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# FlightFax

**REPORT of ARMY AIRCRAFT ACCIDENTS**

**January 1995 ◆ Vol 23 ◆ No 4**

**Historically, we experience the highest number of Class A flight accidents during the first quarter of each fiscal year.**

Great news! We've broken the mold: only one Class A and no fatalities for the first quarter of FY 95. Thanks to each of you for the great job you are doing in continuing to move force protection initiatives in the right direction and making Army aviation a safer place to live and work.

With the exceptional skills of our aviation soldiers and their dedication to promoting force protection efforts, great work has been done to make our Army safer. BUT we must continue to be vigilant for even a momentary safety lapse could be far too costly. By the time we finish this fiscal year, hopefully, we will be able to say that we reduced accidental losses to their lowest level ever and still accomplished more.

"IN THE PURSUIT OF EXCELLENCE, THERE IS NO FINISH LINE."
LTG ROBERT H. FORMAN

# Looking ahead through FY 95

Army aviation has just completed the first quarter of FY 95 with a remarkable estimated Class A accident rate of 0.37. The actual rate will not be known until the flight-hour exposure is available. However, to complete an entire quarter with only one Class A flight accident is a noteworthy accomplishment, especially when taking into account that a suspected materiel failure could be the culprit in the one Class A that did occur.

The previous 5-year average for first quarter Class A flight accidents is 8, ranging from 5 in FY 92 (the best year on record) to 10 in FY 91—the Desert Shield/Desert Storm buildup. The average number of Class A flight accidents during the period of FY 90 through FY 94, excluding FY 91, is 24. Taking into account the average total number of Class A accidents during the recent 2-, 3-, and 4-year periods, this promises to be yet another record-setting year in this category.

## Class A through C flight accidents

Looking at the average number of Class A through C flight accidents during the same 4-year period shows an average of 23 accidents for the first quarter of the fiscal year. The number of Class A through C flight accidents during the first quarter of FY 95 was 17. Of course, the most notable difference is the number of Class As.

The difference between a Class A and Class E is often a result of the circumstances under which the mishap occurs. For example, experiencing an engine failure while operating in the height-velocity-avoid region could feasibly result in a Class A or Class E. Factors such as gross weight, atmospheric conditions, suitable forced landing areas, as well as pilot proficiency all contribute to the end result.

Some folks probably attribute this low first quarter Class A accident rate to "lady luck" or fate. I, on the other hand, think we should attribute it to the skill and professionalism of today's Army aviators and current force protection initiatives.

## Tools for safe mission accomplishment

The commander sets the tone for the safety program in the unit. Through the integration of risk management in daily operations and the establishment and enforcement of standards through the unit's safety and standardization officers and programs, the commander will be able to establish accountability and responsibility. Accountability or ownership is a key factor in every operation.

The tools to ensure safe mission accomplishment come in many different forms and are readily available. They include doctrinal literature such as field manuals and aircrew training manuals, regulatory publications such as ARs and command policy letters, and operational procedures such as SOPs and technical manuals. There are also risk-management tools in the form of numerous articles in publications such as *FlightFax* and *Countermeasure*. These articles address risk-management techniques and provide risk-management examples to assist soldiers in integrating risk management into all tasks.

## Keeping safety on track

To continue on the course we have set during the first quarter of FY 95 will require the dedicated efforts of all members of the aviation team. Let's maintain our vigilance and strive to surpass the lowest Class A flight accident rate on record (1.57 per 100,000 flying hours set in FY 92).

To accomplish this feat, we must continue our initiatives to integrate risk management into everything that we do by practicing risk-management techniques until they become intuitive and accepting responsibility for our actions or lack thereof. Doing so will provide us with the best chance of keeping safety on the right track as we face the tough challenges ahead in FY 95.

**POC: MAJ James Dunn, USASC Aviation Branch, DSN 558-3754 (334-255-3754)**

# CY 94 FlightFax index


AAAA winners—April

Accident causation: a father's perspective—December

Accident investigation—safety and the law (some departing thoughts by USASC SJA)—May

Accident notification and reporting requirements—June

A crew coordination success story—March

Airfield snow-removal and ice-control plans—September

ALSE advisory message (94-02)—Availability of PRC-90 series survival radios—September

ALSE alert—CARC paint on flight helmets—September

ALSE—back to the basics—June

ALSE—it could be a matter of survival—June

ALSE—it's an ASO's responsibility too—June

ALSE—more information (additional ALSE message and ALSE-related messages—October

ALSE (points of contact for more info)—June

ALSE poster ideas wanted—August

ALSE—summary of messages 1 Jan 88 through 31 Dec 93—October

ALSE—taking it to the field—June

ALSE Technician Course info—June

ALSE technician's point of view on survival equipment—May

ALSE—where are all the trained maintenance personnel?—April

A nearly deadly combination of events (UH-1 accident review)—August

Another FOD prevention reminder—May

AN/AVS-6 users and maintainers (info on 25mm eyepiece lens assembly)—May

ANVIS/IHADSS adapter kits (for AH-64 CP/gunners available from Night Vision Directorate, Fort Belvoir)—November

Army top leaders are committed to risk management (joint message from Secretary of Army and Chief of Staff of the Army)—December

ASO corner—March, June, October, December

ATC and Army aviators—May

ATC and Army aviators revisited (update of technical points)—August

Attention AN/AVS-6 users and maintainers—May

Attention Black Hawk crews (operating in height-velocity-avoid regions can be hazardous)—January, November

