

DEVASTATING

Twenty years ago this month, two women died when a Davis-Monthan jet crashed into the street near U of A campus. Was it a fluke—or a warning?

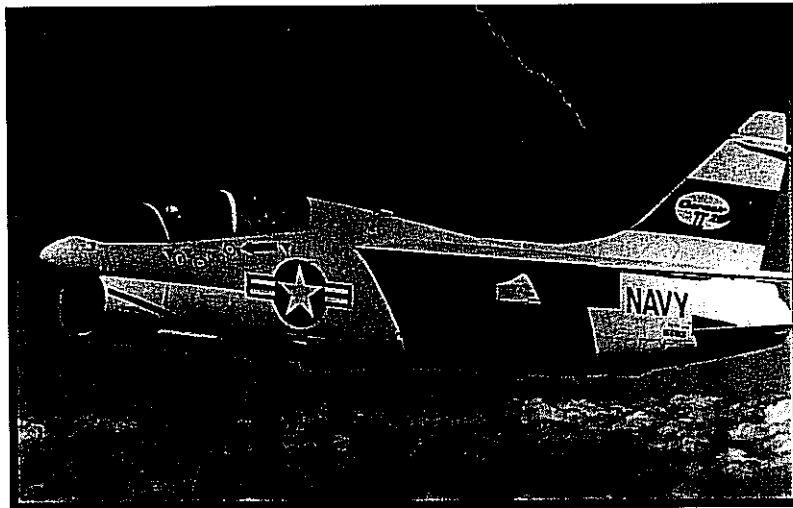


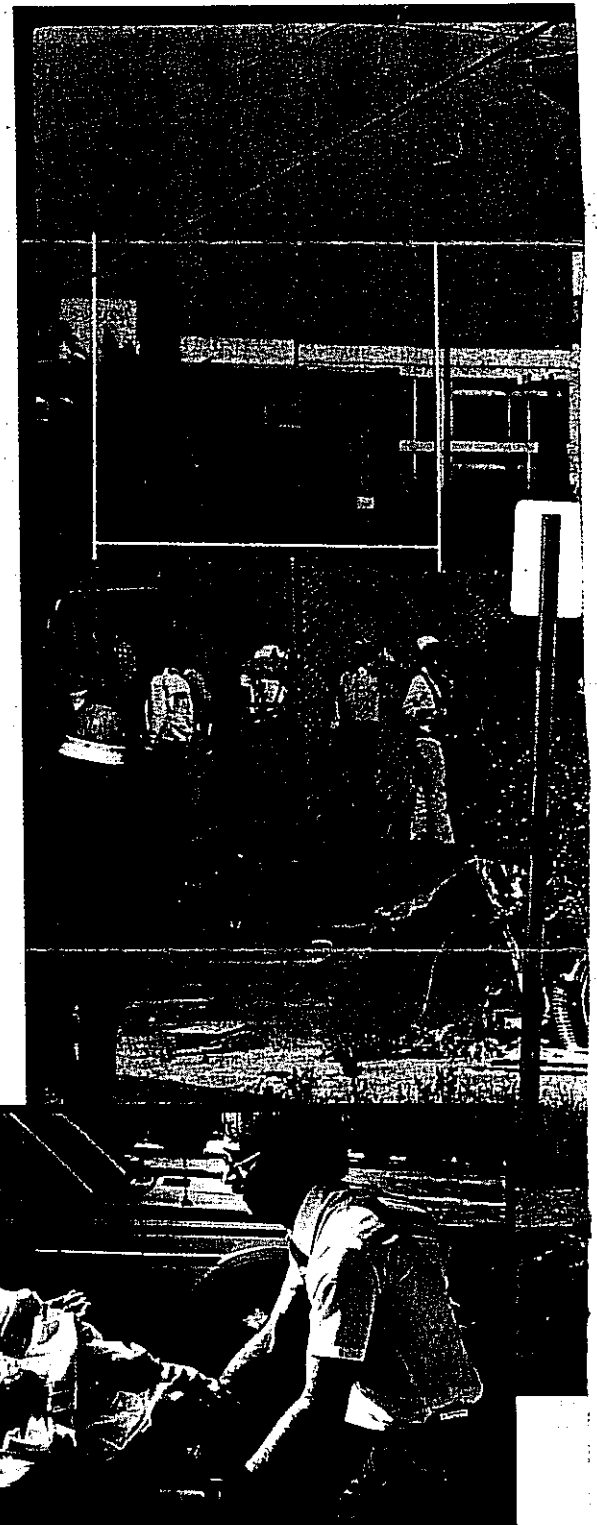
Photo: PASM Archives

At 12:15 p.m. on October 26, 1978, the University of Arizona mall was teeming with lunchtime students when an Air Force A-7 jet fighter passed overhead on approach to Davis-Monthan Air Force Base. Low-flying aircraft were a common sight near campus, but anyone who cared to glance up could tell this jet was in trouble—barely skimming the buildings, wheels up, and straining to stay in the air. Moments later, stunned observers heard its engine fall silent, followed by a sharp pop as the pilot ejected over the campus.

