

As a 435th FTS T-38C departs, a second Talon assigned to 560th FTS, another squadron assigned to the 12th Flying Training Wing at Randolph, returns from a mission.

All photos Dick Wells



Deadly Bla

In 2017 there were nearly 1,000 unfilled Air Force pilot jobs. Based at Randolph Air Force Base near San Antonio, Texas, the 435th Flying Training Squadron 'Deadly Black Eagles' is just one unit that's working hard to reduce the number of vacant pilot slots. In 2017, the unit trained 16% more students than in 2016, all destined to become fighter pilots or combat systems officers.

A second goal of the 435th is to shape the youngsters into great officers in the US Air Force. The unit's commander, Lieutenant Colonel Jason Earley, discussed the fighter pilot shortage and revealed his views on modern training and leadership during AIR International's visit.

Reasons for leaving

Normally the 435th trains 128 students in a typical year, but in 2017 the number was up significantly. Explaining the reason for the increase Lt Col Earley said: 'I have spoken to a lot of guys that are leaving. They are getting out because they've served their country for the time that they wanted to. After a guy signs a fighter flying commitment for ten years and then gets to twelve years, he feels he has done a tremendous time of service; that's one reason why people are leaving. Weariness of combat is another. A lot of people are leaving the Air Force because they are tired of being constantly in war. The Air Force has been in war for almost 30 years, from Operation

Desert Storm in 1991, Operation Allied Force, to the no-fly zones, and to operations in Afghanistan, Libya and Syria. There is nothing the Air Force can do about that. We are in these conflicts in order to further our national security policies. But it takes a toll on people.

"A third, smaller reason, I think, is the loss of tribalism we once had. There has been a significant change in some of the ways that fighter pilots have been able to express their tribalism. The Robin Olds mindset would be very difficult to employ right now in the Air Force. You have to be politically correct. Times have changed and that was one of those intangibles that a lot of times kept guys in, because of the idea, "hey, we are part of this



Dick Wels visited the 435th Flying Training Squadron at Randolph Air Force Base, Texas to find out about the efforts being taken by the US Air Force to improve its training and stem its pilot shortage

Black Eagles

brotherhood, a tribe, and we are warriors," and that has been limited a little bit. And a fourth reason, the compensation on the outside has gone way up. People can go out and make more money; flight pay has stayed the same for the last 25 years, it has not even grown with inflation."

In Earley's opinion, the Air Force is working very hard to combat these issues. He said: "General Welsh broke down a lot of barriers. He fought with Congress and made them aware of our case, and the same thing with Secretary of the Air Force James; they prepped the battlefield. Now General Goldfein, the current Air Force Chief of Staff is making some significant changes. Upping the bonus, making

squadrons the focus of the Air Force, reducing the additional duties that are placed on airmen, and trying to make sure deployments are correct ones. All of those things, General Goldfein is acting on and making them happen. So, I think we will see change, we are definitely heading in the right direction."

Introduction to fighter fundamentals

After completing Undergraduate Pilot Training or Undergraduate Combat Systems Officer Training, graduates selected for a jet fighter assignment are posted to a Flying Training Squadron to go through an introduction to fighter fundamentals (IFF) course. The 435th is one of the three

IFF squadrons in the United States Air Force. The others are the 49th FTS 'Black Knights' at Columbus Air Force Base, Mississippi and the 88th FTS 'Lucky Devils' at Sheppard Air Force Base, Texas.

Lt Col Earley said the mission of the squadron is focused on becoming wingmen. He said: "Students arrive having just finished pilot training. They received their wings and know how to fly a plane from point A to point B in a fighter type aircraft. But they haven't learned anything tactical at all yet. They learned how to fly formation, but that's the extent of their experience, so they come to the 435th for the next phase, which is very aptly named introduction to fighter fundamentals.



ABOVE: A female instructor pilot with the 39th FTS climbs into a T-38C Talon.

BELOW: Head-on, the streamlined fuselage and tri-cycle landing gear of the T-38 Talon are clearly visible.



Approximately three-months long, the course (phase) starts with academics and practice in simulators to get the students introduced to the syllabus. Sim instructors are civilian Air Force employees. Every one of them is a former fighter pilot: retired Lieutenant Colonels and Colonels who provide a lot of experience on the squadron. The concept of working with retired fighter pilots is Air Force wide, and not just in the fighter community; their tasks are all ground-based, none of the civilian instructors fly.