Attention CH-47D operators (potential for hydrogen embrittlement on screw that retains the control valve input arm to the input crank)—February

Attention medevac commanders and standardization officers (new Medical Service Corps advisor for DES)—March

Aviation maintenance doctrinal literature—May

Aviation safety officer refresher training—March

Aviators needed for research studies—February

Back to the basics (for good safety records)—April

Battle-rostered crews (no longer required)—April

Broken Wing awards (recipients and synopses of emergencies for which awarded)—January, March, April, May, June, July, August, September, November

Brownout/whiteout prevention techniques—January

C-12C/D/F passenger seats in forward- and aft-facing positions—June

Caution—wake turbulence—March

Changes to Army accident investigations (notification and reporting requirements and suspenses)—June

Change to TC 1-210 and TC 1-216 (STACOM 161)—July

CH-47D operators (potential for hydrogen embrittlement on screw that retains the control valve input arm to the input crank)—February

Cleaning engines at the NTC (simple solution: use a kiddie pool to catch wash solution)—April

Closed-circuit refueling nozzles—February, June

Commander's Accident Prevention Plan (ASO corner)—October

Commanders' techniques for applying risk management—March

Confront the issue! (Care by speaking up when aware of unsafe acts)—December

Confronting the cold after surviving a crash (AH-64 pilots' account of survival)—September

Congratulations AAAA winners!—April

Congratulations 10th Aviation Brigade, 10th Mountain Division (winner of 1993 Unit of the Year Award)—August

Conversion to JP-8—December

Correction to "It can't work if it isn't turned on" article in September 1994 issue of FlightFax)—November

Crew coordination success story—March

Crew-error accidents at night in OH-58 aircraft—August

Crew errors—August

Crewmember's responsibilities before returning to flight duties—February

Crew readiness level progression for battle-rostered crews—April

CY 93 FlightFax index—January

CY 93 STACOM index—January

Emergency breakaway connection (restriction of)—July

Extra care required when working around aircraft—February

Facts about STACOMs (STACOM 162)—December

First quarter of FY 94 (good news that began during last half of FY 93 carried forward into early FY 94)—January

Flight crews—risk-management techniques—April

FlightFax index for CY 93—January

Flight helmets (ALSE alert on CARC paint)—September

Flight surgeon's responsibilities in returning a crewmember to flight duties—February

Flu facts—November

FOD prevention reminder—May

Follow oil-sample procedures—March

Fuel handlers' uniforms—February

FY 94 in review (recap of Class A accidents)—October

Global positioning system (use of)—June

"Grizzly Flight" celebrates 30 years of safety excellence—September

Hand-held laser pointers—October

Height-velocity-avoid region (UH-60 crews beware)—January, November

Help us serve you better (address corrections requested)—September

Help wanted: ALSE poster ideas—August

Hydrogen embrittlement (CH-47D operators cautioned of potential hydrogen embrittlement on screw in CH-47 that retains the control valve input arm to the input crank)—February

Hypobaric chamber operational—March

Inadvertent IMC (prevention measures/techniques)—February

Inadvertent jettison of wing stores—April

Individual risk assessment needed too (don't forget to consider yourself as a possible hazard)—February

Info on aviation maintenance doctrinal literature—May

It can't work if it isn't turned on (failure to turn pitot heater on leads to UH-60 crash)—September

It could be a matter of survival (ALSE)—June

It's that time again (importance of flu immunizations)—November

JP-8 fuel conversion—December

Keep doing what you're doing (until you receive new crew coordination training)—March

Keeping engines clean at the NTC (simple solution—use a kiddie pool to catch wash solution)—April

Keeping our skies safe (things that should be checked and working to ensure the air traffic system is operating safely)—December

Learning to apply risk management (comments by Director of Army Safety)—July

Les mots exacts—or "saying it like it really is," (accidents are caused by people not natural elements)—November

Lest we forget . . . (importance of caution during the winter and holiday season . . . you can't take a "holiday" from safety)—November

Maintenance NCOs and mechanics (risk-management techniques)—May

Managing risks in the cold—September

MAP datums: a note of caution—October

Medical Service Corps advisor for DES—March

Medium-risk syndrome—August

Mobile fuel laboratories (operations of)—February

More ALSE information—October

Moving out with safety (Director of Army Safety reflects on Army safety program and progress in incorporating force protection and risk management into doctrine and training)—July

Need more info on ALSE? (points of contact)—June

Night crew-error accidents in OH-58 aircraft—August

Notification and reporting requirements and suspenses for aviation and ground accidents—June

OH-58 night crew-error accidents (results of study)—August

Oil-sample procedures should be correctly followed—March

Operation of mobile fuel laboratories—February

PRAM problems—March

PRC-90 series survival radios availability (ALSE advisory message 94-02)—September

Pressure—too much of it can lead to an accident (account of how a mechanic allowed pressure by peers and supervisors to persuade him to do a task he was not authorized to do)—February

Recap of FY 94 Class A accidents—October

Refueling accident review—May

Refueling nozzles—February, June

Reminder: wear only authorized cold-weather clothing—September

Requesting teardown analysis control numbers—March

Restriction on use of the emergency breakaway connector—July

Returning to flight duties (regulatory requirements, flight surgeon's and crewmember's responsibilities)—February

Reverse-thrust landing wasn't necessary—January

Risk assessment by each soldier is needed (don't forget to consider yourself as a possible hazard)—February

Risk assessments should be valid—April

Risk management: Army top leaders are committed (message from Secretary of the Army and Chief of Staff of the Army)—December

