

**PEER REVIEW
COORDINATING DRAFT**

**TASK ANALYSIS
FOR**

**OVERCOME OBSTACLES
(CRITICAL COMBAT FUNCTION 21)**

**AS ACCOMPLISHED BY A BATTALION TASK FORCE
VERSION 2**

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**Task Analysis for Overcome Obstacles
as Accomplished by a Battalion Task Force.
Critical Combat Function 21 (CCF 21)**

James Huffman

BDM Federal, Inc.

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13. ABSTRACT (Maximum 200 words) The purpose of CCF 21 is enabling a maneuver force to maintain its mobility by bypassing, crossing, mission removing, reducing or clearing existing natural and man-made obstacles. The outcomes include: 1) Task force is able to recon and select a bypass route that does not adversely effect accomplishment. 2) Task force is able to breach an obstacle by clearing a path for personnel and equipment through a battlefield obstacle. 3) Task force is able to pass over or through any battlefield terrain feature, wet or dry, that is too wide to be overcome with organic/self bridging capabilities by employing engineer assault, float or fixed bridging; rafts; or assault boats.			
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OVERCOME OBSTACLES

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PREFACE

This task analysis of Overcome Obstacles, Critical Combat Function 21 (CCF 21), is an intermediate product of the process of developing a training strategy for the CCF. The analysis reflects tasks, products, players, and processes in sequence necessary to provide for overcoming obstacles by a heavy battalion task force. This CCF addresses the countermine, counterobstacle, and gap-crossing functional areas of mobility from the standpoint of the heavy task force. Included are the tasks of detection, breach or bypass, marking and proofing of mined areas; breach or bypass and reduction of obstacles other than mined areas; and crossing of gaps in the terrain in order to pass equipment and personnel.

This document is the second version of CCF 21. The original version, dated 23 August 1993, has been revised so that its construct will be similar to that of other CCF task analyses. This Version 2 replaces the original CCF 21 dated 23 August 1993.

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 nature of operations on the modern battlefield is such that, at any given time, the battalion task force, and its subordinate elements, is receiving information or orders, planning future operations (or changes to the current one), preparing for current or new missions, and executing the current mission. All of this is done concurrently and results in a continuous operation of plan, prepare, and execute. To simplify the development and understanding of this CCF, the operation has been isolated and analyzed in a linear manner through the three, distinct, battle phases of PLAN, PREPARE, and EXECUTE. However, these battle phases (PLAN, PREPARE, and EXECUTE) relate to the entire battalion task force (TF) battle and are not phasing for this particular CCF.

This analysis depicts the activities of CCF 21 from receipt of the task force operations order through consolidation of the unit on the objective. It addresses subordinate echelon planning and task force preparation and execution tasks necessary to achieve the maneuver commander's intent. This CCF addresses tasks related to preparation for obstacle and mine detection, breach or bypass, removal, and reduction or clearing of obstacles during movement to the objective. It addresses hasty river or gap crossings conducted with organic or attached engineer bridging assets. It addresses deliberate river crossings only from the standpoint of the task force's participation in a brigade or division controlled operation. ("A division is normally the smallest organization that can conduct a deliberate river crossing operation. . . .The DTAC coordinates the brigades conducting the assault crossing of the river. . . .The BTACs control their own respective assault crossing elements, which are normally dismounted infantry task forces." (FM 90-13, 30 September 1992, at pages 3-1, 3-4.))

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.

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In this analysis, a deliberate effort was made to identify specific task titles taken directly from the appropriate ARTEP Mission Training Plan (MTP). Task titles not taken directly from the MTP are derived titles that may apply to only part of a subtask or some other element of the MTP; to multiple subtasks from different, but related, tasks; or to tasks that are not directly stated in the MTP, but are implied by other tasks or requirements in an applicable field manual (FM) or other related document (See references at pg. 89). While the wording of each task is sometimes a direct quote from the MTP, generally, the task wording is an integration of tasks and requirements from the MTPs, applicable FMs, and other related documents.

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
	(28)	Provide Transport Services
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 OPORD; 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

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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.
 - 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.
 - i. Rehearsals.

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:

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- 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.

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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.

**CCF 21
OVERCOME OBSTACLES
OUTCOME AND PURPOSE**

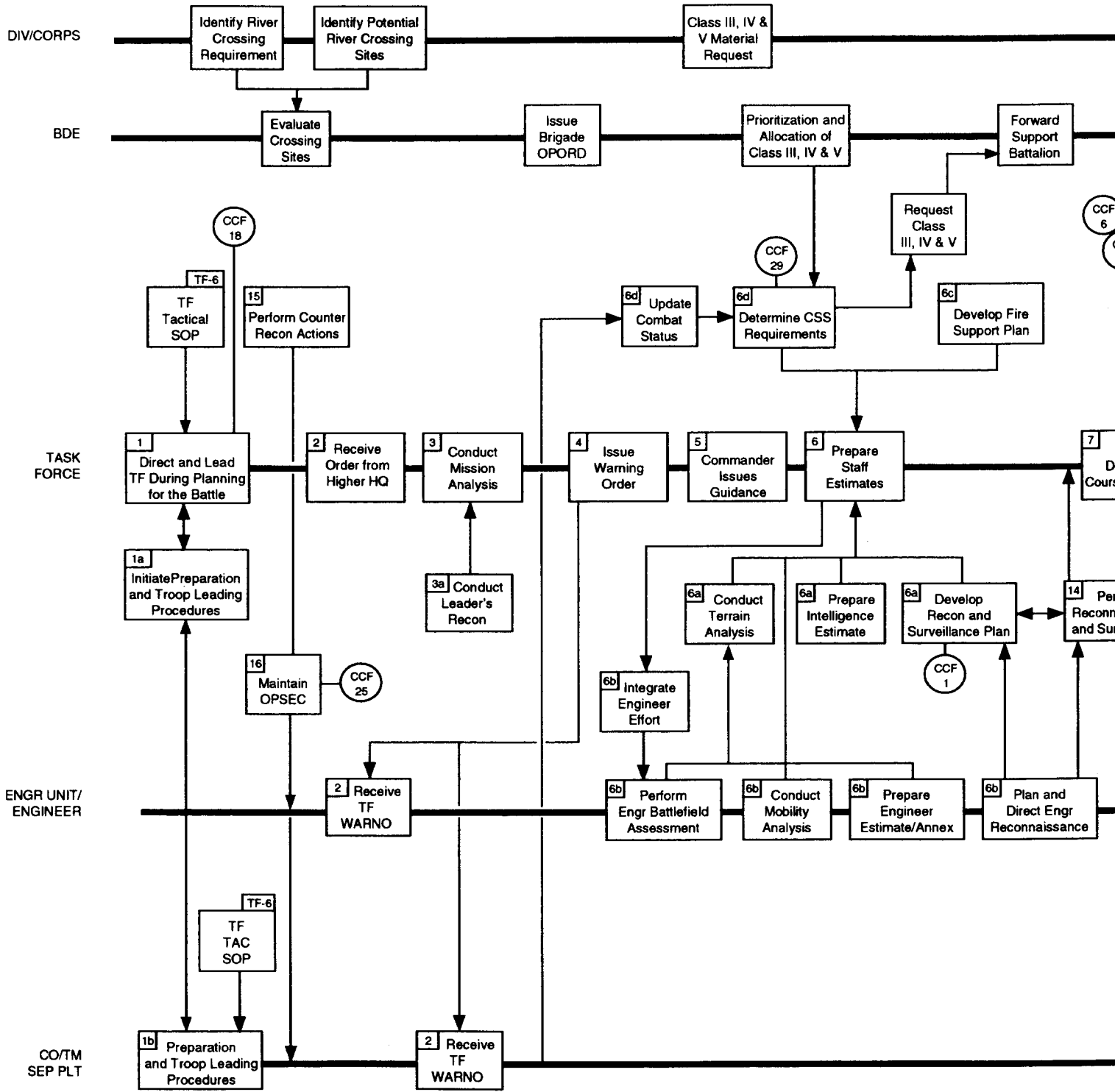
OUTCOME _____

1. Task force is able to recon and select a bypass route that does not adversely affect mission accomplishment.
2. Task force is able to breach an obstacle by clearing a path for personnel and equipment through a battlefield obstacle.
3. Task force is able to pass over or through any battlefield terrain feature, wet or dry, that is too wide to be overcome with organic/self bridging capabilities by employing engineer assault, float or fixed bridging; rafts; or assault boats.

PURPOSE _____

Enabling a maneuver force to maintain its mobility by bypassing, breaching, crossing, removing, reducing or clearing existing natural and man-made obstacles.

