Flightfax

ARMY AVIATION RISK-MANAGEMENT INFORMATION

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Lesson learned: Never under-estimate those simple missions

Food for thought. Nine Class A accidents took four lives and destroyed seven aircraft during the first half of this fiscal year. This represents a 65-percent increase in our aviation Class A accident rate over the same period of FY97. Only the numbers have changed; the top cause remains the same as last year: collision with trees, wires, objects, or the ground. Think about it. —BG Burt S. Tackaberry, Commanding General, U.S. Army

A simple mission

The mission

The mission was simple. An OH-58C had made a precautionary landing out on the range and needed a part flown out. It would take about 30 minutes to replace the part. The aircraft could be signed off and flown back home.

CW3 J was tasked to perform the support mission single pilot. He was told to take along a technical inspector (TI) and a crew chief, who would perform the work and return to base in the other aircraft.

CW3 J did the normal things—preflight, weather check, and mission planning. The mission brief was simple; after all, it was a simple mission. He knew the range by heart—every LZ, road, and checkpoint. Navigating was a cinch; he wouldn't have to rely on a map. Of course, he'd take it, along with all the other required publications. He believed in doing things the right way and by the book.

The only thing that bugged CW3 J was the weather. He didn't like flying single pilot at night; since he had gotten used to NVGs, night unaided had lost its luster. Besides, quite honestly, he hadn't flown unaided in a good while. This was the Cav, where night flights meant goggle flights. He looked at the weather information closely. Clear, moon would be up, and visibility unrestricted. As he prepared a local flight plan, he thought about the fact that this was the fall of the year—hot in the day and cool at night. Ground fog came up fast on the range.

"Oh well," he thought, "I know that range like the back of my hand—every creek, every lake where the fog likes to hide." Besides, he would be returning early, before the fog began to settle in over the low areas.

The flight out to the downed aircraft was uneventful. After shutting down, the TI and crew chief went to work. CW3 J talked with the two aviators from the downed aircraft. CW3 J kidded the PC about causing him to miss getting home early and having supper with his family.

"Should have let you stay out here—good survival training," he joked.

The work took longer than expected, but, about an hour later, it was time to head for the barn. The pilots of the now-repaired -58 at first suggested that CW3 J follow them back. However, as they discussed it, they all realized that they had not been briefed for formation flying. So that was not a good idea.

CW3 J told the other crew to take off first. He would wait a few minutes and then follow. After all, they were going in the same direction. As long as they were not in formation, it should not be a problem. Everyone agreed.

On the return flight home, the two aircraft kept their distance but maintained internal FM radio communication. CW3 J maintained visual sight of the lead aircraft's position lights as they followed the route to exit the range.

Except for the fact that it was about 90 minutes later than he had initially expected, everything was going smoothly. It was simple to follow the route back—mostly range roads—but patches of ground fog were beginning to show in low areas.

About 5 minutes from home, things began to go wrong. The fog was getting worse, and CW3 J lost sight of the aircraft ahead. One call assured him they were okay and that they had the airfield in sight.

Suddenly the fog thickened. CW3 J told the TI, who was in the left seat, to let him know if he began to lose sight of the ground to his left. The pilot slowed the aircraft a little but decided to maintain altitude.

Should he turn around? He could still see the ground, and the PC of the lead aircraft had just flown through this and stated he had no problems. CW3 J knew that they had followed the same route and were no more than a kilometer ahead of him.

When he was almost to the exit point, where he would change frequency from Range Control to the airfield tower, he looked to his right. It was mostly open fields; at night, it appeared to be a black hole.

Suddenly, they were engulfed in fog and rapidly lost all visual contact with the ground. How deep was this fog? How high was it? Was it a simple scud layer? Single pilot at night on instruments? Should he climb? Descend? Do a 180? That didn't sound smart. Neither did the idea of flying in this soup.

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"Your left, sir." The TI had seen a sucker hole.

CW3 J immediately turned left, descended through the hole, leveled off, and looked for an open field. He knew there was a field somewhere to his left, off the range road. It was getting difficult to maintain visual reference. Below were trees and more trees. Then, straight ahead, there was the field he had been searching for. Before landing, CW3 J made a quick call to unit ops that he was landing and shutting down. They could come get him—he had no intentions of flying this aircraft back tonight.

As the two crewmembers sat by the fire they'd built in the field they'd landed in, the fog continued to roll in. CW3 J looked over at the TI and realized that he could have killed this young soldier. Of course, that he could have died along with the TI didn't make that realization any easier to take.

What had seemed a simple mission had turned into a close call—brief seconds of fear and decisions involving high risk.

This is a true story. It happened about 12 years ago. I was the pilot.

Same song, second verse

Years later, I was an accident investigator for the Army. One day I found myself walking around the wreckage of an AH-64 that had entered a fog bank. The pilot had initiated a right turn, and, within seconds, both crewmembers experienced spatial disorientation and loss of situational awareness. Now one was dead and the other was seriously injured.

Theirs had also been a simple mission—to fly an aircraft back to the airfield. They were both experienced, high-time pilots. What went wrong? The same thing that went wrong 12 years before at another time and another place to another—but much luckier—guy.

