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Online newsletter of Army aircraft mishap prevention information

In this issue we take a quick look at the aviation mishap data for the first two-thirds of the fiscal year. An initial rise in mishaps during the first quarter has leveled out to compare with rates of the previous two fiscal years. To counter the first quarter increase, many units conducted safety stand downs to review the flight mission briefing process with emphasis on risk mitigation, planning, briefings and AARs. Additional topics included aircrew coordination training as well as adherence to flight operations standards and discipline. Other items included reviewing unit maintenance training, procedures and supervisory responsibilities plus updating and exercising the unit's pre-accident plan. With the reduction in mishaps since the stand downs, a case could be made that the thorough review of procedures and a mental re-caging of the importance of pre-mission planning and maintaining standards in aviation coupled with the command emphasis from the highest levels had a positive impact in the accident prevention effort.

Also included is retired CW4 James Jones' article titled *Attitude: A Foundational Human Factor* which addresses how attitude affects pilot actions and the role it plays in accident causation. DES takes a look at the standardization instructor (SI) and the Blast From The Past (30 years ago) message resonates a message that's still relevant today.

As the Army continues its transition into a more Decisive Action focused force, Army Aviation must adapt its training methodologies to rebuild its combined arms maneuver (CAM) capability while preserving the wide area security (WAS) competencies gained over the past 15 years. As aviation units continue to train for the Decisive Action Training Environment, it is imperative that all leaders identify and assess the hazards associated with their training so they can develop controls and make informed risk decisions.

In the past nine months Army aviation has seen five Class A - C accidents associated with terrain flight, two Class A combat maneuvering flight accidents and one Class B accident during hovering fire. These accidents have resulted in six fatalities. Human error remains far and away the leading causal factor in mishaps today and was factor in the accidents referenced above. Three significant contributing factors in manned aviation accidents continue to be aircrews failing to properly manage aircraft power available, pilots losing situational awareness in degraded visual environments (DVE), and errors caused by improper aircrew coordination. As we continue to train for CAM and WAS we must continue to mitigate the risk associated with the training to the lowest possible level while still providing challenging, real world training. The skill set required to defeat a near peer threat requires advanced training but the reward from the training cannot outweigh the risks.

Until next time, fly safe and manage your risk levels!

LTC Jim Donovan
Aviation Director, Future Operations
U.S. Army Combat Readiness Center
email: james.t.donovan3mil@mail.mil

Attitude: A Foundational Human Factor

Attitude is a foundational human factor which affects every aspect of a pilot's performance. An examination is made of some of the attitudes which have had significant impact on the aviation industry.

Attitude is a human factor, which varies in degree and form as much as humans vary in their physical and emotional makeup. Every interest in life, to include every industry, is affected by the attitudes brought to it by the people involved in its existence. Aviation is no exception to this rule. Throughout aviation history, accidents have had many causes. Pilot error has been involved many times, and attitude plays a part in every pilot's actions. This influence shows itself from the outset of a pilot's training to the management of an aircraft in flight. Virtually every week I conduct training for pilots from all over the world with backgrounds varying from the beginner to the experienced. The point of this paper is to show some of the attitudes that affect this entire group and influence their actions as they manage their machine.

Method. Personal experience of almost 30 years in the aviation industry has been combined with data collection from personal observations, discussions with training sources, and publications dealing with attitudes as human factors.

Results. Attitude on a personal level continues to play a role in accidents, which destroy aircraft and take lives.

Attitude on a personal level is transferred and communicated in many ways throughout the members of the aviation industry and makes an impact on the overall attitudes of pilots as a profession.

Discussion. As previously stated, attitude is evident in its effect on a pilot's actions in every step of progression in one's career. I see pilots every week in my training classes. Some of them are very diligent in their attention and efforts to gain knowledge, insight, and understanding to help them perform their tasks safely and professionally. This allows them to depart their aircraft at the end of a day and go home. There are others which attend training for a variety of reasons, none of which make learning 'the' priority. What creates the difference between a person who strives to be the best their abilities allow and maintain a high standard of professionalism throughout the performance of their duties, compared to another person who has the same opportunity but chooses to accept a lower standard? We don't have time to explore all the reasons, but some of them have left their mark on history.

