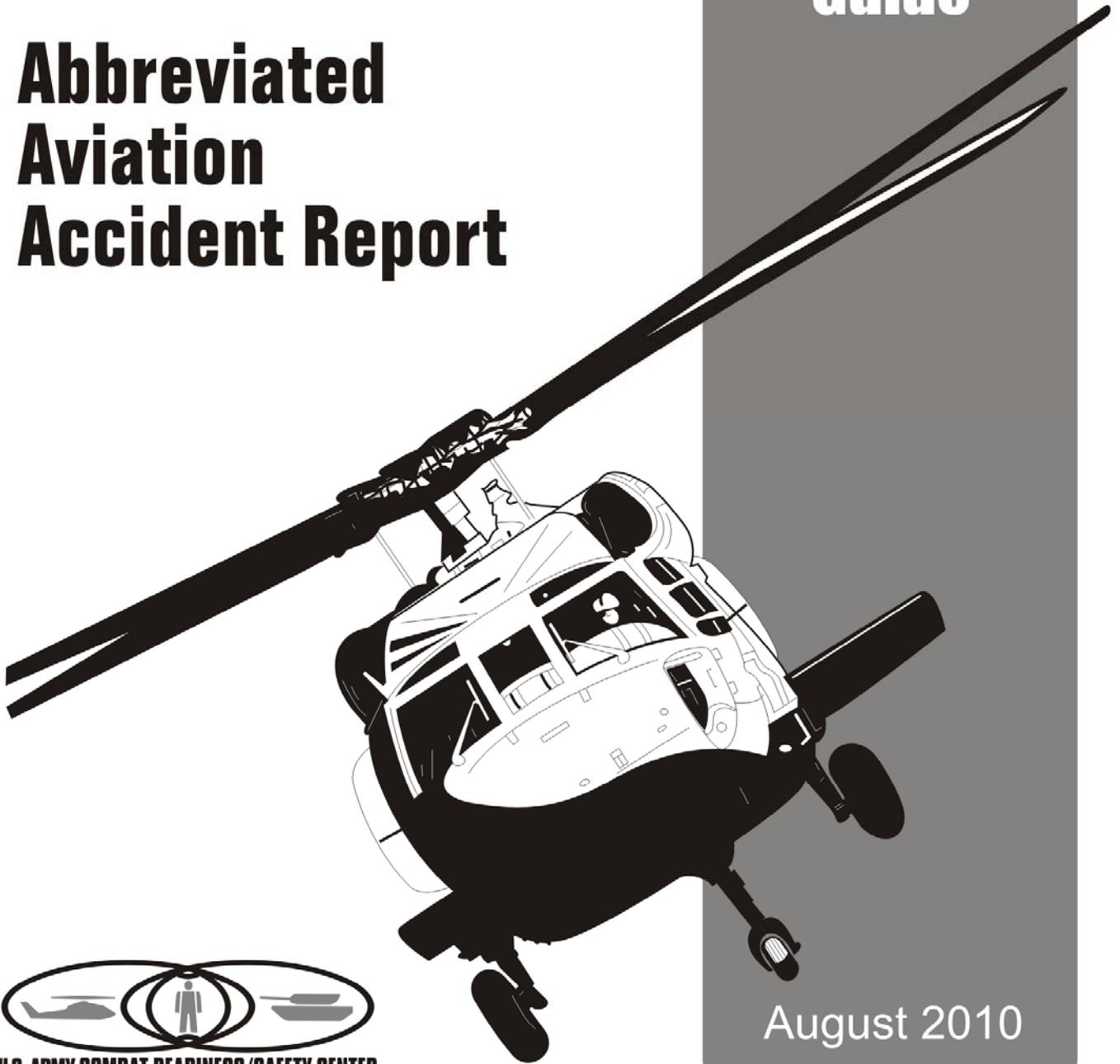


# AAAR

## Abbreviated Aviation Accident Report

### Use and Preparation Guide



U.S. ARMY COMBAT READINESS/SAFETY CENTER

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# Abbreviated Aviation Accident Report (AAAR) DA Form 2397-AB

## AAAR Use and Preparation

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DA Form 2397-AB: Abbreviated Aviation Accident Report (AAAR) is required for **all** aircraft ground accidents (regardless of class). The AAAR will also be used to record all Class C, D, E accidents and F (turbine engine FOD) aviation incidents. Additionally, this form may be used to report aviation Class A and B accidents in areas of combat or contingency operations when the submission of the DA Form 2397 series is deemed not practicable by the senior tactical commander. The AAAR reduces only Class C and above reporting requirements, but does not affect the quality or extent of the accident investigation. **Investigation and submission of the AAAR will be IAW AR 385-10 and DA Pam 385-40.**

## Accident/Incident Classification Criteria

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Class A accident. An Army accident in which the resulting total cost of property damage is \$2,000,000 or more; an Army aircraft is destroyed, missing, or abandoned; or an injury and/or occupational illness results in a fatality or permanent total disability.

Class B accident. An Army accident in which the resulting total cost of property damage is \$500,000 or more, but less than \$2,000,000; an injury and/or occupational illness results in permanent partial disability, or when 3 or more personnel are hospitalized as inpatients as the result of a single occurrence.

Class C accident. An Army accident in which the resulting total cost of property damage is \$50,000 or more, but less than \$500,000; a nonfatal injury or occupational illness that causes 1 or more days away from work or training beyond the day or shift on which it occurred or disability at any time (that does not meet the definition of Class A or B and is a lost time case).

Class D accident. An Army accident in which the resulting total cost of property damage is \$2,000 or more, but less than \$50,000; a nonfatal injury or illness resulting in restricted work, transfer to another job, medical treatment greater than first aid, needle stick injuries and cuts from sharps that are contaminated from another person's blood or other potentially infectious material, medical removal under medical surveillance requirements of an OSHA standard, loss of consciousness, occupational hearing loss, or a work-related tuberculosis case.

Class E aviation accident. An Army accident in which the resulting total cost of property damage is less than \$2,000.

Class F aviation incident. Recordable incidents are confined to aircraft turbine engine damage because of unavoidable internal or external foreign object damage, where that is the only damage (does not include installed aircraft auxiliary power units). These incidents will be reported using DA Form 2397-AB (Abbreviated Aviation Accident Report); check "F" in the "Accident Classification" block.

## Cost Standards Table

	Fatality	Permanent Total Disability <sup>3</sup>	Permanent Partial Disability <sup>3</sup>	Lost Time Case	Days Hospitalized <sup>5</sup>	No Lost Time Case <sup>6</sup>
Submarine or Flying Officer	\$1,100,000	\$1,300,000	\$210,000	\$425 day	\$466 day	\$120 day
Other Officers	\$395,000	\$845,000	\$145,000	\$425 day	\$466 day	\$120 day
Enlisted Personnel, Cadets	\$125,000 <sup>1</sup> \$270,000 <sup>2</sup>	\$500,000	\$115,000	\$375 day	\$466 day	\$120 day
Civilian <sup>4</sup> Employees	\$460,000	\$385,000	\$250,000	\$350 day	\$466 day	\$120 day
Program Youth, Student Assistance Program Employees, Foreign Nationals	\$270,000	\$390,000	\$180,000	\$300 day	\$466 day	\$120 day
<b>Notes:</b> 1 Non-flight crewmember fatality. 2 Flight crewmember fatalities. 3 Total costs, including days involving lost time and days hospitalized 4 When available, use actual worker's compensation costs for civilian employees. 5 Includes costs for days involving lost time. 6 No lost time cases include injuries/illnesses that result in no days lost from work (job transfers, restricted duty, etc...)						

## AVIATION ACCIDENT/INCIDENT NOTIFICATION & REPORTING REQUIREMENTS & SUSPENSES

ACCIDENT/ INCIDENT CLASS	PEACETIME			COMBAT*	
	NOTIFICATION TELEPHONIC WORKSHEET	REPORTING DA FORM 2397	AAAR	NOTIFICATION TELEPHONIC WORKSHEET	REPORTING AAAR
<b>A &amp; B</b>	<b>IMMEDIATE USACRC</b> Telephonic notification (no hardcopy notification is required) DSN 558-2660/2539/ 3410 or Com (334) 255-2660/2539/ 3410	(CAI/IAI) <b>90 CALENDAR DAYS</b>	Aircraft ground accidents <b>90 calendar days</b>	Same as peacetime to USACRC	(When senior tactical CDR determines DA Form 2397 investigation/report not practicable, <b>submit AAAR</b> as soon as conditions/situation permit – not to exceed <b>60 Calendar days</b> )
<b>ACCIDENT CLASS</b>	<b>TELEPHONIC WORKSHEET</b>	<b>DA FORM 2397</b>	<b>AAAR</b>	<b>TELEPHONIC WORKSHEET</b>	<b>AAAR</b>
<b>C</b>	<b>IMMEDIATE USACRC</b> Telephonic notification (no hardcopy notification is required) DSN 558-2660/2539/ 3410 or Com (334) 255-2660/2539/ 3410	N/A	(IAI) <b>90 Calendar Days</b>	Same as peacetime to USACRC	As time permits not to exceed <b>60 Calendar days</b>
<b>ACCIDENT CLASS</b>	<b>TELEPHONIC WORKSHEET</b>	<b>DA FORM 2397</b>	<b>AAAR</b>	<b>TELEPHONIC WORKSHEET</b>	<b>AAAR</b>
<b>D, E, &amp; F</b>	N/A (Unless SOF Issue)	N/A	<b>30 Calendar Days</b>	Same As Peacetime	Same As Peacetime
<b>SUBMISSION METHODS</b>	Class A-C Telephonic (Immediate) Class D, E, F - If SOF issue	Mail	Mail/Fax/ courier/ Electronic Submission. Include Attachments	Same As Peacetime	Same as Peacetime

\*-When the senior tactical commander determines that normal peacetime investigation and reporting is not practicable.