Much can be said of the safety programs and improved technology in aviation that have reduced risk and resulted in significant reductions in our overall accident rates. However, regardless of that progress, we aviators are still the same human beings who flew the first biplane. Though more knowledgeable, we are still capable of making the same errors we've always made.

We have been successful at standardizing our equipment; technology allows us to improve machinery across the board. Human beings, however, we have to improve one at a time. That is the reason standardization is critical. It allows us to train each aviator to a particular level and standard.

What went wrong on both those nights I talked about earlier was that the humans involved were not adhering strictly to standards. I had completed the risk assessment sheet with all the right numbers, and it had come out "low risk"—nice if everything goes perfect—which it seldom does.

I had not flown unaided in quite a long time, and flying unaided is not the same as flying NVGs. I knew that, but I wasn't going to turn down a mission because of it. I didn't consider it to be a serious factor. In addition, we fudged on the formation flight. Sure, we were *legal*, but we weren't very smart. My intentions were to keep the other aircraft in sight—we would "unofficially" flight follow each other. What I did not know was that the other crew was flying NVGs, and that's why they had fewer problems than I did. Of course, since we were not "flying formation," there had been no need to brief, so critical information was never shared.

Last, but hardly least, was the weather. The risk level changed when the time line changed—the weather was changing even as we were discussing our takeoff. And my decision-making process left out still another critical fact as we droned along that night: The other aircraft was a kilometer ahead, and that made a difference.

The only weather you should trust absolutely is what you are seeing out your cockpit window. The weather that night was saying "Land!" I hesitated almost 30 seconds too long. And that could have cost my life and the life of the TI. I realized as I surveyed the crash site 12 years later that this crew had made the same mistake. They anticipated better weather, they saw a low risk, and they were confident they could handle any situation that might occur. After all, it was a simple mission, they knew the area, and it was a short flight back home.

The ability to learn from your own mistakes is a blessing, not a given. I was allowed to learn from my experience. As I walked through the wreckage of the Apache, I knew that the pilot in the front seat of this aircraft would not have the same opportunity.

It's not our equipment or the environment that causes most of our accidents. Machines and environment are fairly predicable. We can plan on these with acceptable accuracy. Human beings are not quite as predictable; they make decisions that lead to accidents. It's not too difficult to determine *what* they did wrong, but determining *why* is more challenging.

Lessons learned

From these two separate events, I learned what I call my top ten "WHY" lessons.

1. Most "extremely high" risks are self-imposed. Actions we take in flight or on the ground usually are influenced by personal motivation or unplanned responses to a situation. Whether it is desire to complete the mission, ego, or simply not thinking consequences through, the result can be catastrophic.

2. The response to accepting "high" risk is influenced more by actual outcome than by possible outcome. If we gamble and succeed, we are more apt to see it as a good decision than a bad one. Too many times we insist on learning our lessons from accidents rather than close calls. Both can teach the same lesson.

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3. It's better to have a damaged ego than a damaged aircraft or body. Many times we go that extra 30 seconds simply because we can not or will not admit we've exceeded our capability or made a mistake or bad decision. So we make an even greater mistake or worse decision.

4. Every aviator will be faced at least once in his or her life with making a decision whose outcome can mean the difference between an accident, a close call, or a good no-go choice.

5. Aircrew coordination must involve effective communication and teamwork. One thing I remember most is the silence between the TI and me during our flight. I never communicated my concerns to him or he to me about continuing to fly that night as visibility grew worse. He was ready to land and get out several minutes before we ultimately did. The crew of the other aircraft never communicated to me that they were giving weather observation under NVGs. The crew of the accident aircraft years later never effectively communicated to each other during the last critical 2 minutes of the flight. Two highly skilled pilots do not automatically equal good aircrew coordination.

6. Making a critical decision based on a self-imposed emergency is seldom done without hesitation. The same professional pilot who will instantly respond to an emergency such as an engine failure may hesitate to abort a mission due to such factors as fatigue, bad weather, poor FLIR conditions, or simple personal conflict with another crewmember. We don't react as fast to internal warnings as we do to external.

7. Risk management during every phase of mission planning reduces unpredictable "human" actions. We reduce risk by reducing unpredictable actions. Accident-causing errors usually result from individuals' unplanned actions, and unplanned actions are usually due to unidentified risk.

8. We must seek to anticipate and eliminate every risk. Every aviator must be prepared to identify risk and work the process through to completion. Don't accept unnecessary risk, no matter what phase of the mission you're in.

9. There are no simple missions. The more we identify and eliminate risk, the greater our opportunity for success.

10. Every flight should start and end with standardization. Human beings are the most complicated of the man-machine-environment mix. There is no substitute for training to standards and enforcing those standards. Ignore standards and accidents will occur.

Summary

My top ten "WHY" lessons are not all-inclusive. When it comes to safety, nothing is. Accidents do not just happen, they are caused. The goal of every individual in the unit should be to ensure that nothing he or she does will cause an accident.

And, because you may not get the chance to learn from your own mistakes, take every opportunity to learn from someone else's.

—CW5 John H. Strickland, V Corps Aviation Safety Officer, g1safavnof@hq.c5.army.mil

Cowboys alive and well and flying Army aircraft

As an aviation safety officer and former accident investigator, I am always on the lookout for "high risk aviators," or what we used to call "cowboys."

