DELIBERATIONS SUPPLEMENT

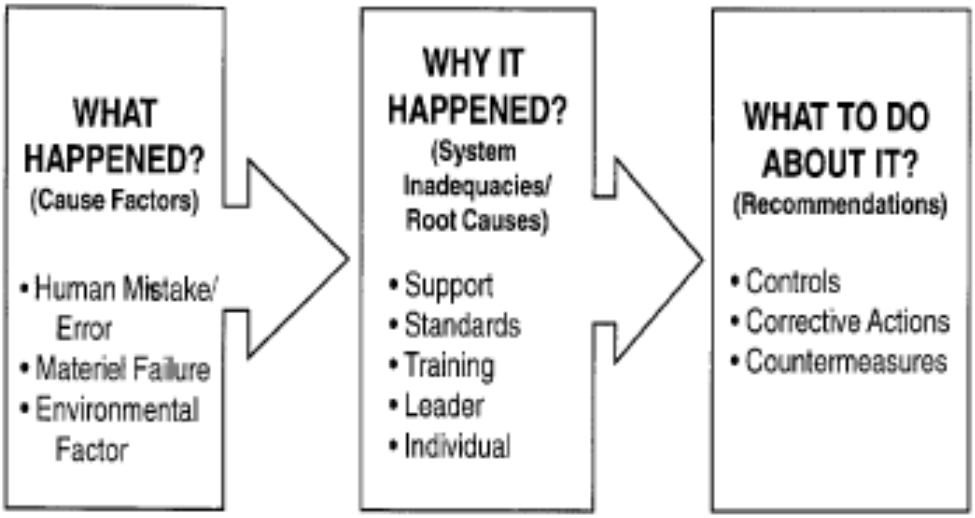
(DA Pam 385-40)

U.S. ARMY COMBAT READINESS/SAFETY CENTER

CENTRALIZED ACCIDENT INVESTIGATION BOARD

This information is restricted to accident prevention purposes only, and is not to be used for any other purpose, to include disciplinary and adverse personnel action.

"3W" Approach to Information Collection, Analysis and Recommendations



1. Group Anomalies into three categories:
Environmental, Material, or Human

2. Review anomalies to determine if they were present in the accident. Then analyze to determine if they were:

Present & Contributing (PC) - Contributed to the accident.

Present & Contributing to severity of Injury or Damage(PCS/D) – Did not cause the accident, but contributed to a more severe injury or greater damage.

Present but not Contributing (PBNC) - Did not contribute, but could cause an accident in the future.

Suspected PC- Suspected to have contributed to the accident.

Special Observation (SO) - In no way contributed, but the Board determined the chain of command should be informed (positive or negative)

Freebie (F) - Minor discrepancies that are brought to the chain of command, but are not in the final report.

3. Refer to DA PAM 385-40, Appendix B to determine a Task Error for the anomaly (One per finding):

Table B-1: Aviation Human Task Errors
Table B-2: Ground Human Task Errors
Table B-3: Material Failures/Malfunctions
Table B-4: Environmental Conditions

4. For human task errors refer to DA PAM 385-40, Figure 2-1 in conjunction with Table B-5 to determine root cause/system inadequacy (there can be multiple system inadequacies).

5. Record the following information to assist in writing the finding using Table 3-1 in DA PAM 385-40:

❑When and where the mistake/error occurred
❑Equipment & individual (by duty position) involved
❑Identify the mistake/error in relation to a deviation from a standard, directive, or common practice governing the performance of the task

6. Develop Recommendations using DA PAM 385-40, Table B-6

Deliberations Worksheet

Materiel

Code	Anomalies (Deficiencies & failures)	Reference

Environment

Code	Conditions (Unforecast or unavoidable)	Reference

P&C	Present and contributing
PBNC	Present but not contributing
P&C S/D	Present and contributing to severity of injury or damage
O	Observation
F	Freebee

