inch displacement of the Smart car. But the Smart boasts five to 10 times the average fuel economy per mile (depending upon the phase of flight for the aircraft).



C-185 production eventually exceeded 4,400 units and ended in 1985, just slightly ahead of Cessna's total piston aircraft production shutdown. When Cessna did not reintroduce the 180/185 after resuming piston production a decade later, the value of the existing 180/185s soared. They became an irreplaceable commodity.



The SkyWagon's updated panel, including WAAS, engine monitoring, XM WX, radar altimeter and a slick gear position warning system that supplements the lights with audible advisories on whether the gear is safe for a water landing or a runway landing.



Bill Workman and his 185 nipping at the tail of his SR22, at his home base of Lone Star Airport (CXO), in Houston.

Now the 180/185s are highly prized and among the most-modified aircraft flying. All manner of STCs exist for the planes, but the primary ones involve enhancing their already impressive capabilities. STOL kits, bigger engines, gross-weight increases and a wide variety of tundra tires, floats and skis are the modifications owners most desire. Workman is no exception.

Initially, Greg introduced Bill to tailwheel operations in their 185-F. Then, it was time to find and install floats. For Bill, there was only one choice – the only amphibious floats made entirely of composites. Aerocet floats are as unique as the Cirrus was upon its introduction. They are clean, strong, light and low-maintenance. Bill's experience with the Cirrus told him there was absolutely no reason to buy an old-school set of aluminum floats. He and Greg were so impressed by Aerocet, in fact, that they not only purchased a set for the 185, they also became the Aerocet dealers for their region. Soon Workman's 185 was taken down for modifications. They added a Robertson STOL kit, upgraded the engine to an IO-550, boasting 310 hp (continuous) with a JPI digital engine monitor, and a new Hartzell 3-blade-Scimitar prop. The panel was upgraded with a slew of new Garmin equipment, including a WAAS-equipped 530W, an SL-30 Nav/Comm and a panel-mounted 496 with weather. After a few paint touchups, the airplane was hoisted up and its sturdy undercarriage was replaced by the Aerocet amphibious floats, placing the belly of the aircraft more than six feet off the ground. Wingtip extensions increased MGW several hundred pounds and helped to offset much of the weight of the Aerocets.

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Flying the 185


I showed up in Houston in early April to a beautiful spring day and immediately met with the 185's co-owner and seaplane instructor, Greg Smith. In 20 years and over 10,000 hours of flying, I'd never even been in a seaplane, much less actually flown one. I asked Greg a lot of questions until I felt comfortable climbing in. Greg offered the left seat and I accepted. Taxiing the tall amphibian feels like you're driving a shopping cart. It's got four wheels instead of three and the front set are free swiveling. Turning is a differential braking affair, similar to the Cirrus, and getting her rolling takes a fair amount of break-away power. I focused on the sight picture while taxiing the beast so that I would remember to flair high enough when it came time to land it later!

Takeoff from land seemed fairly normal other than using 20-degree flaps as the "normal" T/O setting. The gear comes up immediately (in the event of an early engine failure, landing on the floats is just as good an option as the wheels under most emergency conditions). It was immediately apparent to me that there was an awful lot of weight and drag hanging below this airplane. The need to coordinate turns to overcome the powerful keel-effect was very obvious. The 185 is a hefty airplane, especially with floats attached. The aileron forces stayed as light as any 180 or 182 I'd ever flown, but the airplane is heavy in pitch, requiring a lot of trim (via a rather inconvenient trim wheel located on the floor, below the panel). While heavy, yaw and pitch are well harmonized. Within minutes we were approaching Lake Conroe, a huge reservoir on Houston's northwest side. I set up my


approach and Greg recommended I extend the touchdown point a bit further ahead to avoid an area of glassy water. I started extending flaps via the big Johnson bar control. The final notch (40 degrees) takes a powerful pull on the handle. Greg was being very easygoing and just allowing me to feel it out.



The 185 docked at a lakeside restaurant area on Lake Conroe, near Houston, Texas.



