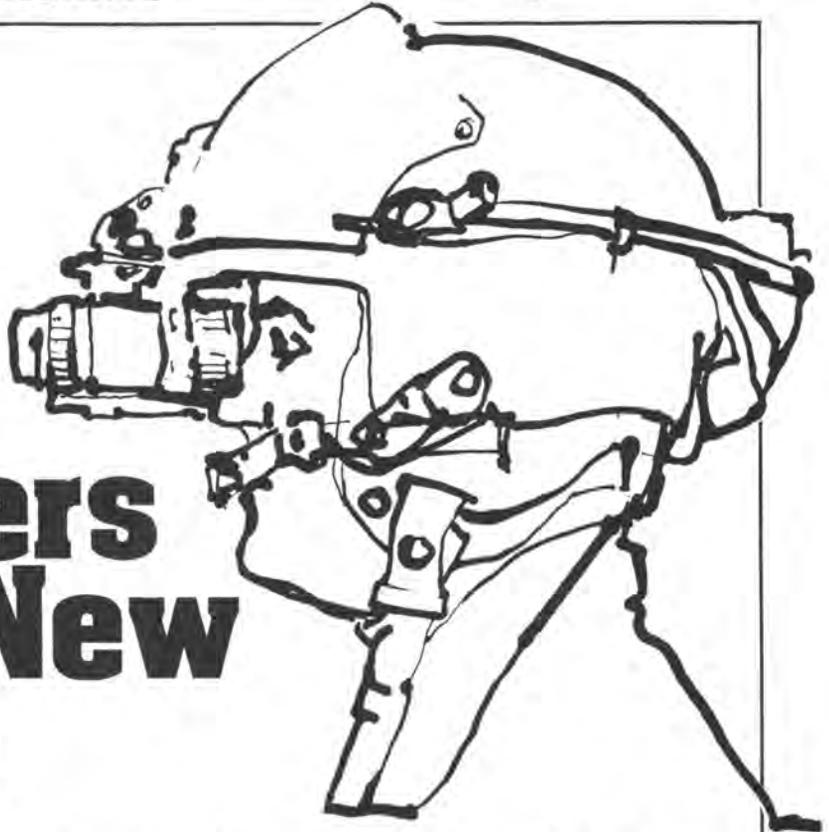


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REPORT OF ARMY AIRCRAFT ACCIDENTS

Aviation NVG Maintainers Receive New Guidance



For several years, aviation night vision goggle (NVG) personnel struggled to comply with multiple references: manuals, messages (as many as 77 at one time), booklets, and articles on NVG maintenance. The Army Aviation Center realized the difficulty and sometimes pure frustration NVG personnel were experiencing in attempting to determine which references to use, specific NVG services required, how often the service was required, and who should perform the service.

Help arrived

With assistance from representatives of the Project Manager Night Vision & Electro-Optics (PMNVEO) and the Aviation Systems Command, the Aviation Center began work to consolidate all of the current instructions and procedures into one document. The Herculean effort to reduce the number of references to a more-workable level was completed in March 1991.

On 22 March 1991, PMNVEO released a mes-

sage consolidating current aviation NVG maintenance requirements and updating requirements for maintenance documentation. And in June 1991, *Flightfax* published the 221530Z Mar 91 PMNVEO message text and included sample forms to show maintenance personnel how to complete the forms.

Even after almost 2 years, we still get comments from the field and from NVG subject matter experts indicating that this NVG maintenance message and the sample forms provided in *Flightfax* quickly became the NVG maintainer's bible.

New guidance

The Aviation and Troop Command has just issued an aviation safety action message (ASAM) outlining new aviation NVG maintenance documentation requirements (GEN-93-ASAM-05, 091330Z Mar 93). In hopes that *Flightfax* can be of help again, we are reproducing the text of the new message and including sample forms to assist maintainers responsible for complying with the message documentation requirements. ♦

Aviation NVG maintenance documentation requirements

Following is the revised text of an aviation safety action message (ASAM) concerning aviation NVG maintenance documentation (GEN-93-ASAM-05, 091330Z Mar 93) issued by the Aviation and Troop Command (ATCOM). This message updates present aviation NVG maintenance documentation requirements and becomes effective immediately upon receipt. This 091330Z Mar 93 ASAM supersedes Project Manager Night Vision & Electro-Optics (PMNVEO) message 221530Z Mar 91 and the subsequent reprint of that message in the June 1991 issue of *Flightfax*. GEN-93-ASAM-05 will be used to supplement DA Pam 738-751: Functional Users Manual for the Army Maintenance Management System—Aviation (TAMMS-A), dated 15 June 1992. The new aviation NVG maintenance documentation message will expire on 31 December 1993.

Current NVG forms and maintenance documentation requirements

■ *Equipment record folder (logbook)*. Each set of NVGs will have a logbook. The logbook (NSN 7510-01-065-0166) is illustrated in DA Pam 738-750: Functional Users Manual for the Army Maintenance Management System (TAMMS), page 9, figure 2-1, and is available at self-service supply centers. It will be used to maintain NVG historical records.

■ *Forms*. DA Form 2404: Equipment Inspection and

Maintenance Worksheet and DA Form 2408-18: Equipment Inspection List are no longer required for NVG maintenance documentation. DA Forms 2407, 2408-5, 2408-15, 2408-22, 2408-30, and 5504 and DD Forms 1574, 1576, and 1577-2 will be used to document NVG maintenance requirements. A new DA Pam 738-751 will be issued in September 1993 and will reflect these NVG maintenance documentation requirements.

Note: Damaged or obliterated forms will be processed IAW DA Pam 738-751.

Note: Red X status symbols must be cleared by an individual designated in writing by the unit commander IAW DA Pam 738-751.