Human

Code	Anomalies (Errors - Failures - Deficiencies)	Reference

Determining System Inadequacy(ies) Responsible for Human Error

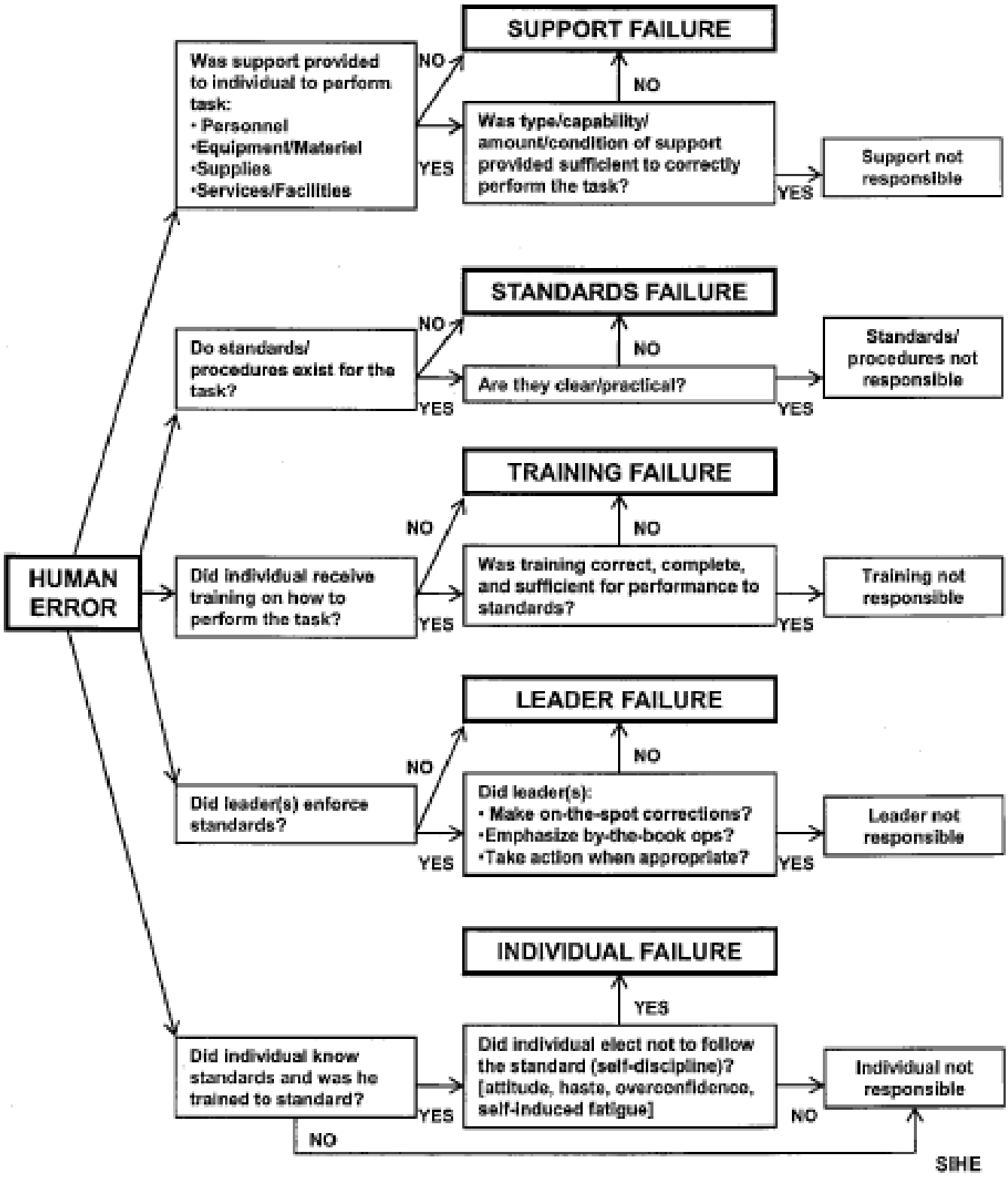


Table 3–1
Elements of a present and contributing finding

FINDING 1 (Present and Contributing: Human Error - Individual Failure)	
Required Information	Example
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 (ref. aviation-specific mistakes/errors in DA Pam 385–40, table B–1) and an explanation of how task/activity was performed improperly.	improperly scanned. That is, both crew members failed to properly scan for obstacles when they both became visually fixated on an animal on the ground...
4. Directive (ATM, SOP, FM, TM) or common practice governing performance of task/activity.	in contravention of TC 1–237, Task 2026.
5. Consequences of mistake/error.	As a result, the aircraft made contact with a tree approximately 50 feet AGL and damaged the main rotor blades. There were no injuries.
6. Identification of reasons (root causes/system inadequacies) for the mistake/error {reference System Inadequacies in table B–5 of DA Pam 385–40}.	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 the pilot (PI) of the UH–60L improperly scanned. That is, both crew members failed to properly scan for obstacles when they both became visually fixated on an animal on the ground. This is in contravention of TC 1–237, Task 2026. As a result, the aircraft made contact with a tree approximately 50 feet AGL and damaged the main rotor blades. 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 the PI allowed the aircraft to fly too close to known obstacles, resulting in damage to the main rotor blades.	