Risk management for commanders—March

Risk management for flight crews—April

Risk management for maintenance NCOs and mechanics—May

Risk management, learning to apply it (comments by Director of Army Safety)—July

Rotorwash damage—April

Safety alert—UH-60 fuel boost pump operation now required (outgassing causing engine flameout)—November

Safety and the law (some departing thoughts by the USASC SJA)—May

Safety Center telephone numbers for systems managers—March

"Safety leads the way"—July

Safety NCOs—use them to their full potential—December

Safety performance review (first half of FY 94—comments by Director of Army Safety)—July

Safety puzzle pieces (aviation brigade commander shares what he did wrong and what he did right in his safety program)—November

Show me where it says I can't (shopping for an out in regs can have disastrous results)—November

SOPs and things (ASO corner)—October

STACOM 160—Interim change to TC 1-210—January

STACOM 161—Interim changes to TC 1-210 and 1-216—July

STACOM 162—STACOMS no longer used to publish publication changes; facts about STACOMs—December

STACOM index for CY 93—January

STACOMs no longer used to publish publication changes (STACOM 162)—December

Summary of ALSE messages from 1 October 1988 through 31 December 1993—October

Survival equipment—an ALSE technician's point of view—May

Survival equipment must be serviceable—February

Surviving a crash . . . and confronting the cold (AH-64 pilots' account of survival after hitting mountain)—September

Systems managers—new phone numbers for Safety Center Aviation Branch—March

Taking ALSE to the field—June

TC 1-210 changes (STACOM 160)—January

TC 1-210 changes (STACOM 161)—July

TC 1-216 changes (STACOM 161)—July

Teardown analysis control numbers—March

"The Charge of the Light Brigade"—August

There I was (review of refueling accident)—May

"There we were . . . " (a crew coordination success story)—March

Three pieces of the safety puzzle (aviation brigade commander shares what he did wrong and what he did right in his safety program)—November

Too much pressure can lead to an accident (account of how a mechanic allowed pressure by peers and supervisors to persuade him to do a task he was not authorized to do)—February

UH-1 accident review (a nearly deadly combination of events)—August

UH-60 fuel boost pump operation now required (safety alert)—November

Uniforms for aircraft fuel handlers—February

Use of C-12C/D/F passenger seats in forward- and aft-facing positions—June

Use of global positioning system—June

Using safety NCOs to their full potential—December

Valid risk assessments needed—April

Vibration analysis equipment—August

Video edition of FlightFax available, "Safety Alert: UH-60 Fuel Boost Pump Operation" (TVT 20-1040, PIN 710601)—November

Wake turbulence caution—March

WAR (wartime accident realism) project prevents accidental losses—July

Well done Army aviation team—October

Where are all the ALSE maintenance personnel?—April

Whiteout/brownout prevention techniques—January

Wing stores inadvertently jettisoned—April

Wire bundle chafing can be hazardous (AH-64)—November

Working around aircraft requires extra care (rotor blades, propellers, jet engine exhaust, and live armaments are constant hazards)—February

## Aviation safety action messages

### General

- Updated information on night vision goggles—February
- Revision to updated night vision goggle information—February
- Use a quality deficiency report to report fuel cell problems for all Army aircraft—April
- Nonstandard vibration analysis equipment—April
- Rescission of GEN-94-ASAM-05 concerning vibration analysis equipment—August
- Hydra-70 rocket firing from Army helicopters—September
- Addressing requests for disposition of damaged, destroyed, or deteriorated aircraft. Procedures for AVIM units to be approved to perform depot-level repair of an item—September
- Approved engine cleaners for Army turbine engines—October

### Utility

- UH-60 NVG compatibility rework of master warning panel assembly—January
- H-60 return for exchange of certain Aerospace Research Associates manufactured buckle/crotch strap assemblies, P/N D4495-28—February
- H-60 one-time refurbishment of main rotor spindle and replacement of certain main rotor thrust bearings—February
- UH-1 crew seatbelts—March
- H-60 reissue of one-time inspection to remove suspect tail rotor pitch beams—March
- H-60 Black Hawk one-time removal of tail gearboxes with tail gearbox output shaft, P/N 70358-06620-101, for rework—March
- H-60 cockpit standardization of pilot and copilot restraint release systems—March
- UH-1H/V modification to left cyclic rigid connection link—April
- Revision to UH-60-94-ASAM-07—April
- UH-1 clarification of UH-1-94-ASAM-03 concerning modification to left cyclic rigid connecting link—May
- UH-60 removal of certain primary servo assemblies—May
- UH-60 one-time refurbishment of main rotor spindle and replacement of certain main rotor thrust bearings—May
- UH-60 main rotor blade deice heater mat resistance measurements test method—May
- UH-1 one-time inspection of tail rotor drive shaft hanger bearing—June
- UH-60L authorization for aircraft to be utilized for external load operations limited to a maximum 9,000-pound static weight and a corresponding maximum external load operation gross weight of 23,500 pounds—August
- UH-60 requirement for re-shimming of tail rotor pivot bearings per revised procedures and inspection of certain blade assemblies for specified serial numbered tail rotor blades that contain composite pivot bearing retainers—August
- UH-60 requirement to operate the fuel tank submerged boost pumps on all H-60 aircraft, at all times, with all fuels, during ground and flight operations—December