## **Submission of Reports**

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Submit AAAR in legible hand-printed or typed copy via mail, FAX, courier, electronic mail, or other timely means. Working copies on plain paper are acceptable, but each data element must reference the respective block of the AAAR.

- **Mailing address:**  
Commander U.S. Army Combat Readiness/Safety Center  
ATTN: CSSC-O, Quality Control Support Branch  
Bldg 4905, 5<sup>th</sup> Ave  
Fort Rucker, AL 36362-5363
- **Electronic Mail:** [accidentinformation@conus.army.mil](mailto:accidentinformation@conus.army.mil)
- **FAX:**  
DSN 558-2266  
COM 334-255-2266

**For questions pertaining to the completion or submitting the AAAR, contact Mr. Ron Underhill at (334) 255-3493 or DSN 558-3493, email [ron.underhill@conus.army.mil](mailto:ron.underhill@conus.army.mil) or [ron.underhill@us.army.mil](mailto:ron.underhill@us.army.mil)**

**VISIT OUR HOME PAGE:**  
<https://safety.army.mil>

**ELECTRONICALLY SUBMIT THE AAAR TO**  
[accidentinformation@conus.army.mil](mailto:accidentinformation@conus.army.mil)

**REACH THE USACRC HELP DESK AT**  
[HelpDesk@conus.army.mil](mailto:HelpDesk@conus.army.mil)

For Class A, B, and C accidents, **attach to the AAAR all substantiating documentation and supplemental forms required, or deemed appropriate**; e.g., witness summaries/interviews, expanded narrative, lab/CCAD reports, Product Quality Deficiency Report (PQDR), other DA Form 2397 series, additional personnel information sections, and additional AAAR forms for involved aircraft other than the case aircraft, etc.

**An electronic copy of the DA FORM 2397-AB in Pure Edge may be obtained by clicking on <https://safety.army.mil/home/>, then click on ACCIDENT REPORTING & INVESTIGATION, then FORMS, then AVIATION ACCIDENT INVESTIGATION & REPORTING FORMS & INSTRUCTIONS.**

### **Supplemental Report Requirements**

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Follow-up data (e.g. Classification change, E/ACOD, CCAD, PQDR, AFIP, ASOAP or other analytical results) are to be submitted as required. Complete only AAAR block 1 (case number) and those blocks to which the supplemental data applies and the substantiating documentation. An ECOD will be submitted with all reports when an accident classification has been downgraded.

## Instructions for Completion

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Complete the entire form (both sides) for each Class C accident, all aircraft ground accidents and Class A and B combat accidents in areas of combat or contingency operations when the submission of the DA Form 2397 series is deemed not practicable by the senior tactical commander. For each Class D and E, accident and Class F incident not involving human error, injury, or wire strike, only the front page (blocks 1-18) is required. For Class D and E accidents involving human error or injury, complete blocks 1 through 18, 21, 22, 23, and 24, and any other pertinent blocks. The AAAR will be completed as follows:

**Block 1.** The case number consists of the year, month, and day (YYYYMMDD) of the accident, the local time of the accident, and the seven digit aircraft serial number. Aircraft serial number must contain seven digits.

**Block 2.** Check the boxes of the appropriate classification and category. Classification criteria are listed on page 1 of this booklet; category is defined in DA Pam 385-40, paragraph 1-9a.

**Block 3.** Enter the mission, type, design, and series of the aircraft involved in the accident: e.g., UH-60L, OH-58D(R).

**Block 4.** Check the appropriate box. Dawn is that period of time between beginning of morning nautical twilight (BMNT) and official sunrise. Dusk is that period of time between official sunset and end of evening nautical twilight (EENT).

**Block 5.** Enter the total number of aircraft involved in the accident and submit an additional AAAR for each aircraft. Do not include aircraft with an engine(s) not in operation. In completing additional AAAR forms, do not duplicate data already provided in the initial form.

**Block 6.** Enter the name of the nearest military facility/establishment to the accident site.

**Block 7.** Check the appropriate boxes to indicate whether the accident occurred on or off post, or on/off an airfield. Note: Tactical landing zones under positive Air Traffic Control, (for example, Corps' instrumented airfield, Division's VFR helipad, stagefields, and support bases) are considered "on post" and "on airfield" for reporting purposes. Also,

aircraft accidents occurring on joint-use civil airports and on civilian airports with USAR component facilities are considered "on post" and "on airfield" when there is intent to use the military facilities on that airport; e.g., visit the unit, acquire fuel, conduct training, etc. Enter the name of the closest city and state to the accident site. Identify the country. Enter the Military Grid Reference or latitude/longitude of the accident site.

**Block 8.** Enter the six digit UIC and abbreviated title of the organization aircraft assigned.

**Block 9.** Enter the information pertaining to the organization most responsible/accountable for the accident (organization having operational control of the aircraft at the time of the accident). If the organization is the same as block 8, leave blank.

**Block 10.** Pertains to the estimate of the accident **damage** cost. Enter in blocks 10b through 10h only those costs associated with the aircraft to which this form pertains. Complete this block as follows:

- **Block 10a.** If "Yes," enter the replacement cost per TB 43-0002-3 in block 10b and do not fill in blocks 10c and 10d (man-hours).
- **Block 10b.** Enter the cost of aircraft damage, excluding man-hour cost.
- **Block 10c.** If 10a is 'No', enter man-hours required to repair aircraft damage only.

- **Block 10d.** If 10a is 'No', enter man-hour cost that pertains to aircraft damage only, based on current cost criteria specified in paragraph 1-10, DA Pam 385-40. Include other man- hour cost in block 10e (Other Damage Military).
- **Block 10e.** Enter all costs to other military property resulting from the accident (include aircraft with engine(s) not in operation, if applicable).
- **Block 10f.** Enter the damage cost to civilian property.
- **Block 10g.** Enter the injury costs of all personnel on board this aircraft. Obtain total injury cost by adding the cost of block 19 of DA Form 2397-9 or from the injury cost criteria on page 2 of this booklet.
- **Block 10h.** Enter the total of blocks 10b-g.
- **Block 10i.** Leave blank unless Block 5 indicates multiple aircraft are involved. Enter the total of blocks 10h from each AAAR when multiple aircraft are involved.

**Block 11.** Complete the general data blocks:

- **Block 11a.** Enter the mission as shown on the DA form 2408-12, AR 95-1, or the list on page 9 of this booklet. For maintenance operations with or without intent for flight, enter "S" for service. If none, enter "NA." Check the appropriate box to indicate whether the mission was a single or multi-ship operation.
- **Block 11b.** Check the appropriate box to indicate the type flight plan on file at the time of the accident.
- **Block 11c.** Check the appropriate box to indicate whether or not a Digital Source Collector was installed and enter type.
- **Block 11d.** Check the appropriate box to indicate whether night vision devices(s) or system (NVD) were in use at the time of the

accident/incident. If "Yes." specify the type of NVD used.

- **Block 11e.** Check the appropriate box to indicate the phase of operation when the fire started. Identify type combustible material and the fire ignition source in block 15 (summary) of the AAAR.
- **Block 11f.** For Class C and above accidents checked "Yes", complete DA Form 2397-6 and attach it to the report. For Class D and E accidents, and Class F incidents, explain in the block 15, Summary, the type and source of the spillage.
- **Block 11g.** Check the appropriate box to indicate whether the aircraft was participating in a named field training exercise (FTX). If "Yes," enter the FTX name in the space provided (JRTC, NTC, Desert Eagle, etc...).

**Block 12.** Enter the flight parameters at the times indicated. Flight parameters pertain to both flight and ground operation of the aircraft. Phase of operation codes are listed on page 9 of this booklet.

- **Block 12a.** Enter the flight parameters at the onset of the emergency.
- **Block 12b.** Enter the flight parameters at the time of the first major impact/accident. Exception: If an in-flight strike occurred, resulting in a second impact, record the second impact here. This block can duplicate block 12a (emergency phase).

**Block 13.** Enter up to three event codes from the list starting at page 11 of this booklet that describes the accident/incident. Enter the event code that best describes the accident/incident in the first space. Exception: Events 12, 40, and 45 will be entered in the first space if applicable.

**Block 14.** Enter "D", "S", or "U" in the appropriate block to indicate whether human, materiel, or environmental factors played a

definite, suspected, or undetermined role in the accident/incident. Substantiate each contributing factor as indicated by the present and contributing findings (block 24, see page 16 of this booklet) for Class C and above accidents and **all** classes involving human error.

**Block 15.** Enter a concise summary of the accident sequence from the initial onset of the emergency until the aircraft is at rest, to include injuries resulting from the accident. Specify the actual Error/Failure/Effects and the Cause of the accident. The specified Error/Failure/Effects and Root Causes should be explained in the narrative of the summary. The summary should substantiate the findings entered in block 24. For D and E accidents, and F incidents not involving human error: describe all materiel failure and environmental contributing factors, fire ignition sources and combustible materiel in cases involving fire. Also, enter the Product Quality Deficiency Report (PQDR) number, category, and status when materiel deficiencies are involved. Use a continuation sheet if necessary.

