

An SR20 in Uniform



The Selection, Mission, and Future of the USAF Cirrus T-53A

by Matthew McDaniel

Approximately three years ago, the United States Air Force (USAF) began a competitive selection process to choose its next primary training aircraft for the U.S. Air Force Academy's (USAFA) Powered Flight Program (PFP) in Colorado Springs, Colo. That process led to the selection of the Cirrus Aircraft SR20 G3 as the replacement for the current Diamond Aircraft DA40 Diamond Star. In U.S. military lingo, the specifically outfitted SR20 will be known as the T-53A. The USAFA has already begun taking delivery, having two as of mid-August of this year. Their total order is for 25 T-53As and for them to come online in rapid succession.

The USAFA Powered Flight Program

The Air Force Academy's Powered Flight Program (PFP) has been around since 2008. Prior to that time, there was the Academy Flight Screening (AFS) program run by Embry-Riddle using Diamond DA20s. Essentially, the PFP's purpose is to teach airmanship to the cadets through



academic coursework and flight training, educating them about the principal aviation mission of the USAF. In 2008, the PFP began a "jump start" program using a small fleet of USAF T-41s (Cessna 172s). In early 2009, Doss Aviation won the contract to provide 20 Diamond DA40CS Diamond Stars, equipped with Garmin G1000 flightdecks. The DA40s have been operated under contract and were never officially part of the USAF inventory. While they were referred to as the "T-52," that was only to simplify their usage into standard USAF vernacular. Technically, they were N-numbered, non-USAF-owned aircraft, operated under FAA regulations, with no official military designation assigned to them. The DA40s will continue to serve the PFP until the end of 2011, after which they will be replaced by the T-53A. Unlike the DA40s, the T-53As will be USAF-owned and will, therefore, not be N-numbered. Rather, they will be officially part of the USAF aircraft inventory.

The PFP is one of four possible core airmanship training programs offered to cadets. Soaring (glider flying), freefall parachute jumping, and the recently added Remotely Piloted Aerovehicle (RPA) programs are typically

completed in the freshman through junior years. Powered flight is the capstone airmanship program, generally introduced in the junior or senior year, and will consist of a 10-lesson curriculum in the T-53A. If all goes per the syllabus, the cadet will solo the T-53A (in the traffic pattern only) on the tenth flight, completing the course. These operations are conducted by the 306th Flying Training Group (FTG), via the 557th Flying Training Squadron. The 306th Flying Training Group is based at the USAFA in Colorado Springs, and is part of the 19th Air Force (Air Education and Training Command) based at Randolph Air Force Base, in San Antonio, Texas. When operating at full capacity the 306th will operate 25 T-53As, training between 600 to 750 cadets annually, using approximately 80 instructor pilots, and flying around 10,000 hours and 7,500 training sorties per year. This will equate to roughly 400 hours per year, per T-53A.

All USAFA cadets have the opportunity to enroll in the PFP, as the program has no role in determining selection for undergraduate pilot training in the USAF. This allows for all cadets, regardless of career selection within the USAF, the opportunity to be exposed to flight operations. If selected for pilot training, only then will a cadet move on to other training aircraft after graduation from the USAF Academy as a commissioned officer.

The Aircraft Selection Process

The competition for the latest PFP training aircraft began with a basic set of requirements for the aircraft's performance capabilities. Specifically, the aircraft had to seat at least two pilots (with dual controls), be able to

maintain at least a 500 feet per minute climb rate and have a combined takeoff and landing ground roll of less than 3,500 feet, all at 10,000 feet density altitude. According to Col. Christopher Plamp, Commander of the 306th FTG, only in the case of no competitive aircraft being able to meet those criteria would any of the requirements be waived or reduced to some degree. Otherwise, it is essentially a head-to-head competition between the entered designs to see which best meets the mission profile in a wide variety of categories.