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Data Chart – 1978 Cessna 185-F SkyWagon

	Original Configuration	Current Configuration
Engine	Continental IO-520-D, 300 hp for Takeoff, 285 hp Continuous	Continental IO-550, 310 hp Continuous
Propeller	80-inch McCauley 2-blade Constant Speed	82-inch Hartzell 3-blade Constant Speed (Super Scimitar)
Seats	4	4
Wingspan	35 feet, 10 inches	38 feet, 10 inches
Length	25 feet, 7 inches	27 feet, 6 inches
Height	7 feet, 9 inches	12 feet, 6 inches
Wing Area	174 sq. ft.	186.4 sq. ft.
Max Gross Weight	3,350 lbs.	3,525 lbs.
Wing Loading (1g)	19.25 lbs./sq. ft.	18.91 lbs./sq. ft.
Power Loading at T/O (MGW)	11.17 lbs./hp	11.37 lbs./hp
Baggage Capacity	70 lbs.	70 lbs. in baggage area 100 lbs. in each float 270 lbs. total
Fuel Capacity (usable)	74 gal.	74 gal.
Landing Gear	Conventional Fixed Gear	Amphibious floats (4-wheel retractable gear)
Cockpit Flight Controls	Dual Yokes	Dual Yokes
Stall in Landing Config (V_{SO})	48	51
Stall – Clean (V_S)	55	60
Rotation (V_R)	55	55
Best Angle of Climb (V_X)	65	63
Best Rate of Climb (V_Y)	70	74
Typical Climb	70	80
Cruise Climb	80	90
Economy Cruise	120	115
Max Cruise	139	130
Max Normal Operating (V_{NO})	146	146
Never Exceed (V_{NE})	182	182
Flaps Extended (V_{FE})	90	93
Landing Gear Operating (V_{LO})	N/A	120
Maneuvering Speed @ MGW (V_A)	118	118
Final Approach (V_{REF})-Clean	75	70
V_{REF} for Wheel (or Float) Landing	65	60
V_{REF} for 3-Point Landing	50	N/A
All Speeds in KIAS. Major Differences between original and current configurations shown in blue.		

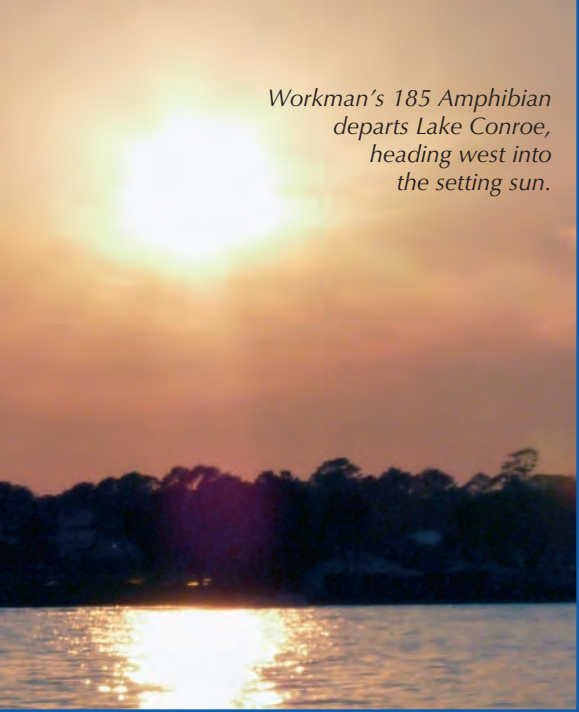


His one piece of advice was to use a full-stall landing. I set up a constant descent rate, flared at what I perceived to be a little high and just let it settle in, stall horn blaring. With no reference for comparison, it seemed like a decent splashdown to me. Greg then demonstrated some fast taxiing using the air-rudder only and some slow taxiing using the water-rudders. I was impressed with the maneuverability.