Additionally, include the following risk management information for all Class C accidents and above:

- At what level was the mission/training conducted (brigade/battalion/company/platoon/squad/team/crew)?
- Who approved the mission/training (rank/position)?
- Was risk management performed?
- Who performed (rank/position)?
- Who accepted risks (rank/position)?
- What was the level of risk after the controls were applied? (Select one: low/moderate/high/extremely high)
- How was the risk management process communicated? (Select one or more: order/worksheet/verbal brief/not communicated.)
- Was the accident event identified/considered during risk management process (y/n)?
- If yes, what was the level of the identified risk (select one: low/medium/high/extremely high)?
- If yes, was control measure(s) applied (y/n)?

- If yes, who was responsible for implementing control(s) (rank/position)?
- If yes, was the potential for the accident event accepted as residual risk (y/n)?
- Who was in charge during the mission/training (rank/position)?
- Who was the senior leader present during the mission/training (rank/position)?

Use a continuation sheet on plain bond paper if necessary.

**Block 16.** This block must be completed for all reports containing a "D" or "S" in block 14b. Enter the requested data for materiel failure or malfunction resulting from fair wear and tear (FWT), maintenance error or manufacture/design deficiencies. For maintenance error over which the Army has control, block 14a must be completed. Additionally, block 21 must also be completed for the individual committing the error. "Component" column data is required only for those items involving the power and drive trains; e.g., engine, transmission, gearboxes, combining transmission, etc.

**Note: A Product Quality Deficiency Report (PQDR) is required for all materiel failure accidents in accordance with AR 385-10, paragraph 3-9b(1) and DA Pam 738-751, paragraph 3-2.**

**Block 17.** Check this block to reflect the environmental conditions present at the time and location of the accident/ incident. This block must be completed for all reports. Environmental contributing factors will be checked and substantiated in the summary or findings, depending upon the classification and circumstances (see instructions for block 14).

**Block 18.** For Class C and above accidents, enter the data for the investigation board president. For Class D and E accidents and Class F incidents, enter the safety officer/representative who can answer questions pertaining to the report. Include the Army Knowledge Online (AKO) email address of the board president/ASO/POC.

**Note: For Class D, E, & F reports that do not involve wire strikes, human error or injury, stop here. No further entry is required.**

**Block 19.** Complete this block for night Class C and above accidents or night accidents involving human error, when NVD or environmental factors were present.

**Block 20.** Complete this block for accidents involving wire strikes.

**Block 21.** This block is required to be completed for all crewmembers with access to the flight controls who are involved in a Class A, B, or C accident and for personnel with causative roles, or who were injured in the accident regardless of Class (A-F). Additionally, complete this block for each crewmember with access to the flight controls for Class D, and E accidents involving human error. This block is not required for material failure Class D and E accidents where the only cause of the failure was FWT and Class F incidents. If more than three personnel are involved, use additional forms. Use the following instructions for completing block 21a. Blocks 21b and 21c are to be completed using the instructions for block 21a.

- **Block 21a.** Enter the individual's last name, first, and middle initial.
- **Block 21a(1).** Enter the individual's social security number.
- **Block 21a(2).** Enter the individual's pay grade from the list on page 10 of this booklet, e.g., 04, W3, GS-09, WG-10, etc.
- **Block 21a(3).** Enter the individual's gender.
- **Block 21a(4).** Enter the duty position code as shown on DA Form 2408-12 for the flight or from the list on page 10 of this booklet.
- **Block 21a(5).** Enter the personnel service code of the individual from the list on page 11 of this booklet.

- **Block 21a(6).** Enter the UIC of the unit to which the individual is assigned at the time of the accident.
- **Block 21a(7).** Check "D," "S," "N," or "U" to indicate the individual's causal role in the accident (definite, suspected, none, or undetermined).
- **Block 21a(8).** Check the box to indicate whether the individual was on the flight controls at the time of the accident or whether his or her previous control input had any influence on the accident.
- **Block 21(9)a.** Indicate whether blood and urine samples were taken (**tests are required for all aviation Class C and above accidents**). **Block 21(9)b.** Indicate if test results were positive or negative. If the results are "**positive**", **attach the AFIP results to the AAAR** and address in findings at block 24 (authorized medication excluded).
- **Block 21a(10)(a).** Enter the total number of hours this individual slept during the 24 hours preceding the accident.
- **Block 21a(10)(b).** Enter the total number of hours this individual worked in the 24 hours preceding the accident.
- **Block 21a(10)(c).** Enter the total number of hours this individual flew in the 24 hours preceding the accident.
- **Block 21a(11)a and b.** If the individual is a rated aviator or nonrated crewmember, check the appropriate box to indicate RL and FAC levels.
- **Block 21a(11)c.** Enter the date the individual redeployed from a combat zone.
- **Block 21a(12).** Indicate whether or not the individual was injured. If "**Yes**," **DA Form 2397-9 is required** to be submitted for each individual injured as a result of the

accident. (Accidents involving injury require a physician or physician's assistant to be a member of the board.) Instructions for completing the 2397-9 are in DA PAM 385-40, paragraphs 3-12 and 3-31.

- **Block 21a(13).** Enter the total number of flight hours this individual has accrued in the accident aircraft Mission, Type, Design and Series.
- **Block 21a(14).** Enter total flight hours in all aircraft.

**Block 22.** This block pertains to class C and above accidents only.

- **Block 22a.** Any deformation of occupiable space constitutes a compromise for the purposes of this report, if "Yes," submit DA Form 2397-6 with the AAAR. Instructions for completing the 2397-6 are contained in DA PAM 385-40, paragraphs 3-9 and 3-28.
- **Block 22b.** Indicate whether post-crash escape/rescue/survival difficulties were a factor in this accident. If "Yes," submit DA Form 2397-10 for the individual(s) experiencing the difficulties. Instructions for completing the 2397-10 are contained in DA PAM 385-40, paragraphs 3-13 and 3-32.
- **Block 22c.** Indicate whether the protective/restraint equipment functioned as designed. If "No," submit DA Form 2397-10 for the individual(s) utilizing the protective/restraint equipment. Additionally, check "No" and submit DA Form 2397-10 on the individuals if protective/restraint equipment was needed but not available, or was a contributing factor in the accident. Instructions for completing the 2397-10 are in DA PAM 385-40, paragraphs 3-13 and 3-32.

**Block 23.** Check the boxes that best describe the cause(s) of the accident. Substantiate each box checked in Block 24 (Present and Contributing Findings). See Findings elements on page 16 of this booklet.

**Block 24.** Instruction for writing findings (see findings elements on pages 16 and 17 of this booklet) and recommendations are contained in DA Pam 385-40, paragraphs 3-5 and 3-24. Accident Errors and Root Causes associated with the findings are found on pages 17, 18, 22 and 23 of this booklet, and are explained in Appendix B of DA Pam 385-40.

**Block 25.** List all substantiating data submitted with the AAAR.

**Block 26.** Class C and above accidents will be forwarded through the reviewing chain of command for signature and comment, IAW higher headquarters directions. Blocks 26a will be signed by the unit commander. Block 26b may be signed by any higher level chain of command. Block 26c approving authority is either the ACOM, ASCC, or DRU commander.

## Phase of Operation Codes

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**A** Starting engine/run-up  
**B** Stationary (engines running)  
**C** Taxi  
**D** Takeoff/Catapult/Launch  
**E** Hover IGE  
**F** Climb (after takeoff phase and a climb to altitude is established)  
**G** Cruise  
**H** Combat maneuver (masking, unmasking, gun run, evasive action, etc.)  
**I** Descent (does not include approach)  
**J** Approach (prior to landing/termination)  
**K** Emergency auto-rotation  
**L** Go-around (the intended landing/termination is aborted)  
**M** Landing (aircraft touchdown until forward motion stops and aircraft clears runway)  
**N** Low level (constant airspeed and altitude below 500 feet AGL)  
**O** Contour (varying altitude, while maintaining constant height above the contour of the earth's surface and/or obstacle)  
**P** NOE (varying airspeed and altitude, using the earth's contour or foliage for concealment)

**Q** Hover OGE  
**R** Crash (crew has no control over aircraft altitude)  
**S** Aerobatics  
**T** Termination with power (planned/attempted termination of an autorotation is to a hover)  
**U** Undetermined or unknown  
**V** Power recovery (the process of returning the aircraft to powered flight from an engine-out configuration)  
**W** Training auto-rotation  
**X** Formation  
**Y** Preflight activity (any activity prior to the flight that caused or contributed to the accident; e.g., mission planning, crew assignment, training, preflight, etc.)  
**Z** Refueling (to identify the type refueling being conducted, use an additional code preceding the Z code; e.g., in-flight refueling should be coded as GZ).  
**2** Turning  
**3** Deceleration  
**4** Level-off  
**5** Shut-down

## Mission Codes

**T** Training  
**C** Combat  
**S** Service

**F** Maintenance Test flight  
**A** Acceptance Test Flight  
**X** Experimental Test Flight

**D** Imminent Danger  
**Z** Classified

## GRADE CODES

**O1-O10:** Commissioned officers  
**W1-W5:** Warrant officer  
**E1-E9:** Enlisted service members  
**GS1-GS18, SES1-4, & GM13-GM18:** DOD civilians  
**WG1-WG18 & WS13-WS18:** Wage board employees  
**XN:** Foreign National  
**X1:** Foreign officers  
**X2:** Foreign enlisted  
**CAC:** Civilian Army contractor employee  
**CIV:** Non-DOD civilian