### Attack

- AH-1 crew seatbelts—March
- AH-64 retirement life change for Avibank blade pins, P/N 53460-3—March
- AH-1S(MOD) one-time inspection of Grimes master panel, P/N 80-0199-39—April
- AH-1 with hub spring installed—May
- AH-64 chafing inspection of collective bellcrank and forward fuel cell—May
- AH-64 one-time inspection of wire harness W108 for chafing—May
- AH-64 one-time inspection for chafing of wire harness W102 and W119—December

### Cargo

- CH-47 crew seatbelts—March
- CH-47D, MH-47D, and MH-47E one-time and recurring inspection of certain rigid connecting links, P/N 145C3340-10, until replacement—March
- CH-47D, MH-47D, and MH-47E one-time inspection of the 5,000-pound tiedown receptacle assemblies and instructions to correct defective tiedown receptacle assemblies—June
- CH-47D, MH-47D, and MH-47E one-time and recurring inspection of hydraulic pumping unit—June

### Observation

- OH-58A/C one-time inspection of cartridge-type fuel boost pump—January
- OH-6A and AH-6C one-time inspection of fuel level sender—February
- OH-58D and improved OH-58D visual inspection of tail boom—February
- OH-58 crew seatbelts—March
- OH-58D one-time inspection of directional control tube contained within the center post—March
- OH-58A/C bonding failure of the bellmouth assemblies on the T63A720 engine—March

- OH-58A/C revised operating limits for alternate fuels—March
- OH-58A/C KY-58 wire bundle interference with collective and cyclic controls—April
- OH-58A/C one-time inspection of landing gear crosstubes—May
- OH-58 inspection of swashplate support—May
- OH-58C ATAS-equipped aircraft boresight confirmation—July
- OH-58A\C inspection of fuel quantity and low-fuel caution systems—December

### Fixed wing

- C-12 aft-facing seats—December

## Safety-of-flight messages

### Utility

- UH-1 immediate grounding of aircraft with T53-L-13BA engines—March
- UH-1 visual inspection of T53 engine data plates and instructions to obtain T53-L-13B engines—April
- UH-1 one-time inspection of tail rotor blade—July
- UH-1H/V restriction of hydraulics-off maneuvers and one-time inspection for loose main rotor hub worm gears—October

### Attack

- AH-64 main rotor stretched strap assembly—April
- AH-64 removal of main rotor stretched strap assembly—May
- AH-64 one-time inspection to locate and remove from service one main rotor stretched strap assembly—July
- AH-1S/E/F/P one-time replacement of MS17825-10 self-locking nuts—November
- AH-1 replacement of P/N MS17825-10, NSN 5310-00-455-6881 nuts on scissors and sleeve assemblies, P/N 209-010-401-11, NSN 1615-00-168-5863 in stock for AN-1S/E/F/P series aircraft IAW AH-1-94-01—December

### Cargo

- H-47 immediate grounding of aircraft assigned only to 160th SOAR—October
- H-47 rescission of SOF message CH-47-94-01 grounding H-47 aircraft assigned only to 160th SOAR—October

### Observation

- OH-58A/C inspection of main rotor trunnion for mislocated master spline—February
- OH-58D and improved OH-58D flight maneuver prohibition—June
- OH-58D flight maneuver prohibition to include specific overhauled fuel pumps—July
- OH-58 and improved OH-58D flight maneuver prohibition—September

# CY 94 STACOM index

## STACOM 160, January

- Interim change to TC 1-210
- STACOM CY 93 Index

## STACOM 161, July

- Change to TC 1-216
- Change to TC 1-210

## STACOM 162, December

- STACOMs no longer used to publish publication changes
- Facts about STACOMs

# Questions (???) about accident reporting

In case you have been out of the net lately, there are two new significant safety policy publications on the street: AR 385-40: Accident Reporting and Records, 1 November 1994; and DA Pam 385-40: Army Accident Investigation and Reporting, 1 November 1994. See the June 1994 issue of *FlightFax* for a brief description of the major changes.

Because these two publications have made notable changes to the Army accident reporting system, questions may come up that need prompt answers. If you have questions, the Director of Army Safety (proponent of these publications) suggests the following procedures:

■ Call your major Army command (MACOM) safety office for an answer because someone from the MACOM safety office may have already contacted the Army Safety Center for clarification on the same issue.

■ If your MACOM safety office does not have the answer—

- Check the SafReg Conference on E-Mail to see if the issue has been addressed previously.

• Call Mr. Lee McCown at the Army Safety Center, DSN 558-3913/2372 (334-3913/2372).

• Call the Accident Reporting answering machine, DSN 558-9513 (334-255-9513), and leave your name, the date, your specific question (with appropriate references to the AR/Pam), and your DSN or commercial telephone number. Calls will be answered within 24 duty hours.

Significant questions and appropriate responses will also be published in *FlightFax* and *Countermeasure* so that others may benefit from the information as well as the individual making the inquiry.

Also, please note that **all** Army accident reporting forms with the exception of DA Form 285, May 1991 or January 1992, are included in the back of AR 385-40 and DA Pam 385-40 and are reproducible.

**POC: Mr. Lee McCown, Policy, Installation, and Evaluation Division, DSN 558-3913 (334-255-3913)**

# Aviation gunnery strategy for 2.75-inch rockets

According to a recent message (HQ, DAMO-TR, 081802Z Dec 94), the Army Material Command (AMC) has suspended training use of 2.75-inch Hydra-70 rockets. Suspension affects production and 98 percent of the Hydra-70 stockpile. War reserve rockets are coded for combat use only. Training rockets are coded for inspection/repair before release. An investigation determined a deficiency in the propellant of some manufactured MK-66 motors. Short-term and long-term fixes are being worked. AMC anticipates release of 12,000 Hydra-70s in January 1995. Remaining rockets will be inspected and repaired/released IAW AMC strategy. Hydra-70, HE, M151 (H490) MK-40 rockets are not affected by this suspension.