Some pilots bring to the aviation world an attitude of anti-authority. They resent being told what to do and how to do it by a person, agency, or a written procedure. They see the relatively unsupervised environment of flight as their chance to strike back against authority or find "freedom of restraints." The temptation is present that a little deviation from the rules won't hurt anyone. But it has and it will again. Kern (1997) says "noncompliance in aviation is not the act of a rebel, but rather the act of a child - someone who is immature, unknowledgeable, or both. The regulations are not for someone else, they are for all of us." (p.91) Noncompliance of rules and procedures exhibited in the form of anti-authority holds the potential of endangering the lives of others and placing pilots in a bad light.

Impulsiveness is another attitude that has bad potential. Impulsiveness is the urge to do something immediately, when thought and time are, in fact, needed to arrive at a correct decision. All of us involved in aviation know that there are times when we have to respond to a situation

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quickly. We are trained to respond to certain situations in certain ways and the responses to these situations become instinctive. But there is a subtle difference between the quick, instinctive response and the impulsive response done in a hurry. In my years of aviation as an instructor pilot, I have observed the demonstrated difference in responding to a situation quickly and "getting in a hurry,'' both in my personal experience and the experience of others. When we as humans respond to a situation "quickly" we seem to maintain complete focus on the entire situation and are more apt to respond correctly. However, when we "get in a hurry" our mental focus takes on the attributes of tunnel vision and we lose sight of everything except the one glaring item that is our problem. This is the kind of situation that can be involved in an impulsive response. I believe a subtle but significant qualification that affects the outcome is training that brings about understanding and insight. A pilot who understands the information being provided by instruments, warning systems, or aircraft behavior can respond quickly in a proper manner, whereas an impulsive or rote response may or may not be the correct response. The line that divides impulsiveness and instinct can be a fine line, but understanding and quality experience can make a significant difference.

Machismo is related to having an excessively high opinion of oneself. It is often demonstrated by displaying conceit and arrogance. A pilot with this kind of attitude will many times do things to try and prove their superiority. They may have superior skill, but their attitude will catch up with them at some point in time. A continual need to prove this "superiority" will lead to risk taking and the false sense of security that their skill will enable them to do whatever is necessary. This combination may eventually take its toll.

"Get-home-itis" or "Get-there-itis" is another attitude that has taken the lives of a number of pilots. Somehow, the pressure of timely arrival at a destination or arriving home at a desired time has the ability to overcome years of training in judgement and objective decision making. Pilots have been known to analyze weather, and in cases where reports were not good enough, "shop" for a better report, which will justify their attempt to reach a destination. In other cases, pilots have elected to resort to methods such as "scud running,'' or flying beneath bad weather. This has resulted in many smoking piles of debris and needless sad endings. Many of these scenarios have involved business people, flying their own private aircraft, pushing the envelopes of weather and physical endurance to reach a destination. If the weather didn't get them, they fell asleep on final approach and crashed short of their intended landing area. But "Get-there-itis" doesn't limit its influence to business people. It offers an equal opportunity for everyone.

Resignation is an attitude of hopelessness which pilot's can allow themselves to get into. A pilot should always have an "out.“ But when pilots rely on everything working out as it always has in the past (just because it has always been that way), they can easily find themselves in an unexpected, unplanned for situation for which they have no "out." Situations like this can present a pilot with a formidable challenge to overcome. Calmness in the face of serious consequences is too much for some to handle and they resign themselves to what they consider to be inevitable. A pilot must draw upon their training, knowledge, and determination to work through challenges and avoid resignation.

Two attitudes that can go hand in hand are complacency and invulnerability. When flying becomes routine and mundane, pilots are susceptible to complacency. Pilots tend to let their guard down and allow inattention to creep into the situation. Doing the same monotonous route or scenario or action over and over can lull a pilot into a false sense of security and a reduced

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awareness of danger. This is where the other attitude goes into action. Invulnerability leads a pilot to believe that the bad things always happen to someone else. Inattention once again rears its ugly head and a false sense of security prevails. Sooner or later a situation develops which takes advantage of the pilot's bad attitude and lack of attention. Wise pilots learn from these experiences. "Machismo" pilots, as we mentioned previously, sometimes take more than one experience, if they are fortunate enough to survive that long.