1. Findings. As a minimum, the following elements of information will be addressed for each Present Contributing, Suspected Present Contributing, and Present Contributing to the Severity of Injury/Occupational Illness or Extent of Damage finding in the order stated. See table 3–1.

a. An explanation of when and where the error, materiel failure, or environmental factor occurred in the context of the accident sequence of events. For example, "During preflight," "During takeoff," "While employing."

b. Identification of the individual involved by duty position; or the name and part number (PN) or national stock number (NSN) of the part, component, or system that failed; or a description of the environmental factor, as appropriate.

c. For human error, identification of the task or function the individual was performing and an explanation of how it was performed improperly. Refer to appendix B for mistake/error categories. The error could be one of commission or omission. For example, an individual performed the wrong task, incorrectly performed the correct task, or failed to perform a required task or function. In the case of a materiel failure, identify the mode of failure. For example, corroded, burst, twisted, decayed.

d. Identification of the directive, (for example, ATM, SOP, FM) or common practice governing the performance of the task or function. In lieu of a written directive, the error may represent performance that is contrary to common practice.

e. An explanation of the consequences of the error, materiel failure, or environmental effect. An error may directly result in damage to equipment or injury/occupational illness to personnel, or it may indirectly lead to the same end result. A materiel failure may have an immediate effect on equipment or its performance, or it may create circumstances that cause errors resulting in making further damage/injury or occupational illness inevitable.

f. Identification of the reasons (system inadequacy(ies)) the human, materiel, environmental conditions contributed to the accident. Refer to the list and examples of system inadequacy(ies) provided in appendix B.

g. A brief explanation of how each reason contributed to the error, materiel failure, or environmental factor.

h. In addition, for Present and Contributing to the Severity of Injury/Occupational Illness or Extent of Damage findings, the board should also:

i. Present but Not Contributing findings are those that did not cause or contribute to the accident or to the severity of injuries.

1. The board should report errors, materiel failures, or other hazards that did not contribute to the accident, but have a high potential for causing other accidents or adversely affecting the safety of personnel and equipment if not corrected. Reporting these deficiencies will ensure they receive command attention throughout the chain of command to include DA-level action.

2. The findings and recommendations in this category will be separated from those that caused the accident or those that did not cause the accident but contributed to the severity of injuries, and will be preceded by the following statement: "THE FINDING(S) LISTED BELOW DID NOT CONTRIBUTE TO THIS ACCIDENT; HOWEVER, IF LEFT UNCORRETED, IT/THEY COULD HAVE AN ADVERSE EFFECT ON THE SAFETY OF FUTURE OPERATIONS."

Table 3–7
Accident errors/failures/effects/system inadequacy(ies)/recommendations

Code	Description
	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), instructions while servicing acft/equip
P11	Failed to follow instructions (TM, TB, MWO) while repairing, installing, or adjusting equipment
P12	Inadequate/improper inspection
P13	Failed to read/follow available SOPs, notices, ARs, general rules/principles
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 in accordance with appropriate TMs, TB, MWOs
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

B–2. Tables

For ease of use, this appendix is organized as follows:

a. Table B–1. Aviation-Specific Mistakes/Task Errors.

b. Table B–2. Ground-Specific Mistakes/Task Errors. This table lists codes and explanations for ground specific task errors. Mistakes/errors are organized into three groups: general, vehicle specific and supervisory specific.

c. Table B–3. Materiel Failures/Malfunctions. Use these definitions to assist in determining what materiel failure/malfunction occurred that caused/contributed to the accident.

d. Table B–4. Environmental Conditions. Use these definitions to assist in determining what environmental conditions caused/contributed to the accident.

e. Table B–5. System Inadequacies/Root Causes/Readiness Shortcomings. These explanations are provided so all users will have the same understanding of what the readiness shortcomings (root causes) for mistakes/errors, materiel failures, and environmental conditions mean.

f. Table B–6. Recommendations/Controls/Corrective Actions/Countermeasures.

Note. Prefix remedial codes as follows: "U" for unit level (company, troop, battalion); "H" for higher level (brigade, division, corps, Army Headquarters); and "A" for DA level (to include ACOM, ASCC, DRU, Army Headquarters with Army level proponency) to indicate the level of command where the action is directed.