To minimize the impact the suspension has on readiness and facilitate continued execution of the gunnery tasks that support unit's METL, units should consider the following temporary work-around strategies:

■ Maximize the use of simulations to maintain switchology and rocket employment skills to include notional Tables VII and VIII (this will not substitute for Table VIII live-fire qualification requirements).

■ Where available, use MK-40 HE rockets for qualification through Table VIII. This will require units to use subjective grading in place of the area weapons scoring system; however, it will allow units to remain proficient and qualified on all weapon systems.

■ Units that do not have available rockets should continue qualification through Table VIII less the rocket engagement scenarios (6 of 20 for AH-64, 6 of 16 for AH-1E/F, and 6 of 20 for OH-58D KW) and annotate the impact on their unit status report until training rockets become available. This will allow units to remain proficient/qualified in both guns and missile systems.

**POC: LTC Thomas Hinkel, HQ, DAMO-TR, DSN 225-2591**

# ASO CORNER

| ASO Refresher Course 7K-F21 | |
|---|---|
| 95-1 | 20-24 March |
| 95-2 | 22-26 May |
| 95-3 | 28 August-1 September |

# Aviation safety seminar

The 1994 Army Safety Conference was held in San Diego from 26 through 28 October. As part of the conference, the Army Safety Center hosted an Aviation Safety Professional Development Seminar.

This year's Army Safety Conference was the first to target aviation safety officers with seminars and discussions tailored to their needs. The number of participants was surprisingly large, with more than 50 officers attending each event. Based on their comments and critiques, the ASO seminar was very beneficial to the participants. The seminar's agenda is presented in the sidebar.

The most noticeable aspect of the aviation workshops was the vigorous participation by the safety officers in attendance. The seminar discussed developments in aviation safety training, current aviation safety issues such as willful indiscipline by flight crews, and aviation life support equipment (ALSE) problems identified by accident investigations. The seminar also featured briefings on the role of the Aviation Branch Safety Office (ABSO), developments in the Aircrew Coordination Program, and National Guard aviation safety issues related to restructuring of the force. Of particular value were two "Problem Identification Seminars" in which the audience selected the topics and guided the subsequent discussions. The ASO Refresher Course was discussed, from concept and program of instruction (POI) to the FY 95 schedule (see box). There was very high interest in this subject and unanimous approval for the course.

In 1995, the Army Safety Conference will be held in Dallas from 6 through 10 November in conjunction with the National Safety Conference. This central location should make the ASO Seminar accessible to more safety officers. So make your plans early to attend the 1995 Army Safety Conference and participate in the next Aviation Safety Professional Development Seminar.

**—POC: CW5 Stephen V. Rauch, Aviation Safety Officer, Training Division, DSN 558-9868 (334-255-9868)**

## Aviation Safety Seminar

**Wednesday, 26 October 1994**

Welcome . . . . . COL Scott Hyatt
Aviation Safety Training Update . . . . . CW5 Steve Rauch
Aviation Branch Safety Update . . . . . CW5 Mark Barker
Aviation Safety Issues . . . . . CW5 Steve Rauch
Aviation Safety Problem Identification Seminar . . . . . CW5 Steve Rauch
*Army Safety Workshop #1: AR and DA Pam 385-40: Army Aircraft Investigation, Reporting, and Recordkeeping, 1 November 1994*

**Thursday, 27 October 1994**

General Session . . . . . COL Scott Hyatt
Aviation Safety Problem Identification Seminar . . . . . CW5 Steve Rauch
*Army Safety Workshop #2: Installations—Partnering Opportunities*
*Army Safety Workshop #3: Pre-Disaster Planning*
*Army Safety Workshop #4: OSHA Reform—Impact on the Garrison*
*Army Safety Workshop #5: Risk Management—The Next Step and Tactical Applications*
*Army Safety Workshop #6: POV Accident Prevention*

**Friday, 28 October 1994**

Aircrew Coordination Update . . . . . CW5 Mark Barker
Aviation Safety Problem Identification Seminar . . . . . CW5 Steve Rauch
ASO General Session . . . . . CW5 Steve Rauch
*Army Safety Workshop #7: Safety and Industrial Hygiene*
*Army Safety Workshop #8: Safety Installation Support Module*
*Army Safety Workshop #9: Violence in the Workplace*
General Session (conclusion)

# New Aviation Tool System (NATS-95)

NATS-95 is the Army's new aviation tool program. Field and garrison testing of the program was conducted by the 101st Aviation Regiment at Fort Campbell, KY, in 1993. Getting the right tools to the soldiers at the Aviation Unit Maintenance (AVUM) level is the main objective of the program. Soldier feedback during the testing was used to reconfigure the tools until the optimum set was found. Following approval of the system, fielding the new tool sets began with the 101st Aviation Regiment in October 1994.

## New program features

Program components include: the tool kits/sets; the aviation footlocker (AFL), which replaces the AVUM No. 1 tool set; and a number of new tools to improve the AVUM No. 2 tool set. NATS-95 will provide the new general mechanics tool kits (GMTK) to units authorized to have the old general mechanics tool boxes. NATS-95 will also provide new tool kits for powertrain, electrical, powerplant, and airframe repair to soldiers in AVUM and Aviation Intermediate Maintenance (AVIM) shops. The tools the Army purchased in the past often were of poor quality. NATS-95 provides for industrial-quality tools through a new General Services Administration program. Because of their higher quality, these new tools should last longer and save money in the long run. Many of these higher-quality tools come with warranties. Warrantied tools that break due to defects can be replaced by simply calling a GSA 1-800 telephone number. GSA will send the replacement tool to the unit within 48 hours, along with a return envelope for the broken tool.

