

GRAMPAW PETTIBONE

Illustrations by *Ted Wilbur*



A year ago, the Secretary of Defense issued a challenge to reduce the number of mishaps and accident rates by at least half within two years. This has led to a focus on “human factors,” which have been identified as the cause of 80 percent of mishaps. Problems in the organization that result in inadequate training or guidance; adverse mental states in aircrew members; communication failures; and decision-making errors are just a few examples of human factors that can lead to an accident. The Naval Safety Center provided this guest column, which presents a single fictional mishap that represents many of the very real human factors issues that the Naval Aviation community faces.

To Err is Human . . .

A fixed wing aircraft was supporting a combined arms exercise from a stateside base on a late morning-into-night mission. The crew started their day at 1030, with the brief for a 1200 takeoff. They flew to the expeditionary airfield (EAF) to act as the Alert 30 forward air controller, airborne (FAC (A)) for six hours. After about five hours, the ground combat element (GCE) called for the FAC (A). The aircrew launched and supported the GCE for about 2.5 hours, arriving back at the EAF at 2200. The crew knew that the squadron needed its bird to make the next day's defensive tactics launch in support of a high-visibility mission, and the base had warm beds and a shower that the EAF did not. The crew decided at the last minute to quickly refuel and return to home base, even though they were 11.5 hours into their 12-hour crew day and it was going to be an hour flight back. The flight was uneventful; however, just

after touchdown, the aircrew hit some foreign object debris (FOD) that blew the right main mount. They were unable to maintain runway centerline and took out the “six board” before coming to a complete stop. The crew egressed the aircraft, having sustained minor injuries.

It's a familiar story: an aircrew pushing the limits to get home to a nice warm bed instead of playing it safe. The cause of this Class B “mishap,” hitting FOD on the runway, seems obvious. But as in most real-life mishaps, a deeper look into this example reveals many less obvious contributing factors. Using the Naval Safety Center's Human Factors Analysis and Classification System, we can identify all of the human errors that occurred. The system not only looks at the human factors affecting the aircrew, but looks at the supervisors and the organization as well.



The decision was made to fly the SNAKEHEAD home...

Several aircrew factors were identified in this mishap. The crew had the opportunity to stay the night at the EAF, but they made the ill-advised decision to go home. In their haste to get there, they didn't take time to do a proper briefing before taking off, which would have included discussions of potential landing hazards and how they would deal with any emergency situations. In other words, they did not utilize proper crew resource management like they were taught in training.

In addition, the pilot at the controls was a new guy who had less than 500 hours in the aircraft and had transitioned from another platform. Up to this point, he had received very little training on what to do when he blew a tire, which resulted in his not following proper procedures that would have allowed him to maintain runway centerline. To add to the problem, the senior pilot in that aircraft was known to have difficulties dealing with emergencies (he often fixated on specific issues and