Table B–2
Ground Specific

Individual mistakes/task errors -	Errors made by personnel not in a supervisory capacity or a supervisor that makes an error not related to supervisory responsibilities. For example, a supervisor was injured because he failed to wear his seatbelt.
Code: 01	
Keyword/explanation:	Inadequate planning - Failed to properly organize or coordinate. Improper modification of the plan during execution.
Code: 02	
Keyword/explanation:	Improperly/failed to lock/block/secure, (for example, load).
Code: 03	
Keyword/explanation:	Inadequate inspection/check of vehicle or equipment (before, during, after operations check). Failed to use the appropriate checklist or TM to perform the inspection.

Table B–2
Ground Specific—Continued

Code: 04	
Keyword/explanation:	Improper application of safety equipment, device, guard, sign, signal, or PPE.
	Failed to adhere to posted warning signs/signals/guards.
	Failed to use required safety equipment, device, guard, sign, signal or PPE.
Code: 05	
Keyword/explanation:	Operating while fatigued when not necessary/directed.
Code: 06	
Keyword/explanation:	Improper use of equipment -
	Did not use equipment when required.
	Used right equipment improperly.
	Used wrong equipment.
Code: 07	
Keyword/explanation:	Improper lifting -
	Used incorrect lifting technique.
	Failed to use appropriate assistance.
Code: 08	
Keyword/explanation:	Failed to take appropriate precautions for adverse environmental conditions (rain, haze, fog, snow, ice, reduced visibility).
Code: 09	
Keyword/explanation:	Improper body position -
	Hazardous position.
	Awkward position.
	Unprotected position (sleeping, eating).
Code: 10	
Keyword/explanation:	Improperly walked, ran, or climbed.
Code: 11	
Keyword/explanation:	Failed to stay alert, remain awake, or attentive to what was happening (situational awareness to environment, conditions, or operations).
	Failed to pay attention.
	Improperly divided attention.
	Improperly monitored.
	Improperly scanned.
	Fell asleep.
Code: 12	
Keyword/explanation:	Failed to ensure adequate clearance/space (enough room) for operation.
Code: 13	
Keyword/explanation:	Misjudged clearance (improperly estimated/evaluated).
Code: 14	
Keyword/explanation:	Improper weapons and ammunition handling -
	Improper sighting, aiming, firing, throwing.
	Unauthorized use or handling.

Table B–2
Ground Specific—Continued

	Improper disposal or turn-in.
Code: 16	
Keyword/explanation:	Improperly pulled or pushed equipment or material.
Code: 17	
Keyword/explanation:	Failed to firmly grip/hold equipment/material.
Code: 18	
Keyword/explanation:	Inadequate improvising/troubleshooting.
Code: 19	
Keyword/explanation:	Inadequate crew coordination/communication.
	Improper actions sequence - improper sequencing or timing of actions with other crewmembers; for example, driver initiated vehicle movement before receiving clearance from ground guide or senior occupant.
	Failure to offer assistance, information, or warning, (for example, driver failed to warn other crew-members of impending hazard (rollover)).
	Lack of positive communication, (for example, transmission, acknowledgement, or confirmation using standard terminology with specific qualifiers); (for example, tank commander failing to confirm crew-members were clear before traversing turret).
	Failure to announce decision/action that affects other crewmembers' duties, (for example, occupant failed to announce to the driver their decision to dismount the vehicle during a momentary halt).
	Failed to direct/request assistance from other crewmembers, (for example, although neither track command (TC) nor driver could see, the TC failed to direct a crewmember to dismount and act as a ground guide).
Code: 20	
Keyword/explanation:	Improper assembly.
Code: 21	
Keyword/explanation:	Under the influence of drugs or alcohol.

VEHICLE/EQUIPMENT SPECIFIC

Code: 40	
Keyword/explanation:	Excessive speed.
	Exceeding the posted speed limits.
	Excessive speed for conditions.
Code: 41	
Keyword/explanation:	Improper passing.
	Misjudged clearance while passing.
	Passing at an unsafe time or place.
	Failed to take precautions when passing pedestrians.
Code: 42	
Keyword/explanation:	Improper turning.
	Failed to yield the right-of-way while turning.
	Oversteering while turning.
	Improper U–Turn.
Code: 43	
Keyword/explanation:	Failed to yield the right-of-way other than when turning.
Code: 44	