Cowboys are not identifiable by age, gender, race, rank, or position. They can be anyone in your unit—the commander, the operations officer, an IP, or the ASO. They can be the best or the worst officer in your organization. Their behavior can be very obvious or very discreet. They don't like doing things by the book and don't understand why they should. They become defensive when confronted and will always have an excuse for their actions. They also have a very difficult time complying with the instructions on the mission briefing sheet. When flying, one of their favorite terms is, "Watch this!"

At one point, the copilot was heard to say, "Yeeeeeee haaaaaaaa" as the PC completed a return-to-target maneuver.

I once served on an AH-64 accident investigation board. Shortly after arriving at the scene of the accident, we were handed the tape from the aircraft's video recorder. After viewing the tape, I knew we were dealing with cowboys. An accident had been inevitable during this flight; it wasn't a question of "if" an accident was going to happen, only "when."

The mission was a single-ship, day ATM training flight for an officer who had not flown much but was scheduled to deploy on a JRTC rotation. The training was to include high- and low-level reconnaissance, low-level flight, and nap-of-the-earth flight with target-engagement operations. The crew was briefed to conduct the flight in the local training area utilizing several different sectors and transition corridors.

As part of preflight planning, the crew checked the weather, computed aircraft performance data, and assessed the risks associated with the mission. Additionally, they conducted all mission and crew briefings. The crew then filed their flight plan and completed the preflight inspection of the Apache.

It was about 1400 when they took off. The PC, who was also a unit IP, was in the back seat on the controls, and the CP was in the front seat. They conducted ATM training consisting of low-level and NOE operations in several different training areas. They also practiced multiple target engagements and high- and low-recon of landing zones. This training was completely documented on the aircraft's videotape. The video also showed the PC operating the aircraft as low as 3 feet agl at 26 knots between trees and wires beside common-use roads. At one point, the copilot was heard to say, "Yeeeeeee haaaaaaaa" as the PC completed a return-to-target maneuver.

The crew continued their flight along a common-use roadway until arriving at one of the large drop zones scattered around the reservation. The PC turned the aircraft left to a heading of about 320 degrees toward a stand of trees. As the aircraft approached the trees, the PC noted a gap in the trees and asked the copilot, "Do you think we can make it between there?"

The copilot answered, "Nope."

The PC then remarked, "Sure we can. Look how big it is. Oh, ye of little faith."

At 1532 hours, immediately after the PC's remarks, the No. 4 main rotor blade struck a 2½-inch-diameter limb, breaking off an 8½-inch piece of the blade. The Nos. 2 and 3 main rotor blades also struck the tree. The aircraft shuddered violently, but the aircrew was able to land in an open field and exit the aircraft unassisted.

The aircraft was at 16 feet agl and 76 knots when it struck the tree, resulting in more than $1 million in damage to the aircraft.

So, "cowboys" are still alive and well in Army aviation. As hard as we try to identify and eliminate them in initial flight training, some still manage to get through. As professional aviators, we have a responsibility to report and eliminate them once they have been identified.

Our business is a dangerous one, and the cowboys only increase the risk. We must not condone their behavior by doing nothing.

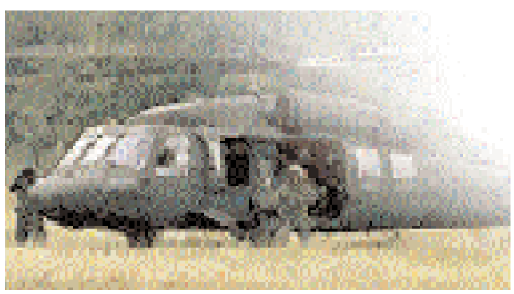
—CW4 Gary D. Braman, 3-501 MI, Camp Humphreys, Korea, bramang@humphreys3-501mi.korea.army.mil

Hypoxic hypoxia in a Hawk?

We in the rotary-wing community tend to take certain human factors for granted at times. More specifically, the physiological effects of our environment are often ignored because we perceive our relatively slow airspeeds, low-G environment, and low mission altitudes as anything but "high performance."

As a safety officer and unit trainer in a Black Hawk company, I periodically instruct aeromedical classes. One of the hardest things to convince crewmembers of is that we are susceptible to altitude-related physiological events—in particular, hypoxic hypoxia.

We in the low-and-slow flight community must remember that we are susceptible to altitude-induced physiological events.



Recently while serving in the Former Yugoslavian Republic of Macedonia, our company instrument examiner (IE) was giving me an annual instrument evaluation. Our flight profile took us to altitudes between 11,000 and 13,000 feet msl. Armed with the knowledge of AR 95-1's oxygen-usage rules, we proceeded, knowing we would be below 10,000 feet in well less than an hour. What happened next was a surprise to some of the crew: One of our crew chiefs began experiencing early symptoms of hypoxic hypoxia. Could it be? We had been above 10,000 feet for only 20 minutes, and above 13,000 feet for 10. The expected performance time (EPT) at this altitude is nearly 45 minutes. Yet, even this early, clearly visible were his mildly cyanotic lips and ashen skin (except for two rosy blotches on his cheeks). When asked, he admitted to feeling slightly euphoric.