Lt Col Earley said: "We start with formation tasks that include some weapons employment, and then move on to advanced handling, where we teach students not to fly the T-38C gingerly, but instead how to wrap the jet up and take it to its limits. Then we start with 1 v 1 manoeuvring, both from an offensive and a defensive perspective. That's where they learn they're the offender arriving in a merge to kill the other jet. Over the next four rides they practice how to be the defender, where somebody shows up at their six o'clock and they have to stay alive until their wingmen come and gets them [out of trouble]."

"In the next, more advanced missions, we teach high aspect basic fighter manoeuvres, where the two jets point right at each other. The last phase is surface attack and surface attack tactics during which students fly to a bombing range and practice delivering training stores against stationary targets on the ground."

Five tracks, one syllabus

After the academic stage, students spend about two-and-a-half months on the flight line, depending on their specific track, so some have to fly fewer sorties than others. In most cases, the 435th knows what type of aircraft each student will go to fly later in their career. In some instances, the Air Force waits to see each student's performance during IFF before assigning a student to a type. This happens to possible candidates for the F-22 Raptor and the F-35 Lightning II. In 2016, the Air Force sent the first nine candidates for the F-35 to the 435th. Six of them got to fly the F-35 and three went to the F-16. The 435th feeds all of the fighter pipelines: A-10, F-16, F-15C, F-15E, F-22 and F-35. The squadron maintains five tracks within the one syllabus.

A-track is for F-15C pilots and is entirely focused on air-to-air.

B-track is a multi-role syllabus for F-15E and F-16 pilots, where the student gets a smattering of air-to-air and air-to-ground in 21 sorties.



The pilot inspects the intakes for any foreign objects before start-up of the Talon's General Electric J85-GE-5 turbojet engines.

C-track is for A-10 pilots who get a little bit of air-to-air instruction, but then focus on air-to-ground including some advanced air-to-ground tactics for close air support.

D-track is for weapon systems officers (WSO) who will fly in the back seat of the F-15E Strike Eagle so their syllabus is all flown in the T-38C's back seat. The training concept is for an instructor pilot to lead the formation with a student WSO in the backseat, and a student pilot in the number two aircraft with his own instructor in the back. Despite being aviators and crewmembers in the aircraft, WSOs are not qualified to take off and land, or fly in the front seat. They get some front seat training for familiarisation, but are not instrument qualified.

E-track is for F-22 pilots who currently get a very similar syllabus to F-15C students, but also receive additional instruction in the sim and some academics for air-to-ground.

A fifth generation fighter track

With increasing numbers of F-35As on the flight lines at Hill, Eglin and Luke Air Force Bases, the need for F-35 pilots continues to increase, yet there is no special track for the F-35 yet. So the Air Education and Training Command is working on changes to several of the current tracks to develop what's currently dubbed as a fifth generation fighter track. Lt Col Earley explained: "There are things we have learned from flying with and against F-15s, F-16s, F-22s and F-35s, and based on feedback from F-22 and F-35 instructors, there is a consensus that we can potentially undertake things on a fifth generation track to better prepare students for F-22 and F-35 training. We are working through creating what we call a fifth gen wingman syllabus, that would be significantly different featuring more advanced tactics, yet still has to be completed in the three-month course that's available.

"That is the biggest issue during IFF training: the fixed amount of time that the students have. We have three months to get them through [the course] and on to

the next fighter. So we can't extend the new [fifth generation] syllabus too much: it really has to be just an introduction. We are attempting to make the new syllabus resource equal, so it will have the same number of missions and the same number of flying hours. We are not asking for more money or any more time or any more instructors. We are considering, since the F-35 and the F-22 don't fly a lot of visual formations, taking out a couple of the early formation sorties and adding more sorties with advanced tactics. We are shifting around what we have, to better shape their training. The good news is that the students who are going to the F-22 and F-35 are usually at the top of their pilot training class, so we feel they will be able to handle the advanced stuff."



Lieutenant Colonel Jason Earley, commander of the 435th FTS, undertaking a walk around to inspect his aircraft before climbing aboard.