□ *DA Form 2407: Maintenance Request or DA Form 5504: Maintenance Request*. Use this form to forward NVGs to a higher maintenance level for scheduled or unscheduled maintenance. After completion of maintenance and receipt of NVGs, place the "organizational" copy of DA Form 2407 or DA Form 5504 in the pocket located inside the back cover of the logbook. Dispose of DA Form 2407 or 5504 IAW DA Pam 738-751.

□ *DA Form 2408-5: Equipment Modification Record (figure 1)*. Place this form in the first vinyl page of the logbook and use it to document authorized DA modifications to the NVGs. Dispose of this form IAW DA Pam 738-751.

□ *DA Form 2408-15: Historical Record for Aircraft (figure 2)*. Place this form in the second

vinyl page of the logbook and use it to document the following:

- One-time inspections; for example, successful distortion evaluations and service upon receipt inspection.

- Compliance with safety-of-flight (SOF) messages, ASAMs, safety-of-use (SOU) messages, and technical bulletins (TBs).

- Replacement of image intensifier tube(s). Record the new serial numbers.

- Installation of light interference filter kit.

□ *DA Form 2408-22: Helmet and Oxygen Mask/Connector Inspection Record (figure 3)*. This form provides a record of helmet and NVG visor inspections and maintenance performed. Use it to document the 120-day visor continuity check. In block 7, record the type of NVG visor or mount installed on the helmet. Maintain this form separately from the NVG records and dispose of it IAW DA Pam 738-751.

□ *DA Form 2408-30: NVG Inspection and Maintenance Record (figure 4)*. A current DA Form 2408-30 is the only form required to be maintained in the NVG carrying case.

- Use this form to record all faults and document all corrective actions taken for the following:

- Deficiencies discovered while performing operator checks.

Note: There is no requirement to document "Pre-operational check due" or "Operators check due" on DA Form 2408-30.

- 90-day preventive maintenance checks and services

(PMCS).

—180-day services.

—Special inspections; for example, distortion evaluations.

• The current DA Form 2408-30 will be managed by the owning unit. It is recommended that units retain the DA Form 2408-30 at aviation unit maintenance while NVGs are at aviation intermediate maintenance (AVIM). After NVGs are returned from a maintenance facility, the owning unit will complete the DA Form 2408-30 by signing off the completed work under Part II—Correcting Information block. Examples are "180-day service completed; see DA Form 2407 or 5504 work order number XXXXXX" or "intensifier tube replaced, serial number XXXXXX; see DA Form 2407 or 5504 work order number XXXXXX." Variation of wording is acceptable. Under Part I—Fault Information, record the next scheduled inspection. Calculate the next scheduled 90-day PMCS and 180-day service due dates from block 26 of DA Form 2407 or block 37A of DA Form 5504. Enter these calculated dates in block 6 of DA Form 2408-30.

• The current DA Form 2408-30 will not be maintained in the logbook. Maintain it in the NVG carrying case until completely filled. When DA Form 2408-30 is completely filled, close it out and place it in the third vinyl page of the logbook. The form will remain there for 1 year from the date of the last entry. If more than one DA Form 2408-30 is closed out during the year, place the form(s) in the fourth vinyl page of the logbook. To complete a closeout, initiate a new DA Form 2408-30 and indicate the next inspections due (90-day PMCS and 180-day ser-

vice) in block 6. Under Part I—Fault Information, record the next scheduled inspection and any uncorrected faults. This DA Form 2408-30 will then become the current form.

• NVG hours will not be entered on DA Form 2408-30 unless the unit is directed to do so by the MACOM.

□ *DD Form 1574: Serviceable Tag—Materiel.* Use this form to identify serviceable NVGs returned from maintenance. Destroy this form after DA Form 2408-30 has been updated.

□ *DD Form 1576: Test/Modification Tag—Materiel.* This form is used by AVIM to identify NVGs requiring a distortion evaluation. After replacement of either one or both image intensifiers, AVIM will mark the form "distortion evaluation is required prior to use." Variation of wording is acceptable. Destroy this form after a successful distortion evaluation has been completed and entered on DA Form 2408-15.

□ *DD Form 1577-2: Unserviceable (Reparable) Tag—Materiel.* Use this form to identify an unserviceable NVG; for example, one with a cracked monocular housing or one that failed the distortion evaluation. Destroy this form when no longer required.

Summary of form locations

■ Maintain the following forms in the NVG logbook:

□ DA Form 2408-5—first vinyl page.

□ DA Form 2408-15—second vinyl page.

□ DA Form 2408-30 (current closeout)—third vinyl page.

□ DA Form 2408-30 (other closeouts)—fourth vinyl page.

□ DA Form 2407 or 5504 (organizational copy)—inside back cover.

■ Maintain the current DA Form 2408-30 in the NVG carry-

ing case. Fold the form to fit inside the NVG case. This is the only form required to be maintained in the NVG carrying case.

■ Maintain the DA Form 2408-22 separately from the NVG logbook.

Recurring tests, inspections, and documentation requirements for AN/PVS-5, GM-6, and ANVIS

■ *Operator checks.* The operator will accomplish the operator checks IAW the appropriate operators manual. In addition to these checks, an optional low/high light resolution test may be performed by the operator using the TS-4348/UV in accordance with TM 11-5855-263-10. Record deficiencies found during the operator checks on DA Form 2408-30.

■ *90-day PMCS.* Document the accomplishment of the 90-day PMCS on DA Form 2408-30. This inspection is performed by aviation unit maintenance IAW appropriate maintenance publications and consists of—

□ Inspection, checks, and servicing of the NVG and power pack.

□ Low/high light resolution test.

□ Inspection of modified faceplate (AN/PVS-5 series only).

Note: The 90-day PMCS may be accomplished within, but not to exceed, a 10-percent plus or minus tolerance from the scheduled calendar date.