## Then and now

■ In previous tool sets, the tools were different colors, dimensions, and shapes. NATS-95 tools that come in sets, such as wrenches and sockets, will be maintained as just that—sets.

■ Other military services have tool boxes that are shadow-boxed to facilitate an instant inventory. With NATS-95, the Army will also have this kind of instant inventory system. The interior of the new tool kit is made of polyethylene foam, with a place for each individual tool. By regulation (AR 385-95, paragraph 3-3d(5), an inventory of tools is to be conducted after each repair is completed. A quick look at the tool kit after a repair is completed will tell a soldier if a tool is missing and which tool it is. If a tool is lost in or around an aircraft, the commander may ground the aircraft or take other action as appropriate.

The commander now has a tool system that he can use as a strong base for a tool accountability program. NATS-95 will become part of his Command Supply Discipline Program (CSDP).

■ The ergonomically designed exterior of the case is made of forest green durable polyethylene, the same material used to make Army canteens.

■ Supply catalogs will list the specific manufacturer's name, part number, and the unique national stock number (NSN) for the higher-quality tool.

■ In the past, when a soldier in an AVUM or AVIM unit required a special tool that was not part of his tool kit, he went to the tool room and signed it out. These tools were part of the AVUM No. 1 or No. 2 tool sets. Now the soldier can simply go to the platoon's AFL and sign out the tool he needs. Torque wrenches, ½-inch drive sockets, a cordless drill, measuring indicators, as well as many other frequently used tools, are included in the AFL. There is also space allocated for tools from the AVUM No. 2 tool set so the unit can tailor the tool set to the mission.

**Aviation Foot Locker (AFL), NSN: 4920-01-377-5412**

Use of tools must be in accordance with applicable safety-of-use messages and technical manuals. Do not use cordless drills around open fuel containers or fuel cells.

The AFL concept began with the platoon sergeant who would sign out various torque wrenches and other special tools before going to the field. He would put them in an Army barracks footlocker so that the tools would be immediately available when needed. This idea was extremely helpful in the field environment, and it has been carried over into the AFL. The AFL is slightly larger than the Army barracks footlocker but is easily transportable. Because it is made of polyethylene, it is also much more durable. Weighing only 142 pounds, the AFL can be carried

in the back of a utility helicopter or truck. The unit of issue for the AFL is one per five aircraft (rounded up), one per ten AVUM maintenance section repairmen (rounded up), and one per ten AVIM maintenance section repairmen for each type helicopter supported.

## A system that meets the soldier's needs

With the fielding of NATS-95, aviation soldiers are getting a system that meets their needs. The NATS-95 system will enhance the Army's mission by providing high-quality tools, a safer operating environment through tool accountability, and a reduction in foreign object damage incidents.

**—CPT John A. Lanzl was a student in Aviation Safety Officer Course 95-1 when he wrote this article. He has since been reassigned to Korea. CPT Lanzl's DSN is 753-6112/6113.**

***Editor's note:*** *The proponent of the NATS-95 is the Aviation and Troop Command, Weapon Systems Management Office for Aviation Ground Support Equipment. If you need further information about the NATS-95, contact Mr. Carl Hoeninger, DSN 693-2828/2834 (314-263-2828/2834).*

# STACOM
Standardization Communication

The Directorate of Evaluation and Standardization published USAAVNC message 271200Z Oct 94, subject: Aircraft Currency Requirements, to clarify instructor pilot and instrument flight examiner aircraft currency requirements. Following is a reprint of that message:

"1. AR 95-1, paragraphs 4-11 and 4-12, states qualified IPs and SPs will be designated in writing by the commander and qualified and current in the aircraft to be flown. AR 95-1, paragraph 4-18(1)(c), states the instrument flight evaluation will be conducted in an aircraft equipped with dual controls by an instrument flight examiner (IE) qualified and current in the aircraft category in which the evaluation is being conducted. Paragraph 4-18(2) further allows the use of a compatible simulator for this evaluation.

"2. Worldwide assessment visits have found noncurrent simulator instructor/operators, console operators, and FAC 3 aviators conducting flight evaluations in simulators. In accordance with AR 95-1 and TC 1-210, FAC 3 aviators, flight simulator instructors, and console operators cannot perform IP or IE duties unless they meet requirements of AR 95-1.

"3. If current regulatory requirements are an undue burden, request this subject be forwarded as an agenda item for the upcoming Aviation Brigade Commanders Conference.

"4. Point of contact at the Directorate of Evaluation and Standardization is CW5 Murray, DSN 558-3475."

***Editor's note:*** *This item was not on the agenda of the January 1995 Aviation Brigade Commanders Conference.*

**STACOM 163** **January 1995**

Prepared by the Directorate of Evaluation and Standardization, USAAVNC, Fort Rucker, AL 36362-5208, DSN 558-1098/3504. Information published here generally precedes the formal staffing and distribution of Department of the Army official policy. This information is provided to all commanders to enhance aviation operations and training support.

