

**PEER REVIEW
COORDINATING DRAFT**

**TASK ANALYSIS
FOR**

**TAKE ACTIVE/PASSIVE AIR DEFENSE MEASURES
(CRITICAL COMBAT FUNCTION 16/17)**

AS ACCOMPLISHED BY A BATTALION TASK FORCE

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U.S. Army Research Institute

Prime Contractor: **BDM Federal, Inc.**
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DTIC QUALITY INSPECTED 3

August 29, 1993

19960916 051

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**Task Analysis for Take Active/Passive Air Defense
Measures as Accomplished by a Battalion Task Force.
Critical Combat Function 16/17 (CCF 16/17)**

Paul Jarrett

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July 1996

United States Army Research Institute for the Behavioral and Social Sciences

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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE July 1996	3. REPORT TYPE AND DATES COVERED Interim Report 07/17/92 - 03/15/96	
4. TITLE AND SUBTITLE Task Analysis for Take Active/Passive Air Defense Measures as Accomplished by a Battalion Task Force Critical Combat Function 16/17 (CCF 16/17)		5. FUNDING NUMBERS MDA903-92-D-0075-0005 3414 CO1 665803 D730	
6. AUTHOR(S) Paul Jarrett			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) BDM FEDERAL INC. DOD CENTER MONTEREY BAY 400 GIGLING ROAD SEASIDE, CA 93955		8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES 5001 EISENHOWER AVENUE ALEXANDRIA, VA 22333-5600		10. SPONSORING/MONITORING AGENCY REPORT NUMBER Contractor Report 96-37	
11. SUPPLEMENTARY NOTES The COR is Michael R. McCluskey. This report is published to meet legal and contractual requirements and may not meet ARI's scientific or professional standards for publication.			
12a. DISTRIBUTION/AVAILABILITY STATEMENT APPROVED FOR PUBLIC RELEASE; DISTRIBUTION IS UNLIMITED.		12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) The purpose of CCF 16/17 is to preserve a task force's freedom of maneuver and protect critical assets by limiting the enemys' offensive air efforts through passive and active air defense measures. The outcomes include: 1) The air defense plan supports the overall scheme of maneuver, the commander's intent, and counters the enemy's air threat. 2) Enemy air attacks are unsuccessful. Destruction and damage of the task force's critical assets are limited to an extent that does not significantly restrict the task forces' ability to accomplish its mission.			
14. SUBJECT TERMS active air defense, passive air defense, early warning, dispersion, cover and concealment, air watch, deception, sustainment, airspace management		15. NUMBER OF PAGES	
		16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UNLIMITED

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TAKE ACTIVE/PASSIVE AIR DEFENSE MEASURES

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PREFACE

This task analysis of **Take Active/Passive Air Defense Measures, Critical Combat Functions 16/17** (CCF 16/17), is an intermediate product of the process of developing a training strategy for the CCF. The analysis is a consolidation of Take Active Air Defense Measures (CCF 16) and Take Passive Air Defense Measures (CCF 17). During the analysis, it was found that, at the task force level, the two functions were closely linked and a consolidation of the two CCFs was the most effective method in portraying the functions. The relationship reflects tasks, products, players, and processes in sequence necessary to protecting the task force's critical and vulnerable assets and to maintain the task force's freedom of action.

CRITICAL COMBAT FUNCTIONS: *The integration of related players and tasks that represent a source of combat power. The synchronization of critical combat functions provides maneuver commanders at any echelon with a definable outcome that materially affects the battle.*

The battle phases PLAN, PREPARE, and EXECUTE relate to the entire battalion task force (TF) battle vice phasing for this particular CCF.

This analysis covers both active and passive air defense measures taken by a task force to limit the effectiveness of offensive enemy air. It includes early warning, passive acquisition countermeasures, deception, and active engagement of enemy air assets.

The level of detail and the tasks were selected by the analyst as important to the analysis of the CCF from the perspective of the TF training strategy. Compliance with branch training strategies and proficiency at MTP tasks and subtasks are recognized to be the responsibility of TF subordinate commanders. However, some tasks and subtasks are critical to TF success; these, then, are included in this analysis because the TF commander may wish to emphasize them in his training guidance.

**INDEX OF
CRITICAL COMBAT FUNCTIONS**
Grouped By Battlefield Operating System (BOS)

INTELLIGENCE	(1)	Conduct Intelligence Planning
	(2)	Collect Information
	(3)	Process Information
	(4)	Disseminate Intelligence
MANEUVER	(5)	Conduct Tactical Movement
	(6)	Engage Enemy with Direct Fire and Maneuver
AIR DEFENSE	(16)	Take Active Air Defense Measures
	(17)	Take Passive Air Defense Measures
FIRE SUPPORT	(7)	Employ Mortars
	(8)	Employ Field Artillery
	(9)	Employ Close Air Support
	(10)	Conduct Electronic Collection and Jamming
	(11)	Conduct Battlefield PsyOps
	(12)	Employ Chemical Weapons
	(13)	Conduct Counter Target Acquisition Operations
	(14)	Employ Naval Gunfire
	(15)	Coordinate, Synchronize and Integrate Fire Support
MOBILITY AND SURVIVABILITY	(21)	Overcome Obstacles
	(22)	Enhance Movement
	(23)	Provide Countermobility
	(24)	Enhance Physical Protection
	(25)	Provide Operations Security
	(26)	Conduct Deception Operations
	(27)	Provide Decontamination
COMMAND AND CONTROL	(18)	Plan for Combat Operations
	(19)	Direct and Lead Unit During Preparation for the Battle
	(20)	Direct and Lead Units in Execution of Battle
COMBAT SERVICE SUPPORT	(28)	Provide Transport Services
	(29)	Conduct Supply Operations
	(30)	Provide Personnel Services
	(31)	Maintain Weapons Systems and Equipment
	(32)	Provide Health Services
	(33)	Treat and Evacuate Battlefield Casualties
	(34)	Conduct Enemy Prisoners of War (EPW) Operations
	(35)	Conduct Law and Order Operations
	(36)	Conduct Civil Affairs Operations
	(37)	Provide Sustainment Engineering
	(38)	Evacuate Non-combatants from Area of Operations
(39)	Provide Field Services	

STRUCTURE OF CRITICAL COMBAT FUNCTIONS RELEVANT TO BATTALION TASK FORCE OPERATIONS

CRITICAL COMBAT FUNCTION: *The integration of related players and tasks that represent a source of combat power. The synchronization of critical combat functions provides maneuver commanders at any echelon with a definable outcome that materially affects the battle.*

- I. **Intelligence BOS** — The ways and means of acquiring, analyzing and using knowledge of the enemy, weather and terrain required by a commander in planning, preparing and conducting combat operations. These CCF are continuous throughout the planning, preparation and execution phases of the battle.
 1. **CCF (1) Conduct Intelligence Planning** — The development and coordination of information relative to the enemy, weather and terrain prior to and during the development of the unit OPOD; the planning to collect information from battlefield sources and to acquire intelligence from other headquarters. Focus of this CCF is the Intelligence Preparation of the Battlefield (IPB). This CCF addresses:
 - a. Reconnaissance and Surveillance plan.
 - b. Integrated threat templates (doctrinal; event; input to DST).
 - c. Terrain and Weather analysis.
 2. **CCF (2) Collect Information** — Obtaining information in any manner from TF elements and from sources outside the TF (e.g., higher headquarters; adjacent units); this CCF includes the tasks associated with managing the processes and activities necessary to collect battlefield information which may eventually be used to provide intelligence relative to the enemy, terrain and weather. This CCF addresses:
 - a. Information collected as a result of R & S plan.
 - b. Continuous information collection and acquisition from all sources.
 3. **CCF (3) Process Information** — The conversion of information into intelligence through collation, evaluation, analysis, integration and interpretation in a continual process. This CCF addresses:
 - a. Evaluation of threat information.
 - b. Evaluation of physical environment information.
 - c. Integration of intelligence information.
 - d. Development of enemy intentions.
 - e. Development of targeting information.
 - f. Preparation of intelligence reports.
 - g. Update of situational template.
 - h. Provision of battlefield area reports.
 4. **CCF (4) Disseminate Intelligence** — Transmission of information by any means (verbal, written, electronic etc.), from one person or place to another to provide timely dissemination of critical intelligence to all appropriate members of the combined arms team. This CCF addresses:
 - a. The sending of processed intelligence in a timely manner to those on the combined arms team who can by its receipt, take appropriate actions to accomplish the mission. This includes intelligence on the enemy, terrain and weather.

- b. The sending of raw intelligence directly from those responsible for reconnaissance and surveillance to the commander should that raw intelligence be time sensitive (and not be subject to receipt and processing by intelligence analysts).
- c. Dissemination of battlefield reports.

II. **Maneuver BOS** — The employment of direct fire weapons, platforms and systems through movement and fire and maneuver to achieve a position of advantage in respect to enemy ground forces, in order to accomplish the mission. The direct fire weapons are: tank guns; BFV 25mm; anti-tank guns and rockets; attack helicopter guns and rockets; small arms; crew served weapons; directed energy weapons systems.

1. **CCF (5) Conduct Tactical Movement** — Position direct fire weapons systems relative to the enemy to secure or retain positional advantage making full use of terrain and formations. Tactical movement occurs when contact with the enemy is likely or imminent but direct fire engagement has not yet occurred. Units supporting maneuver units are included. This CCF addresses:

- a. Subordinate element OPORD preparation and dissemination.
- b. Preparation for movement.
- c. Movement, mounted and dismounted; on and off road.
- d. Closure of movement — tactical assembly area; tactical positions.
- e. Navigation.
- f. Force protection.
- g. Air movement.