Habit is an interesting concept. Not only can a person's habits be affected by their attitude; their attitude can be affected by their habits. For instance, I was told by one of my former employers to "make every landing the best one I ever made." I made a personal choice to adopt that attitude. In so doing, I developed the habit of making every landing the best one I ever made (or at least try). The development and attainment of that habit now affects my attitude every time I fly. For the sake of my passengers, the condition of the aircraft, keeping a professional edge, and maintaining an attitude of excellence, I work at every landing to make it my best and smoothest landing (even if no one realizes the method in my madness). "Habit" is such a small word, with tremendous impact on everything we do. We talk about positive habit transfer and negative habit transfer, but we rarely discuss the important role habit plays in a pilot's striving for excellence. Yet it is the very habits we form over a lifetime which define, in advance, how we will do what we choose to do. Sometimes it is the pilot possessing great skill and experience who does the most damage of all, in this regard. They are called rogue pilots. They are often popular and possess considerable social skills. They have learned what rules they can stretch or break, when, and with whom. Their actions have far reaching implications, and sometimes have deadly results. I have found no better illustration of this attitude, with no sadder epitaph, than a case study Kern cited (1997):

On a sunny afternoon in June 1994, Czar 52, a B-52H assigned to an Air Force base in the Pacific Northwest, launched at approximately 1358 hours Pacific Daylight Time (PDT) to practice maneuvers for an upcoming airshow. The aircrew, under the command of a highly experienced instructor pilot (IP), had planned and briefed a profile that grossly exceeded aircraft and regulatory limitations. On preparing to land at the end of the practice airshow profile, the crew was required to execute a "go-around," or missed approach, because another aircraft was on the runway. At midfield, Czar 52 began a tight 360-degree turn around the control tower at only 250 feet altitude above ground level (AGL). Approximately three quarters of the way through the turn, the aircraft banked past 90 degrees, stalled, clipped a power line with the left wing and crashed. Impact occurred at approximately 1416 hours PDT. There were no survivors out of a crew of four field-grade officers (McConnell 1994). The accident investigation revealed a disturbing pattern of poor airmanship on the part of the pilot in command that spanned a period of at least three years. This case study illustrates how a lack of flight discipline can become contagious and, if left unchecked, can lead to the development of a rogue aviator who blatantly disregards and even revels in defying operational limits and regulations. As one crewmember said about the accident, "You could see it, hear it, feel it, and smell it coming. We were all just trying to be somewhere else when it happened." (Anonymous 1995). Lt. Col. Bob Hammond (a pseudonym) was the aircraft commander of Czar 52 and was undoubtedly flying the aircraft at the time of the accident (93rd Medical Group 1994). He was also the chief of the wing standardization and evaluation (stan-eval) branch, ironically making him responsible for enforcing airmanship standards for all the aviators on the base. The squadron commander from the local B-52 squadron, who was an IP flying as the copilot, was also killed in the accident. A great deal of evidence suggests that considerable

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animosity existed between the two pilots who were at the controls of Czar 52. The squadron commander had unsuccessfully tried to have Hammond grounded for what he perceived as numerous and flagrant violations of air discipline while flying with his aircrews. The vice wing commander of the base was also on board, added to the flying schedule at the last minute on the morning of the mishap. It was to be his finis flight, an Air Force tradition in which an aviator is hosed down following his last flight in an aircraft. On landing, he was to be met on the flight line by his wife and friends for a champagne toast to a successful flying career. The radar navigator position was filled by the bomb squadron operations officer. It is interesting to note that all of the crewmembers aboard Czar 52 were senior field grade officers. It was discovered during the accident investigation that many junior officers had openly refused to fly with Lt. Col. Hammond because of his reputation for poor flight discipline.

Habits, and the self-discipline we choose to form positive habits or allow the formation of negative habits, can determine our destiny, and sadly, sometimes that of others.

Attitude is a foundational human factor. The attitude we as individual pilots willfully choose to nurture, develop, and promote within our professional community, will have tremendous impact on everyone we meet.

CW4 (Retired) James H. Jones is a dual rated FAA Airline Transport Pilot, Certified Flight Instructor, retired Master Army Aviator, Standardization Instructor Pilot, Maintenance Test Pilot, and Academic Instructor. In addition to his military career, he has flown commercial Air Ambulance, conducted Flight and Academic Instruction for Bell Helicopter, and managed aircraft maintenance for Embry-Riddle Aeronautical University. Jim currently works at the USAACE Capabilities and Requirements Directorate (CRD) as a Navigator Development Group contractor, writing requirements for future aircraft systems with focus on Degraded Visual Environment (DVE) solutions. Jim can be contacted at james.h.jones2.ctr@mail.mil.