Seeing this as a potentially valuable training experience, I began pointing out the objective symptoms of hypoxic hypoxia our crew chief was displaying. These, outlined in FM 1-301: *Aeromedical Factors,* should be familiar to us all. Some pilots may not have seen the various types of hypoxia recently, or even since our initial exposure during low-pressure-chamber training in flight school. For the crew chiefs and passengers this day, this was their first time ever seeing hypoxic hypoxia.

Why had only one of the crewmembers displayed the early signs of hypoxic hypoxia? Simply put, hypoxia affects people differently and at various rates.

This particular crew chief had slept only 5 hours the night before. He was a 21-year-old smoker, and he had eaten only a small breakfast more than 4 hours earlier. These factors could have contributed to the early onset and severity of hypoxia for this individual.

As we began our descent for final, our crew chief's color quickly returned. The hypoxic hypoxia had subsided, yet the valuable lesson remained. Whether you are flying at 10,000 feet msl under IMC or are involved in a multiship NVG air assault at 100 feet agl, you too can experience physiological events.

Many human-factor detriments to safe flight, including decreased night vision from smoking, poor decision making due to fatigue, or loss of situational awareness resulting from task saturation, can and should be anticipated. We in the low-and-slow flight community must remember that we can induce such physiological events and even accelerate them by coupling our demanding mission profiles with self-imposed stressors.

Human factors are often found to be "contributing factors" in aircraft accidents. How you decide to proceed after identifying these detrimental factors in your mission plan is a result of your training and experience.

Some advice

Begin your flight day well rested whenever possible. Try to maintain a well balanced, nutritious diet and exercise regularly. If you are a smoker, refrain from smoking for at least 2 hours prior to flight, especially at night. When your mission profile calls for excessively high or extremely demanding modes of flight, be prepared for and expect to deal with possible human factors that could arise. These include stress, fatigue, the various types of hypoxia, and other psychological and physiological factors. As you identify these factors, take steps to reduce the likelihood of their affecting the safe execution or continuation of the mission.

Lessons learned

We were able to modify our flight altitude that day, and the crewmember was not on the flight controls, so the situation was not critical. In this case it was just an interesting experience worth sharing: hypoxic hypoxia in a Black Hawk on an otherwise normal training mission. It was also a valuable lesson learned: All of us could experience physiological frailties within the norms of our standard mission—even in a helicopter.

As you focus on planning a successful mission, remember to consider human physiological limitations; they can be and frequently are factors during your mission—whether you recognize them or not.

—CW2 John Ramiccio, ASO, B Company, "Black Knights" 2-501st Aviation Regiment, Operation Joint Guard, Comanche Base, APO AE 09789, jramiccio@compuserve.com

Shortfax
Keeping you up to date

Class A-C reporting requirements

In a message dated 5 May 1998, the Director of Army Safety extended the reporting requirements for Abbreviated Aviation Accident Reports (AAAR) (DA Form 2397-AB-R) for applicable Class C and above accidents from 30 to 90 days. There is no change to the requirement for immediate *telephonic* notification of all Class A, B, and C aviation accidents.

POC: Mr. John Crossette, USASC Policy Branch, DSN 558-2643 (334-255-2643), crossetj@safety-emh1.army.mil

Survival radio repair and turn-in

The PRC-112 survival radio has a current-funded maintenance program at Tobyhanna Army Depot, PA. Customers should return bad radios to Tobyhanna, get them off their property books, and requisition replacements through the normal supply system. Since the PRC-112 is a major end item, it is free-issued to authorized customers only.

Tobyhanna does not have radios available to fill shortages. However, we do have a few radios that we use as maintenance floats to replace bad radios as customers return them.

—Mr. James MacElderry, CECOM PRC-12 Project Leader, DSN 992-4605 (732-532-4605), macelder@doim6.monmouth.army.mil

STACOM

STACOM 171 ◆ June 1998

OH-58 qualification

Recent questions from the field indicate some confusion concerning aviators who have completed initial-entry rotary-wing (IERW) flight training arriving at units without having qualified in the OH-58.

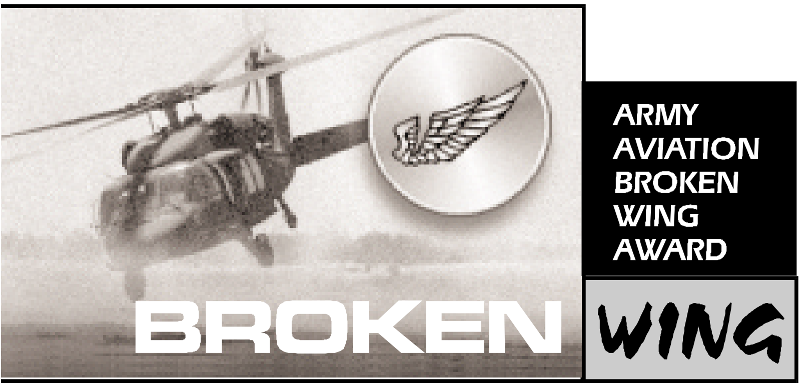
Student pilots undergoing IERW training at Fort Rucker will complete initial training qualified in *either* the UH-1H or the OH-58. All students will be qualified in the TH-67.

An aviator who has never been qualified in the OH-58 must meet the requirements of TC 1-215, paragraph 2-2: A minimum of 10 hours of flight time, including at least 1 hour of night flight and 1 hour of hooded flight.

