

# THE COMBAT EDGE

SEPTEMBER 1993





# THE COMBAT EDGE

Air Combat Command  
Safety Magazine

**Gen John M. Loh**  
*Commander*

**Col Robert R. Jones**  
*Chief of Safety*

**Lt Col "Nellie" Beard**  
*Editor*

**Ron Smith**  
*Art Director*

**Barbara Taylor**  
*Awards Administrator*

**Sgt Mark S. Bailey**  
*Staff Artist*

The *Combat Edge* (ISSN 1063-8970) is published monthly by the Air Combat Command, HQ ACC/SE, 130 Andrews St Ste 301, Langley AFB VA 23665-2786. Second-class postage paid at Hampton VA and additional mailing offices.

POSTMASTER: Send address changes to *The Combat Edge*, HQ ACC/SEP, 130 Andrews St Ste 301, Langley AFB VA 23665-2786.

DISTRIBUTION: F(X). OPR: HQ ACC/SEP. Distribution is controlled through the PDO based on a ratio of one copy per ten persons assigned. Air Force units should contact their servicing PDO to establish or change requirements. Other DOD units have no fixed ratio and should submit their requests to the OPR.

ANNUAL SUBSCRIPTIONS: Available to non-DOD readers for \$24 (\$30 outside the U.S.) from the Superintendent of Documents, PO Box 371954, Pittsburgh PA 15250-7954. All subscription service correspondence should be directed to the Superintendent, not HQ ACC/SEP.

CONTRIBUTIONS: Articles, comments, and criticisms are welcome. Write: Editor, *The Combat Edge*, HQ ACC/SEP, 130 Andrews St Ste 301, Langley AFB VA 23665-2786, or call DSN 574-3658/commercial (804) 764-3658. The editors reserve the right to edit all manuscripts for readability and good taste.

DISCLAIMER: Viewpoints expressed are those of the author and do not necessarily represent the policy of DOD, DAF, ACC or the author's organization. Information contained in any article may not be construed as incriminating under Article 31, UCMJ.

## Features

4

### ASSUMPTIVE INSTITUTIONALIZATION

Col Mike Scott  
AFELM NATO/2ATAF  
APO AE 09103

29

### ACC EMBLEM FLIES AT SCOTT

Across Scott Boulevard from Air Mobility Command Headquarters at Scott AFB IL, many are surprised to see the Air Combat Command emblem on a sign outside building P-4. The building is home to one of ACC's units, the Air Force Rescue Coordination Center. The AFRCC transferred from AMC to ACC along with the combat rescue mission.

## Departments

6 24

### FLIGHT SAFETY

16

### GROUND SAFETY

13 18

### AWARDS

9

### FLEAGLE

22

### ACCOLADES

# SEP 93

ACC SP 127-1 VOLUME 2 ISSUE 4

### ABOUT THE COVER

A B-1B bomber flies over the California skies during an acceptance flight in 1987.

# ACCent on Safety

It's now been just over a month since I took the reins at ACC Safety from Bodie and, so far, it's been great! July and August have proven to be good months for ACC in terms of activity as well as safety performance. But rather than dwell on past performance, I'd like to maintain a focus on the future in this and subsequent articles.

September brings with it a number of significant challenges we all must acknowledge and then work hard to meet. First, you may be reading this *Combat Edge* as you prepare to take a well-earned Labor Day Holiday. This holiday caps off our "101 Critical Days" of summer and historically costs ACC in terms of ground mishaps and lost time due to injuries, etc. Each individual in ACC is important to accomplishing our mission -- take care of yourself and each other -- have a super holiday but then come back whole and ready to continue to support the mission.

September also closes out the fiscal year. This means the command will be finishing out its fiscal and flying hour programs. There are always some ups and downs locally as our units attempt to "zero out" their programs. This equates to turbulence and turbulence equals increased risk! Be vigilant and minimize the risk through deliberate planning and increased supervisory involvement at all levels. To complicate matters, however, supervision is sometimes spread thin as "use or lose" leave taking impacts our units heavily in September. Again, planning ahead is the key to ensuring adequate supervision is available in our units to meet the unique challenges September brings to the table. Historically, September has been a busy month -- we continue to press on in our Ops Tempo -- we also tend to experience our highest monthly mishap rates -- it's time to turn the mishap trend around!

To cap off September, General Loh has directed an ACC-wide Safety Day on the 27th. The command will take this day to stand down from flying and reflect on our FY 93 performance and use the results and lessons learned to gear up for FY 94. I encourage each of you to take an active part in your unit's program -- we all have a stake in the outcome!

Finally, September prepares us for a significant event -- on 1 October 1993, AMC will transfer their C-130's to ACC. We welcome our new C-130 teammates to ACC -- this transition is another important step toward streamlining the Air Force Global Power team. We in ACC also look forward to working with what has historically been a very professional and dedicated contributor to the overall Air Force mission -- again, welcome aboard!

As you can see, September's an exciting and full plate -- FY 94 looks to be equally if not more so! Work and fly hard but also safely. Each and every one of our aircraft and people are crucial to ACC's combat potential -- potential we can't afford to lose due to needless mishaps and unwarranted risk taking. We all need to be around to face the challenges of '94 and beyond.

*Colonel Bob Jones  
Chief of Safety*



Col Mike Scott  
AFELM NATO/2ATAF  
APO AE 09103

# ASSUMPTIONS

**A**s an experienced fighter pilot currently underemployed while riding out the death throes of a closing NATO headquarters, my personal problem has, unfortunately, expanded from the simple inconvenience of a non-flying staff job. I still have that innate fighter pilot need to say something; but now that I have lots of time to say it, there's barely anyone left here to say it to. Hence, this article.

Why "young folks only"? Read on. You'll catch the drift.

Applicable to non-fighter pilots? Absolutely. Although the supporting information is fighter oriented, we're talking mindset. The message is universal.

Lurking in all our professions is a snake-in-the-grass I label "assumptive institutionalization." Granted, these are grandiose words for a fighter pilot (they definitely upgrade my vocabulary); however, they perfectly combine "take for granted" (from a version of assume) and "establishment of a custom or practice" (from various versions of institution) to describe... an insidious process whereby an incorrect assumption (or two) provides false legitimacy to an activity.

Since *Sports Illustrated* and *People* tend to shy away from this subject area, I've not seen it previously addressed. Due to its pervasiveness, however, I've no doubt one of you really smart readers may recognize the subject as one that some other really smart person has previously identified and labelled as something else. No problem. But, I like my label.

Before I expound, allow me to establish the theme utilizing some authentic incidents as briefing aids. I think you'll get the picture without much more babble from me.

Incident 1. The pilot of a highly maneuverable fighter flew an overly aggressive overhead pattern resulting in a final turn that was too tight. An uncon-

trollable sink rate developed and his aircraft impacted short of the runway. Following the incident, the pilot's paraphrased comments indicated he was "just flying like I was taught; like all the pilots in this specialty."

Incident 2. During a low level mission over ragged terrain, the pilot's fighter clipped the top of a tree while crossing a ridge. Investigation revealed a prevailing misconception within his squadron that overflight of an occasional ridge or hill did not require appropriate flyup maneuvering to ensure strict adherence to minimum clearance rules.

Incident 3. Two fighters, on a 1 v 1 BFM mission, collided during an extended, slow speed, scissors-type engagement that was characterized by repeated, momentary violations of the rule stipulating minimum separation criteria. One of the mishap pilots rationalized his actions with a belief that (paraphrased) "in this type maneuvering, it's common practice to continue the engagement when the violation is a quick, nick-the-bubble type and flight dynamics immediately place the participants back into legal parameters."

Incident 4. On a continuation training sortie, the pilot executed maximum performance tactical maneuvers that were inconsistent with the fighter's designed purpose and outside the requirements of his squadron's mission. During one of the maneuvers, the aircraft departed controlled flight and crashed. Investigation revealed a longstanding perception among many of the squadron pilots that to best accomplish their mission, it was necessary to employ the aircraft beyond the mandate of mission requirements.

Each of the preceding is a highly condensed synopsis that, if expanded, would undoubtedly yield numerous specific findings such as supervisory prob-

# ASSUMPTIVE INSTITUTIONALIZATION

**Although each incident clearly resulted from a decision to exceed formally established boundaries, the decision was supported by the pilot's belief that his particular stretch of the rules was acceptable.**

lems, pilot error, inadequate guidance, poor judgment, etc. But, because accident investigations objectively determine specific problems, it is unlikely any would cite the more subjective finding of assumptive institutionalization (or comparable term). Yet, it is the prevailing theme in each. Although each incident clearly resulted from a decision to exceed formally established boundaries, the decision was supported by the pilot's belief that his particular stretch of the rules was acceptable.

