Flightfax

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REPORT OF ARMY AIRCRAFT ACCIDENTS

A Timely Reminder

As you begin planning for unit holiday activities and looking forward to wrapping up the workload before Christmas leave, stop for a couple of minutes and think about safety.

Just because the festive spirit of the holiday season is fast approaching, don't be tempted to party late and attempt to fly an aircraft or perform aircraft maintenance procedures the next day. Just one alcoholic drink a few hours before a flight can impair pilot performance enough to jeopardize the safety of the crew and the aircraft—and that is a risk nobody has a right to take. Don't rely on the often-quoted 12-hour "bottle to throttle" rule. Be safe; a 48-hour interval between drinking and flying should eliminate the residual adverse effects. And even if you don't drink at all, don't forget that fatigue from too many late nights and the stress of too many things to do can also affect your performance in the cockpit.

After the pre-season unit activities are over and you're ready to head home for the holidays, remember

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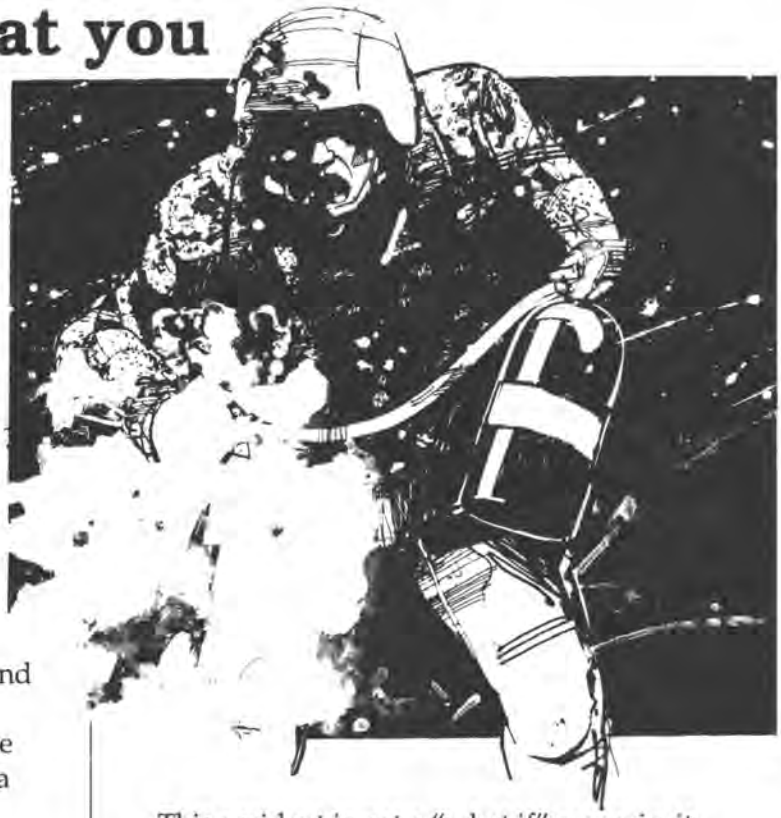
that the Army's number one peacetime enemy is one that soldiers face every day on our streets, roads, and highways. In FY 93, 122 soldiers lost their lives in automobile accidents. The hazards that caused most of these accidents—alcohol, speed, and fatigue—are even more prevalent during the holiday season.

The influence of alcohol in automobile accidents is on a downward trend. Let's keep it that way. Don't use the hustle and bustle of the holiday season as an excuse. You've heard it countless times before in safety briefings: don't drink and drive (have a designated driver), don't speed, and don't forget to wear your seatbelt. Just remember that if you do, you're accepting unnecessary risks. You could end up killing yourself, your spouse, your child, or someone else; you could sustain a disabling injury; or you could be found guilty of negligence. The sobering fact is you might never get to climb back into another cockpit.

Traditionally, the holiday season is a time of joy as we celebrate in various ways with fellow crewmembers, family, and friends. The intent of this safety reminder is not to dampen your holiday spirit but to remind you once again that holiday joy can quickly turn to holiday tragedy if you fail to consider the consequences of poor judgment.

Have a *safe* and happy holiday season! ■

Fire fighting—what you don't know could hurt you



After two circuits in a holding pattern, the crew received clearance for a teardrop traffic pattern to land. On short final, the aircraft yawed to the right, the nose pitched up, and the aircraft crashed into a 54-foot-high cedar tree in the sod area of the airfield.

Within 50 meters of the crash site, members of an aviation unit were bivouacked on a field exercise. The troops had watched as the aircraft impacted the tree in a sickening crunch, its wings folding back as it settled into the tree. The hot engine and ruptured fuel lines made contact, and an immediate fire began slowly spreading over the aircraft, inching its way toward the cockpit area where both pilots lay unconscious.

The troops grabbed fire extinguishers and dashed toward the burning wreckage. It was only seconds before the soldiers reached the aircraft and began working frantically to get both pilots out of their seats and away from the flames. Some soldiers passed fire extinguishers to other soldiers who kept the fire beaten back from the cockpit area, spraying the area around the pilots and in some instances the pilots themselves as still other soldiers worked to extract the pilots from the burning wreckage.Within seconds, both pilots were freed from the wreckage and carried a safe distance away.

