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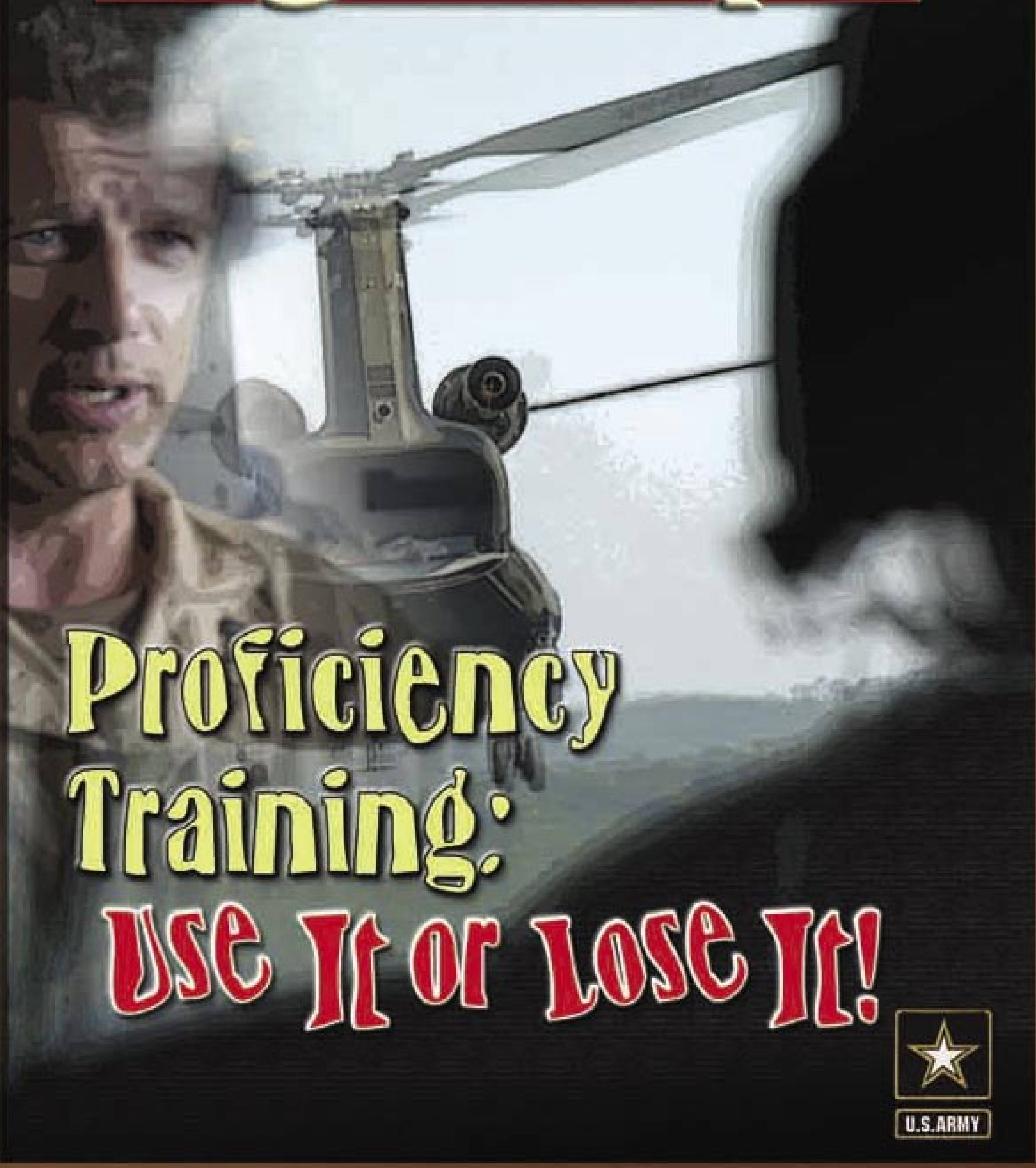

Proficiency Training: Use It or Lose It!

Flightfax

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U.S. ARMY COMBAT READINESS CENTER

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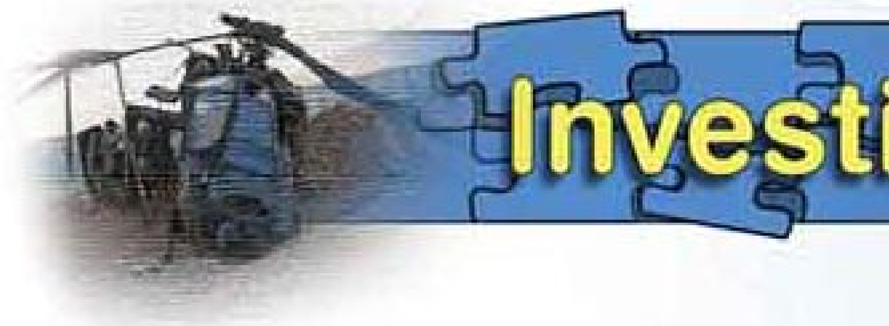
Commanding



Written by accident investigators to provide major lessons learned from recent centralized accident investigations.

Proficiency
Use It or Lo

In the past 6 months, we have investigated two accidents related to proficiency. In both incidents, the aviators were trained to fly the aircraft but were not proficient in certain operations of the aircraft.