Sorry – this space will no longer contain elements of levity or humor but will be restricted to content that is aligned to its core purpose of preventing accidental loss.

A quick look at FY16 aircraft mishaps

In the **manned aircraft** category through May, Army aviation has experienced 43 Class A - C aircraft accidents during the first two-thirds of this fiscal year. These mishaps resulted in eight fatalities. Six of the accidents were Class A ten were Class B, and 27 were Class C. For comparison, the first two-thirds of FY15 had 45 Class A – C aircraft accidents – eight Class A (13 fatalities), seven Class B, and 30 Class C.

The current Class A flight mishap rate is 1.16 mishaps per 100,000 flight hours. This compares favorably with the 1.52 rate for FY15 and FY14.

	Class A	Class B	Class C
UH/MH-60	2	2	12
AH-64	3	5	3
CH/MH-47	0	0	2
Mi-17	0	2	0
OH-58D	0	0	1
LUH-72	0	0	3
TH-67/OH-58A/C	0	1	2
AH/MH-6	0	0	0
C-12/KA-350/OE-5B	1	0	4
Total	6	10	27

Synopsis of selected Class A accidents (OCT – MAY16):

Manned Class A

-AH-64D. Aircraft struck terrain while maneuvering. Landed with Class A damage.

-UH-60A. Aircraft crashed on a local training flight. Four fatalities.

-AH-64D (NVS). Aircraft crashed following a wire strike. Two fatalities.

-AH-64E (NVS). Aircraft crashed while on a local training area flight. Two fatalities.

-UH-60M. During dust landing aircraft rolled onto its side. Class A damage reported.

-KA350. Following an in-flight emergency, aircraft performed a power off landing to an open field.

In the **unmanned aircraft systems** for the first two-thirds FY16, there were 15 Class A–C incidents with seven Class A, four Class B, and four Class C.

	Class A	Class B	Class C
MQ-1	4	0	0
MQ-5B Hunter	2	0	0
RQ-7B Shadow	0	3	3
Aerostat balloon	1	1	0
RQ-11 Raven	0	0	1
Total	7	4	4

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Synopsis of selected UAS Class A mishaps (OCT 15 – MAY 16):

UAS Class A

-MQ-1B. Crew was unable to maintain altitude at 16.5K feet and subsequently lost link with the UA. Descent was monitored until contact with the ground. UA was recovered with damage.

-MQ-1C. Crew was navigating the UAS for landing when it lost altitude below recovery minimums and crashed in open terrain. System was recovered with class A damage.

-MQ-1C. After losing altitude in flight, crew reportedly executed emergency GPS landing to the runway, after which the UA reportedly contacted the runway and initiated an auto-landing abort. The crew subsequently guided the UA to open terrain for crash landing after the system was unable to regain altitude. System recovered with class A damage.

-MQ-5B. System impacted a hilltop at 3054' MSL during a mission.

-MQ-1C. UA experienced loss of forward propulsion (presumed engine-failure). Crew ultimately lost link at 1K' AGL, while attempting to guide the UAS to landing. System was located in the training area and deemed destroyed.

-MQ-5B. UA failed to maintain power on take-off and crashed.

-Aerostat. Balloon broke free from tether. Landed 180 miles away.

Manned Aircraft Class A – C Mishap Table as of 15 Jun 16

	Month	FY 15 Class A Mishaps	FY 15 Class B Mishaps	FY 15 Class C Mishaps	FY 15 Fatalities		FY 16 Class A Mishaps	FY 16 Class B Mishaps	FY 16 Class C Mishaps	FY 16 Fatalities
1st Qtr	October	0	1	3	0		1	3	7	0
	November	2	0	2	2		2	1	1	6
	December	1	1	3	0		1	1	4	2
2nd Qtr	January	2	0	6	0		0	0	3	0
	February	0	0	0	0		1	1	3	0
	March	2	1	10	11		1	3	2	0
3rd Qtr	April	0	1	1	0		0	0	3	0
	May	1	3	5	0		0	1	4	0
	June	1	0	8	0		1		1	
4th Qtr	July	2	3	7	0					
	August	2	1	3	0					
	September	1	1	3	0					
	Total for Year	14	12	51	13	Year to Date	7	10	28	8
	Class A Flight Accident rate per 100,000 Flight Hours									
	5 Yr Avg: 1.28		3 Yr Avg: 1.25			FY 15: 1.52			Current FY: 1.16	