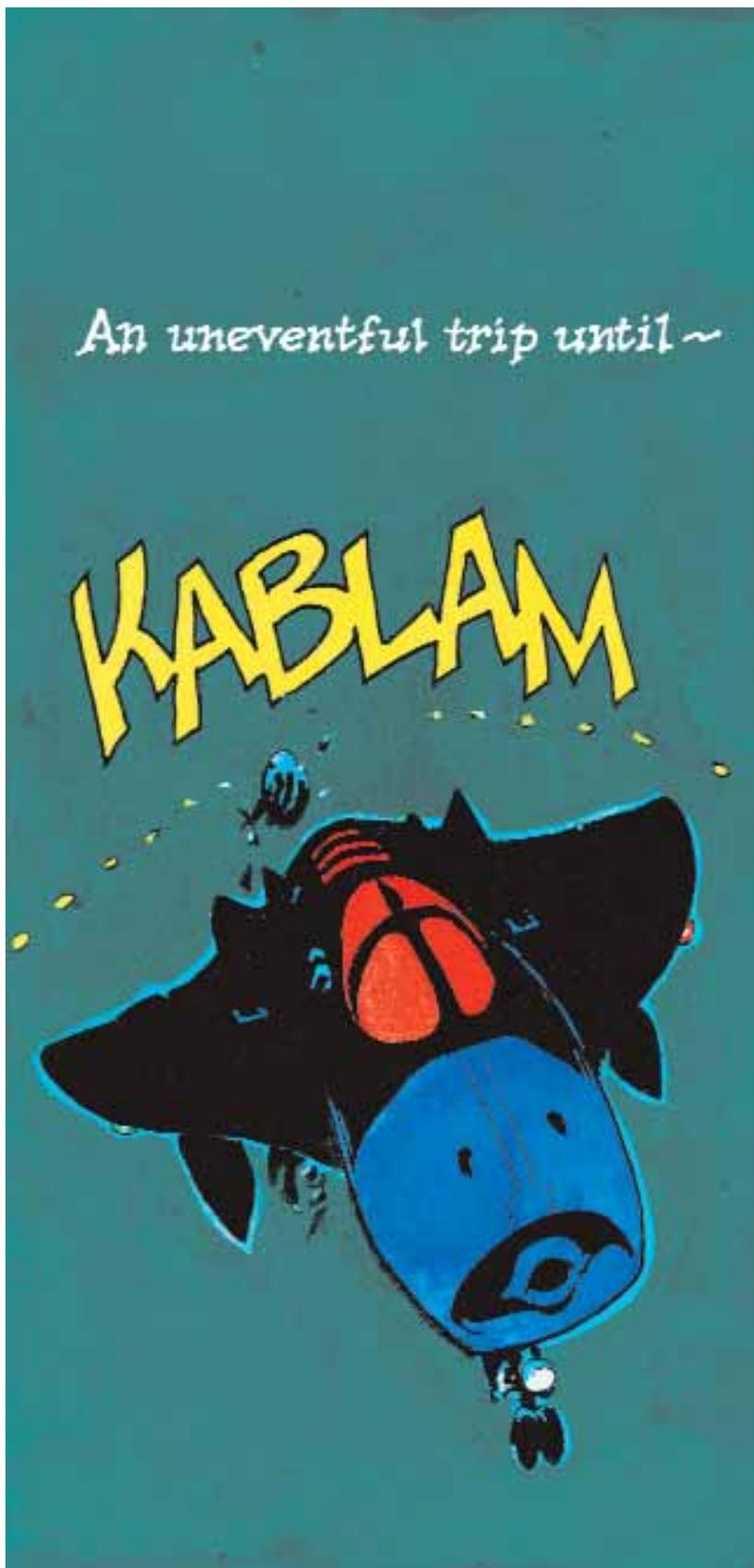
didn't talk to his crew) and had not flown a night mission in several months.

We need to ask what put these guys in that situation. What were the preconditions for these unsafe acts? It's easy to see the aircrew members were pretty tired by the time they headed home. Although they said they didn't feel fatigued, their long working day probably contributed to their skill-based error and inability to handle the emergency. The lack of a brief also worked against them. One fundamental reason they were willing to violate crew day and get back home that night is because the pilot and copilot were flying out the next day on an early morning commercial flight to a friend's bachelor party.

It would be easy to just stop here, but we have to look even further to see if there were any supervision problems. "Busting" crew day was not an uncommon occurrence in this squadron, because the community's "culture" dictated that the aircrew only follow the rules when it was convenient. Although the CO knew about the problem, he did not take steps to stop the violations by reprimanding his people. Also, the CO had a lot of confidence in his operations officer and would give only a cursory look at the flight schedule, thus providing inadequate supervision to his squadron.

On the surface it may seem that the senior leadership supported the crew day concept. The air wing emphasized the importance of following prescribed limits and conducted several briefs on the subject. The squadron's skipper had ordered the standard operating procedures to be rewritten to highlight the importance of crew rest and crew day, and the importance of not busting crew day was emphasized at a recent all-officers meeting. And yet, despite all of the written rules not to violate crew day, the mishap aircrew members pressed on anyway because "everyone else was doing it."

Senior leadership failed to ask why so many crews were working beyond their prescribed hours on a regular





basis. It turns out that the operational tempo at the time, in conjunction with a heavy training program, was forcing squadron COs to push their people to the max in order to meet mission needs. There just weren't enough pilots to go around. The air wing was not managing its resources effectively. Even though some of the COs in the air group had tried to change the "climate" in their commands by reinforcing the importance of crew day, the "culture" dictated to push crew day if it was convenient to get the job done, especially when supporting other commands. The issue here is that the squadron skipper was trying hard to change the long-standing culture of the community by altering its climate. An organization's climate can easily be affected by one person, but its culture—the way a command does business—is much harder to change.

While this mishap is fictional, it illustrates many of the types of human factors that the Naval Safety Center has identified over the years. From an aircrew perspective, skill-based errors and decision errors are the prime culprits. Many of these issues could have been mitigated if crews had utilized crew resource management and communicated with each other, especially during briefs. It's also important that crews keep a proper scan going at all times so they don't fixate or

lose situational awareness in the cockpit. From a command perspective, skippers need to create policies and provide enough training to help aircrews become proficient. Each major command needs to monitor commanding officers on procedures and constantly supervise how well these organizations are managing their resources.

Reaching the 50-percent mishap reduction point isn't going to be easy; nevertheless, we must reduce the human factor issues related to aircraft mishaps. As Grampaw Pettibone would say, "Gol darn it, to err may be human . . . but in flyin' it can be fatal!"

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