"No one even looked up until the engine quit," recalls political science instructor and then-city councilman Tom Volgy, who was standing on the

mall talking with several of his students at the time.

The aircraft veered to the right as it fell. It exploded on Highland Avenue just south of Sixth Avenue and the U of A, hitting the street outside Mansfield Junior High School at close to 200 mph. As parts skittered down the block, the main wreckage bounded over a Chevrolet Vega that had just turned onto Highland, drenching the car with burning jet fuel. Two sisters, Leticia Felix Humphrey and Clarissa Felix, were virtually immolated as they sat inside. Leticia died at the

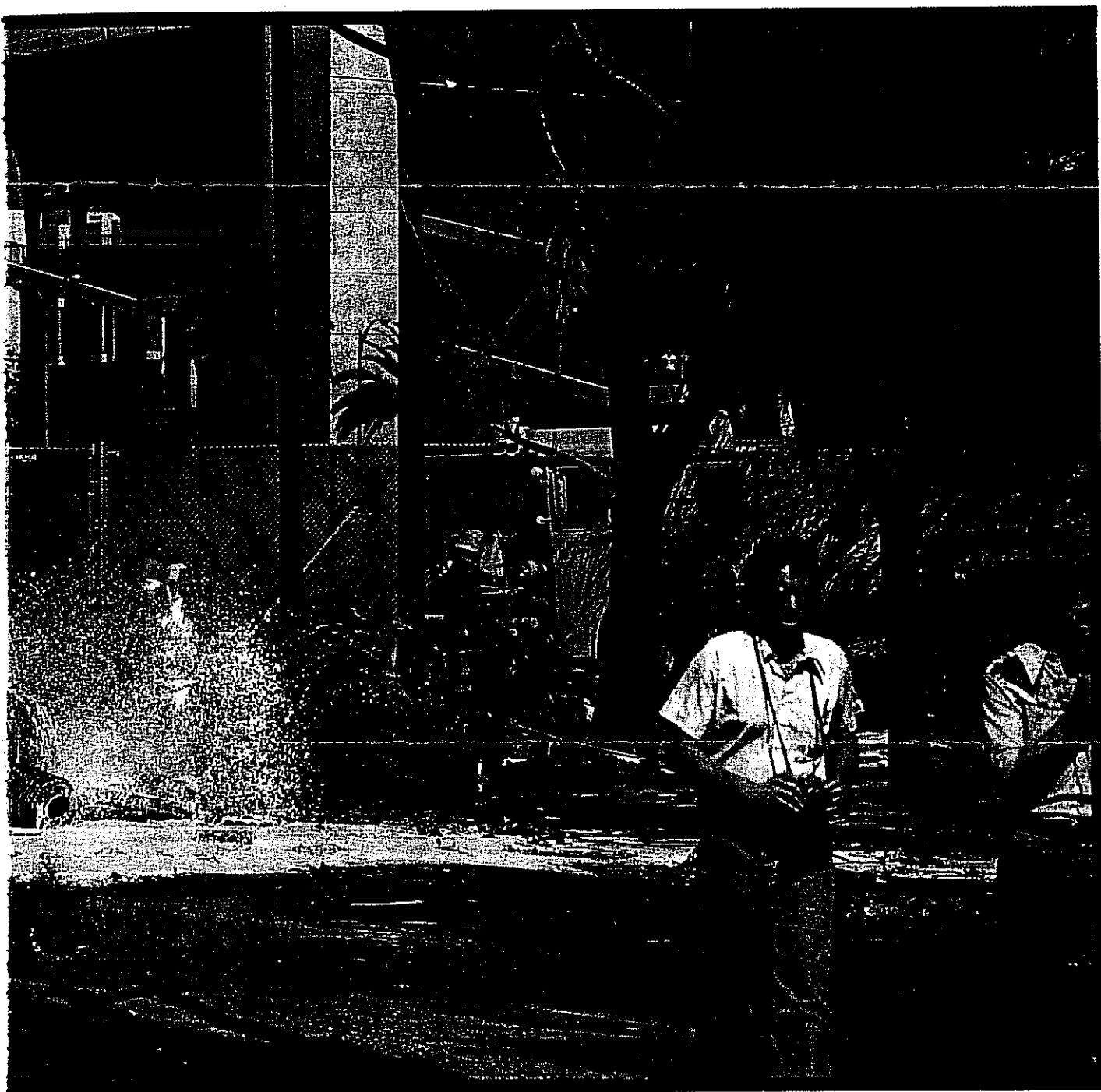


IMPACT

Written by Jim Miller

Photography by John H. Neeley

unless otherwise noted



Far Left: A naval A-7, similar to the one that crashed on Highland. Parts of Ashler's plane litter the street near Arizona stadium, as one of the injured is taken away.

THE FACT IS, ASHLER'S A-7 SHOULD NOT HAVE BEEN OVER TUCSON IN THE FIRST PLACE.

scene; Clarissa survived for a day after suffering third-degree burns on more than 95 percent of her body.

"I heard something and turned around," says Richard Flagg, who was walking south on Highland at the time. "I remember seeing a puff of smoke (from the pilot's ejection seat), and I just turned and ran." He was running past the Felix sisters' car when the A-7 hammered into the pavement. "And that's all I remember," he says. Flagg suffered third-degree burns on 30 percent of his body—primarily on his back—as well as neck injuries from flying debris. Three other civilians required long-term hospitalization for burns from the exploding jet fuel.

The following day, Air Force spin control went into overdrive. Base commander Brig. Gen. Robert E. Kelley declared pilot Capt. Frederick L. Ashler, an experienced instructor-pilot with more than 800 hours in A-7s, "a hero" for missing the schools. "He did everything humanly possible" to avoid the two schools, Kelley said at the time. Everything, that is, except what seems most reasonable in retrospect—abort his approach over the city. The fact is, given the plane's history and the events that immediately preceded the crash, Ashler's A-7 should not have been over Tucson in the first place.

