

# T-3A Training Flights Halted Pending Crash Investigation

WILLIAM B. SCOTT/COLORADO SPRINGS



The U.S. Air Force's suspension of T-3A Firefly pilot-screening flights remained in force last week as investigators continued to look for the cause of an engine failure at the Air Force Academy (AFA) on July 23. The latest incident followed a fatal T-3A crash on June 25 which prompted a special investigation into the aircraft's flight characteristics and the service's pilot screening program (*AW&ST* Aug. 4, p. 16).

Since early 1995, six AFA cadets and instructors have died in three T-3A accidents.

The suspension was ordered by Gen. Lloyd "Fig" Newton, who heads the Air Education and Training Command, after a T-3A's engine quit during landing. Because the aircraft was close to the ground, it landed safely.

**THE AIR FORCE CITED** "safety reasons" for what essentially is an indefinite grounding of Firefly aircraft at the academy and the service's Hondo, Tex., pilot-screening base. "Suspension" of flight operations differs from outright "grounding" only in that the Air Force "has not lost confidence in the T-3A," according to a training command spokesman.

Following a fatal crash on June 25, Lt. Gen. John C. Griffith, vice commander of the Air Education and Training Command (AETC), had ordered a "complete,

**Three USAF T-3A Firefly trainers at the Air Force Academy have crashed in the last 2½ years, killing six instructors and cadets.**

end-to-end look at the T-3A syllabus" used at both Hondo and the academy, another AETC official said. The study team's objective was to "see if any changes should be made in the training" programs.

The latest T-3A accident occurred on June 25 when an instructor and student crashed near the "outside downwind" leg of the Air Force Academy airfield's landing pattern. Its close proximity to a north Colorado Springs residential area heightened safety concerns about the aircraft, which routinely fly to and from the AFA airport over the city.

Capt. Glen Comeaux, the instructor pilot, and Cadet First Class Pace Weber died in the accident, which occurred during "a routine training mission," according to USAF officials. They were the fifth and sixth casualties of T-3A accidents since February, 1995.

In late July, special flight tests were conducted to help determine what might have caused the latest accident. A USAF test pilot and flight test engineer flew three test sorties at Hondo attempting to duplicate the June 25 training flight profile. They apparently intended to conduct several spin tests, as well.

Independently, an Air Force contract was awarded to an unnamed Waco, Tex., contractor to perform engine tests on the T-3A. Again, tests were attempting to replicate the academy's flight profiles, maneuvers and engine-handling techniques.

So far, there appear to be no common links among the three T-3A crashes here, based on accident investigation findings. The first, on Feb. 22, 1995, was attributed to "the instructor pilot's academic instruction, flying training and error analysis experience [inadequately preparing] him to recognize his improper rudder application." Apparently, the pilot misapplied rudder controls during a spin, which "led to confusion and futile attempts to counter the abnormal stick forces and high rotation rate using elevator controls only," the report concluded. The instructor and student experienced at least 17 complete spin rotations prior to impact.

A second accident on Sept. 30, 1996, "was caused by a stalled condition from which the instructor pilot was unable to recover prior to ground impact. The engine quit for unknown [reasons] prior to the stalled condition," the report summary stated.

There is disagreement among T-3A instructors at the academy about what may have contributed to the three fatal accidents, but all concede that the incidents warrant close scrutiny of the aircraft and the AFA flying program.

The single-engine, propeller-driven T-3A is the latest version of Slingsby Aviation Ltd.'s T-67 Firefly series of military training aircraft. Powered by a 260-hp. Textron Lycoming Ltd. AEIO-540-D4A5 piston engine, the two-seat, dual-control T-3A is certified under FAA Part 23 as a spin-capable aerobatic aircraft. It is flown by the USAF air academy for cadet "motivation and pilot-screening" purposes.

The first of approximately 113 T-3As was accepted by the Air Force in February, 1994, replacing the T-41, a military version of the Cessna 172.

A training squadron at Hondo also flies the aircraft to screen active-duty pilot candidates. So far, there have been a number of inflight engine failures or shutdowns at Hondo, but no fatal accidents. Those aircraft are piloted by civilian contractors. Academy T-3As are flown by full-time mil-

itary instructor pilots, augmented by rated officers who also teach academic classes and fly part-time.