2. **CCF (6) Engage Enemy with Direct Fire and Maneuver** — Entering into ground combat with the enemy using direct fire and/or close combat in order to destroy the enemy or cause him to withdraw. This CCF relates only to those direct fire weapons systems associated with the Maneuver BOS. This CCF is initiated with the OPORD at the completion of the planning phase of the battle and includes all tasks associated with subordinate echelon planning, preparation and execution of the battle. This CCF addresses:

- a. Subordinate element OPORD preparation and dissemination.
- b. Preparation of engagement areas.
- c. Rehearsals of battle plans.
- d. Pre-combat prepare to fire checks.
- e. Target acquisition.
- f. Fire control and distribution.
- g. Fratricide.
- h. Conduct close combat.
- i. Integration of direct fire with maneuver.
- j. Control of terrain.
- k. Prestocked ammunition.
- l. Resupply during operations.
- m. Maintenance during operations.
- n. Consolidation and reorganization.

III. **Fire Support BOS** — The collective, coordinated, and synchronized use of target acquisition data, indirect fire weapons, armed aircraft (less attack helicopters) and other lethal and non-lethal means against ground targets in support of maneuver force operations and to achieve the commanders intent and scheme of maneuver. The Fire Support BOS

addresses these weapons: mortars; field artillery; close air support; electronic measures; naval gunfire.

1. **CCF (7) Employ Mortars** — Employment of mortars by the maneuver unit to place fires on the enemy or terrain to support the commander's concept and intent. This CCF initiates with the receipt of an OPORD by the maneuver commander and address those tasks required during the preparation and execution phases of the battle. This CCF addresses:
 - a. Subordinate element OPORD preparation and dissemination.
 - b. Prepare to fire checks.
 - i. Rehearsals.
 - c. Pre-combat checks.
 - d. Development of order to fire.
 - e. Tactical movement.
 - f. FDC operations.
 - g. Target engagements with illumination, smoke, HE.
 - h. Sustainment operations.

2. **CCF (8) Employ Field Artillery** — The ways and means employed by the maneuver unit to cause indirect artillery fires to be placed on the enemy or terrain to support the commander's concept and intent. This CCF initiates upon receipt of an OPORD by the maneuver commander and includes tasks performed during the preparation and execution phases of the battle. The Fire Support Coordination tasks necessary to integrate the field artillery and the maneuver units are the primary focus. This CCF does not address those field artillery tasks associated directly with those actions taken by the batteries of the artillery battalion in the conduct of their support mission such as FDC operations, gun operations, etc. This CCF addresses:
 - a. Fire Support — Maneuver unit rehearsals.
 - b. FSE operations during the preparation and execution phase of the battle.
 - c. FSO and FIST operations in coordination with their maneuver commander.
 - d. Positioning and movement within the maneuver unit sector or zone.
 - e. Indirect fire missions in support of maneuver commander's concept and intent.
 - f. Sustainment operations.
 - g. Indirect fire planning as battlefield METT-T change.

3. **CCF (9) Employ Close Air Support** — Planning for, requesting and employing armed aircraft (less attack helicopters) in coordination with other fire support (lethal and non-lethal) against ground targets in support of the maneuver force commander's concept and intent. This CCF addresses:
 - a. Air-ground attack requests.
 - b. Air space coordination and management.
 - c. Air Liaison Officer, Forward Air Controller, other Army Fire Support Coordination Officer, USN/USMC Bde Team Commander, SALT-O and FCT-O tasks that enable air to ground attacks.

4. **CCF (10) Conduct Electronic Collection and Jamming** — Actions taken to deny the enemy effective command, control and communications of his own tactical force in support of maneuver commander's concept and intent. This CCS includes jamming, deception, and collection.

5. **CCF (11) Conduct Battlefield PsyOps** — Conduct psychological activities as an integral part of combat operations to bring psychological pressure to bear on enemy

forces and civilians under enemy control in the battle area, to assist in the achievement of tactical objectives in support of maneuver commander's concept and intent.

6. **CCF (12) Employ Chemical Weapons** — Employ chemical agents or other means to degrade enemy capabilities in support of maneuver commander's concept and intent.
7. **CCF (13) Conduct Counter Target Acquisition Operations** — Suppress (e.g. using smoke or dazzling illumination) or degrade enemy direct observation, optics, radar, sensors, electronic DF equipment, and imaging systems in support of maneuver commander's concept and intent.
8. **CCF (14) Employ Naval Gunfire** — The means and ends to provide naval gunfire in support of the maneuver commander's tactical operation.
9. **CCF (15) Coordinate, Synchronize and Integrate Fire Support** — Coordination of all fire support means in support of the maneuver commanders concept and intent. This CCF addresses the preparation and execution of tasks necessary to integrate the fire support detailed in the OPORD. The CCF integrates CCF 7-14 in support of maneuver commander's concept and intent.

IV. **Air Defense BOS** — The means and measures organic or assigned to the maneuver commander which when employed successfully will nullify or reduce the effectiveness of attack by hostile aircraft or missiles after they are airborne.

1. **CCF (16) Take Active Air Defense Measures** — Application of firepower to destroy enemy air targets. This CCF addresses the coordinating tasks which enable the maneuver commander to successfully employ any attached or assigned air defense weapons system as well as the tasks necessary to employ all organic weapons systems against enemy air targets. This CCF addresses:
 - a. Employment of Air Defense Artillery guns and missiles.
 - b. Employment of maneuver unit weapons systems such as small arms, automatic weapons, BFV 25 mm and TOW missiles, tank main gun against enemy air.
 - c. Airspace management.
 - d. Early warning.
 - e. Sustainment.
2. **CCF (17) Take Passive Air Defense Measures** — The protection of the maneuver force from enemy air by means other than weapons. This CCF will focus on the preparation and execution phases of the battle. This CCF addresses:
 - a. Early warning.
 - b. Dispersion.
 - c. Cover and concealment.
 - d. Air watch.
 - e. Deception.

V. **Command and Control BOS** — The way and means a maneuver commander exercises authority and direction over organic and assigned combat power in the accomplishment of the mission.

1. **CCF (18) Plan for Combat Operations** — The integration of all members of the combined arms team in the coordinated development of the maneuver unit Operations Order which will guide the activities of the combined arms team in conducting combat operations to accomplish assigned missions. The product/outcome of this CCF is a briefed, understood OPORD. This CCF addresses:
 - a. Receipt and analysis of higher HQ OPORD.
 - b. Issuance of Warning Order.
 - c. Restated mission statement.
 - d. Commander's estimate process/troop leading procedures.
 - e. Commander's guidance.
 - f. Mission analysis (includes course of action development).
 - g. Decision brief to commander.
 - h. Development of a synchronized OPORD.
 - i. Reproduction and distribution of OPORD to all participants.
 - j. Briefing of OPORD; understanding of order by participants.
 - k. FRAGO planning and issue.

2. **CCF (19) Direct and Lead Unit during Preparation for the Battle** — The ways and means to prepare combined arms task force for the battle so that the combined arms task force is ready to support the maneuver commander's concept and intent. This CCF addresses:
 - a. Commander's activities.
 - b. Communicating information.
 - c. Briefbacks and backbriefs.
 - d. Rehearsals.
 - e. Management of the means of communicating information.
 - f. Maintaining and updating information and force status.
 - g. Managing information distribution.
 - h. Decisions to act or change ongoing actions.
 - i. Confirming IPB through the reconnaissance effort.
 - j. Determining actions to implement decisions.
 - k. Providing command presence.
 - l. Maintaining unit discipline.
 - m. Synchronizing tactical operations (e.g., execution matrix DST).
 - n. TOC operations (e.g., staff integration and battle tracking).
 - o. Continuity of command.
 - p. Second in command (2IC responsibilities).
 - q. Continuous and sustained operations.
 - r. Communications (e.g., planning, installation and operation of system, management, site selection).

3. **CCF (20) Direct and Lead Units in Execution of Battle** — The ways and means to command and control in the combined arms task force execution of the battle plan (engaging the enemy in battle) to accomplish the maneuver commander's concept and intent. This CCF addresses:
 - a. Directing the conduct of the battle.
 - b. Issue orders.
 - c. Command presence.
 - d. Information distribution.
 - e. Decide on need for action or change.
 - f. Maintaining unit discipline.
 - g. Synchronizing tactical operations.

- h. TOC operations (includes CP displacement, security, survivability).
- i. Continuity of command (e.g., C2 redundancy).
- j. Second in command (2IC) responsibilities.
- k. Continuous and sustained operations.
- l. Consolidation and reorganization.

VI. **Mobility and Survivability BOS** — The ways and means of the force that permit freedom of movement, relative to the enemy, while retaining the task force ability to fulfill its primary mission as well as the measures the force takes to remain viable and functional by protection from the effects of enemy weapons systems and natural occurrences.