Table B–2
Ground Specific—Continued

Code: 45	
Keyword/explanation:	Improperly stopped or parked.
Code: 46	
Keyword/explanation:	Improper backing.
Code: 47	
Keyword/explanation:	Failed to use a ground guide when required.
Code: 48	
Keyword/explanation:	Ground guide used improper/incorrect position, signal, or procedure.
Code: 49	
Keyword/explanation:	Following too close for environmental conditions or vehicle speed/design.
Code: 50	
Keyword/explanation:	Driving in the wrong lane.
Code: 51	
Keyword/explanation:	Improper lane change.
Code: 52	
Keyword/explanation:	Improper braking.
	Improper placement on the pedal.
	Too much or too little pressure.
	Applied too soon or too late.
Code: 53	
Keyword/explanation:	Improperly shifted/placed gear selector on vehicle or equipment.
Code: 54	
Keyword/explanation:	Abrupt control/steering response (except while turning).
Code: 55	
Keyword/explanation:	Improperly mounted or dismounted vehicle/equipment.
Code: 56	
Keyword/explanation:	Operating vehicle/equipment with known malfunction/unsafe mechanical conditions.
Codes: 57–74 reserved for future use.	
Leader/Supervisory Mistakes/Task Errors - Errors made by personnel acting in a leader or supervisory capacity in which they failed to execute a task associated with supervisory responsibilities.	
Code: 75	
Keyword/explanation:	Improper personnel selection/assignment.
	Inexperienced.
	Untrained.
	Unlicensed.
	Impaired, (for example, fatigued).
Code: 76	
Keyword/explanation:	Knowingly allowed equipment operator to violate procedures.

Table B–2
Ground Specific—Continued

Code: 79	
Keyword/explanation:	Failure to assign responsibilities before or during the mission.
Code: 80	
Keyword/explanation:	Inadequately/improperly selected site location/termination point, (for example, size, obstacles/environmental hazards/crew experience).
Code: 81	
Keyword/explanation:	Improperly prepared site location, (for example, type/placement of markers/detection/removal of obstacles/hazards).
Code: 82	
Keyword/explanation:	Failed to ensure adequate inspection/check of vehicle or equipment (before, during, after operations check) was conducted. Failed to ensure the appropriate checklist or TM to perform the inspection was used.
Code: 83	
Keyword/explanation:	Failed to conduct adequate pre-mission inspection of personnel or equipment.
Code: 84	
Keyword/explanation:	Failed to ensure repairs, services, modifications, installations, or maintenance such as lubrication/inspections, were completed in accordance with appropriate TMs and SOPs.
Code: 85	
Keyword/explanation:	Failed to take appropriate/timely actions to prevent or stop violations of safe operations/procedures; for example, make on the spot corrections.
Code: 86	
Keyword/explanation:	Failed to enforce use of personal protective equipment.
Code: 87	
Keyword/explanation:	Inadequate mission planning.
	Inadequate time allowed for pre-mission preparation. Set mission start time which did not allow adequate pre-mission preparation.
	Set/permitted inappropriate mission start time for environmental/weather conditions.
	Mission execution - failure to properly modify the plan or procedure(s) in response to mission events, conditions, or circumstances. Improperly modifying the plan during execution.
	Pre-mission planning - failure to choose appropriate options for known conditions and contingencies and develops this into a course of action to maximize probability of mission accomplishment. Risk management, operational, and logistical decisions.
Code: 97	
Keyword/explanation:	Insufficient information to determine the mistake or task error.

Table B–3
Materiel failures/malfunctions

Code: M01	
Keyword/explanation:	Overheated/burned/melted. Key words: blister, boil, carbonize, char, flame, fuse, or glaze. Excessive heat caused materiel or equipment to fail or malfunction.
Code: M02	
Keyword/explanation:	Froze (temperature). Key words: congeal or solidify. Excessive cold caused materiel/equipment to fail/malfunction.
Code: M03	
Keyword/explanation:	Obstructed/pinched/clogged. Key words: block, crimp, or restrict. Function of materiel or equipment was hindered or completely cut off by an obstacle.
Code: M04	
Keyword/explanation:	Vibrated. Key words: oscillate or shake. Side-to-side or forward-and-backward movement of materiel or equipment caused it to fail or malfunction.
Code: M05	
Keyword/explanation:	Rubbed/worn/frayed. Key words: abrade, chafe, fret, groove, score, or scrape. Friction-producing movement was applied to materiel or equipment to such and extent that it failed or malfunctioned.
Code: M06	
Keyword/explanation:	Corroded/rusted/pitted. Key words: erode or oxidize. Gradual wearing away (usually by chemical action) of materiel or equipment to such an extent that it failed or malfunctioned.
Code: M07	
Keyword/explanation:	Overpressured/burst. Key words: balloon, bulge, explode, rupture, or swell. Steady or abrupt force was applied over the surface of materiel or equipment to such an extent that it failed or malfunctioned.
Code: M08	
Keyword/explanation:	Pulled/stretched. Key word; elongate. Steady or abrupt force applied to materiel or equipment caused it to move toward the force, in whole or in part, to such an extent that it failed or malfunctioned.
Code: M09	
Keyword/explanation:	Twisted/torqued. Key word: turn. Steady or abrupt application of twisted forces caused materiel or equipment to fail or malfunction.
Code: M10	
Keyword/explanation:	Compressed/hit/punctured. Key words: chip, collapse, crush, dent, nick, pinch, press. Steady or abrupt application of force that presses/impacts materiel or equipment causing it to fail or malfunction.
Code: M11	
Keyword/explanation:	Bent/warped. Key words: bow or buckle. Changing materiel or equipment from an original straight, level, or even condition through the application of force to such an extent that it failed or malfunctioned.
Code: M12	
Keyword/explanation:	Sheared/cut. Key words: chop or sever. Failure or malfunction was caused by steady or abrupt force applied to materiel, resulting in a break with the two parts sliding parallel to each other in different directions.

