

SOLO!

If you're going to be a U.S. Air Force pilot, you're going to Pueblo first

Here's good advice for the next time you are flying within 25 nm of Pueblo, Colorado. Watch for white and green-striped Diamond DA20-C1 two-seaters from dawn to dusk Monday through Friday, anytime the weather is VFR. The Doss Aviation Initial Flight Screening program, operating under contract to the U.S. Air Force, conducts 24,000 training flights a year.

The purpose of the program may seem cruel, but weeding out is what it does. It's up to the student to prove that he or she deserves to be there. The Air Force can save a great deal of money (like \$1 million per student in later stages of training) by finding out early who should not be there. Sometimes a student will show himself or herself the DOR, so to speak, as in "drop on request." It could be that a student is fulfilling a parent's dream but lacks the personal commitment, or maybe the eye-hand coordination for landing just isn't there.

BY ALTON K. MARSH

PHOTOGRAPHY BY MATTHEW STAVER





Instructor-pilot Paul Spear gives a thumbs up to Lt. Kelly Wolter as she taxis for her initial solo flight. She is shown (upper left) boarding her trainer prior to the flight. Lt. Anil Nathan (above) takes notes during an early morning briefing. He had completed his solo days earlier, finally putting the training into practice. Lt. Andrew Maston (left, at left) is hours away from finding out if he will pass his solo ride.



Are you smarter than an Air Force student pilot?

Air Force students have this information memorized before the first day of the Doss Aviation Initial Flight Screening class. Do you know the numbers for your aircraft?

Operating information

Forced landing airspeed, flaps landing—55 KIAS

Forced landing airspeed, flaps takeoff—60 KIAS

Forced landing airspeed, flaps cruise—64 KIAS

Minimum engine-out airspeed to sustain windmilling propeller—60 KIAS

Best glide airspeed (1,764 pounds)—73 KIAS

V_{FE} Maximum airspeed, flaps landing—78 KIAS

V_{FE} Maximum airspeed, flaps takeoff—100 KIAS

V_A Maneuvering speed (1,764 pounds)—106 KIAS

V_{NO} Maximum structural cruising speed—118 KIAS

Restart if propeller has stopped and starter is inoperative—137 KIAS

V_{NE} Never exceed speed—164 KIAS

Maximum permissible bank angle for steep turns—60 degrees

Voltmeter green arc (volts)—12.5-16 volts

Usable fuel (U.S. gallons)—24 gallons

Maximum takeoff weight—1,764 pounds

Minimum rpm for operations with [fuel] pump off—1,000 rpm

Maximum permissible continuous rpm—2,800 rpm

Oil pressure normal operating range—30-60 psi

Maximum time for oil pressure to reach 10 psi after start—30 seconds

Maximum oil pressure—100 psi

Maximum rpm after start until oil temp indication registers—1,000 rpm

Oil temperature normal operating range—75-220 degrees F

Minimum oil quantity—4 quarts

Maximum oil quantity—6 quarts

Maximum continuous starter operation—10 seconds

Maximum cumulative starter operation before cooling three to five minutes—30 seconds

Maximum demonstrated crosswind component—20 knots

Maximum crosswind component for solo flights—15 knots

Maximum tailwind component for solo flights—5 knots

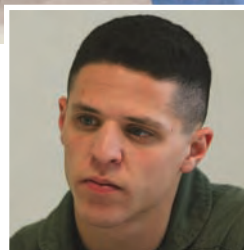
At this stage of training, the students are like any other student pilots. They want passionately to fly and are trying to solo. They have 19 flights and 25 flight hours in which to do it, and that time includes a confidence-building solo trip to the practice area plus a post-solo dual flight that precedes a final checkride.

Those who have never flown an airplane before struggle the most, while those who soloed or got a private certificate prior to training have an obvious advantage. “If you’re gambling your whole career on passing this course, it pays to get [prior] flight training,” said instructor Paul Spear. Some who come with a flight instructor certificate, like Lt. Nathan Mueller, are asked to perform at a higher level. “I was trying to keep that under wraps,” recalled Mueller, who arrived as an instrument flight instructor incognito. “When it finally came out,



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Students synchronize watches at the 6:30 a.m. briefing (above left). It's the second briefing of the day, the first was at 4:30 a.m. Lt. Kevin Milgram (right) did extremely well on early stall recoveries. Lt. Taylor Zahm (above right) put in extra hours in the simulator before passing his checkride.

they raised the standards and made sure I was challenged."

Like us, a passion to fly

Think of what got you interested in flying. It's the same for these college-graduate lieutenants. "I have enjoyed looking at airplanes ever since I can remember," said Lt. Josiah Smith. "Airshows had a big effect on me, especially if

they included the Thunderbirds. They let me see that I could do that, too." He soloed a Cessna 152 to improve his chances of getting accepted into pilot training.