It's similar to riding a bicycle for the first time since childhood. After we first learned to ride a bicycle, we rode every day and became very good at it. At 16, we started driving a car and forgot the bicycle. Later on—much later in some cases—we decide to try to ride a bicycle again for a little exercise. So we head off down the road and bust our butt because we are no longer proficient in bike riding.

The same holds true with flying. We can fly every day for years and do just fine. That is until something happens that we are not proficient to handle, and an accident occurs. The next two examples will demonstrate this point.

An AH-64D crashed because the pilots were not knowledgeable about the operation of the backup control system (BUCS). The BUCS is an

Training: se It!

integrated electrical fly-by-wire emergency flight control system on all AH-64 aircraft. The system was designed to be used only as an emergency backup to the hydromechanical flight controls and is an integral part of the aircraft to make it more survivable in combat. The problem today is some aviators are not familiar with the use or function of the BUCS.

The accident in question happened when the crew began to fight for the controls and decoupled the cyclic and collective hydromechanical flight controls due to a lack of crew coordination and confusion in knowing who had the controls. Once a flight control is decoupled, the BUCS automatically gives fly-by-wire flight control to the backseat pilot. The only way the front-seat pilot can take back control is to engage the BUCS trigger located on the front-seat collective. The pilot in command in the backseat of this aircraft did not know he would be relinquishing the controls to the front-seat pilot when he instructed him to engage the BUCS trigger. Also, the front-seat pilot did not know he had control of the aircraft when he pulled the BUCS trigger, subsequently the aircraft crashed.

The aircrew members received training on the BUCS when they attended the aircraft qualification course but didn't understand that once a control axis is decoupled, the aircraft goes into BUCS automatically for that axis. This equates to a training problem—or the crew just hadn't been staying in the books.

Study materials and the aircraft operator's manual are available in every AH-64 unit for pilots to stay proficient on the BUCS. If a unit does not have training materials, they can contact us here at the Combat Readiness Center and we will get those materials to them. Pilots who don't study and stay knowledgeable in their airframe are just asking for trouble.

In another incident, an instructor pilot (IP) flying a TH-67 during a training mission misdiagnosed an in-flight emergency. The student pilot had the aircraft so out of trim that the IP took the controls and said they had lost the tail rotor. The IP put the aircraft into an autorotation from approximately 2,300 feet and attempted to perform a 180-degree turn and land in a field. However, he misjudged his rate of closure and the aircraft hit the ground hard—tail skid first. The aircraft bounced forward and crashed.

The IP had not performed practice autorotations to the ground since 1994. In certain phases initial training IPs are not afforded the opportunity to practice autorotations, leading to a lack of proficiency in execution. The fact that someone is an IP or has thousands of flight hours doesn't negate the fact that training and task iteration is required to stay proficient in aircraft type and design. ■

—Comments may be directed to the U.S. Army Combat Readiness Center Help Desk, DSN 558-1390 (334-255-1390).

Plan, Train, Execute...Survive

CW4 John Hager, CW4 Bert Shober, CW4 Ken Sleeger, CW3 Ken Grider, CW3 David Keehan, CW3 Frank Mancuso (team leader), and CW3 Scott Vega
WOSC 05-06

November 2001, the war had started several weeks earlier and we were returning to the forward staging base (FSB) after completing another successful mission. The weather was getting worse and visibility was less than a mile. Our flight of six aircraft tightened formation one to one and a half disk so we wouldn't lose sight of each other. The conversation within the flight had stopped and talk within the aircraft was minimal. Chalk 6 was barely able to see lead, but we had to continue.

The flight had enough fuel to make it to the FSB, but there was no time for delays. It was not like we were able to land at the closest civilian airport, recheck weather, refuel, and file an instrument flight plan. Landing the flight in a semi-permissive, dusty mountainous environment with zero illumination would be more dangerous than if we continued. We were at war, and the FSB was the only place to land—no other options.

We had already flown 8 hours and had 2 more to go. We were informed that the weather would clear about 100 miles north of the FSB, and that became our focus … almost there … concentrate … slow movements … make sure you don't screw the guys behind you and we'll all make it back.

As visibility increased and the stars began to shine, we could almost feel the sense of relief from the other aircraft. The formation spread three to five disks and conversation inside the aircraft again improved. The FSB was now in sight and we landed without incident. Our debrief went well—mission success. But how could we fly as a flight of six in low visibility conditions without the high workload required to continue the mission under poor weather conditions?

The problem is that typical Army Aviation inadvertent instrument meteorological conditions (IIMC) training does not take into consideration the realities and limitations of combat theater operations. Aviators do not adequately prepare themselves for a sudden lack of visibility in an environment that affords little or no radar coverage, operational NAVAIDs, or an established instrument flight rules (IFR) structure.

Certain theaters require aviators to avoid flight at high altitudes due to enemy threat. These considerations result in a certain amount of anxiety or fear when encountering instrument meteorological conditions (IMC). The lack of training, little or no confidence, and the fear of flying high in a combat zone have caused aviators to descend and look for the ground after entering IMC inadvertently instead of executing the IIMC emergency procedure.

The results were disastrous in May 2004 when a flight of two Chinooks, flying in Iraq, encountered IIMC in a sandstorm. One of the aircraft properly performed IIMC procedures while the other descended and contacted the ground. Just recently, a similar event happened in Afghanistan when another Chinook lost contact with the ground in severely reduced visibility, descended into the ground, and crashed. Aviators are inadvertently encountering IMC instead of planning to separate the flight before marginal weather.