The selection process for USAF aircraft is not a public competition. While it is certainly a competitive process, the USAF goes to great lengths to protect each participating company's identity and any non-public information about their designs. In the case of the PFP's most recent competition, USAF officials could not discuss what aircraft companies or designs were pitted against the winner (the SR20 G3). However, it is known publicly that Diamond Aircraft did enter their DA40 into the competition, as they filed a protest after Cirrus Aircraft won. At present, there is no indication that the selection of the SR20 G3 will be overturned.

The Cirrus Aircraft T-53A

Although the USAF T-53A is, indeed, just an SR20 G3; for its mission as a primary training aircraft within the USAFA's PFP, it is configured unlike any civilian production SR20. Two principal desires for the PFP aircraft were ruggedness and simplicity. This seems to make good common sense, given that the planes would almost exclusively be flown by cadets taking pre-solo instruction.



Col. Christopher Plamp talking to Migration attendees after he spoke during M9's Airport Day.



All PFP sorties will be flown within reasonably close proximity to Colorado Springs, Colo. and all flight operations will be “hand flown.” Therefore, the initial fleet of 25 T-53As will not have a backseat, autopilot, wheel pants, weather capability or air conditioner; and will be equipped with a two-bladed prop, Garmin Perspective with TAS and Synthetic Vision (sans Highway in the Sky).

Externally, it will be simple to discern a T-53A from an SR20. The most obvious differences will be the military paint scheme, USAF insignia, two-bladed prop and the lack of wheel pants. As with all USAF aircraft, a lack of an FAA-registration number (N-number) will be noticeable to any keen observer.

One military tradition currently missing from the T-53A is an official name. Many military aircraft eventually become known simply by their military name, as their reputations develop over years of operational success. They become so entrenched in pilot’s psyche, that they even get repeated on subsequent aircraft, such as the WWII-era North American T-6 Texan, now honored by the present-day Raytheon T-6 Texan II. As of this writing, there is a naming process underway for the T-53A. While I’m sure the list of suggestions is long, I was told that one being strongly considered is “Swift.” I personally like it, but those that know me well might say that I am a little bias to this particular aircraft moniker.

Flight Operations, USAF Style

Because the T-53A will not be civilian-owned, nor operated, the USAF will not be bound by any restrictions or approvals in the SR20’s POH. Instead, they will use the POH as a guide while conducting their own flight test program. The results of the USAF flight testing will be the basis of the procedures put into place for all operations of the T-53A. USAFA officials stated that, if permitted, they would share flight test and operational information with

Cirrus Aircraft. Such information could potentially be used to update or modify the existing SR20 POH.

The one question that was on everyone’s mind during the USAFA’s presentation on the T-53A at Migration 9 was when, if, or how the military would utilize the Cirrus Airframe Parachute System (CAPS). They made it clear that they intend to teach the use of CAPS in a similar fashion to how they have taught the use of ejection seats to generations of Air Force pilots. Therefore, procedures for CAPS use in the T-53A should eventually become standardized. One interesting tease regarding just how serious the USAF is about incorporating the CAPS into their procedures was a comment made to me by the officer who will directly oversee flight training operations in T-53As. He stated, “I can say with a great deal of certainty, that in the T-53A there will be no requirement for the CAPS cover/placard to be installed during flight and the CAPS pin will be removed as a required pre-flight item.”

In this author’s view, we as Cirrus pilots and COPA members, have nothing to lose and much to gain by having the military operating “our” aircraft. I’m anxious to see the information exchange between COPA, Cirrus Aircraft, and the USAFA, and the procedural improvements that will undoubtedly result in the long run. [COPA](#)

About the Author: *Matthew McDaniel is a 22-year professional pilot with a background in airline, corporate, and charter operations. He’s owned and operated Progressive Aviation Services, LLC (www.progaviation.com) since 2002, specializing in Cirrus, TAA, and Glass Cockpit training. He’s been actively instructing for 20 years, has logged over 11,500 hours in 70-plus aircraft types, and holds five turbine aircraft type-ratings. He is one of only 26 instructors in the world to have earned the “Master Certified Flight Instructor” recognition five consecutive times. Mr. McDaniel can be contacted at (414) 339-4990 or matt@progaviation.com.*