In each case, the mindset resulted from repeated violations which eventually became accepted practice -- or institutionalized. Initially, the particular breach was probably a small mistake not viewed as a problem and, therefore, not sufficiently challenged in the post flight debrief. The process repeated and the mistake gradually attained a status of acceptability. As new guys entered the arena, the practice was passed on and assumed to be legitimate under the rationale: "It must be okay. Why else would an experienced guy teach it and the others do it?"

In some cases, the pattern may even have propagated breaches to the breaches. In others, add-on violations were not required. In each case, however, when the pilot made the bonafide mistake(s) that actually resulted in the mishap, he no longer had sufficient room for error because the now "accepted" maneuvering had encroached on original safety margins.

Hopefully, you've caught the drift of my message. Yes, it's fighter oriented, but that's my experience. I've no doubt that with some minor adjustments, the same theme has occurred in your profession. (Ex-

ceeding speed limits and operating less than "full up" machinery come to mind.)

So, how do we combat the problem? First and foremost, we must not fool ourselves into thinking the problem can be eradicated. It's an impossible task. The potential for assumptive institutionalization is everywhere and has always been -- and always will be with us.

It is, however, controllable. By combining awareness of its omnipresent potential with knowledge of formal parameters, discipline to remain within the parameters, fortitude to challenge those who exceed the parameters and savvy to seek approved change if and when the parameters need adjusting, assumptive institutionalization can be neutralized.

Easy to say and hard to do? Hardly. If you're a USAF member in good standing (not imprisoned, under indictment, etc.), your acceptance into our select group and the training you've received amply validate your capability to manage this phenomenon. Controlling assumptive institutionalization is simply a matter of remaining aware that, when unattended, even the smallest breaches of discipline can lead to severe consequences.

Now the issue of "for young folks only." Since "young folks" and "Air Force members" are actually redundant terms (some of us just have a few more aches and pains), I had to make a choice. It seemed to me that "young folks" might provide a better come-on for inducing you (especially if you wake up with aches and pains) to read my story. Thanks for the opportunity to share my view. ■

*Capt Mike "Guido" Giuliano  
USAF IFC/FO  
Randolph AFB TX*

# DEATH TAXES & Instruments

**I**t was day 49 of the fighter-pilot-held-hostage crisis -- my staff job at the Instrument Flight Center (IFC), Randolph AFB TX. There I was, sitting in a classroom listening to psychobabble from a self-proclaimed instrument expert during an Instrument Refresher Course (IRC). You know the type: the well-intentioned instructor whose worth in life is wrapped up in doing what he considers productive work but what really solves nothing. My mind drifted back to those glorious

days, when IRCs relied on "symbolism over substance" and included a pony for the open book test. Ah yes, the good old days; when the job focused on killing Migs or shooting wrist-watches. Instruments were an afterthought, occasionally needed only for the admin part of the mission. As I drifted, I envisioned that I was trapped in IRC hell. Here I was amongst a group of ATC instructor pilots -- the kind who teach other ATC IPs -- who had a very different perspective about what's important! Meaning-

less questions would abound -- Oh, why me? Finally, I began to get a grip on myself. Who was I to complain; at least I was flying. There aren't too many staff jobs requiring flying these days. I should be thankful, even if I had to sit through the inconvenience of an occasional ATC IRC. After all, what could an IRC do for me? Hadn't I been there and done that during my 10 years as a flier? Strangely, as the day unfolded, it became obvious - this wasn't your typical IRC, the kind I'd become used to in my fighter days. As I listened to the course, I gradually became aware that my instrument knowledge was a little weak. OK -- it stunk. But I didn't worry too much since it was only that "fluff" stuff nobody really needs to know anyway. Besides, killing Migs is what it's all about.

It is now day 305 of the "hostage crisis," and I've done a complete turnaround on what I think about instruments. I now realize how maligned instruments have been in my own life as well as, I would guess, for many in the fighter community. So, I feel compelled to provide a service to my fellow aviators by promoting instrument flying as honorable and worthwhile. I hereby submit this article for the ages. I know you're not the type to accept all of the propaganda that is showered on you daily from the media, and I don't think you would accept anything spoon-fed by me or anyone else. Which is why I'll try to sell this by allowing you to think for yourselves. How will I do this? By relating your flying career to a couple of concepts you are familiar with: "invest and grow" and "tax and

spend." Then, I'll draw an unparalleled analogy between my 10 year flying career and the saga of the national debt -- a pure stroke of genius.

Like any typical fighter pilot, I chose to invest my time in the vault learning my craft. I measured my growth as a function of length of

debriefs and speed of upgrade progression. In the beginning, my brain and flying abilities were taxed learning the mission at a confiscatory rate, as I spent every waking hour developing myself into a trained killer. Early on I developed tax and spend tendencies for instruments, relying solely on what I had learned in UPT. But even as outlays increased, I was still able to generate revenue/capital by gains in flight hours and experience. I had many lessons learned and a few close calls during my fighter pilot days, but I was never involved in a major mishap. Was this because of karma, experience, flying skill or what? I've decided it was a combination of all those things, plus the fact the command insulated me from the weather and the national airspace system. I guess the philosophy is you can't get into too much trouble flying VFR to and from the area most

of the time. As I now look back with fondness and greater insight, I can see how my 10 years of flying compares to the national debt. In terms even a liberal arts major could understand, I kept taxing and borrowing on my experience and airmanship to spend on those rare IFR moments without investing in instrument study. Put more simply still, I continued to take out and put nothing back in. Alas, we all know if a debt becomes too big, it'll bust the bank. Fortu-

**In terms even a liberal arts major could understand, I kept taxing and borrowing on my experience and airmanship to spend on those rare IFR moments without investing in instrument study.**

nately. I was able to recognize my trillion dollar deficit; and now I'm slowly chipping away at the mountain of red ink caused by this legacy of drift and neglect. Of course, there are those of us who choose to ignore the debt, or consider it of no consequence at all. "So what?" is hardly the response needed when deficits continue to accelerate. If you are not convinced this is a problem, perhaps an example of someone who "busted the bank" will help to further illustrate the seriousness of lopsided investment and tax and spend policies.

There was a former aviator who made a lot of withdrawals and eventually overdrew his account. His investment of time and growth as a fighter pilot translated into taxing his abilities and spending everything he owned during a routine instrument approach. Bankruptcy resulted and he flew his fighter into a mountain top during a missed approach procedure in marginal weather conditions.

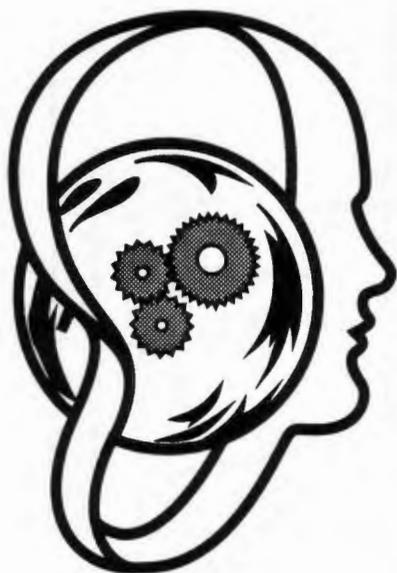
This pilot was not much different than you or I, a seasoned pilot with thousands of hours, mostly in fighters. One day he flew a low altitude procedure turn. My question to you -- when was the last time you flew one of those in your fast fighter? When was the last time you cracked open a low altitude approach book for that matter? Do you know how to fly that "barb" thing? To make matters worse, it appears this pilot's confidence in his ability to fly any approach lulled him into a false sense of complacency. He didn't adequately study either the approach or the missed approach procedure, which set the stage for disaster. Do you include the missed approach in your "MAILMAN" check? What's a "MAILMAN" you say? Ah yes, vague memories from those UPT days are bubbling to the surface. Sad to say, this mishap is not an isolated case. Part of my job here at the IFC is to track instrument related flying mishaps. I've conducted a review and scoured the records. While I don't like to sound a message of doom and gloom, there are other of these kinds of unfortunate and possibly preventable accidents on the books. Now, I may be

many things, but I don't claim to be a prophet. However, I will step out and predict more of these accidents if we continue to view instrument flying as just a special interest group begging for some undeserved attention.