AR 95-1, page 14, paragraph 4-19, lists the TH-67 and the OH-58 in the same series for the purpose of aircraft currency. This paragraph applies only when the aviator has completed qualification training in both airframes and is designated by the commander to fly both airframes, one as a primary and the other as an additional aircraft. Series qualification in TC 1-215, paragraph 2-3, does not address the TH-67.

POC: CW3 William Osmond, DES, DSN 558-2532 (334-255-2532), william_osmond@rucker-emh4.army.mil

Standardization Communication ■ **Prepared by the Division of Evaluation and Standardization, USAAVNC, Fort Rucker, AL 36362-5208, DSN 558-2603/2442. Information published in STACOM may precede formal staffing and distribution of official DA policy. Information is provided to commanders to enhance aviation operations and training support.**



The Army Aviation Broken Wing Award recognizes aircrewmembers who demonstrate a high degree of professional skill while recovering an aircraft from an inflight failure or malfunction requiring an emergency landing. Requirements for the award are in AR 672-74: Army Accident Prevention Awards.

■ CW2 Gerald R. Sherrill

Company D, 1st Battalion, 14th Aviation Regiment
Fort Rucker, AL

CW2 Sherrill was conducting live-fire gunnery training in an AH-64A with his first student of the day. The Apache was loaded heavy with Hellfire training missiles, 10 live 2.75-inch rockets, and about 100 30mm rounds.

While at a stationary out-of-ground-effect hover at 100 feet agl, the aircrew heard a high-pitched whine followed by a loud report from the No. 2 engine. Then an airframe vibration started, followed by loss of power and the aircraft settling towards the ground. While attempting to achieve single-engine airspeed, CW2 Sherrill realized that, with the current tailwind, the 60-foot trees were getting closer by the second. He decided to jettison the wing stores to achieve single-engine airspeed and announced cease-fire (aircraft were conducting live fire on adjoining pads) and mayday calls over all three radios. Once he achieved single-engine airspeed and secured the bad engine, he was able to fly to an area where he performed a single-engine landing without further incident.

Postflight inspection revealed that the No. 2 engine inlet separator blower bearing had disintegrated in flight, causing engine failure due to severe airflow disruption at the engine inlet and damage to the accessory gearbox, fuel filter system, and inlet particle separator blower housing.

■ CW4 Philip R. Westerlund

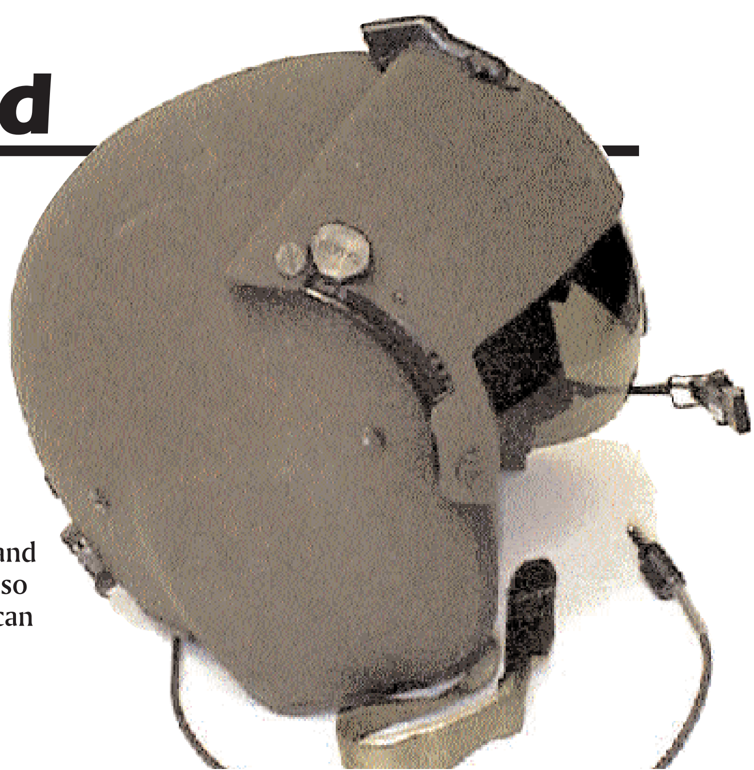
A Company, 1/140th Aviation, CA ARNG
Mather, CA

CW4 Westerlund was flying a medevac mission in a UH-1H and had just taken off after deplaning a patient at a Naval hospital. One minute into the flight, with the aircraft at 600 feet agl over a densely populated area, the master caution, engine chip detector, and engine oil pressure lights came on, followed by a shudder in the airframe and a violent yaw to the left. The only available landing area was an eight-lane interstate highway. CW4 Westerlund was able to successfully negotiate numerous wire hazards, an overpass, and heavy traffic traveling at 60 to 80 mph and complete a run-on landing with only minimal damage to the skid shoes and no injury to himself or the other three crewmembers. Estimated time from onset of the emergency to the aircraft coming to a stop was 30 to 45 seconds.

Postflight inspection revealed that the spur gear in the accessory drive assembly had cracked and peeled away from its attachment point, leading to loss of engine power.

