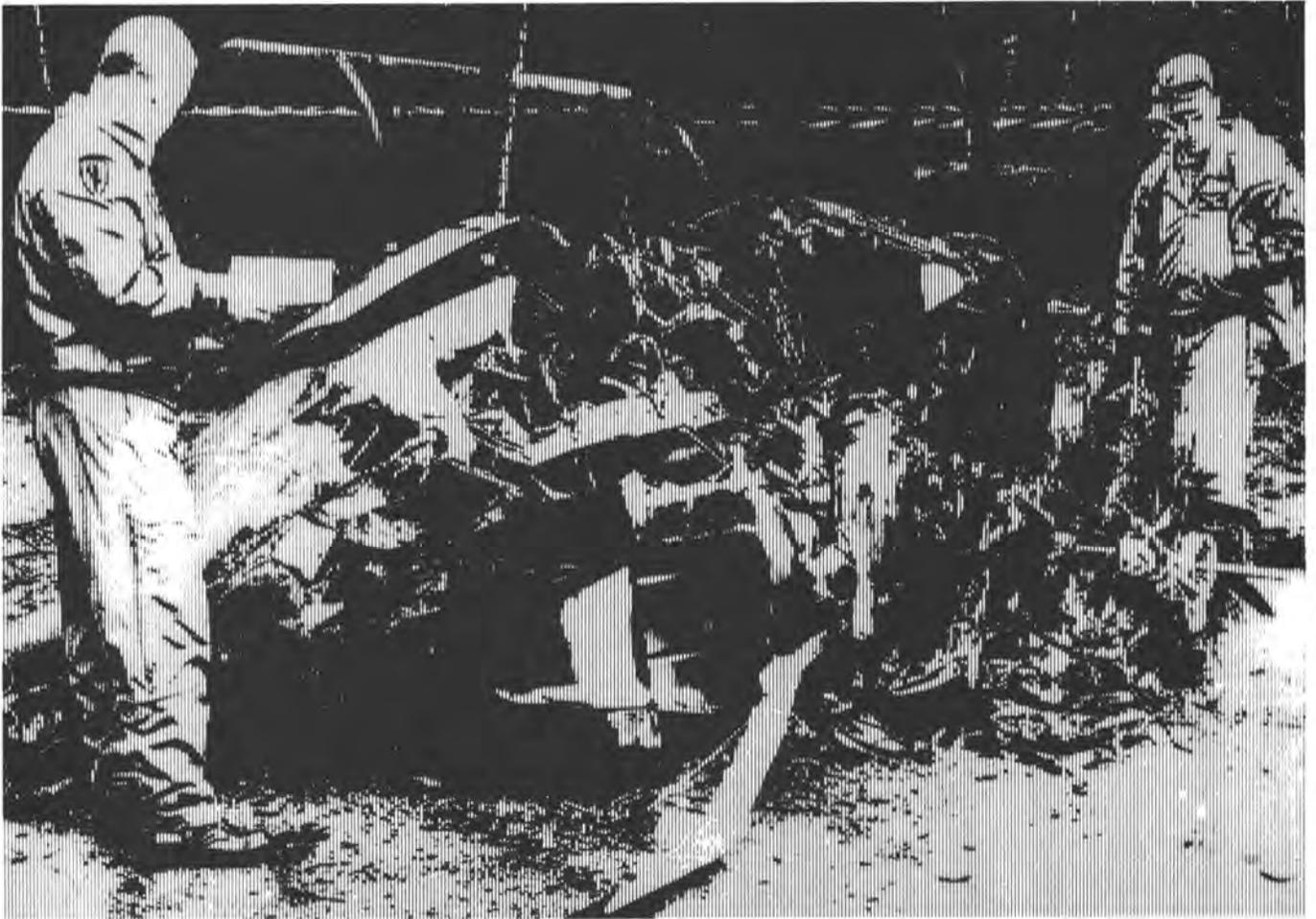


# Flightfax

March 1993 Vol 21 No 6

## REPORT OF ARMY AIRCRAFT ACCIDENTS



## Where did Safety GO?

**I**n just 3 weeks, we've experienced 5 Class A aviation accidents. Within 36 hours, four lives were lost in two separate training accidents. Two weeks later, another pilot was killed when his aircraft crashed during a single-pilot, night mission in deteriorating weather and another 4 lives were lost when a UH-60 crashed during a service mission.

People are grieving, aircrews are apprehensive, and the Army is deeply troubled by these painful losses. The air within the aviation community is heavy with questions. What are we doing wrong?

The safety-first, take-no-unnecessary-risk shield that crewmembers used to make FY 92 the best year ever in Army aviation has cracked, leaving our crewmembers vulnerable and prime targets for accident-causing mistakes. Why have we lost that hard-earned "safety" touch that so carefully guided us through FY 92? Where did safety go? And most of all, how do we get it back? Answers are few at this time. But there is a process for finding answers to the questions, and that process is accident investigation. ♦

# Accident investigation— a necessity for safety

Without accident investigation, many questions would go unanswered, prevention measures could not be developed, and aircrews would be left to make the same mistakes that often took the lives of fellow aircrewmembers.

**O**bviously, the most-asked question following an accident is "What happened?" Was it caused by materiel failure? Were environmental factors responsible for the accident? Or was it human error? But we also must know "Why it happened." If a weakness in leadership, training, standards, or support functions led to the tragedy, then we must find that weakness.

When an accident occurs, determining the circumstances surrounding the accident and finding answers to these questions becomes a driving force. Following an accident, the very reliability of the aircraft is sometimes questioned. If a mechanical malfunction caused the accident, the possibility exists that the same malfunction could strike other aircraft. Although mechanical malfunctions do occur, the majority of accidents result from human error. And we need to know why the errors occurred.