Most aviators know IIMC plans are briefed during helicopter air mission briefings (AMBs), but are seldom discussed in detail to prevent an emergency IIMC breakup. So, why are we waiting until the weather is so bad that the formation is forced to break up after inadvertently encountering IMC? Shouldn't we try to prevent the emergency before it happens by planning formation breakups prior to the emergency? In Operations Enduring Freedom and Iraqi Freedom, radar threat is no longer a factor, and climbing to a safe tactical altitude that allows for obstacle clearance should be the priority when encountering marginal weather. The infrared (IR) threat should not be a concern if you are in the clouds because most IR threats have to acquire the helicopter visually. So if you are in IMC, the enemy cannot see you and there is no threat. If you decide to scud run instead of climb to altitude, you may lose visual contact with the ground and crash, helping the enemy by taking assets out of the war.

All Army helicopters are now equipped with global positioning system (GPS) receivers and have the ability to execute GPS approaches to places never considered. The GPS gives aviators the ability to fly tactical IMC (TAC IMC) in environments that have no NAVAIDs or IFR structure. Formation breakups and tactical instrument operations must be deliberate and well-planned to ensure mission success and reduce risk. Below are some recommended techniques for TAC IMC and formation breakups in a combat environment, which can be tailored for any area of operation. These recommendations should spark ideas and help units develop formation breakup tactics, techniques, and procedures to allow crewmembers to continue using tactical instruments. It is up to the unit instructor pilots to develop plans that are suitable for their type airframe and environment.

The lack of training, little or no confidence, and the fear of flying high in a combat zone have caused aviators to descend and look for the ground after entering instrument metrological conditions inadvertently instead of executing the IIMC emergency procedure.

■ During the planning phase, a decision has to be made whether the flight will return to base or execute a formation breakup and continue with the mission if marginal weather is encountered. This decision is mission-dependant and must be made before departure.

■ Since lead is usually the most experienced, it is important for them not to take the entire flight beyond the least experienced crew's comfort level.

■ Lead is counting on the aircraft behind to tell him when the weather is becoming uncomfortable. The trail aircraft are the first ones to lose sight of the aircraft in front.

■ TAC instrument operations can only be flown if the aircraft GPS is operational.

■ Recovery airfield and/or refuel location must have favorable weather conditions and/ or an instrument approach procedure (GPS or electronic navigation) that supports arrival.

■ Plan aircraft gross weights for worst-case TAC altitudes when weather is expected to be marginal.

■ Since there is no IFR structure, each planned route, or route segment, must have a briefed minimum en route altitude (MEA) that will allow for obstacle and terrain clearance. The TAC IMC altitudes in mountainous environments should be no less than 500 feet above the highest obstacle/terrain and no less than 1 nautical mile (NM) left and right of course (greater than 1 NM in mountainous terrain may increase TAC altitude to an unattainable altitude).

■ If the weather is good at the departure point, marginal en route, and good at your destination, you could:

- Separate the flight into teams of two, three, or four aircraft. Any more makes formation breakups difficult when encountering bad weather.
- Depart as a flight and, when weather begins to get worse, separate the flight by time; e.g., Chalks 2, 3, and 4 aerial hold while gaining appropriate 5-, 10-, and 15-minute separation from lead. It is important to remember lead sets the hard time at the arrival location and all other aircraft need to maintain the planned speed and course with the required time separation.
- Depart the starting point with a timed separation and maintain that separation until reaching your destination; e.g., lead sets hard time for arrival at destination and/or rejoin point, Chalk 2 departs 5 minutes after lead and lands 5 minutes after lead; Chalk 3 departs 10 minutes after lead and lands 10 minutes after lead. All aircraft fly the planned speeds and remain on time and on course—no exceptions.

■ Four aircraft is the maximum number that can reasonably be expected to accomplish a TAC IMC mission along a single route and rejoin. Timing and lateral separation by geographic locations are currently the only means of deconflicting aircraft since TAC altitudes that provide clearance might be too high for aircraft to separate by altitude in a mountainous environment.

■ Time spacing is recommended to be no less than 5 minutes between aircraft. Keep in mind radio communication is key to success and larger flights may cause lead to lose contact with trail, so the flight must relay information to each other.

■ The flight must remain on the planned course line.

■ The flight must fly the same planned en route groundspeed (airspeeds may result in different groundspeeds at different locations along the route). If planned speeds cannot be maintained or have to be adjusted, ensure the entire flight acknowledges the speed change before executing.

■ If the weather becomes good, the flight can be rejoined prior to the destination.

- Planned ground linkup (priority during marginal weather).
- En route rejoin (lead slows at a planned air control point (ACP) until all aircraft join the formation).
- Aerial rejoin (lead holds at a planned ACP until all aircraft join the formation).

■ If weather becomes so bad that continuing becomes unsafe, rejoin a planned alternate return route. This will allow the separated aircraft to deviate from the ingress route and join the egress route without interfering with inbound aircraft. It is important that lead passes the new arrival time to the alternate location as soon as possible so the flight can maintain its timed separation. Avoid reversing the ingress route if possible. If route reversal is the only option, ensure trail reverses first (confirm with radio communication), then in reverse chalk order. Since there is no way for pilots to know the exact location of each aircraft, unplanned en route changes while in IMC is not recommended.