HGU-56/P fielded

Turn-in of SPH-4/4B helmets



The HGU-56/P Aircrew Integrated Helmet System (AIHS) has replaced the SPH-4 and SPH-4B, providing a common helmet for use by all Army rotary-wing aircrewmembers. The new helmet is 20-percent lighter than its predecessors and comes in six sizes for better custom fitting. In addition to better helmet retention, the HGU-56/P offers improved impact and acoustic protection and is compatible with all aviation life support equipment. It also has a dual visor assembly with clear and tinted visors and can accommodate a day (dark amber) and night (green) laser visor.

Fielding was managed by Project Manager Aircrew Integrated Systems (PM ACIS) based on DA priority. During fielding, pilots were allowed to keep their SPH-4 or SPH-4B helmet as well as the HGU-56/P. When they PCS'ed, they were required to turn in only the HGU-56/P. That way, if their new installation didn't yet have the AIHS, they could go back to using their SPH-4 or -4B until the HGU-56/P was fielded at their new location. However, with fielding to DCSOPS-directed units now complete, all this has changed.

New guidance

Authorization for pilots to retain their SPH-4/4B helmet and turn in their AIHS upon reassignment has been withdrawn.

Installation central issue facilities and/or property book officers who have been fielded HGU-56/P will soon require turn-in of SPH-4/4B helmets. Effective immediately, when pilots are reassigned, they will take their AIHS (HGU-56/P) helmets with them to their new units.

POC: SSG Marcella Fisher, DSN 897-4259 (256-313-4259), fisherm@peoavn.redstone.army.mil

Insert removal now authorized

Users have requested permission to remove the small foam insert located in the nape strap pad of the HGU-56/P helmet. Some aviators feel that removal of this insert gives them an increased range of head motion while wearing the helmet.

Recent retention testing (report pending) performed by the U.S. Army Aeromedical Research Laboratory (USAARL) indicated that removal of the foam insert does not degrade the dynamic retention characteristics of the HGU-56/P helmet. Therefore, optional removal of this foam pad is now authorized. Removal of the pad, however, must be annotated on DA Form 2408-22: *Helmet and Oxygen Mask/Connector Inspection Record.* In addition, the nape strap pad should be retained for reinstallation upon turn-in of the HGU-56/P helmet.

Technical point of contact is Mr. Jim Hauser, DSN 897-4267 (256-313-4267), hauserj@peoavn.redstone .army.mil.

Sizing and fitting reminder

Proper fit is essential to proper functioning of the HGU-56/P. Fit affects all helmet modules, NVG mounting, and, ultimately, the safety of the user. If optical systems such as ANVIS are used, helmet fit must be checked with that system attached. If M24 or M43 CB masks are used, they should be worn during helmet fitting.

HGU-56/P helmet size is based not on hat size but on "head length." Detailed measuring and fitting instructions are in TM 1-8415-216-12&P, the operators and unit maintenance manual for the HGU-56/P.

FYI: ALSE messages

Getting a copy of a PM ACIS message after its initial release is easy. You can obtain copies in a couple of ways:

- Visit the PEO Aviation web site at http://134.78.40.107. In addition to copies of ALSE messages, you can get system updates and other news.
- Send an MS-DOS formatted 3.5" disk to Project Manager ACIS; ATTN: SFAE-AV-LSE (SSG Fisher); Bldg. 5681, room 151; Redstone Arsenal, AL 35898. Please enclose a return address label preprinted with your unit address so your request can be processed faster.

POC: SSG Marcella Fisher, DSN 897-4259 (256-313-4259), fisherm@peoavn.redstone.army.mil

Accident briefs

Information based on *preliminary* reports of aircraft accidents

AH1

Class E

F series

■ Engine oil temperature rose to 92° during takeoff. Although temperature did not exceed normal limits, PC elected to terminate flight. Maintenance inspection found that oil cooler fan had bad bearings and a bad shaft.

■ During cruise flight, several loud bangs were heard from engine and aircraft yawed at each occurrence. After fourth or fifth occurrence, master caution and engine oil segment lights came on, and engine oil pressure went to zero. PC began descent to land and reduced N2 rpm in attempt to reduce severity of engine stalls. At engine idle position, stalls stopped and engine ran smoothly for about 10 to 15 seconds before failing completely. Autorotation to plowed field resulted in bent crosstube. Caused by compressor seizure due to failure of No. 1 bearing in engine.

AH64

Class B

A series

■ Upon coming to a stop after ground taxiing to park, tail section started to swing to left. Main rotor blades contacted asphalt to left of aircraft and continued the approximately 100-degree rotation until they were destroyed. Aircraft came to rest on left wing store.

Class D

A series

■ During engine start, crew noted red glow emanating from left side of aircraft, accompanied by illumination of No. 1 engine fire pull handle light. Crew performed emergency shutdown. Only damage was exhaust damage to uppermost portion (cooling fins) of No. 1 engine nacelle.

■ When picked up to stationary hover during pre-phase maintenance test flight, aircraft began uncommanded oscillations fore and aft up to 30 degrees. Crew disengaged digital stabilization equipment and landed. During postflight, crew noted damage to underside of stabilator and tail wheel strut. Damage occurred during uncommanded pitch oscillations, the cause of which has not been determined.

Class E

A series

■ Pad chief cleared aircraft to take off after loading 110 rounds of ammunition. During flight, crew heard and felt thump on left side of aircraft. After landing, it was discovered that left-hand fab door had come open during flight and was cracked.