**DAC:** Dept Army Civilian  
**KAD:** USMA  
**ROTC:** Reserve Officer Training Cadet  
**NRPT:** Not reported  
**NSPS:** National Security Personnel System  
**OC:** WOC/OC  
**UNK:** Unknown  
**UNKE:** Unknown Enlisted  
**UNKO:** Unknown Officer  
**OTH:** Personnel other than above

## Duty Position Codes

**ABC** Aviation battalion commander  
**ADC** Approach-departure controller  
**AMC** Air mission commander  
**AO** Unmanned Aircraft Operator  
**AOP** Assistant Operations Officer  
**AOS** Assistant Operations SGT  
**ART** Armament/Arms Technician  
**AS** AFTP Supervisor  
**ASO** Aviation Safety Officer  
**AUC** Aviation unit commander  
**AVT** Avionics technician  
**CC** Company Commander  
**CE** Crew chief or flight engineer  
**CET** Combat-equipped troops or jumpers  
**CP** Copilot  
**DC** Deputy Commander  
**DCO** DA/DOD-level commander  
**DEP** Design & engineer personnel  
**DS** Direct Supervisor  
**E** Electrician  
**EO** External Operator  
**FAC** FWD Air Controller  
**FC** Flight Commander  
**FCO** Flight Leader  
**FCT** Weather personnel  
**FFT** Crash rescue/firefighters  
**FI** Flight Engineer instructor  
**FSP** Flight service personnel  
**FTM** Fuel team member  
**FTS** Fuel team supervisor  
**G-3** G-3  
**GC** Ground unit commander  
**GCA** Final controller  
**GG** Ground guide or "Follow me" service  
**GM** General mechanic  
**GSY** Other ground support personnel  
**IE** Instrument flight examiner

**IP** Instructor pilot  
**IO** Instructor Operator  
**JPM** PARA Jump Master  
**LCO** Supervisor or unit commander  
**LO** Liaison Officer  
**MC** Mission Commander  
**MCO** Major commander/Supervisor  
**ME** Maintenance test flight evaluator  
**MFP** Manufacturing or rework personnel  
**MO** Flight surgeon/medical officer/attendant  
**MP** Maintenance test pilot  
**MPI** Mission Payload Instructor  
**MPO** Mission Payload Officer  
**MS** Maintenance supervisor  
**OAY** Others Aboard Aircraft  
**OGY** Others not aboard aircraft  
**OP** Operations Officer  
**OPN** Operations Dispatcher, etc.  
**OR** Gunner, Technical Observer, Aircraft Maintenance Personnel, Photographer  
**PAX** Passenger  
**PC** Pilot in command  
**PF** Pathfinder  
**PI** Pilot  
**PL** Platoon Leader  
**PO** Mission Payload Operator  
**PPM** Power plant mechanic  
**PT** Pilot trainee  
**PTM** Power train mechanic  
**PTO** Pilot trainee, observer  
**PTR** Pilot trainee, rated  
**RAP** Rappeller  
**RM** Rappeller Master  
**RS** Rappeller Safety  
**SI** Standardization flight engineer instructor  
**SM** Structure/airframe mechanic  
**SO** Standardization Instructor Operator

**SP** Standardization instructor pilot  
**S3 S3**  
**TI** Technical Inspector  
**TWC** Tower personnel  
**UNK** Unknown  
**UT** Unit trainer  
**NR** Not reported

**UAO** Unmanned Aircraft Observer  
**XO** Executive Officer  
**XP** Experimental test pilot  
**ZR** Rated passenger

## **Personnel Service Codes**

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**A** Active Army  
**B** Army Civilian  
**C** Army Contractor  
**C1** Army Direct Contractor  
**D** NAF employee  
**EO** Other U.S. military personnel  
**E1** Navy  
**E2** Air Force  
**E3** Marine Corps  
**FO** Foreign  
**F1** Foreign national direct hire  
**F2** Foreign national indirect hire  
**F3** Foreign national KATUSA  
**F4** Foreign military attached  
**G** Dependent  
**M** Government, Other  
**NO** National Guard  
**N1** NG Tech  
**N2** NG inactive duty for training (IDT)  
**N3** NG annual training (AT)

**N4** NG active duty special work (ADSW)  
**N5** NG active guard/reserve (AGR)  
**N6** NG active duty for training other than annual (ADT)  
**N7** NGB Activated to active duty  
**O** Other  
**P** Public  
**RO** Reserve  
**R1** Reserve inactive duty training (IDT)  
**R2** Reserve annual training (AT)  
**R3** Reserve active duty training (ADT)  
**R4** Reserve full time manning (FTM)  
**R5** Reserve Tech  
**R6** Reserve activated to active duty  
**R7** Reserve active guard/reserve (AGR)  
**T** ROTC  
**U** Unknown  
**Z** Not Reported

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## **Accident/Incident Event Codes**

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The following terms and definitions categorize aviation accidents by the type of event(s) involved. Select the event(s) that best categorize the accident and enter the code (s) in block 13 on the AAAR. Enter the event that best describes the accident in the first position for all flight accidents. For aircraft ground or flight-related, always enter event 12 or 40 in the first event position to depict the category. For foreign object damage confined to turbine engines, enter event 45 in the first position. Never enter condition events 14 (fratricide), 18 (Icing), 41 (IMC), 48 (brownout), and 65 (whiteout) in the first event position. When no listed event describes the accident, write the type event in block 13 in lieu of a selected event.

**01 Precautionary Landing (PL).** A landing resulting from unplanned events occurring while the aircraft is in flight that makes further flight inadvisable. This event is to be used for PLs

where no other event applies. It may be used in conjunction with other events.

**02 Forced landing (FL).** A landing caused by failure or malfunction of engines, systems, or

other components that make continued flight impossible. This event is to be used in conjunction with other events.

- 03 Aborted takeoff.** An unplanned event that occurs before liftoff that interrupts a planned flight. This event is to be used for aborted takeoffs where no other event applies or in conjunction with other events.
- 04 Human factor.** A psychological, physiological, or pathological condition that results in the interference of a crewmember's duties, or mission that is delayed, diverted, or aborted.
- 05 Cargo.** Injury or property damage resulting from internal or external cargo-related operations, e.g., intentional or unintentional jettisoning of cargo hook load.
- 06 Personnel-handling.** Injury or property damage accidents/incidents that occur during hands-on handling of equipment or personnel.
- 07 External-stores.** Injury or property damage involving external-stores operations, handling errors, or equipment failures.
- 08 Multiple-aircraft .** Injury or property damage resulting from the interactions of two or more aircraft. To qualify as a multiple aircraft event, two or more active aircraft must be involved. An inoperative aircraft (engine not running) struck by an operating aircraft (engine running) does not qualify in this context.
- 09 Misappropriated aircraft/.** An aircraft accident that occurs during the operation of an Army aircraft that has been misappropriated, regardless of aircrew designation. Intent to fly must exist.
- 10 Unmanned Aircraft Systems (UAS).** Have a "Q" designator, are flown or operated by an Air Vehicle Operator (AO) or External Pilot (EO).
- 11 Contractor accident.** An aircraft accident that occurs as a result of a Government contractor's operation in which there is damage to Army property or injury to Army personnel. Included is non-delivered equipment for which the Army has assumed responsibility in writing.
- 12 Aircraft ground accident.** (When applicable, enter in first position.) Injury or property damage involving an Army Aircraft in which no intent to fly exists and an aircraft system is in operation.
- 13 Laser induced/related.** Personnel injury or property damage resulting from or related to laser operations.
- 14 Fratricide.** Persons killed, wounded, or equipment damage, in military action, mistakenly or accidentally, by friendly forces actively engaged with the enemy, who are directing fire at hostile force or what is thought

to be hostile force. Not to be entered in the first position.

- 15 Single engine landing.** An unplanned single engine landing of a multi-engine aircraft.
- 16 Un-commanded control input.** An un-commanded aircraft pitch, yaw, or roll motion (regardless of amount) that is not induced by the crew or adverse environmental conditions.
- 17 Cockpit Air Bags.** Activation/deployment of the cockpit airbags either intentional or unintentional.
- 18 Icing.** Accidents/incidents as a result of icing conditions other than structural icing captured in Event 69. Not to be entered in the first position.
- 19** Reserved for future use.
- 20 Refueling accident.** Damage or injury incurred during refueling operations on the ground or in flight.
- 21 Midair collision.** Two or more aircraft collide in flight. Hover is considered flight for this event.
- 22 Helocasting.** Property damage or personnel injury occurring during helocasting operations.
- 23 Hard landing.** Damage incurred due to excessive sink rate on landing touchdown. Includes auto-rotation landings when skids are damaged, main rotor blade flexing into tail boom; tire blowing on touchdown; landing gear driven in fuselage; fuselage, wing, etc., buckling. Note: The landing area must be suitable for a probable successful landing.
- 24 Wheels-up landing.** Aircraft equipped with retractable landing gear lands with the wheels in the well. Includes intentional and unintentional gear-up landings.
- 25 Landing gear collapse/retraction.** During takeoff roll, landing, or taxi, the gear collapses for any reason or the crew inadvertently retracts the gear (does not include gear shearing due to hard landing).
- 26 Undershoot.** When an approach is being made to prepared area or field and the aircraft touches down short of the suitable landing surface. (Does not include wire, tree, or other strikes on approach, except an aircraft striking an airport boundary fence.)
- 27 Overshoot or overrun.** Landing in which the aircraft runs off the end of the runway because of touchdown speed, short runway, touching down too long, or failure of brakes.
- 28 Ditching.** Landing in a controlled attitude in water. (Does not include creeks, streams, etc., or those landings to ships or barges in which the aircraft crashes in the water.)
- 29 Ground loop/swerve.** Aircraft damage is incurred because absolute directional control is not maintained (intentional or unintentional).