The most important item to remember is that we should train as we fight. All formation breakup techniques must be rehearsed. The first time you attempt a formation breakup should not be when the weather is marginal. Hopefully this article will inspire thoughts and ideas that will help pilots overcome the challenges required to fly in a low visibility, tactical environment. We all know that you cannot plan for every contingency. But why not plan for the ones that you know will eventually become a factor? ♦

—This article was written as a class project while attending Warrant Office Staff Course 05-06 at Fort Rucker, AL.

STACOM Message 06-01

New Aircrew Training Manuals Update

The updated Aircrew Training Manuals (ATMs) have been approved by the Department of the Army (DA), printed, and should be arriving at your location soon. They include:

- Training Circular (TC) 1-248, *OH-58D Kiowa Warrior*, dated 12 September 2005.
- ■ TC 1-240, *Cargo Helicopter CH-47D*, dated 12 September 2005.
- ■ TC 1-218, *Utility Airplane C-12*, dated 13 September 2005.
- ■ TC 1-251, *Attack Helicopter AH-64D*, dated 14 September 2005.
- ■ TC 1-237, *Utility Helicopter UH-60*, dated 27 September 2005.
- ■ TC 1-238, *Attack Helicopter AH-64A*, dated 28 September 2005.

All of the publications are DA-authenticated and available through the Army publication and distribution system. They can also be found on the Army Knowledge Online Web site (**www.us.army.mil**) and the General Dennis J. Reimer Training and Doctrine Digital Library Web site (**http://www.train.army.mil**).

Two additional ATMs are currently in the editing/approval process and should be printed by December 2005. Those include:

- ■ TC 1-228, *OH-58A/C.*
- ■ TC 1-211, *Utility Helicopter UH-1.*

The ATM implementation instructions and any updated procedures can be found on the Fort Rucker Directorate of Evaluation and Standardization (DES) home page (**http://www.rucker.army.mil/cdir/atzq-es.html**) in the appropriate aircraft branch/section. The new Army Regulation (AR) 95-1 will resolve conflicts between the new ATMs and the current AR 95-1 simulator requirements by removing simulator minimums. Each individual ATM has established simulator requirements for its aircraft. Waivers to AR 95-1 requirements or questions concerning AR 95-1 should be directed to CW5 Howard Swan, Aviation Standardization Officer, HQDA, DAMO-AV, DSN 222-8349 (703-692-8349), e-mail howard.swan@sodcsops.daops.army.pentagon.smil.mil or howard.swan@hqda.army.mil.

There are also several conflicts between the new ATMs and the current *Commander's Guide*, TC 1-210. The Directorate of Training and Doctrine is developing changes to TC 1-210 to get answers to the field as soon as possible. The new aircraft ATMs will take precedence over the existing *Commander's Guide* dated 8 January 1996 until the new *Commander's Guide* is published. Questions or issues concerning TC 1-210 should be directed to CW5 Leonard Eichhorn at DSN 558-1820 (334-255-1820) or e-mail leonard.eichhorn@rucker.army.mil.

DES is the proponent for the new updated ATMs. Questions or issues concerning the ATMs should be directed to the following POCs:

■ **Scout:** CW5 Fred Peacock, DSN 558-1579 (334-255-1579), e-mail fred.peacock@rucker.army.mil.

■ **Attack:** CW5 Craig Winters, DSN 558-2532 (334-255-2532), e-mail craig.winters@rucker.army.mil.

■ **Utility:** CW5 Albert Taitano, DSN 558-2456 (334-255-2456), e-mail albert.taitano@rucker.army.mil.

■ **Cargo:** CW4 Matthew Carmichael, DSN 558-3354 (334-255-3354), e-mail matthew.carmichael@rucker.army.mil.

■ **Fixed Wing**: CW5 Joseph Walsingham, DSN 558-2453 (334-255-2453), e-mail joseph.walsingham@rucker.army.mil.

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SCOTT B. THOMPSON
COL, AV
Director of Evaluation and Standardization

NCO Corner

Don't Look the Other Way

MSG John "Buddy" Keen
U.S. Army Combat Readiness Center

In today's fast-paced world, we've come to accept a lifestyle of "getting there fast." But at what cost? In the name of speed, whether it's behind the wheel or getting a job done, we sacrifice safety. You can measure the price of that sacrifice in Soldiers permanently removed from our ranks.

The statistics aren't just numbers—each one represents a Soldier's life. Many of our young Soldiers are dying in automobile and motorcycle accidents because they lack good judgment, drive at high speed, and drive or ride under the influence of alcohol or while fatigued. Sadly, they die before surviving enough close calls to learn from them. In all too many cases, they believed they could drink and drive without any consequences.

I worked as a state trooper before coming to the Combat Readiness Center to work as an accident investigator. I performed hundreds of motor vehicle accident investigations involving people who caused accidents or were victims of someone else's carelessness. Some of the worst experiences in my career were the many times I had to inform a family of a loved one's death. Their responses included guilt, anger, denial, and feeling responsible for the incident. The response I didn't expect was, "We were wondering when this would happen." Yet that's what I heard from some people. They knew the victim well enough to know something terrible might happen but never did anything about it. They just looked the other way.

That's something to think about. How many times do we see someone acting in a careless or reckless manner and say nothing? It's our responsibility as friends, Soldiers, and leaders to point out and correct these errors. As leaders, we must discipline wrong behavior and hold individuals accountable for their actions. However, we also have a duty to use our past experiences to help guide and train our Soldiers so we don't lose them prematurely. When we do nothing—when we look the other way and then make excuses when a Soldier is hurt or killed—we're just WRONG!