A discovery flight at the local airport received as a gift from an uncle helped fire a passion for flight in Lt. Tim Newschwander. Although he hopes for F-16 training, he said he "will take anything with wings" and is one of several candidates to voice decidedly anti-Navy sentiments.

"I didn't want to live on a boat for eight months in a box about as big as a table," Newschwander said. Another student, Lt. Andrew Maston, added, "I'd rather have a longer run-

way than land on a carrier." Those may be harsh words for Maston's dad, a former naval aviator. A third student, Lt. David Foster, was accepted for admission to the United States Naval Academy but turned it down because he felt the Air Force had a greater variety of airplanes.

There were no pilots in the family when University of Texas graduate Lt. Kelly Wolter got her private certificate on her own. Her previous flight experience helped her take in stride the 10- to 12-knot crosswinds on the day she made her solo flight at the Pueblo airport. "Maybe I am starting a family tradition," she said. The Castroville, Texas, native voiced an amazement echoed by several of her classmates: "You get paid to learn to fly!"

For those who have never flown before, the solo is as memorable as it is in the civilian world. Lt. Anil Nathan said, "Putting the training into practice—and being able to do that by yourself—was awesome." Rewards were immediate during the flight; he got to change the call sign, usually "Tiger" (meaning an instructor is onboard) to "Kitty" followed by his own flight number. And there was the patch with the slogan, "Diamonds in the rough," that was Velcroed to his shoulder and set firmly in place by a traditional punch from his instructor. (For the record, women candidates are not socked in the shoulder. Their patches are patted on, but in a politically correct way.) "It's a good bruise," said Foster.

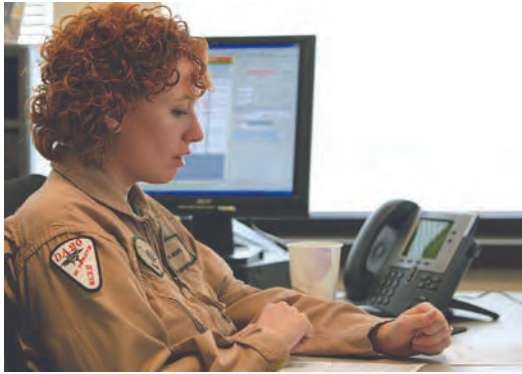
Time for humor

Lt. Kevin Milgram became a class legend when, not wanting to bust a checkride on stall recovery procedures, he shook the control stick and told the instructor, "There's the shudder," well before any airframe buffeting developed. He then demonstrated an amazing recovery with no loss of altitude.

In a class prior to Milgram's, a student on his first solo takeoff was a lot more nervous than he seemed. Soon everyone at the airport knew that, as the student accidentally squeezed the microphone button on the control stick during takeoff. As the Diamond gathered speed and lifted off, those tuned to the tower frequency heard a continuous refrain of, "Oh, my God. Oh, my God."

It would have been understandable if Lt. Ben Gleckler had become rattled during the climbout on his first solo





Instructor-pilot Tanith Hicks (above left) got a dollar bill with a picture of a baby from one of the students. Lt. Kelly Wolter and instructor-pilot Paul Spear signal the ground crew (above right).

flight when two F-16s chose that moment to make a low pass along a parallel runway, afterburners roaring. Later he was asked whether it had distracted him. “I was thinking, ‘Eighteen months,’” Gleckler said. He wasn’t distracted at all—just eyeing his next goal from a very good seat.

An instructor recalled another student who, whenever he had a problem, blamed the wind, no matter what the problem was. The wind had powers to disrupt stalls, steep turns, slow flight, patterns, and—of course—landings.

Physical plant

Bidding took place two years ago for the flight screening program. It was once done by Doss at Hondo, Texas, and there followed an experiment with civilian flight schools. Now Doss has won it again after competing against aerospace giants like Lockheed Martin. Students live down the hall from their classrooms, the cafeteria, and even the barbershop and snack shop; their aircraft are only 100 feet outside the door. Their 195 “hotel” rooms are on the first floor of a building once used by Lockheed Martin to make military avionics. While Program Director Paul Walker, a former General Dynamics FB-111 pilot, prides himself on maintaining “three-star hotel” standards, there are no mints on the pillows at night or bed-turn-down service, and only the room for visiting generals has windows.

Instructor pilots, known as IPs, come from a mixture of civilian and military backgrounds. Representative of a civilian background is Tanith Hicks, who has no military service but likes “a structured teaching environment” and gave flight instruction at the United States Air Force Academy. She is an assistant flight (class) commander and proudly displays a dollar bill with a picture of a

Can you memorize this for your aircraft?

(Actual emergency checklists are longer, but students memorize the more important one to three items for each emergency. Do you know the steps for your aircraft?)