So how can we avoid becoming an item in the Blue Four News? I know! Let's rush into the vault and devote all of our time to studying AFM 51-37! Obviously, an exaggeration to make a point. Why, we'd be creating a deficit in one area to pay off another area. That's like spending cuts which are really spending increases. We all know that employing your magnificent, multi-million dollar flying machine is a complex task with a lot to know. I've been there -- I understand how difficult it is for line jocks to keep their heads above water. The point is to know your weaknesses and limitations and not to become complacent. Guard your wallet of flying knowledge and invest wisely, because you **WILL** be taxed. Taxes go up on everybody; and, unfortunately, you can't tax your way to proficiency. As you fly that sortie, you're taxed -- and you don't even know how much. You don't have any idea! Take instruments seriously and look for creative investment strategies. Perhaps you could use an investment tax credit, read some of those instrument publications occasionally and stimulate your flying economy. Try to whittle down the debt and look for ways to cut the "pork." When was the last time you read AFM 51-37? In pilot training? Pay attention during IRC and don't use the pony. If the IRC is boring or ineffective, exercise some of that "critique democracy" to let them know. Some final words of wisdom from the folks at the IFC: You can be the ace of the base; but if you don't take care of the 5-15 portion of the flight (5 minutes for takeoff/ departure and 15 minutes for landing), you may bust the treasury or otherwise cease to inhabit this planet. ■

**Fleagle**





# TELL US WHAT YOU THINK

**L**ast month, we included two ballots in each magazine for you to tell us how we can better serve you. Since we only send out one magazine for every ten people in our audience, we know many of you didn't have a chance to send in your opinions, so here's your opportunity. Complete a survey and forward it to us.

We know how busy you are, but please take a few extra minutes to tell us how to do our job better. We've included one form in each copy of this magazine and encourage local reproduction of the form so everyone can let us know what they think. If only a few people give us their opinions, or we only receive surveys from people sitting behind desks like us, we may wander off course without knowing it. You can keep us on track and make us better.

The survey includes some questions about you. We're not trying to invade your privacy; we just want to know, more clearly, who it is we're communicating with. By knowing you, we will be better able to tailor the magazine to your interests. Please, no names.

The rest of the form lets you sound off to us. Tell us what you honestly think about the way

we're doing our job. Don't worry about hurting our feelings. Be as honest and accurate as you can. When you're finished, fold and **TAPE** (no staples please) the survey so that the address shows. Send it to us through your official mail channels.

To best serve you, our customer, we need to know what you want. Be candid, be bold, be imaginative! Give us your best ideas for improving **YOUR** magazine and we'll give you the best product we can.

There's another thing you can do to improve The Combat Edge -- **WRITE!** We rely on your articles. Don't think you have to be a great writer; just communicate your message. Send it to us and we'll take care of the rest.

Remember -- **The Combat Edge** is **YOUR** magazine! It will only be as good as **YOU** make it through **YOUR** articles, inputs and feedback. If you aren't seeing a particular type of article -- it's because you haven't written it. We are committed to giving you the best quality product possible, but we can't do it alone.

**WE NEED YOU!**

Branch of Service/Agency \_\_\_\_\_ Rank \_\_\_\_\_ AFSC \_\_\_\_\_ Age \_\_\_\_\_ Sex: M F

Duty Status \_\_\_\_\_ Time in service \_\_\_\_\_ Education (highest level completed) \_\_\_\_\_

Job title/description \_\_\_\_\_

1. How often do you read this magazine?
  - a. Very often (every issue)
  - b. Often (most issues)
  - c. Sometimes (some issues)
  - d. Seldom (very few issues)
2. How do you normally obtain this magazine?
  - a. Official USAF distribution (PDO)
  - b. GPO subscription/direct mail
  - c. Library
  - d. Co-worker, associate, friend
  - e. Other
3. How much of each issue of this magazine do you read?
  - a. All
  - b. Most
  - c. About half
  - d. Some
  - e. A little
  - f. Look at but seldom read
  - g. None
4. How many other people read/share the copy of this magazine you receive?
  - a. None
  - b. 1-3
  - c. 4-6
  - d. 7-9
  - e. 10 or more
  - f. Don't know
5. After reading this periodical, what do you do with it?
  - a. Keep it
  - b. Discard it
  - c. Pass it on
6. How soon do you see a copy of this magazine after it is published?
  - a. One week or less
  - b. One to three weeks
  - c. Three weeks to a month
  - d. A month or more
7. What magazines or newspapers do you regularly read?

We are interested in your assessment of *The Combat Edge* magazine. When choosing an answer, write in the number corresponding to the extent you agree or disagree with each statement.

- | <i>Strongly Agree</i>   | <i>Agree</i> | <i>No opinion</i> | <i>Disagree</i> | <i>Strongly Disagree</i> |
|---|--------------|-------------------|-----------------|--------------------------|
| 1   | 2            | 3                 | 4               | 5                        |
| 8. <b>The Combat Edge</b> satisfactorily presents safety information.                       |              |                   |                 |                          |
| 9. <b>The Combat Edge</b> is as interesting as other publications I read.                   |              |                   |                 |                          |
| 10. <b>The Combat Edge</b> is as informative as other publications I read.                  |              |                   |                 |                          |
| 11. The level of reading in <b>The Combat Edge</b> should not be higher.                    |              |                   |                 |                          |
| 12. The articles in <b>The Combat Edge</b> are technically accurate.                        |              |                   |                 |                          |
| 13. Overall, the appearance of <b>The Combat Edge</b> is good.                              |              |                   |                 |                          |
| 14. Coverage of flight safety issues is adequate.   |              |                   |                 |                          |
| 15. Coverage of ground safety issues is adequate.   |              |                   |                 |                          |
| 16. Coverage of weapons safety issues is adequate.  |              |                   |                 |                          |
| 17. The number of photos, illustrations and charts in <b>The Combat Edge</b> is sufficient. |              |                   |                 |                          |
| 18. <b>The Combat Edge</b> articles are informative.  |              |                   |                 |                          |
| 19. <b>The Combat Edge</b> articles are interesting.  |              |                   |                 |                          |
| 20. <b>The Combat Edge</b> magazine is useful to me personally.                             |              |                   |                 |                          |
| 21. Article topics are in tune with important trends.                                       |              |                   |                 |                          |
| 22. <b>The Combat Edge</b> is an effective mishap prevention tool.                          |              |                   |                 |                          |

For the areas listed below, please rate each using the following scale:

- | <i>Poor</i>   | <i>Fair</i> | <i>Satisfactory</i> | <i>Good</i> | <i>Excellent</i> |
|---|-------------|---------------------|-------------|------------------|
| 1   | 2           | 3                   | 4           | 5                |
| 23. Covers  |             |                     |             |                  |
| 24. Layout (professional appearance)                |             |                     |             |                  |
| 25. Article quality                                 |             |                     |             |                  |
| 26. Photographs                                     |             |                     |             |                  |
| 27. Illustrations                                   |             |                     |             |                  |
| 28. Information value                               |             |                     |             |                  |
| 29. Use of color                                    |             |                     |             |                  |
| 30. Thought provoking nature                        |             |                     |             |                  |
| 31. Type (size and style)                           |             |                     |             |                  |
| 32. General interest/entertainment value            |             |                     |             |                  |
| 33. Article thoroughness                            |             |                     |             |                  |
| 34. Article variety                                 |             |                     |             |                  |
| 35. Awards coverage                                 |             |                     |             |                  |
| 36. Usefulness in my job                            |             |                     |             |                  |
| 37. Timeliness of articles/issues                   |             |                     |             |                  |
| 38. Accuracy  |             |                     |             |                  |
| 39. Usefulness in increasing professional expertise |             |                     |             |                  |
| 40. Attractiveness                                  |             |                     |             |                  |
| 41. Overall value                                   |             |                     |             |                  |

42. Has a **Combat Edge** article ever saved your life or kept you from doing something dangerous? If so, briefly describe the situation.

43. How would you rate this magazine in comparison with other publications dealing with the same or similar subject matter?

- |                     |                    |               |
|---------------------|--------------------|---------------|
| a. The best         | c. Average         | e. The worst  |
| b. Better than most | d. Worse than most | f. Don't know |

Please tell us how you would improve **The Combat Edge**:

What kinds of articles should we print **more** of? **Less** of? **Additions**?

