



Cessna Airmaster

Classic wanderer

Cessna Airmaster N25485 is widely traveled **BY ALTON K. MARSH**

From the day Cessna Airmaster N25485 was born in 1940 it has had it all—travel, privilege, attention, the best of everything. First, it was a factory show horse, the company demonstrator. Then it was sold to an aerial-survey company in Philadelphia—Aero Services—and lived the life of a jet-setter, er, radial-engine-setter. It traveled to Central America, Cuba, and throughout the United States to make photographic maps of critical military importance to a country at war.

Most of the general aviation fleet was grounded during World War II, but not N25485. It had a special letter from the government allowing its pilots to purchase aviation fuel, a letter that remains part of the aircraft's logbooks today.

The Airmaster was a stable photography platform, an aircraft not eager to turn unless its pilot insisted, and fast enough—150 mph (130 knots)—to complete the job profitably. Its work continued into the late 1950s when it was sold into private ownership.

In 1969 the tailwheel aircraft was sold to Gar Williams, a friend of the man who designed the four-place Airmaster, Cessna Aircraft Chairman Dwane Wallace, and arguably the nation's top expert on Airmaster restoration. When restored in 1973, the aircraft was featured in several aviation magazines. It was later sold as a trophy plane to a private owner in Santa Paula, California, kept there in good repair, and featured again in Michael Terry's *Aviation Legends* calendar in 1997. It was offered for sale in the summer of 2000, which brings current owner Russell Williams into the story.

PHOTOGRAPHY BY MIKE FIZER

Microsoft's wide influence

Williams is a key program manager at Microsoft headquarters in Seattle, a leader on a project called Sharepoint Team Services. But that isn't what his business card says. It proudly identifies him with the phrase "Antique Aircraft & Restoration," even though he doesn't really have a restoration business. Software is his work; antique aircraft restoration is his passion.

The Airmaster and Williams are fortunate to have each other. The aircraft has brought this workaholic software engineer out of his office on weekends and taken him aloft over the Snoqualmie River for badly needed recreation. In return, it receives the attention it deserves. Flying the Airmaster is relaxing, and that is good for Williams' wife and dog, too. The aircraft's home airport is an idyllic one, a great place to get away from software bugs.

Harvey Field in Snohomish, Washington, a short drive north of Seattle, has a manicured grass runway as smooth as a golf course fairway next to its paved runway—making it the perfect strip for a classic airplane. A clear August afternoon finds Williams there in a T-shirt and jeans, caring for the aerodynamically controlled Aeromatic prop: It changes pitch based on the aircraft's airspeed. The blades are easily moved by hand when the aircraft is at rest on the ground. In the air, the pilot need take no action: Counterweights change the pitch of the blades as airspeed slows or increases. "All you have to do is prevent it from leaking oil all over you during maintenance," jokes the oil-streaked Williams.

In his car nearby are logbooks detailing all the aircraft's early flights, each recorded in perfect penmanship and signed by Wallace.

There are lots of little surprises as Williams introduces me to his aircraft. These include an electrically retractable landing light in the wing, stick controls, an elaborate 1940s-style windup clock on the panel (added by a recent owner), electrically powered split flaps, and in the interior of the wing, tiny wooden parts glued and strung together—workmanship not seen since Geppetto carved Pinocchio.