Active-duty and Reservist mix

The 435th has 60 instructor pilots assigned. There are actually more instructors than students at any given time. Of the 60 instructors, 36 including Lt Col Earley belong to the active duty Air Force. The other 24 are reservists. "Those guys are here forever," he said, "They have got out of the active duty Air Force and joined the Reserves [Air Force Reserve Command]. About half of them are full timers and the others are part-timers, who come in and also have a civilian job as well. That has been tremendously helpful. There are another ten guys who are around the wing or are senior leaders, who fly with us. For a lion's share of the day, we have about 50 guys who are our core instructors all the time. The squadron typically has 30 students, usually 15 in the class just graduating and 15 in one just showing up."

"Each day we fly 36 lines; 12 sorties in the morning, 12 sorties in the middle of the day and 12 sorties in the afternoon. We usually have enough instructors to cover the sorties with guys just flying once a day. Sometimes we take guys from the first go and fly them again in the afternoon."

All of the instructor pilots are qualified for every mission, "but we have a couple of unique qualifications," said Earley. "With the A-10 students for example, we really try and fly those guys with former A-10 pilots, especially on their last few rides. Similarly, we try to fly the WSOs with former Strike Eagle pilots to maximise the training as best as possible, because Strike Eagle pilots know best how the interaction should go between the two in the cockpit. Two of the instructors in the squadron are WSOs who are capable of flying both with a student pilot and obviously they can fly with a WSO, but mostly they do a lot of the instruction for the Wizzos."

Feeding the formal training units

Each class has students for more than one track and their different types. The 435th is one of the few squadrons in the Air Force that has fighter pilots from each fighter type,



A crew chief and a pilot perform a visual check on the landing gear.

except for the F-35 because it's still too early in the type's Air Force service. Earley described the 435th as a melting pot of fighter tactics from around the Air Force. He said: "We feed all of the Formal Training Units, or FTUs. Seymour Johnson Air Force Base has the F-15E FTU, Klamath Falls houses the F-15C training wing, and there are now six F-16 FTUs: Kelly Field, Tucson Air National Guard Base, two squadrons at Luke Air Force Base and two at Holloman Air Force Base. Tyndall Air Force Base has an FTU for the Raptor; Luke Air Force Base for the F-35 and the A-10 FTU is at Davis-Monthan Air Force Base. There are few differences between the syllabi of the six F-16 FTUs, but they try to keep them very similar. So if a guy leaves from Holloman Air Force Base and goes to an active duty squadron at Shaw Air Force Base, they get the same product that comes in from Kelly Field. Air space and ramp space make it impossible to put everybody in one base and still be able to get all the sorties done. Luke is very crowded right now with the F-35 and the F-16, which was the driving force behind moving a couple of squadrons to Holloman. The Kelly unit is a Guard squadron that teaches Reserve, Guard and active duty F-16 pilots."

New approach

The 435th recently adopted a different approach to the IFF-course, one that's a lot different from the time when Lt Col Earley himself went through the programme. "IFF at that point was a haze. It was a wash out programme. The idea was that instructors would hold the line and didn't let anybody through. IFF was scary. There is a B-52 at Sheppard Air Force Base sitting on a platform. In my time that airplane was what guys were washing out and going to. Don't get me wrong, there is nothing wrong with flying the B-52, but I wanted to fly the F-15! Every day, I drove by that B-52 I said to myself I am not gonna fly it! I am gonna make it!

"The focus was too much on putting the student through the syllabus and making sure he met all the standards and followed the letter of the law.

"Now we have really tried to shift that mindset in the 435th. We know there are students that just want to survive IFF: stay under the radar, not be noticed and just get to the end, graduate and walk away. But in that mindset, students will not learn very much at all. They will just suffer through and won't end up being a better pilot at the end of the course.

"We want is to take a student and turn

him or her, instead of being a survivor, into a person who thrives. There are a couple of ways we do that and the most important thing is that instructors, instead of being a bunch of evaluators, focus on coaching the students."

Earley compares it to [American] football: "Imagine the worst football coach, that yells and screams at his players. And now imagine a coach that sits on the side line, and when a player makes a mistake, comes over and gives him a pat on the back and reminds him he is a good player, who is doing good, but there are things that they need to work on."

The latter is a coach the former is an evaluator. "We have tried to shift our instruction towards coaching as opposed to evaluating," he said.

Earley cited Shaka Smart, head coach of the University of Texas men's basketball team as a shining example: "He is a great coach, but a mentor for his players as well. By coaching students, they will actually listen to you and learn, get confident and won't be so afraid to fail.