This accident is not a "what if" scenario; it actually happened. Had it not been for the troops' quick actions, both pilots would have died in the postcrash fire. But these soldiers knew how to effectively use hand-held fire extinguishers because they had recently attended a class on fire prevention and safety. In addition, the unit had also inspected all their fire extinguishers before they deployed for the field exercise. These soldiers were ready to respond to a fire emergency; they knew what to do.

Lessons to be learned

This incident is an excellent example of several

key lessons to be learned in relation to any postcrash or ground fire:

■ Any postcrash fire is extremely hazardous; approach with caution. The possibility of an explosion exists if there are ruptured fuel tanks or lines. And there is a further possibility of an explosion if any onboard weapons or shells are exposed to intense fire.

■ Smoke inhalation and fumes can cause serious injuries or even death to those involved in the accident and those who attempt to render assistance. Move victims a safe distance away as soon as possible. Others who return to the crash site should wear protective gear, especially if advanced composite materials are involved.

■ Hand-held fire extinguishers are not designed to put out an aircraft fire or a large fire of any kind. They can extinguish a small fire or delay one for valuable seconds, as the soldiers were able to do with the extinguishers in this accident.

■ Location of fire extinguishers is critical. In the accident example, all of the fire extinguishers were near the tents or in nearby parked aircraft so they were within easy reach by the soldiers. Because the soldiers knew where the extinguishers were located, they were able to respond quickly.

■ Servicing and inspecting unit fire extinguishers is not a "pass inspection" goal. Had the extinguishers the soldiers used on this aircraft crash been defective or the wrong type, two pilots and perhaps some of the soldiers who were attempting to fight the fire could have died or been seriously injured.

■ Every soldier should know—

• The correct type of extinguisher to use for different kinds of fires and know the type of fire extinguishers located in the aircraft, vehicles, living area, or work area. Fire extinguishers are classified according to the kind of fire—wood, paper, gasoline, oil, or electrical—they can be used to fight.

• How long a fire extinguisher will operate before it is empty. Even though the soldiers in this unit were knowledgeable about fire extinguishers, some of them were still amazed at how quickly the extinguishers were depleted.

• When fire extinguishers should be replaced or serviced.

• How to hold the extinguisher and where to shoot the extinguishing agent.

• If the agent in the extinguisher can harm people.

Training

Fire fighting is normally the job and responsibility of trained fire department personnel. However, in a remote or inaccessible postcrash or ground fire, soldiers near the scene who choose to respond in order to save lives need to understand the risks involved and best methods to use to fight the fire until the victims can be extracted and moved to a safer area. Quick action with proper fire extinguishers can put out a fire in its infancy, thus saving lives or equipment. However, a fire out of control or too large for hand-held extinguishers cannot be successfully fought and a quick decision to evacuate the area must be made.

In one recent incident, the soldiers failed to properly identify and assess the hazards when they chose to fight a fire involving ammunition. Their lack of knowledge could have caused them to be seriously injured or killed. The soldiers also failed to realize that the extinguishers they were using could not put out a fire of that type.

Fire fighting is extremely dangerous, and soldiers need to be informed about the hazards in order to make the right decisions. They also need to know when to do what. Training on appropriate fire-fighting techniques and procedures is the key to ensuring they will be able to quickly identify the hazards, assess the risk, and make the right risk decisions.

Get help

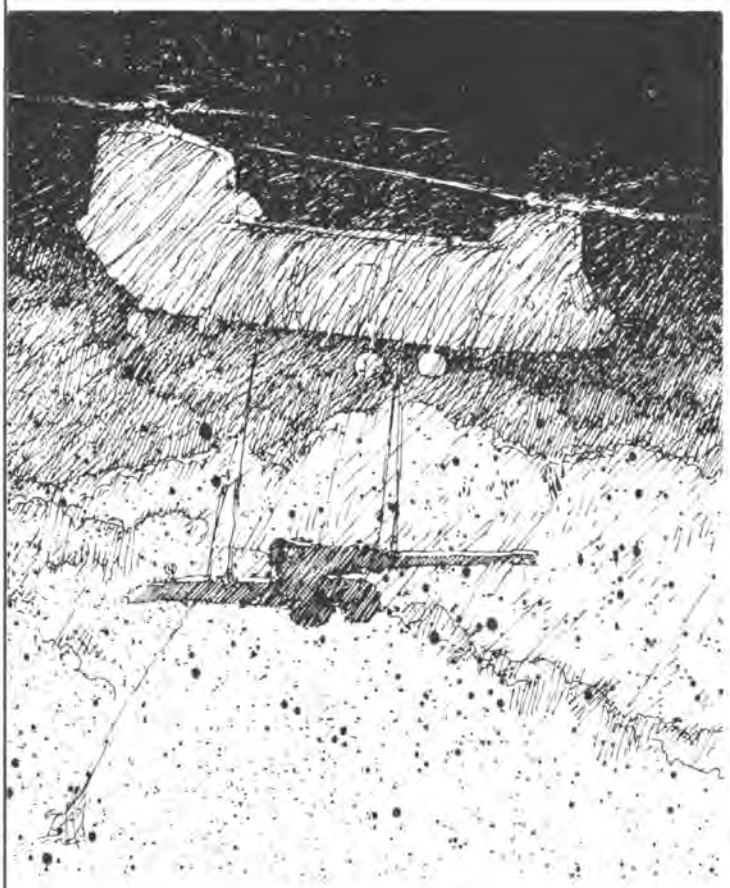
Ask your local fire department personnel to conduct classes on fire-fighting techniques and procedures; they will be able to correctly answer any questions you might have. Review TB 5-4200-200-10: Hand-Portable Fire Extinguishers Approved for Army Use; it's an excellent reference on portable fire extinguishers available in the Army. Read AR 420-90: Fire Protection, the Army's governing policy on fire prevention, and the Army Safety Center's publication *Fire Extinguishers: Principles and Operations.*