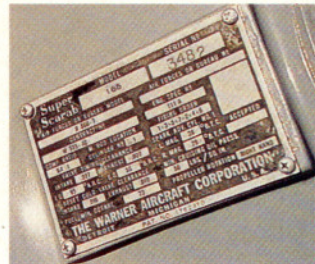
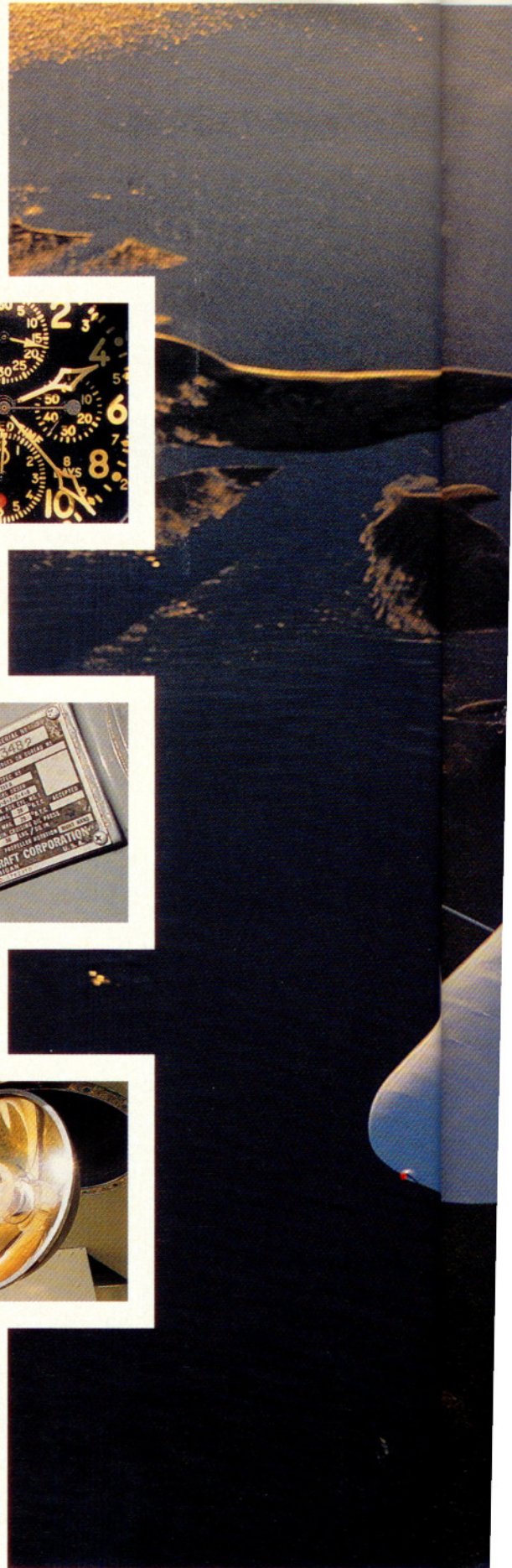
A 1940s-era clock (top inset) and electrically retractable landing light in the wing (bottom inset) are added details.

and strung together—workmanship not seen since Geppetto carved Pinocchio.