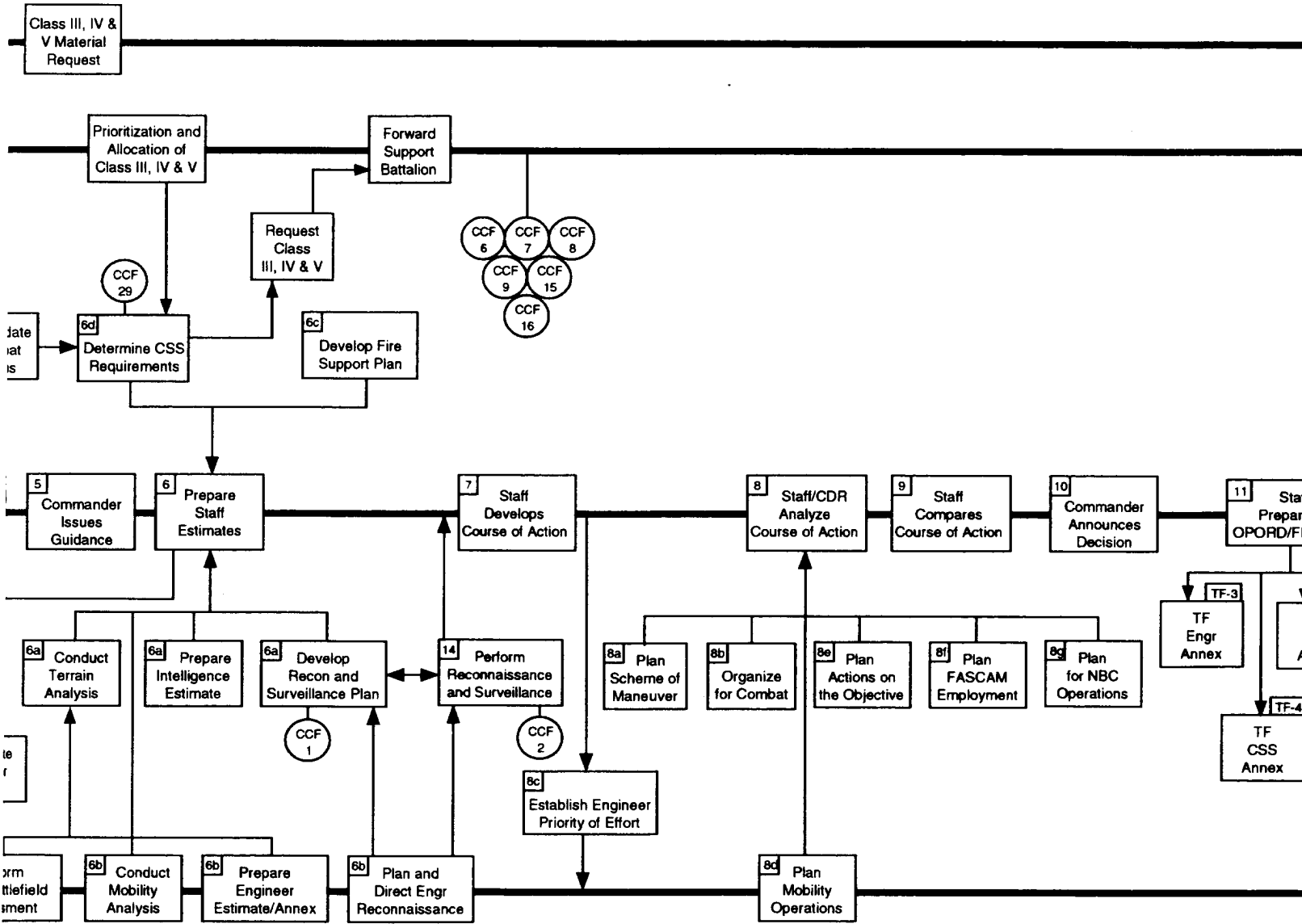
TASK FLOW BY TASK FORCE PLAN



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

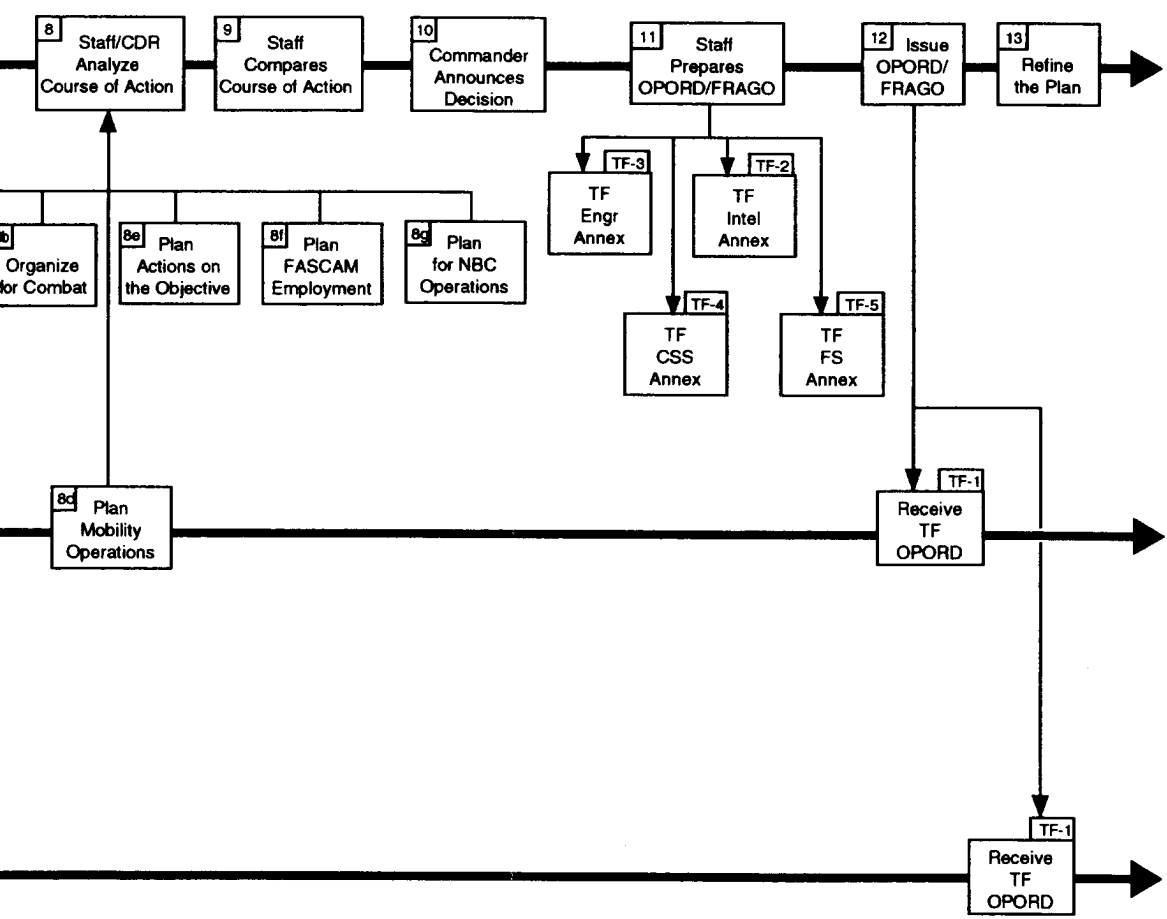
TASK FLOW BY TASK FORCE BATTLE PHASE

PLAN



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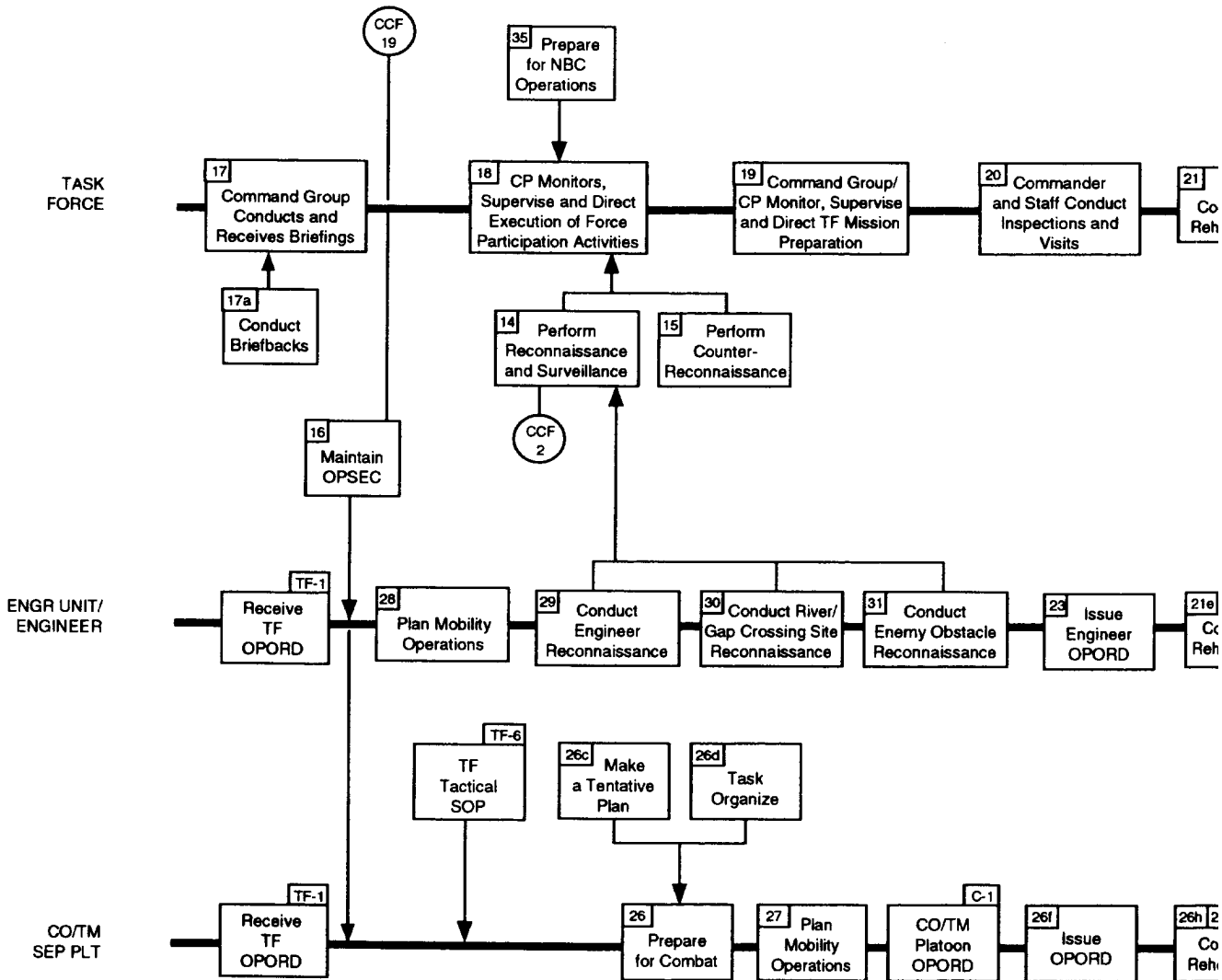
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TASK FLOW BY T