The next time you're sitting in what we are sometimes guilty of perceiving as another dull class on fire prevention, think about the "what ifs." In the event a "what if" turns into a reality, there will be no time for questions or answers then. If you don't know what you should know about fire safety, you could end up causing more serious injury to the ones you're trying to help or you could hurt yourself. ■

—CW4 John H. Strickland, Investigations Division, DSN 558-3262, commercial 205-255-3262

Risk management during deployment

Whether deploying for mission-training—such as rotations to the National Training Center or Joint Readiness Training Center—or deploying for combat or humanitarian-relief missions, effective risk management is critical in the planning and execution phases. From planning for takeoff at home station to tiedown at the destination, strict adherence to the risk management process and rules is the best way to ensure a safe deployment.



Diligently applying the risk management process and rules enhances a unit's ability to safely deploy crews and equipment. But application of the risk management process and rules is not a one-time, before-deployment step. Once the initial planning is completed and units are en route, crewmembers must continue to carefully manage the risks and apply the risk management rules to handle the unexpected events that frequently occur.

For example, crews sometimes get "weathered in" while en route to their destination. Weather forecasting is not an exact science! It is just a forecast—a best guess on the information available. While en route, many places do not have weather reporting points available to make a good forecast. And sometimes, the weather just isn't what was in the forecast. Other times, the weather can change so rapidly that crews are forced to delay until conditions improve.

If the weather deteriorates while en route, crews should quickly identify the hazard, assess the risks, and make a decision to proceed or land. If the benefits of continuing do not outweigh the risks, land and just wait it out—even if it means overnight stays in unplanned places. Don't allow yourself to be pressured into pressing on if the risks are too high.

Chip lights, pressure lights, and other warning systems let us know when there is a problem with the aircraft. These devices are designed to warn of impending failure of some system, and crewmembers don't hesitate to use that information to make a decision to get an aircraft on the ground promptly. Likewise, deteriorating weather should warn crews of hazards that are likely to be encountered. Do not hesitate to land or to keep an aircraft on the ground if the weather is bad.

Although crew endurance or limitations should be carefully considered while planning the deployment, the fatigue of a long deployment affects each crewmember differently. Sometimes, it's hard for an aviator to admit fatigue when among peers. However, it is obvious that fatigue is a hazard and imposes an unnecessary risk. Let the unit pilots know that it is okay to say they are tired and need to stop for the night.

In peacetime, it's prudent to be conservative. The crewmembers and aircraft lost in training will not be available for the next combat, support, or humanitarian-relief effort. Even well-planned deployments sometimes require unplanned stops. When unexpected events, such as deteriorating weather and fatigue, are encountered, start the risk management cyclic over: identify and assess the hazards and then make a risk decision.

Everyone knows that in these times of constrained resources, it's important to use dollar resources wisely. But don't allow the desire to save a few of the unit's dollars sway you into ignoring the hazards and making a poor risk decision during deployment. ■

—CW3 Craig R. Witt, Company C, 4/25 Aviation Regiment, 25th Infantry Division (Light), Wheeler Army Airfield, DSN 456-2899, commercial 808-656-2899

Hazard: unsecured covers and cowlings

Preliminary reports of Army mishaps frequently arrive at the Safety Center telling of another incident in which a cover or cowling was damaged or caused damage to another aircraft system when it came loose during flight. Most often, the cover or cowling comes loose not because of a materiel failure but because someone failed to ensure that it was properly secured. Someone failed to identify the hazard associated with an unsecured cover or cowling. While we are fortunate that this kind of incident seldom results in serious accidents with loss of lives, they do cost dollars that we simply cannot afford to lose.

While an AH-64 was moving into battle position at an out-of-ground-effect hover, the crew felt stiffness in the tail rotor pedals. As the aircraft completed a 180-degree turn, a moderate high-frequency vibration began. The pilot initiated a straight-in approach to a small flat, grassy open area to the right. When he put pressure on the tail rotor pedals, they were free and functioning properly, allowing him to make a normal landing and shut down the aircraft without further incident.

Inspection revealed the binding in the pedals was caused by the tail rotor drive shaft becoming overheated and twisted when it contacted the drive shaft cover. The cover contacted the drive shaft because all dzus fasteners on that section were unlatched, allowing it to flap freely. Total damage cost exceeded $30,000.

The unlatched fasteners were not discovered during the preflight or walk-around inspections. The crew chief had also worked in this area before the flight. While it is almost impossible to definitively determine whether the dzus fasteners came loose during flight or were left unsecured prior to the flight, it is also very unlikely that all of these fasteners on the drive shaft cover came loose at the same time.