1. **CCF (21) Overcome Obstacles** — Enabling the maneuver force to maintain its mobility by removing or clearing/reducing natural and man-made obstacles. This CCF will initiate after receipt of the OPORD and address subordinate echelon planning as well as task force preparation and execution tasks necessary to achieve the maneuver commander's concept and intent. This CCF addresses:
 - a. Breach obstacle. Clearing a path or lane for personnel and equipment through a battlefield obstacle.
 - b. Cross gaps. Passing through or over any battlefield terrain feature, wet or dry, that is too wide to be overcome by organic/self bridging.
2. **CCF (22) Enhance movement** — Provision of adequate mobility for the maneuver unit in its area of operations. This CCF addresses:
 - a. Construction and repair of combat roads and trails.
 - b. Construction or repair of forward airfields.
 - c. Facilitating movement on routes. (This includes control of road traffic and control of refugees and stragglers.)
 - d. Tracking status of routes.
 - e. Host nation support.
3. **CCF (23) Provide Countermobility** — Delaying, channeling, or stopping offensive movement by the enemy consistent with the commander's concept and intent by enhancing the effectiveness of friendly direct and indirect weapons systems. This CCF addresses:
 - a. Emplacement of mines and complex obstacles.
 - b. Digging tank ditches.
 - c. Creation of road craters with explosives.
 - d. Terrain enhancement.
4. **CCF (24) Enhance Physical Protection** — Providing protection of friendly forces on the battlefield by enhancing the physical protection of personnel, equipment and weapons systems, and supplies. This CCF addresses:
 - a. Construction of fighting positions.
 - b. Preparation of protective positions.
 - c. Employment of protective equipment.
5. **CCF (25) Provide Operations Security** — Denying information to the enemy about friendly capabilities and intentions by identifying, controlling, and protecting indicators associated with planning and conducting military operations. This CCF addresses:

- a. Analysis to determine key assets and threats to them.
- b. Cover and concealment.
- c. Camouflage.
- d. Noise and light discipline.
- e. Counter reconnaissance.
- f. Smoke/obscurants.
- g. Physical security measures.
- h. Signal security.
- i. Electronic security.

6. **CCF (26) Conduct Deception Operations** — Taking actions to mask the real objectives of tactical operations in order to delay effective enemy reaction. This CCF addresses:

- a. Physical deception.
- b. Electronic deception.

7. **CCF (27) Provide Decontamination** — Making any person, object or area safe by absorbing, destroying, neutralizing, making harmless or removing chemical or biological agents, or by removing radioactive material. This CCF addresses:

- a. Decontamination of individual soldiers and equipment.
- b. Decontamination of weapon systems and supplies.
- c. Hasty and deliberate decontamination.

VII. **Combat Service Support BOS** — The support, assistance and service provided to sustain forces, primarily in the area of logistics, personnel services and health services.

1. **CCF (28) Provide Transport Services** — Providing or coordinating for transportation which will assure sustainment support operations in support of the maneuver commander. Upon receipt of an OPORD, this CCF addresses preparation and execution tasks necessary to achieve transportation support of the maneuver force. This CCF addresses:

- a. Movement of cargo, equipment and personnel by surface or air.
- b. Loading, transloading and unloading material and supplies.

2. **CCF (29) Conduct Supply Operations** — Providing the items necessary to equip, maintain and operate the force during the preparation and execution phases of the battle. This CCF addresses:

- a. Requesting, receiving, procuring, storing, protecting, relocating and issuing supplies to the specific elements of the force.
- b. Providing munitions to weapons systems.
- c. Providing fuel and petroleum products to equipment and weapons systems.
- d. Reporting status.

3. **CCF (30) Provide Personnel Services** — Management and execution of all personnel-related matters to sustain the force. This CCF addresses:

- a. Personnel Administrative Services.
 - 1) Replacement, casualty reporting.
 - 2) Awards and decorations.

- 3) Postal Operations.
 - 4) Promotions, reductions.
 - b. Financial services.
 - c. Unit Ministry team.
 - d. Legal.
 - e. Public Affairs.
 - f. Reporting personnel status.
 - g. Preservation of the force through safety.
 - h. Management of stress.
4. **CCF (31) Maintain Weapons Systems and Equipment** — Preservation and repair of weapons systems and equipment. This CCF includes the provision of repair parts and end items to all members of the combined arms team before, during and after the battle. Included also is doctrinal echeloning of maintenance (organization, DS, GS). This CCF addresses:
- a. Preventative Maintenance.
 - b. Recovery.
 - c. Diagnosis, substitution, exchange, repair and return of equipment and weapons systems to the combined arms force.
 - d. Reporting status.
5. **CCF (32) Provide Health Services** — Performance, provision or arrangement for health services regardless of location, to promote, improve, conserve or restore the mental or physical well-being of individuals or groups. This CCF addresses
- a. Preventive medicine.
 - b. Field sanitation.
6. **CCF (33) Treat and Evacuate Battlefield Casualties** — Application of medical procedures on battlefield casualties beginning with "buddy aid" through trained medical personnel. The CCF includes movement of casualties from the forward edge of the battlefield back to division-level medical facilities. This CCF addresses:
- a. Triage of battlefield casualties.
 - b. Treatment and movement of casualties to rear (medevac).
 - 1) Identification of levels of care and locations.
 - 2) Synchronization and coordination of movement of medical facilities to ensure continuity of care.
 - 3) Establishment and maintenance of communications with redundant means.
 - 4) Rehearsals.
 - 5) Resupply.
 - c. Evacuation:
 - 1) Ground ambulance.
 - 2) Aero medevac.
 - 3) Non-standard evacuation.
 - d. Handling and processing the remains of soldiers who have died of wounds.
 - e. Reporting status.
7. **CCF (34) Conduct Enemy Prisoners of War (EPW) Operations** — The collection, processing, evacuation and safeguarding of enemy prisoners of war. This CCF addresses:
- a. Collecting and evacuating EPW.
 - b. Searching, segregating, safeguarding, silencing, and rapid rearward movement of EPW.

8. **CCF (35) Conduct Law and Order Operations** — Enforcement of laws and regulations and maintenance of units and personnel discipline.
9. **CCF (36) Conduct Civil Affairs Operations** — Conduct of those phases of the activities of a tactical commander which embrace the relationship between the military forces and civil authorities, and the citizens in a friendly or occupied country or area when U.S. military forces are present.
10. **CCF (37) Provide Sustainment Engineering** — The repair and construction of facilities and lines of communication. This CCF addresses:
 - a. Rear area restoration.
 - b. Construction and maintenance of lines of communication (roads, railroads, ports, airfields).
 - c. Construction support:
 - 1) Marshaling, distribution and storage facilities.
 - 2) Pipelines.
 - 3) Fixed facilities.
 - 4) Drill wells.
 - 5) Dismantlement of fortifications.
11. **CCF (38) Evacuate Non-combatants from Area of Operations** — The use of available military and host-nation resources for the evacuation of US forces, dependents, US government civilian employees, and private citizens (US and other). This CCF addresses:
 - a. Medical support.
 - b. Transportation.
 - c. Security.
 - d. Preparation of temporary shelters.
 - e. Operation of clothing exchange facilities.
 - f. Operation of bathing facilities.
 - g. Graves registration.
 - h. Laundry.
 - i. Feeding.
12. **CCF (39) Provide Field Services** — Performance of service logistics functions by and for Army elements in the field. This CCF addresses:
 - a. Clothing exchange.
 - b. Bathing facilities.
 - c. Graves registration.
 - d. Laundry and clothes renovation.
 - e. Bakeries.
 - f. Feeding (rations supply, kitchens).
 - g. Salvage.