Includes FW ground loops; RW auto-rotational landings; RW running landings due to anti-torque failures; aircraft running off side of runway. May be used in conjunction with event 80 for RW aircraft.

- 30 Collision with ground/water.** Accidents in which the aircraft strikes the ground or water unintentionally. Includes crashing into a mountain under IFR, IMC, or night; inadvertent flight into the ground or water, such as making a gun run and failing to pull up; low-level flight resulting in striking ground or water.
- 31 Aircraft collision on the ground.** Accidents in which two or more aircraft collide on the ground. None of the aircraft can be in flight. (Used in addition to 08 multiple aircraft event.)
- 32 Other collisions.** Accidents when an aircraft collides with something not accounted for by other type events listed.
- 33 Rotor over-speed.** Main rotor rpm exceeds the allowable limits.
- 34 Fire and/or explosion on the ground.** Accidents that are initiated by a fire or explosion. The fire must be prior to lift-off on takeoff and/or after touchdown.
- 35 Fire and/or explosion in the air.** Same as on the ground except fire must be after lift-off and before touchdown.
- 36 Equipment loss or dropped object.** Accidents in which some part of the aircraft or attached equipment is lost in flight, other than cargo or external stores.
- 37 In-flight breakup.** Accidents in which aircraft begins to break up in flight. In these accidents, any type of landing is not expected.
- 38 Spin/Stall.** Fixed wing only accidents resulting from entering a stall condition or spinning due to loss of airspeed or excessive angle of attack.
- 39 Abandoned aircraft.** Accidents in which all flight crewmembers eject or parachute.
- 40 Flight-related accident.** (When applicable, enter in first position). Damage to property or injury to personnel without damage to the aircraft.
- 41 Instrument meteorological conditions (IMC).** Aircraft must be in IMC conditions when the accident/incident occurs (not to be used in the first position).
- 42 Rappelling.** Property damage or personnel injury occurs during rappelling operations.
- 43 Fast Rope.** Property damage or property injury occurs during Fast Rope operations.
- 44 Overstress.** Stress damage as a result of operating aircraft outside design limitations.
- 45 Turbine Engine foreign object damage.** (When applicable, enter in first position.) Damage confined to a turbine engine, resulting

from unavoidable external objects (excludes internal engine failures that produce damage)

- 46 Rotor/prop wash.** Property damage or personnel injury resulting from rotor/prop wash (does not include damage incurred by event 75).
- 47 Engine over-speed/temp.** Engine rpm or temperature exceeds the allowable limits.
- 48 Brownout.** Loss of visual reference to the ground or horizon caused by rotor wash swirling dust around the aircraft (not to be used in the first position).
- 49 Bird strike.** Any part of the aircraft collides with a bird while in flight.
- 50 Tree strike.** Aircraft strikes vegetation during any phase of flight.
- 51 Wire strike.** Aircraft strikes wire or power line during any phase of flight.
- 52 Mast bumping/In-flight breakup.** Main rotor separates as result of mast bumping.
- 53 Missing aircraft.** Aircraft does not return from a flight and is presumed to have crashed.
- 54 Foreign object damage (FOD).** Damage as a result of objects foreign to the area of impact and the FOD damage is the only damage incurred (excludes turbine engine FOD).
- 55 Dynamic rollover.** An uncontrolled aircraft rolling motion with some part of the landing gear in contact with a terrain feature (excludes tree/wire/object strikes that induce the rolling motion).
- 56 Maintenance operational check (MOC).** Accidents that occur during a MOC while engine(s) is in operation and/or rotors turning.
- 57 Weapons related.** Property damage or injury to personnel as a result of weapon operations.
- 58 Lightning strike.** Damage or injury as a result of lightning striking an operational aircraft.
- 59 Rescue operations.** Property damage or personnel injury occurs during rescue operations.
- 60 Object strike.** Aircraft or aircraft component strikes object other than ground, trees, or objects included in other events.
- 61 Air to ground collision.** Aircraft in the air collides with or strikes aircraft on the ground.
- 62 Stump strike.** Aircraft contacts stump during routine landing.
- 63 Antenna strike.** Aircraft damage caused by contact with an antenna.
- 64 Engine/Transmission over-torque/load.** Engine/transmission is subjected to a torque load beyond specified limits, or an engine loses rpm because of over gross weight or environmental conditions.
- 65 Whiteout.** Loss of visual reference to the ground or horizon caused by rotor wash swirling

snow around the aircraft. (not to be used in the first position.)

- 66 Tie-down strike.** Damage or injury as a result of a main rotor tie-down device attached to a main rotor during start.
- 67 Parachute.** Accidents involving parachute/drop operations while inside the aircraft or static line still attached.
- 68 Mast bumping.** Damage resulting from contact between the main rotor and mast but not resulting in rotor separation.
- 69 Structural icing.** Formation of ice on an aircraft/UAS structure, to include the rotor systems. Does not include carburetor, induction, or pitot static system icing.
- 70 Engine failure.** Engine fails to develop sufficient power to maintain flight and/or the internal failure of an engine (excludes fuel starvation, exhaustion, contamination, and turbine engine FOD).
- 71 Transmission failure.** Internal failure of a main transmission and/or attached gearboxes.
- 72 Vertical fin strike.** Damage caused by tail rotor blades coming in contact with vertical fin on single-rotor helicopters.
- 73 Spike knock.** Damage occurs when the transmission spike contacts the striker plate with sufficient force to cause damage.

- 74 Seatbelt/restraint harness strike.** Damage caused by unsecured seatbelt/restraint harnesses.
- 75 Blade flapping.** Damage resulting from wind or rotor wash from other aircraft that causes the main rotor blades to flap to the extent that damage occurs.
- 76 Fuel exhaustion.** Engine quits as a result of a lack of usable fuel aboard an aircraft.
- 77 Fuel starvation/contamination.** Engine quits or loses power as a result of fuel ceasing to flow to the engine while usable fuel is still on board the aircraft. Example: The pilot fails to switch tanks when one runs dry or a blockage of fuel lines occurs because of contamination.
- 78 Animal strike.** During takeoff or landing, an animal is struck by any part of the aircraft.
- 79 Battery fire/overheat.** A fire in the battery compartment or overheated battery, usually resulting in electrical failure.
- 80 Excessive yaw/spin.** May occur on the ground or in the air (helicopter only). A maneuver where the aircraft yaws excessively or spins when the power is added without adequate antitorque input, or a loss of antitorque control occurs.
- 81 Tail-boom strike.** Main rotor contacts tail boom on the ground due to wind conditions. Excludes hard landings and damage caused by rotor wash.

### **Materiel Factor Events**

**In addition to events 70 and 71 listed above, the following terms and definition are used to categorize materiel factor related mishap events. The event applies regardless of the cause of the failure/malfunction (FWT, maintenance, design or manufacture), and is to be used in lieu of/or in addition to events 01 and 03.**

- 82 Airframe.** Failure or malfunction of any airframe structure to include doors, windows, fairings, canopies, etc., to include hardware.
- 83 Landing gear.** Failure or malfunction of any part of the landing gear or Arresting Hook, exclusive of hydraulics.
- 84 Power train.** Failure or malfunction of any part or component of the power train except when events 47, 64, 70, 76, and 77 apply.
- 85 Drive train.** Failure or malfunction of any part or component of the drive train except when events 33, 64, 71 and 86 apply.
- 86 Rotor/propellers.** Failure or malfunction of rotor or prop assemblies, hubs, blades, etc. Excludes other power/drive train part failures; e.g. gearboxes, mast, etc.
- 87 Hydraulics system.** Failure or malfunction of any hydraulic part. The failure of other systems

resulting from hydraulic initiated will be coded as hydraulic.

- 88 Pneumatic system.** Failure or malfunction of any pneumatic part. The failure of any other system resulting from pneumatic initiated will be coded as pneumatic.
- 89 Instruments.** Failure or malfunction of any part of the instrument system that results in a faulty instrument indication.
- 90 Warning system.** Failure or malfunction of any part of the warning system that results in a faulty warning indication.
- 91 Electrical system.** Failure or malfunction of any part of the AC or DC electrical systems. Includes: current producing, transforming, converting, and amplifying parts; e.g., battery, generator, alternator, relay, etc.
- 92 Fuel system.** Failure of any part of the fuel system. Does not include the fuel metering or

fuel control units that will be reported as part of the engine.

- 93 Flight control.** Failure of any part of the flight control system. Excludes hydraulic initiated control problems.
- 94 Utility/environmental control system.** Failure of any part of the system. Includes auxiliary power units (APU)
- 95 Avionics.** Failure of any part of the radio navigation or communication equipment.

- 96 Cargo-handling equipment.** Failure of the cargo-handling equipment attached to the aircraft only.
- 97 Armament.** Failure of any part to include the aiming and firing system.
- 98 Night vision system/device.** Failure or malfunction of any part of the night vision system/device.