Follow procedures

There are written procedures telling crews how to conduct adequate preventive maintenance, preflight, and postflight inspections. But people get careless or in a hurry and sometimes deviate from the standards they know they should be following. Sometimes crews allow the urgency of the mission or simply their desire to get in out of the hot or cold dictate how thorough the daily, preflight, or postflight inspection will be.

Failing to identify possible hazards, such as unsecured covers and cowlings, even during routine inspections is a risk that cannot be accepted because lives depend on the quality of the work we do. Doing every task, even the routine ones, by the book is the best way to ensure the hazards are identified and the risks eliminated or controlled to prevent accidents. ■

—SFC(P) Alcides Santana-Cruz, Aviation Branch, DSN 558-3262, commercial 205-255-3262

Properly secure all internal cargo

In the cargo community, the single-strap tiedown configuration is most often used for internal cargo simply because it is easy to use. However, this configuration does not fall within the load restraint criteria in the CH-47D operators manual. Use of a single-strap tiedown can result in cargo coming loose during an accident sequence and causing harm to crewmembers or passengers.

In the following cases, improper or insufficient security of the internal loads did not cause the accidents but contributed or could have contributed to the severity of the injuries sustained by the passengers and crew:

■ During a day, low-level, VFR training mission, the CH-47D was ascending a draw to cross a ridgeline when it entered IMC. The crew initiated emergency procedures and established visual contact with the ridgeline just before the aircraft struck the ridge in a near-level attitude. The rotor blades contacted the trees and ground, and the aircraft rolled inverted and slid down the ridge. There were no fatalities or serious injuries to the 5 crewmembers and 14 passengers. However, during the low G-force crash sequence, crew baggage and a mechanic's toolbox came free of the single restraining tiedown strap and flailed about the cabin and cockpit areas.

■ With an internal load consisting of a truck and a box of loose parts, the CH-47D was descending IFR to an airfield when the IP turned the advanced flight control system to the off position. The aircraft entered IMC, and the nose pitched up and yawed right. The flight engineer was thrown under the truck and a passenger was struck on the head by a loose oil can. The IP was able to regain control of the aircraft after encountering VMC.

■ With 13 passengers and personal equipment (rucksacks and so forth) on board, the CH-47D was in contour flight at 80 knots when the crew experienced a partial loss of aircraft control. The aircraft entered a flat spin at a high rate of descent, impacted the trees, and came to rest upright. Although the aircraft was destroyed, none of the occupants were seriously injured. However, because the internal cargo was not restrained IAW the operators manual and FM 55-450-2: Army Helicopter Internal Load Operations, it came loose from the tiedown straps during the crash sequence. Some of the cargo was ejected from the aircraft, and some of it blocked emergency exits and hindered the egress of the occupants.

Proper restraints and training available

Several recent accidents in which loose internal cargo either caused injuries to crew and passengers or hindered egress prompted an informal review to determine if restraints and training available for securing multiple small pieces of cargo in Army aircraft were adequate.

■ *Cargo nets.* Suitable cargo nets for securing multiple small pieces of cargo are available through the supply system. Information about the cargo nets may be found in Appendix 1 of FM 55-450-2. However, instructions for using the cargo nets to restrain or secure a large quantity of small cargo items are not in the FM at this time. The U.S. Army Transportation School will include these instructions for the CH-47 in the next update to FM 55-450-2.

■ *Training.* A review of Flight Engineer Instructor (FEI) Course at the Army Aviation Center reveals that adequate training in securing cargo items is being provided to the FEI students. However, there is no formalized flight engineer course that provides standardized training on cargo tiedown procedures to the nonrated crewmember on flight duties. This instruction is accomplished in the unit by trained FEIs. To further assist FEIs in teaching nonrated crewmembers, the Army Aviation Center's Directorate of Training and Doctrine has developed a nonrated crewmember exportable training package on correct cargo tiedown procedures. The package is currently being staffed for approval .

Manage the risks

Nobody ever plans to have an accident, but identifying, assessing, and controlling the risks can greatly increase the chances of surviving or lessen the seriousness of injuries should an accident occur. Unrestrained or improperly secured internal cargo, even small pieces, is a hazard and can cause injuries and egress problems. This is a risk that should not be accepted. Single-strap tiedowns may be easy to use, but the benefits of doing so do not outweigh the risks associated with improper or insufficient cargo security.

Control the risks by ensuring that *all* internal cargo is properly restrained. Take the time to do it right! ■

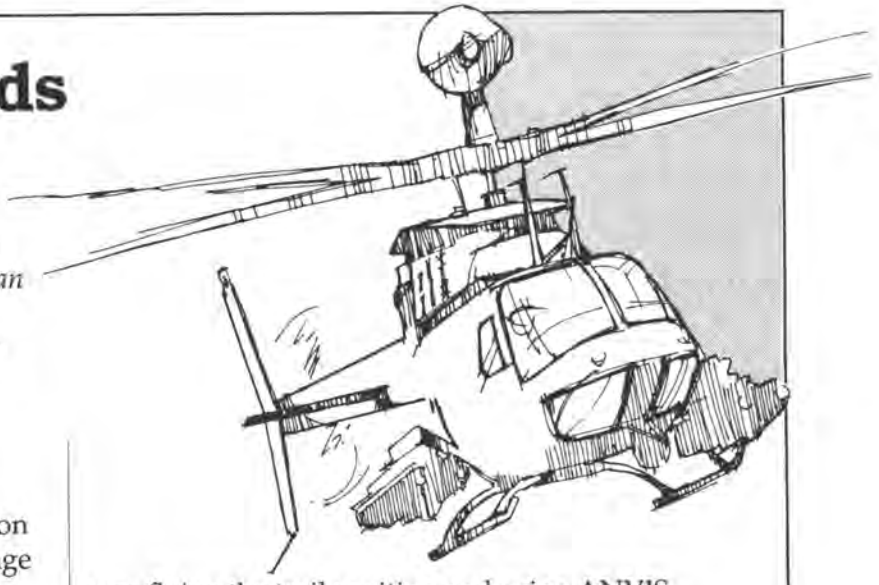
—SFC John Morthole, Aviation Branch, DSN 558-3262, commercial 205-255-3262