OUTCOMES AND PURPOSE OF CCF 16/17

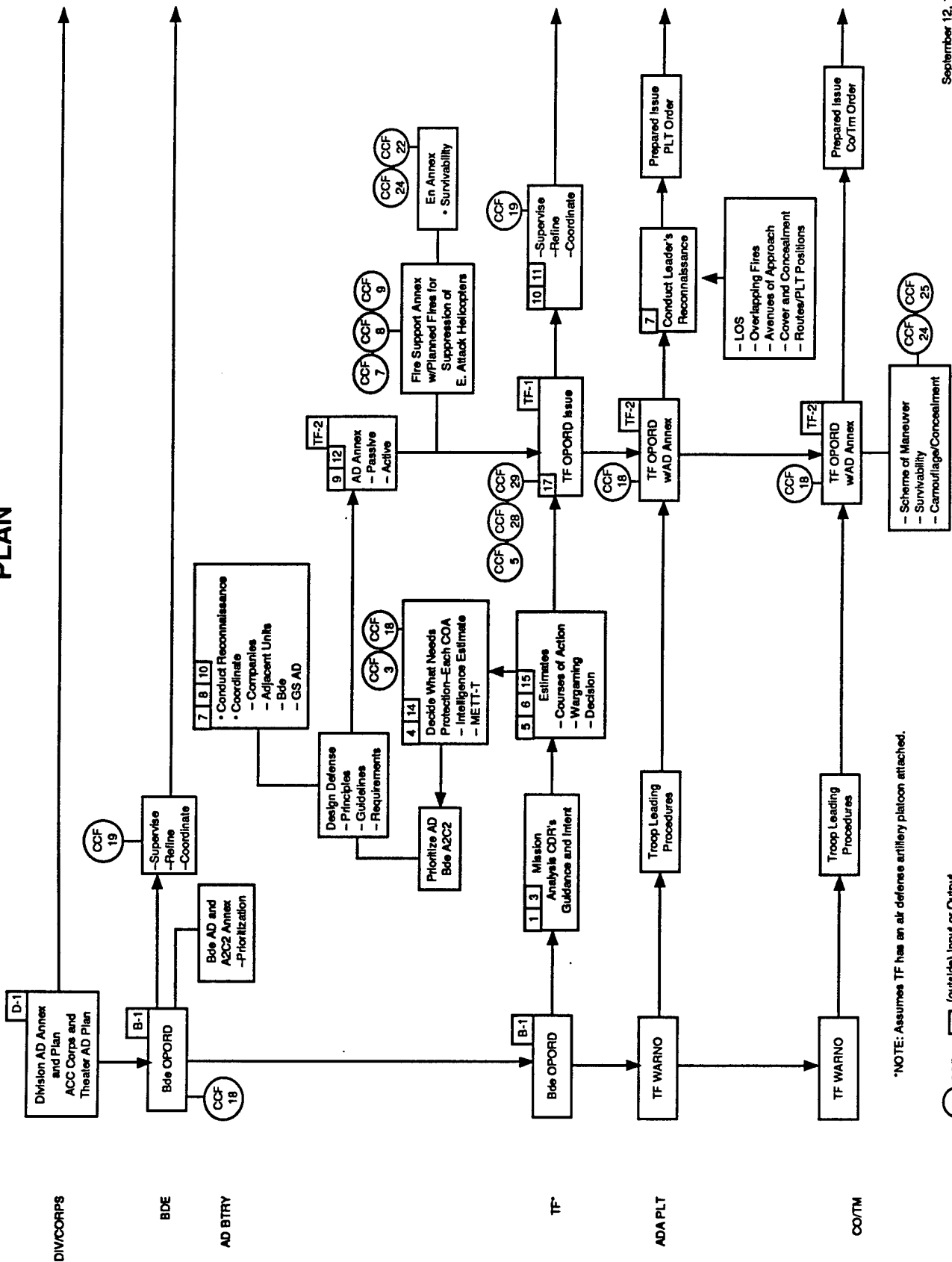
OUTCOMES

1. The air defense plan supports the overall scheme of maneuver, the commander's intent, and counters the enemy's air threat.
2. Enemy air attacks are unsuccessful. Destruction and damage of the task force's critical assets are limited to an extent that does not significantly restrict the task force's ability to accomplish its mission.

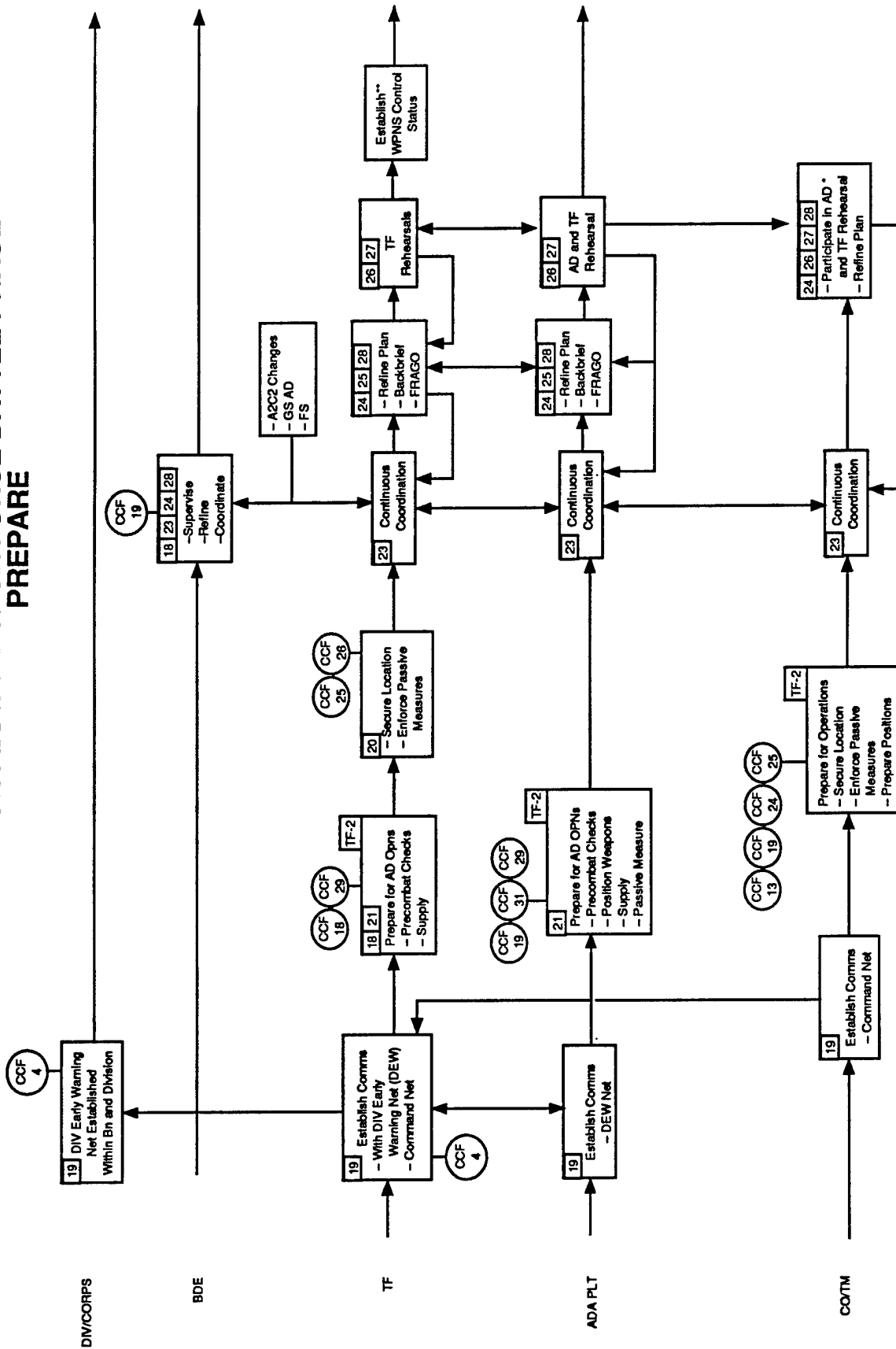
PURPOSE

Preserve a task force's freedom of maneuver and protect critical assets by limiting the enemy's offensive air efforts through passive and active air defense measures.

TASK FLOW BY TASK FORCE BATTLE PHASE PLAN



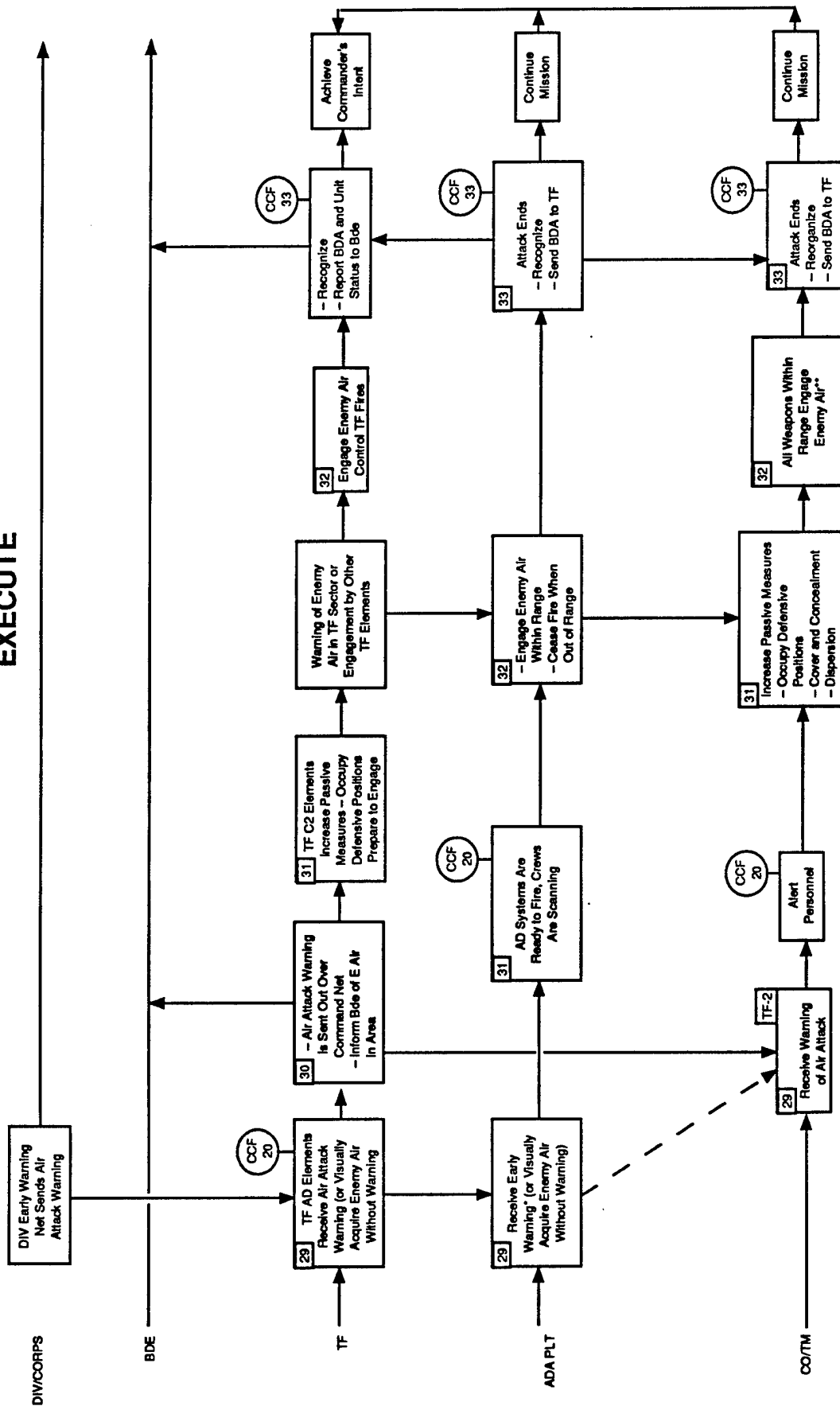
TASK FLOW BY TASK FORCE BATTLE PHASE PREPARE



* Units Release Active AD measures in TF SOP.
 **The area air defense commander establishes WCS. The TF CDR may make the WCS more restrictive.