Overflights today don't generate the complaints they once did for one simple reason: The planes are quieter

The 28-year-old pilot had arrived at Tinker Air Force Base in Oklahoma the day before, prepared to fly the A-7D, SN 69-6240, back to Davis-Monthan that afternoon. During the previous weeks the plane had undergone a complete overhaul and inspection. Nonetheless, during Ashler's preflight check the 8-year-old craft had exhibited engine problems—vibration, popping, and chugging noises under throttle, with critically high exhaust temperatures—and he declared it unsafe to fly. The maintenance crew bled air from the fuel system, which seemed to solve the problem. After the delay, Ashler postponed his return until the following day.

But the "repair" did nothing more than temporarily clear a clogged high-pressure fuel filter. With the engine run-



The A-7 wreckage covered nearly a full block of Highland Avenue between Sixth and Seventh streets.

ning on the flight back to Arizona, it took less than two hours for the dislodged debris in the fuel system to reaccumulate; post-crash inspection found the filter was 98 percent blocked. At that point, the A-7's single engine simply quit.

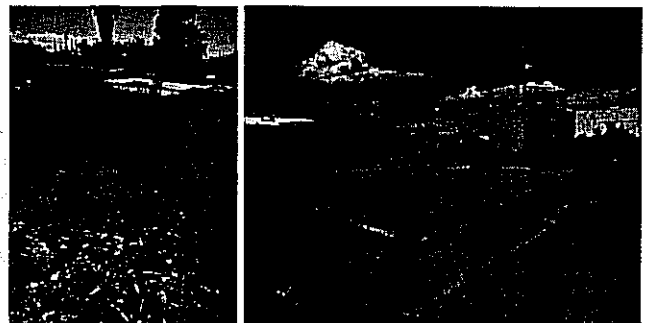
While it's the most recent example, the U of A area crash was neither the first nor the most tragic crash of a D-M aircraft in the city of Tucson. Since the

safe period in the base's history. Part of the reason for the improved safety record of Davis-Monthan is simple mechanics: Most jet aircraft today are multi-engine, so the chance of one of them being brought down by a single failure—such as a clogged fuel filter—is slim. Second, mechanical failures in general account for less than 10 percent of all Air Force crashes, estimates Lt. Col. Jon Boyd, Deputy Operations Group Commander for the 355th Wing at Davis-Monthan.