BRIGADE AND BATTALION NONRATED CREWMEMBER STANDARDIZATION INSTRUCTOR

MSG Caleb T. Baugh
Directorate of Evaluation and Standardization
U.S. Army Aviation Center of Excellence
Fort Rucker, Ala
Directorate SI

This month's DES article focuses on the battalion and brigade standardization instructor (SI). The SI adds value to the commanders brigade standardization team. The SI assists the brigade standardization officer, safety officer, and master gunner in the completion of the brigade's mission. DES has seen that units that employ this position have shown impressive crewmember training plans, gunnery programs, MEDEVAC training programs, and overall higher academic knowledge in comparison to units not using this key position. In this article we want to point out a few changes that affect this position.

In the past, the battalion/brigade SI was not a MTOE/TDA position. Most units left it unfilled. Starting in FY16, aviation brigades will be manned with a 15T4F N1 MTOE/TDA position for the brigade SI, a 15T3F N1 position for the assault battalion, and a 15U3F N1 position for the GSAB. This will allow commanders the opportunity to fill the brigade SI position without sacrificing in other areas of the formation.

Homegrown flight instructors (FI) qualified prior to 31 December 2014 must have been enrolled in a USAACE approved FI course and in a MTOE/TDA N1 position by 31 December 2015. It is important for units to plan for this accordingly. SIs will need to create an order of merit list for the FI course. The priority should focus on the E-4(P) or new E-5(P). Senior E-5s sent to the course will likely be promoted and removed from the flight company. There are only eight seats per class and nine classes this fiscal year. With the high demand for school trained FIs, it is imperative that we make each seat in each class matter.

Recently DAMO-AV released a policy letter covering nonrated crewmember (NCM) instructor (FI)/standardization instructor (SI) N1 additional skill identifier (ASI) qualification and utilization. One major change released in this letter is the authorization for the battalion/brigade SI to perform SI duties on any aircraft assigned to the unit. This gives the brigade SI the opportunity to influence, evaluate, engage, mentor, and train all of the crewmembers in the formation.

Battalion and brigade leadership will find that assigning a senior standardization NCO is beneficial to all aspects of training and operations. The brigade SI provides the oversight to ensure commanders are getting the best crews available for combat operations. The use of the battalion/brigade SI makes a significant improvement in unit standardization. The SI position manned by the right individual is essential to the overall success of the unit.

--MSG Caleb Baugh, DES SI, may be contacted at (334) 255-1446, DSN 558.

Mishap Review: UH-60L Maneuvering Flight

During the conduct of Combat Maneuvering Flight (CMF) training the UH-60L descended into and impacted a grove of aspen trees, coming to rest on its right side. The aircraft was destroyed and the crew was injured.

History of flight

The mission was continuation training, focusing on CE readiness level (RL) progression in preparation for a known combat deployment. It was planned and briefed for a flight of two aircraft conducting VFR cross country flying within the local flying area as well as conduct high altitude training (greater than 9000 feet MSL) and combat maneuvering flight (CMF) for CE progression. Weather: Broken layer of clouds at 13,000 feet, winds 110/09 knots, temp +28 C with altimeter of 30.12. Mission risk was briefed as LOW and approved by the company commander.

The duty day started at 0900L with the crews completing planning and briefings followed by the aircraft preflight at 1000L hours. At 1130L hours the aircraft departed home base to the local training area, conducting individual aircraft training before joining up and proceeding to a local airport for refueling. At 1520L the flight of two departed the airport en route to the mountain training area arriving approximately 20 minutes later. The flight then separated to conduct individual training.

For the conduct of the CMF training, the PC of the accident aircraft briefed the crew on the procedures for breaking enemy contact under different scenarios. With the aircraft at approximately 500 feet AGL (9,000 MSL) and 100 KIAS, simulated enemy contact was announced to the left of the flight path. The accident PC, who was on the controls, initiated a descending right turn reaching 60 degrees right bank angle and up to 24 degrees nose low attitude. The aircraft descended into and impacted a grove of aspen trees, coming to rest at approximately 1545L.