Before prevention measures can be developed, we must determine what happened, what caused it to happen, and why specific errors occurred. If cause factors can be determined, then the question becomes "What can we do to prevent this kind of accident from happening again?"

## Centralized accident investigation

These basic questions (What

happened?, Why did it happen?, and What can be done to prevent this kind of accident from happening again?) are sometimes referred to as the 3-W questions. They are not new ones, and they do not apply only to these recent aviation accidents. These questions are relevant to all accidents. And they are questions we at the Army Safety Center have been attempting to find answers for since April 1978 when the Army began a trial period of centralized accident investigation (CAI).

CAI has proven so effective, it is still the process we use to find answers to the 3-W questions. Today, the Army Safety Center investigates all Class A and selected Class B aviation accidents Armywide. The success of the program was such that following a 6-month test program that began on 1 October 1982, the Army expanded CAI to include selected Class A and B ground accidents.

## The quest for answers

Even as this issue of *Flightfax* is being prepared, accident investigators are diligently searching for answers, trying to determine what happened and why. But it will be some time before those answers are known.

Sometimes in spite of all the enormous efforts of the CAI team and the specialists who are called in to assist with the analy-

sis of what little evidence is available, definitive answers cannot be found. In a few cases, suspected scenarios are the only "answers" that can be determined. All accidents are tragic, but these are especially so because unanswered questions limit our ability to develop prevention measures.

But in most cases, the accident investigation process yields answers. And based upon those answers, the readiness shortcomings—whether they be individual, leader, training, standards, or support failures (and often combinations of failures)—are identified. The focus can then be diverted to finding ways to enhance the safety of our aircrews. Sometimes the "fix" is at unit level, such as improving unit training or enforcing the standards. Other times, the fix is at Army level, such as improving school training or changing equipment design or operating procedures.

Safety is about helping units conserve resources through accident prevention. And accident investigation is a necessity in our safety program. With the information obtained from accident investigations, safety programs and prevention measures can be developed to protect and safeguard our aviation resources in similar situations, bringing safety back as our front-line defense. ♦

*Editor's Note: Although CAI has been in existence for 15 years, a few misconceptions still exist concerning the accident report. Problems arise because some portions of an accident report contain privileged information. Confusion exists on how these accident reports may be used and who should have access to various pieces of information contained in the reports. Many are still unclear about the distinction between an accident investigation and a collateral investigation, how information from each of these investigations can and cannot be used, and why it is necessary to have both accident and collateral investigations. The Army Safety Center Command Judge Advocate attempts to clarify some of these problem areas in the following two articles.*

## Command misuse of protected portions of accident reports is prohibited

**D**A Pamphlet 385-95: Safety: Aircraft Accident Investigation and Reporting provides that witnesses who are called to testify before an accident investigation board will be advised that their statements will be used for accident prevention purposes only. AR 385-40: Accident Reporting and Records states that because witnesses have been promised their statements would not be used for purposes other than accident prevention, these statements will not be provided to other investigators.

This rule is intended to overcome any natural reluctance witnesses might have to testify candidly before the accident investigation board. For example, people involved in an accident may fear that what they say may be used in proceedings such as flight evaluation boards, reports of survey, letters of reprimand, or other adverse administrative actions. In some cases, they may even worry that what they say to accident investigators could be used against them in a criminal context; for example, to sup-

port nonjudicial punishment under Article 15, Uniform Code of Military Justice, or even in a trial by court-martial.

Although accidents involving human error seldom result



in any of these adverse consequences, the fears and concern of witnesses are very real. We must reassure them that they have nothing to fear from telling safety investigators everything they know about the accident.

The Army's accident investigation process depends heavily on the investigators' ability to obtain full disclosure from people directly involved in the accident as well as any other witnesses. Fear that their careers or the careers of others

are on the line could cause witnesses to hold back certain information out of a desire to protect either their own interests or those of a friend. If this happens, our ability to prevent accidents will be seriously impaired.

Factual material (for example: maps, photographs, and teardown analysis) from the accident investigation may be provided to other investigators (criminal, report of survey, line of duty, collateral, and so forth). But neither the content of witness statements nor the accident board's findings and recommendations are released

to such investigators. The only purpose for which this information can be released or used within DOD is on a need-to-know basis for safety and accident prevention. Pursuant to AR 385-40, requests from within DOD must state the purpose for which such information is needed. If the requester intends to use the material for any purpose other than accident prevention and safety, the request will be denied. Further, the protected portion of accident reports may not be used

either as evidence or to obtain evidence in connection with any disciplinary proceeding.

It is important to clarify at this point that the restrictions on the use of witness statements and accident investigation board findings and recommendations are not intended to prevent commanders from taking adverse action against persons involved in an accident. This is a commander's prerogative and the decision whether to take such action is made by the commander. It must be understood, however, that any contemplated adverse action must be based on the collateral investigation, not the accident investigation. DODI 6055.7: Mishap Investigation, Reporting and Record Keeping states that a collateral is mandatory in the case of anticipated disciplinary or adverse administrative action against any individual. AR 385-40 also states that the collateral is to form the basis for taking disciplinary and administrative action in a case.

This dual investigation process is vital to our ability to protect the separate identity of accident investigation reports. Court decisions protecting the privileged status of accident reports note the critical difference between the safety and collateral investigations. An extremely important factor is that the protected portions of accident reports are not released or used even within the military for purposes other than safety. In a case involving a claim or possible litigation against the Government—even where its use would benefit the Government's defense—the protected material is not provided to the Government's

own attorneys. The fact that the Army will not breach this privilege even to defend itself is an extremely important factor in convincing the courts how important this principle is to the continued success of our safety program.

As is often the case, the sys-

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## **Any contemplated adverse action must be based on the collateral investigation, not the accident investigation.**

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tem must rely on the integrity of those who administer it. The chain of command has access to both the safety and collateral reports; therefore, some might question whether it is asking too much to expect the command to base its decision on whether to take adverse action solely upon the collateral without being influenced by protected portions of the safety report. The answer is that commanders are called upon to make similar decisions every day. That they do so is a testament to the importance they attach to the principles they are upholding.