Code: M13	
Keyword/explanation:	Decayed/decomposed. Key words: mildew, rot, or spoil. Chemical or biological action resulted in a gradual decline in materiel or equipment strength to such an extent that if failed or malfunctioned.
Code: M14	
Keyword/explanation:	Electric current action. Key words: short, arc, fusing, grounding, amperage, voltage, surge. Action of electric current caused materiel or equipment to fail or malfunction.
Code: M15	
Keyword/explanation:	No defect but does not meet the mission requirements.
Code: M97	
Keyword/explanation:	Insufficient information to determine type of failure.

Table B–4
Environmental conditions

Code: E01	
Keyword/explanation:	Illumination. Key words: bright, dark, dim, glare, or light. Too much or too little light that was a negative influence on vision.
Code: E02	
Keyword/explanation:	Precipitation. Key words: condensation, fog, frost, hail, ice, mist, rain, sleet, or snow. Climatic precipitation that has a negative influence on human or machine performance.
Code: E03	
Keyword/explanation:	Contaminants. Key words: carbon dioxide, carbon monoxide, chemicals, dust, foreign/debris, fumes, gases, impurities, mists, smog, smoke, toxic materials, or vapors. Natural or manmade elements that render material or the environment unsatisfactory for human or machine use and have a negative influence on performance.
Code: E04	
Keyword/explanation:	Noise. Key words: bang, din, explosion, shout, or static. Unwanted sound that produces hearing loss, disturbs/distracts attention from task at hand, or interfered with communication.
Code: E05	
Keyword/explanation:	Temperature/humidity. Key words: blow, blast, gust, hurricane, storm, tornado, or turbulence. Natural or manmade air movement that has a negative influence on human or machine performance.
Code: E06	
Keyword/explanation:	Wind/turbulence. Key words: blow, blast, gust, hurricane, storm, tornado, or turbulence. Natural or manmade air movement that has a negative influence on human or machine performance.
Code: E07	
Keyword/explanation:	Vibration. Key words: bounce, buck, bump, jar, jolt, jump, oscillate, roll, shake, vibrate, shimmy, or sway. Repeated/periodic motions that have a negative influence on human or machine performance.
Code: E08	
Keyword/explanation:	Acceleration/deceleration. Forces experienced by personnel/materiel due to rate of change of velocity.

Code: E08	
Keyword/explanation:	Acceleration/deceleration. Forces experienced by personnel/materiel due to rate of change of velocity.
Code: E09	
Keyword/explanation:	Radiation. Key words: alpha radiation, beta radiation, gamma radiation, ionizing, laser, maser, neutron radiation, non-ionizing, radio waves, sunlight, ultraviolet, or X radiation. Radiant energy emitted in waves or particles that have a negative influence on human or machine performance.
Code: E10	
Keyword/explanation:	Work surface/space. Keywords: holes, inclines, rocky, rough, rutted, slippery, steep, or uneven wave action. Conditions (excluding precipitation) of natural or manmade work surfaces on which personnel and machines operate that have a negative influence on performance.
Code: E11	
Keyword/explanation:	Air pressure. Key words: altitude, bends, blast, boom, chokes, decompression, explosion, or hypoxia. Sudden or gradual changes in air pressure that have a negative influence on human or machine performance.
Code: E12	
Keyword/explanation:	Electricity. Key words: burn out, electrocute, discharge, ground, lighting, shock, short, or static. Natural or manmade electrical current that has a negative influence on human or machine performance.
Code: E13	
Keyword/explanation:	Animals. Key words: bitten, burrowed, chewed, clawed, infects, infested, pecked, poisoned, scratched, stung, flew into. The actions or presence of animals that injures personnel, cause personnel to make errors, damage equipment, or cause equipment to malfunction.
Code: E97	
Keyword/explanation:	Insufficient information to identify environmental conditions.
Code: E98	
Keyword/explanation:	Not applicable, not caused by Army. Army had no contributing role.
Code: E99	
Keyword/explanation:	Insufficient information reported to identify the cause.