Crewmember experience

The PC, sitting in the right seat, had 1,300 hours of total time, 1,200 in the UH-60, 900 combat and 200 as an PC. The PI, operating from the left seat, had 250 hours of total time and 135 hours in the UH-60. The SI had a total of 770 hours with 375 combat. The CE had 16 hours total time.

Commentary

In performing combat maneuvering flight helicopter flight performance, based on the environmental and aircraft conditions, must be the determining factor in selecting altitudes that ensure adequate room to recover after maneuvering. Aircrews must be familiar with aerodynamic factors such as mushing, transient torque, and blade stall before performing these maneuvers. Excessive bank angles may not be sustainable with only the application of power. Airspeed or altitude may also not be available to trade for lift. These factors must be evaluated before and during the maneuver. Do not allow high sink rates to develop, as recovery altitude or power may not be available to recover. These conditions are aggravated as helicopter gross weight and density altitude increase.

Mishap Review: AH-64 Gunnery

During the conduct of a night rocket engagement, the AH-64D struck the ground resulting in significant damage with no crew injuries.

History of flight

The mission was employment of an attack weapons team (AWT) of two aircraft conducting gun and rocket engagements in support of a fire support coordination exercise (FSCE) at the local range complex. The aircrew started their duty day at 1300L. The accident aircrew completed their risk assessment worksheet, was briefed and approved for their assigned mission. The residual risk identified was MODERATE due to low illumination and participation in a live fire exercise.

Preflights were conducted followed by the operations and intelligence (O&I) update brief at 1400L. A team brief was conducted at 1430L. The accident aircrew then conducted a crew brief prior to their first flight of the day. Weather at the time of the incident was: Temperature of 12 degrees Celsius, seven miles visibility, clouds few at 2,900 feet AGL and overcast at 4,000 feet AGL, winds 340@06 knots, and illumination of 19%. The elevation was 5,813 feet Mean Sea Level (MSL) with the terrain rising in the direction of flight. The slope was calculated at two degrees.

At 1527L the AWT departed the assembly area and conducted re-fuel and arming operations at the forward arming and refueling point (FARP). From 1717L-1827L, the AWT conducted a day iteration of the FSCX lane. The team then completed the first of two planned night iterations from 1938L-2145L. The AWT took off at 2215L for the final night iteration. For all three iterations, the scheme of maneuver was to conduct nap of the earth (NOE) flight followed by hovering area weapons system (AWS) engagements and then hovering rocket engagements.

After checking on station the AMC led the AWT flight along the NOE flight route to their attack by fire (ABF) position. Flight lead set left and the accident aircraft stacked right. The team then conducted hovering AWS engagements in which time the accident aircraft expended 70 rounds.

The next engagement for was for hovering fire rockets in which the accident aircrew was to lead off with one illumination rocket. The target was at a range of 1,738 meters. After the target was stored, the accident PI added 2,000 feet to the target elevation. The accident PC acknowledged the addition to the target elevation. The PC planned to use the “rocking chair technique” to conduct the engagement which was to accelerate the aircraft in forward flight up to 24 knots true airspeed (KTAS) before pitching the nose up to fire the rocket. After firing of the rocket, the PC planned to decelerate the aircraft to a full stop without loss of altitude throughout the maneuver. Starting at 60 feet AGL, the PC accelerated the aircraft forward to 20 KTAS before pitching the nose up to place the aircraft within constraints to fire the illumination rocket. The accident PC fired the rocket at a nose up attitude of 51 degrees. Almost simultaneous to the firing of the rocket, the tail

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wheel impacted the ground. Due to contact with the ground, the #2 side rocket pod on the outboard station separated from the aircraft, the #2 side main landing gear tire was un-seated from the rim, and the gun turret fractured. At this point, the aircraft became airborne again and yawed left approximately 180 degrees. The accident PC arrested the left yaw and maneuvered the aircraft forward and down with a small amount of right drift. The aircraft slid approximately 15 feet once the main landing gear came in contact with the ground. The accident sequence ended at 2319L. Damage was assessed at Class B level.

Crewmember experience

The PC, sitting in the back seat, had 1,600 hours of total time, 1536 in the AH-64D, 559 NVS, 196 NVG and 610 PC. The PI, operating from the front seat, had 509 hours of total time, 426 hours in the AH-64D, 147 NVS, 33 NVG and 13 hours PC.