To use a common analogy, we expect our officers and

NCOs sitting on court-martial panels to follow the instructions of the military judge. Certain items of evidence are admitted for a limited purpose, and the panel is instructed to consider the evidence only for that purpose. At other times, court-martial members are instructed to disregard a certain piece of evidence altogether. Similarly, they are told that they must disregard anything they may have heard about a case and render a decision based solely on the evidence admitted in court. Our judicial system depends upon the ability of people to follow such rules. Isn't it reasonable, therefore, to expect a commander to make decisions based on the facts produced by the collateral investigation even though he is privy to information from the accident investigation that he cannot consider?

In the event the chain-of-command allowed protected portions of the accident report to be used in taking administrative or legal action against someone involved in an accident, such a misuse of the protected information may generate numerous appeals and challenges by the protected person. An even greater loss would be that once the assurance to witnesses that their statements are protected is breached, the Army's credibility is lost and the future of our accident prevention program is jeopardized. The system is only as good as those who make it work. It is a responsibility that can never be taken lightly, both for the protection of the individual and the Army as a whole. ♦

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

# Collateral investigations: key to protecting safety reports

**T**he military uses a dual accident investigation system. The accident investigation required by AR 385-40: Accident Reporting and Records is solely for safety and accident prevention. The collateral investigation, pursuant to DODI 6055.7: Mishap Investigation, Reporting, and Record Keeping and AR 385-40, is used to collect and preserve evidence for use in litigation, claims, disciplinary action, or adverse administrative action. While factual portions of the accident investigation report may be provided to the collateral investigator and other investigators, certain sensitive, privileged portions may not be. For example, the findings and recommendations of accident investigation reports are privileged and are released within DOD on a need-to-know basis for purposes of accident prevention only. Also, while the Freedom of Information Act (FOIA) provides for disclosure of certain information to the public, the findings and recommendations of safety reports are protected from public disclosure.

## Why a collateral investigation is needed

An important point to keep in mind is that our ability to protect the safety report is closely related to the collateral investigation process. To understand this point fully, we first need to understand when a collateral investigation is required.

DODI 6055.7 and AR 385-40 require a collateral investigation

in the case of a fatality or other Class A accident in which a limited-use investigation is conducted. A collateral is also required in cases involving anticipated litigation for or against the Government or a government contractor, in cases where disciplinary or adverse administrative action is anticipated against any individual, and in cases where a high degree of public interest is probable.

Because portions of the accident report may only be used within DOD for accident prevention purposes, the collateral investigation must serve as the basis for any disciplinary or adverse administrative action. If no collateral investigation was performed in a case where one was required, improper use of the safety report could result.

The local public affairs office (PAO) should use the collateral as the accident investigation in answering media requests for information. The press, family members, and other interested members of the public naturally want to know what happened and why. But because the findings and recommendations of the safety report are privileged, these answers must come from the collateral. This is another case where without a collateral, improper use of the safety report could result.

As shown by these examples, the existence of a collateral report is important to the military's ability to protect the sensitive portions of the accident report. Requesters seeking a complete copy of the accident re-

port sometimes resort to the courts to try to get it under the FOIA. Court decisions emphasize the fact that the requester has been given a complete copy of the collateral investigation; therefore, there is no need to release the protected portions of the accident report.

## If there is no collateral investigation

But what happens if there is no collateral? When this occurs, the command may find itself with nothing to use as a basis for taking adverse action in a case. There may be every reason for taking such action; for example, a letter of reprimand, report of survey, and so forth, but without a collateral investigation, there is nothing on which to base the action. In the absence of a collateral, the PAO may also find itself without a source on which to base answers to press inquiries.

A recent case demonstrates how problems can arise when people do not understand the difference between an accident investigation report and a collateral report.

The command that experienced the accident advised family members and other requesters that they could obtain a complete copy of the accident report, which would answer their questions about what happened and how. In addition to the fact that this advice is simply incorrect (findings and recommendations of the investigation board are privileged and are not released to the public), this kind of misinformation creates an ex-

pectation that can only lead to disappointment and frustration when the requester tries to obtain a complete copy of the report from the Army Safety Center.

To prevent this kind of thing from happening, it is important to reemphasize that the collateral report is *the* source of information from which all public requests for information should be satisfied. Individuals should be advised that the accident report is an internal DOD document used solely for accident prevention. It contains privileged material that is not publicly releasable. In this way, requesters seeking a copy of the

safety report will not be misled into thinking the safety report is available to them, only to be frustrated when they learn otherwise. This way, we will not create an expectation that we cannot satisfy.

When no collateral investigation is conducted, an even more difficult problem than the one just described can arise. It is far easier to protect the accident report and the privileged information it contains when there is a collateral to turn to as an alternate source of information. But when there is no collateral, it is much more difficult to successfully protect the privileged portions of the accident report. In such a case, if we do not release

the accident report, there may be nothing to release. This is not going to satisfy most requesters, and litigation is more likely under these circumstances.

To avoid these problems, when a case meets the criteria set forth in DODI 6055.7 requiring a collateral investigation, it is very important that such an investigation be conducted. In addition to providing a basis for any anticipated litigation or disciplinary/adverse administrative action against an individual, the collateral will enable the command to more easily protect the privileged portions of the accident investigation report.

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

## What do I do now?

I've had the training, I'm responsible, and I've got to get moving.

**T**hese are just a few of the many thoughts that raced through my mind as I stood there fighting against the numbing effects of shock. I had arrived on the scene of a safety officer's worst nightmare. I saw the burning, twisted wreckage of one of our Army aircraft where it had crashed into two civilian homes, damaging one severely. In addition to the aircraft crew, somewhere in the midst of this wreckage was an unknown number of civilian casualties. And some 200 feet away, still attached to an unopened parachute, a best friend lay dead.