Class A Accidents through October

	Month	Class A Flight Accidents		Army Military Fatalities	
		FY93	FY94	FY93	FY94
1st Qtr	October	6	2	2	0
	November	2		6	
	December	1		0	
2d Qtr	January	1		0	
	February	5		8	
	March	1		5	
3d Qtr	April	4		0	
	May	1		1	
	June	0		0	
4th Qtr	July	0		0	
	August	1		0	
	September	2		0	
	Total	**24**	**2**	**22**	**0**

Broken Wing awards

The Broken Wing award is given in recognition of aircrewmembers who demonstrate a high degree of professional skill while actually recovering an aircraft from an in-flight failure or malfunction necessitating an emergency landing. Requirements for the award are spelled out in AR 672-74: Army Accident Prevention Awards Program.



■ **CW3 Charles Weigandt, Company B, 1st Battalion, 160th Special Operations Aviation Regiment (Airborne), Fort Campbell.** The mission was to train a newly assigned aviator in long-range NVG navigation and tactics. With the newly assigned aviator on the controls, the AH-6G departed and flew along the planned NVG route at a tactical altitude of 300 feet AGL or 50 feet above the highest obstacle. About 25 minutes into the flight and 36 nautical miles west of the airfield, CW3 Weigandt noticed the engine turbine outlet temperature (TOT) was starting to exceed normal limits. CW3 Weigandt initiated the published emergency procedure by opening the air bypass door and instructing the pilot to reduce power. The engine's TOT continued to climb, and within seconds, the engine started emitting a loud screeching sound. CW3 Weigandt took the flight controls and entered an autorotation profile. Although they were flying over hilly and heavily wooded terrain, CW3 Weigandt spotted a clearing and turned the aircraft toward it. As the aircraft continued to descend, he noticed that the clearing was littered with 40-foot-high scattered trees and tree stumps. CW3 Weigandt continued to maneuver the aircraft to line up on a 15-foot-wide logging trail. As he applied initial collective at the termination of the autorotation, the rotor RPM (Nr) and engine RPM (N2) drooped and the engine-out audio activated. Simultaneously, sand and dust from the logging trail caused a complete brownout condition. Although both pilots lost visual contact with the ground, CW3 Weigandt was able to cushion the landing and touch down with little ground slide. Maintenance analysis of the engine revealed severe FOD damage to the engine inlet and impeller.

■ **CW2 George B. Clarabut, 3d Battalion, 24th Aviation Regiment, Hunter Army Airfield.** During an NVG combat support training mission, the OH-58D was participating in multi-ship flight operations with two other OH-58Ds. CW2 Clarabut was flying the trail position and using ANVIS equipment. The other crewmember aboard the OH-58D was an observer-controller assigned to the National Training Center. The flight crossed through a saddle on the north wall of the central corridor at an altitude of about 1,400 feet above mean sea level. After climbing up through the saddle, CW2 Clarabut reduced the collective power until his mast torque indicated 40 to 50 percent. He increased airspeed with forward cyclic input, remaining masked by the surrounding terrain. While accelerating through 80 knots at an altitude of about 200 feet AGL, the aircraft experienced all indications of a complete engine failure and total loss of power. While cross-checking all available instrument indications, CW2 Clarabut simultaneously entered autorotational descent. He made a radio call to the flight leader informing him of the situation and his intentions. The observer-controller made a mayday call on the tactical control frequency. During the descent, CW2 Clarabut saw an unimproved road. He selected it as his initial intended landing site because the surrounding terrain was extremely rocky and uneven. During the deceleration phase of the autorotation, CW2 Clarabut saw that the road had high banks on each side. He spotted another possible landing area a short distance away and just past an area of rocky terrain. CW2 Clarabut elected to extend his autorotational glide through cyclic and collective application, sacrificing some rotor RPM. Just before touchdown, he applied cyclic to slow his forward airspeed to zero out at touchdown and cushioned the descent with collective. Although the landing was accomplished with a tail wind to a nose-low and right-slope attitude, postflight inspection revealed minimal aircraft damage. ■

Commander's quarterly safety report

As a squadron safety officer, I am often asked how I plan the safety program to focus on the priority issues? How do I ensure that the numerous required safety classes and councils are properly scheduled and conducted? How do I ensure that safety awards, hazard reports, safety surveys, and safety statistics are managed effectively while ensuring compliance with all the different regulations?

The only answer I have to these questions is to plan, plan, and plan some more. I realize that many times flexibility is the key, but the better the plan is and the farther out it projects, the easier it is to be flexible when changes occur. All recurring safety programs should be planned approximately a fiscal year in advance. And details should be finalized at least a fiscal quarter in advance.