The other 90 percent are caused by pilot error, and there, too, the military has made great strides in improving the quality of its record. "Today's pilots are much better trained than they were 20 years ago," says Lt. Col. Jack King, Director of Staff for the 355th Wing. Moreover, fewer opportunities for flying mean the Air Force has gotten much more selective in its pilot training. "Twenty years ago you'd have 50 pilots in a class; today there might be 12 or

base's commission as a formal military airfield in 1941, more than 50 military aircraft have crashed in and around the city of Tucson, at least nine of them within city limits. The worst, a week before Christmas in 1967, occurred when an F-4D Phantom barreled into a Food Giant supermarket at 29th Street and Alvernon Way, killing three women in the store and a fourth, a teen-age girl, in her bedroom in a house behind the store.

The 20-year span since the U of A area crash is the longest



An F-4 Phantom plowed into a supermarket on December 18, 1967, killing four civilians. Behind the store, only the foundation remains of a house on Winstel.

BRION MCCARTHY/AMF

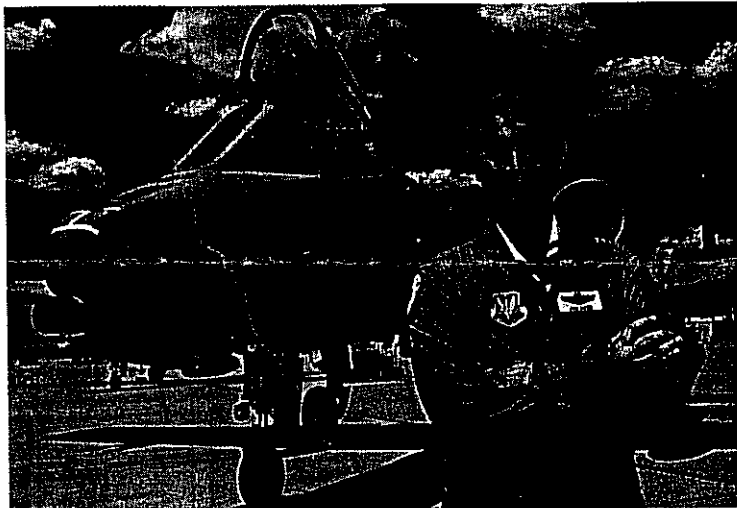
13," says King. The smaller classes also reduce the number of overflights.

Prior to the 1978 crash, Davis-Monthan had been the target of a long litany of complaints—primarily about noise—much of it coming from the U of A faculty. A 1965 study by faculty members estimated that noise from D-M jets cost each instructor nearly 14 percent of all class time. Their recommendations ranged from closing the base entirely to extending the existing runway farther to the southeast, which would place the aircraft at a higher altitude over the city. The report also claimed that the base effectively limited the growth of Tucson, concluding that "the city is now hemmed in by the Catalinas on the North, the Tucson on the West, the Rincons on the East and the Air Base on the South."

Through the years, some of the most persistent—and articulate—protests came from Jennifer Thompson, whose home on East Exeter Street was subject to a constant auditory barrage from the passing jets. Beginning in 1972, she had written federal, state, and local officials, including Presidents Ford and Carter, complaining about the existing noise and warning of the potential danger of the approach to Davis-Monthan. The 1978 crash affirmed the validity of Thompson's six-year crusade in the most tragic way possible.

In 1975, one of her missives to President Ford prompted a response from the Pentagon, in which an Air Force representative took issue with her claims that her home, Mansfield school, and the University of Arizona sat within D-M's Accident Potential Zone (APZ), the area most likely to sustain a crash. "Actually, the Accident Potential Zone at the northwest end of the runway extends only to a line running approximately from the intersection of Tucson Boulevard and 21st Street to a point on East 17th Street, just west of Country Club Road... Accordingly, the University of Arizona and three of the four schools you mentioned are beyond this area," wrote Colonel L.E. Seminare Jr.

The fourth school, Julia Keen Elementary, lies barely a mile from the end of D-M's runway 30, right in the heart of the APZ. "They go right over us. You can just see the shadows pass over the patio," says principal Rose Garcia, who supervises the school's 450 students and 50 staff members. "The noise virtually stops instruction



Lt. Col. Jon Boyd estimates that less than 10 percent of all Air Force crashes involve mechanical problems.

until the planes pass by," she says. The overflights are a problem every student, teacher, and principal has battled ever since the school opened in 1953—ironically, the same year the D-M runway was lengthened to accommodate jet aircraft.