■ *180-day service.* Document the accomplishment of the 180-day service on DA Form 2408-30. This inspection is performed by AVIM IAW appropriate maintenance publications and consists of—

□ The 90-day PMCS on the

1. NOMENCLATURE NIGHT VISION GOGGLE		2. MODEL AN/PVS-5 (GM-6)		3. AIRCRAFT SERIAL NUMBER 2684A		
4. MWO NUMBER AND DATE AVSCOM MSG 312000Z JUL 90 M F	5. MWO TITLE ONE-TIME WIRING OF GM-6 MOUNT	6. ORGANIZATION APPLYING MWO DOL MAINT FT. RUCKER, AL	7. NAME OR PID T. Bogie	8. DATE 12 SEP 90	9. MAN-HRS 1.0	

DA FORM 2408-5, OCT 91

EQUIPMENT MODIFICATION RECORD

EDITION OF JAN 64 IS OBSOLETE

For use of this form, see DA PAM 738-751; the proponent agency is DCSLOG

Figure 1. Example of a completed DA Form 2408-5: Equipment Modification Record

1. AIRCRAFT MODEL AN/AVS-6 (V)1		2. NOMENCLATURE ANVIS		3. AIRCRAFT SERIAL NUMBER 2641A		
4. REMARKS	5. ORGANIZATION LOCATION	6. DATE	7. ENTRY NUMBER	8. PID		
LIGHT INTERFERENCE FILTER (LIF) KIT INSTALLED	HHC, ATB FT. RUCKER, AL.	6 FEB 93	1	S. Loney		
RIGHT IMAGE INTENSIFIER REPLACED SN 05362 AA	HHC, ATB FT. RUCKER, AL.	9 APR 93	1	S. Loney		
DISTORTION EVALUATION COMPLETED	HHC, ATB FT. RUCKER, AL.	14 APR 93	1	S. Loney		

DA FORM 2408-15, OCT 91

HISTORICAL RECORD FOR AIRCRAFT

EDITION OF JAN 64 IS OBSOLETE

For use of this form, see DA PAM 738-751; the proponent agency is DCSLOG

Figure 2. Example of a completed DA Form 2408-15: Historical Record for Aircraft

1. NAME ROWE, RODNEY H.		2. RANK MW4		3. ORGANIZATION HHC, ATB	
4. ANNUAL FITTING		5. HELMET TYPE SPH-4B		6. SIZE X-LGE	
				7. OXYGEN MASK TYPE / VISOR ANVIS	
				8. SIZE	
9. HELMET AND OXYGEN MASK/CONNECTOR INSPECTION RECORD					
INSPECTION DATE a		REMARKS b		NAME c	
15 MAR 93		120-DAY HELMET INSP.		C. Smith	
2 APR 93		120-DAY VISOR CONTINUITY CK		C. Smith	
10. HELMET AND MASK REPAIR DATA			11. TECHNICAL INSPECTION		
DATE a		INITIALS b	COMPONENT REPAIR/REPLACE c		DATE a
2 APR 93		C.S.	INSTALLED ANVIS		2 APR 93
			MOUNT		

DA FORM 2408-22, DEC 91

HELMET AND OXYGEN MASK/CONNECTOR INSPECTION RECORD

EDITION OF DEC 84 IS OBSOLETE

For use of this form, see DA PAM 738-751; the proponent agency is DCSLOG

Figure 3. Example of a completed DA Form 2408-22: Helmet and Oxygen Mask/Connector Inspection Record

1. NOMENCLATURE ANVIS		2. MODEL AN/AVS-6 V1		3. SERIAL NUMBER		4. NSN 2641 A		5. UIC W0U950			
6. NEXT INSPECTIONS DUE		90-DAY PMCS DUE 23 MAY 93				180-DAY SERVICE DUE 21 AUG 93					
PART I - FAULT INFORMATION						PART II - CORRECTING INFORMATION					
L STATUS	SYS	DATE 4 FEB 93	NO	TIME 0800	PID	DATE 24 FEB 93		TIME 1320	HRS		
FAULT/REMARKS 180-DAY SERVICE DUE 12 FEB 93 S. Joney						ACTION CODE				WUC	
ACTION SERVICE COMPLETED, SEE 2407 # 879620 S. Joney						PID	HOURS	PID	HOURS	PID	HOURS
A/C HRS	WHEN DISC	HOW REC	MAL EFF	WUC	CMH	OMH	FMH	DMH			
W/O		REQ		OTHER		TI MAN-HOURS					
L STATUS	SYS	DATE 24 FEB 93	NO	TIME 1330	PID	DATE 24 FEB 93		TIME 1400	HRS		
FAULT/REMARKS MOC DUE FOR COMPLETION OF 180-DAY SERVICE S. Joney						ACTION CODE				WUC	
ACTION MOC COMPLETED S. Joney						PID	HOURS	PID	HOURS	PID	HOURS
A/C HRS	WHEN DISC	HOW REC	MAL EFF	WUC	CMH	OMH	FMH	DMH			
W/O		REQ		OTHER		TI MAN-HOURS					

DA FORM 2408-30, DEC 91

NVG INSPECTION AND MAINTENANCE RECORD

For use of this form, see DA PAM 738-751; the proponent agency is DCSLOG

Figure 4. Example of completed DA Form 2408-30: NVG Inspection and Maintenance Record (front)