## **Example - Human Error Finding**

<b>FINDING (Present and Contributing: Human Error – Individual Failure):</b>	
<b>Required Information</b>	<b>Example</b>
1. Explanation of when and where the mistake/error occurred in context of the accident sequence of events.	While conducting day, nap-of-the-earth aircrew training at 50 feet AGL and 10 KIAS...
2. Aircraft and individual involved by duty position.	the Pilot in Command (PC) and Pilot (PI) of the UH-60...
3. Identification of mistake made ( <i>ref aviation-specific mistakes/errors in DA PAM 385-40, Table B-1</i> ) and an explanation of how task/activity was performed improperly. NOTE: Only one Task Error per finding.	improperly scanned. That is, both crewmembers failed to properly scan for obstacles when they both became visually fixated on an animal on the ground...
4. Directive (ATM, SOP, FM, TM, etc.) or common practice governing performance of task/activity.	in contravention of TC 1-237, Task 1026.
5. Consequences of mistake/error.	As a result, the aircraft main rotor blades were damaged when they made contact with a tree at approximately 50 feet AGL. There were no injuries.
6. Identification of reasons (root causes/system inadequacies) for the mistake/error ( <i>ref System Inadequacies in Table B-5 of DA PAM 385-40</i> ). NOTE: The finding may contain multiple System Inadequacies (Training, Individual, Leader, etc.).	The PC's and PI's actions were a result of overconfidence in each other's ability to clear the aircraft and maintain obstacle clearance.
7. Brief explanation of how each reason (root cause/system inadequacy) contributed to the mistake/error.	The PC and PI allowed the aircraft to fly too close to known obstacles resulting in damage to the main rotor blades.

**FINDING 1: (Present and Contributing: Human Error- Individual Failure):** While conducting day, nap-of-the-earth aircrew training at 50 feet AGL and 10 KIAS, the Pilot in Command (PC) and Pilot (PI) of the UH-60L improperly scanned. That is, both crewmembers failed to properly scan for obstacles when they both became visually fixated on an animal on the ground in contravention of TC 1-237, Task 1026. As a result, the aircraft main rotor blades were damaged when they made contact with a tree at approximately 50 feet AGL. There were no injuries.

The PC's and PI's actions were a result of overconfidence in each other's ability to clear the aircraft and maintain obstacle clearance. The PC and PI allowed the aircraft to fly too close to known obstacles resulting in damage to the main rotor blades.

# Accident Errors/Failures/Effects/System Inadequacy(ies)/Recommendations

**NOTE: Explanations/Definitions for Accident Errors/Failures/Effects/System Inadequacy(ies)/Recommendations are located in DA PAM 385-40 Appendix B.**

## Errors

- P01** Scan
- P02** Maintain/recover orientation
- P03** In-flight planning
- P04** Preflight planning
- P05** Estimate distance/closure/control input
- P06** Detect hazards/obstacles
- P07** Diagnose or respond to an emergency
- P08** Coordination
- P09** Failed to use or follow checklist
- P10** Failed to follow maintenance manual (TM, SOP, TB, etc.), instructions while servicing acft/equip
- P11** Failed to follow instructions (TM, TB, MWO, etc.) while repairing, installing, or adjusting equipment
- P12** Inadequate/improper Inspection
- P13** Failed to read/follow available SOPs, notices, ARs, General rules/principles, etc
- P14** Inadequate tool/equip accountability
- P15** Failed to secure materiel/equip/cargo
- P16** Inadequate/improper LZ/termination point selection
- P17** Improperly prepared LZ
- Supervisor—Specific Mistakes/Errors**
- P18** Improper mix/match/number of personnel
- P19** Inadequate time allowed for pre-mission preparation
- P20** Set/permitted inappropriate launch time for Environmental conditions
- P21** Permitted selection of inappropriate LZ for intended training or crew experience
- P22** Failed to ensure repairs/services/inspections/MWO are IAW appropriate TMs, TB, MWOs, etc.
- P23** Failed to take appropriate/timely action to prevent or stop violation of procedures/unsafe acts
- P24** Inadequate mission planning for risk-management, operational, and logistic decisions
- P25** Failed to brief/provide information
- P97** Insufficient information to determine mistake/error
- Materiel Failure/Malfunction**
- M01** Overheated/burned/melted
- M02** Froze (temperature)
- M03** Obstructed/pinched/clogged
- M04** Vibrated
- M05** Rubbed/worn/frayed
- M06** Corroded/rusted/pitted
- M07** Overpressured/burst

- M08** Pulled/stretched
- M09** Twisted/torqued
- M10** Compressed/hit/punctured
- M11** Bent/warped
- M12** Sheared/cut
- M13** Decayed/decomposed
- M14** Electric current action (short, arc, surge, etc.)
- M97** Insufficient information reported to identify type of failure/malfunction
- Environmental Effects/Condition**
- E01** Illumination (dark, glare, etc.)
- E02** Precipitation (rain, fog, ice, snow, etc.)
- E03** Contaminants (fumes, dust, chemicals, FOD, etc.)
- E04** Noise
- E05** Temperature/humidity
- E06** Wind turbulence
- E07** Vibration
- E08** Acceleration/deceleration
- E09** Radiation (sunlight, X-ray, LASER, etc.)
- E10** Work surface/space (slippery floor, cluttered walkway, steep rough road, etc.)
- E11** Air pressure (explosion, decompression, altitude effects, etc.)
- E12** Electricity (lightning, arc, surge, short, shock, etc.)
- E13** Animals (deer, birds, rodents, insects, etc.)
- E97** Insufficient information reported to identify environmental conditions

## System inadequacy(ies)/Root cause(s)/Readiness shortcomings

- 01** Inadequate/improper supervision by “Higher command”
- 02** Inadequate/improper supervision by “Staff officer” e.g., operations, safety, supply, etc.
- 03** Inadequate/improper supervision by “Unit command”
- 04** Inadequate/improper supervision by “Direct supervisor” e.g., instructor, squad leader, aircraft commander, etc.
- 05** Inadequate school training
- 06** Inadequate unit training
- 07** Inadequate experience
- 08** Habit interference
- 09** Inadequate written procedures for operation under normal, abnormal, or emergency conditions
- 10** Inadequate facilities or services

- 11 Inadequate/improper Equip/materiel design or equipment not provided
- 12 Insufficient type/number of personnel
- 13 Inadequate manufacture, assembly, packaging, or quality control
- 14 Inadequate maintenance (inspection, installation, troubleshooting, record keeping, etc.)
- 15 Fear/excitement (inadequate composure)
- 16 Overconfidence (in self, others, equipment)
- 17 Lack of confidence (in self, others, equipment)
- 18 Haste/Attitude (motivation)
- 19 Fatigue (self induced)
- 20 Effects of alcohol, drugs, or illness
- 21 Poor attitude/indiscipline
- 22 Environmental conditions
- 97 Insufficient information reported to identify inadequacy/ shortcoming/cause
- Recommendations/Remedial Measures**
- 01 Improve school training
- 02 Improve unit training

- 03 Revise procedures for operation under normal, abnormal, or emergency conditions
- 04 Ensure personnel are ready to perform (training, experience, psycho- physiological state, etc.)
- 05 Inform personnel of problems and remedies (meetings, publications, EIRs, etc.)
- 06 Positive command action (to encourage proper performance and discourage improper performance)
- 07 Provide personnel resources (number or qualifications) required for job
- 08 Redesign (or provide) equipment or materiel
- 09 Improve (or provide) facilities or services
- 10 Improve quality control
- 11 Perform studies to get solutions to system inadequacy(ies)