Other comments:

----- FOLD -----

----- FOLD -----

---

---

---

**Official Business**

**Editor, The Combat Edge**  
**HQ ACC/SEP**  
**130 Andrews St Ste 301**  
**Langley AFB VA 23665-2786**

C  
U  
T

# ***Pilot Safety Award of Distinction***



"I was #8 of an 8-ship F-15 OCA Red Flag mission. The Squadron Intelligence Officer was in my back seat on an Orientation Flight. As I rolled out of a full afterburner G-awareness turn at 26,000', my element lead saw a large fireball forming behind my jet. Number 7 called for me to check my engines and immediately turned to rejoin on me. I pulled both throttles to idle and looked at the aft end of my aircraft. I saw sparks and flames protruding from a hole in the right engine bay. Immediately, I turned south towards Nellis AFB and began to descend. The right engine instruments were indicating normally but the element lead confirmed the right engine was on fire. Suspecting an augmentor burn-through, I believed the fire would self-extinguish within approximately 30 seconds; however, the fire became self-sustaining and continued to burn on the top and bottom of the jet. My element lead told me the fire was spreading forward and had almost burned through the hook area and was burning through to the right engine. Pieces of the jet were

beginning to depart the aft part of the aircraft. Aircraft control was becoming sluggish due to the weight of the aircraft (two full external tanks), single-engine operations, and the altitude of the aircraft. I briefed my back seater to begin preparing for a possible ejection situation and had the SOF scramble the SAR forces. By jettisoning my external ordnance and

lowering the nose of the aircraft, I gained airspeed which allowed me to continue flying the aircraft. Shortly after cleaning off the jet, the fire began to extinguish. I continued to a single-engine emergency approach and landing at Nellis AFB. After safely landing, my back seater and I emergency ground egressed the aircraft on the runway."



*Capt Barry K. Johnson  
94 FS, 1 FW  
Langley AFB VA*



# ***Flightline Safety Award of Distinction***

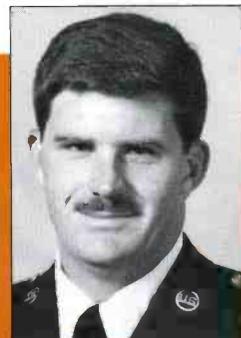
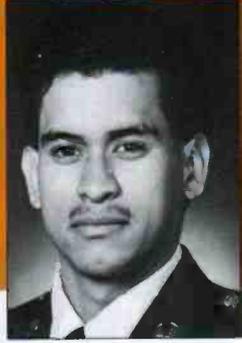
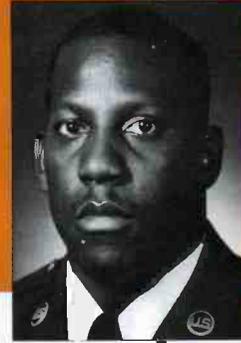
During LONG SHOT 93 recoveries into Nellis AFB, an F-15E from Seymour Johnson AFB was observed discharging fuel from the centerline fuel vent as it entered the dearm area. While the aircraft was being chocked and pinned, the stream of fuel continued unabated and began to pool creating a dangerous situation. A bucket was retrieved in an attempt to capture the fuel while the pilot was instructed to shut down the engines. Simultaneously, the fuel ignited and engulfed the underside of the aircraft in flames where SrA Mendez was performing dearming/safing duties. Immediately, this group of professional airmen went into action to extinguish the fire without concern for their own personal safety. SSgt Coco helped the aircrew egress the aircraft, then returned to help TSgt Souza fight the fire near the right main and nose landing gear. SrA Mendez escaped the fireball, then returned to fight the fire. TSgt Floyd called for base fire fighting support, then joined the fire fight near the right pylon. Sgt Detweiler and SSgt Starkey arrived from the flightline towing a Halon extin-

guisher and began fighting the fire from the right rear section. Sgts Morgan and Longnion joined the fire fighting near the tail section. Coming from several hundred yards away, SSgt Rungee fought the fire around the centerline tank and chaff/flare dispensers. Within moments, SSgts Paquette, Piercy, Seeley, Debrecht, Sgt Morgan, SrA Beaudion, and Amn Mounts arrived on scene and joined the fire fighting at strategic points around the aircraft. These courageous airmen, using only Halon extinguishers, fought the flames with a vengeance, diluted the fuel as it vented, and prevented the six chaff/flare modules from igniting. After the initial fire was extinguished, it reignited two additional times and was again controlled by these professionals. The fire was finally quelled after depleting seven Halon extinguishers containing more than one thousand pounds of Halon during the two and one-half minute fire fight. This spontaneous team effort and professionalism displayed by these individuals prevented the aircrew from being injured and saved a \$45 million aircraft from virtual destruction.



TSgt Scott W. Floyd  
 SSgt Donald Piercy  
 SSgt Patrick R. Seeley  
 SrA Christine L. Beaudion  
 Ann Keith E. Mounts  
 390 FS, 366 WG  
 Mt Home AFB ID

SSgt Samuel C. Coco  
 Sgt Daryl J. Littleton  
 SrA Mario E. Mendez  
 58 OG, 58 FW  
 Luke AFB AZ

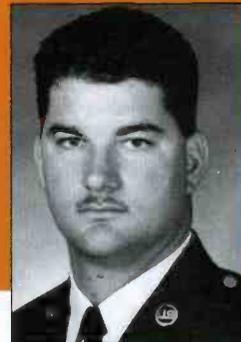
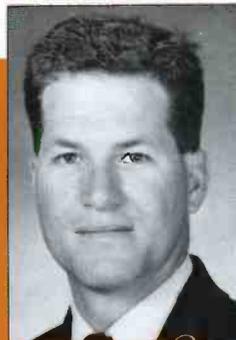


SSgt Michael T. Rungee  
 SSgt Michael V. Nabholz  
 SSgt Robert J. Debrecht  
 131 CAMS, 131 FW  
 St Louis IAP, Bridgton MO



TSgt Donald A. Souza, Jr.  
 SSgt Lawrence J. Paquette  
 355 OG, 355 WG  
 Davis-Monthan AFB AZ

SSgt Robert Starkey  
 Sgt Walter R. Detweiler, II  
 Sgt Elwin L. Longnion  
 Sgt Clay Morgan  
 57 EMS, 57 WG  
 Nellis AFB NV



# From Kitchen Table To Kids

# Safety Dog



**W**hat do the members of the Ohio Air National Guard and the children of the Springfield, Ohio, area have in common? Both groups have had the experience of learning important safety lessons from "Safety Dog."

But who is Safety Dog and how did he get where he is today? Safety Dog is the newest tool used by the Safety Office of the 178th Fighter Group to communi-

cate safety issues and warnings to the Group and other units supported by the Group. The brain-child of SMSgt Ron Ray (and bearing a very strong resemblance to his beloved family dog), Safety Dog is a cartoon character that made his debut in 1991 in the base SafetyGrams. Working at his kitchen table and using ideas from other members of his Safety staff, SMSgt Ray's "pet project" quickly became well known and very popular among members of the unit.

The next logical step was a monthly feature in the base newsletter, effectively reaching a larger number of current and former members of the unit. The cartoon, drawn in a style that appears to be a blend of Gary Larson's "The Far Side" and *The Combat Edge's* "Fleagle," takes a very serious subject and presents it in a medium that is much more readily accepted by members than just the basic facts thrown out in black and white. Many members stop by the Safety office and comment on their favorite cartoon or offer suggestions for future cartoons.

Safety Dog was introduced to the children of the area in the summer of 1992 during a balloon festival sponsored by a local hospital and held at the Springfield Air National Guard Base. Realizing that there would be a large number of children visiting the base during the festival, SMSgt Ray produced a number of coloring sheets featuring Safety Dog and Catpatch (a character based on the mascot of the 162d Fighter Squadron). The response from the children was overwhelming.

The unit's security police office realized that a program was needed to provide identification of children in the event they were lost or abducted. SSgt Tom Tinker of the security police office developed the Identi-Kid program which provides fingerprints, photographs, and other vital physical data that is recorded and given to the parents of the children. Using this program in conjunction with the unit's Adopt-A-School program, the unit ascertained another need in the local community: a drug awareness

and personal safety program aimed at children in grades kindergarten through four. Other local law enforcement agencies provided this type of education to children in grades five and above, but there was nothing for the younger children. Thus the beginning of "KIDSAFE." KIDSAFE stands for Kids Identifying Dangerous Situations And Facing Emergencies. This program teaches young children about home safety, personal safety, drugs and alcohol, and child molestation among other safety related topics. The logical choice for a mascot for the program was Safety Dog.