There are two other differences between AFA and Hondo screening programs, according to AFA instructor pilots: Terrain elevation and focus. The academy's airfield is located near the base of the Rocky Mountains' front range, at an elevation of about 7,000 ft. Flights from the academy are routinely flown at approximately 7,500 ft. altitude to and from a training area several miles to the east, over the High Plains. Turbulence and "rotors" associated with winds over the mountains, as well as summer thunderstorms, are a constant "risk factor," one pilot said.

**STUDENT SECOND-CLASS-CADET** (junior-year) pilots, who have myriad other responsibilities ranging from academics and sports to military duties, must squeeze the 25-hr. T-3A training course into an already-demanding schedule. If weather conditions delay a number of planned flights, "it can get pretty hectic trying to catch up," an instructor admitted. However, the course must be completed by any cadet who hopes to be a USAF pilot following graduation and commissioning as an officer.

In contrast, pilot candidates at Hondo can focus on their flight training full-time,

undistracted by the pressures AFA cadets experience. Flights generally are conducted at about 1,200-1,500-ft. pressure altitude, unless practicing somewhat hazardous maneuvers, an AFA officer said. Whether any of these factors are related to differing T-3A accident statistics between the two locations "is a mystery," he said. Another noted, "There are a lot of questions being asked at all levels of the Air Force, but there are no 'smoking guns' right now" that point to common cause factors.

Both the AFA and Hondo syllabus call for a complete set of "over-the-top" aerobatic training maneuvers, such as loops, clover leaves, chandelles, barrel and aileron rolls, and Immelmans. Spins are not part of the program, although "spin prevention" training often results in departure from controlled flight and a several-turn spin, one instructor said.

While all three T-3A fatal accidents may have involved a stall and possible spin, instructors here generally agree that the Firefly is responsive, forgiving, stalls predictably and is "a good spinner. I've done more than 100 spins, and it's always recovered within 700-800 ft.," one said.

Regardless of the aircraft's capabilities and flight characteristics, some current and former instructors question the need

for this type of aircraft and aerobatic-focused training program. An AFA staff instructor asked, "Why do you even need an 'over-the-top' airplane to screen first-time-flyers, 70% [of whom] will never be fighter pilots anyway?"

Another retired USAF instructor said, "Between [1968-95], there were no fatalities in the T-41. Crashes, yes; engine failures, yes. But nobody got killed. Somewhere along the line, the fighter mentality got into the game, and the T-3A got crammed down our throats."

**A MAJORITY OF AFA** instructor pilots like the T-3A, enjoy flying it and support the existing fighter-preparatory syllabus. They believe it is a safe, reliable aircraft—although they admit it seems to have an abnormal share of engine problems when compared to its civilian Lycoming IO-540-powered counterparts. Some changes in engine-handling procedures during descents and idle-power flight were incorporated here after one of the earlier accidents to compensate, but Lycoming engineers are trying to figure out why USAF T-3As are suffering engine failures.

"We'll probably never know why these [accidents] all happened when they did," an AFA instructor said. "It may just be a string of very bad luck."

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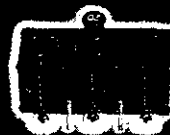
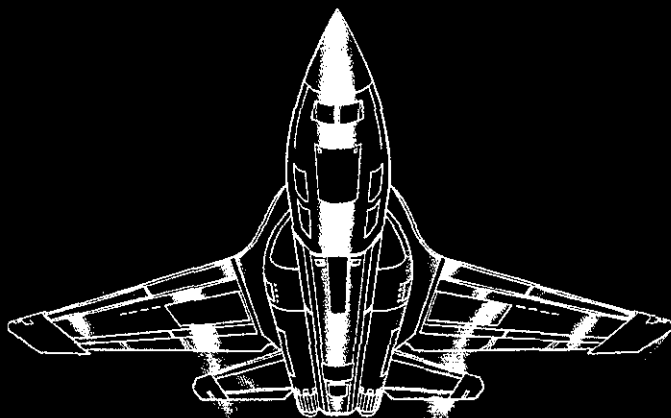
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