The city's seen significant changes since 1978, including a shift of most aircraft operations to the southeast end of the main D-M runway. The changes initially cut flights over the university area by 70 percent to 80 percent, according to city officials. Volgy credits much of the initial cutback to Congressman Morris K. Udall, Tucson's representative at the time, claiming that "most, if not all" of the restrictions established in the early '80s are still in effect. These include making most takeoffs to the southeast and using a "pitch-out" landing pattern, which involves approaching from the southeast and then rolling to the side, circling down 180 degrees to land from the northwest.

By the mid-'80s however, complaints arose about increasing flights over the city. One problem is that the restrictions about overflights from Davis-Monthan are voluntary, and the Air Force can ignore these self-

BEHIND THE NUMBERS

GIVEN THE COST—both in monetary terms and in human life—of air crashes, the military keeps close tabs on such incidents. The Air Force categorizes all aircraft accidents—euphemistically referred to as "mishaps"—into four classifications, from Class A to Class D. The most serious Class A mishaps, involve any of three criteria: 1) the complete destruction of an aircraft 2) total damage exceeding \$1 million in value 3) permanent disability or loss of life. The crash near the university qualified as a Class A mishap on all three counts.

The Air Force also uses the number of Class A incidents to calculate what it calls a mishap rate, based on the number of hours flown. By calculating the number of Class A mishaps per 100,000 hours of flying, the Air Force can compare the relative safety of its aircraft. Typically, the mishap rate for specific aircraft peaks early in the model's service, then tapers off as mechanical bugs are resolved and pilots become more familiar with the craft's behavior.

Overall, the mishap rate for the Air Force has dropped over the last 20 years, as have the accident numbers for most of its aircraft. For instance, the A-7 earned a lifetime mishap rate of 5.71, which means nearly six major crashes for every 100,000 flying hours. The current A-10, by comparison, has a mishap rate of 1.86 for the last 10 years. For the same period the C-130 checks in with 0.35 Class A mishaps per 100,000 hours. The situation with the single-engine F-16 is not quite so reassuring. Flown by most of the Air National Guard units in Operation Snowbird, the F-16s are only slightly safer than the old A-7, with a lifetime mishap rate of 4.41.

This year, the Air Force claims its overall mishap rate has dropped to 1.03, the lowest in the branch's history. With the recent adoption of the Army's highly successful Operational Risk Management—a system of double- and triple-checks used to evaluate all situations—the Air Force hopes to bring its record even lower.—JM

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imposed restrictions, particularly during special operations. For instance, according to *The Arizona Daily Star*, 1985's "Cactus Arizona," a "realistic combat training" exercise, involved 200 aircraft and more than 1,000 personnel, and put more than 900 flights over the city in three days.

Mark Mayer, a member of the city's planning commission, helped conduct research on D-M overflights as part of an Airport Environs Zone Task Force formed by the mayor's office after citizen complaints in the early '90s. Mayer notes that complaints especially rise

While it's still possible for an individual pilot to make a mistake during an emergency, support on the ground is much improved.

during Operation Snowbird, which brings out-of-state National Guard units to D-M during the winter months. Operation Snowbird pilots are likely to be unfamiliar with both D-M and the Tucson area, and, he says, they're the ones who most often disregard the restrictions about flying over the city. "These guys come down from up north during the winter, and it's like 'vacation' training."

Another reason for this recent increase in overflights, Mayer contends, has been the threatened base closures during the past three years. He speculates that overflights are a form of "advertising" for the base—both to remind the city of its ties with D-M and to encourage recruitment. Mayer points to the recent air show in April, which created a significant increase in traffic over the city. The days before the exhibition featured numerous high-speed, low-altitude, close-formation passes by the Air



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Force Blue Angels, something he described as "lunacy."

D-M's Chief of Airspace Management, Rusty Arbeit, states that although the actual number of sorties—a single flight by a single aircraft—has risen again since the early '80s, the annual total remains at just over 50 percent of those flown 20 years ago. In 1978 the Air Force flew 27,000 sorties out of Davis-Monthan, while it flew fewer than 15,000 last year. Further, much of the training has been moved to Libby Airfield at Fort Huachuca near Sierra Vista. The reduction in flights has produced a corresponding drop in complaints.