○ CCF (outside) Input or Output
 □ (inside) Task

TASK FLOW BY TASK FORCE BATTLE PHASE EXECUTE



* AD elements OPCON or positioned near subordinate units should also warn them of the pending air attack.

** TF engages enemy air on order or if he is taking hostile action against the company. Also depending upon a unit's current mission, it may not take any action to counter enemy air attack and continue to concentrate all efforts on the matter at hand (i.e., a breaching operation or assaulting a position).

○ CCF
 □ (outside) Input or Output
 □ (inside) Task

OTHER CCF WHICH INTERACT WITH CCF 16/17

<u>CCF #</u>	<u>TITLE</u>	<u>LOGIC</u>
CCF 3	Process Information	Determine air threat and avenues of approach.
CCF 4	Disseminate Intelligence	Keep the task force abreast of the enemy air situation.
CCF 5	Conduct Tactical Movement	Use terrain and formations to protect units from being acquired.
CCF 7	Employ Mortars	Place fires on actual or suspected enemy helicopter battle positions or routes; A2C2.
CCF 8	Employ Field Artillery	Place fires on actual or suspected enemy helicopter battle positions or routes; A2C2.
CCF 9	Employ Close Air Support	Attack actual enemy helicopter battle positions; A2C2.
CCF 13	Conduct Counter Target Acquisition Operations	Deny enemy air or its FACs from acquiring friendly forces.
CCF 15	Coordinate, Synchronize and Integrate Fire Support	Integrate fires to attack enemy helicopter positions.
CCF 18	Plan for Combat Operations	Coordination and integration of the air defense plan into the scheme of maneuver.
CCF 19	Direct and Lead Unit During Preparation for the Battle	Prepare for active and passive air defense.
CCF 20	Direct and Lead Units in Execution of Battle	Engage enemy air and enforce passive air defense measures.
CCF 22	Enhance Movement	Speed of TF's movement and limit time in the open to facilitate passive air defense.
CCF 24	Enhance Physical Protection	Provide positions for protection of the TF.
CCF 25	Provide Operations Security	Use cover, concealment, camouflage, noise and light discipline.
CCF 26	Conduct Deception Services	Deceive the enemy of the location of friendly forces.
CCF 28	Provide Transport Services	Protect transport through passive and active measures.
CCF 29	Conduct Supply Operations	Provide CL III and V resupply to AD weapons systems.

CCF 16/17 — Take Active/Passive Air Defense Measures

<u>CCF #</u>	<u>TITLE</u>	<u>LOGIC</u>
CCF 31	Maintain Weapons Systems and Equipment	Preventative maintenance and pre-combat checks of AD weapons systems.
CCF 33	Treat and Evacuate Battlefield Casualties	Treat and evacuate battlefield casualties.

CCF 16/17

KEY PARTICIPANTS BY TASK

<u>TASK</u>	<u>KEY PARTICIPANTS</u>
(1) Understand CDR's intent	All combined arms team
(2) Issue warning order to AD assets	CDR, S3, Line Company CO, ADA BN S3, ADA Battery CDR, ADA Plt Ldr
(3) Understand TF scheme of maneuver and conduct mission analysis	All combined arms team
(4) Intelligence estimate	S2, ADA Plt Ldr
(5) Estimate necessary resources to accomplish mission	S3, ADA Plt Ldr
(6) Develop a tentative plan	S3, ADA Plt Ldr, TF CDR
(7) Conduct leaders' reconnaissance	ADA Plt Ldr, ADA Plt, S3, TF CDR, Unit CDRs, Plt Ldrs
(8) Coordinate	XO, S3, S3 Section, S3 Air, Line Company CO, FSO/FSE, ADA BN S3, ADA Battery CDR, ADA Plt Ldr
(9) Develop air defense plan	ADA Plt Ldr, S3, Unit CDRs, Plt Ldrs
(10) Coordinate Planning	ADA Plt Ldr, S3, S3 Air, Army ALO, FAC, FSE, (BDE A2C2 element)
(11) Adjust plan	S3, ADA Plt Ldr
(12) Develop contingency plans	S3, S3 Section, S3 Air, Line Company CO, ADA BN S3, ADA Battery CDR, ADA Plt Ldr
(13) Plan communications	S3, ADA Plt Ldr, Signal Off
(14) Plan for limited visibility operations	S3, S3 Air, Line Company CO, ADA BN S3, ADA Battery CDR, ADA Plt Ldr
(15) Plan for NBC operations	S3, Line Company CO, Chem Officer, ADA BN S3, ADA Battery CDR, ADA Plt Ldr
(16) Prepare plan/order	S3, S3 Section, Line Company CO, FSO/FSE, ADA BN S3, ADA Battery CDR, ADA Plt Ldr
(17) Issue plan/order	ADA Plt Ldr, S3
(18) Supervise implementation of plans and orders	TF CDR, XO, S3, ADA Plt Ldr, Unit CDRs, 1SGs, Plt Ldrs
(19) Establish communications	ADA Plt, ADA Plt Ldr, S3, Units
(20) Secure location, enforce passive measures	All combined arms team

<u>TASK</u>	<u>KEY PARTICIPANTS</u>
(21) Conduct precombat checks	Line Company CO, Scout Plt Ldr, Mortar Plt Ldr, Medical Plt Ldr, Support Plt Ldr, Eng Plt Ldr, Air Def Plt, ADA BN S3, ADA Battery CDR, ADA Plt Ldr
(22) Prepare for operations	All combined arms team
(23) Conduct continuous coordination	ADA Plt Ldr, S3, S3 Air, Army ALO, FAC, FSE, (BDE A2C2 element)
(24) Refine plan, issue FRAGO	CDR, S3, S3 Air, Line Company CO, Air Def Plt, FSO/FSE, ADA Bn S3, ADA Battery CDR, ADA Plt Ldr
(25) Conduct backbrief	CDR, Line Company CO, Scout Plt Ldr, Mortar Plt Ldr, Medical Plt Ldr, Support Plt Ldr, Eng Plt Ldr, Air Def Plt, FSO/FSE, ADA BN S3, ADA Battery CDR, ADA Plt Ldr
(26) Conduct AD rehearsals	CDR, S3, Line Company CO, Scout Plt Ldr, Mortar Plt Ldr, Medical Plt Ldr, Support Plt Ldr, Eng Plt Ldr, Air Def Plt, FSO/FSE, ADA BN S3, ADA Battery CDR, ADA Plt Ldr
(27) Conduct TF rehearsal	All combined arms team
(28) Refine plan to reflect changes found necessary in rehearsals, issue FRAGO	S2, ADA Plt Ldr, Unit CDRs and Plt Ldrs
(29) Enemy air attack warning received	S3, ADA Plt Ldr
(30) Air attack warning is sent out on the early warning and command nets	S3, ADA Plt Ldr, Unit CDRs, 1SGs, Plt Ldrs
(31) Passive measures are increased, AD systems ready and scanning	All combined arms team
(32) TF engages enemy air	All combined arms team members in range
(33) Attack ends	All combined arms team

**KEY INPUTS TO CCF 16/17
(W/ CRITICAL INFORMATION)**

D-1 DIVISION OPORD

- a. Intelligence estimate
- b. Air defense priority
- c. Task organization
- d. A2C2 plan
- e. Other AD forces within the AO

B-1 BRIGADE OPORD

- a. Intelligence estimate
- b. Air defense priority
- c. Task organization
- d. A2C2 plan
- e. Other AD forces within the AO

TF-1 TASK FORCE OPORD

- a. Intelligence estimate
- b. Air defense priority
- c. Task organization
- d. Other AD forces within the AO

TF-2 TASK FORCE TACTICAL SOP

- a. Camouflage and concealment
- b. Dispersion
- c. Air watch
- d. Convoy operations
- e. Actions by TF when under air attack
- f. Active AD measures by organic weapons (combined arms AD)

TASK LIST SUMMARY FOR CCF 16/17

Planning

1. Understand commander's intent (MTP 71-2, 7-1-3904)
2. Issue warning order to AD assets
3. Understand TF scheme of maneuver and conduct mission analysis (MTP 71-2, 7-1-3904)
4. Intelligence Estimate (MTP 71-2, 7-1-3902, 3906, 3911)
5. Estimate necessary resources to accomplish mission (MTP 71-2, 7-1-3911)
6. Develop a tentative plan (MTP 71-2, 7-1-3902, 3904, 3911)
7. Conduct leaders' reconnaissance (MTP 71-2, 7-1-3904)
8. Coordinate (MTP 71-2, 7-1-3902, 3904)
9. Develop Air Defense Plan (MTP 71-2, 7-1-3902, 3904, 3911)
10. Coordinate planning (MTP 71-2, 7-1-3902)
11. Adjust plan (MTP 71-2, 7-1-3902)
12. Develop contingency plans (MTP 71-2, 7-1-3902)
13. Plan communications (MTP 71-2, 7-1-3902, 3401)
14. Plan for limited visibility operations (MTP 71-2, 7-1-3902, 3904; Commander's Battle Staff Handbook)
15. Plan for NBC operations (MTP 71-2, 7-1-3904)
16. Prepare plan/order (MTP 71-2, 7-1-3904)
17. Issue plan/order (MTP 71-2, 7-1-3904)