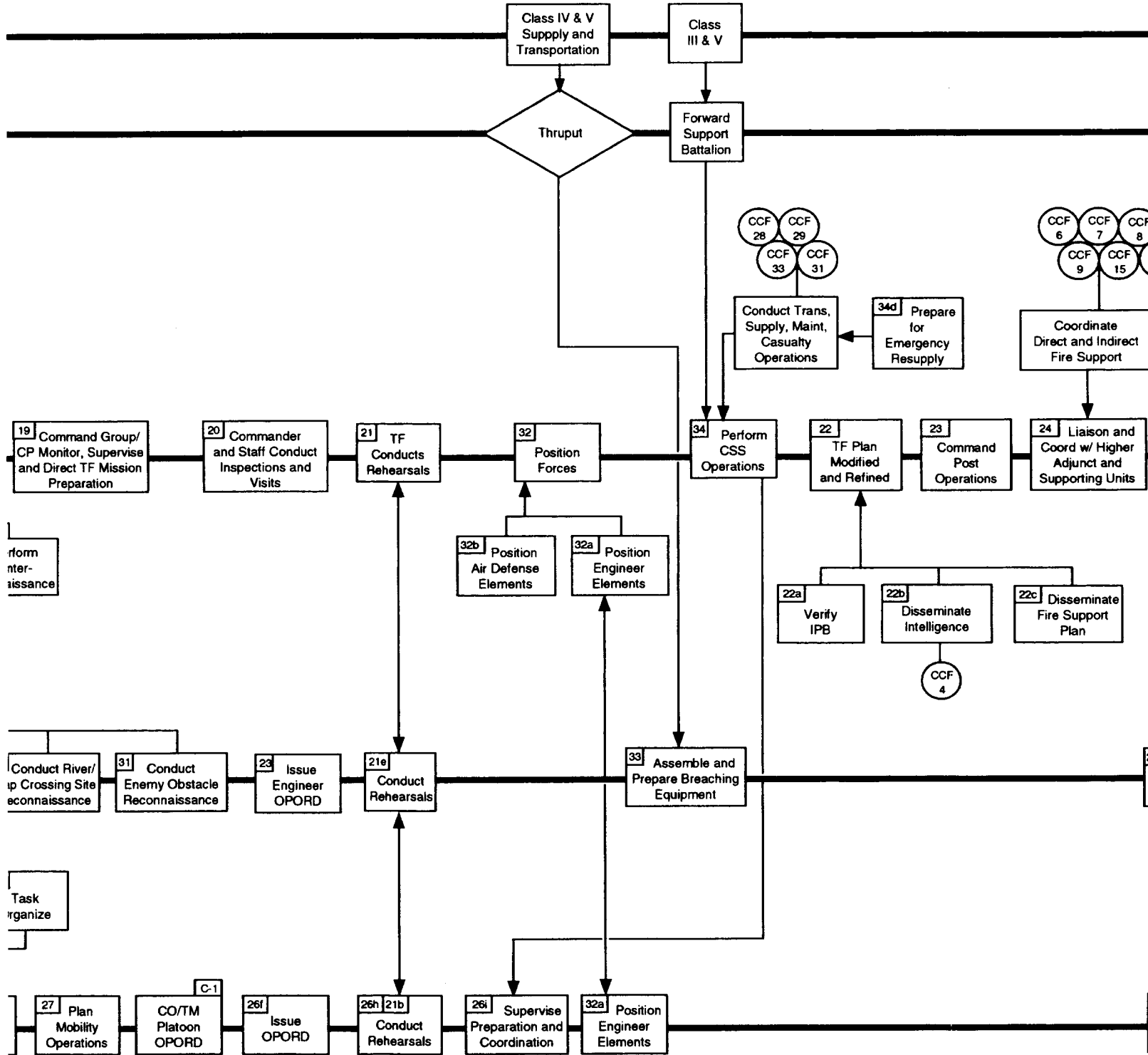
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BDE