In addition, overflights today don't generate the complaints they once did for a simple reason: The planes are quieter. At one time, the noise and safety issues were tied together, as the din was a constant reminder of the aircraft overhead. But as military aircraft have gotten quieter over the years the complaints have fallen. The sound levels generated by current A-10s, C-130s, and occasional F-16 can't approach those of the F-100s, F-4s, and B-52s from decades past.

At the same time, military aircraft have also become safer over the last 20 years, with most having a significantly better "mishap rate"—major accidents per 100,000 flying hours—than the A-7. In the warplane's 25-year active lifetime, from 1968 to 1993, 101 A-7s were lost to crashes. Almost half of those, however, crashed during the five years from 1975 through 1979. During that time, the Air Force lost 43 A-7s, including a number to the same flaw that brought down Ashler's A-7: a clogged fuel filter.

Currently, the 355th Wing permanently based at D-M primarily flies two aircraft: the A-10 Thunderbolt II, the straight-wing fighter-bomber that's often seen in close-formation pairs over Tucson, and the C-130 transport. Both the twin-engine A-10 and four-engine C-130 have a lifetime mishap rate significantly better than the A-7's. For example, the A-10 has recorded less than half the number of accidents per 100,000 hours. The C-130s are even better, with an average of one mishap for about 3 million flying hours. The chances of one of these flying boxcars landing on your doorstep is remote indeed.

Late last year, the Air Force rejected a proposal to extend the main runway at D-M farther to the southeast to

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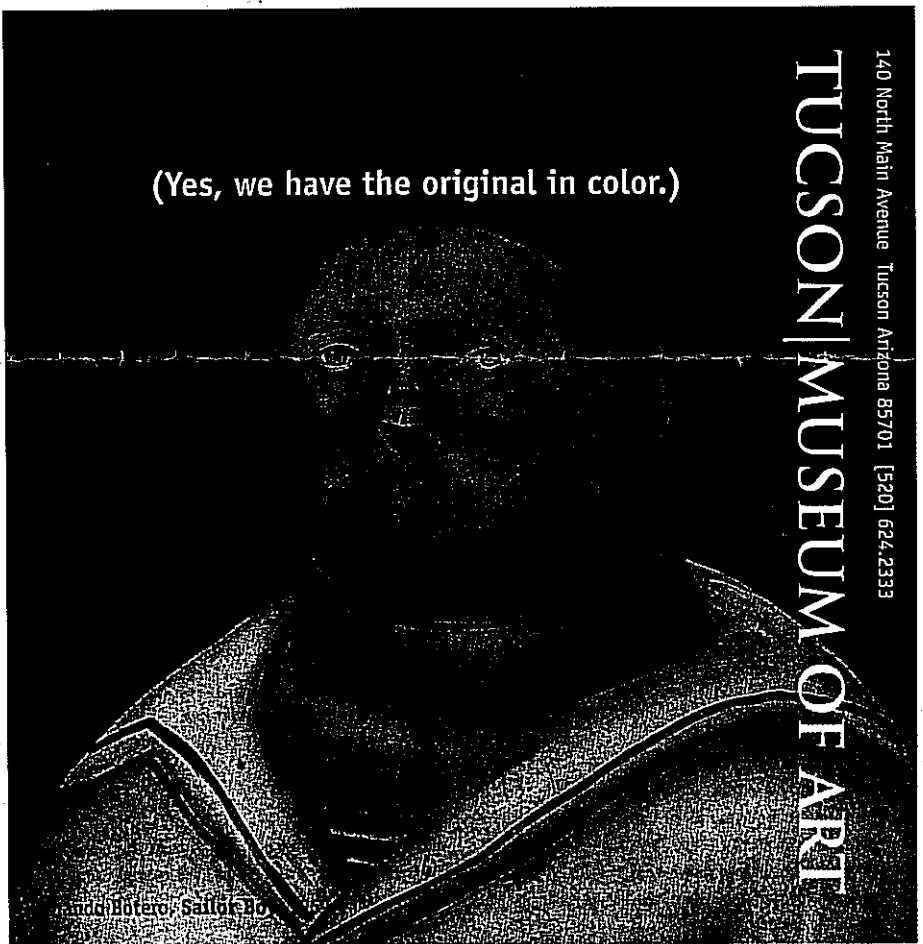
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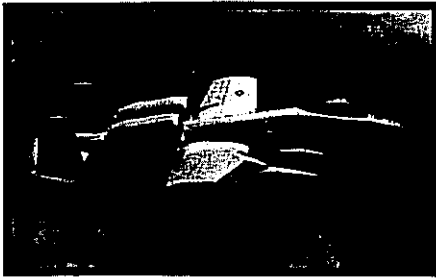


Photo: PASM Archives

The twin-engine A-10, often seen flying in close formation pairs over Tucson.