Using funds donated by area merchants and manufacturers, SMSgt Ray was able to publish a Safety Dog coloring book which presents these safety ideas in an easy to understand format. Recently, SMSgt Ray was able to take some of these funds and have a Safety Dog costume produced. Worn by various members of the units and dressed in a flightsuit, this costumed character gets and keeps the attention of young and old alike while teaching many important safety lessons.

Currently being considered by the Adjutant General of the State of Ohio for state-wide adoption, Safety Dog has provided critical safety education to young children while also creating a positive public image of the Air National Guard and the Air Force. Safety Dog and his K-9D aircraft have been invited to appear at the United States Air and Trade Show in Dayton, Ohio, this summer. Almost two thousand children have been processed through the Identi-Kid Program and many more have been touched by the lessons of Safety Dog and Catpatch.

At the same time, Safety Dog is still providing subtle safety messages to members of the 178th Fighter Group and other area units. A long way from a simple sketch at the kitchen table, Safety Dog has become an effective tool in communicating a very serious and oftentimes difficult subject to a wide range of people of all ages.

■



# ***Crew Chief Excellence Award***

During the morning of 7 May 93, SrA Hoffman and SrA Reynolds were crew chiefs on a B-52H aircraft. While performing their duties, they noticed another aircraft taxiing for takeoff with a steady fuel stream coming from the in-flight refuel receptacle drain. The fuel was contacting the True Airspeed and AIMS pitot tubes. These pitot tubes reach temperatures in excess of 600 degrees when turned on. At this point they immediately notified the flight line chief who ensured the flight crew was notified. The aircraft was stopped and repaired on the hammerhead. It took approximately two hours to fix the problem and the aircraft completed its mission without further incident. The cause was determined to be a worn sliding valve seal (which was replaced and resealed).



*SrA Charles Hoffman  
SrA William S. Reynolds  
20 BS, 2 WG  
Barksdale AFB LA*

SrA Hoffman and SrA Reynolds' quick response averted a potentially disastrous situation. Their timeliness prevented the possible destruction of this aircraft and loss of life. The airmen's professional performance reflects the personal integrity, skill and courage required of our crew chiefs.

# Unit Safety Award of Distinction



Commander, supervisor, and safety personnel involvement is apparent throughout the 421st Fighter Squadron. Repeat and related mishaps are prevented by increasing squadron awareness of potential hazards on and off the job. The 421 FS commander's active concern for flight safety was emphasized by cancellation of several night sorties during a demanding week, reducing overall squadron maintenance and pilot fatigue.

Flight safety increased pilot mishap awareness by briefing all F-16 flight and ground mishaps. Maintenance personnel are briefed on relevant F-16 mishaps to instill flight line safety. Two "close calls": a near-mid-air-collision and a departure from controlled flight were debriefed by pilots involved during weekly pilot meetings as "There I Was" learning tools. Squadron flight safety directly influences squadron Situation Emergency Procedures Training (SEPT) by providing



*421st Fighter Squadron  
388 FW  
Hill AFB UT*

ideas, mishap reports, technical information, and suggestions for monthly SEPT scenarios. The "Bad Actor" program keeps pilots aware of all squadron aircraft abnormalities by posting unusual occurrence information on a weapons tracking board. An IFE status board provides single source trend analysis. This trend analysis recently identified the possible link between cold weather, corrosion, aircraft wash procedures, and the number of landing gear malfunctions in the 421 FS.

The squadron awareness program continues to build a solid relationship between operators and maintainers. A newly developed critique program generates quality feedback enhancing the program's effectiveness. An in-depth spot inspection program continues to highlight potentially unsafe practices and areas throughout the squadron. The 421 FS's accomplishments and continued safety awareness earned them the Unit Safety Award of Distinction.



# ***Weapons Safety Award of Distinction***

Oh what a beautiful sunrise; for what started as a “normal” day for the munitions personnel assigned to the 4401st ARS(P) would soon be rocking and rolling. We had been tasked by CENTAF to move over 1,800 tractor/trailer loads of munitions from East Ammo (13,414 acres) into the new expansion area built onto the existing West Ammo (1,675 acres). Each round trip consisted of over 24 miles over terrible dirt roads in weather exceeding 110 degrees. We started rolling 11 May 93. Roll call was held at 0230, Monday through Saturday in order to try to beat the heat and we knocked off each day at 1230. For most folks, there was still an hour and a half bus ride back to their billeting at Easkan Village, near Riyadh.

On 24 Jun 93, at approximately 0700, SSgt Gregg Ross and his crew were repositioning BSU-50 fins that were due inspection. The crew had moved 10 containers of fins when the 10K forklift driver, SrA Donald Tadlock yelled, “Fire!” stopped the forklift

and jumped from the vehicle. A fuel line had a crack in it and had spewed fuel over the entire engine and caught fire immediately. Flames spread quickly engulfing the recently vacated seat. SSgt Ross immediately notified Munitions dispatch of the fire while SrA Tadlock removed the crew vehicle from the area to prevent more damage. SSgt Ross dispatched two personnel to direct the fire department. SSgt Ross and SrA Tadlock grabbed two fire extinguishers to fight the fire while at the same time a second crew, headed by TSgt C.W. Jones, saw the emergency and responded to the scene with additional fire extinguishers. At the same time, Security Police set up a cordon to prevent personnel from entering the area. It took several minutes and 12 fire extinguishers to put out the blaze, but the tremendous effort on everyone’s part prevented further damage to Air Force property as well as to our most valuable resource--people.



*TSgt C.W. Jones*  
*TSgt Harold H. Imai*  
*SSgt Gregg G. Ross*  
*SSgt Michael J. Cotton*  
*SSgt Robert C. Folks*  
*Sgt Jeffrey D. Selbe*  
*SrA Kenneth E. Masters*  
*SrA Richard L. Larson*  
*SrA Gary W. Holcomb*  
*SrA Travis D. Wetzler*  
*SrA Jason E. Cochnauer*  
*SrA Donald C. Tadlock*  
*AIC Cornell V. Applin*  
*Amn Joseph H. Lovell*  
*Amn Lacounte O. Murray*

*Kelly AFB TX*  
*Anderson AFB, Guam*  
*Kadena AB, Japan*  
*McCConnell AFB KS*  
*Minot AFB ND*  
*Offutt AFB NE*  
*Kelly AFB TX*  
*Luke AFB AZ*  
*Barksdale AFB LA*  
*Ellsworth AFB SD*  
*Langley AFB VA*  
*Cannon AFB NM*  
*McChord AFB WA*  
*Hill AFB UT*  
*Davis-Monthan AFB AZ*

On site at Al Kharj AB, Kindom of Saudi Arabia

# ACCOLADES

QUESTIONS OR COMMENTS CONCERNING DATA ON THIS PAGE SHOULD BE ADDRESSED TO HQ ACC/SEA, DSN: 574-3814

	TOTAL			ACC			ANG			AFR		
	JUL	THRU JUL		JUL	THRU JUL		JUL	THRU JUL		JUL	THRU JUL	
		FY93	FY92		FY93	FY92		FY93	FY92		FY93	FY92
CLASS A MISHAPS	0	16	25	0	8	12	0	7	10	0	1	3
AIRCREW FATALITIES	0	6	12	0	5	2	0	1	7	0	0	3
* IN THE ENVELOPE EJECTIONS	0	16/0	12/1	0	7/0	6/0	0	8/0	5/1	0	1/0	1/0
* OUT OF ENVELOPE EJECTIONS	0	0	0/2	0	0	0	0	0	1/0	0	0	1/0

\* (SUCCESSFUL/UNSUCCESSFUL)

## CLASS A MISHAP COMPARISON RATE

(CUMULATIVE RATE BASED ON ACCIDENTS PER 100,000 HOURS FLYING)