Engine fire on ground—FUEL SHUTOFF VALVE, OFF; CABIN HEAT, OFF

Electrical fire on ground—GEN/BAT MASTER SWITCH, OFF

Abort on runway—THROTTLE, IDLE; BRAKES, AS REQUIRED; FLAPS, CRUISE

Engine malfunction after takeoff (Sufficient runway remaining to land)—AIRSPEED, 60 KIAS; FLAPS, LDG

Engine malfunction during flight (Fuel pressure loss)—FUEL PUMP, ON

Engine fire in flight—FUEL SHUTOFF VALVE, OFF; CABIN HEAT, OFF

Electrical fire in flight—GEN/BAT MASTER SWITCH, OFF; AIR VENTS AND WINDOWS, OPEN

Cabin fire in flight—GEN/BAT MASTER SWITCH, OFF; AIR VENTS AND WINDOWS, OPEN; CABIN HEAT, OFF

As the Diamond gathered speed and lifted off, those tuned to the tower frequency heard a continuous refrain of “Oh, my God. Oh, my God.”

baby pasted where George should be. First training flights are known as “dollar flights” because each student owes the instructor a dollar afterward. One of her students took note of her pregnancy and decorated the bill accordingly. Typical of those with prior military service is the commander of D Flight, Kip Warton, an Air Force Academy graduate and former Air Force lieutenant colonel who has 3,300 jet hours and 450 general aviation hours. Like Walker, he flew FB-111s and also instructed in Northrop AT-38B (fighter-bomber training aircraft) and T-38C (glass cockpit) aircraft.

Maintenance personnel patrol the flight line in a golf cart to repair any

squawks quickly and keep 45 aircraft in the air. There have been few problems with the Diamond trainers. The main one so far was engine hesitation caused by the altitude-compensating fuel pump on the 125-horsepower Continental IO-240 engine. Although there is a mixture control on the console, students need never move it. After all, there are no mixture controls in the Air Force fleet. Engines are replaced when the time for the first overhaul is reached to keep problems to a minimum. Students talk about how light the aircraft are—“Lighter than my Jeep,” said one—and also the aircraft’s tendency to float during landing thanks to its glider heritage, but they genuinely seem to enjoy it.

There seems to be a clear sense of purpose shared by the civilian security guards at the gate, cafeteria personnel, housekeeping staff, and managers that something important is going on here—and there is no doubt that the Air Force is watching. Doss Aviation is making tigers out of kittens. **ACPA**

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The pressure is off Lt. Andrew Maston, who completed his first solo (left). The reward for that is getting the official unit patch, applied with lots of force, which indicates to others that a milestone has been passed.



Why I can't go back to Pueblo

The author takes an Air Force checkride

If I return to Pueblo, I will face a reexamination by Doss Aviation Chief of Operations Pete D'Amico. I may be on the "commander's watch list." You don't want to be there because it means you are a problem student. I'm there. And worse, an Air Force lieutenant colonel based at the Doss Aviation Initial Flight Screening program may be preparing my "elimination ride."

The U.S. Air Force screener aircraft is similar to the civilian Diamond DA20-C1 Eclipse two-seater, but it is modified to place the pilot position on the right. It places the throttle in the student's left hand, the way it would be in a fighter jet.

The flight started reasonably well. During the briefing I had recited from memory the three most important checklist items for an abort-on-runway emergency. Normally that is done while standing at attention, but being a visiting reporter has its privileges. I was feeling the pressure to perform like a student must. I also knew all the Diamond DA20-C1 performance numbers students memorize prior to arrival in Pueblo—all 29. OK, I missed one on the written test

given to me by Assistant Flight Commander Tanith Hicks, but I knew 28. During taxi, I forgot to tell the ground controller that the flight would be "eastbound," and D'Amico noted I must not have read the radio procedures he gave me. Actually I had read them, but it sounded better to say I couldn't remember than to say I forgot. Later, the stall performance brought a compliment from him, and slow flight went well. Steep turns intercepted the bounce of wake turbulence where the turn had started, meaning I had lost little altitude. The 180-degree descending turn from downwind to the runway while in a forward slip—done at nearby Fowler Airport (restricted to training)—went well, leading D'Amico to remark, "I'd like to think your good performance was based on my excellent demonstration." It was. Then he demonstrated a no-flaps landing—the DA20-C1 tends to float—and I did that one well because I had noted where D'Amico turned base.

Trouble started on the overhead approach back at Pueblo Memorial Airport because I lined up with the wrong parallel



Pete D'Amico is Doss Aviation's chief of operations.

runway. It continued as I performed a simulated forced landing and turned base way too soon. To correct my high altitude, I did a forward slip as I had done at nearby Fowler Airport, but I nearly exceeded the flap operating speed. D'Amico took control, slowing the airplane before handing it back to me. If the instructor intervenes, that's a bust. The landing was long, but the beauty of my skimming touchdown nearly brought tears to my eyes.

After we were clear of the runway, I could sense him searching for a positive comment about the last few exciting minutes. After a long few seconds of mental editing, he chose, "Nice touchdown." Afterward I gave D'Amico a dollar signed, "Flaps Marsh." But it's best I stay clear of Pueblo for a few years. —AKM