Table B–5
System inadequacies/readiness shortcomings/root causes ("Why" the error/failure/malfunction occurred)

LEADER FAILURE occurs when leaders fail to monitor mission execution and planning, correct inappropriate behavior, take appropriate action, or emphasize correct procedures that allowed subordinates to commit task errors or results in a materiel failure.	
Code: 01	
Keyword/explanation:	Inadequate/improper supervision by higher command.
Code: 02	
Keyword/explanation:	Inadequate/improper supervision by staff officer.
Code: 03	
Keyword/explanation:	Inadequate/improper supervision by unit command.
Code: 04	
Keyword/explanation:	Inadequate/improper supervision by direct supervisor/noncommissioned officer in charge/platoon leader/instructor. Note: Inadequate supervision becomes a root cause when it leads to accident-causing personnel mistakes or materiel failure/malfunctions. Inadequate supervision is more clearly identifiable at the immediate-supervisor level.
Code: 04A	
Keyword/explanation:	When a leader who is not in the individual chain of command fails to make an on-the-spot correction.
TRAINING FAILURE occurs when training is incorrect, incomplete, insufficient for performance to standard.	
Code: 05	
Keyword/explanation:	Inadequate school training. School training becomes a root cause when people make accident-causing mistakes because the school training was inadequate in content or amount.
Code: 06	
Keyword/explanation:	Inadequate unit/on-the-job training. Unit/on-the-job training becomes a root cause when people make accident-causing mistakes because the training provided was inadequate in content or amount.
Code: 07	
Keyword/explanation:	Inadequate experience. Supervised on-the-job experience is the follow-up to school and unit training programs. Experience becomes a root cause when people make accident-causing mistakes because the experience provided was inadequate in content or amount.
Code: 08	
Keyword/explanation:	Habit interference becomes a root cause when a person makes an accident-causing error because task performance was interfered with either the way he usually performs similar tasks, or the way he usually performs the same task under different conditions or with different equipment.
STANDARDS FAILURE occurs when standards do not exist or they are unclear, impractical, or inadequate.	
Code: 09	
Keyword/explanation:	Inadequate written procedures for operation under normal or abnormal/emergency conditions. Inadequate written procedures (AR, TM, SOP, written directives) become the root causes when they lead to accident-causing mistakes or materiel failures/malfunctions.
SUPPORT FAILURE occurs when the type, amount, capabilities, condition of the support is sufficient to correctly perform the mission. Support includes: personnel, equipment, materiel, supplies, services, or facilities.	
Code: 10	
Keyword/explanation:	Inadequate facilities/service. Inadequate facilities or services become root causes when the maintenance, space and/or support provided for personnel and materiel to accomplish their functions cause mistakes or failures/malfunctions that lead to accidents. (Examples of facilities or services are recreation areas, POL services, housing, medical clinics/hospitals, weather service, storage areas, maintenance facilities, and property disposal.)
Code: 11	

Table B–5
System inadequacies/readiness shortcomings/root causes ("Why" the error/failure/malfunction occurred)—Continued