Preparation

18. Supervise implementation of plans and orders (MTP 71-2, 7-1-3904)
19. Establish communications (MTP 71-2, 7-1-3401, 3911)
20. Secure location, enforce passive measures (MTP 71-2, 7-1-3911, 3037)
21. Conduct precombat checks (MTP 71-2, 7-1-3901)
22. Prepare for operations (MTP 71-2, 7-1-3911, 3037)
23. Conduct continuous coordination (MTP 71-2, 7-1-3902, 3904)
24. Refine plan, issue FRAGO (MTP 71-2, 7-1-3902, 3904)

25. Conduct backbrief (MTP 71-2, 7-1-3904)
26. Conduct AD rehearsals (MTP 71-2, 7-1-3904)
27. Conduct TF rehearsal (MTP 71-2, 7-1-3904)
28. Refine plan to reflect changes found necessary in rehearsals, issue FRAGO (MTP 71-2, 7-1-3902, 3904)

Execution

29. Enemy air attack warning received over the DEW or command net (MTP 71-2, 7-1-3911, 3037)
30. Air attack warning is sent out on the command net (MTP 71-2, 7-1-3911, 3037)
31. Passive measures are increased, AD systems ready and scanning (MTP 71-2, 7-1-3911, 3037)
32. TF engages enemy air (MTP 71-2, 7-1-3911, 3037)
33. Attack ends (MTP 71-2, 7-1-3911, 3037)

**TAKE ACTIVE/PASSIVE AIR DEFENSE MEASURES
PLANNING TASK LIST**

1. **Understand Commander's Intent** (MTP 71-2, 7-1-3904)
2. **Issue Warning Order to AD Assets**
3. **Understand TF Scheme of Maneuver and Conduct Mission Analysis** (MTP 71-2, 7-1-3904)
 - a. Identify stated tasks.
 - b. Identify implied tasks.
 - c. Identify essential tasks.
 - d. Restate AD mission: who, what, where, when, why.
4. **Intelligence Estimate** (MTP 71-2, 7-1-3902, 3906, 3911)
 - a. Identify enemy air threat (helicopter, UAV, fixed wing).
 - b. Identify all air avenues of approach.
 - c. Identify greatest air threats for TF for each course of action.
 - d. Effects of EW on AD.
 - e. See CCF 3, Process Information; CCF 18, Plan for Combat Operations.
5. **Estimate Necessary Resources to Accomplish Mission** (MTP 71-2, 7-1-3911)
 - a. Determine AD coverage by GS systems.
 - b. Determine AD systems attached and their capabilities.
 - c. Determine the mobility differential between the TF and AD systems.
 - d. Evaluate organic active and passive capabilities.
 - e. Determine additional assets necessary.
 - f. TF requests to BDE for additional AD assets.

6. **Develop a Tentative Plan** (MTP 71-2, 71-1-3902, 3904, 3911)
 - a. Identify constraints and limitations.
 - b. Fix responsibilities.
 - c. Establish AD priorities.
 - Criticality.
 - Vulnerability.
 - Recuperability.
 - Threat.
 - d. Allocate available and planned air defense resources.
 - e. Develop AD plan that is fully integrated into the TF scheme of maneuver.

7. **Conduct Leaders' Reconnaissance** (MTP 7102, 7-1-3904)
 - a. Conduct map reconnaissance using OCOKA and considering:
 - Situational overlay with air avenues of approach.
 - Operations overlay.
 - A2C2 overlay.
 - Select AD system positions/routes — terrain analysis for line-of-sight.
Note: Planner must also consider subordinate unit plans and graphics and adjust plans as necessary.
 - b. Conduct physical reconnaissance.
 - Confirm map information for positions, routes, line-of-sight, and mutual support.
 - Determine physical characteristics of roads and cross-country routes.
 - Estimate time and distance between positions for displacement.
 - Evaluate cover, concealment, and dispersions for routes and positions.
 - Evaluate the effects of terrain and distance on communications.

8. **Coordinate** (MTP 71-2, 7-1-3902, 3904).

9. **Develop Air Defense Plan** (MTP 71-2, 7-1-3902, 3904, 3911)
 - a. Determine AD weapon positioning based on IPB and assets to be defended.
 - b. Receive rules of engagement and hostile criteria.

- c. AD plan and weapons control status.
 - d. Engagement of enemy air by small arms and other TF weapons.
 - e. Suppression of likely or confirmed enemy attack helicopter routes and positions.
 - f. Engagement of ground targets by AD weapons.
 - g. Dispersion and camouflage of TF.
 - h. Resupply.
 - Class III and V — location of push packages.
 - RSR.
 - i. Security of AD weapons.
10. **Coordinate Planning** (MTP 71-2, 7-1-3902)
- a. With companies.
 - b. With adjacent units.
 - c. With Bde.
 - A2C2 element (Army ALO, FAC, FS, S3 Air)
 - ADA liaison officer.
 - Bde Scheme of maneuver.
 - Ensure IFF codes.
 - d. Corps and Division AD weapons (area coverage).
 - e. See CCF 19, Direct and Lead Unit During Preparation for the Battle.
11. **Adjust Plan** (MTP 71-2, 7-1-3902)
- a. See CCF 19, Direct and Lead Unit During Preparation for the Battle.
12. **Develop Contingency Plans** (MTP 71-2, 7-1-3902)
- a. Shift in AD priorities and weapons control status.
 - b. Change in A2C2 plan, friendly air.
 - c. Loss of AD weapons.

13. **Plan Communications** (MTP 71-2, 7-1-3902, 3401)
 - a. Division early warning net (AD weapons).
 - b. Air attack warning to TF (command net).

14. **Plan for Limited Visibility Operations** (MTP 71-2, 7-1-3902, 3904; Commander's Battle Staff Handbook)
 - a. Increased security.
 - b. Illumination.
 - c. Employment of night vision devices.
 - d. Route and position marking.
 - e. See CCF 3, Process Information; CCF 18, Plan for Combat Operations.

15. **Plan for NBC Operations** (MTP 71-2, 7-1-3904)
 - a. Contamination avoidance.
 - Deploy chemical alarms.
 - Identify monitoring teams.
 - Reaction to chemical alarms.
 - b. Determine MOPP level.
 - c. Plan Decon operations.
 - Establish priorities.
 - Location of Decon assets.

16. **Prepare Plan/Order** (MTP 71-2, 7-1-3904)
 - a. Prepare necessary written orders.
 - b. Prepare overlays for battalion, companies, adjacent, and higher.
 - Control measures.
 - Primary/alternate/future positions and routes.
 - AD weapon coverage.

17. **Issue Plan/Order** (MTP 71-2, 7-1-3904)
 - a. Order contains essential information for operations.
 - b. Conveys commander's intent.
 - c. Supports the operation.
 - d. See CCF 5, Conduct Tactical Movement; CCF 28, Provide Transport Services; CCF 29, Conduct Supply Operations.

**TAKE ACTIVE/PASSIVE AIR DEFENSE MEASURES
PREPARATION TASK LIST**

18. **Supervise Implementation of Plans and Orders (MTP 71-2, 7-1-3904)**
 - a. See CCF 18, Plan for Combat Operations; CCF 29, Conduct Supply Operations; CCF 19, Direct and Lead Unit During Preparation for the Battle.

19. **Establish Communications (MTP 71-2, 7-1-3401, 3911)**
 - a. Maintain continuous communications with deployed AD teams/weapons and continuously monitor the division early warning net.
 - b. Maintain communications on command net for air attack warning.
 - c. See CCF 4, Disseminate Intelligence.

20. **Secure Location, Enforce Passive Measures (MTP 71-2, 7-1-3911, 3037)**
 - a. Disperse vehicles and units.
 - b. Use natural and man-made camouflage.
 - c. Cover or hide obvious ground tracks.
 - e. Monitor TF for light and smoke signatures.
 - f. Prepare positions.
 - g. Establish air guard.
 - h. Enforce weapons control.
 - i. See CCF 25, Provide Operations Security; CCF 26, Conduct Deception Operations.

21. **Conduct Precombat Checks (MTP 71-2, 7-1-3901)**
 - a. Maintenance and readiness of: weapons, vehicles, mission essential equipment, and personnel.
 - b. Ammunition supply on-hand.
 - c. See CCF 19, Direct and Lead Unit During Preparation for the Battle; CCF 29, Conduct Supply Operations; CCF 31, Maintain Weapons Systems and Equipment.

22. **Prepare for Operations** (MTP 71-2, 7-1-3911, 3037)
 - a. Position AD systems, establish command/support relationships.
 - b. AD weapons are setup and ready to fire.
 - c. Supplies and equipment are protected.
 - e. Ensure security of AD weapons.

23. **Conduct Continuous Coordination** (MTP 71-2, 7-1-3902, 3904)
 - a. Coordinate planning with TF.
 - AD overlay is delivered.
 - Communications are established.
 - AD plan corresponds with tactical plan.
 - Changes implemented.
 - b. Make sure coordination is completed with:
 - Companies.
 - Adjacent units.
 - Brigade.
 - c. See CCF 19, Direct and Lead Units During Preparation for the Battle.

24. **Refine Plan, Issue FRAGO** (MTP 71-2, 7-1-3902, 3904)
 - a. Adjustments made to support tactical plan.
 - b. Priorities are adjusted.
 - c. Refinements are coordinated.
 - d. Refinements are understood by subordinate leaders.
 - e. See CCF 19, Direct and Lead Units During Preparation for the Battle.

25. **Conduct Backbrief** (MTP 71-2, 7-1-3904)

26. **Conduct AD Rehearsals** (MTP 71-2, 7-1-3904)
 - a. Use early warning net to alert AD weapons.
 - b. Command net used to warn task force.