William H. Bryan
Colonel, Aviation
Director of Evaluation and Standardization

# ShortFAX
Keeping you up to date

## Delay in fielding TC 1-210

The fielding date of the new TC 1-210: Commanders Guide to Standardization will be delayed until the third quarter of FY 95. A change in editors and additional input has resulted in the delay of publication. Expect the new fielding date to be June 1995.

**—POCs: CW4 Bernard Agnew or CW4 William S. Johnson, Aviation Training Brigade, U.S. Army Aviation Center, DSN 558-3801/2864 (334-255-3801/2864)**

## Telephone area code change

The telephone area code for the Army Safety Center changes from 205 to 334 effective 15 January 1995. During a 4-month transition period, calls using the old 205 area code will go through, but beginning 13 May 1995, the new area code 334 must be used.

We suggest you go ahead and make the change on Rolodexes, FAX machines, computer modems, and anywhere else you list our telephone numbers and start using the 334 area code now.

# Accident briefs

Information based on preliminary reports of aircraft accidents

## Utility

### *UH-1 Class E*

H series - Crew was conducting NVG confined area operation. At 50 feet AGL on crosswind, they heard high-pitched wail from aircraft rear. Hydraulic pressure caution light illuminated, and crew noted significant control feedback. SP took controls, adjusted to 80 knots, and climbed to 600 feet AGL. Crew confirmed emergency procedures with checklist and elected to proceed to nearest airfield with improved runway where they declared an emergency. Control feedback was moderate with intermittent severe surges occurring in conjunction with wailing from hydraulic pump. Crew made shallow approach and running landing with no damage to aircraft.

H series - On extended final approach, PC directed PI to turn off force trim switch. PC noted stiffness in pedals and determined aircraft was incapable of hovering flight. PC informed crew and passengers they were returning to dirt strip about 20 NM away to make run-on landing. Then master caution light illuminated with no segment light. Aircraft was landed without further incident. Maintenance replaced tail rotor servo.

H series - After about 1.3 hours of flight during NOE multiship operations, PI of Chalk 2 experienced binding in pedals for about 1 second. About 3 minutes later, PI experienced binding for about 2 seconds. PI notified PC, who took controls and notified flight lead and platoon leader of problem and his intention to break out of formation and return to airfield. No further binding was detected during climbout, cruise flight, and landing. Inspection revealed tail rotor chain was worn and tail rotor servo actuator assembly showed internal wear.

### *UH-60 Class C*

A series - During postflight inspection, crew found damage to main rotor blade. Black tail rotor deice cannon plug, bracket, and connecting wires had separated in flight and struck blade.

### *UH-60 Class D*

A series - During mission to transport patient, crew encountered clouds building around mountainous areas. Selected route and VFR altitude placed crew in position of going around mountain range and cloud buildup or proceeding through a saddle. Crew estimated cloud height through saddle at 300 to 500 feet AGL. PI, who was on controls, decided to continue through saddle. PC's attention was focused on changing radio frequencies. Crew heard thud, and PC took controls. Medic reported damage to stabilator. After performing controllability check, PC elected to continue flight to airport, which was within sight. Indications were aircraft had hit a tree or low scrub/brush, damaging left stabilator. Lower anti-collision light lens was torn off.

### *UH-60 Class E*

A series - No. 2 engine experienced compressor stall during start. TGT reached 810°. Crew shut down engine, and maintenance purged water from bleed air lines and scroll casing. Aircraft had been exposed to excessive rain.

A series - During ground taxi, No. 1 tail rotor servo and reservoir-low lights illuminated followed by backup pump advisory and No. 1 hydraulic pump lights. Hydraulic line had chafed against return line.

L series - Aircraft was about 50 feet AGL in takeoff profile when M60 machinegun discharged single round into cabin floor. Crew aborted takeoff and executed precautionary landing.

## Attack

### *AH-1 Class C*

F series - Master caution and engine oil segment light illuminated during climbout. Crew landed aircraft, and smoke could be seen coming from engine area. On landing, engine oil temperature rose to 150°. PC performed emergency shutdown. Engine oil vent line had detached from bottom of engine oil reservoir during flight.

### *AH-64 Class C*

A series - While in cruise flight during gunnery training, pilot smelled burning odor in cockpit. Pilot initiated turn back to FARP. Shortly after turn was completed, No. 2 nose gearbox oil temperature light illuminated. PC initiated precautionary landing. Shortly after nose gearbox oil temperature light illuminated, No. 2 engine failed. Once aircraft was on ground, PC noticed smoke and flames coming from No. 2 nose gearbox area. PC extinguished flames with onboard fire extinguisher and turned aircraft over to maintenance. Investigation revealed probable bearing failure of output shaft had occurred, allowing fan to come in contact with diffuser. Diffuser overheated and parts broke away and entered engine, causing sudden stoppage.

### *AH-64 Class E*

A series - During cruise flight, crew heard thump but noted no other indications. About 15 minutes into flight, nose gearbox oil-hot light illuminated on No. 1 engine. Crew returned to airfield and made single-engine landing. During ground taxi, crew saw left transmission panel blowing around taxiway. Loose panel apparently blocked airflow to nose gearbox, causing it to overheat.

## Observation

### *OH-58 Class B*

D series - During currency training at approximately 1,200 feet AGL, IP retarded throttle to initiate simulated engine failure maneuver. As PI initiated turn, engine quit. Aircraft landed hard, resulting in major damage to main rotor, tailboom, and landing gear. Reason for engine failure has not been determined.