Keyword/explanation:	Inadequate/improper equipment design or equipment not provided. Improperly designed equipment and materiel or lack of equipment/materiel become root causes when the design or lack of equipment leads to accident-causing personnel errors or materiel failures/malfunctions.
Code: 12	
Keyword/explanation:	Insufficient number or type of personnel. Insufficient number or type of personnel becomes a root cause when people make accident-causing mistakes or material fails/malfunctions because the number or type of personnel was insufficient.
Code: 13	
Keyword/explanation:	Inadequate quality control, manufacture, packaging, or assembly. The inadequate manufacture, assembly, packaging, or quality control of materiel becomes a root cause when it leads to accident-causing personnel errors or materiel failures/malfunctions. Note: (Includes original manufacture and rebuild.)
Code: 14	
Keyword/explanation:	Inadequate maintenance. Inadequate maintenance. Inadequate maintenance (inspection, installation, troubleshooting, recordkeeping) becomes a root cause when it leads to accident-causing personnel errors or material failures/malfunctions.
INDIVIDUAL FAILURE occurs when the individual knows the standard and is trained to standard but elected not to follow the standard.	
Code: 15	
Keyword/explanation:	Fear/Excitement/Anger (inadequate composure). Each person is a part of the system. Therefore, his state of mind is a system element. Inadequate composure is a temporary state of mind that becomes a root cause when a person makes an accident-causing error because of fear, excitement, or some related emotional factor made clear, rational thought impossible.
Code: 16	
Keyword/explanation:	Overconfidence/complacency in abilities. Overconfidence is a temporary state of mine that becomes a root cause when an accident is caused by a person's unwarranted reliance on their own ability to perform a task, the ability of someone else to perform a task, the performance capabilities of equipment or other materiel.
Code: 17	
Keyword/explanation:	Lack of confidence. Lack of confidence is temporary of mind that becomes a root cause when accident is caused by a person's unwarranted lack of reliance on his own ability to perform the task, the ability of someone else to perform the task, the performance capabilities of equipment or other material.
Code: 18	
Keyword/explanation:	Haste. A a temporary state of mind that becomes a root cause when a person makes a mistake because they are in a hurry and the error contributes to or causes an accident.
Code: 19	
Keyword/explanation:	Fatigue (self-induced). Fatigue is a temporary physical and/or mental state that becomes a root cause when a person makes an accident-causing error because of reduced physical or metal capabilities resulting from previous activity and/or lack of rest.
Code: 20	
Keyword/explanation:	Effects of alcohol, drugs, illness. The temporary effects of alcohol, drugs, or illness become a root cause when a person makes an accident-causing error because of reduced physical or mental capabilities resulting from one or more of these effects.
Code: 21	
Keyword/explanation:	Poor attitude/indiscipline. A temporary state of mind that becomes a root cause when a person's unwarranted or willful disregard for existing standards or know safe conduct results in an error that causes or contributes to an accident.
Code: 22	
Keyword/explanation:	Environment conditions. Unknown or unavoidable conditions, which result in materiel failure or induce human error.

Table B–6
Recommendations/controls/corrective actions/countermeasures

Code: 01	
Keyword/explanation:	Improve school training. The improvement recommended should be directed toward the content or amount of school training needed to correct the accident-causing error. For example:
	Provide school training for the person who made the error due to not being school trained.
	Improve the content of a school training program to better cover the task in which the error was made.
	Expand the amount of school training given on the task in which the error was made.
Code: 02	
Keyword/explanation:	Improve unit training. The improvement recommended should be directed toward the content or amount of unit training needed to correct the accident-causing error. For example:
	Provide unit training for the person who made the error due to not being unit trained.
	Improve the content of unit training to better cover the task in which the error was made.
	Expand the amount of unit training given on the task in which the error was made.
Code: 03	
Keyword/explanation:	Revise procedures for operation under normal or abnormal/emergency conditions. The changes recommended should be directed toward changing existing procedures or including new ones. If the change is to an AR, TM, FM, Soldier's Manual, or other Army publication, tell the date when DA Form 2028 was submitted.
Code: 04	
Keyword/explanation:	Ensure personnel are ready to perform. The purpose of this recommendation is to encourage supervisors to make sure that their people are capable of performing a job before making an assignment. They should consider training, experience, physical condition, and psycho-physiological state,(for example, fatigue, haste, excessive motivation, overconfidence, effects of alcohol/drugs.)
Code: 05	
Keyword/explanation:	Inform personnel of problems and remedies. This recommendation should be used when it is necessary to relay accident-related information to people at unit, installation, Army Command (ACOM), or DA levels.
Code: 06	
Keyword/explanation:	Positive command action. The purpose of this corrective action is to recommend that the supervisor take action to encourage proper performance and discourage improper performance by the personnel.
Code: 07	
Keyword/explanation:	Provide personnel resources required for the job. This recommendation is intended to prevent an accident caused by not enough qualified people being assigned to perform the job safely.
Code: 08	
Keyword/Explanation:	Redesign (or provide) equipment or materiel. This recommendation is made when equipment or materiel caused or contributed to an accident because: a. The required equipment or materiel was not available. b. The equipment or materiel used was not properly designed.
Code: 09	
Keyword/explanation:	Improve (or provide) facilities or services. This recommendation is made when facilities or services lead to an accident because— a. The required facilities or services were not available. b. The facilities or services used were inadequate.
Code: 10	
Keyword/explanation:	Improve quality control. This recommendation is directed primarily toward t he improvement of training, manufacturing, and maintenance operations where poor quality products (personnel or materiel) have led to accidents.
Code: 11	