Photo: PASM Archives

The Air Force C-130 claims the best safety record of any military aircraft.

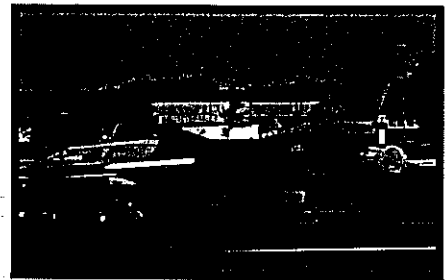


Photo: PASM Archives

The mishap rate for the single-engine F-16 is only slightly better than the old A-7.

further reduce flights over the city—the same proposal made in 1965—saying that the noise abatement and safety improvements would be minimal. According to Capt. Jay Steuck, Chief of Public Affairs for D-M's 355th Wing, the blossoming cost estimates—which, according to the Air Force, surpassed \$80 million—meant the extension would have devoured 10 percent of the Air Force's allotment for all base expansions and improvements. Moreover, recent development near the southeast end of the runway, such as the U of A Science and Technology Park and the residential area of Rita Ranch, now means that any decrease in base activity over downtown will simply increase it over the newly populated areas to the southeast.

That was not the case in 1978, however. Years of complaints from Tucson

citizens about noise had compelled the Air Force to shift its approach to Davis-Monthan to the southeast when the winds permitted it, and a 2 mph wind speed meant Capt. Ashler's normal approach that day should have been to skirt the Rincon Mountains and approach the air base from the southeast. Instead, he was told by D-M flight operations to take the more direct route, straight over Tucson.

Eleven miles out from the D-M runway—somewhere near Interstate 10 and Sunset Road—Ashler reported popping noises from the engine and a critical rise in exhaust temperature with increased throttle—the exact symptoms he'd experienced the day before. At that time, Ashler declared an IFE, or in-flight emergency, which meant that all other air traffic was to get out of his way.

Realizing he wasn't going to make the runway, Ashler aimed for the only open space he could see, a football practice field at Sixth Street and Highland Avenue. Four miles from D-M, as his A-7D passed over U of A campus, the engine died. At that point Ashler lost any control, and bailed out at an altitude of approximately 175 feet. Despite Gen. Kelley's claims to the contrary, once the engine quit it was sheer luck the 18,000-pound fighter didn't hit the university or Mansfeld school.

Kelley also claimed that Ashler first encountered problems on final approach, which left him with a crippled aircraft and barely 2½ minutes to react. But an employee at Gates Learjet—casually eavesdropping on the Davis-Monthan radio band—overheard Ashler's first report of problems near Redington Pass,

D-M'S CHECKERED PAST

Since its commission as an Army air base in 1941, Davis-Monthan Air Force Base has earned a spotty reputation with the City of Tucson. A history pulled from contemporary newspaper accounts documents some of the base's highlights, including a number of metropolitan-area crashes.

1941: The Army Air Force formally commissions Davis-Monthan as a training center for heavy-bomber crews. The Air Force names the base after a pair of WWI fliers, Samuel H. Davis and Oscar Monthan, both of whom were killed in separate flying accidents in the 1920s.

1944: A B-24 slices the roof off a house at 2738 S. Alvernon Way, killing two crew members. The house is unoccupied at the time.

1953: The Air Force expands D-M, extending the runway to accommodate jets. The newly built Julia Keen Elementary School sits directly in the D-M flight path.

1910

1919: Pioneer fliers build a civilian airfield in the desert southeast of the city. The exact location is questionable, but the original field might fall within the current boundaries of Davis-Monthan Air Force Base. The Air Force's occasional claim that this airstrip formed the basis for D-M is still open to debate.

1941: A "four-engine bomber"—likely a B-24 or B-17—crashes into a house at 3504 E. Elida St, near Country Club Road and Palma Street. No one is seriously injured.

1941-45: Numerous crashes in the desert around Tucson cause no civilian casualties. Estimates range as high as 26 aircraft lost during WWII training, with an unreported number of personnel killed.

1956: An F-86 crashes after its pilot narrowly avoids hitting an elementary school near 36th Street and South Country Club Road. The pilot is killed.

well before he made the turn for final approach. At that point the call to bring the A-7 in over the city was made by the D-M control tower, which placed a higher value on its aircraft than on the safety of Tucson. Although this account was mentioned twice in meetings with the Air Force and never denied, it was conspicuously omitted from the official mishap report released in December 1978.