### *OH-58 Class C*

A series - Aircraft was operating at 90 percent N2 RPM while being washed down with water hoses prior to loading on ship for redeployment. PC noted reduction in engine RPM and shut down aircraft. When engine TOT dropped below 200°, MTP instructed PC to restart aircraft. During restart, engine TOT rose to 900° at normal rate, then began rising rapidly until it exceeded 1,000°. PC executed emergency shutdown. Investigation continues.

### *OH-58 Class E*

C series - During cruise flight, PI initiated shallow left turn while increasing collective. N2 dropped to 90 percent RPM, and audio and light activated. PI moved governor increase/decrease switch to full increase, and N2 RPM began recovering to 100 percent. Crew verified throttle was full open. During approach, PC noticed slight engine surges. After landing, N2 decreased to 98 percent and stabilized. Maintenance found loose wire on linear actuator. MTP was unable to duplicate drop in N2.

## Trainer

### *TH-67 Class C*

During postflight inspection, crew found wrinkles in tailboom about 12 inches aft of point where tailboom attaches to fuselage. Crew had been performing touchdown autorotations.

## Fixed wing

*C-12 Class E*

D series - Crew took off after aircraft was deiced. As aircraft entered clouds at 400 feet AGL, No. 1 engine fire light illuminated. Pilots verified there was no fire and returned to airfield. After maintenance cleaned and dried in-line connectors to sensors, fire light went out. Suspect deicing fluid caused fire light to come on.

*U-21 Class C*

F series - During routine preventive maintenance, BASI personnel found small burn spot on trailing edge of left prop. Lightning had struck left prop, exiting through right rear elevator end cap.

## Messages

■ Safety-of-flight technical message concerning one-time visual inspection of upper boost actuator serial numbers on all CH-47D, MH-47D, and MH-47E aircraft to ensure proper screws are installed (CH-47-95-01, 062048Z Dec 94). Summary: A 1992 accident in Alaska was caused by a screw in the upper boost actuator control valve failing from hydrogen embrittlement. The failed screw restricted the travel of the pilot valve in the actuator, resulting in reduced controllability of the aircraft. To correct the problem, the material and plating of the screws have been changed. Also, the bonded nylon locking feature of the screws has been changed to a hexagonal or round configuration from a longitudinal strip type. After replacing the eight actuator screws IAW Boeing letter/message 8-1420-3-4440, the actuators were reidentified with the letter A behind the serial number on the metal decal as stated in CH-47-93-02 message. Recently, however, CH-47 units have been reporting that they are receiving actuators from the supply system without the letter A following the serial number. The purpose of this message is to direct a one-time visual inspection of serial numbers on all upper boost actuators. Actuators without the letter A behind the serial number are required to be replaced prior to the next flight. Contact: Mr. Brad Meyer, DSN 693-2085, (314-263-2085).

■ Aviation safety action maintenance mandatory message concerning revision to updated information on night vision goggles (GEN-95-ASAM-01, 132121Z Dec 94). Summary: The purpose of this message is to provide consolidated and updated information on aviation NVG messages. It is not intended to replace any publication. This message does not address NVGs used for ground operations. Contact: Mr. Brad Meyer, DSN 693-2085 (314-263-2085).

■ Aviation safety action maintenance mandatory message regarding reduction of torque of self-retaining pivot bolts on all H-60 aircraft (UH-60-95-ASAM-04, 071536Z Nov 94). Summary: During review of maintenance procedures, it was determined that the installation torque for the self-retaining pivot bolts is incorrect. Purpose of this message is to reduce the installation torque and at the next PMS II require application of corrosion preventative compound on all aircraft and replacement of SS5092-12 and -14 nuts with MS21244-12 and -14 nuts on certain UH-60L and MH-60K aircraft. Contact: Mr. Lyell Myers, DSN 693-2438 (314-263-2438).

■ Aviation safety action maintenance mandatory message concerning one-time and recurring daily inspection of thrust idler assembly on all CH-47D, MH-47D, and MH-47E aircraft (CH-47-95-ASAM-01, 132230Z Dec 94). Summary: Recent field reports indicate that thrust idler assemblies, P/N 145C1408-1, are being discovered with bent inboard arms. At least one case of inflight failure has occurred, which resulted in a loss of engine/rotor droop anticipation. The thrust idler assemblies are not loaded laterally during their normal mode of operation and, consequently, are not designed to withstand abnormal lateral loading. Drawings will be changed to reinforce the thrust idler assembly. Purpose of this message is to require a one-time and recurring daily inspection of the thrust idler assembly for bending and cracking. Contact: Mr. Brad Meyer, DSN 693-2085 (314-263-2085).

**For more information on selected accident briefs, call DSN 558-2119 (334-255-2119).**

**What is the good of experience if you do r**

**—Fre**

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- Moving in the right direction
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- Delay in fielding TC 1-210


## Class A Accidents through December

| | | Class A Flight Accidents | | Army Military Fatalities | |
|---|---|---|---|---|---|
| | | 94 | 95 | 94 | 95 |
| 1ST QTR | October | 2 | 0 | 0 | 0 |
| | November | 3 | 0 | 0 | 0 |
| | December | 2 | 1 | 2 | 0 |
| 2D QTR | January | 1 | | 2 | |
| | February | 2 | | 0 | |
| | March | 0 | | 0 | |
| 3D QTR | April | 5 | | 2 | |
| | May | 0 | | 0 | |
| | June | 0 | | 0 | |
| 4TH QTR | July | 4 | | 5 | |
| | August | 1 | | 0 | |
| | September | 1 | | 0 | |
| | TOTAL | 21 | 1 | 11 | 0 |


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Commanding General
U.S. Army Safety Center


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