Safety managers are often overwhelmed by the considerable number of recurring events and issues that must be managed in order to ensure an effective safety program. In addition to the recurring safety requirements, safety managers must also effectively manage the safety problems that arise on a day-to-day basis. Commanders cannot do it all, nor can safety officers, without the help of some effective management tools.

To assist us in more effectively managing and monitoring our safety program, the 6th Squadron, 6th Cavalry has developed and implemented a Commander's Quarterly Safety Report. The purposes of this quarterly report are to—

■ Identify what we have accomplished in the previous quarter and determine if we have met our safety objectives and goals. The report also identifies any hazards or shortcomings we may have and provides a method to track those issues.

■ Help us plan for the future by activating the thought, planning, and decision-making processes. This works whether you are planning for the next quarter or for the next year. Developing a tentative plan for a complete fiscal year simplifies and deconflicts safety events with the unit training schedule.

■ Act as a mentoring tool for inexperienced safety personnel. By encouraging inexperienced safety personnel to compile safety statistics, analyze accomplishments during the previous quarter, and conduct short- and long-term planning, you are preparing them to be operationally effective when assigned at the squadron or brigade level.

■ Provide commanders at each unit level with a "snapshot picture" of their safety program. This information could be useful during command and staff meetings or any other meetings where safety issues may be discussed.

Format and content

The format we use for our Commander's Quarterly Safety Report is quite simple. A sample is shown on page 9. It is easy to complete—items 1 through 7 are self-explanatory and items 8 and 9 are the aviation and ground accident statistics. When automated, it seldom takes more than 1 hour to complete the report.

We task each troop safety officer to complete and forward the report to the squadron safety officer within 5 working days after the end of each fiscal quarter. I then compile all of the information into a complete report for the squadron commander within 10 working days after the end of the fiscal quarter.

The content of our Commander's Quarterly Safety Report could easily be adapted to meet the needs of different kinds of units. If your unit wishes to implement a program like this, feel free to modify our example to include the information that will be most beneficial to your unit.

During recent V Corps and Directorate of Evaluation and Standardization safety inspections, the use of this Commander's Quarterly Safety Report was noted as a "commendable" idea and technique for helping plan and implement an effective and efficient safety program. It can help build credibility for your safety program too. ■

POC: CW4 Ronald B. Ritter, Jr., Squadron Safety Officer, HHT, 6th Squadron, 6th Cavalry, CMR 416, Box 425, APO AE 09140, DSN 467-4410

See page 10 for more ideas CW4 Ritter suggests can be used by commanders and safety officers to modify or supplement their unit's safety program.

Sample format for commander's quarterly safety report

MEMORANDUM FOR:
Quarter/Year of Report:

1. Safety meetings/training:
   a. Dates and topics of safety meetings or training conducted during the quarter:

   b. Dates and topics of next quarter's safety meetings or training events:

2. Squadron safety councils:
   a. Date of last Aviation Safety Council:
   b. Date of next Aviation Safety Council:
   c. Date of last Enlisted Safety Council:
   d. Date of next Enlisted Safety Council:

3. Hazard inventory logs: QTR FY
   a. Hazard inventory logs incomplete:
   b. Hazard inventory logs completed:
   c. Hazard inventory logs total:
   d. Identified hazards with a risk assessment code of 1 or 2:

4. Hazard reports (OHRs, DA Forms 4755) QTR FY
   a. Total hazard reports:
   b. Date of last hazard report:
   c. Topic of last hazard report:

5. Safety inspections:
   a. Date and areas of inspection during quarter:

   b. Scheduled dates and areas to be inspected next quarter:

6. Safety trained personnel:
   a. Number of safety trained officers:
   b. Number of safety trained NCOs:
   c. Identify unit's safety shortage, if applicable:

7. Remarks, comments, safety concerns:

8. Aviation safety statistics:

Class	Mishaps Number	Rate
A		
B		
C		
D		
E		

Causes	Number	Percent
Human error		
Materiel failure		
Environmental factors		

Quarterly AH-64 flight time flown:
Quarterly OH-58 flight time flown:
Quarterly UH-60 flight time flown:

Total quarterly flight time flown:
Total FY flight time to date:

Total quarterly accident costs: $
Total FY accident costs to date: $

Date of last aviation Class A, B, or C accident:

Unit's total accident-free flight time:

9. Ground safety statistics:

General Mishaps

Class	Number	Rate
A		
B		
C		
D		

AMV Mishaps

Class	Number	Rate
A		
B		
C		
D		

Causes	Number	Percent
Human error		
Materiel failures		
Environmental factors		

Quarterly total number of lost workdays due to injuries:
FY total number of lost workdays due to injuries:

Quarterly total accident costs: $
FY total accident costs to date: $

Date of last ground Class A, B, or C accident:

Total number of ground accident-free days:

Other safety program ideas

■ **Safety continuity notebook.** This is an efficient and effective means of tracking a safety program in one three-ring notebook. The purpose of the notebook is to provide a technique for retrieving important safety-related information quickly. The notebook can be an ideal desktop reference and should be available to safety personnel at all times. The following is a list of some of the items to include in the notebook:

- Unit and local telephone directory
- Army Safety Center telephone directory (for reporting accidents and acquiring assistance with safety issues)
- List of unit aircraft serial numbers and vehicle bumper numbers.
- MAC calendar (available from the S3)
- Commander's safety philosophy
- Commander's accident prevention plan
- Safety SOP
- Current pre-accident plan
- Safety-related additional duty orders
- Miscellaneous materials/correspondence

■ **Family safety flier.** The flier can be used as an effective means of informing family members of safety-related issues. Toy safety, automobile restraint systems, bicycle safety and equipment, home firearm safety, poison prevention, swimming safety, prevention of falls, electrical safety, and fire prevention are just a few of the topics that could be addressed in a monthly, quarterly, or even semiannual publication. The flier can be distributed through the unit mail room and family support system.