I was a qualified, school-trained aviation safety officer (ASO). I knew that I was supposed to know what to do, but at that moment, I'm sure I must have been "brain dead." The overwhelming shock had momentarily halted my thinking

processes. I needed a one-two-three checklist to help me get started without having to think.

Several things came to my rescue. The local fire department was on the scene immediately with the proper equipment to extinguish the fire. As a result of previous safety classes, members of the unit produced engineer tape, ropes, stakes, mauls, and protective equipment they would need to quickly secure the area. With outstanding support from local authorities, the area was quickly cleared of unnecessary people. We then established a site-pass system and traffic control around the area.

By this time, our unit's pre-accident plan was functioning well. The notification process was ongoing, areas of responsibility had been assigned, and "things" were beginning to work again. And none too soon. Within 15 minutes of the acci-

dent, the first of three TV-network crews arrived on the scene. I assigned escorts and allowed one team at a time to do their report and leave the area before allowing another team in.

The pace slowed from panic to frantic as the centralized accident investigation (CAI) team from the Army Safety Center arrived. Believe me, I was more than glad to hand over control of and responsibility for the situation to the investigation team.

From that point on, I acted as coordinator between the CAI team and the unit. I arranged for local investigation board members to supplement the CAI team. And I also took care of other support, such as personnel to search for missing parts of the wreckage, clear away debris, or to crate exhibits for shipment to maintenance facilities or laboratories for further examination and analysis.

After the CAI team arrived, I simply followed their instructions. But during those first few hours after the accident, I was responsible. And I can tell you, in those first few minutes, I questioned my own ability to handle the enormous number of details needed to get the situation under control.

School training is necessary and valuable, but no amount of classroom work can fully prepare an ASO to deal with the multitude of details requiring attention following a major accident. It's true that you can't fully comprehend this kind of situation until it actually happens to you. I hope you won't have to gain that experience first-hand, but as an ASO, you must be prepared or at least as prepared as you possibly can be.

#### **Lessons learned**

During the past 7 years since I stood there that hot July afternoon looking at the crash site, I've gained a lot more experience in dealing with aircraft accidents as both an ASO and an accident investigator. The following suggestions and lessons I've learned might prove helpful to others:

■ Identify, equip, and train an emergency-response team that is able to react on a moment's notice. These are the people who will go with you to the accident site, and these are the people who should be responsible for having the necessary supplies and equipment to secure the site and preserve the evidence.

■ Ensure that your unit's preaccident plan is as comprehensive as it can be. Ask others for their ideas about what should be included in the plan. Then select an individual and

an alternate to implement the plan. You will be far too busy at the accident site to do this yourself.

■ Plan ahead to ensure that a reliable communications system to your home station or facility is available. Make sure telephones are secure to prevent leaks of premature and inappropriate information.

■ Ensure that local authorities are aware of the special requirements that arise from a

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## **Some 200 feet away, still attached to an unopened parachute, a best friend lay dead.**

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military accident that occurs off the military base. A pamphlet on *What To Do and How to Report Military Aircraft Accidents* is an excellent guide you can provide to civil authorities, firefighters, and emergency medical personnel. Copies of the pamphlet can be obtained by writing to Commander, U.S. Army Safety Center, ATTN: CSSC-IM (Ms. Sharrel Forehand), Fort Rucker, AL 36362 or by calling DSN 558-2062/4806, commercial 205-255-2062/4806.

■ When an accident occurs off a military base and civilian injuries and property damage occur (such as happened in my first accident), additional problems and questions for which you will have no answers must

be addressed. Therefore, it is vital that you have legal and logistics personnel promptly address civilian questions, take care of medical expenses, and provide temporary lodging for those who may be displaced from their homes.

■ Officials from the Public Affairs Office (PAO) are the only ones who should release information to the news media. However, there will be times when PAO personnel are not readily available, and the media will be all over you. Remember, you cannot legally keep them from an accident site once the firefighting and crash rescue efforts are completed. Work with these people. But you must also remember that you can only give generic statements, such as "The accident is under investigation. No details are available at this time. The Public Affairs Office will issue a statement as soon as details become available."

■ Consider issuing small index cards to all of your aircrewmembers and have them list who should be notified in case of their death. Also have them include who they would like to make the notification and a last, short message if desired. This will serve two purposes. First, it will serve as a solemn reminder to all aircrewmembers of the inherent danger lurking in the environment in which they operate daily and possibly make them more safety conscious. Second, providing the requested information will ensure that a person of their choice—a close friend, their company commander, their chaplain—will be the one to tell their family about the tragedy should that dreadful notification process become necessary.

It's not an easy job to put an accident plan in motion. But as

the unit ASO, it's your responsibility to see that it is done effectively and efficiently. You're in charge until the accident investigation team arrives. The first thing you have to do is fight the shock and panic and quickly get your thinking processes back in action. Remember the lessons you've been taught in formal schools and those you've learned from oth-

ers, like me, who have had similar tasks to do.