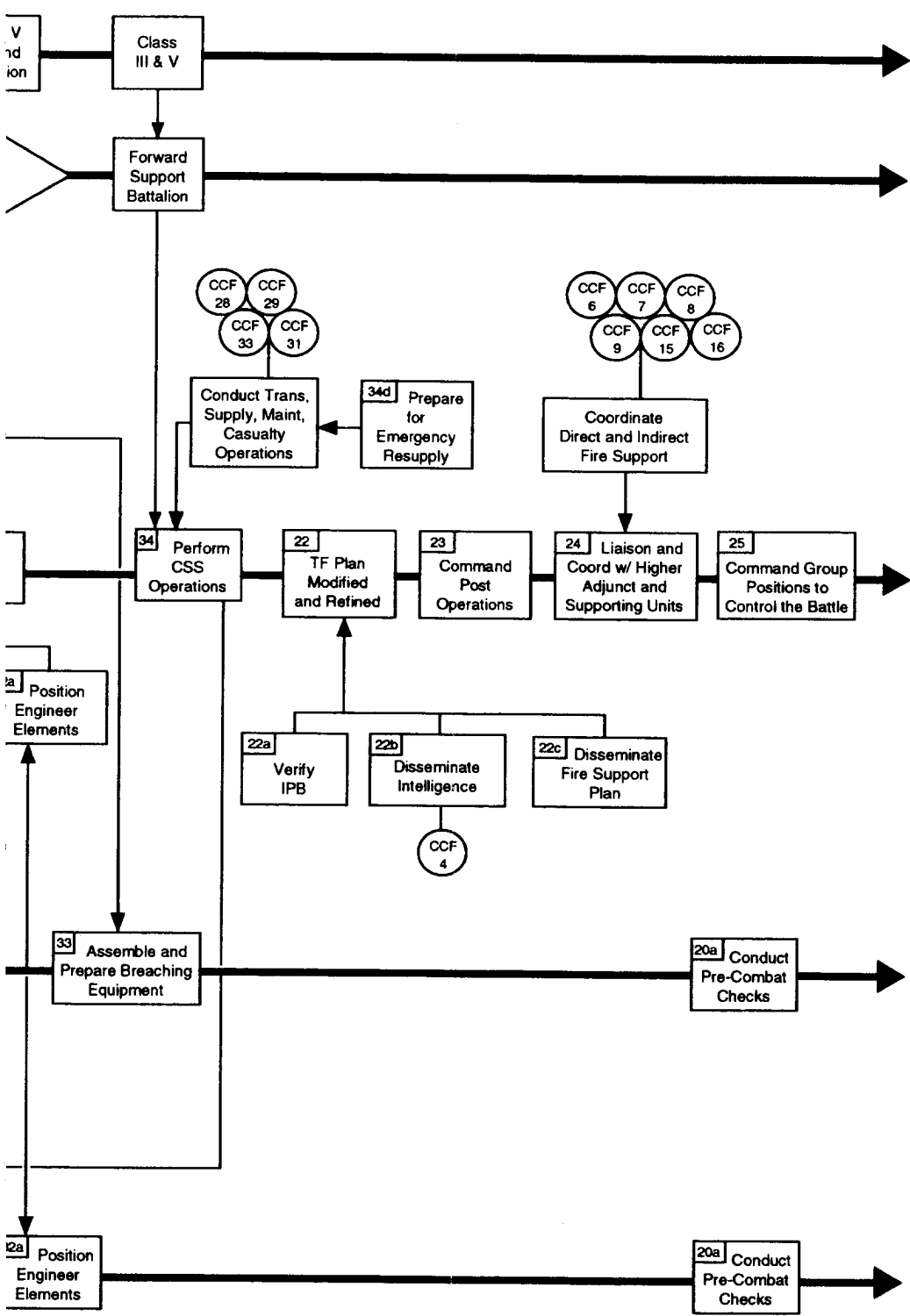


TASK FLOW BY TASK FORCE BATTLE PHASE

PREPARE

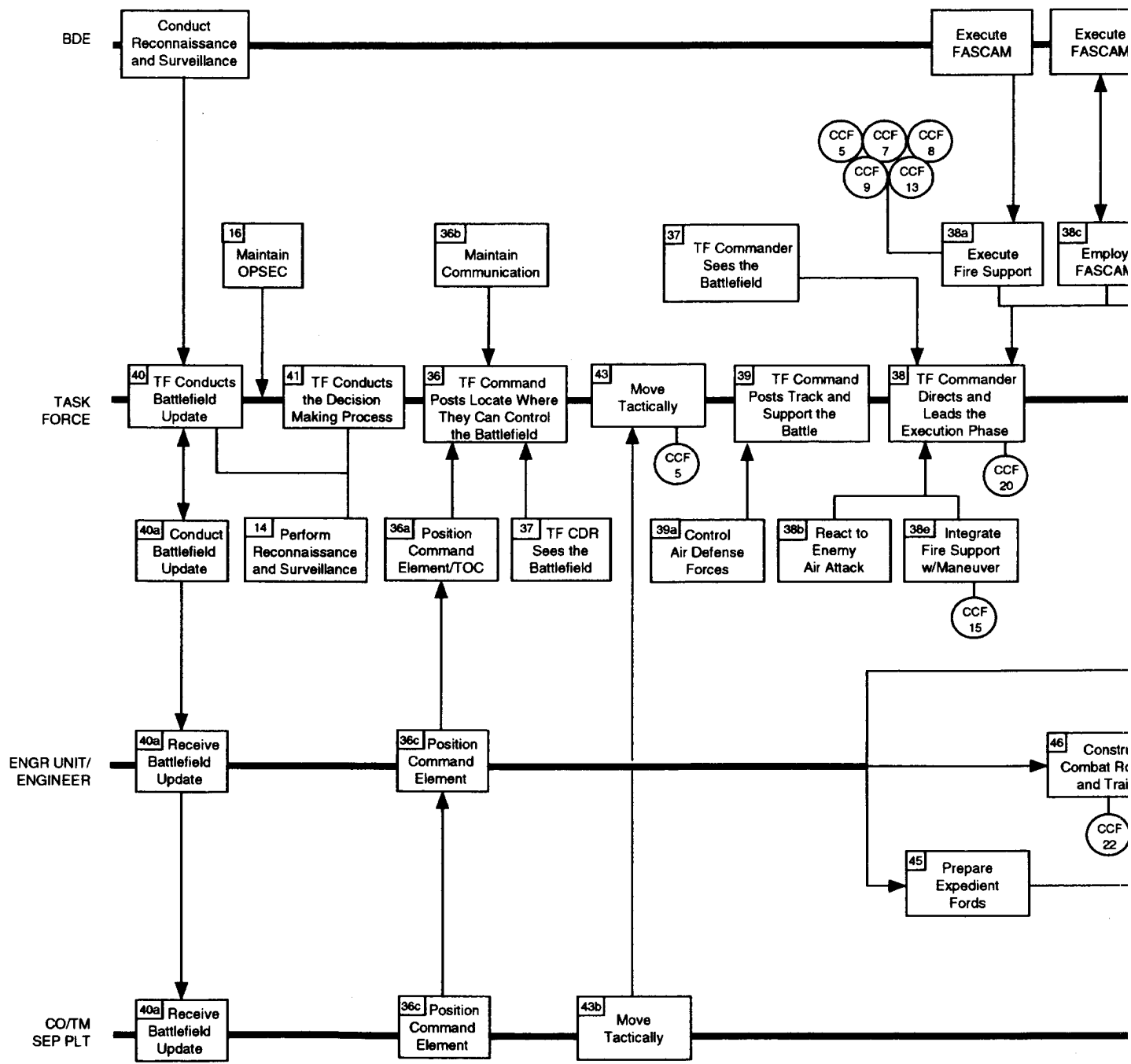


TITLE PHASE



TASK FLOW BY

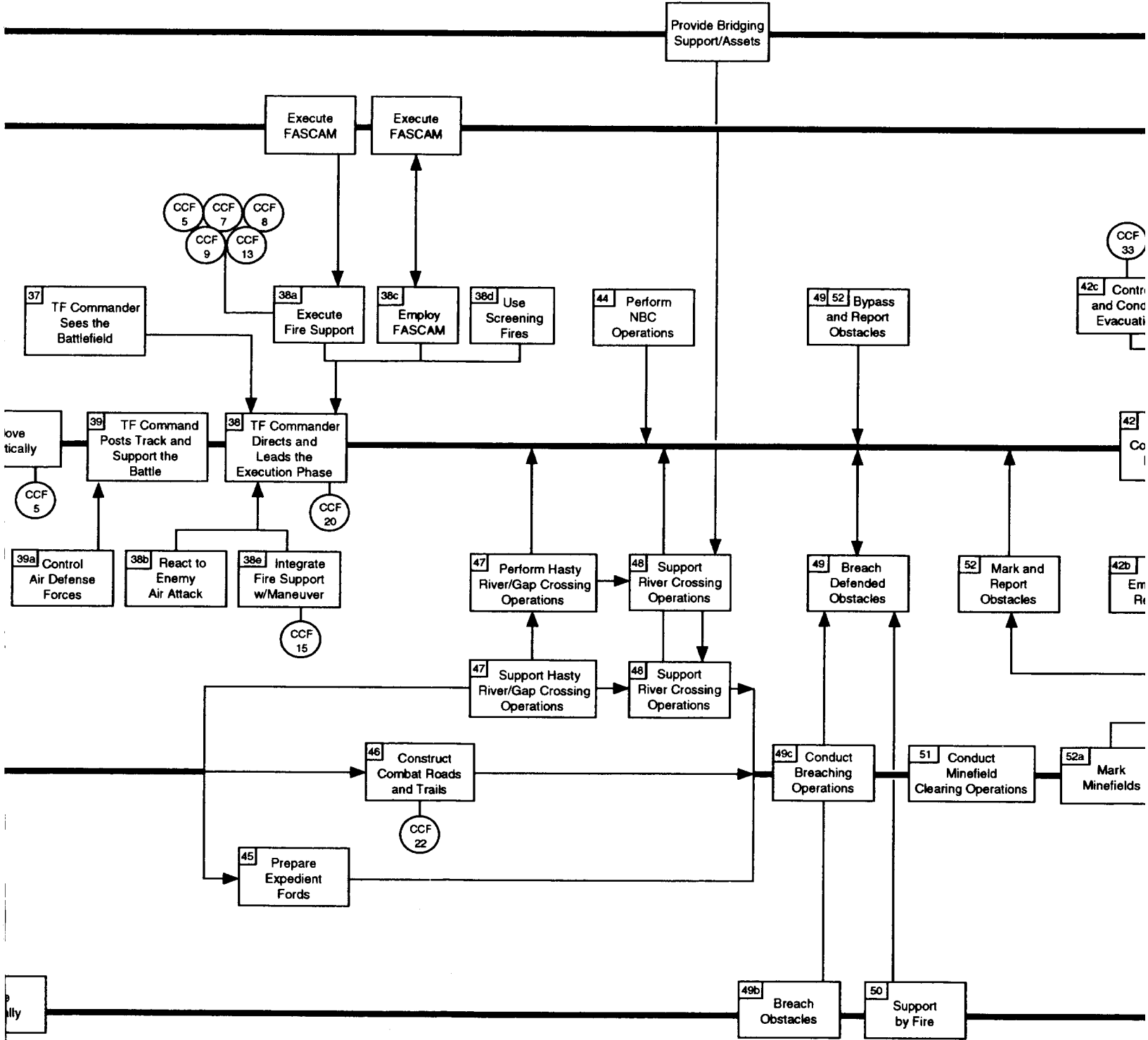
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○ CCF □ (outside) Input or Output (inside) Task