<input checked="" type="checkbox"/>	STATUS	SYS	DATE	NO	TIME	PID	DATE	TIME	HRS			
			26 FEB 93		1015		26 FEB 93	1030				
FAULT/REMARKS <i>S. Joney</i> INDOOR DISTORTION EVAL DUE							ACTION CODE			WUC		
							ACTION EVAL COMPLETED, DISTORTION OBSERVED <i>R. Rowe, M. Colbert</i>					
							PID	HOURS	PID	HOURS		
							PID	HOURS	PID	HOURS		
A/C HRS							CMH	OMH	FMH	DMH		
WHEN DISC							TI MAN-HOURS					
HOW REC												
MAL EFF												
WUC												
WO												
REQ												
OTHER												
<input checked="" type="checkbox"/>	STATUS	SYS	DATE	NO	TIME	PID	DATE	TIME	HRS			
			1 MAR 93		2015		1 MAR 93	2030				
FAULT/REMARKS <i>S. Joney</i> OUTDOOR DISTORTION EVAL DUE							ACTION CODE			WUC		
							ACTION EVAL COMPLETED, RELEASED FOR FLIGHT <i>R. Rowe, M. Colbert</i>					
							PID	HOURS	PID	HOURS		
							PID	HOURS	PID	HOURS		
A/C HRS							CMH	OMH	FMH	DMH		
WHEN DISC							TI MAN-HOURS					
HOW REC												
MAL EFF												
WUC												
WO												
REQ												
OTHER												
<input type="checkbox"/>	STATUS	SYS	DATE	NO	TIME	PID	DATE	TIME	HRS			
			2 MAR 93		0900							
FAULT/REMARKS <i>S. Joney</i> 90-DAY PMCS DUE 23 MAY 93							ACTION CODE			WUC		
							ACTION					
							PID	HOURS	PID	HOURS		
							PID	HOURS	PID	HOURS		
A/C HRS							CMH	OMH	FMH	DMH		
WHEN DISC							TI MAN-HOURS					
HOW REC												
MAL EFF												
WUC												
WO												
REQ												
OTHER												
7 NVG OPERATIONAL HOURS							a CURRENT		b TODAY		c TOTAL	

REVERSE OF DA FORM 2408-30, DEC 91

*U.S. Government Printing Office: 1992 - 311-330/50158

Figure 4. Example of completed DA Form 2408-30: NVG Inspection and Maintenance Record (reverse)

<input checked="" type="checkbox"/>	STATUS	SYS	DATE	NO	TIME	PID	DATE	TIME	HRS			
			2 APR 93		2310		14 APR 93	1000				
FAULT/REMARKS <i>J. Riley</i> RIGHT TUBE DISTORTED							ACTION CODE			WUC		
							ACTION TUBE REPL SN 05362AA SEE 2407 # 215852 <i>C. Smith</i>					
							PID	HOURS	PID	HOURS		
							PID	HOURS	PID	HOURS		
A/C HRS							CMH	OMH	FMH	DMH		
WHEN DISC							TI MAN-HOURS					
HOW REC												
MAL EFF												
WUC												
WO												
REQ												
OTHER												
<input checked="" type="checkbox"/>	STATUS	SYS	DATE	NO	TIME	PID	DATE	TIME	HRS			
			14 APR 93		1015		14 APR 93	1030				
FAULT/REMARKS <i>S. Joney</i> INDOOR DISTORTION EVAL DUE							ACTION CODE			WUC		
							ACTION EVAL COMPLETED, RELEASED FOR FLT <i>R. Rowe, M. Colbert</i>					
							PID	HOURS	PID	HOURS		
							PID	HOURS	PID	HOURS		
A/C HRS							CMH	OMH	FMH	DMH		
WHEN DISC							TI MAN-HOURS					
HOW REC												
MAL EFF												
WUC												
WO												
REQ												
OTHER												
<input checked="" type="checkbox"/>	STATUS	SYS	DATE	NO	TIME	PID	DATE	TIME	HRS			
			16 APR 93		2100		16 APR 93	2105				
FAULT/REMARKS <i>R. Rowe</i> TM 11-5855-263-10 IS NOT IN NVG CASE							ACTION CODE			WUC		
							ACTION INSTALLED OPERATORS MANUAL INSIDE NVG CASE <i>C. Smith</i>					
							PID	HOURS	PID	HOURS		
							PID	HOURS	PID	HOURS		
A/C HRS							CMH	OMH	FMH	DMH		
WHEN DISC							TI MAN-HOURS					
HOW REC												
MAL EFF												
WUC												
WO												
REQ												
OTHER												
7 NVG OPERATIONAL HOURS							a CURRENT		b TODAY		c TOTAL	

REVERSE OF DA FORM 2408-30, DEC 91

*U.S. Government Printing Office: 1992 - 311-330/50158

Figure 4. Additional examples of completed DA Form 2408-30: NVG Inspection and Maintenance Record (reverse)

NVG and power pack.

- System current drain test.
- Infinity focus check (ANVIS only).
- Collimation check.
- Nitrogen purge.

Note: The 180-day service may be accomplished within, but not to exceed, a 10-percent plus or minus tolerance from the scheduled calendar date.

■ *Maintenance operational check (MOC).*

□ When maintenance has been performed by AVIM, the owning unit will accomplish an MOC using table 2-1 of the appropriate unit/intermediate maintenance manual.

□ Document the completion of the MOC on DA Form 2408-30.

□ The low/high light resolution test is not required as part of the MOC.

Dual battery pack (power pack)

■ All power packs require a 90-day PMCS and a 180-day service IAW the appropriate technical manual.

■ All power packs will have a gummed label attached that will indicate the 90-day PMCS and 180-day service due dates.

Note: The 90-day PMCS and 180-day service may be accomplished within, but not to exceed, a 10-percent plus or minus tolerance from the scheduled calendar date.

120-day visor continuity check documentation requirements

■ All visors that are placed into service are required to have a recurring 120-day visor continuity check.

Note: Anytime a visor is installed on a helmet, it is placed into service and requires a 120-day continuity check. This includes removing a visor from one helmet and installing it on

another helmet.

■ Document this check on the DA Form 2408-22 for that helmet.

Distortion testing

■ References 6, 9, and 10 on page 8 describe specific procedures for accomplishing the distortion test.

■ A distortion test is required for the following conditions:

□ Service upon receipt of materiel (newly fielded NVGs or newly assigned NVGs without successful distortion evaluation documentation).

□ Replacement of image intensifier tube(s).

□ Receipt of NVGs with a DD Form 1576 attached.