Water takeoffs seemed very straightforward, requiring a technique very similar to a short/soft-field combination takeoff in a nosewheel landplane. On the first water takeoff, I allowed the nose to yaw left, not considering the ease with which the 310 hp would induce yaw while in the water (no tire friction to resist the yaw). But, once I knew what to expect, the 185's huge rudder made yaw control easy work. We then toured around Lake Conroe, doing splashdowns everywhere it was safe to do so. Eventually, we docked at a lakeside restaurant area. With a lot of coaching from Greg, I guided the 185 into a standard boat slip, while Greg jumped out and secured the aircraft. I could see how that maneuver would be very challenging in a strong wind and/or when solo. Without a doubt, we captured the attention of the whole restaurant crowd.

On the way back to the 185's base at Lone Star Airport (CXO), we did a splash-n-go at David Wayne Hooks Airport (DWH), a land airport with a single seaplane landing lane (aka: "The Ditch"). The calm water of the ditch and the many visual clues to improve depth perception made that my best water landing of the day. Back at CXO, I made

*Workman's 185 Amphibian
departs Lake Conroe,
heading west into
the setting sun.*



an acceptable pavement landing (if not exactly a squeaker). All in all, flying the 185 was a real hoot and easy enough to give me the desire to maybe pursue a seaplane rating someday.

Later that evening, Bill offered his Smart car, and I zipped off to dinner. It was like an exercise in contrasts – one minute I am guzzling fuel in a burley seaplane, the next I am sipping 40 mpg in the Smart. And both were equally memorable. Workman jokes that between the Cirrus and the 185, his carbon footprint is huge. So, the least he can do is help offset it by driving “smart.” To that, I say; “Climb in the Smart, Bill. Let’s go to the airport!” 

Author’s Note: With this fourth 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/flies multiple aircraft types and wish them to be considered for inclusion, 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 10,000 hours total time 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 and holds five turbine aircraft type-ratings. Matt can be reached at matt@progaviation.com or (414) 339-4990.*

Bill Workman

PERSONAL DATA:

Age: 46

Born: Houston, Texas

Living: Houston and Montgomery, Texas

Status: Married 21 years – no kids, but awesome nieces/nephews and two dogs.

Education: BA Psychology, University of Houston (1987). One day of graduate school at SUNY Albany for a PhD in Clinical Psychology. It was at that moment I realized I needed a psychologist more than I needed to be one. I sold my books that day and went straight into medical device sales.

Occupation: Medical device distribution and sales; commercial real estate investment and development.

Employer: Self-employed

Hobbies: Flying, motorcycling, camping, boating, naps, swimming, and acting younger than I am as often as possible.

AVIATION DATA:

Earliest Aviation Memory: When I was 7 or 8, watching the Goodyear Blimp cruise low over our Houston neighborhood at night. It was all lit up and so low you could hear the engines from inside the house. We would all run out and ooh and aah. I also vividly recall seeing the Blue Angels perform at Ellington Field in Houston, with my older brother Dan, when I was about 12. I was blown away by the precision, speed and sound.

First Flight: Houston to Denver at age 10 (family ski trip). I don’t remember being scared but amazed that everyone on board was smoking! It was a flying ashtray. My first GA flight was off a grass strip with a high school buddy who had just received his ticket in a Cessna 172. I was too young to be scared and too dumb to know that I should have been. I loved it.

Aviation Mentors: My private instructor, Jim Hombs. My instrument instructor, Rick Jordan. My good friend and partner in the 185, Greg Smith. Dr. Mark McDonnell who told me what you get with your private certificate is FREEDOM! We did our training together.

First solo: February 8, 2003 in a Cessna 172, David Wayne Hooks Airport (DWH), Houston area.

Private Certificate: September 15, 2003.

Instrument Training: Throughout 2004, in my SR22.

Instrument Rating: Nov. 8, 2004.

Aircraft Owned: Cirrus SR22 (October 2003 to Present) and 1978 Cessna 185 with one co-owner (March 2008 to Present).

Proudest Accomplishments in Aviation: My instrument rating for utility and my Sea Plane rating to fulfill a dream; all my Angel Flights, the patients are remarkable people.

All-time Favorite Flight: My first flight to Oshkosh in my own plane (SR22) and landing on a dirt strip in Muluege, Baja Mexico to see the whales calve in the Pacific.

Total Time: 1200 hours - roughly 1,000 in the SR22 and 200 in the C-185.