TASK FLOW BY TASK FORCE BATTLE PHASE

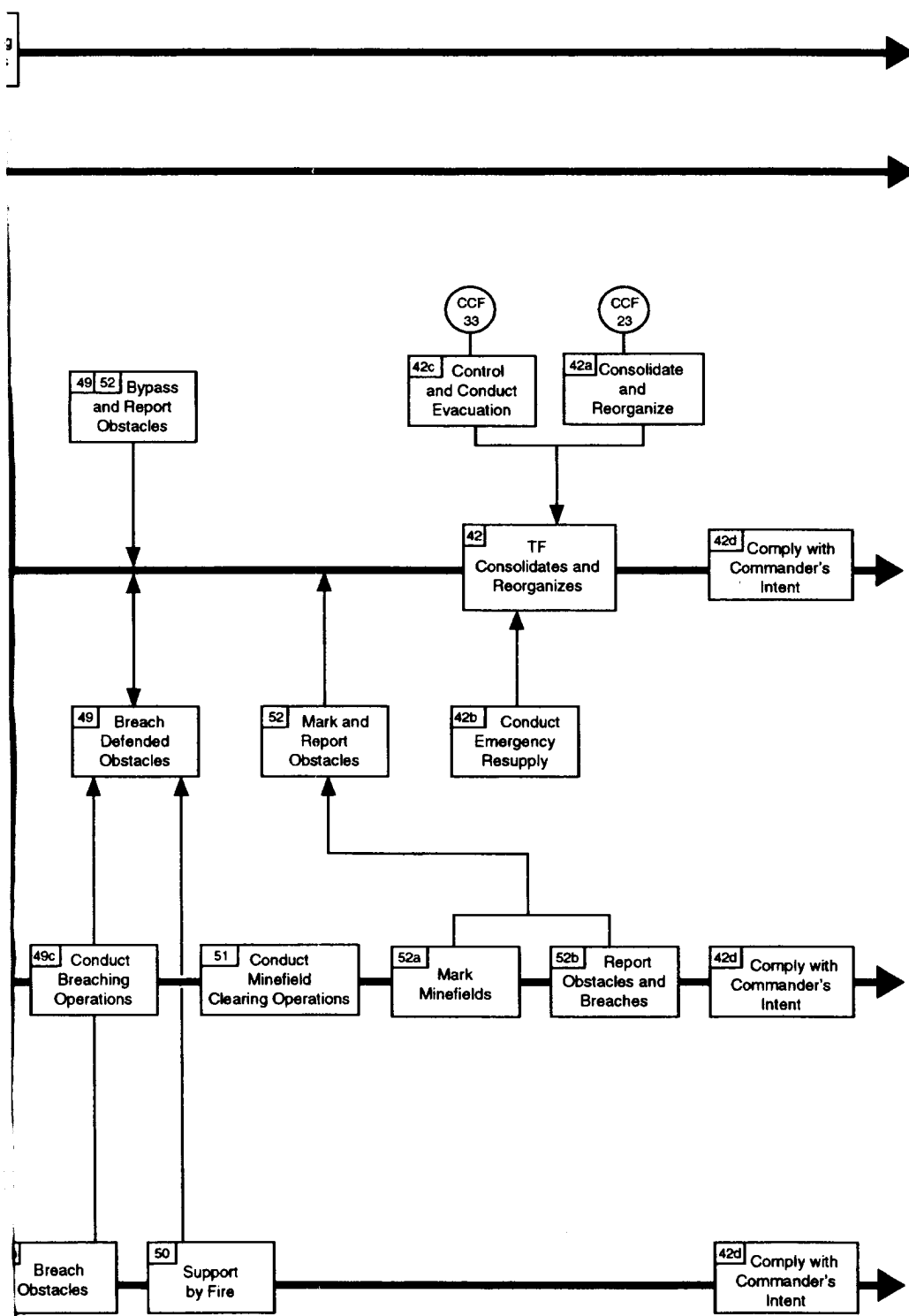
EXECUTE



CCF (outside) Input or Output
 (inside) Task

CCF 21 — Overcome Obstacles

PHASE



January 13, 1995

OTHER CCF WHICH INTERACT WITH CCF 21

<u>CCF #</u>	<u>TITLE</u>	<u>LOGIC</u>
CCF 1	Conduct Intelligence Planning	The intelligence plan develops the knowledge of weather, enemy and terrain necessary for identification of potential obstacle locations and selection of bypass routes and breaching sites.
CCF 2	Collect Information	Company/teams and other subordinate elements are required to conduct the reconnaissance necessary to provide information for CCF 1, confirming or denying locations of obstacles, bypass routes, and breaching sites developed in the estimate. All subordinate elements are required to report combat information.
CCF 4	Disseminate Intelligence	Commanders require constantly updated, detailed and accurate knowledge of enemy situation in order to plan and execute the tasks necessary to overcome obstacles.
CCF 5	Conduct Tactical Movement	Required for movement to, and beyond, obstacle location without loss of combat power or unit integrity.
CCF 6	Engage Enemy with Direct Fire and Maneuver	Integral part of breaching operation is suppression of the enemy with direct fire.
CCF 7	Employ Mortars	TF controlled source of tactical smoke to screen the breach site from enemy observation.
CCF 8	Employ Field Artillery	Required to suppress enemy positions with indirect fire and to provide smoke.
CCF 9	Employ Close Air Support	Additional means of suppression for support team.
CCF 15	Coordinate, Synchronize and Integrate Fire Support	Indirect and direct fires must be integrated and synchronized with maneuver in order to maximize effects of fire and to avoid fratricides.
CCF 16	Take Active Air Defense Measures	Critical for force protection while delayed at obstacle and when passing through defile that breach produces.
CCF 18	Plan for Combat Operations	Obstacle passage planning is an integral, and critical, part of overall combat planning for the attack. Task Force OPORD, which is output from CCF 18, is critical input to combat planning to overcome obstacles by all subordinate elements.

CCF 21 - Overcome Obstacles

CCF #	TITLE	LOGIC
CCF 19	Direct and Lead Unit During Preparation for the Battle	Leadership and supervision required to insure preparation, coordination and rehearsals for obstacle passage.
CCF 20	Direct and Lead Units in Execution of Battle	Overcoming obstacles is a difficult, combined arms, operation requiring on site direction and supervision.
CCF 23	Provide Countermobility	The use of mines and obstacles is necessary to provide security to task force during movement and breaching operations and to consolidate the final objective.
CCF 25	Provide Operations Security	Conceal preparations and operations from enemy.
CCF 28	Provide Transport Services	Transport services are required for movement of equipment, material, and supplies needed for breaching or gap crossing.
CCF 29	Conduct Supply Operations	Adequate supplies are forecasted and on hand to support breaching or gap crossing.
CCF 31	Maintain Weapons Systems and Equipment	Installation and maintenance in operational status of mine breaching equipment is critical to execution of breaching operation .
CCF 33	Treat and Evacuate Battlefield Casualties	Impacts on availability of personnel and equipment for overcoming obstacles. Provides medical support, and prompt evacuation, for casualties from breaching and assault elements.

CCF 21 - KEY PARTICIPANTS BY TASK

<u>TASKS</u>	<u>KEY PARTICIPANTS</u>
PLANNING	
1. Direct and Lead Task Force During Planning for the Battle	
a. Initiate preparation for combat and troop leading procedures	TF Cdr, S3, Co/Tm Cdrs, Subordinate Unit Cdrs
b. Company/Team preparation and troop leading procedures	Co/Tm Cdrs, Subordinate Unit Cdrs, Plt Ldrs/PSGs XO, 1SGs
2. Receive Order From Higher	TF XO, S3 Rep., S2 Rep.
Headquarters	
3. Conduct Mission Analysis	
a. Conduct leader's reconnaissance	All combined arms team leaders
4. Issue the Warning Order	Bde Cdr/S3, TF Cdr/S3, Co/Tm Cdrs, Sep Plt Ldrs
5. Commander Issues Guidance	TF Cdr, Staff
6. Prepare Staff Estimates	
a. Conduct terrain analysis	Bde S2, TF S2, Engr, Chem Off
Prepare intelligence estimate	Bde S2, TF S2
Develop reconnaissance and surveillance plan	TF Cdr, S2/S3, Engr, Chem Off
b. Integrate engineer effort	S2, S3, S4, Engr, FSO
Perform engineer battlefield assessment	TF S2, Engr
Conduct mobility analysis	TF S2, S3, Engr, Chem Off
Prepare engineer estimate/annex	TF S3, Engr
Plan and conduct engineer reconnaissance	TF S2, S3, Engr
c. Develop fire support plan	TF Cdr, S3, FSO, Bde FSO, Co/Tm Cdrs, FISTs
d. Determine CSS requirements	TF XO/S1/S4, Co/Tm Cdrs/XO/1SG, Engr, Chem Off, Sep Plts, Attached units

TASKS

KEY PARTICIPANTS

Update combat status	Co/Tm Cdrs, Subordinate Unit Cdrs, Plt Ldrs/PSGs, XOs, 1SGs
7. Staff Develops Course of Action	TF XO, Staff
8. Staff/CDR Analyze Course of Action	TF CDR, XO, Staff
a. Plan scheme of maneuver	TF Cdr, S3, Co/Tm Cdrs, FSO
b. Organize for combat	TF Cdr, S3, Co/Tm Cdrs, Supporting unit Cdrs
c. Establish engineer priority of effort	TF Cdr, S3, S2, Engr
d. Plan mobility operations	TF Cdr, S3, Engr, FSO, Co/Tm & Supporting unit Cdrs
e. Plan actions on the objective	TF Cdr, S3, FSO, Engr, Co/Tm Cdrs
f. Plan FASCAM employment	TF S3, FSO, Engr
g. Plan for NBC operations	TF S3, Chem Off
9. Staff Compares Courses of Action	TF CDR, XO, Staff
10. Commander Announces Decision	TF CDR, XO, Staff
11. Staff Prepares OPORD/FRAGO	TF XO, S3, S2, S1/4, FSO, Engr, ADAO, Chem Off
12. Issue the OPORD/FRAGO	TF Cdr/Staff, Co/Tm Cdrs, Sep Plt Ldrs
13. Refine the Plan	TF XO, S3, S2, S1/4, FSO, ADAO, Engr
14. Perform reconnaissance and surveillance	TF S2/S3, Co/Tm Cdrs, Sct Plt, GSR, Adj units
15. Perform counter reconnaissance actions	TF S2/S3, Co/Tm Cdrs, Sct Plt, GSR, Adj units
16. Maintain operations security	All combined arms team

PREPARATION

17. Command Group Conducts and Receives Briefings	
a. Conduct briefbacks	TF Cdr/S3, Co/Tm Cdrs, Sep Plt Ldrs
18. Command Group/Command Posts Monitor, Supervise, and Direct Execution of Force Protection Operations and Activities	TF Cdr, XO, S3, TF Staff, Subordinate Unit Leaders

CCF 21 - Overcome Obstacles

<u>TASKS</u>	<u>KEY PARTICIPANTS</u>
19. Command Group/Command Posts Monitor, Supervise, and Direct TF Mission Preparation	TF Cdr, XO, S3, TF Staff, Subordinate Unit Leaders
20. Commander, Commander's Representatives, and Staff Conduct Inspections and Visits	TF Cdr, XO, S3, TF Staff, Subordinate Unit Leaders
a. Conduct pre-combat checks	Co/Tm Cdrs/XOs/1SGs, Plt Ldrs/PSGs, Sec Ldrs
21. Task Force Conducts Rehearsals	
a. Conduct rehearsals	TF Cdr/Staff, Co/Tm Cdrs, Sep Plt Ldrs, Attached units
b. Company/Team conduct rehearsals	Co/Tm Cdrs, Plt Ldrs, Attached units, XOs, 1SGs, PSGs, Sqd Ldrs
c. Engineer company conducts rehearsals	Engr Cdr, Plt Ldrs
22. Task Force Plan Modified and Refined	
a. Verify IPB product	TF S3/S2, Sct Plt, GSR, Co/Tm Cdrs
b. Disseminate intelligence and combat information	TF Cdr, S3, S2, TOC, Co/Tm Cdrs, Sep Plts, Attached units
c. Disseminate fire support plan	S3, FSO, FISTs, Co/Tm Cdrs, Mort Plt Ldr
23. Command Post (TAC, TOC, CTCP) Operations	TF Cdr, XO, S3, TF Staff
24. Liaison and Coordination with Higher, Adjacent, Supported, and Supporting Elements	TF Cdr, XO, S3, TF Staff, LNOs
a. Establish contact and coordinate plans with adjacent units	TF Cdr, S3, Co/Tm Cdrs, Sep Plt Ldrs, Attached units
25. Command Group/Command Posts Position to Control the Battle	TF Cdr, XO, S3, S1/S4
26. Company/Teams prepare for combat	Co/Tm Cdrs/XO/1Sgts, Subordinate Element Cdrs, Plt Ldrs/Sgts, Section Ldrs
27. Company/Team plans mobility operations	Co/Tm Cdrs, Engr Ldr, Plt Ldrs/Sgts
28. Engineer company plans mobility operations	Engr Co Cdr, Plt Ldrs