As unpleasant and demanding as this part of your job will be, the actions you take in handling the situation until the CAI team arrives will make it that much easier for the investigators to come in and begin their analysis. The sooner questions can be answered, the sooner it can be determined

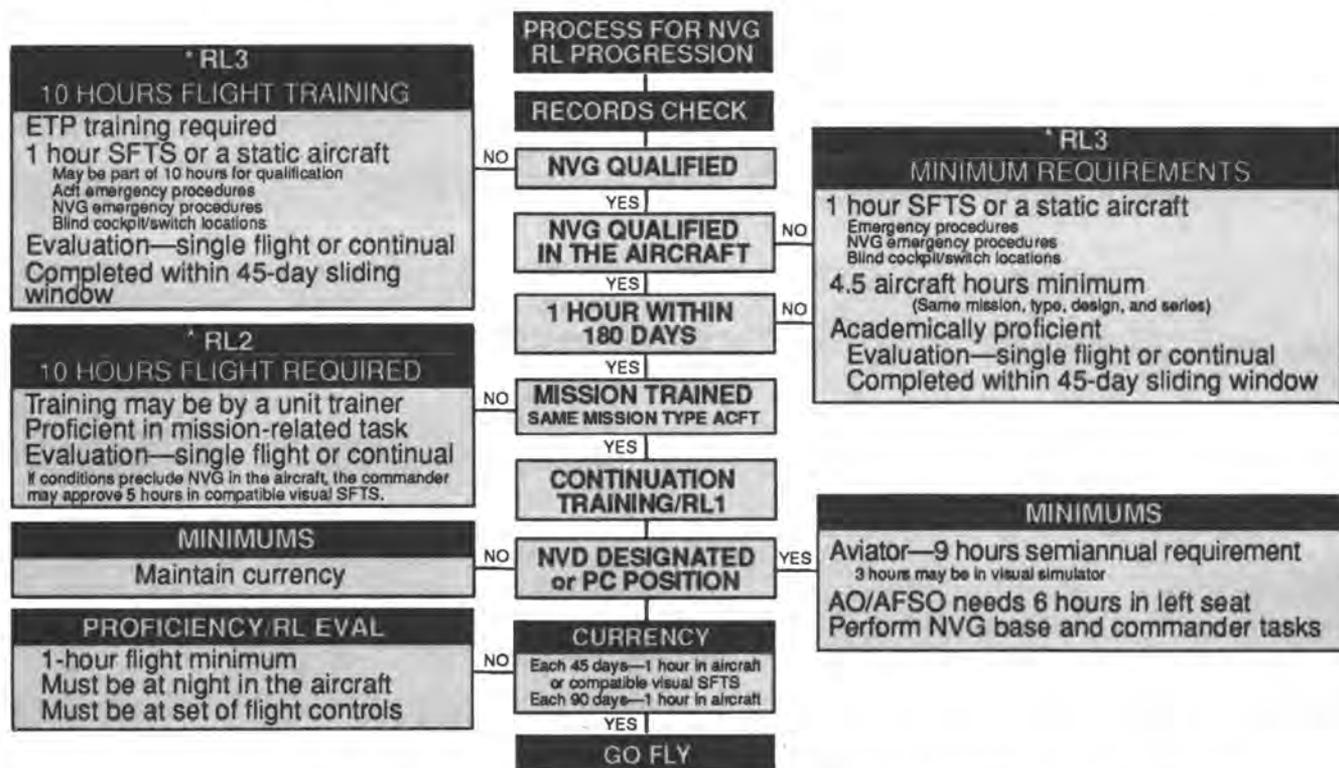
what can be done to prevent a similar accident from happening. And that equates to saving lives and equipment.

Accept the challenge: to the best of your ability, prepare yourself now for what you could face someday at an accident site—it's your responsibility. ♦

—POC: MAJ Franklin D. Beggs, Investigations Branch, DSN 558-3262, commercial 205-255-3262

## Process for NVG RL progression

The following aviator night vision goggle training progression chart was developed by Department of the Army civilian Mr. Ernie Howell, 1/212th Aviation Battalion, Standardization Section, Fort Rucker, AL. The chart can be a useful tool when a quick reference is needed. If greater detail is required, refer to TC 1-210: Aircrew Training Program, Commander's Guide to Individual and Crew Training.



\*Must progress to the next RL within 90 days for Active Army and USAR technicians/AGR or 1 year for USAR crewmembers. (Excludes days for TDY, suspension, leave, and HQDA aircraft grounding. All ARNG see NGR 95-210 App. B.)

USASC POC is MW4(P) Robert A. Brooks, Aviation Section, DSN 558-3262, commercial 205-255-3262. USAAVNC POC is MW4 Rodney Rowe, Night Vision Device Branch, Aviation Training Brigade, DSN 558-5858/5812, commercial 205-255-5858/5812. ♦

# Rigging procedures

**T**he Army Transportation School at Fort Eustis is the proponent for helicopter external transport for the Department of Defense. Since the release of the Multiservice Helicopter External Air Transport Manuals on 11 February 1991, the biggest problem the school has encountered is in letting people in the field know when new certified rigging procedures become available.

In some cases, it has taken as long as 1 year for units to even learn that certified rigging procedures are available for specific pieces of equipment in their units. And formal changes to the manuals are released only about every 18 months.

Because of the delay in getting certified rigging procedures to the field, some units have begun developing their own procedures. Without input from the Aviation and Troop Command; Natick Research; Development and Engineering Command, which certifies the rigging procedures; Transportation School, proponent for external air transport; or Training and Doctrine Command, these self-written rigging procedures may compromise safety. They are also undermining the entire certification process and causing a high level of dissatisfaction in the field.

Letting units know about certified rigging procedures as soon as they become available will help eliminate these potential problems. Beginning with this issue, a list of new certified rigging procedures will be included in *Flightfax* as they

become available.

## New rigging procedures now available

Certified rigging procedures are now available for—

- Medium girder bridge, five bays, double story open end, undecked (USMC).