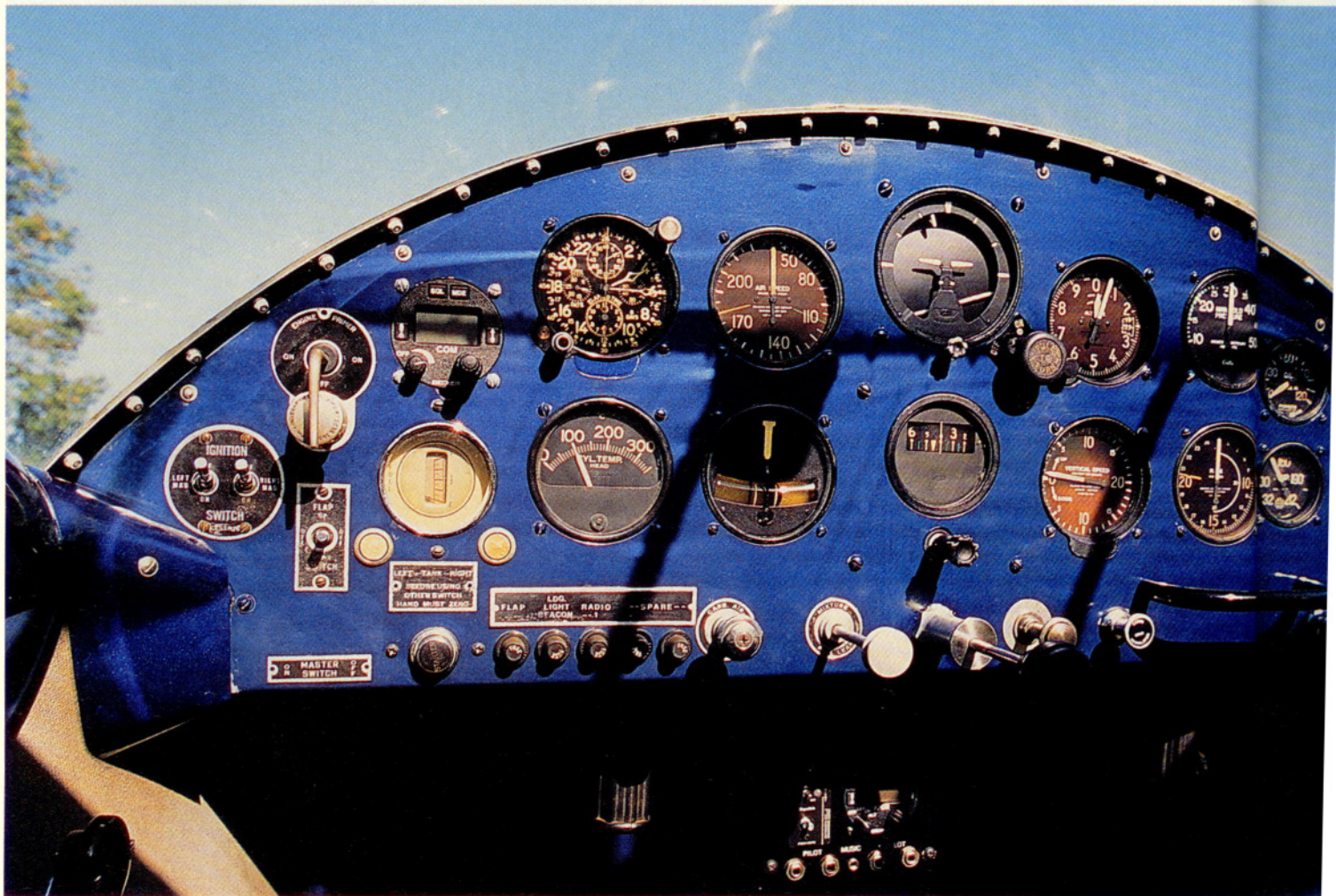
Airmaster helped save Cessna

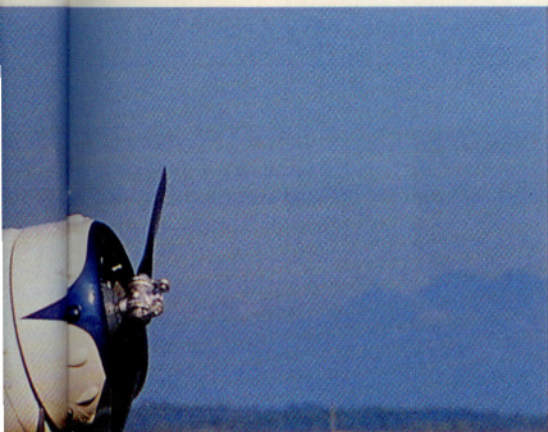
The Airmaster helped to revive Cessna after the stock market crash of 1929. It was highly labor intensive to build, however and lacked the creature comforts of more modern GA aircraft. The cabin is cramped—the pilot's head is directly ahead of the wing spar. The panel rises vertically to the windshield, which is only eight inches forward of the pilot's eyes. The cabin is narrow: Williams and I find, upon entering, that we are a tight fit.

Once seated, discomfort is forgotten as the prospect of flying a piece of history approaches. A puff of smoke squirts from the 165-horsepower Warner Scarab radial engine as Williams brings it to life. The engine is no longer made, but parts are still available from Dickerson Aircraft in Columbia, Missouri. Aside from that, "people have stashes of parts," Williams said. A little detective work has helped him to locate them.









The aircraft has distinct lines and loves the grass at Harvey Field (top left). The cockpit was restored to maintain the Airmaster's original look (bottom left and inset).

With the engine running, I discover another peculiarity of the Airmaster: heel brakes. With toes inserted in stirrups on the rudder pedals, I must lift up with my toes and push my heel downward to activate the brakes on the wheel I wish to stop. The tailwheel locks, but is not steerable. I find myself trying to depress the rudder pedals for steering—old habits aren't serving me well.

After struggling with S-turns to see over the nose, it is time for takeoff and I have a decision to make. This is an antique, and I have no desire to threaten the aircraft's existence: Williams will do all takeoffs and landings. Williams lines up on the runway, flips the tailwheel lock down to the straight-and-locked position, and adds power. The tail comes up easily and the rudder is very effective for steering. Rotation occurs at 65 mph (56 kt); a climb at 90 mph (78 kt) provides best visibility over the nose. With the Aeromatic prop in charge (there is no prop control), the indicated rpm is 2,240 at full power. The engine is limited to one minute at full throttle; we reduce the power to 2,100 rpm at 500 feet.

A snappy stall

Soon we are headed south toward the beautiful Carnation Valley with its winding streams and mountain backdrops. The aircraft feels stiff. "It is not the best flying airplane in the world," Williams offers, "but it is very stable and very staid. The radial engine is a lot of fun. There is a certain smell that sets the atmosphere. I love the style and looks, but the biggest thing for me is to maintain it and to fly it."

Normally at this point in most airplane reports you would read that stalls are conventional. They usually are. But they weren't always so in 1940. The Airmaster often stalls with a startling wing snap down, one that could lead to a spin for the pilot caught in uncoordinated flight. The aircraft not only stalls unconventionally, but it even flies differently than most aircraft. Stick forces are high at slow speeds, and an out-of-trim aircraft can require two hands during a go-around.