CCF 16/17 — Take Active/Passive Air Defense Measures

- c. Units give and react to air attack warning.
 - d. Units use appropriate passive measures.
 - e. Units use weapons control, rules of engagement, and hostile criteria.
 - f. Units practice engaging enemy air with organic weapons.
27. **Conduct TF Rehearsal (ARETP 71-2, 7-1-3904)**
28. **Refine Plan to Reflect Chances Found Necessary in Rehearsals, Issue FRAGO (MTP 71-2, 7-1-3902, 3904)**
- a. See CCF 19, Direct and Lead Units During Preparation for the Battle.

**TAKE ACTIVE/PASSIVE AIR DEFENSE MEASURES
EXECUTION TASK LIST**

29. **Enemy Air Attack Warning Received (MTP 71-2, 7-1-3911, 3037)**
 - a. See CFF 20, Direct and Lead Units in Execution of Battle.

30. **Air Attack Warning Is Sent Out on the Early Warning and Command Nets (MTP 71-2, 7-1-3911, 3037)**
 - a. Units alert personnel.
 - b. TF alerts Bde that enemy air is in the area.

31. **Passive Measures are Increased, AD Systems Ready and Scanning (MTP 71-2, 7-1-3911, 3037)**
 - a. TF occupies defensive positions.
 - b. TF moves soldiers/vehicles to covered, concealed positions; increases dispersion; all personnel are prepared to engage enemy aircraft.
 - c. See CCF 20, Direct and Lead Units in Execution of Battle.

32. **TF Engages Enemy Air (MTP 71-2, 7-1-3911, 3037)**
 - a. Warning is disseminated on beginning of engagement or enemy aircraft entry into the TF's sector.
 - b. Weapons control status is not violated.
 - c. Attacking enemy aircraft are engaged by all TF weapons and AD weapons within range.
 - d. TF takes evasive action as soon as aircraft begin attacking (freezes if not under attack).
 - e. Attack is reported to Bde.

33. **Attack Ends (MTP 71-2, 7-1-3911, 3037)**
 - a. BDA sent to Bde.
 - b. Units conduct reorganization (if necessary).
 - c. TF continues mission.
 - d. See CCF 33, Treat and Evacuate Battlefield Casualties.

**CALL LESSONS LEARNED RELEVANT TO CCF 16/17
(EXTRACTS FROM LESSONS LEARNED BULLETINS)**

1. NTC Lessons Learned, "Commander's Memorandum," – 20 November 1985

The S-2 is a key player, but it is a mistake to think of IPB as strictly an S-2 function. Decision making and IPB are part of the same whole. IPB must be done by the commander and his entire staff. As an example, the ADA Officer, Air Battle Captain, and ALO should help determine enemy air attack alternatives.

Verbal FRAG orders must to everyone in the orders group, not just selected company commanders. If circumstances are such that the TF commander discusses the order with something less than the total group, the S-3 and/or TOC should provide pertinent information and specific implementing instructions to the others, e.g., mortars, ADA, engineers, S-1/S-4.

2. NTC Lessons Learned — 1 May 1986

Air defense and operational flexibility can be enhanced by effective standardized TSOP's which establish:

- Engagement dismount cues
 - When infantry dismounts, they take up firing positions.
 - When early warning is received the tracked vehicles stop.
- Engagement Termination cues
 - All targets destroyed.
 - Departure of enemy aircraft announced by the early warning net.
 - The ground tactical situation requires the vehicles to fire and maneuver.
 - The infantry must remount to move.

The ADA section sergeant's MSCS overlay includes two early warning concentric circles which indicate to the section sergeant when targets present themselves as a potential threat to the task force. One alert line will be approximately 15 kilometers from center of mass of the task force and be utilized for high performance aircraft; the other, for rotary wing aircraft, is approximately 10 kilometers from center of mass.

3. NTC Lessons Learned — 1 September 1986

In an attempt to maximize the missile hauling capabilities of the M113, a unit developed a missile ready-rack inside the M113. The missile ready-rack is capable of storing nine Stinger missiles which increase the availability of ready-to-fire Stinger rounds for immediate use by the Stinger gunner. The utilization of a modified M113 is only an interim solution until the Army gets a more survivable vehicle for Stinger employment.

4. NTC Lessons Learned — 27 February 1987

The maneuver task force commander is responsible for the overall air defense of the task force. Successful task force air defense requires the active involvement of all elements. It

depends in a unit's ability to defeat the enemy's air threat. The maneuver task force commander must:

- Establish air defense priorities for attached air defense weapon systems.
- Ensure the planning and implementing of the task force air defense plan.
- Employ all available firepower against attacking "low level" threat aircraft, paying particular attention to enemy attack helicopters.
- Incorporate air avenues of approach into the Intelligence Preparation of the Battlefield (IPB) process.
- Ensure air avenues of approach and expected numbers and types of threat aircraft are briefed during the task force operation order.
- Ensure that during the planning and wargaming process, the commander designates who has direct fire responsibility for covering enemy attack helicopter positions.
- Ensure that direct fire responsibilities are incorporated as a part of the task force's execution matrix.

A maneuver commander cannot rely solely on attached air defense weapon systems to provide the necessary air defense of the task force. All maneuver firepower available to the task force must be brought to bear on the opposing air threat, i.e., 120mm main guns, 105mm main guns, Bradley 25mm guns, crew served weapons, and small arms fire.

The maneuver commander must ensure that a thorough terrain analysis of all likely enemy close air support (CAS) and attack helicopter air avenues of approach are incorporated as a part of the IPB process. This terrain analysis IAW FM 44-3 and in conjunction with air threat intelligence data, received from higher headquarters provides, the basis for a final determination of the likely enemy air avenues of approach. The air defense officer, with assistance from the S2, ALO, and FAC; determines the likely enemy air approach routes. The task force air defense officer or S2 briefs these likely enemy close air support and attack helicopter avenues of approach during the operation order. Briefing of these air avenues of approach down to crew level results in dramatically improved target acquisition and better integration of maneuver weapons in the air defense role.

5. **NTC Lessons Learned, "Commander's Comments, The CS Team" — 8 May 1987**

In order to provide adequate air defense to the task force, the Vulcan platoon must be split into pairs so that each axis has Vulcan guns. Air defense of the task force is enhanced when splitting the Vulcans, because it gives the task force a gun/missile mix along each axis.

Give Stinger teams the same protection and mobility as the unit they are supporting.

The air defense platoon leader is the commander's air defense expert, use him. Include him in planning, listen to his recommendations, task him to plan and coordinate effective Air Defense coverage for the Task Force.

The Vulcan platoon leader must be involved as the TF air defense officer in all stages of planning to ensure that the total air defense plan supports the scheme of maneuver on two or more separate axes. Priorities of ADA protection must be designated in the OPORD.

A Stinger team usually rides with either the FIST or the infantry company XO. Utilizing this piggyback technique gives a Stinger team armor protection. The Stinger sergeant can provide early warning to the Stinger gunners over the task force's command net through the company team commander. Utilization of the "Cardinal direction" method is the simplest and fastest means of passing early warning.

Terrain should always be used to a tactical advantage...The crew must fight both an air battle and a ground battle...terrain requirements which best satisfy one mission will least satisfy the other...It is not enough to say that mission accomplishment always takes priority because careless employment that supports aircraft destruction, but needlessly exposes a critical ADA asset to the hostile ground fire is operationally unsound. In the SHORAD air battle...the squad leader is the key decision-maker on the battlefield...His terrain analysis and decisions will result in either satisfactory or unsatisfactory balance of the dual requirements of mission accomplishment and survivability with a corresponding impact on the supported operation.

The SHORAD squad leaders must be as proficient at reading terrain as they are at reading maps. Reading the terrain is the ability to analyze unfamiliar terrain quickly and accurately for operation impacts on mission accomplishment. It is imperative that our NCO's have the confidence and abilities, resulting from demanding training, to execute to the highest degree of proficiency. TOE units must develop training programs that are realistic and demanding to allow our NCO's to gain proficiency at terrain analysis. Unit training programs must be combined arms oriented to familiarize the SHORAD squad leader with how his terrain analysis skills will impact on the ability to perform on air defense missions with a combined arms task force.

6. **CTC Lessons Learned — 1 July 1987**

[The Vulcan platoon leader] must understand maneuver operational concepts and terms as they relate to the overall task force plan. By understanding the concept of the operation and the commander's intent, the Vulcan platoon leader can properly deploy his air defense weapon systems in support of the TF overall plan. He will also understand the necessary actions his element must perform to accomplish objectives, even in the absence of orders. The successful Vulcan platoon leader must:

- Ensure all of his personnel understand the commander's intent and scheme of maneuver.
- Properly employ the weapon systems under his control.
- Be knowledgeable of the threat air defense capability and status.
- Establish central early warning of incoming enemy air at the TF TOC for other air defense systems, maneuver systems, and the scouts.
- Be tactically proficient and knowledgeable of maneuver tactics, formations, terms, and graphics.

7. **JRTC OC Notes — 25 August 1993**

A composite force of Vulcan and Stinger air defense weapon systems arrayed to interdict likely air avenues of approach enhances the air defense protection of the defended asset. This approach to AD design enables weapon systems to be complementary and will minimize the system limitations. It also will increase the difficulty for enemy pilots and degrade their chances of success.

The ADA CP, platoon leader, section sergeant, squad leader, and team chief must have the MSCS overlay plotted on their map which covers their area of operation. Aircraft which are a threat to the supported unit will be passed in MSCS format over the DEW net.