- NATO airbase SATCOM (NABS) power pallet

- NATO airbase SATCOM (NABS) shelter pallet

- Side-by-side HMMWVs

- Tactical quiet generators—PU-800, -802, -803, -804, -805, -806, AN/MJQ-39, -40, -41 on M200A1 trailer

- Tactical quiet generators—PU-797, -798, -799, -801 on M116A3 trailer

- Tactical quiet generators—AN/MJQ-35 mounted on M116A3 trailer

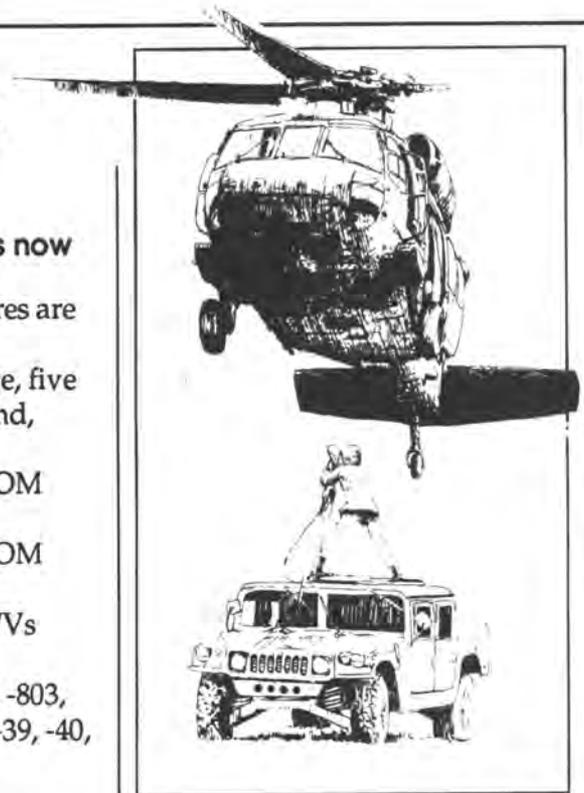
- Tactical quiet generators—AN/MJQ-37, -38 on M103A3/A4 trailer

- Fielded ribbon bridge, ramp bays

- Fielded ribbon bridge, interior bays

- Fielded ribbon bridge, erection boat (MK2)

- Mobile subscriber equipment (MSE) contingency commo



package/light forces on M1097 HMMWV

- M1037 shelter carrier with AN/TPQ-36 firefinder antenna radar on M103A1 trailer

If units need copies of certified rigging procedures for any of these pieces of equipment, they may contact the U.S. Army Transportation School, Helicopter Transport Section, ATTN: ATSP-TIP-M (Mr. Ted Rodriguez), Fort Eustis, VA 23604-5408. ♦

—POC: Mr. Ted Rodriguez, DSN 927-6570, commercial 804-878-6570, FAX 927-6980 or commercial FAX 804-878-6980

## Help us help you!

**R**ecent comments from the field indicate that some units are having problems getting issues of *Flightfax* and other Safety Center publications. With all the downsizing and restructuring that's going on in the Army, it is difficult to keep all the addresses on our distribution list current. If your unit has moved and we haven't received an address correction, we've probably lost track of where you are.

If you're having a problem getting *Flightfax* or would simply like to be added to our distribution list, let us know and we'll update your address or add you to our mailing list. Write to Commander, U.S. Army Safety Center, ATTN: CSSC-IM, Fort Rucker, AL 36362-5363 and give us your current address. ♦

—POC: Ms. Sharel Forehand, Media Management and Production Branch, DSN 558-2062/4806, commercial 205-255-2062/4806

**Information based on preliminary reports of aircraft accidents**

**Utility**

**UH-1 Class A**

H series - During student pilot training flight, aircraft crashed into plowed field near stagefield. Aircraft impacted ground nose low and in left-bank attitude, sustaining extensive airframe damage. Two fatalities. 9314

**UH-1 Class C**

H series - During MOC, maintenance test pilot placed governor control switch in emergency position and pushed governor control circuit breaker in while at full operating RPM (6600). RPM rose uncontrolled to 7500 for about 2 seconds.

**UH-60 Class A**

A series - While on short final for night landing in clear conditions, pilot initiated right bank to land at VIP pad. At about 100 feet AGL, pilot noted stiffness in controls and asked IP if he was on controls. IP was not on controls but got on controls with pilot as bank angle continued to increase. Aircraft began right turn, became uncontrollable, and impacted ground on right side. Right external fuel tank ruptured and burst into flames. Four fatalities. 9315

**UH-60 Class C**

A series - At 75 feet AGL and 20 knots, No. 1 engine lost power as crew was repo-

sitioning aircraft for departure. No. 2 engine was unable to sustain OGE hover taxi. PC maneuvered aircraft between fuel truck and small fixed wing aircraft to clear taxiway. Aircraft landed hard, right side low and in a right drift. Right main landing gear strut stroked 8 inches and caused MILES gear, mounted on right front hardpoint, to strike ground and be torn free. Aircraft continued to roll forward for 100 feet before stopping. No injuries.

L series - Aircraft was in cruise flight when pilot noticed TGT increasing to 900°C. TGT then decreased to normal limitations. Pilot elected to make precautionary landing. Postflight inspection revealed V-band clamp on exhaust module had failed.

aircraft 90 degrees to the left and struck another aircraft in tail boom.

**AH-64 Class A**

A series - While conducting night OGE hover in battle position using pilot night vision imaging system, Chalk 3 entered undetected left rearward descending drift toward rising terrain. Main and tail rotor systems contacted trees, and aircraft entered right spin and crashed into trees. Aircraft sustained major damage and came to rest on right side. One injury. 9316

**AH-64 Class C**

A series - Right engine work platform came open in flight and sustained structural damage. Investigation in progress.

**Class A Accidents through February**

	Month	Class A Flight Accidents		Army Military Fatalities	
		FY92	FY93	FY92	FY93
1st Qtr	October	1	6	0	2
	November	3	2	4	6
	December	1	1	0	0
2d Qtr	January	3	1	0	0
	February	1	5	0	8
	March	4		2	
3d Qtr	April	1		0	
	May	1		1	
	June	2		2	
4th Qtr	July	2		1	
	August	1		0	
	September	2		0	
<b>Total</b>		<b>22</b>	<b>15</b>	<b>10</b>	<b>16</b>

**Attack**

**AH-1 Class C**

F series - During descent, No. 2 hydraulic and master caution lights came on. On short final, pilot in front seat inadvertently placed governor switch in emergency-governor position instead of emergency-hydraulic-pump-on position. Crew noted N2 at 110 percent for 5 seconds on two occasions. Crew completed landing without further incident. Suspect rotor head, engine, and drive train damage because of overspeed.