ABBREVIATED AVIATION ACCIDENT REPORT (AAAR) FOR ALL CLASS C, D, E, F, COMBAT A AND B, AND ALL AIRCRAFT GROUND For use of this form, see DA Pamphlet 385-40; the proponent agency is OCSA.						REQUIREMENTS CONTROL SYMBOL CSOCS-309	
COMPLETE BLKS 1-18 FOR ALL ACDTs. NO FURTHER ENTRY IS REQUIRED FOR CLASS D, E, AND F ACDTs NOT INVOLVING HUMAN ERROR/INJURY.							
1. DATE/CASE NO. OF ACCIDENT		a. (YYYYMMDD)	b. Time (Lof)	c. Acft Ser No.	2. a. Classification <input type="checkbox"/> A <input type="checkbox"/> B <input checked="" type="checkbox"/> C <input type="checkbox"/> D <input type="checkbox"/> E <input type="checkbox"/> F		
		20090522	915	0612345	b. Category <input checked="" type="checkbox"/> Flight <input type="checkbox"/> Flight Related <input type="checkbox"/> Acft Ground <input type="checkbox"/> UAS		
3. TYPE OF ACFT (MTDS)		4. PERIOD OF DAY		5. NO. ACFT INVOLVED	6. NEAREST MIL INSTALLATION		
UH-60L		<input type="checkbox"/> Dawn <input checked="" type="checkbox"/> Day <input type="checkbox"/> Dusk <input type="checkbox"/> Night		1	Fort Trainer, AL		
7. ACCIDENT LOCATION		a. <input type="checkbox"/> On-Post <input checked="" type="checkbox"/> Off-Post	b. <input type="checkbox"/> On Airfield <input checked="" type="checkbox"/> Not on Airfield	c. City (Nearest to acdt site)	d. State	e. Country (If not USA)	f. Grid or Lat./Long.
				Level Sands	AL		16S PU12345678
8. ORGANIZATION INVOLVED							
a. Name of Unit		b. UIC (8 Digit Unit Id Code)		c. Home Station		d. Army HQ	
A Company, 1-234 Avn Regt		WABCA0		Fort Trainer		TRADOC	
9. ORGANIZATION DEEMED ACCOUNTABLE (If same as block 8 leave blank)							
a. Name of Unit		b. UIC (8 Digit Unit Id Code)		c. Home Station		d. Army HQ	
10. ESTIMATED ACCIDENT COST							
a. Acft Total Loss		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
b. Acft Damage (Excl man hrs)		c. No. Man Hrs	d. Man Hrs	e. Other Damage Mil	f. Civilian Damage	g. Injury Cost	h. Total (This acft)
\$ 88,000		2	\$ 82	\$	\$	\$	\$ 88,082
i. Total (All acft)		\$					
11. GEN. DATA		a. Msn (1) Type (Tng, Svc, etc.)		b. Flight Plan		c. Digital Source Collector Installed	
		T		<input checked="" type="checkbox"/> Single-ship <input type="checkbox"/> Multi-ship		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If "Yes" Specify type	
				<input type="checkbox"/> NA <input checked="" type="checkbox"/> VFR <input type="checkbox"/> IFR		IVHMS	
						<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes" Specify type	
e. Fire		f. Flammable Fluid Spillage (If "Yes" for Class A, B, and C acfts, attach DA Form 2397-8)		g. Field Training Exercise (FTX)			
<input checked="" type="checkbox"/> None <input type="checkbox"/> Inflight <input type="checkbox"/> Postcrash		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If "Yes" Name of FTX			
12. FLIGHT DATA		Phase of Operation (Enter max of 3 codes from Table 3-4 of DA Pam 385-40 or specify phase (e.g., hover, NOE, etc.))		Altitude AGL	Airspeed KIAS	Aircraft Weight	Overgross for Conditions
a. At Emergency		P		50	10	15450	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
b. At Impact/Acft or Termination		P		50	10	15450	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
							50
14. ACCIDENT CAUSE FACTORS (Enter D, S, or U to identify Definite, Suspected, or Undetermined causes)				a. Human Error (If D or S complete blks 21, 23, & 24)		b. Materiel Failure/Malfunction (Includes mfg/design induced failures)(If D or S complete blk 18)	
				D			
c. Environmental (If D or S Complete blk 17)							
15. SUMMARY (Enter summary of acdt sequence from onset of emergency through termination of flight. For Class D, E, and F, include the type of materiel failure and/or environmental factors.)							
While conducting NOE ATM training at 50 feet AGL and 10 knots with the PI on the controls, the UH-60L crew heard a loud popping noise. PC took control of the aircraft and landed in the nearest open area. CE examined the main rotor blades after landing but did not see any damage. PC brought the aircraft to a hover, felt vibrations so aircraft was landed and shut down. Inspection revealed damage to two of the main rotor blades. Both main rotor blades were sent to depot for repair.							
(See continuation sheet)							
16. COMPONENT AND PART FAILURE/MALFUNCTION DATA (part that initiated failure/malfunction.)						17. ENVIRONMENTAL (Chk conditions at time of acdt.)	
Identification		Major Component		Part		a. General (1) <input type="checkbox"/> IMC (2) <input checked="" type="checkbox"/> VMC (3) <input type="checkbox"/> Unknown	
a. Nomenclature						b. Environmental Conditions	
						(1) Weather Conditions (2) Other Conditions	
b. Type, Design, and Series						(a) Hail (a) Animals	
						(b) Sleet (b) Fowl	
c. Part Number						(c) Fog (c) Surface	
						(d) Drizzle (d) Noise	
d. NSN						(e) Rain (e) Chemicals	
						(f) Snow (f) Radiation	
e. Manufacturer's Code						(g) Lightning (g) Glare	
						(h) Thunderstorm (h) FOD	
f. Part Serial No.						(i) Gusty Winds (i) Temperature	
						(j) Freezing Rain (j) Vibration	
g. Cause Failure/Malfunction		(1) <input type="checkbox"/> Materiel (2) <input type="checkbox"/> Maintenance (3) <input type="checkbox"/> Design (4) <input type="checkbox"/> Manufacture		FGCODE (USACR)	TYPEFL	CAUFL	c. Acft Icing <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes d. Turbulence <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
18. BOARD PRESIDENT/ASO/POC (Name, Signature, and Date)				Grade	Branch	Address and Tel No. (DSN and Com).	
Record, Robert R. 22 July 2009				W4	AV	HHC, USAATC, Fort Trainer, AL 36362	
				E-Mail	DSN 558-1234		
				robert.record@conus.army.mil	COMM (334)255-3493		

COMPLETE BLKS 19 - 26 FOR ALL CLASS C, COMBAT CLASS A, B, ACFT GROUND CLASS A, B, C, AND ALL CLASS ACFTS INVOLVING HUMAN ERROR/INJURY.

19. MOON ILLUMINATION DATA (For night Class A, B, or C acfts. If blk a is "no", no other entry is required.)

a. Moon Above Horizon <input type="checkbox"/> Yes <input type="checkbox"/> No	b. Moon Visible <input type="checkbox"/> Yes <input type="checkbox"/> No	c. Moon (Degrees Above Horizon) _____	d. Percent of Moon Illumination _____ %	e. Moon (Clock Position from Flight Path/Nose of Acft) _____
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20. WIRE STRIKE DATA (If "no" in blk a, no other entry is required)

a. Wire Strike <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	b. WSPS Installed <input type="checkbox"/> Yes <input type="checkbox"/> No	c. WSPS Engaged Wire <input type="checkbox"/> Yes <input type="checkbox"/> No	d. WSPS Cut Wire <input type="checkbox"/> Yes <input type="checkbox"/> No	e. WSPS Functioned as Designed <input type="checkbox"/> Yes <input type="checkbox"/> No	f. Wires Struck No. _____ Dia (Inches) _____
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21. PERSONNEL DATA (Complete for each crew member with access to flight controls or other personnel injured or having a contributing role in the accident; use additional forms as needed)

a. Name (last, first, MI) Teacher, Robert G.		(1) SSN 987-85-4321	(2) Grade W3	(3) Gender M	(4) Duty PC	(5) SVC A	(6) UIC (Assigned) WABCA0	(7) Contributing Role <input checked="" type="checkbox"/> D <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U		
(8) On Fit Controls <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(9)(a) Lab Test <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(9)(b) Results <input type="checkbox"/> Pos <input checked="" type="checkbox"/> Neg	(10) Activity (Last 24 Hrs) 7	(a) Hrs Slept 7	(c) Hrs Flown 1	(b) Hrs Worked 5	(11) (a) RL <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (b) FAC <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (c) DATE Redeployed from Combat Zone 20050101	(12) Injury (If "yes" complete DA Form 2397-9) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(13) Total Flight Hours (acft MTDG) 1,492	(14) Total Flight Hours 1,855
b. Name (last, first, MI) Learner, Laura M.		(1) SSN 123-45-6756	(2) Grade W2	(3) Gender F	(4) Duty PI	(5) SVC A	(6) UIC (Assigned) WABCA0	(7) Contributing Role <input checked="" type="checkbox"/> D <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U		
(8) On Fit Controls <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(9)(a) Lab Test <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(9)(b) Results <input type="checkbox"/> Pos <input checked="" type="checkbox"/> Neg	(10) Activity (Last 24 Hrs) 9	(a) Hrs Slept 9	(c) Hrs Flown 1	(b) Hrs Worked 5	(11) (a) RL <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (b) FAC <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (c) DATE Redeployed from Combat Zone 20050627	(12) Injury (If "yes" complete DA Form 2397-9) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(13) Total Flight Hours (acft MTDG) 512	(14) Total Flight Hours 789
c. Name (last, first, MI) Corner, James J.		(1) SSN 321-01-9876	(2) Grade E5	(3) Gender M	(4) Duty CE	(5) SVC A	(6) UIC (Assigned) WABCA0	(7) Contributing Role <input checked="" type="checkbox"/> D <input type="checkbox"/> S <input type="checkbox"/> N <input type="checkbox"/> U		
(8) On Fit Controls <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(9)(a) Lab Test <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	(9)(b) Results <input type="checkbox"/> Pos <input checked="" type="checkbox"/> Neg	(10) Activity (Last 24 Hrs) 8	(a) Hrs Slept 8	(c) Hrs Flown 1	(b) Hrs Worked 6	(11) (a) RL <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (b) FAC <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (c) DATE Redeployed from Combat Zone 20050619	(12) Injury (If "yes" complete DA Form 2397-9) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	(13) Total Flight Hours (acft MTDG) 100	(14) Total Flight Hours 200

22. IMPACT/PROTECTIVE/ESCAPES/SURVIVAL/RESCUE DATA (For Class A, B, and C acfts)

a. Acft Occupiable Space Compromised (If "yes" DA Form 2397-6 is required) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	b. Escape/Survival Difficulties (If "yes" DA Form 2397-10 required for the individual) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	c. Protective/Restraint Equip Functioned as designed (If "no" DA Form 2397-10 required for the individual) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
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23. ACFT CAUSE FACTORS (Blk 24 must support all cause factors checked; See DA Pam 205-40 for definition of cause factors)

a. <input type="checkbox"/> Training Failure (Sids exist but not known or ways to achieve them not known)	b. <input type="checkbox"/> Standards Failure (Sids not met, partial or do not exist)	c. <input type="checkbox"/> Leader Failure (Sids are known but not enforced)	d. <input checked="" type="checkbox"/> Individual Failure (Sids known but not followed)	e. <input type="checkbox"/> Support Failure (Inadequate equip/facilities/evac/no or type personnel)
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24. FINDINGS AND RECOMMENDATIONS (See instructions in DA Pam 205-40 for writing findings and recommendations. Use additional sheet if required)

FINDING 1: (Present and Contributing - Human Error - Individual Failure): While conducting day, nap-of-the-earth aircrew training at 50 feet AGL and 10 KIAS, the Pilot in Command (PC) and Pilot (PI) of the UH-60L improperly scanned. That is, both crewmembers failed to properly scan for obstacles when they both became visually fixated on an animal on the ground in contravention of TC 1-237, Task 2026. As a result, the aircraft's main rotor blades were damaged when they made contact with a tree at approximately 50 feet AGL. There were no injuries. The PC's and PI's actions were a result of overconfidence in each other's ability to clear the aircraft and maintain obstacle clearance. The PC and PI allowed the aircraft to fly too close to known obstacles resulting in damage to the main rotor blades.