LESSONS LEARNED INTEGRATED INTO CCF 16/17 TASK LIST

PLANNING TASK LIST

1. Understand Commander's Intent

[The Vulcan platoon leader] must understand maneuver operational concepts and terms as they relate to the overall task force plan. By understanding the concept of the operation and the commander's intent, the Vulcan platoon leader can properly deploy his air defense weapon systems in support of the TF overall plan. He will also understand the necessary actions his element must perform to accomplish objectives, even in the absence of orders. The successful Vulcan platoon leader must:

- Ensure all of his personnel understand the commander's intent and scheme of maneuver.
- Properly employ the weapon systems under his control.
- Be knowledgeable of the threat air defense capability and status.
- Establish central early warning of incoming enemy air at the TF TOC for other air defense systems, maneuver systems, and the scouts.
- Be tactically proficient and knowledgeable of maneuver tactics, formations, terms, and graphics.

2. Issue Warning Order to AD Assets

3. Understand TF Scheme of Maneuver and Conduct Mission Analysis

The air defense platoon leader is the commander's air defense expert, use him. Include him in planning, listen to his recommendations, task him to plan and coordinate effective Air Defense coverage for the Task Force.

The Vulcan platoon leader must be involved as the TF air defense officer in all stages of planning to ensure that the total air defense plan supports the scheme of maneuver on two or more separate axes. Priorities of ADA protection must be designated in the OPORD.

4. Intelligence Estimate

The S-2 is a key player, but it is a mistake to think of IPB as strictly an S-2 function. Decision making and IPB are part of the same whole. IPB must be done by the commander and his entire staff. As an example, the ADA Officer, Air Battle Captain, and ALO should help determine enemy air attack alternatives.

The maneuver commander must ensure that a thorough terrain analysis of all likely enemy close air support (CAS) and attack helicopter air avenues of approach are incorporated as a part of the IPB process. This terrain analysis IAW FM 44-3 and in conjunction with air threat intelligence data, received from higher headquarters provides, the basis for a final determination of the likely enemy air avenues of approach. The air defense officer, with assistance from the S2, ALO, and FAC; determines the likely enemy air approach routes.

The task force air defense officer or S2 briefs these likely enemy close air support and attack helicopter avenues of approach during the operation order. Briefing of these air avenues of approach down to crew level results in dramatically improved target acquisition and better integration of maneuver weapons in the air defense role.

5. Estimate Necessary Resources to Accomplish Mission

6. Develop a Tentative Plan

The maneuver task force commander is responsible for the overall air defense of the task force. Successful task force air defense requires the active involvement of all elements. It depends in a unit's ability to defeat the enemy's air threat. The maneuver task force commander must:

- Establish air defense priorities for attached air defense weapon systems.
- Ensure the planning and implementing of the task force air defense plan.
- Employ all available firepower against attacking "low level" threat aircraft, paying particular attention to enemy attack helicopters.
- Incorporate air avenues of approach into the Intelligence Preparation of the Battlefield (IPB) process.
- Ensure air avenues of approach and expected numbers and types of threat aircraft are briefed during the task force operation order.
- Ensure that during the planning and wargaming process, the commander designates who has direct fire responsibility for covering enemy attack helicopter positions.
- Ensure that direct fire responsibilities are incorporated as a part of the task force's execution matrix.

A maneuver commander cannot rely solely on attached air defense weapon systems to provide the necessary air defense of the task force. All maneuver firepower available to the task force must be brought to bear on the opposing air threat, i.e., 120mm main guns, 105mm main guns, Bradley 25mm guns, crew served weapons, and small arms fire.

7. Conduct Leaders' Reconnaissance

Terrain should always be used to a tactical advantage...The crew must fight both an air battle and a ground battle...terrain requirements which best satisfy one mission will least satisfy the other...It is not enough to say that mission accomplishment always takes priority because careless employment that supports aircraft destruction, but needlessly exposes a critical ADA asset to the hostile ground fire is operationally unsound. In the SHORAD air battle...the squad leader is the key decision-maker on the battlefield...His terrain analysis and decisions will result in either satisfactory or unsatisfactory balance of the dual requirements of mission accomplishment and survivability with a corresponding impact on the supported operation.

The SHORAD squad leaders must be as proficient at reading terrain as they are at reading maps. Reading the terrain is the ability to analyze unfamiliar terrain quickly and accurately

for operation impacts on mission accomplishment. It is imperative that our NCO's have the confidence and abilities, resulting from demanding training, to execute to the highest degree of proficiency. TOE units must develop training programs that are realistic and demanding to allow our NCO's to gain proficiency at terrain analysis. Unit training programs must be combined arms oriented to familiarize the SHORAD squad leader with how his terrain analysis skills will impact on the ability to perform on air defense missions with a combined arms task force.

8. Coordinate

Verbal FRAG orders must to everyone in the orders group, not just selected company commanders. If circumstances are such that the TF commander discusses the order with something less than the total group, the S-3 and/or TOC should provide pertinent information and specific implementing instructions to the others, e.g., mortars, ADA, engineers, S-1/S-4.

9. Develop Air Defense Plan

In order to provide adequate air defense to the task force, the Vulcan platoon must be split into pairs so that each axis has Vulcan guns. Air defense of the task force is enhanced when splitting the Vulcans, because it gives the task force a gun/missile mix along each axis.

Give Stinger teams the same protection and mobility as the unit they are supporting.

A composite force of Vulcan and Stinger air defense weapon systems arrayed to interdict likely air avenues of approach enhances the air defense protection of the defended asset. This approach to AD design enables weapon systems to be complementary and will minimize the system limitations. It also will increase the difficulty for enemy pilots and degrade their chances of success.

10. Coordinate Planning

11. Adjust Plan

12. Develop Contingency Plans

13. Plan Communications

14. Plan for Limited Visibility Operations

15. Plan for NBC Operations

16. Prepare Plan/Order

17. Issue Plan/Order

PREPARATION TASK LIST**18. Supervise Implementation of Plans and Orders****19. Establish Communications****20. Secure Location, Enforce Passive Measures****21. Conduct Precombat Checks****22. Prepare for Operations**

The ADA section sergeant's MSCS overlay includes two early warning concentric circles which indicate to the section sergeant when targets present themselves as a potential threat to the task force. One alert line will be approximately 15 kilometers from center of mass of the task force and be utilized for high performance aircraft; the other, for rotary wing aircraft, is approximately 10 kilometers from center of mass.

In an attempt to maximize the missile hauling capabilities of the M113, a unit developed a missile ready-rack inside the M113. The missile ready-rack is capable of storing nine Stinger missiles which increase the availability of ready-to-fire Stinger rounds for immediate use by the Stinger gunner. The utilization of a modified M113 is only an interim solution until the Army gets a more survivable vehicle for Stinger employment.

A Stinger team usually rides with either the FIST or the infantry company XO. Utilizing this piggyback technique gives a Stinger team armor protection. The Stinger sergeant can provide early warning to the Stinger gunners over the task force's command net through the company team commander. Utilization of the "Cardinal direction" method is the simplest and fastest means of passing early warning.

The ADA CP, platoon leader, section sergeant, squad leader, and team chief must have the MSCS overlay plotted on their map which covers their area of operation. Aircraft which are a threat to the supported unit will be passed in MSCS format over the DEW net.

23. Conduct Continuous Coordination**24. Refine Plan, Issue FRAGO****25. Conduct Backbrief****26. Conduct AD Rehearsals****27. Conduct TF Rehearsal****28. Refine Plan to Reflect Chances Found Necessary in Rehearsals, Issue FRAGO**

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EXECUTION TASK LIST

29. **Enemy Air Attack Warning Received**

30. **Air Attack Warning Is Sent Out on the Early Warning and Command Nets**

31. **Passive Measures are Increased, AD Systems Ready and Scanning**

32. **TF Engages Enemy Air**

Air defense and operational flexibility can be enhanced by effective standardized TSOP's which establish:

- Engagement dismount cues
 - When infantry dismounts, they take up firing positions.
 - When early warning is received the tracked vehicles stop.
- Engagement Termination cues
 - All targets destroyed.
 - Departure of enemy aircraft announced by the early warning net.
 - The ground tactical situation requires the vehicles to fire and maneuver.
 - The infantry must remount to move.

33. **Attack Ends**

**CCF 16/17
CRITICAL TASKS AND OTHER LINKAGES**

<u>TASK</u>	<u>OTHER LINKAGES</u>
(1) Understand CDR's intent	
(3) Understand TF scheme of maneuver and conduct mission analysis	
(4) Intelligence estimate	
(5) Estimate necessary resources to accomplish mission	
(6) Develop a tentative plan	
(7) Conduct leaders' reconnaissance	Select Stinger Firing Positions
(9) Develop air defense plan	Plan Stinger and Vulcan AD
(10) Coordinate Planning	
(11) Adjust plan	
(13) Plan communications	
(17) Issue plan/order	
(18) Supervise implementation of plans and orders	
(19) Establish communications	AD elements establish communications
(20) Secure location, enforce passive measures	Units execute passive measures
(22) Prepare for operations	AD elements are positioned to provide AD
(23) Conduct continuous coordination	Vulcan/Stinger Platoon provides command, control, and sustained operations
(27) Conduct TF rehearsal	
(28) Refine plan to reflect changes found necessary in rehearsals, issue FRAGO	
(29) Enemy air attack warning received	
(30) Air attack warning is sent out on the early warning and command nets	
(31) Passive measures are increased, AD systems ready and scanning	
(32) TF engages enemy air	Subordinate units engage enemy air, use fire discipline
(33) Attack ends	AD elements reestablish communications and perform consolidation and reorganization

**TAKE ACTIVE/PASSIVE AIR DEFENSE MEASURES
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