When we were younger we learned we weren't always the best judge of our abilities. We also learned that Murphy's Law—what can go wrong will—still applied. Today's young Soldiers are no different than we were. They also often overestimate their abilities and turn a blind eye toward danger.

As leaders, we've lived and learned. Now it's our turn to teach our Soldiers to learn and live. They're watching us because we set their goals and our expectations of them. When it comes to safety, if we don't care enough to correct them when they're wrong, they'll think it doesn't matter—that we've chosen to look the other way. But if the phone rings in the middle of the night and the unsafe Soldier we ignored is now in the morgue, we'll personally know the cost of a safety statistic. We won't be able to look the other way then. ♦

—MSG Keen is a POV Accident Investigator at the Combat Readiness Center. He may be contacted at DSN 558-9398 (334-255-9398), or e-mail John.Keen@crc.army.mil.

U.S. ARMY AIRCREW DITCHING COURSE

CPT Gifford Jones, U.S. Army and
Chad J. Copeland, Survival Systems USA

One of the Army's most progressive training schools is receiving positive reviews for the guidance it is providing aircrews that might find themselves in an overwater ditching situation. The Aircrew Ditching Course (ADC), one of the Army's finest acknowledgements of the emerging joint operations involving overwater flight, has been training students at its Fort Rucker, AL, location for nearly 2 years.

The course includes 16 hours of intense training on how to prepare for an overwater ditching, appropriate egress procedures, and surface survival techniques while awaiting rescue. The course also incorporates the Aqua Lung Survival Egress Air (SEA) MK2 Emergency Breathing System (EBS), which allows the aircrew to breathe underwater and execute necessary steps to survive an aircraft ditching.

The course is punctuated by one of the most advanced underwater escape trainers in the world. The Modular Escape Training System (METS™), designed by Survival Systems USA Inc., accurately replicates the AH-64, UH-60, CH-47, and OH-58 helicopters. These trainers allow aircrews to enter their familiar aircraft environment, ditch and invert in a 90,000-gallon training tank, and escape from the trainer while closely supervised by the Survival Systems staff.

The 2-day training course contains 8 hours of academic instruction and 8 hours of practical application. On the first day, the students are given a tour of the facility, followed by 4 hours of academic instruction. The academics are predicated on 22 years of experience, research, and development on how to survive an overwater ditching. Everything from the history of aircraft ditching to the appropriate brace position to minimize bodily injury, steps to safely egress the aircraft, and how to safely employ the EBS are thoroughly covered by the Survival Systems staff. The EBS instruction is a course on the dangers of breathing compressed air, compressed air physics, and how the SEA MK2 works and is properly maintained.

The afternoon session builds on the lessons taught in the class through practical application. The students are introduced to the Shallow Water Egress Trainer (SWET), where they practice egress procedures while turned upside down in a shallow and controlled training environment. The first lessons are on breath control to allow the students to concentrate on egress procedures and build confidence in their abilities.

Once the student is comfortable with egress procedures, they are placed in the METS™ in their appropriate crew station next to their appropriate aircraft exit (UH-60, OH-58, etc). All of the exits on the METS™ are custom built to accurately represent an actual aircraft exit. The entire METS™ is built as close to aircraft specifications as possible to ensure the aircrew gets an accurate feel for their own helicopter during egress. The flight controls, stroking seats, and armor plating all simulate actual movements in a crash sequence. The students will go through multiple evolutions that gradually increase in difficulty—starting with doors off and concluding with traveling to a secondary exit, jettisoning the exit while upside down, and egressing safely.

After successful breath hold exercises, the EBS is introduced to the aircrew and applied to the egress skills they have already learned. The aircrews learn how to clear and breathe upside down with the SEA MK2, practicing in the SWET, then return to the METS™ to use the EBS during egress sequences and further increase their confidence in egressing underwater.

The second day of instruction starts with a review of the previous day's instruction followed by four hours of academics on advanced surface survival, life raft use, and cabin evacuation. The student continues to deal with complex underwater egress scenarios until they master the skills of egressing a submerged aircraft upside down, in the dark, with an EBS using a secondary exit.

The class then continues the practical exercises with group drills. The class is loaded into the METS™ and taught how to organize a surface evacuation; this exercise is complicated by the addition of smoke generators to restrict visibility. During the drill, the students evacuate the aircraft, activate carbon dioxide (CO_2) cartridges in their life preservers, and organize the group to inflate and enter a life raft. The aircrew is also shown group formations to lock into if a life raft is not available. During these group formations, the aircrew is shown how to care for an injured person, move as a group, and stay together in rough seas. By the end of the second day, the class is physically exhausted and extremely proud of the survival education they now possess.

The Fort Rucker facility is the first fully equipped, Survival Systems USA-staffed, overwater training device for the U.S. Army, and the student feedback has been positive to say the least. This program supports the new draft Army Regulation (AR) 95-3, which is expected to be approved soon, and gives the Army a standard of excellence that is not matched by any other service. This course is the Army's first Aircrew Ditching Course to be fully integrated into the Army Systematic Approach to Training to ensure future overwater training sites follow the same high standard of training. This training center represents the dedication of the U.S. Army's leaders to its aircrews and recognizes the value of every warfighter.