CH47

Class C

D series

■ Aircraft on two-ship service mission had been parked at a civilian airport in an area that was heavily used by fixed-wing aircraft. During postflight inspection at final destination, damage was found on one forward rotor blade. Suspect taxiing aircraft had contacted blade.

Class E

D series

■ After completing right turn in cruise flight, master caution and No. 2 hydraulic flight control and AFCS caution lights came on. Flight engineer confirmed fluid loss, and PC initiated approach to open field. Caused by failure of forward swiveling actuator pressure line.

OH58

Class C

D(I) series

■ During aerial gunnery training, PC applied power to lift aircraft to hover. With a .50-cal machine gun (300-400 rounds) on left side and Hellfire launcher (no missiles) on right, aircraft picked up left-skid low and aft. Due to slight incline to rear of aircraft, tail skid contacted ground as skids raised to the rear. PC continued to apply power, forcing tail skid into ground and increasing pressure on vertical fin, which buckled and allowed tail rotor to contact ground while sliding laterally to left. Immediate stoppage of tail rotor caused drive shaft to sever at third section from rear. Still increasing power to pull out of what felt to the PC like a stuck skid, aircraft lifted and, once airborne, began rapid right yaw due to loss of tail rotor authority. Both PC and PI took controls and put aircraft on ground, where aircraft continued to yaw right momentarily before coming to rest. Aircraft sustained damage to the vertical fin, tail rotor, tail rotor gearbox and drive shaft, and tail-boom assembly.

■ Aircraft was started and normal runup procedures were followed. During overspeed check, engine flamed out. Systems were shut down and, after 5 minutes, crew attempted to restart. Tgt rose rapidly when throttle was opened, and PC closed throttle and aborted start. Engine monitor showed 969° start, 1085° for 2 seconds run. Incident is being investigated.

D(R) series

■ Low rotor rpm light and audio activated during standard autorotation and termination with power. Aircraft landed without visible damage. However, postflight inspection revealed engine torque reading at 135.7 percent for 1.63 seconds and mast torque readings of 127 percent for 0 second and 125 percent for 1 second. Engine will be submitted for depot-level maintenance.

Class D

C series

■ Left front skid toe reportedly caught on obstacle on takeoff. Pilot lowered collective to avoid dynamic rollover parameters and aircraft landed hard.

Class E

A+ series

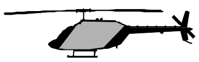
■ Crew experienced over-temp during engine start. Throttle was rolled off at 800°C, but TOT peaked at 1000°.

C series

■ Loud popping noise was heard with left and right yaws in cruise flight. Rotor rpm dropped and warning system activated. TOT rose to 650° and continued to rise to 1000°. Engine QCA assembly was replaced.

■ Transmission oil pressure gauge began to fluctuate and went to zero during flight. Aircraft landed and shut down without incident. Maintenance replaced pressure transducer.

TH67



Class E

A series

■ Cyclic started motoring during engine start. After shutdown, cyclic continued jerking and binding. Maintenance replaced friction bearing.

■ During hover, crew felt pop in pedals and tail rotor chip light came on. Maintenance replaced tail-rotor gearbox.

UH1

Class E

H series

■ IP felt cyclic binding in left rear quadrant and landed without incident. Maintenance replaced bell crank in No. 1 hell-hole under right lateral servo.

UH60

Class A

L series

■ Crew of trail aircraft in flight of seven at 10- to 20-foot hover heard explosion from tail rotor gearbox, and aircraft crashed. Tail rotor and gearbox separated from aircraft, left main landing strut pulled out, tail-rotor pylon buckled, and fuselage sustained serious damage. Suspect tail rotor ingested cargo drogue shoot. Accident is under investigation.

Class C

L series

■ During over-water flight at 500 feet and 14 miles from nearest land, crew heard high-pitched noise followed by a rattle and vibrations. No. 2 engine torque increased to 120 percent and then decreased to 7 percent. Crew returned to shore and performed single-engine roll-on landing. Cause not reported.

■ During MOC for installation of No. 1 engine anti-ice valve, MP started engine while CE held controls. When MP took controls to verify tip path plane, he heard slapping noise from rear of aircraft and saw blade tiedown rope attached to main rotor blade. MP immediately shut down engine. Blade rope attached to rotating main-rotor blade damaged tail-rotor blade.

A series

■ Main-rotor blades struck trees during takeoff, damaging three tip caps.

■ Main-rotor blades contacted tree during approach to confined area, damaging three tip caps.

■ Following initial seconds of normal start sequence, crew experienced uncommanded rapid rise in tgt. It continued to rise during emergency shutdown, peaking at 1000°C. Engine send to CCAD for teardown analysis.

■ When SAS #1 was pushed on during runup with engines at 100 percent, No. 2 AC primary bus caught fire. Emergency shutdown was completed, and fire was put out with onboard fire extinguishers. Cause not reported.

Class D

A series

■ Crew failed to remove one main-rotor tiedown rope during preflight for single-engine MOC under zero illumination. CE was available but not used. When engine was started, crew heard loud noise and performed emergency shutdown.

L series

■ While aircraft was descending on extended downwind leg to traffic pattern altitude, bird strike dented nose compartment door and broke right-hand window panel.