Once in level flight the airspeed is allowed to build to 150 mph (130 kt) and the throttle is reduced to 1,900 rpm.

It is very stable, with a slow roll rate, but not particularly responsive. Turns are best done by leading with the rudder, followed by the ailerons—somewhat like a Maule is flown. The Airmaster was well suited for what it did, plowing furrows of air in straight rows, making photographic records of the terrain below. With its three tanks—left wing, right wing, and center auxiliary—the aircraft can remain aloft for five hours, burning about nine gallons per hour. There are 17.5 gallons in each of the wing tanks, and another 10 in the auxiliary tank on the cabin ceiling behind the spar carry-through. The left tank is gravity fed by the auxiliary tank, so the left tank is effectively 27.5 gallons. Fuel levels for the right and left tanks can be read by pushing one of two 1940s-era doorbell buttons. The procedure is to push and hold the appropriate button for 20 seconds while the indicator slowly rises. Release the indicator and the needle will fall to zero in about 30 seconds. It must return to zero before you attempt to read the second tank.

A tour of Seattle

The official purpose of my visit is to see the Airmaster, but an aerial tour of nearby Seattle is a bonus. At several huge cam-

pushes along a major highway near the city are Microsoft offices where Williams has toiled for years—sometimes seven days a week—in true programmer style. More recently, he has scaled back to a normal workweek.

Turning west toward Lake Washington we see the home of Microsoft founder Bill Gates. His high-tech palace looks nearly as large as one of his corporate buildings.

After that it is north to the beautiful Puget Sound where photos for this article were taken. Offshore islands beg for exploration. Below, ferry boats take drivers and their cars on an interesting but lengthy ride, where they spend hours to see areas that we can explore in minutes. The San Juan Islands offer perfect day trips for pilots. It's a bit cloudy for pictures—the sun appears to be shining through a porcelain dish—but a terrific day for the notoriously wet Northwest.

It must be an irresistible site for the ferry riders below—especially if there are pilots among them—to see our formation pass overhead. A Piper Cub carrying photographer Mike Fizer leads the way while our Airmaster of the same era follows close behind: a flying time capsule above a modern world. We made their day—our day, too. But it is time to go back to Harvey Field.

Landing a classic

Returning to Harvey Field, I make a landing approach to see how the aircraft reacts before going around to let Williams handle the real landing. I am hot and high, just as Williams was on his early landings after purchasing the aircraft. The flaps add drag, and I use a forward slip, but I am still too fast on short final and am wondering how to get it slowed down. Fortunately I don't have to figure it out, and I go around. Williams, preparing for the actual landing, is thinking about those big red letters on the checklist: "Remember the heel brakes!"

If your heels are on the floor, as you have been taught during your entire piloting career, you'll lock the brakes for landing. "I did that once," Williams admits. Although he



Climbing into the Airmaster's cramped cabin begins a journey back in time.

released the brakes before any mishap could occur, once was enough. He never forgot it.

On the second approach Williams explains that the Airmaster requires lots of trim to be properly set up on the correct approach speed. Elevator stick forces are high. "It's not a difficult plane to three-point," Williams notes. The flaps, he cautions, add drag but not lift. The flap extension speed is 90 mph (78 kt), and the aircraft has a built-in but unintended guard against extending them at a faster speed: The flap motor is not strong enough to overcome the higher aerodynamic forces. The flap speed has become Williams' preferred pattern speed. He uses 70 mph (60 kt) for short final.

"It takes pretty aggressive nose-up trimming to keep control

forces reasonable as the plane gets slower," Williams says. "This can cause some major forward-stick force if a go-around is needed."

Williams is on speed and uses a forward slip to descend. "The plane likes to speed up, so I usually slip to adjust altitude on final," he explains. We make

a three-pointer on the grass and Williams continues to fly it even on the ground. He pays no less attention during taxi.

After landing we taxi to one side of the airport to take ground shots, and I ask Williams how a computer programmer got interested in flying.

"I've always liked transportation machines," Williams begins. "I went through a train phase as a kid. My father got a pilot's license, and when I was in college I got a license too." He admits to being a terrible student in college because he didn't like being told what to do. So he left and joined Microsoft, where he started as a part-time programmer, for his full-time career. The move eventually paved the way for his Cessna Airmaster to continue its pampered life across the decades as the show plane of its class.

ACFA

i Links to additional information about the Airmaster may be found on AOPA online (www.aopa.org/pilot/links.shtml).

E-mail the author at alton.marsh@aopa.org