■ Document all distortion tests and results on the current DA Form 2408-30. Also, document the completion of a successful distortion test on DA Form 2408-15.

GM-6 operator checks

Use the following checklist to accomplish GM-6 operator checks. Maintain a copy of these checks with TM 11-5855-238-10 dated 1 April 1988. Record deficiencies found during operator checks on DA Form 2408-30.

■ *GM-6 binocular mount.* Inspect the bracket for cracks and security of the pivot adjustment shelf. Check the pivot assembly dual contact and spring balls for dirt and wear.

■ *ANVIS visor mount assembly.* Check the mount for security. Inspect the assembly for cracks and the mounting holes for wear.

■ *Wiring.* Check for loose or frayed wires.

■ *Low-battery-indicator check.* With batteries installed, set the lower system power switch to the ON position. Unscrew the lower battery cap. The low-

battery-indicator light should illuminate to indicate a simulated low-battery condition. Screw the lower battery cap on. Repeat the process to check the upper battery system.

■ *Lenses.* Inspect the objective and eyepiece lenses for dirt, dust, fingerprints, scratches, chips, or cracks. Document the location of chips or cracks, and return the NVGs to the maintainer. When necessary, clean and dry lenses using clean water and lens paper.

■ *Binocular contacts.* Inspect the dual contacts for dirt and wear. Clean if dirty, and return to the maintainer if worn.

■ *Adjustments.* Move adjustments through their full range of travel to ensure freedom of movement.

References

Current NVG maintenance references are listed on page 8. If there is a conflict between this message and any other reference listed on page 8, this message takes precedence.

Points of contact (POCs)

■ Army Aviation Center, MW4 Rodney Rowe, CW4 Malcolm Colbert, or SFC Sherman Loney, DSN 558-5858/5812/3720, commercial 205-255-5858/5812/3720.

■ PMNVEO, Mr. Glen Nowak, DSN 656-4278/4277, commercial 703-806-4278/4277.

■ ATCOM, DA Pam 738-751, Mr. Bill Waldrop or Ms. Ann Waldack, DSN 693-1821/1822, commercial 314-263-1821/1822.

■ ATCOM, safety, Mr. Brad Meyer, DSN 693-2085, commercial 314-263-2085.

■ After hours, contact ATCOM Command Operations Center, DSN 693-2066/2067, commercial 314-263-2066/2067. ♦

Recap of NVG maintenance references

- 1.** TM 11-5855-238-10: Operator's Manual, Night Vision Goggles, AN/PVS-5, 5A, 5B, and 5C, dated 1 Apr 88. (Under revision.)
- 2.** TM 11-5855-238-20: Unit Maintenance Manual, Night Vision Goggles AN/PVS-5, AN/PVS-5A (NSN 5855-00-150-1820), AN/PVS-5B (NSN 5855-01-228-0938), AN/PVS-5C (NSN 5855-01-228-0936), dated 15 Oct 88. (Under revision.)
- 3.** TM 11-5855-238-24 & P: Organizational, Direct Support, and General Support Maintenance Manual, Including Repair Parts and Special Tools List, (Including Depot Maintenance Repair Parts and Special Tools), Night Vision Goggles AN/PVS-5 and AN/PVS-5A, dated Dec 77. (Under revision.)
- 4.** TM 11-5855-238-24 & P: Organizational, Direct Support, and General Support Maintenance Repair Kits and Special Tools List, (Including Depot Maintenance Repair Parts and Special Tools), Night Vision Goggles AN/PVS-5, AN/PVS-5A, AN/PVS-5B, and AN/PVS-5C, dated 1 Oct 87. (Under revision.)
- 5.** TM 11-5855-263-10: Operator's Manual, Aviator's Night Vision Imaging System (ANVIS) AN/AVS-6(V1) (NSN 5855-01-138-4749) and AN/AVS-6(V2) (NSN 5855-01-138-4748), dated 15 Sep 91.
- 6.** TM 11-5855-263-23 & P: Aviation Unit and Intermediate Maintenance Manual, Aviator's Night Vision Imaging System. AN/AVS-6(V1) and AN/AVS-6(V2), dated 15 Jan 92.
- 7.** TM 10-8415-206-12 & P: Operator's and Organizational Maintenance Manual, (Including Repair Parts and Special Tool List), dated 5 May 86. (SPH-4 helmet manual.)
- 8.** DA Pam 738-751: Functional Users Manual for the Army Maintenance Management System—Aviation (TAMMS-A), dated 15 Jun 92. (Under revision.)
- 9.** CDRAVSCOM message 172225Z Mar 89, subject: Aviation Night Vision Goggle, Operational Evaluation, One-Time Evaluation of All AN/PVS-5A, 5B, and 5C Series Night Vision Goggles (NVG) and AN/AVS-6 Aviator's Night Vision Imaging System (ANVIS). (This message has expired for ANVIS and will expire for AN/PVS-5 upon receipt of TM 11-5855-238-23 & P.)
- 10.** CDRAVSCOM message 172359Z Mar 89, subject: Maintenance Advisory for AN/PVS-5A, 5B, and 5C Series Night Vision Goggles and AN/AVS-6 Aviator's Night Vision Imaging System (ANVIS) Returned For Unacceptable Distortion. (This message will expire upon receipt of TM 11-5855-238-23 & P.)
- 11.** CDRAVSCOM message, 312000Z Jul 90, subject: One-Time Wiring Modification of All PVS-5 Series NVGs Utilizing the Aviation GM-6 Mount. (This message will expire upon receipt of TM 11-5855-238-23 & P.)
- 12.** CDRAVSCOM message 292000Z Aug 90, subject: Clarification of One-Time Wiring Modification of All AN/PVS-5A, 5B, and 5C Series Night Vision Goggles Utilizing the Aviation GM-6 Modification (NVG-90-02). (This message will expire upon receipt of TM 11-5855-238-23 & P.)
- 13.** CDRATCOM message 211830Z Dec 92, subject: Aviation Safety Action Message, Maintenance Mandatory, Updated Information on Night Vision Goggles (GEN-93-ASAM-02). (TB 1-1500-346-20 dated 24 Dec 92 superseded this message and TB 1-1500-346-20 dated 15 Apr 92.)
- 14.** CDRATCOM message 061300Z Jan 93, subject: Aviation Safety Action Message, Informational, Status of New DA Pam 738-751: Functional Users Manual for The Army Maintenance Management System—Aviation (TAMMS—A), dated 15 Jun 92 (GEN-93-ASAM-03). (NVG guidance contained in this message is rescinded effective immediately.)
- 15.** CDRATCOM message 011500Z Mar 93, subject: Aviation Safety Action Message, Maintenance Mandatory, Use of Dual Visor on SPH-4B Aviator Helmet and Related Information (GEN-93-ASAM-04). (TB 1-1500-347-30 expires on 31 December 1993.) ♦