		FY 92	3.4	1.9	2.0	2.5	2.0	2.0	2.0	2.3	2.5	2.4	2.6	2.5
ACC	FY 93	2.0	3.2	2.2	1.6	1.8	2.2	1.8	1.9	1.9	1.6			
	1 AF	FY 92	0	0	0	0	0	0	0	0	0	0	0	0
	FY 93	0	0	0	0	0	9.5	7.9	6.8	6.0	5.3			
2 AF	FY 92	0	0	0	0	0	0	0	*	29.1	16.4	11.2	7.8	
	FY 93	0	0	0	0	0	0	0	0	0	0			
8 AF	FY 92	0	0	0	0	0	8.9	7.6	6.6	7.9	5.8	4.4	5.2	
	FY 93	0	5.2	3.7	2.8	2.2	1.8	1.5	1.3	1.2	1.2			
9 AF	FY 92	4.4	2.4	3.4	2.6	2.1	1.7	2.2	2.6	2.4	2.7	2.4	2.0	
	FY 93	6.7	6.5	4.4	3.3	3.9	3.2	2.7	2.4	2.8	2.4			
12 AF	FY 92	0	0	0	1.5	1.3	1.0	.9	.8	1.4	1.3	1.8	2.1	
	FY 93	0	0	0	0	0	0	0	0	0	0			
ANG	FY 92	0	6.7	6.3	8.8	7.1	6.6	5.6	5.5	4.9	4.9	4.9	4.9	
	FY 93	0	2.2	2.9	2.1	3.5	2.9	3.1	2.7	3.4	3.0			
AFR	FY 92	0	10.9	7.7	5.7	4.7	3.9	6.7	8.7	7.8	7.0	8.4	7.7	
	FY 93	0	0	8.0	5.9	4.8	4.0	3.4	3.0	2.7	2.4			
TOTAL	FY 92	2.3	3.7	3.5	4.3	3.5	3.3	3.3	3.6	3.5	3.4	3.6	3.4	
	FY 93	1.3	2.7	2.7	2.1	2.5	2.5	2.3	2.2	2.4	2.1			
MONTH		OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	

\* (HOURS NOT AVAILABLE)

# ACCOLADES

## HONOR ROLL

Units without a "Command-Controlled" Class A Flight mishap since the stand-up of ACC on 1 Jun 92:

1 FW  
4 WG  
5 BW  
7 BW  
9 WG  
23 WG  
24 WG  
27 FW  
28 BW  
31 FW  
33 FW  
42 BW  
55 WG  
56 FW  
57 FIS  
79 TEG  
92 BW  
93 BW

99 TTW  
102 FW  
103 FG  
104 FG  
107 FG  
113 FW  
114 FG  
116 FW  
117 RW  
119 FG  
120 FG  
121 FW  
122 FW  
124 FG  
125 FG  
128 FW  
131 FW

132 FW  
138 FG  
140 FW  
142 FG  
144 FW  
147 FG  
148 FG  
149 FG  
150 FG  
155 RG  
156 FG  
158 FG  
159 FG  
163 RG  
169 FG  
174 FW  
175 FG

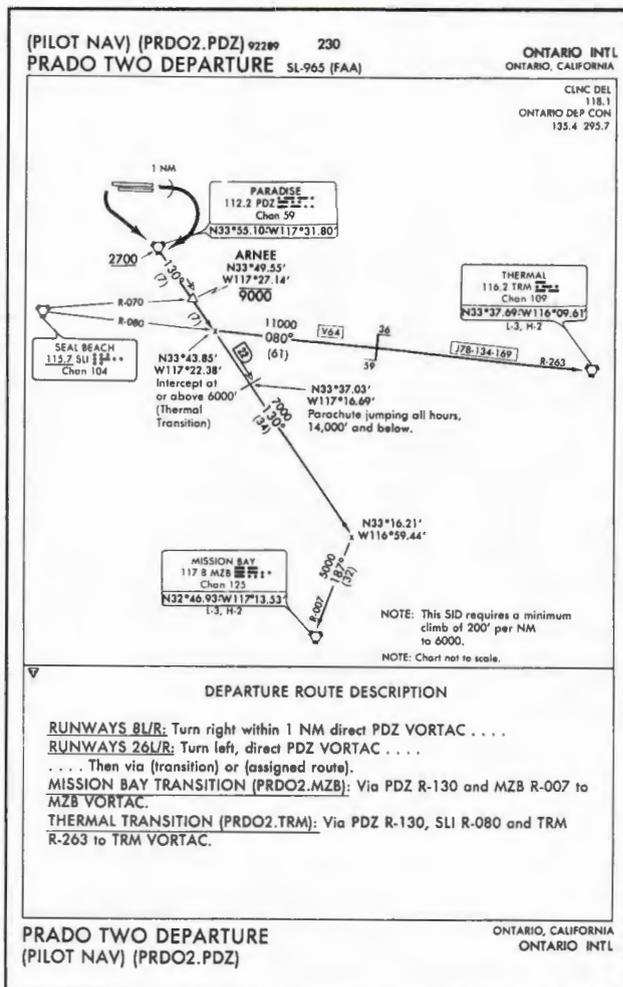
177 FG  
178 FG  
180 FG  
181 FG  
182 FG  
185 FG  
186 RG  
187 FG  
188 FG  
191 FG  
192 FG  
301 FW  
310 WG  
319 BW  
347 FW  
355 WG  
366 WG

379 BW  
384 BW  
388 FW  
410 BW  
416 BW  
419 FW  
442 FW  
475 WEG  
482 FW  
507 FG  
509 BW  
552 ACW  
906 FG  
924 FG  
926 FG  
930 FG  
944 FG  
WTC

# STANDARD INSTRUMENT DEPARTURES

## What's The Big Deal?

FIGURE 1



Good question. Everybody's flown 'em; stay on the heavy black line and everything's fine! But is that all you need to know? To find out, let's join the trials and tribulations of Maj Gravis Mushnick (goes by "Snake"), as he prepares to depart from Ontario International CA. (Remember, he was going there for the big Open House.)

"A one-time good deal, but all good deals must end; we gotta get back for Tactics, TQM, and Chemical Warfare Training. Boy, mission planning is sure different here; no base ops, no weather shop, just the FBO's (fixed base operator) building with a couple small rooms. Anyway, getting out of here, we can fly a SID, request radar vectors or go VFR. Go VFR? That's out of the question, you'd have to be crazy to fly VFR around here. Gotta stay clear of ARSA's, TRSA's, ATA's, TCA's, etc., etc. And besides, this smog makes it marginal VFR anyway! The obvious answer is to file for a SID: how can you go wrong? No big deal, just follow the black line."

In the SID book I see the Prado Two Departure (Fig 1), and Mission Bay is pretty much in line with our route of flight. Looks pretty

**ONTARIO INTL, CA**

Rwys 8 L/R, 26 L/R, 3100-2or standard with minimum climb of 250' per NM to 4800. IFR DEPARTURE PROCEDURE: Rwys 8 L/R turn right, Rwys 26 L/R turn left, all aircraft climb to 4000 direct PDZ VORTAC. Climb in holding pattern (hold NE, right turn, 210 inbound) to cross PDZ VORTAC at or above MEA for route of flight, or comply with published SIDs.