Promises of confidentiality in limited use accident investigations

The pending revision to DA Pam 385-40 (which will replace DA Pam 385-95) will contain an important change regarding the rules governing promises of confidentiality in limited use investigations. Previous procedures left it up to the accident investigator to determine if the promise would be offered and if so just what would be said to the witness. The result was a lack of uniformity and confusion regarding the releasability of witness interviews.

The new policy in DA Pam 385-40 is designed to prevent that confusion. Witnesses in both limited use and general use investigations need to understand the rules governing the releasability of their interviews. To attain this goal, the new DA Pam 385-40 will contain forms explaining to witnesses that within the military what they tell the accident investigators may be used only for accident prevention purposes and not in connection with any adverse action or other purpose. This is true in both limited use and general use investigations.

Confidentiality
Releasability
Witnesses
Interview
FOIA
Hypnosis
Investigation

Using the new procedures contained in DA Pam 385-40, investigators will further explain to witnesses the releasability of interviews outside of the military under the Freedom of Information Act (FOIA). Witnesses will understand that without a promise of confidentiality, interviews are publicly releasable under the FOIA.

The promise of confidentiality is available in limited use investigations only. Certain witnesses (such as accident aircraft crewmembers) will routinely be offered confidentiality. For these witnesses and any others whom the investigator finds it necessary to offer confidentiality, the rules governing releasability of the interview will be explained to the witness.

Interviews under enhanced recall/hypnosis *will* be covered by a promise of confidentiality. Other witnesses in limited use investigations who are offered confidentiality will be required to indicate their choice. They must affirmatively decline or accept the offer in writing. The point is that the witness will be able to make an intelligent, informed decision. And the lack of uniformity and potential for confusion that existed under prior procedures will be alleviated. ■

POC: MAJ William R. Rodis, Command Judge Advocate, DSN 558-3960, commercial 205-255-3960

Accident briefs

Information based on preliminary reports of aircraft accidents

Utility

UH-1 Class A

H series - At about 500 feet AGL and 60 to 70 knots, complete loss of tail rotor thrust occurred. Nose of aircraft immediately began to turn right, and crew was unable to gain sufficient airspeed to streamline aircraft. No suitable landing area was available, but crew was able to maneuver aircraft away from set of power transmission lines and toward parking lot. Aircraft continued to spin right, and pilot increased collective in attempt to avoid building. Aircraft grazed building, continued toward parking lot, spun 180 degrees, and impacted tail first into shallow ditch. 9344

UH-60 Class B

L series - While conducting hoist training, a soldier in direct violation of established procedures attempted to aid in his own recovery and fell about 40 feet as he was being transitioned from forest penetrator to cargo area. Soldier sustained multiple injuries, one of which was diagnosed as permanently partially disabling. 9345

UH-60 Class C

A series - Aircraft was in cruise flight at 7,000 feet MSL on IFR flight plan in IMC between cloud layers. First indication of malfunction was fluctuation of 20 to 30 PSI on transmission oil pressure gauge. Crew turned aircraft to southwest to return and began descent to 2,000 feet MSL. Almost immediately, transmission oil temperature began to rise, and crew chief reported smoke in cargo area. Crew then made immediate turn north to try to find hole in clouds to facilitate landing aircraft. Transmission oil temperature continued to rise to 135°C, followed by left input module caution light. About 10 seconds later, No. 2 generator failed and stabilator failed in auto mode. Crew completed landing in rice paddy without further damage.

A series - While attempting to land in LZ in triple canopy jungle, aircraft main rotor blades hit trees. Inspection revealed damage to all four main rotor blades and to tail rotor.

L series - At completion of fast-rope approach, stabilator contacted ground. Crew felt contact and immediately landed to inspect damage.

L series - During multiship air assault, crew performed normal NVG takeoff. During transition from takeoff to NOE flight, pilot failed to continue scanning and allowed aircraft to descend into trees.

L series - While taxiing to parking, Chalk 2's main rotor blades meshed with Chalk 1, which was stationary. Inspection revealed damage to all eight main rotor blade tip caps.

Attack

AH-64 Class C

A series - While in cruise flight during maintenance test flight for main rotor balance, left inboard hellfire missile rack departed aircraft. Crew was unaware of missing rack until they landed.

A series - At about 50- to 75-feet AGL and less than 40 knots, pilot allowed aircraft to strike tree with right side of stabilator. Crew completed uneventful landing, and inspection revealed dent in stabilator. IP decided damage was not serious and elected to continue mission. Later, while performing an evasive maneuver in cruise flight, IP allowed aircraft to strike tree at about 110 to 130 knots. Crew flew aircraft 33 kilometers back to home station, landed, taxied to parking, and completed normal shutdown without further incident.