Two decades later, Col. Boyd insists that pilot training for in-flight emergencies has improved considerably, and that pilots are well-trained in emergency procedures before they take off. And unlike in Ashler's day, crippled aircraft are now specifically directed away from any populated areas, most likely to Libby Army Air Base at Fort Huachuca or to Gila Bend, which now includes a full control tower, emergency personnel and fire-fighting equipment. "We're not just concerned with the pilot," says Boyd. "We're concerned with everybody's safety."

And while it's still possible for an individual pilot to make a mistake during an emergency, support on the ground is much improved. "He's not going to make that call in a vacuum," says Boyd.

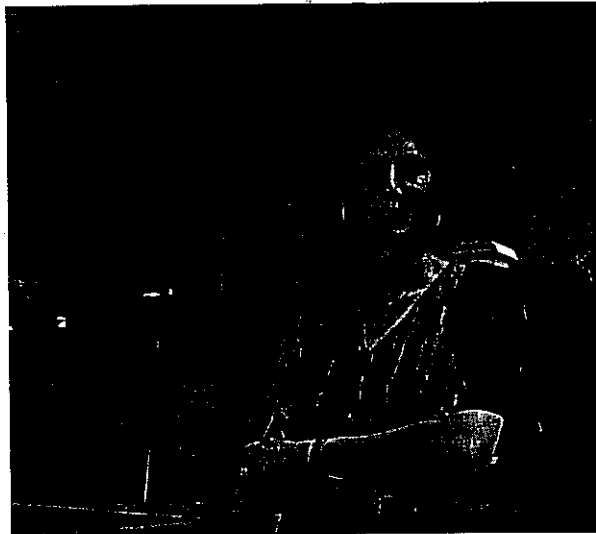
The point is that pilot training becomes the key under emergency circumstances for a single reason: It's the pilot's call as to what to do with a stricken aircraft. He or she is the one who's best able to evaluate the plane's condition. So ultimately, Ashler's choice to fly over the populated areas of the city was exactly that—his choice.

The problem is, pilots have a tendency to underestimate the seriousness of their situation and stick it out as long as the aircraft will still fly. "We've seen cases where a pilot who's low on fuel will


overfly several airports, then run out of gas before he reaches home. There's a tendency—sometimes misplaced—to want to bring the airplane home," says Marc Cook, Senior Editor of *AOPA Pilot Magazine*, a publication for the civilian Aircraft Owners' and Pilots' Association. So while Ashler's mechanical emergency was atypical, his response was far from unique.

When specifically asked "Can this happen again?" Cols. Boyd and King hedge their responses, both making reference to "crystal-ball gazing." Given the

Eleven miles out from the D-M runway, Ashler reported popping noises from the engine.



Left: Principal Rose Garcia stands in front of Julia Keen School as two A-10s pass overhead.

improving record of the Air Force overall, it's possible the past 20 years reflects the safety of today's aircraft. But Tom Volgy also recalls that Ashler's crash came almost three months to the day after D-M's base commander had assured him that it couldn't happen. And those who witnessed the original crash will likely never erase it from memory. 

Tucson Monthly thanks the former Jennifer Thompson for the use of her archives in researching this story.

1959: A piece of debris falling from a passing jet kills a woman bicyclist near 29th Street and Alvernon Way.

1959: A 32-year-old woman is killed when a wing tank from a B-47 falls onto her house and explodes in the 2700 block of Alvernon Way.

1976: A T-38 trainer with two instructors aboard crashes 1000 feet past the runway.

1980

1967: An Air Force F-4D Phantom slams into a Food Giant supermarket at 29th Street and South Alvernon Way. The crash kills three women in the market and a teen-age girl in a home at 1215 Winstel Blvd, behind the store. A second house on Winstel is also destroyed and a third severely damaged. Both the pilot and navigator parachute to safety. The December 18 crash remains the worst in Tucson history.

1970: An Air National Guard F-100 flying in a four-plane formation goes out of control and crashes near Sunnyside Junior High School, killing the pilot.

1970: A military Beechcraft crashes north of Tucson National Golf Course, killing the pilot and co-pilot.

1978: An Air Force A-7 loses power over the University of Arizona and crashes on Highland Avenue in front of Mansfield Junior High. Two civilians are killed on the ground; five others are injured. The pilot parachutes to safety.