"When you think about a jet, you have a student in the front seat and an instructor in the back seat. During the middle of a basic fighter manoeuvres engagement you may have one word you can throw out and try to have the student do something differently. And the student will not hear more than a couple of inputs. We likened the situation in the cockpit to a basketball coach. His team is running down the floor next to him, and has got just a quick chance of throwing something out to his guys to match it up.

"We learned a lot from how Smart works; how he interacts with his players, how he builds relationships with the players, about how he preps them for a game, and how he gets them to be ready to play in a high intensity environment. We also spoke with Bill Hybels, who runs the Willow Creek Association in Chicago. He is one of the best leadership thinkers in America. He has done a lot on that specific topic of how to coach versus how to evaluate. We showed him how we do things and he expressed what he really liked and what he really didn't like. We took notice of what he said and sent a core group of people to go learn from people like him - military officers, writers and philosophers - to change our way of working."

Looks can deceive. This T-38C looks brand new, but is over 50 years old.



Cataclysmic event

The biggest driving force behind such a change is usually a cataclysmic event. Discussing the change, Earley said in 2013 the 435th washed out 13 students from 108 that went through that year: more than 10%. He said: "We questioned what was happening. Is it the product we are getting? Is it something we do? Why are all these guys failing? And some guys in the FTUs were washing out too."

"The 435th's historic syllabus attrition on the IFF course was about 3.5%. Since we changed to being coaches we have only lost one student. Historically, attrition on the FTUs has been about 4% with the F-15 and the F-22 having the highest and driving that number up. Now, the attrition rate has dropped to 0.7%. Lt Col Earley stressed that the achievement was not down to the squadron lowering its standards. He said: "All the guys that would have previously washed out here [at the 435th] ended up going to the FTUs, and all of the guys that previously washed out of the FTUs are getting through. That is about 25 guys in two or three years."

Hard transition

One problem the 435th is having, and has not been able to crack, is with the F-22. Transition to the Raptor is hard. Students from all the IFF squadrons selected for the F-22 who are the best of their classes, are having a very difficult time transitioning into the Raptor.

Earley described the F-22 as a very hard airplane to fly and to get used to. He said:



Two instructors prepare for a proficiency mission to remain qualified on the type.

said: "If we just train very good fighter pilots, they are only going to be useful as a lower level operator. An individual will not be able to move past just doing his or her day-to-day job. So we spend some time focusing on how to make students good teachers and show the importance of relationships."

"Imagine a wingman that comes to the squadron and sees me treating my spouse poorly, or sees me spending hours and hours here until 22.00 or 23.00, and not realizing I

have four kids at home and the need to spend time with them. If they see me failing on these parts of my life, they are not going to stay around and be a part of the Air Force and being part of the team. Having balance in these areas makes you a better fighter pilot and a better instructor. They have to realize that it is important to do something for others, to focus on others. Not just for the community outside the gate, but also for all of the wingmen, the students in their class. The students are going through that process, and helping each other, working together as a team, and becoming good friends, and that is going to translate into the fighter squadron. They will realize they are there in a four ship, and have to worry for four, and make sure they are good to go. Taking care of their buddies, partners, kids and friends. It's a whole umbrella of leadership that we are trying to build."

Lt Col Earley said the new coaching style is already spreading. He said: "Several other training squadrons and FTUs are either adopting it or thinking about it. The idea was also presented to Secretary of the Air Force, Heather Wilson, and is being brought to other Air Force disciplines as well. It is not only about saving money. With our pilot manning issues right now, the more we can get through the [IFF] programme, the better it is in the long run." **AI**



For training missions, the student is in the front seat with the instructor in the aft seat.

"That has been the driving factor with our fifth gen syllabus. We are on this bridge, where the F-22 has to have a pilot capable at a certain level. The T-38C is producing students at a lower level, but we are trying to do everything we can to bridge that gap. For a long time, the Air Force was handpicking each individual that was going to fly the F-22, right now the Air Force cannot afford that process. Up until a few years ago, they only selected pilots for the F-22 with experience in another fighter. We didn't send any new guys to the F-22 FTU. The good news is that if a student doesn't make it at the FTU, he or she ends up on another platform and still lives their dream. We are not losing that person."

Well-rounded leaders

Part of the new way of teaching on the 435th is not just educating good fighter pilots but also making well-rounded leaders. Earley

A female student taxis her Talon to the runway for a mission designed to put into practise the topics learned in the class room.