For more information on the Army Aircrew Ditching Course, contact the authors at 888-386-5371 or 860-405-0002, or visit their Web site at **www.survivalsystemsinc.com**. ♦

Dodging "Feathered Bullets"

CW3 Russ Maguire
Rhode Island Army National Guard

A recent flight convinced me that hazards don't always take the more obvious shape of trees, towers, wires, or other aircraft. On this particular night, while cruising along at 700 feet above ground level (AGL), I was navigating the final leg of my night vision goggle checkride. With the UH-1 instructor pilot (IP) on the controls to my right, we were at level flight following a climbout from terrain flight altitude when a startling WHACK—like the sound of a slamming door—straightened us both up in our seats.

FACTOID: More than 195 aviation fatalities have been recorded worldwide due to bird strikes.

The crew chief wasted no time accounting for the cargo area behind our station, noting everything was secure. The IP reduced the airspeed and quickly confirmed the source of our concern. Apparently, as I was crosschecking navigation points on the map, a bird suddenly crossed our flight path and struck the aircraft just below the windscreen. We headed toward a known landing zone to check out the damage. Once we landed, both the IP and the crew chief jumped out to inspect the aircraft, especially the battery compartment and lower windscreen. In this case, the aircraft suffered no telltale signs of a collision. The IP determined the midair was unavoidable.

In 10-plus years of flying Army helicopters, I've had some memorable near-misses with a wide sampling of bird species. But an actual strike? This was a first. Yet history has shown that Army and Air Force crews—along with our civilian counterparts—routinely face common hazards in the skies we share with birds. When trying to dodge these "feathered bullets," the end result is the same.

Bird strike hazards and high costs

To underscore just how catastrophic these midairs can be, more than 195 aviation fatalities have been recorded worldwide due to bird strikes. This information is readily available and shared by *Bird Strike Committee USA* (**www.birdstrike.org**), a steering group represented by agencies that include the Federal Aviation Administration (FAA), Department of Agriculture (USDA), and Department of Defense. In the U.S. military, two prominent bird strike disasters serve to punctuate this historical data:

- **September 1995, Elmendorf Air Force Base, AK**. The aircrew of a U.S. Air Force (USAF) E-3 AWACS never gained controlled flight following multiple bird strikes on takeoff. All 24 aircrew/passengers were killed.
- **September 1987, Colorado**. The aircrew of a USAF B-1B, on a low-level run, lost control following a large bird strike, resulting in the death of three occupants.

The avian/aircraft strike hazard remains equally significant today. To corroborate this trend, one would have to look no further than the data already compiled by the U.S. Army Combat Readiness Center. In a 10-year accident data search (1995-2004), a yearly average of 25 bird strikes were reported, totaling 249 accidents. There were no fatalities or injuries attributed to the strikes, but the data shows the Army's materiel losses exceeded $1.2 million during this period. In the same timeframe, the USAF reported an average of 3,567 bird strikes per year with materiel losses totaling $330 million. On the civilian side, the FAA recorded some 56,000 bird strikes from 1990 to 2004 for an average of 3,700-plus strikes per year. In total, the National Transportation Safety Board believes reported bird strikes cause more than $300 million in damage to U.S. civilian and military aviation each year.

Lost numbers?

If Army Aviation's 10-year bird strike data (249 *reported* collisions) seems slightly unspectacular it may be because, like the data collected by civil aviation researchers, only about 20 percent of all bird strikes are believed to be reported annually. In short, industry experts who study bird strike hazards consider them to be severely underrepresented in accident databases, belying a much more pervasive problem.

Along with this shortage of reliable data, in an August 2004 *Air Safety Week* report, wildlife experts at the FAA and USDA cautioned the industry about two significant trends: increasing air traffic, at least near-term, coupled with the continued resurgence of many bird species due to stricter hunting regulations. As avian populations continue to rise alongside aircraft operations, researchers are now seeking a more complete accounting of bird strikes to fully capture, quantify, and characterize the problem.

Why report a bird strike?

When I experienced my first bird strike, I wasn't aware that the incident should be reported to my unit safety office because, like many bird strikes, there was no damage to the aircraft. In fact, all Army accidents and incidents, regardless of how minor, are reportable (Army Regulation 385-40). Given the information about a particular bird strike and the subsequent actions of the flight crew, unit safety officers can classify the accident or incident and report the information accordingly.

Lead researchers from the FAA and USDA call the cataloguing of aircraft/bird strikes data-driven safety. Here are three examples why. The ability to identify the bird species responsible for a particular bird strike, or a series of near-misses, allows Army airfield managers to prioritize hazard mitigation practices. Bird-strike data also tells field experts about wildlife trends (e.g., migratory flight paths) affecting aviation, the size and/or types of birds that cause accidents, incidents, and near-misses, as well as areas where strikes are most likely to imperil aircrews. Finally, industry experts can assimilate bird-strike data into aircraft designs and airworthiness studies, which seek to enhance airframe and engine component safety.

Anyone, from an aircrew member to airport/airfield staff, can report a bird strike. While dodging "feathered bullets" is sometimes a necessary maneuver, dodging the requirement to report a strike is not. Sitting down with your unit safety officer to fill out the paperwork may seem like extra work with no meaningful end. But in the bigger picture, an enlightened industry—and more immediately, informed fellow crewmembers—will benefit from this safety reporting. ♦

FACTOID:

In a 10-year accident data search (1995-2004), a yearly average of 25 bird strikes were reported, totaling 249 accidents. No fatalities or injuries were attributed to the strikes.