The privileged status of cockpit voice recordings

The intracockpit voice recorder is an extremely important tool for accident investigation boards. In a case where there are no survivors or eyewitnesses to the accident, the recorder may be absolutely critical to our efforts to reconstruct what happened in the cockpit as the accident sequence unfolded. This recording of intracockpit crew communications can provide what no other technical data can—an illustration of actual crew coordination efforts during that critical period. This information is essential in determining the cause of a particular accident, as well as to preventing future such tragedies. These intracockpit voice recordings—as distinguished from communications between aircraft or to the tower—constitute (along with confidential witness statements and the board's analysis, findings, and recommendations) privileged information.

Privileged information from accident investigation reports is withheld from mandatory public release under the Freedom of Information Act. This information is restricted to use for accident prevention purposes and is closely protected and controlled in order to increase the effectiveness of the Army's force protection effort. Upcoming revisions of AR 385-40: Accident Reporting and Records and DA Pam 385-95: Safety: Aircraft Accident Investigation and Reporting will include provisions to extend privileged information status to intracockpit voice recordings.

Information from two kinds of recorders is involved: the cockpit voice recorder, which is installed on certain fixed wing aircraft, and video monitors that are on board certain rotary wing aircraft. The policy of protecting privileged information applies equally to both kinds of recordings.

Cockpit voice recorders

This kind of recorder is installed on certain fixed wing aircraft that were acquired by the Army from the Air Force or from a commercial source. These recorders were installed, based on FAA requirements, as a safety measure. Information provided by the recorders is intended for study in the event of an accident, and its purpose is solely for accident prevention.

Video monitors

The second kind of recording device includes such things as video monitors aboard some of the Army's rotary wing aircraft, such as the AH-64 and OH-58D.

An example is the video recording used along with the Forward Looking Infrared Radar (FLIR) system. Under normal conditions, this equipment is used for damage assessment, reconnaissance, and mission debriefing, as well as for training/safety. Accidents, of course, are not expected to happen. Still, if an in-flight emergency occurs, the effect of video monitors on crewmembers could be the same as cockpit voice recorders in fixed wing aircraft.

As an in-flight emergency develops, crewmembers must feel no inhibitions in communicating freely with each other. They must be able to communicate freely without worrying that something they say might embarrass or somehow harm the interests of the Government, a manufacturer, or any individual, including themselves.

This is especially critical during the early stages of an accident sequence, before the crew fully appreciates the extent of what is about to develop into a life-or-death emergency. Once they are engaged in a full-blown emergency—with life or death literally depending on their actions during the next few seconds—the presence of a recording device would most likely not be material. It is during the earlier stages of the developing problem that the issue becomes critical. During that time, the presence of a recording device might inhibit crewmembers from freely communicating with one another. There is a natural inhibition that affects anyone who knows his communications are being recorded.

We have already established that the cockpit recording becomes an essential element of accident prevention and safety by assisting investigators in reconstructing the accident. Its presence in the aircraft, however, must not be allowed to jeopardize crew safety. Public dissemination of information from these devices could create just such a situation. If knowing that what they say in the cockpit is being recorded affects open communication between crewmembers during the early critical stages of an accident sequence, the result could be disastrous.

Other privileged information

A similar rationale applies to the privileged status of confidential witness statements and accident investigation board findings and recommendations. Board members must be completely free to express their candid assessments regarding what caused the accident and what needs to be done to prevent future similar accidents. They must not have to worry about whether their findings would embarrass or

harm the interests of the Government, a manufacturer, or an individual. If we allowed such extraneous factors to enter into the investigative process, it would result in board members being concerned about involvement in lawsuits, depositions, expert witness requests, and subpoenas. Such a situation would naturally tend to inhibit board members and could make them reluctant to find anyone responsible for the mishap.

The analogy of conferring privileged information status on cockpit voice recordings is a sound one because the protection serves the same purpose as it does for other portions of the accident investigation process. Why, for example, do we protect confidential witness statements? Again, it is because we want witnesses to feel free to express their absolutely candid feelings about what happened without fear of re-priming, embarrassment, adverse action, and so forth. If such factors were injected into the process, our entire accident prevention effort would be jeopardized. Witnesses would naturally tend to hold something back when their own self-interests or the interests of a friend might be at stake.

The purpose for extending privileged status is the same for both kinds of cockpit recordings. The prospect of these recordings being publicly disseminated could cause crewmembers to feel inhibited about expressing themselves freely during the initial stages

of an accident scenario. This could seriously jeopardize crew safety. Thus, something that could be critical to the military's force protection effort might wind up jeopardizing that very same interest.

The need to protect critically important information obtained from cockpit recording devices becomes even greater when there are no survivors or eyewitnesses to the accident. Unless these recordings are accorded privileged status, we will not only endanger crew safety but will also stand to lose critical information that is essential to our efforts to understand how an accident happened. Failing to accord privileged status to cockpit recordings will seriously jeopardize our force protection effort and our national security.