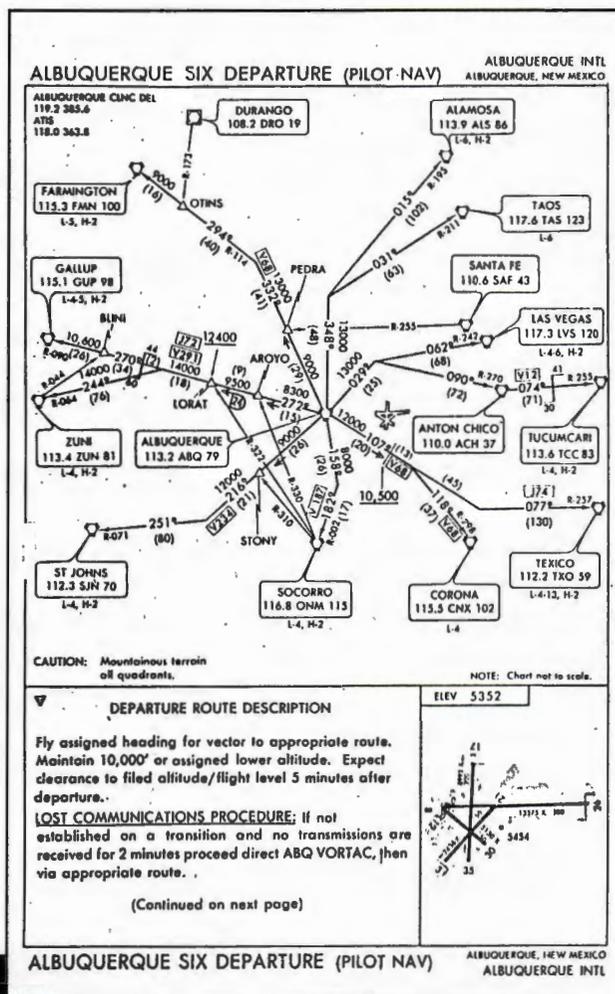
FIGURE 2

simple too; direct Paradise, intercept the 130 degree radial and we're home free. This is rather strange; I wonder why they published the note requiring the 200 ft/nm until 6,000 ft? I know for a fact that 200 ft/nm is minimum and no gradient should be published if 200 ft/nm is all that is required. Uh Oh! This SID has one of those infernal negative symbology "T's." I remember from AIFC that "T" stands for Trouble; and to find out what all the rumpus is about, you look up the aerodrome in the IFR Takeoff Minimums and Departure Procedures section of the Approach Plates or SID book (Fig 2). Let's see. According to the blurb here, I need a climb gradient of 250 ft/nm to 4,800 ft, and under IFR DEPARTURE PROCEDURES it says, "...all aircraft climb to 4,000 direct PDZ VORTAC." That's really neat; now I have 3 different altitudes specified and 2 different climb gradients. I wonder which one applies? I hope it's the 200; this 1950's technology wonder won't make much better than 200 today. "What's that Co?" "What do you mean that you think we have to cross the departure end of the runway at 35 ft AGL?" It doesn't say that anywhere on here. Shoot! I thought I knew something about SIDs, but I'm way out in left field. Speaking of outs, why didn't I see this "Out" in the first place. Right here, the very first sentence says 3100-2 authorized in lieu of 250 ft/nm. That's a sure-fire way to eliminate the climb gradient problem. Even with the smog, I'll bet it's better than 2 miles out there. I wonder if we can use the ceiling/visibility criteria.

For a "simple" SID, one can get into "deep kimchi" real quick. "Hey, Co, do you know if those guys at AIFC take collect calls or can we

maybe get an HF phone patch?" Nobody around here seems to know what an autovon line is." "By the way, you got one of those telephone credit cards?" "Hey Slick, this is Snake; you remember, Maj Mushnick from Class 92-12. Anyway, I'm down at Ontario International, and I've got a couple questions on the SID out of here." "Maj Mushnick, how can I forget, we just chatted last week about STARS; what's on your mind today?" "Looking at the Prado Two I'd like to know..."

FIGURE 3



**ALBUQUERQUE INTL, NM**

Rwy 8, 2400-2\*

IFR DEPARTURE PROCEDURE: Comply with SID or radar vectors; or Rwy 8 turn left or right as cleared. All aircraft climb direct ABQ VORTAC. Departure on R-147 CW 023 climb on course. All others climb westbound to cross ABQ VORTAC at or above 10000. \*Or standard (FAR 135: RVR 2400) with minimum climb of 424' per NM to 8000.

FIGURE 4

Judging from some of the responses we have received from AIFC students on similar questions asked in our Departure Procedures class, Snake is not the only crew dog out there that doesn't have a complete understanding of civilian SIDs. Let's try to make some sense out of Snake's questions, and maybe answer a few others that might be lurking in your deeper cranial cavities.

How about the easy question first: Do you have to cross the departure end of the runway at 35 ft AGL? That's a fact, Jack! Strike one up for the Co! According to the "bible" (TERPS), aircraft are assumed to cross the departure end of the runway at a minimum of 35 ft. The Air Force, however, provides additional guidance to the USAF departure designer in AFR 60-27. It tells the designer to start the obstacle clearance surface at the departure end of runway (DER) evaluation. Take note! This is an Air Force requirement, not DoD. Many Air Force pilots mistakenly believe all military SIDs follow this guidance. Navy, Army, Coast Guard, Marines and civil SIDs may start the obstacle clearance surface as high as 35 ft above the DER elevation. The problem is that you don't know what the TERPs designer used,

so err on the safe side and use 35 ft every time.

To answer Snake's other questions, we must first talk a little bit about the "T" and its significance. Snake gets an A+ on this one. Surprisingly though, there are still Air Force

**Many Air Force pilots mistakenly believe all military SIDs follow this guidance. Navy, Army, Coast Guard, Marines and civil SIDs may start the obstacle clearance surface as high as 35 ft above the DER elevation.**

aviators out there who think the old "T" doesn't apply to them. This belief could prove to be fatal. Take the case of a tanker that departed from Albuquerque back in 1977. They departed from runway 8 flying the Albuquerque Six Departure (Fig 3). The SID doesn't say anything about climb gradients and the crew probably assumed 200 ft/nm would do it. If someone had just referred to the "T" during mission planning, they would have noted a climb gradient of 424 ft/nm required for runway 8 (Fig 4). The aircraft hit rapidly rising terrain with all four burning' and turning' - it didn't even make it out of the ATA!

The obvious question arises. Why do some of our aviators mistakenly believe the "T" does not apply to them? The most likely reasons are a lack of understanding of departure procedures when obstacles pose a problem at civil fields and/or a misinterpretation of the instructions for applying the



▼ IFR TAKE-OFF MINIMUMS  
AND  
DEPARTURE PROCEDURES

Civil Airports and Selected Military Airports

CIVIL USERS: FAR 91 prescribes take-off rules and establishes take-off minimums for certain operators as follows: (1) Aircraft having two engines or less - one statute mile. (2) Aircraft having more than two engines - one-half statute mile.

Airports with IFR take-off minimums other than standard are listed below. Departure procedures and/or ceiling visibility minimums are established to assist all pilots conducting IFR flight in avoiding obstacles during climb to the minimum enroute altitude. Takeoff minimums and departures apply to all runways unless otherwise specified. Altitudes, unless otherwise indicated, are minimum altitudes in feet MSL.

MILITARY USERS: Special IFR departure procedures not published as Standard Instrument Departure (SIDs) and civil take-off minima are included below and are established to assist pilots in obstacle avoidance. Refer to appropriate service directives for take-off minimums.

FIGURE 5

“T.” Let’s discuss these 2 subjects and see if we can clear up the waters.

Departures from civil fields are initially designed using diverse departure criteria (a diverse departure means no prescribed departure routing is prescribed). Occasionally, obstacles will require a climb gradient in excess of the standard 200 ft/nm in order to comply with TERPS obstacle clearance criteria. To accommodate aircraft that may not be capable of flying the steeper gradient, a ceiling and visibility will be specified so the “see and avoid” concept can be used in lieu of complying with the climb gradient. The required gradient along with the ceiling and visibility criteria will be published as IFR Takeoff Minimums (Fig 2 and 4). When IFR Takeoff Minimums are not published, 1/2 mile is “standard” for civil aircraft with 2 or more engines.

To further assist pilots when obstacles are a problem, an IFR Departure Procedure (also referred to as Special IFR Departure Procedure) and/or SID(s) may be published. Since IFR Departure Procedures and SIDs follow specific routing, obstacles in the diverse departure clearance area may be on the IFR Departure or SID routing. When this is the case, alternate criteria will be specified for the IFR Departure Procedure and/or SID. If the IFR Departure Procedure and/or SID(s) do not specify alternate criteria, you must assume the IFR Takeoff Minimums apply to them. This is a very important point! Note the Albuquerque SID is “silent” as far as climb gradient. There is a “T” and the instruc-

tions for Albuquerque require weather of 2400-2 and a 424 ft/nm climb capability for runway 8. The Prado Two Departure, on the other hand, is not “silent.” The note says 200 ft/nm to 6,000 ft is required for obstacle clearance. This preempts the 250 ft/nm to 4,800 ft. The reason for the note should now be obvious; the obstruction(s) responsible for the 250 ft/nm climb gradient to 4,800 ft is not in the SID departure area and a 200 ft/nm gradient is sufficient on the SID. If 200 ft/nm was not printed on the SID, you would have to apply the 250 ft/nm gradient (that answers one of Snake’s questions).