Class E

A series

■ Stabilator caution light came on when PCL was set in "fly" position during engine runup. Crew attempted auto-control reset of stabilator, but it would not reset. Aircraft was shut down without incident. Maintenance replaced both stabilator amplifiers.

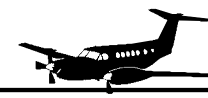
■ Crew felt extreme vibration during roll-on landing. Suspecting ground resonance, PI started to bring aircraft to a hover. When he heard a loud bang, he terminated flight. Maintenance discovered broken inboard axle adapter plate on left landing gear. Plate supports snow ski and is suspected of allowing ski to start resonant vibration.

L series

■ Right-hand input module was leaking during runup, and aircraft was shut down. Module gimble seal was replaced.

■ CP heard thud on windscreen frame during cruise flight. Postflight inspection revealed indications of bird strike.

C12



Class C

C series

■ Left wing clipped tree during takeoff, inflicting Class C damage.

F series

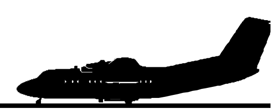
■ Lightning strike damage to No. 1 propeller, left and right flaps, and tail cone was discovered on postflight.

Class E

K series

■ During landing sequence, crew received nose-wheel-unsafe indication after landing-gear extension. Crew executed emergency procedure and manually pumped landing gear down until nose indicated safe. Defective nose-actuator switch was replaced.

O5



Class E

DHC-7

■ During cruise flight, crew experienced full indication of fire on No. 4 engine. After executing emergency procedure for in-flight fire, crew expended both fire-extinguisher bottles, secured No. 4 engine, and landed without further incident. Caused by short in fire indicating system.

■ After engine start, ground crew noted hydraulic fluid leak in left-main gear area. Maintenance replaced hydraulic line from brake shuttle valve.

For more information on selected accident briefs, call DSN 558-2785 (334-255-2785). Note: Information published in this section is based on** preliminary **mishap reports submitted by units and is subject to change.

Aviation messages

Recap of selected aviation safety messages

Aviation safety-action messages

AH-1-98-ASAM-02, 301651Z Apr 98, informational
This message provides chip-light procedures for aircraft with the ODDS power module removed. AMCOM contact: Robert Brock, DSN 788-8632 (256-842-8632), brock-rd@redstone.army.mil

CH-47-98-ASAM-03, 282043Z Apr 98, maintenance mandatory
This message requires torque checks, torque stripes, and 50-hour inspections of the bolts that secure the T-62T-2B APU turbine assembly to the reduction drive assembly to ensure proper torque until all six bolts have been replaced. AMCOM contact: Howard Chilton, DSN 897-2068 (256-313-2068), chilton-hl@redstone.army .mil

GEN-98-ASAM-01, 012050Z Apr 98, maintenance mandatory
This message provides consolidated and updated information on aviation NVG messages. It is not intended to replace any publication. AMCOM contact: Robert Brock, DSN 788-8632 (256-842-8632), brock-rd@redstone.army.mil

UH-1-98-ASAM-04, 301651Z Apr 98, informational
This message provides chip-light procedures for aircraft with the ODDS power module removed. AMCOM contact: Robert Brock, DSN 788-8632 (256-842-8632), brock-rd@redstone .army.mil

UH-60-98-ASAM-04, 101914Z Mar 98, maintenance mandatory
The purpose of this message is to require a visual and physical inspection of all H-60 aircraft for paragraph 6 servo assemblies with improperly installed swaged pin fasteners. AMCOM contact: Ed Goad, DSN 897-2095 (205-313-2095), goad-er@redstone.army.mil

UH-60-98-ASAM-05, 301445Z Apr 98, maintenance mandatory
The purpose of this message is to direct removal of all swashplate links (P/N 70400-08110-054/-061, cage code 65780). AMCOM contact: Ed Goad, DSN 897-2095 (205-313-2095), goad-er@redstone.army.mil

Safety-of-flight message

UH-1-98-SOF-05, 152026Z Apr 98, technical
This message supersedes safety-of-flight messages UH-1-98-02 and UH-1-98-04 and supplements safety-of-flight message UH-1-96-03. This message directs a one-time screening inspection and 25-hour recurring inspections of all UH-1 aircraft with T53-L-13B engines installed for damaging engine vibration levels, identifies the procedure to obtain pre-programmed AVA memory cards to perform the vibration test, and directs special reporting of vibration screening results. AMCOM contact: Robert Brock, DSN 788-8632 (256-842-8632), brock-rd@redstone.army.mil

POV-fatality update through April

- No seatbelt
- Speed
- Fatigue

No new causes, just new victims.

FY98 = 65
FY97 = 43

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Class A Accidents through April

Quarter	Month	Class A Flight Accidents 97	Class A Flight Accidents 98	Army Military Fatalities 97	Army Military Fatalities 98
1ST QTR	October	0	2	0	0
	November	0	1	0	0
	December	1	2	0	2
2D QTR	January	2	2	2	0
	February	0	0	0	0
	March	2	1	1	0
3D QTR	April	2	0	2	0
	May	1		1	
	June	3		0	
4TH QTR	July	1		8	
	August	0		0	
	September	0		0	
	TOTAL	12	8	14	2

U.S. ARMY SAFETY CENTER

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