Editor's note: For more information on bird strikes and bird control around airfields, visit the Air Force's Bird/Wildlife Aircraft Strike Hazard (BASH) Program Web Site: **http://afsafety.af.mil/AFSC/Bash/home.html**. *BASH is one of the oldest organizations committed to reducing wildlife-related hazards to aircraft.*

—CW3 Russ Maguire is an Army National Guard aviator with the 249th Medical Company (Air Ambulance), Quonset Point, Rhode Island. He may be contacted at francis.maguire@us.army.mil. CW3 Maguire wrote this article as a class project while attending Aviation Safety Officer Course 05-003 at Fort Rucker, AL.

ARAP: Helping Leaders Save Lives

Charles Schieffer
U.S. Army Combat Readiness Center

The U.S. Army Combat Readiness Center (USACRC) recently developed the Army Readiness Assessment Program (ARAP) to communicate the Army's strong conviction that Composite Risk Management (CRM) is the only way to defend against the significant losses currently being experienced in the force. Regardless of why or how a Soldier is lost, the result is the same—one less Soldier available for the fight. As accidents in our formations continue to degrade combat power, the CRC is committed to finding innovative ways to reduce accidents, decrease fatalities, and keep our Soldiers fit to continue the Global War on Terror. ARAP is a Web-based initiative that provides battalion-level commanders with data on their formation's readiness posture through five segments:

■ Processes Auditing—assesses the processes used to identify hazards and correct problems.

■ Reward Systems—assesses the unit's program of rewards and discipline to reinforce proper behavior and correct risky actions.

■ Quality Control—places emphasis on high standards of performance.

■ Risk Management—assesses the health of unit processes.

■ Command and Control—assesses leadership, communication, and policies as they relate to CRM.

Designed for use by battalion-sized units, the program asks several questions of battalion commanders. Wouldn't you like to know if your unit is about to experience a mishap? Wouldn't you like to prevent the loss of personnel and equipment? Don't you want to protect your combat power?

One of ARAP's goals is to identify and correct organizational conditions that could increase the potential for mishaps. Following survey administration (the assessment phase), the commander receives one-on-one feedback on key issues regarding command climate, safety culture, resource availability, workload, estimated success of certain safety intervention programs, and other factors relating to their unit's overall readiness.

Here's how it works. The battalion commander completes a personal telephone registration process with a member of the CRC ARAP team. From there the commander and unit personnel complete the online portion of the survey, which consists of 61 scaled questions that can be answered in about 12 minutes. Once two-thirds of the battalion has taken the survey, the battalion commander calls the CRC to receive an in-depth debrief of the results. This brief includes a discussion of the unit's strengths and weaknesses and also provides suggestions for possible courses of action and solutions used by previous battalion commanders.

So, what's in it for me?

■ **All assessments are confidential**. Only unit commanders or their designated representatives and the CRC have access to results. A confidential debrief is conducted on a one-on-one basis between the commander and the CRC.

■ **Assessments are predictive**. Studies conducted by the U.S. Navy over the past 6 years show that units in the survey's lower spectrum have twice the number of fatalities and more than twice the number of Class A accidents.

■ **All assessments and users are anonymous**.

■ **These assessments are a "free look" inside a unit**. They allow commanders to take an honest look at their safety culture and evaluate CRM processes.

■ **The program is Web-based, quick, and easy**: **https://unitready.army.mil**.

For more information on ARAP or to schedule an assessment for your battalion, contact Charles Schieffer, ARAP Program Manager, at DSN 558-9362 (334-255-9362), or by e-mail at **charles.schieffer@us.army.mil** or **arap@crc.army.mil**.

Accident Briefs

Information based on preliminary reports of aircraft accidents

AH-64

D Model

■ **Class B**: The aircraft experienced separation of the tail rotor from the gearbox during flight. The crew was able to execute an emergency precautionary landing. The aircraft experienced a hard landing causing damage to the landing gear, gun, and belly.

■ **Class B**: The aircraft engine was inadvertently started during a maintenance procedure. The tailboom rotated right and struck the connected aviation ground-power unit (AGPU).

■ **Class C**: Postflight inspection revealed an apparent tail rotor blade strike.

■ **Class C**: The aircraft experienced an engine overtorque during a single-engine VMC approach with the backup control system engaged.

OH-58

C Model

■ **Class C**: The aircraft contacted the ground hard during an autorotative landing. Damage to the tailboom and transmission deck was found.

D(R) Model

■ **Class B**: During takeoff from refuel, the crew experienced brownout conditions. The nose of the aircraft contacted the ground causing damage to the nose of the aircraft, WSPS, and undercarriage.

UH-1

V Model

■ **Class E**: During cruise flight, a bird struck the main rotor blade just above and in front of the cockpit. At the time of bird strike, the aircraft was over a swamp. The aircraft was flown to the nearest suitable landing area and the crew performed a precautionary landing. The main rotor system was inspected by the maintenance officer. No damage was discovered. The aircraft returned to service and was flown back to Fort Polk, LA.

UH-60

A Model

■ **Class A**: The aircraft landed hard in brownout conditions and rolled onto its side causing extensive damage to the main rotor system and transmission. All personnel exited without assistance.

■ **Class B**: The aircraft was ground taxiing for MEDEVAC takeoff when its main rotor system struck the tail rotor of a parked aircraft.

■ **Class C**: The APU door separated in flight, contacting the main and tail rotor systems.

■ **Class C**: During landing at a landing zone for MEDEVAC pickup, the aircraft's belly and tailboom struck the ground causing the tail wheel strut to separate from the aircraft.