Commentary

Review of the incident suggests the crewmembers became fixated on performing the rocket engagement and failed to properly identify the hazard presented by rising terrain under the aircraft during the maneuver. Additionally, the crew conducted the engagement at approximately half of the range recommended in TC 3-04.45 and unnecessarily increased target altitude.

Additionally, there is no doctrinal standard for the "rocking chair delivery technique" although TC 3-04.45 Combat Aviation Gunnery, recommends its use to prevent rearward flight as a result of pitching the nose up to employ illumination rockets. The lack of a unit developed task or any published tactic technique and procedure (TTP) or doctrinal standard for the "rocking chair delivery technique" reduces the aircrew's awareness of the hazards associated with executing a "rocking chair" type of maneuver, specifically the recovery of the aircraft after employment of rockets.

UAS Class A – C Mishap Table as of 15 Jun 16

	FY 15					FY 16			
	Class A Mishaps	Class B Mishaps	Class C Mishaps	Total		Class A Mishaps	Class B Mishaps	Class C Mishaps	Total
MQ-1	3	2		5	W/GE	4			4
MQ-5	1		1	2	Hunter	2			2
RQ-7		5	8	13	Shadow		3	5	8
RQ-11			1	1	Raven			1	1
RQ-20					Puma				
YMQ-18									
SUAV					SUAV				
UAS	4	7	10	21	UAS	6	3	6	15
Aerostat	1	0	0	1	Aerostat	2	1		3
Total for Year	5	7	10	22	Year to Date	8	4	6	18

Articles from the archives of past Flightfax issues

Error-free Performance 28 May 1986 Flightfax

We all know, given error-free performance, most rules can be bent without large increases in accident risk. In Army aviation, we have manuals, pubs, and regulations that tell us exactly how to do our jobs. Most of this paper has been generated to describe and limit the risk the Army is willing to accept to accomplish its aviation mission. If we complied with this guidance 100 percent of the time, the accident rate would only be attributed to materiel failure or design deficiencies, with a small percentage charged to crew error. Those errors would be honest human errors and could be explained away by changes in design, training, or procedure.

Historically, human error has accounted for 70 - plus percent of the accident cause factors yearly. Operationally, these factors include overconfidence, over motivation, low proficiency, and poor technique. On the maintenance side of the house, they include poor supervision, failure to use by-the-book procedures, and lack of knowledge. All these can be lumped into one broad category called poor discipline. The kind of discipline involved here is not blatant disregard of regulations and procedures, but something potentially far worse. This poor discipline is the subtle, insidious breakdown of good order and common sense that begins not with the individual who gets caught making the error but with the commander or first-line supervisor who provides tacit approval to violate the rules. Unfortunately, our losses due to breakdown in discipline tend to mask the honest human errors and prevent the appropriate corrective actions. By not acting decisively when faced with minor variances in policy, commanders and supervisors in effect promote deviations in practice that eventually become "unwritten policy" or "the way we do it here." In some cases, deviations in practice are even encouraged by commanders and supervisors for the sake of mission accomplishment. Soon, the approval to "do it this time" in order to get the mission accomplished or whatever pressure seems important at the moment becomes standard practice. Allowed to do it once, the individual figures it must be all right to do it again in other areas. In short, we reward the individual for being able to get the job done and no one questions procedures.

For instance, a helicopter participating in a field training exercise encountered marginal weather. The pilot decided to try to make it over a ridgeline into a valley. The aircraft hit trees on a slope and crashed. The aviators in the unit had been operating in similar weather conditions for some time and, on numerous occasions, would search around until finding a hole through the weather to complete their missions. Each time an aviator stretched performance to the limits or deviated slightly from regulatory requirements and was not admonished for his actions, the resultant degradation to command safety emphasis was compounded. The end result was that such practices became commonplace and the ***accolades for such a high degree of mission accomplishment overshadowed the unsafe manner in which they were accomplished.*** Another helicopter, flying at an estimated airspeed of 80 to 90 knots and 150 feet above the ground, hit and severed two wires. Control was lost and the aircraft crashed, killing the pilot and passenger. The detachment commander repeatedly emphasized the dominant consideration in mission performance was keeping the supported personnel happy at any cost. He was aware of and consented to the scheduling of his pilots on single-pilot missions when they had received no special or refresher training for the terrain involved in the mission support. Morale In the detachment was low and behavior was undisciplined. When an accident occurs, we ask ourselves questions like "Why didn't

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he follow the briefing?" or "Why was undocumented maintenance being performed?" The truth is that it was not a spur-of-the-moment decision on the part of the individual or simple human error, but rather the individual had seen or had done a similar action before and nothing happened. Since he did not have an accident and most probably was rewarded for getting the job done, his actions were perfectly acceptable. If we don't like the rules, let's change them ... not bend them.