TASKS

KEY PARTICIPANTS

- | | |
|--|--|
| 29. Conduct an engineer reconnaissance | TF S2/S3, Engr, Engr Plt/Sqds, Sct Plt |
| 30. Conduct a river/gap crossing site reconnaissance | TF S3, Engr, Engr Plt/Sqds, Sct Plt |
| 31. Conduct enemy obstacle reconnaissance | TF S3, Engr, Engr Plt/Sqds, Sct Plt |
| 32. Position Forces | |
| a. Engineer elements | TF Cdr, S3, Engr, Co/Tm Cdrs |
| b. Air defense elements | TF Cdr, S3, ADA Plt Ldr, Co/Tm Cdrs |
| 33. Assemble and prepare breaching equipment | TF S4, Engr Co Cdr, Co/Tm Cdrs, BMO, Spt Plt Ldr |
| 34. Perform combat service support operations | TF XO, S1, S4, Spt Plt Ldr, Co/Tm Cdrs/XOs/1SGs, BMO |
| 35. Prepare for NBC operations | S2, S3, Chem Off, Co/Tm Cdrs |

EXECUTION

- | | |
|---|--|
| 36. TF Command Posts Locate Where They Can Control the Battle | |
| a. Position command element/TOC | TF Cdr, S3, S2, FSO, Engr, ALO, Co/Tm Cdrs, Alt CPs |
| b. Maintain communications | All Combined arms team |
| c. Company/Team commander positions | Co/Tm Cdr, Plt Ldrs, XO |
| 37. TF Commander Sees the Battlefield | |
| 38. TF Commander Directs and Leads the Execution Phase | |
| a. Execute fire support | TF Cdr, S3, FSO, ALO, Co/Tm Cdrs, Mort Plt, FISTs |
| b. React to enemy air attack | TOC, ADA Plt Ldr, Co/Tm Cdrs, Attached unit Cdrs, Plt Ldrs |
| c. Employ FASCAM | S3, S2, ENGR, Co/Tm Cdr |
| d. Use screening fires | TF Cdr, S3, FSO, ALO, Co/Tm Cdrs, Mort Plt, FISTs |

TASKS	KEY PARTICIPANTS
e. Integrate fire support with scheme of maneuver	TF Cdr, S3, FSO, ALO, Co/Tm Cdrs, Mort Plt, FISTs
39. TF Command Posts Track and Support the Battle	TF Cdr, XO, TF Staff
a. Control air defense forces	TOC, ADA Plt Ldr, Co/Tm Cdrs, Attached unit Cdrs, Plt Ldrs
40. TF Conducts Battlefield Update (METT-T based)	
a. Conduct battlefield update	TF Cdr, S2, S3, TOC, Co/Tm Cdrs, Attached unit Cdrs, Sep Plt Ldrs
41. TF Conducts the Decision Making Process (Accelerated)	TF Cdr, XO, S3, TF Staff, subordinate unit Leaders
42. TF Consolidates and Reorganizes	
a. Consolidate and reorganize	TF S3, S4, S1, Spt Plt Ldr, Co/Tm Cdrs, Engr Co Cdr/Plt Ldrs
b. Conduct emergency resupply	TF S4, Spt Plt Ldr, Co/Tm Cdrs/XOs/ISGs
c. Control and conduct evacuation	TF S4, BMO, Med Plt Ldr, Co/Tm Cdrs
d. Comply with commander's intent	All combined arms team
43. Move tactically	
a. Task Force	TF Cdr, S3, TOC, Co/Tm Cdrs, Attached unit Cdrs, Sep Plt Ldrs
b. Company/Team	Co/Tm Cdr, Plt Ldrs
44. Perform NBC operations	
a. Task Force	TF Cdr, S3, TOC, Chem Off, Co/Tm Cdrs, Sep Plt Ldrs, Supporting Unit Cdrs
b. Company/Team and Platoon	Co/Tm Cdr, Plt Ldrs, PSGs, Sqd Ldrs
45. Prepare expedient fords	TF S3, Co/Tm Cdrs/Plt Ldrs, Engr unit
46. Construct combat roads & trails	TF S3, Engr Co Cdr/Plt Ldrs, Engr unit
47. Perform hasty river/gap crossing operations	TF CDR/S3, FSO, Co/Tm Cdrs, Plt Ldrs, AVLB Sec, Engr unit
48. Support a river crossing operation	Corps/Div Engr, Bde Engr, TF CDR, S3, Co/Tm Cdrs, FSO, Engr Co Cdr/Plt Ldrs

CCF 21 - Overcome Obstacles

TASKS

KEY PARTICIPANTS

- | | |
|---|--|
| 49. Breach defended obstacles | |
| a. Task force | TF CDR, S3, S2, FSO, Engr, Co/Tm Cdrs |
| b. Company/team and Platoon breach obstacles | Co/Tm Cdrs, Plt Ldrs, Engr Ldr, FISTs |
| c. Engineer company/platoon conducts breaching operations | Engr Co Cdr, Plt Ldrs |
| 50. Support by fire | TF S3, FSO, FSE, Co/Tm Cdrs, Plt Ldrs, Mort Plt, ALO |
| 51. Conduct minefield clearing operations | TF S3, Co/Tm Cdrs, Plt Ldrs, Engr Co Cdr/Plt Ldrs |
| 52. Mark and report obstacles | |
| a. Mark a minefield | TF S3, Engr, Engr unit, Co/Tms |
| b. Report obstacles | TF S3, Engr, Engr unit, Co/Tm Cdrs, Sct Plt |

**KEY INPUTS/OUTPUTS
(WITH CRITICAL INFORMATION)**

KEY INPUTS

TF-1 TASK FORCE OPORD

- a. Commander's intent.
- b. Designation of routes and axes.
- c. Designation of main effort and scheme of maneuver.
- d. Actions on the objective.
- e. Event and decision support templates.
- f. Task organization and effective time.
- g. Identification of support, breach, and assault forces.
- h. Positioning of engineers, air defense, mortars, and scouts within formations, in areas/positions, and at breach site.
- i. Designation of formations and order of march.
- j. Requirements for gap/river/obstacle crossing.
- k. Command and control of breach site and forces.
- l. TAC, TOC, and Alt TOC locations.
- m. OPSEC, deception, radio listening silence requirements.
- n. Rules of engagement.
- o. Reporting requirements.
- p. Critical or mandated times (e.g. in AA NLT ____, LD at ____, etc.).

TF-2 TASK FORCE INTELLIGENCE ANNEX

- a. Terrain analysis.
- b. Weather analysis.
- c. Enemy analysis and threat integration.
- d. Situation templates.
- e. Reconnaissance and surveillance plans and assets available.
- f. Collection plan and specific taskings.
- g. Priority intelligence requirements (PIRs).
- h. Named and targeted areas of interest (NAIs and TAIs).
- i. Location of known or suspected obstacles, fire sacks, and enemy positions.

TF-3 TASK FORCE ENGINEER ANNEX

- a. Mobility, countermobility and survivability analysis.
- b. Identification and analysis of mobility capabilities and resources.
- c. Availability and allocation of equipment (bridging and breaching).
- d. Identification and distribution of organic breaching equipment (plows, rollers, etc.)
- e. Analysis of threat countermobility assets and capabilities.
- f. Plan and execution matrix for directed obstacles and breaching operations.
- g. FASCAM requirements, employment authority and considerations, allocation and priorities.
- h. Identification of requirements for, and availability of, additional engineer support, if required to support the plan.

TF-4 TASK FORCE LOGISTICS ANNEX

- a. Supply, maintenance, medical, and evacuation plans and priorities.

- b. Positioning of engineers, air defense and mortars within formations and areas/positions.
- c. Class IV and V allocated and requested.
- d. Location and arrangement of combat and field trains.
- e. Availability and allocation of Class III and IX supplies.

TF-5 TASK FORCE FIRE SUPPORT ANNEX

- a. Priority of fires.
- b. FASCAM targets.
- c. Fire plan/matrix and planned displacements.
- d. Availability and allocation of smoke fires.
- e. Target list.
- f. Allocation, priorities, control measures, and synchronization for FA, CAS, mortars, and ECM measures at the breach site for suppression and obscuration.

TF-6 TASK FORCE TACTICAL SOP

- a. Formations.
- b. Actions on contact and at danger areas, gaps, and obstacles.
- c. Immediate action drills and procedures.
- d. Actions at obstacles to recon and bypass or suppress, obscure, secure, and reduce.
- e. Obstacle/lane clearing, marking, recording and reporting methods/procedures.
- f. Techniques of movement and requirements for mutual support.
- g. OPSEC requirements and procedures (physical, communications, camouflage, etc.)
- h. Passive and active air defense measures.
- i. Preparation for, response to and reporting of NBC operations/activities.
- j. Load plans, basic loads, pre-combat check requirements and checklists.