Cargo

CH-47 Class C

D series - During cruise flight at 1,100 feet AGL and 90 knots, external load was inadvertently dropped. Crew made precautionary landing and discovered sheet metal damage to left underside of aircraft.

Observation

OH-58 Class B

C series - While conducting range operations, crew landed aircraft to allow nonrated captain to exit and a junior servicemember (SM) to board for local flight. SM reached to left of seat for seatbelt and inadvertently seized up on collective. Aircraft immediately rolled left, pinning captain who was standing on left skid to ground. Main rotor blades separated, mast and transmission were damaged, and one transmission mount bearing and isolation mount were torn out. 9346

OH-58 Class C

C series - Aircraft was on downwind approach when it started uncommanded descent. Pilot added power and overtorqued engine. Descent continued, and pilot added more power. Crew completed landing without further damage.

Fixed wing

RU-21 Class C

H series - During takeoff roll, crew heard loud explosion and aircraft yawed right. Pilot retarded power levers, applied braking to keep aircraft on runway, and used left engine reverse to slow aircraft to a stop. Pilot in right seat saw fuel streaming from bottom of right engine. Crew performed dual engine shutdown and closed right fire fuel shutoff valve.

Messages

■ Aviation safety action operational message concerning airspeed limit for AH-1P/E/F operators manual, TM 55-1520-236-10 (AH-1-93-ASAM-04, 291924Z Sep 93). Summary: The airspeed limit of 100 KIAS for indicated torque greater than 88 percent is annotated in yellow on the instrument markings in Chapter 5 of the operators manual for the AH-1P/E/F. However, this limit is not specifically stated in the chapter as an operating limitation. The perception in the field is that this limitation applies only to the AH-1S where it is stated as a limitation in the dash 10, not the AH-1P/E/F. The AH-1 has never been qualified for torques greater than 88 percent at airspeeds greater than 100 KIAS; therefore, this limitation applies to all AH-1 models. The purpose of this message is to correct the operators manual to reflect this restriction. Contact: Mr. Lyell Myers, DSN 693-2285, commercial 314-263-2285.

For more information on selected accident briefs, call DSN 558-3262, commercial 205-255-3262.

U.S. ARMY SAFETY CENTER

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RISK-ASSESSMENT MATRIX

EFFECT			HAZARD PROBABILITY				
			Frequent	Likely	Occasional	Seldom	Unlikely
			A	B	C	D	E
	Catastrophic	I	EXTREMELY HIGH				
	Critical	II		HIGH			
	Moderate	III		MEDIUM			
	Negligible	IV			LOW		

EFFECT

CATASTROPHIC .. **Death or permanent total disability, system loss, major property damage.**

CRITICAL ..... **Permanent partial disability, temporary total disability in excess of 3 months, major system damage, significant property damage.**

MODERATE ..... **Minor injury, lost workday accident, compensable injury or illness, minor system damage, minor property damage.**

NEGLIGIBLE ..... **First aid or minor supportive medical treatment, minor system impairment.**

PROBABILITY

FREQUENT ..... **Individual soldier/item .. Occurs often in career/equipment service life.**
All soldiers exposed or item inventory .. Continuously experienced.

LIKELY ..... **Individual soldier/item .. Occurs several times in career/equipment service life.**
All soldiers exposed or item inventory .. Occurs frequently.

OCCASIONAL .... **Individual soldier/item .. Occurs sometime in career/equipment service life.**
All soldiers exposed or item inventory .. Occurs sporadically, or several times in inventory service life.

SELDOM ..... **Individual soldier/item .. Possible to occur in career/equipment service life.**
All soldiers exposed or item inventory .. Remote chance of occurrence; expected to occur sometime in inventory service life.

UNLIKELY ..... **Individual soldier/item .. Can assume will not occur in career/equipment service life.**
All soldiers exposed or item inventory .. Possible, but improbable; occurs only very rarely.

RISK LEVELS

Extremely High ... **Loss of ability to accomplish mission.**

High Risk ..... **Significantly degrades mission capabilities in terms of required mission standards.**

Medium Risk ..... **Degrades mission capabilities in terms of required mission.**

Low Risk ..... **Little or no impact on mission accomplishment.**

New risk-assessment matrix standardizes the process

The Army Safety Center and the U.S. Army Training and Doctrine Command (TRADOC) have recently agreed to a new four-level risk-assessment matrix for operational use. TRADOC developed the new matrix to offer field commanders and staffs more flexibility in managing certain extremely hazardous conditions.

Effective immediately, Army units should use the four-level risk-assessment matrix when assessing risk as a part of the risk-management process. (Note: This change does not apply to Systems Acquisition processes as defined in AR 385-16.) This matrix replaces all others now in the field, including the three-level matrix. The new matrix has a fourth risk level—extremely high.

Leaders should have the old matrix removed and new ones inserted in training manuals, pocket guides, leader guides, and other documents. The matrix and instructions for its use may be reproduced locally. POCs at the Army Safety Center are Ms. Denise Valdez, DSN 558-2450, and MAJ Carl Shea, DSN 558-2947. The commercial prefix is 205-255-XXXX. ■