-LTC Kenneth Boley, ARNG Liaison Officer, Army Safety Center, 1986

Accident findings: From the archives for your review

FINDING 1 (Present and Contributing: Human Error - Individual Failure):

While flying an AH-64D at an out of ground effect (OGE) hover and waiting for tower clearance to return to parking, the crew improperly scanned. That is, they failed to identify the rapid descent rate that had developed. As a result, the aircraft contacted the ground in a 3,000 foot per minute rate of descent, causing significant damage to the AH-64D and severely injuring the pilot (PI).

The Board concluded the crew's actions were a result of complacency. The crew was complacent in the execution of this simple mission and in the abilities of the pilot on the controls to fly the aircraft without use of the helmet display unit (HDU) and without conducting proper performance planning. The crew allowed the aircraft to enter into and continue an uncorrected rapid rate of descent until it was too late to recover. Additionally, the pilot in command (PC) was overconfident in the inherent ability of the aircraft to maintain level flight without additional power following a pedal turn into a tail wind.

FINDING 2 (Present and Contributing: Human Error – Individual and Training Failures):

While conducting a functional flight test in an AH-64D at an OGE hover, the PI in the front seat improperly coordinated. That is, when the aircraft began an uncorrected rapid rate of descent, the PI failed to announce the descent, power setting, or altitude. As a result, the aircraft contacted the ground in a 3,000 foot per minute rate of descent, causing significant damage to the AH-64D and severely injuring the PI.

The PI's actions were a result of overconfidence in the abilities of the PC to maintain control of the aircraft and inadequate unit aircrew coordination training - enhanced (ACT-E) training. The PI's lack of sustainment training resulted in his poor crew coordination.

If you have comments, input, or contributions to Flightfax, feel free to contact the Aviation Directorate, U.S. Army Combat Readiness Center at com (334) 255-3530, DSN 558-3530

Selected Aircraft Mishap Briefs

Information based on preliminary reports of aircraft mishaps reported January through April 2016.

Observation helicopters

OH-58 

-D Series. Aircraft experienced a hard landing during training. (Class C)

-A Series. Post-flight inspection revealed tail boom damage to the aircraft following low-level autorotation. (Class C)

TH-67A 

-Following an engine failure the aircraft crash-landed into an open field. (Class B)

Attack helicopters

H-64D 

-Aircraft experienced an engine overtemp during start sequence. (Class C)

-While hovering, a Gator and a maintenance stand were blown into the stabilator. (Class C)

-Aircraft sustained stabilator damage associated with an obstacle strike during terrain altitude flight. Damage was noted after the aircraft landed at the FARP. (Class B)

-Main rotor system made contact with a concrete wall while ground taxiing. (Class B)

-Crew reported a loud report followed by a nose-down pitch and right yaw of the aircraft during flight. Crew executed emergency landing to an open field. Post-landing inspection revealed the tail rotor separated in flight. (Class B)

Unmanned Aircraft Systems

RQ-7B 

-Crew experienced RPM fluctuations, followed by a GEN FAIL warning, after entering the TALS Loiter mode for landing. (Class B)

-Crew experienced an engine failure while system was descending for landing. (Class C)

Utility helicopters

H-60 

-L Series. No. 1 engine experienced a TGT exceedance during dust landing training. (Class C)

-M Series. No. 1 engine inspection identified FOD following post-maintenance run-up. (Class C)

-M Series. Aircraft overturned onto its right side upon touchdown in dust conditions. Main rotor blades made contact with the ground. (Class A)

Cargo helicopters

CH-47F 

-Crew was conducting an external load when a sling failed and the water buffalo fell to the ground. Resulting debris struck the under-carriage of the aircraft resulting in airframe damage (Class C)

-After the aircraft departed the FARP and returned to parking, the crew chief noticed the No.2 aft pylon platform was unlatched and resting on the engine cowling causing damage. (Class C)

Fixed-wing

C-12 

-350 Series. Aircraft crash-landed after crew experienced a dual engine emergency. (Class A)

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