KEY OUTPUTS

C-1 MANEUVER COMPANY/TEAM OPORD

- a. Commander's intent.
- b. Routes, axes, areas, sectors or battle positions designated.
- c. Main effort identified and scheme of maneuver explained.
- d. Task organization and specific missions.
- e. Detailed instructions on actions as support, breach or assault force.
- f. Formations, order of march, and security responsibilities designated.
- g. Supply, maintenance, medical and evacuation plans, priorities, and responsibilities.
- h. Link up and positioning of engineers, air defense and mortars within company.
- i. Class III, IV, V, and IX allocated and requested.
- j. Location of aid stations and collection points.
- k. Location of UMCP and maintenance collection points.

TASK LIST SUMMARY OVERCOME OBSTACLES

See Task Analysis of interacting CCFs for detailed analysis of related planning, preparation and execution tasks. See CCF 18, 19 and 20 for analysis of planning, preparation and execution process and all command and control planning, preparation and execution tasks. CCF 18, Planning, tasks are identified as tasks 1-13 in this list. CCF 19, Preparation, tasks are identified as tasks 17-25 in this list. CCF 20, Execution, tasks are identified as tasks 36-41 in this list. Additional and subordinate tasks identified are those tasks considered by the analyst to be critical to successfully overcome obstacles. Input and output products of the process critical for CCF 21 are listed at pages 22 through 23. References are shown in parenthesis (..) after the task title. Titles not taken directly from the MTP are marked with an asterisk (*). (See note on page 30.)

PLANNING

1. **Direct and Lead Task Force During Planning for the Battle**
 - a. Initiate preparation for combat and troop leading procedures (FM 71-2, App. C; FM 71-123, Chap. 2; MTP 71-2, Task 7-1-3001-5,6).
 - b. Company/Team preparation and troop leading procedures (MTP 71-1, Task 17-2-0101, 0701; FM 71-123, Chap 2; FM 71-1, Chap 2; FM 7-7J, Chap 2)
2. **Receive Order From Higher Headquarters** (FM 101-5; FM 71-123)
3. **Conduct Mission Analysis** (MTP 71-2, Task 7-1-3901-2, 3904-3; FM 101-5, Chap 4; FM 71-2, Chap 2; FM 71-123, Chap 1)
 - a. Conduct Leader's Reconnaissance (MTP 71-2, Task 7-1-3901-3; FM 71-2, Chap 2).
4. **Issue the Warning Order** (MTP 71-2, Task 7-1-3901-1, 3902-2, 3904-2; FM 101-5, Chap 4; FM 71-2, Chap 2; FM 71-123, Chap 1)
5. **Commander Issues Guidance** (FM 101-5, Chap 4)
6. **Prepare Staff Estimates** (MTP 71-2, Task 7-1-3901/3; FM 101-5)
 - a. Intelligence.
 - 1) Conduct terrain analysis (MTP 71-2, Task 7-1-3906-1, 3909-1; FM 71-2, Chap 2; FM 34-3 App E).
 - 2) Prepare intelligence estimate (MTP 71-2, Task 7-1-3905-1, 3906-1; FM 71-2, Chap 2; FM 34-3 Chap 4-6).
 - 3) Develop reconnaissance and surveillance plan * (MTP 71-2, Task 7-1-3901-3, 3906-4; FM 71-2, Chap 2,3; FM 71-123, Chap 1,3).
 - b. Engineer.
 - 1) Integrate engineer effort (MTP 71-2, Task 7-1-3902-3; FM 5-101, Chap 3).

CCF 21 - Overcome Obstacles

- 2) Perform engineer battlefield assessment (FM 5-100, Chap. 6; MTP 5-145-31, Task 05-2-0027).
 - 3) Conduct mobility analysis (MTP 71-2, Task 7-1-3902-5, 3906-5, 3909-1,2; FM 5-101 Chap 3).
 - 4) Prepare engineer estimate/annex (MTP 5-145-31, Task 05-2-0002, 0003; FM 5 100, Chap 3; FM 5-101, Chap 3).
 - 5) Plan and direct engineer reconnaissance (FM 5-101, Chap. 2; FM 90-13-1, Chap. 2,4; MTP 5-145-31, Task 05-2-0410).
- c. Fire Support.
- 1) Develop fire support plan (MTP 71-2, Task 7-1-3907-1,2, 3908-4, 3911-1; FM 71-2, Chap 6; FM 71-123, Chap 7; FM 3-100, Chap 3).
- d. Combat Service Support.
- 1) Determine CSS requirements * (MTP 71-2, Task 7-1-3002-3,5,8, 3912-1, 3913-5; FM 71-2, Chap 7, App C).
 - 2) Update combat status (MTP 71-2, Task 7-1-3912-1; FM 71-2, Chap. 7).
7. **Staff Develops Course of Action** (MTP 71-2, Task 7-1-3901/4; FM 101-5, Chap 4; FM 71-123)
8. **Staff/CDR Analyze Course of Action** (MTP 71-2, Task 7-1-3901/4; FM 101-5, Chap 4)
- a. Plan scheme of maneuver * (FM 71-2, Chap. 3,4; FM 71-123, Chap. 3,4,5,6; FM 5-100, Chap. 6,7; FM 90-13-1, Chap. 4; AMTP 71-2, Task 7-1-3901-7, 3902-8).
 - b. Organize for combat * (FM 71-2, Chap 3; FM 5-100, Chap 6; MTP 71-2, Task 7-1-3901-9).
 - c. Establish engineer priority of effort * (FM 71-2, Chap 4; FM 5-101, Chap 3; MTP 71-2, Task 7-1-3009-1).
 - d. Plan mobility operations (FM 71-2, Chap.3; FM 5-101; FM 90-13, Chap 6, App A; MTP 71-2, Task 7-1-3005-1, 3027-2, 3903-3,4, 3909-4).
 - e. Plan actions on the objective * (FM 90-13-1, Chap 2).
 - f. Plan FASCAM employment * (FM 71-2, Chap. 6; FM 5-100, Chap.4; AMTP 71-2, Task 7-1-3908-4).
 - g. Plan for NBC operations (FM 3-3, Chap 1; FM 3-4, Chap 2; FM 3-100, Chap 4,7,10,11; MTP 71-2, Task 7-1-3902-7).
9. **Staff Compares Courses of Action** (FM 101-5, Chap 4)
10. **Commander Announces Decision** (FM 101-5, Chap 4)
11. **Staff Prepares OPORD/FRAGO** (MTP 71-2, Task 7-1-3901/5; FM 101-5, Chap 4)

12. **Issue the OPORD/FRAGO** (MTP 71-2, Task 7-1-3901/7; FM 101-5, Chap 4)
(FM 71-2, App B; FM 71-123, Chap 1; MTP 71-2, Task 7-1-3902-8, 3904-11)
13. **Refine the Plan** (MTP 71-2, Task 7-1-3901/8; FM 101-5, Chap 4)
14. **Perform Reconnaissance and Surveillance** (FM 71-2, Chap 3; FM 34-2-1; FM 3-4, Chap 3; MTP 71-2, Task 7-1-3002-3, 3007-1, 3008-1, 3027-1, 3905-2, 3906-4,5, 3909-2)
15. **Perform Counter Reconnaissance Actions** (FM 71-2, Chap 4; MTP 71-2, Task 7-1-3905-4, 3028-2,3, 3909-3)
16. **Maintain Operations Security** (FM 71-2, Chap. 2; MTP 71-2, Task 7-1-3028)
 - a. Task Force.
 - b. Company/Team operations security.

PREPARATION

17. **Command Group Conducts and Receives Briefings**
 - a. Conduct briefbacks * (FM 71-2, Chap 2; FM 71-123, Chap 2; FM 71-1, Chap 2; FM 90-13-1, App. D; MTP 71-2, Task 7-1-3901-7, 3903-2; MTP 71-1, Task 17-2-0101).
18. **Command Group/Command Posts Monitor, Supervise, and Direct Execution of Force Protection Operations and Activities**
19. **Command Group/Command Posts Monitor, Supervise, and Direct TF Mission Preparation**
20. **Commander, Commander's Representatives, and Staff Conduct Inspections and Visits**
 - a. Conduct pre-combat checks * (MTP 71-1, Task 17-2-0101-11; MTP 5-145-31, Task 05-2-0114; MTP 7-8, Task 7-3/4-1046-5; MTP 17-237-10, Task 17-3-0102).
21. **Task Force Conducts Rehearsals** (FM 71-2, Chap 2; FM 71-123, Chap 2; FM 90-13-1, App D; MTP 71-2, Task 7-1-3901-7, 3024-7)
 - a. Conduct rehearsals.
 - b. Company/Teams conduct rehearsals (MTP 71-1, Task 17-2--1-1-11, FM 71-1, Chap 2).
 - c. Engineer company conducts rehearsals (FM 90-13-1, Chap. 2,4, App. D; AMTP 5-145-31, Task 05-2-0114-1,2).
22. **Task Force Plan Modified and Refined**
 - a. Verify IPB product * (FM 71-2, Chap 2; FM 34-3 Chap 4).
 - b. Disseminate intelligence and combat information * (FM 71-2, Chap 2; MTP 71-2, Task 7-1-3906-7, 3905-3).