**AH-1 Class D**

F series - During night training exercise, aircraft was stationary at an in-ground-effect hover. Gunner attempted to fire at target unaided through telescopic sight unit. Rounds departed

**Cargo**

**CH-47 Class D**

D series - While in cruise flight, crew chief told PC that walls of extended-range fuel system tank had collapsed and he was turning fuel pumps off. Crew had failed to remove tank vent cap as required by checklist.

**CH-47 Class E**

D series - During systems check on engine runup, MP observed transmission oil temperature indicating 160°C. When aft transmission was selected, the temperature read -70°C. MP asked flight engineer (FE) to open cowling to inspect temperature bulb. FE noticed plastic bag around No. 9 drive shaft and broken wires to bulb. Crew shut down aircraft. Investigation revealed that plastic bag had been placed over aft transmission

filler cap during aircraft wash just before test flight. Pilot had spotted bag during preflight and told FE to remove it before flight. However, pilot did not write it up in logbook, and MP and pilot failed to follow up to ensure FE removed bag.

D series - After takeoff with external load, aircraft gained airspeed to an estimated 25 knots. At about 100 feet AGL, aircraft began vertical bounce. PC asked FE what external load was doing, and FE replied that load was riding steady. Bounce became more violent, and PC told FE to release external load (scrap metal truck ramp). PC then instructed pilot to turn advanced flight control system (AFCS) off. After pilot turned AFCS off, bounce lessened. Pilot completed safe landing on ship loading dock and shut down aircraft without further incident.

## Observation

### OH-6 Class A

C series - Following scheduled refuel stop, aircraft departed in marginal VFR conditions at about 1750. No radio communications were received from aircraft for 90 minutes following takeoff. At about 1920, pilot informed tower that he was 24 nautical miles north of takeoff point and was returning for landing. AFB received satellite ELT signal at about 2100 and notified Army operations center. One fatality. 9317

### OH-6 Class E

A series - During maintenance test flight for replacement of main rotor pitch change bearing, maintenance test pilot applied collective to takeoff to hover and engine lost power. Crew terminated test flight. Inspec-

tion revealed rigid line from diffuser to PC air filter was loose. Air line had not been properly torqued, and air leak had caused engine to lose power.

### OH-58 Class A

A series - While conducting night aerial observer training, aircraft impacted sparsely wooded terrain with high G forces. Aircraft was consumed by fire. Both crewmembers were fatally injured. 9318

### OH-58 Class D

C series - While conducting scout weapons team battle drill, PC unmasked aircraft to observe enemy. After observing enemy, pilot stated "get down." PC made right, descending masking maneuver and hit 12-foot tree with both main rotor blades. Crew landed aircraft without further incident.

### OH-58 Class E

C series - While participating in gunnery exercise on TOW range, pilot made improper decision and passed in front of AH-1 that had just fired TOW. Aerial observer saw wire pass above windscreen. Crew decided it was a TOW wire and landed aircraft immediately. TOW wire was wrapped around main rotor pitch change tubes.

## Fixed wing

### C-12 Class B

F series - Aircraft drifted left of centerline during landing and impacted snowbank. On touchdown, aircraft traveled 300 to 400 feet before coming to rest. Nose gear collapsed and nose and props sustained major damage. 9319

### C-12 Class C

C series - After performing normal landing, crew

placed power levers in reverse and then back to beta and moved flap switch to retract position. After 1,850 feet, aircraft had slowed to about 40 knots and flaps were almost completely retracted. Landing gear motor then began retracting gear. In less than 1 second, weight of aircraft collapsed both main gears, jamming main gear actuators and gearbox assembly. Circuit breaker for landing gear motor tripped, stopping motor.

D series - During night taxi of aircraft onto ramp at civilian airport, crew inadvertently taxied through 12-inch-high snow berm. Crew felt no unusual indications in cockpit. On return to home station, crew noted that propeller RPM at idle on right engine was 300 RPM higher than on left engine. Inspection revealed that both engine-driven fuel pump mounts were cracked. Because of sudden stoppage, both engines, engine baskets and mounts, and propellers must be replaced.

## Messages

Aviation safety action maintenance mandatory message concerning updated instructions for troubleshooting the electronic supervisory control (ESC) on all OH-58D aircraft (OH-58-93-ASAM-07, 041600Z Feb 93). Summary: Units have experienced OH-58D ESC fault codes after the installation of a newly modified ESC. The ungrounding message (OH-58-92-06) specifically restricted any troubleshooting of the ESC. This message updates the instructions contained in paragraph 9c of the ungrounding message with regard to troubleshooting. A review of the airframe and engine maintenance and maintenance test

flight manuals indicates published troubleshooting instructions for ESC fault codes may be insufficient to adequately diagnose the problem. Additional instructions are provided in this message to assist in isolating the problem. The purpose of this message is to modify the instructions contained in paragraph 9c of the ungrounding message (OH-58-92-06) with regard to troubleshooting and disposition of the ESCs. Contact: Mr. Lyell Myers, DSN 693-2258, commercial 314-263-2258.