The Army's position that cockpit voice and video monitor recordings are privileged information is also shared by the other military services. The Air Force informs aircrews of the privileged status of such information through updates in the Flight Crew Information Folder. Other means by which Army crewmembers might be informed that these communications are privileged are crewmember safety briefings, inclusion in unit safety SOPs, and reading files. Installation-level safety offices can play a vital role by helping to ensure that this information is disseminated to all flight crew personnel. ♦

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

Congratulations AAAA winners!

The Army Aviation Association of America national award recipients for 1992 are as follows:

■ *Aviation Unit Award (Active Army)*. 12th Aviation Brigade, Unit 29632, APO AE 09096; Commander, COL Thomas M. Hayes; Senior Noncommissioned Officer, CSM Timothy L. Fosque.

■ *Aviation Unit Award (ARNG)*. 1st Battalion (Attack Helicopter), 211th Aviation Regiment, 8692 South 4000 West, West Jordan, UT 84088-5425; Commander, LTC Robert G. Holt; Senior Noncommissioned Officer, CSM Travis R. Heywood.

■ *Aviation Unit Award (USAR)*. 2-123d Attack Helicopter Battalion, 6th Infantry Division (Light) Round Out, 680 Bayfield Road, St. Paul Downtown Airport (Holman Field), St. Paul, MN 55107-1096; Commander, LTC Daniel J. McGraw; Senior Noncommissioned Officer, CSM Gary C. Gustner.

■ *Army Aviator of the Year Award*. MW4(P) Randolph Wise Jones, B Company, 1/160th Special Operations Aviation, Aviation Regiment (Airborne), Fort Campbell, KY 42223-5000.

■ *Aviation Soldier of the Year Award*. SSG Donald

C. Maddox, E Troop, 4th Squadron, 17th Cavalry, 18th Aviation Brigade, Fort Bragg, NC 28307-5000.

■ *Joseph P. Cribbins DAC of the Year Award*. Mr. James E. Speigner, Hq and Hq Detachment, 1st Battalion, 212th Aviation, Aviation Training Brigade, Fort Rucker, AL 36362-5000.

■ *James H. McClellan Aviation Safety Award*: CW4 Michael S. Olin, A Company, 1/501st Aviation, 17th Aviation Brigade, K-16 (Seoul Air Base), Unit 15238, APO AP 96205-0011.

■ *Robert M. Leich Award*. U.S. Army Combat Aviation Training Brigade, III Corps and Fort Hood, TX 76544-5085; Commander, COL Gerald D. Saltness; Senior Noncommissioned Officer, CSM Jerome G. Chapelle.

■ *The President's Award*. The Honorable Stephen K. Conner, former Assistant Secretary of the Army (Research, Development, & Acquisition).

■ *Top Chapter Award*. Corpus Christi, 308 Crecy Street, Corpus Christi, TX 78419-5260; Chapter President, COL Thomas E. Johnson.

Congratulations to all recipients for their significant achievements in Army aviation. ♦

Information based on preliminary reports of aircraft accidents

Utility

UH-1 Class A

H series - During multi-ship training mission, two UH-1s collided in midair. Five fatalities. 9320

UH-1 Class C

H series - While on short final, IP scanned left and saw rotor blade hit top of pine tree. Crew felt no abnormal feedback in controls. Crew landed aircraft, and passengers got out. Because of location, crew flew aircraft down valley to airfield and shut it down.

UH-1 Class D

V series - While rotor was coasting down, gusting

winds caused main rotor blade to flex down and contact tail rotor drive shaft.

UH-60 Class C

A series - At about 15 feet AGL while on approach to pinnacle, tarp was blown up and into main rotor system. PC felt severe vibrations and uncommanded left bank. PC leveled aircraft and repositioned for landing. Aircraft landed hard, damaging tail wheel and right fuselage sheet metal. PC completed emergency engine shutdown.

UH-60 Class D

A series - During tactical mission, passenger in rear of aircraft inadvertently jettisoned right side cargo

door windows.

L series - Crew was recovering OH-58C to home station. After setting OH-58 down, crew chief directed pilot to slide left. Crew chief then called OH-58 clear and told pilot to release load. Winds caught sling assembly, and clevis made glancing impact on right top of OH-58 fuselage.

Attack

AH-1 Class E

S series - While at stabilized hover, crew brought nose of aircraft up 6 degrees for indirect fire. Crew fired one pair of MK-66 rockets, and aircraft began to shake. Crew noted that torque was bouncing between 35 and 62 PSI. Crew completed landing at nearest safe area.

AH-64 Class C

A series - During postdeployment maintenance test flight, left in-board missile launcher assembly with one training and two dummy missiles separated from aircraft. Crew did not realize mishap had occurred until they returned to airfield. Investigation ongoing.

A series - During flight, forward fairing on left in-board weapons pylon assembly departed aircraft and flew into main rotor system. Crew completed landing and shut down engine without further incident.

AH-64 Class D

A series - While aircraft hovered during rocket engagement, training rocket departed left launcher and broke into pieces. Some pieces hit aircraft, breaking portion of copilot's canopy and denting side of aircraft.

A series - During cruise terrain flight, aircraft was Chalk 4 in flight of 5 when rear-seat pilot experienced IHADSS failure. Crew executed emergency procedures and aborted mission. Several seconds later while en route to tactical assembly area, front-seat pilot also experienced IHADSS failure. About 30 to 45 seconds later, aircraft contacted upper wire of electrical transmission line at 100 feet AGL. Crew landed aircraft immediately without further incident.

A series - While at parking pad with APU running, crew brought power levers to idle. As Np was going to idle, momentary interruption in electrical power caused hard shutdown of aircraft electrical system. About 20 seconds later, crew heard growling noise, which increased in intensity, coming from turtle-back area. IP initiated emergency shutdown. As crew pulled power levers to off position, APU fire light came on. Before pilot could reach APU fire handle, fire light went out and APU shut down.