RECOMMENDATION 1:  
a. Unit Level Action: Commander Company A, 1-234 AVN, inform all assigned personnel of the facts and circumstances surrounding this accident.  
b. Higher Level Action: None  
c. Army Level Action: None

(See continuation sheet)

USACRC use only	Duty	Role	Failure/error Code	SI 1	RM 1	RM 2	RM 3
	Phase of OP	Task/part no.		SI 2	RM 1	RM 2	RM 3

25. LIST OF ATTACHMENTS (CCAD, DA Forms 2397-4, 8, 9, etc.)  
2397-4, blocks 15 and 24 continuation sheet, ECOD, board appointment orders

26. COMMAND REVIEW (Required for Class A and B combat and all Class C acfts. Use separate sheet for nonconformance, additional findings, and recommendations.)

REVIEWER	Organization	Name (Typed/Printed)	Rank	Signature	Comments
a. Unit Commander	A Company 1-234 Avn Regt	Leader, William E.	CPT	SIGNATURE OF COMMANDER	<input checked="" type="checkbox"/> Concur <input type="checkbox"/> Non-concur
b. Reviewing Official	USAATC	Reviewer, Mike W.	COL	SIGNATURE OF REVIEWER	<input checked="" type="checkbox"/> Concur <input type="checkbox"/> Non-concur
c. Approving Authority	TRADOC	Approver, Glen D.	GEN	SIGNATURE OF APPROVER	<input checked="" type="checkbox"/> Concur <input type="checkbox"/> Non-concur
d. DA Review	USACRC				Approved for entry into ASMS (YYYYMMDD)

After interviewing the accident aircraft crewmembers, the board determined that human error was the cause of this accident. The Pilot in Command (PC) who was on the controls and the Pilot (PI), failed to properly scan while conducting TC 1-237 task 1026 (maintain airspace surveillance). The PC and PI simultaneously became visually fixated for several seconds on a deer approximately 50 feet off of the nose of the aircraft. The PC's and PI's improper scan can be attributed to the PC's and the PI's overconfidence in each other's ability to clear the aircraft of obstacles when flying NOE because they had flown with each other several times in the past month and both stated they were very comfortable flying with each other. The PC did not conduct a crew mission briefing for this flight in contravention of the unit safety and standardization SOP chapter 12-3 and TC 1-237 task 1000 (participate in crew mission briefing).

The crew did not properly employ all of the tenets of crew coordination IAW TC 1-237 chapter 6 in that the crew did not announce actions, provide aircraft control and obstacle advisories, or communicate positively. The board determined that the lack of crew coordination was due to the crew's overconfidence in themselves and each other's ability to complete the mission without a crew mission briefing. The crew chief sitting in the left gunner's seat felt the aircraft was too close to the trees but did not advise the PC because he felt the PC could see how close the blades were to the trees and would avoid hitting them.

**Risk Management:**

At what level was the mission/training conducted

(bridage/battatlion/company/platoon/squad/team/crew)? Company

Who approved the mission/training (rank/position)? Company Commander

Was risk management performed? Yes

Who performed (rank/position)? CPT

Who accepted risks (rank/position)? Company Commander, CPT

What was the level of risk after the controls were applied? (Select one: low/moderate/high/extremely high) Low

How was the risk management process communicated? (Select one or more: order/worksheet/verbal brief/not communicated.) Work Sheet

Was the accident event identified/considered during risk management process (y/n)? No

If yes, what was the level of the identified risk (select one: low/medium/high/extremely high)? N/A

If yes, was control measure(s) applied (y/n)? N/A

If yes, who was responsible for implementing control(s) (rank/position)? N/A

If yes, was the potential for the accident event accepted as residual risk (y/n)? N/A

Who was in charge during the mission/training (rank/position)? PLT SGT, E7

Who was the senior leader present during the mission/training (rank/position)? PLT LDR, CW2

**NOTE: For the example AAAR on pages 19, 20, and 21 of this booklet an additional Present and Contributing Finding (block 24) may be written on the crewmembers using the information provided in the summary and continuation (block 15) with a Task Error of improper crew coordination and a system inadequacy of overconfidence.**

# **Additional Example - Present and Contributing Finding: Materiel Failure**

<i>FINDING (Present and Contributing: Materiel Failure):</i>	
<b>Required Information</b>	<b>Example</b>
1. Explanation of when and where the materiel failure/malfunction occurred in the context of the accident sequence of events.	During engine run-up of the CH-47D with rotor blades turning...
2. Name and part number (PN) or national stock number (NSN) of the part, component or system that failed.	the retention bolts (P/N NAS624H-5) securing the fixed droop stop to the aft rotor system red blade pitch shaft failed.
3. Mode of failure (corroded, burst, twisted, decayed, etc.)(see DA PAM 385-40, Appendix B, Table B-3 for definitions and examples) NOTE: Only one Task Error failure per finding.	The excessive pressure on the engaged threads allowed the threads to strip from the nuts.
4. Consequences of materiel failure	This failure allowed the fixed droop stop and bolts to separate from the aircraft. As a result, during shutdown, with both engine condition levers at stop and the main rotor blades coasting slowly, the aircraft red main rotor blade contacted the fuselage...
5. Identification of reasons (root causes/system inadequacies) materiel failure/malfunction caused or contributed to accident. NOTE: The finding may contain multiple System Inadequacies (Design, Manufacture, etc.)	The droop stops failed due to improper installation by the manufacturer during aircraft overhaul.
6. Brief explanation of how each reason (root cause/system inadequacy) contributed to materiel failure/ malfunction.	That is, the bolts (P/N NAS624H-5) installed in the separated fixed droop stop, though nearly identical in appearance were 1/8-inch shorter than the bolts (P/N NAS624H-7) required by TM 55-1520-240-23P1.

## **FINDING 1 (Present and Contributing: Materiel Failure)**

During engine run-up of the CH-47D with rotor blades turning, the retention bolts (P/N NAS624H-5) securing the fixed droop stop to the aft rotor system red blade pitch shaft failed. The excessive pressure on the engaged threads allowed the threads to strip from the nuts. This failure allowed the fixed droop stop and bolts to separate from the aircraft. As a result, during shutdown, with both engine condition levers at stop and the main rotor blades coasting slowly, the aircraft red main rotor blade contacted the fuselage, resulting in minor fuselage and main rotor blade damage.

The droop stops failed due to improper installation by the manufacturer during aircraft overhaul. That is, the bolts (P/N NAS624H-5) installed in the separated fixed droop stop, though nearly identical in appearance, were 1/8-inch shorter than the bolts (P/N NAS624H-7) required by TM 55-1520-240-23P1.

## ***Additional Example – Present and Contributing Finding: Environmental***

<i>FINDING (Present and Contributing: Environment):</i>	
<b>Required Information</b>	<b>Example</b>
1. Explanation of when and where the environmental factor occurred in the context of the accident sequence of events.	While ground-taxiing to the parking ramp...
2. Aircraft and if applicable, the individual(s) involved by duty position.	the AH-64D...
3. Description of environmental factor encountered (see <i>DA PAM 385-40, Appendix B, Table B-4 for definitions and examples</i> ).	encountered an unforecast sudden microburst with winds exceeding 80 knots.
4. Consequences of environmental effect.	As a result, the aircraft became airborne in a nose-low condition and subsequently entered a right spin from which the crew was unable to recover.
5. Explanation/identification of reason(s) environmental conditions caused the accident.	Microbursts are environmental events that cannot be seen or forecasted with present meteorological measuring equipment nor are they visible to aircraft crewmembers. They are normally a phenomenon associated with thunderstorms; however, there were no thunderstorms reported or visible in the vicinity.

### **FINDING 1 (Present and Contributing: Environment)**

While ground-taxiing to the parking ramp, the AH-64D encountered an unforecast sudden microburst with winds exceeding 80 knots. As a result, the aircraft became airborne in a nose-low condition and subsequently entered a right spin from which the crew was unable to recover. The aircraft struck the ground causing aircraft damage and injuring one crewmember.

Microbursts are environmental events that cannot be seen or forecasted with present meteorological measuring equipment nor are they visible to aircraft crewmembers. They are normally a phenomenon associated with thunderstorms; however, there were no thunderstorms reported or visible in the vicinity.