Aviation safety action maintenance mandatory message concerning use of dual visor on SPH-4B aviator helmets and related information (GEN-93-ASAM-04, 011500Z Mar 93). Summary: AVSCOM message 301400Z Mar 92 stated that the dual visor shall not be used with the aviator's night vision imaging system (ANVIS) or the GM-6 night vision goggles (NVG). An Army study indicated that some pilots using the dual visor assembly with the SPH-4B helmet required additional upward tilt range. As a result of further testing, certain procedures are considered necessary and must be completed before the first NVG flight with the SPH-4B helmet. The purpose of this message is to rescind AVSCOM message 301400Z Mar 92 and to authorize the use of ANVIS and GM-6 with the SPH-4B helmet provided that procedures outlined in paragraph 9 of this message are followed. In addition, reports of an inadequate adhesive have been received. This inadequate adhesive is being used to secure screws when installing the AN/AVS-6 visor shield to the helmet. This specific adhesive shall not be used because it is extremely damaging to all NVG plastic parts. Cylinlock 822 anaerobic adhesive

(green liquid with a mild odor) made by Hermon Manufacturing, Inc. is not authorized for use on NVG equipment. Contact: Mr. Brad Meyer, DSN 693-2085, commercial 314-263-2085.

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

## Followups

### Information on accidents previously reported

#### UH-1 Class A

Reported in December 1991 issue as 9201 - Flight of four UH-1s departed on NVG navigation and formation training flight. As light rain began to fall, flight landed for refueling. While aircraft were being refueled, pilots obtained weather updates that advised weather along planned route was deteriorating. Air mission commander canceled scheduled training and elected to return to base by direct route at 500 feet AGL. About 5 minutes after departure, flight was in staggered-left formation at 200 feet AGL and 70 knots when it encountered unforecast, rapidly deteriorating weather conditions of 300-foot ceilings and 1 to 2 miles' visibility with rain showers. Unit trainer (UT) of trail aircraft perceived they were flying too close to other aircraft and too low. He directed rated student pilot to increase separation and altitude. Pilot increased collective to initiate climb and intended to reduce airspeed. During climb, crew lost visual contact with flight and ground. Pilot experienced spatial disorientation, and UT perceived aircraft in an unusual attitude. Airspeed was about 30 knots and pitch attitude was level, but aircraft was in 35-degree right bank. UT took controls and leveled aircraft. However, he failed to add power to establish a climb as pre-

scribed in TC 1-211, Task 1083, Vertical Helicopter Instrument Recovery Procedures. At 50 to 60 knots in near-level attitude, aircraft impacted 3-degree uphill slope on heading of 068 degrees. Front landing skid crosstube collapsed on impact. Aircraft slid about 86 feet, then became airborne for another 169 feet. Aircraft contacted ground a second time in right-side-low, nose-low attitude. Aircraft then rotated right along roll axis three times before coming to rest in upright position on heading of 330 degrees. Crewmembers exited aircraft unassisted.

#### UH-60 Class B

Reported in December 1992 issue as 9203 - Following takeoff for first pass during internal unit gunnery training, crew heard high-frequency whine. Crew had just initiated left turn to return to arming pad when they heard a bang. Pilot shut down No. 1 engine. At that time, aircraft was at less than 40 knots and 120 feet AGL. Crew selected landing area in dry river bed to their right front. At 20 feet AGL, crew pulled power and rotor drooped to 90 percent. Aircraft landed hard with little forward movement. FLIR turret was pushed into soft ground and damaged. Post-flight inspection revealed that No. 1 engine high-speed shaft had come loose from its forward mounting point. Laboratory analysis showed that flex pack had signs of progressive fatigue and one mounting bolt had let go.

#### UH-60 Class B

Reported in March 1992 issue as 9214 - First leg of flight was unaided, cross-country flight to NVG training mission start point (SP). About two-thirds of the way to SP, crew goggled up while

in flight. About 10 kilometers out from the SP, PC directed pilot to descend into river valley to about 200 feet AGL. About 2 kilometers before reaching SP, crew chief advised pilots that he had a goggles failure. Pilot brought aircraft to a hover while crew chief exchanged his goggles for extra set on board. As crew continued in valley at about 200 feet AGL and 30 knots en route to low-level route SP, pilot alerted crew that he saw wires. He immediately pulled collective in an attempt to pass over wires. Aircraft went into and through wires, breaking five of seven 5/8-inch power transmission wires. Wires impacted aircraft on right engine cowling. Realizing aircraft was still controllable, crew repositioned to safe landing area on top of ridge. In preparation for mission, PC had failed to update flight hazard map. As a result, he was unaware of electrical wires that aircraft struck. Additionally, although he had been instructed to do so by the mission briefing officer, the PC had failed to read all requirements in the brigade SOP for operating in the designated training area. Subsequently, he instructed the pilot to descend below authorized minimum altitude before reaching the SP of the low-level route and unexpectedly encountered wires.

#### OH-58 Class A

Reported in January 1992 issue as 9209 - Shortly after ferry flight departed, lead aircraft PC reported to air mission commander (AMC) that weather was deteriorating rapidly. Lead aircraft PC recommended flight return to point of departure and AMC concurred. Flight turned back to airfield in loose, stacked, trail formation. Flight entered right traffic for final approach heading of

140 degrees with winds 120 degrees at 16 knots. First three aircraft landed without incident. At 125 feet AGL as Chalk 4 turned from downwind to base leg in landing pattern, it suddenly lost engine power. Upon recognizing power loss, PC immediately lowered collective and nose of aircraft, attempting to gain airspeed and build rotor RPM. PC then placed aircraft in decelerative attitude to slow rate of descent. He applied initial collective and continued applying collective, rapidly dissipating rotor RPM. PC was unable to effectively cushion touchdown because of excessive RPM bleed-off of rotor system, and aircraft landed hard in marshy area. Nose-mounted WSPS dug into ground, providing pivot point for aircraft to rotate over nose. Aircraft sustained major structural damage as fuselage came to rest on its right side. Cause of engine loss of power could not be determined. However, tear-down analysis did reveal that there was very little internal rotational damage to engine, indicating that engine was not running under its own power at impact.

dress questions about content to DSN 558-3262. Address distribution questions to DSN 558-2062/4806.



R. Dennis Kerr  
Brigadier General, USA  
Commanding General  
U.S. Army Safety Center