A series - While flying NOE, aircraft hit top of tree. Crew felt no unusual feedback in controls and returned to assembly area. Inspection revealed damage to TADS.

Cargo

CH-47 Class E

D series - During cruise flight, flight engineer (FE) discovered top left fuel pump on fuel pump board was leaking. While FE was attempting to soak up fuel with shop towel, electrical arc from pump ignited fuel-

Class A Accidents through March

	Month	Class A Flight Accidents		Army Military Fatalities	
		FY92	FY93	FY92	FY93
1st Qtr	October	1	6	0	2
	November	3	2	4	6
	December	1	1	0	0
2d Qtr	January	3	1	0	0
	February	1	5	0	8
	March	4	1	2	5
3d Qtr	April	1		0	
	May	1		1	
	June	2		2	
4th Qtr	July	2		1	
	August	1		0	
	September	2		0	
	Total	22	16	10	21

soaked towel. Crew quickly extinguished fire and disconnected electrical connection to pump.

Observation

OH-6 Class C

J series - Hard landing resulted in extensive damage. No injuries. Investigation continues.

Fixed wing

C-12 Class E

D series - At 200 feet AGL following takeoff, crew placed landing gear control switch in up position. Crew heard no gear motor noise, and gear did not retract. Crew returned landing gear control switch to down position and landing-gear-down position indicator lights came on. Crew checked all circuit breakers and found them in normal position. Crew returned to base and completed uneventful landing. Investigation revealed fault in landing gear motor.

OV-1 Class C

D series - During night readiness level training flight, aircraft was on short final when a deer crossed runway from right to left in front of aircraft. IP initiated go-around, but nose gear assembly struck deer, causing extensive damage to nose gear assembly. IP verified gear-down indications during go-around and returned for emergency landing. Crew completed landing without further incident.

U-21 Class D

A series - After takeoff on functional check for landing gear replacement, gear transit light stayed on after crew retracted gear. Aircraft remained in closed traffic, and crew extended gear with safe indication (green

lights) on all three. Crew completed precautionary landing without further incident. Inspection revealed lower drag brace arm was bent and actuator would not fully retract.

Messages

■ Safety-of-flight operational message concerning cancellation/rescinding of the operating restrictions while using JP-8/JP-5 fuel (C-12-93-01 and U-21-93-01, 041730Z Mar 93). Summary: AVSCOM messages 212300Z Feb 89 and 282300Z Mar 89 limited flight durations at or below -50°F when using JP-8/JP-5 or any commercial equivalent fuel. Evaluation of fuel system performance when using JP-8 and Jet-A fuel at cold ambient temperatures revealed that there was no indication of lack of gravity feed due to fuel freezing during follow-on flight test program. The purpose of this message is to cancel/rescind restrictions during operations of all RC/C-12 and RU/U-21 series aircraft when using JP-8/JP-5/Jet-A fuel as prescribed in the 212300Z Feb 89 and 282300Z Mar 89 SOF messages. Contact: Mr. Roger Heidenreich, DSN 693-2258, commercial 314-263-2258.

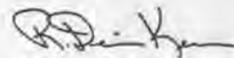
■ Aviation safety action maintenance mandatory message concerning inspection of Hi-Lok fasteners at fuselage station 83 to 120 on all CH-47D, MH-47D, and MH-47E aircraft (CH-47-93-ASAM-02, 021600Z Mar 93). Summary: CH-47-92-ASAM-05 required replacement of Hi-Lok fasteners because of over-size holes and improper deburring during production. This replacement was not completed because of a shortage in replacement Hi-Lok fasteners. Several waivers were granted providing

interim instructions. This message provides criteria for correcting loose fasteners and requires a recurring inspection at each phase inspection. The purpose of this message is to rescind CH-47-92-ASAM-05 and related waivers, require inspection of the subject Hi-Loks for looseness and necessary corrections, and remind units of the inspection requirement for loose fasteners at each phase inspection. Contact: Mr. Brad Meyer, DSN 693-2085, commercial 314-263-2085.

■ Aviation safety action maintenance mandatory message concerning one-time inspection of hydraulic pumping unit (NSN 1650-01-240-4341) on all CH-47D, MH-47D, and MH-47E helicopters (CH-47-93-ASAM-03, 121900Z Mar 93). Summary: The CH-47 fleet is currently experiencing hydraulic system failures. A typical scenario is during normal flight, the hydraulic system pressure indicates pressur fluctuations from a maximum of 4,000 PSI to a minimum of 2,000 PSI, followed by illumination of the hydraulic flight control segment light. Also, high temperatures in the hydraulic system have been noted when the aircraft was shut down. An intensive investigation is being conducted. The investigation is centered on the flight control/utility hydraulic pump at this time, although it is not certain that the pump is the root cause. The suspect pumps are manufactured by Strato-Power and the serial numbers have a suffix "BO", NSN 1650-01-240-4341, P/N 64WE075102 and/or 938555. It should be noted that no abnormal problems have been reported with the Vickers pump, NSN 1650-01-115-3948, P/N PV3-075-20. Further information and

instructions will be disseminated as soon as it is available. Report all failures through the QDR (quality deficiency report) system to support the investigation. The CH-47 has three hydraulic pumps on board and any one is capable of powering the flight controls. The power transfer unit can be used in emergency conditions when powered by the utility hydraulic pump or APU motor pump. In the event such a failure occurs, use current procedures in paragraph 9-49 of TM 55-1520-240-10. The purpose of this message is to alert users of the potential problem and to require inspection for and reporting of suspect pumps to facilitate eventual corrective action. The CH-47D has a triple redundant system, and this is a low-risk safety issue. Contact: Ms. Terese McGrew, DSN 693-2085/2258, commercial 314-263-2085/2258.

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