L Model

■ **Class A**: The aircraft impacted the ground during a demonstrated autorotation, causing significant damage.

■ **Class B**: The aircraft's main rotor blade contacted the ALQ-144 during landing to uneven terrain.

RC-12

D Model

■ **Class C**: Postflight inspection revealed No. 1 engine propeller damage (suspected foreign object damage).

RQ-5A

■ **Class B**: The aircraft arresting hook missed initial arresting cable. The AVO trainee attempted go-around, and the aircraft's main landing gear struck the secondary ground arresting gear (drum). The main landing gear was ripped from the aircraft.

■ **Class C**: The operator experienced failure of the electrical power distribution system (engine shutoff) subsequent failure of the tail hook to completely lower. The aircraft entered a ditch.

RQ-7A

■ **Class B**: The aircraft entered an uncommanded flight mode, impacting the ground. Total loss is presumed.

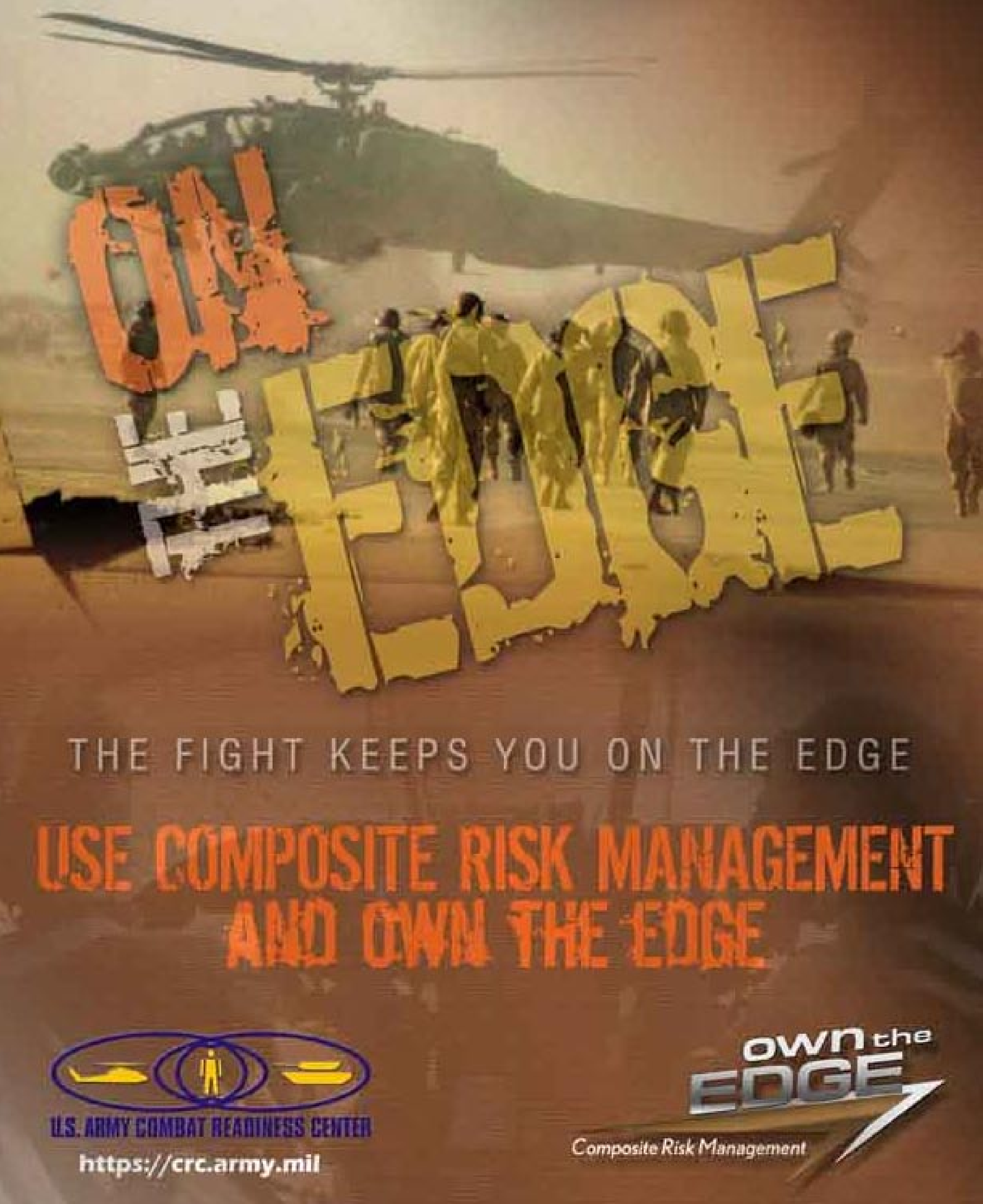
■ **Class C**: The aircraft experienced an over-temp condition and RPM spike following climbout.

RQ-7B

■ **Class C**: The AVO experienced an "engine fail" indication during operation. The aircraft was maneuvered to a suitable landing area and the landing chute was deployed.

■ **Class C**: The AVO experienced a high engine temperature reading and initiated a return. Engine temperature continued to rise and RPM decreased steadily, reaching less than required for landing. The aircraft impacted the ground.

Editor's note: Information published in this section is based on preliminary mishap reports submitted by units and is subject to change. For more information on selected accident briefs, call DSN 558-9552 (334-255-9552) or DSN 558-3410 (334-255-3410).


ON THE EDGE
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