To alert pilots to the special procedure and/or takeoff minimums, the negative symbology “T” is printed on the approach plate(s) and all SIDs published for the affected fields (if a “T” is not annotated, “standard” takeoff minimums apply, a 200 ft/nm gradient is required, and no IFR Departure Procedure is published). The “T” tells the pilot to refer to the IFR TAKEOFF MINIMUMS AND DEPARTURE PROCEDURES section of the IAP or SID book. Herein lies the second part of the problem; take a look at the instructions that tell us how to use all the nifty info (Fig 5). First, disregard all the “eye wash” after the heading CIVIL USERS. That’s for all the civil pilots and it talks about their “standard” takeoff minimums. The next paragraph entitled MILITARY USERS sounds like it might apply to us. Let’s see what’s in it. This section tells us that the airfields listed have an IFR Departure Procedure and/or IFR Takeoff

Minimums to help us avoid obstructions. The last sentence is the one that leads us amiss, however. It says, "Refer to appropriate service directives for takeoff minimums." Now even the most below average crew dog knows the "appropriate directive" is 60-16 and para 8-8, (for those of you who are so inclined to look it up) tells us two things. First, MAJCOMs establish takeoff minimums for their aircraft; and second, when IFR TAKEOFF MINIMUMS are published on SIDs and/or Instrument Departure Procedures, WE MUST BE CAPABLE OF ACHIEVING OR EXCEEDING THE PUBLISHED CLIMB GRADIENT.

I'm sure that you will agree that we tend to remember what is needed on a day-to-day basis (what keeps us out of trouble with the squadron commander and ops officer). In this case we tend to forget the 60-16 gobbledygook and zero in on the "Command-minimum." (Does 1600 RVR strike a familiar note to some of you?) You know your command's requirements, so when reading the last sentence in the MILITARY USERS instructions that says "refer to appropriate service directives for takeoff minimums," 1600 RVR is remembered and we assume the "T" is not applicable.

In basic crew dog terms (stated two ways), what the captain needs to know is that he must be able to achieve the published climb gradient (IFR Takeoff Minimums, IFR Departure Procedures, or SID, as applicable); or what the colonel meant to say is that using the "see and avoid" concept for "E and E-ing" obstacles when departing an airpatch is "verboden" unless your command supplement to good ole 60-16 allows it. Obviously there are exceptions to everything, the KC-10's have a waiver and can use "see and avoid" when the visibility is greater than 3 miles. Sorry Snake, when flying today your "out" is out of the question. You can't use the "see and avoid" criteria, you're going to have to comply with one of the climb gradients.

How about that, the perfect lead-in to answer

the last question: What altitudes and climb gradients apply? How about the good old AIFC standard answer --- IT DEPENDS! No, this is not a copout, it really does depend on what departure option is used. Since Snake had positive thoughts about flying the SID, let's tackle that procedure. If you have comprehended the gist of the article, you probably already know from the discussion above that 200 ft/nm to 6,000 ft will do the trick. Had the SID remained "silent" on climb gradients, then he would have had to comply with the 250 ft/nm to 4,800 ft criteria. Now just for grins, what would Snake have to do if he opted for the IFR Departure Procedure? The IFR Departure Procedure requires a turn direct to Paradise VORTAC, climb to 4,000 ft, enter a holding pattern and climb to the MEA for the route of flight. The procedure only requires a climb to 4,000 ft, so this preempts the 4,800 ft; but the 250 ft/nm still applies. Thus he would have to maintain 250 ft/nm until, depending upon the clearance, leveling at or passing 4,000 ft.

I think all of Snake's questions have now been answered. As you can see, departures from civilian fields can be just a tad confusing. Maybe I can summarize the important points into 3 sentences. When departing a civil field and "T" is noted on the IAP and/or SID, refer to the IFR takeoff minimums and departure procedures section of the booklet for further guidance. If a climb gradient is published, it applies to the SID(s) and IFR Departure Procedure unless annotated otherwise on the SID or in the text of the IFR Departure Procedure. Air Force pilots cannot use the "see and avoid" criteria (unless specifically authorized by higher authority); you must be capable of meeting or exceeding the published climb gradient.

Got a question? Just give us a call at DSN 347-4571; the AIFC staff is ready to answer your most perplexing instrument question. See you next time. Fly smart, fly safe! ■

# ACC EMBLEM FLIES AT SCOTT



*Colonel Jim Ackert  
Commander, AFRCC  
Scott AFB IL*

When the RCC controllers go home after their 8 hour shift, they know they spent their workday living up to the rescue motto "These things we do that others may live." In a typical year, they save nearly 400 lives -- over "a save a day."

**A**cross Scott Boulevard from Air Mobility Command Headquarters at Scott AFB IL, many are surprised to see the Air Combat Command emblem on a sign outside building P-4. To most, building P-4 houses the offices of the AMC Director of Personnel. The building is also home to the Air Force Rescue Coordination Center (AFRCC) one of ACC's units. The AFRCC transferred from AMC to ACC along with the combat rescue mission.

The AFRCC, responsible for coordinating federal assistance to search and rescue efforts in the inland regions of the continental United States, came to Scott AFB in 1974 when 3 rescue centers consolidated into one under the Air Rescue Service and Military Airlift Command. Since 1974, the men and women of the AFRCC have saved over 11,200 lives across the US. They respond to almost 8,000 search and rescue incidents every year.

Specially trained command and control offic-

ers and airmen staff the AFRCC consoles 24 hours a day to assist military and civil agencies in need of federal support. Their primary mission is to aid aircraft and persons in distress. The AFRCC controller is an expert in search and rescue capabilities and equipment available throughout the country. In a typical day, a controller might save the life of a fallen rock climber by getting an H-60 helicopter and crew from the 66 RQS at Nellis AFB to hoist him off the mountain. They might direct Civil Air Patrol pilots to locate a civilian aircraft that crashed in a thunderstorm in Indiana or work with the Air Route Traffic Control Center structure to find a military aircraft which disappeared after descending on a low level training route. Another controller might dispatch helicopters to pull a pilot out of the Gulf of Mexico after ejecting from his aircraft or locate search dog teams to help find a 10-year-old who wandered away from his parents on a camping trip. During the winter storms along the East coast alone,

Since 1974, the men and women of the AFRCC have saved over 11,200 lives across the United States. They respond to almost 8,000 search and rescue incidents every year.

the AFRCC was involved in rescuing over 200 people.

Controllers use state of the art computer and space technology to help them do their job. The most comprehensive database of search and rescue capabilities and equipment in the world is available for

their use. The search and rescue satellite system (SARSAT) is employed to help find distressed aircraft. SARSAT consists of search and rescue radio receivers/transmitters mounted on a series of US and Russian satellites in low earth orbit. The satellites hear emergency radio signals and relay a location to ground stations located around the world. Using information from the satellite, the ground station computers are able to give approximate location information to the AFRCC controllers. Combining this with other information developed from FAA, radar tracking facilities, weather sources, eye witnesses, study of the terrain, etc., the SAR controllers are able to predict the location of the downed aircraft. Using their resource file, they energize a rescue team to respond to the site of the incident. The faster they can do their job, and the more information available to them, the quicker rescue can come to people in distress. When the RCC controllers go home after their 8 hour shift, they know they spent their workday living up to the rescue motto "These things we do that others may live." In a typical year,



## During DESERT SHIELD/STORM, AFRCC people set up and operated the CENTCOM Joint Rescue Coordination Center (JRCC).

they save nearly 400 lives -- over "a save a day."

You might ask how this mission is related to Air Combat Command. The AFRCC serves as the training ground for SAR controllers who, besides being experts in this demanding daily mission, train, exercise and deploy to provide the same services to pilots from all the services in wartime. During times of conflict, the job is the same; the customer becomes the combatant forces, especially downed aircrews. The primary mission becomes bringing downed aircrew members to safety, preventing loss of life, denying the enemy a valuable source of intelligence and propaganda and recovering a valuable combat resource. The AFRCC maintains a mobility capability to support the combatant commanders' wartime requirements. Many of you worked with combat rescue coordination in Southwest Asia. During DESERT SHIELD/STORM, AFRCC people set up and operated the CENTCOM Joint Rescue Coordination Center (JRCC). The JRCC was responsible for coordination of all search and rescue in the theater, to include establishing



procedures for close cooperation with other coalition forces. AFRCC people continue to support the CENTCOM JRCC and the Air Force component RCC today in Operation SOUTHERN WATCH.

The AFRCC will continue its vital lifesaving mission and its daily training for combat, now under the direction of the ACC/DO, at Scott AFB until able to move to an ACC base. ■