- c. Disseminate fire support plan * (FM 71-2, Chap. 6; AMTP 71-2, Task 7-1-3907-3).
- 23. **Command Post (TAC, TOC, CTCP) Operations**
- 24. **Liaison and Coordination with Higher, Adjacent, Supported, and Supporting Elements**
 - a. Establish contact and coordinate plans with adjacent units * (MTP 71-2, Task 7-1-3901, 3902).
- 25. **Command Group/Command Posts Position to Control the Battle**
- 26. **Company/Teams Prepare for Combat** (MTP 71-1, Task 17-2-0101; FM 71-123)
- 27. **Company/Team Plans Mobility Operations** (FM 71-1, Chap 3; MTP 71-1, Task 17-2-0501)
- 28. **Engineer Company Plans Mobility Operations** (FM 90-13-1, Chap 3,4; MTP 5-145-31, Task 05-2-0114)
- 29. **Conduct an Engineer Reconnaissance** (FM 5-101, Chap 4,5,6; MTP 71-2, Task 7-1-3902-5; MTP 5-145-31, Task 05-2-0410; MTP 5-145-11, Task 05-4-0407)
- 30. **Conduct a River/Gap Crossing Site Reconnaissance** (FM 5-101, Chap 6; FM 90-13, Chap 2,6; MTP 71-2, Task 7-1-3005-2; MTP 5-145-11, Task 05-4-0404)
- 31. **Conduct Enemy Obstacle Reconnaissance** (MTP 71-2, Task 7-1-3027-1, 3902-5, 3909-2; FM 90-13-1, Chap 2,3,4; MTP 5-145-11, Task 05-4-0411)
- 32. **Position Forces ***
 - a. Position engineer elements * (FM 71-2, Chap 6; FM 5-100, Chap 6,7; MTP 71-2, Task 7-1-3004-1; MTP 5-145-31, Task 05-2-0114).
 - b. Position air defense elements * (FM 71-2, Chap 6; MTP 71-2, Task 7-1-3004-1, 3005-1, 3911-4).
- 33. **Assemble and Prepare Breaching Equipment *** (FM 90-13-1, Chap 3,4; MTP 5-145-31, Task 05-2-0114-1,2)
- 34. **Perform Combat Service support Operations** (FM 71-2, Chap. 7; FM 71-123, App. A; MTP 71-2, Task 7-1-3912)
 - a. Conduct resupply of Task Force elements (FM 71-2, Chap.7; MTP 71-2, Task 7-1-3912-3,6, 3008-2).
 - b. Conduct maintenance activities.
 - c. Position and operate Task Force trains.
 - d. Prepare for emergency resupply * (FM 71-2, Chap. 7; MTP 71-2, Task 7-1-3912-3).
- 35. **Prepare for NBC Operations *** (FM 71-2, App. E; MTP 71-2, Task 7-1-3910-1,2,3,7)

EXECUTION

36. **TF Command Posts Locate Where They Can Control the Battle** (MTP 71-2, Task 7-1-3902)
- a. Position command element/TOC * (FM 71-2, Chap 2; MTP 71-2, Task 7-1-3901-11, 3903-1, 3904-1, 14).
 - b. Maintain communications (FM 71-2, Chap 2; MTP 71-2, Task 7-1-3401, 3902-1).
 - c. Company/Team commander positions (MTP 71-1, Task 17-2-0301-3; FM 71-1, Chap 2).
37. **TF Commander Sees the Battlefield** (MTP 71-2, Task 7-1-3901/11; FM 71-100, Chap 1)
38. **TF Commander Directs and Leads the Execution Phase** (MTP 71-2, Task 7-1-3901/12; FM 71-100, Chap 1)
- a. Execute fire support (FM 3-100, Chap 3; MTP 71-2, Task 7-1-3027-2,5, 3907-3,4,5,6).
 - b. React to enemy air attack (FM 71-2, Chap 6; MTP 71-2, Task 7-1-3911-6).
 - c. Employ FASCAM (FM 71-2, Chap. 6; FM 71-1, App. C; MTP 71-2, Task 7-1-3909-9; MTP 71-1, Task 17-2-1021-10, 0502).
 - d. Use screening fires * (FM 71-2, Chap. 6; MTP 71-2, Task 7-1-3004-5, 3027-5).
 - e. Integrate fire support with scheme of maneuver * (FM 71-2, Chap 6; MTP 71-2, Task 7-1-3027-2,5, 3907-4, 3908-4,5,7).
39. **TF Command Posts Track and Support the Battle** (MTP 71-2, Task 7-1-3903/3, 3904/14; FM 71-123, Chap 1)
- a. Control air defense forces * (FM 71-2, Chap. 6; MTP 71-2, Task 3911-3,7).
40. **TF Conducts Battlefield Update (METT-T based)** (MTP 71-2, Task 7-1-3902/3, 3906/1, 3913/5)
- a. Conduct battlefield update * (MTP 71-2, Task 7-1-3906-7).
41. **TF Conducts the Decision Making Process (Accelerated)** (FM 71-123, Chap 1)
42. **TF Consolidates and Reorganizes** (MTP 71-2, Task 7-1-3022, 3023).
- a. Consolidate and reorganize (FM 71-2, Chap 3; MTP 71-2, Task 7-1-3022, 3023; FM 90-13-1, Chap 4,5).
 - b. Conduct emergency resupply * (FM 71-2, Chap 7; FM 3-101, App B; MTP 71-2, Task 7-1-3913-13).
 - c. Control and conduct evacuation * (FM 71-2, Chap 7; MTP 71-2, Task 7-1-3033, 3912-5,6,8,9).

- d. Comply with commander's intent * (FM 71-2, Chap 2).
- 43. **Move Tactically** (FM 71-2, Chap. 3; MTP 71-2, Task 7-1-3004)
 - a. Task Force.
 - b. Company/team (FM 71-1, Chap 3; MTP 71-1, Task 17-2-0301).
- 44. **Perform NBC Operations** (FM 71-2, App. E; MTP 71-2, Task 7-1-3910-4,5,6,8,9, 3029)
 - a. Task Force.
 - b. Company/Team and Platoon (MTP 71-1, Task 03-2-C013; MTP 7-8, Task 7-3/4-1021-14).
- 45. **Prepare Expedient Fords** (FM 5-101, Chap 6; MTP 5-145-11, Task 05-3-0603)
- 46. **Construct Combat Roads & Trails** (FM 5-101, Chap 7; MTP 5-145-11, Task 05-2-0705)
- 47. **Perform Hasty River/Gap Crossing Operations** (FM 5-101, Chap 6; MTP 71-2, Task 7-1-3005-4,5,6)
- 48. **Support a River Crossing Operation *** (FM 90-13, Chap 3; MTP 5-145-31, Task 05-2-0600)
- 49. **Breach Defended Obstacles** (FM 71-2, Chap 5; MTP 71-2, Task 7-1-3027, 3909-5; FM 5-101, Chap 6; FM 90-13-1, Chap 3,4; MTP 71-1, Task 17-2-0501; MTP 5-145-31, Task 05-2-0114)
 - a. Task force.
 - b. Company/team and Platoon breach obstacles (FM 71-1, Chap 3; MTP 71-1, Task 17-2-0501; FM 7-7, App. O; MTP 7-8, Task 7-3/4-1014).
 - c. Engineer company/platoon conducts breaching operations (FM 90-13-1, Chap 3,4; FM 20-32, Chap 8,9; MTP 5-145-31, Task 05-2-0114; MTP 5-145-11, Task 05-3-0103).
- 50. **Support by Fire** (MTP 71-1, Task 17-2-0306)
- 51. **Conduct Minefield Clearing Operations** (FM 20-32, Chap 8; MTP 5-145-31, Task 05-2-0111)
- 52. **Mark and Report Obstacles**
 - a. Mark a minefield (FM 5-101, Chap 4,5; FM 20-32, Chap 9; MTP 5-145-11, Task 05-4-0110; AMTP 71-2, Task 7-1-3909-5).
 - b. Report obstacles and breaches (FM 5-101, Chap 4; FM 20-32, Chap 9; MTP 71-2, Task 7-1-3909-6).

Note: Task titles are either taken directly from an MTP task or subtask, or, are derived from portions of subtasks, implied tasks, or requirements in the MTPs, applicable FMs, or

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other related documents. Where there was no specific MTP task to use as the task title, the task title was usually taken from the primary reference FM. Titles not taken directly from the MTP are marked with an asterisk (*).

OVERCOME OBSTACLES PLANNING TASK LIST

See CCF 18 for a detailed analysis of the planning process and all planning tasks. Key input/output and products of the process critical for CCF 21 are listed at pages 22 through 23. Planning tasks 1 through 13 identified in this list are the CCF 18 tasks. The additional tasks and the subordinate tasks identified are those tasks considered by the analyst to be critical to successfully overcome obstacles. Tasks are not necessarily listed in chronological order. Some tasks are performed concurrently and/or at different echelons in the task force. The chronological or sequential relationship of the tasks is shown in the charts at pages 12-14. Critical tasks that are performed at levels below task force are also listed as sub-paragraphs of the task force tasks and are sub-titled as "Company/team", "Platoon", or "Engineer company" tasks. Only company and platoon tasks considered critical to task force success are listed. References are shown in parenthesis (..) after the task title. Titles not taken directly from the MTP are marked with an asterisk (*). (See note on page 30.)

1. Direct and Lead Task Force During Planning for the Battle

- a. Initiate Preparation for Combat and Troop Leading Procedures (FM 71-2, App. C; FM 71-123, Chap. 2; MTP 71-2, Task 7-1-3001-5,6).
 - 1) Task force and subordinate elements initiate planning and preparation for combat with the information available upon receipt of the warning order.
 - 2) Develop an initial time line, based on a reverse planning schedule, to distribute or allocate planning and preparation time.
 - 3) If sufficient mission information is available, initiate leader's reconnaissance.
 - 4) TF elements initiate resupply, maintenance, and personnel operations; unit is brought to full basic load, damaged equipment is repaired/replaced, replacements briefed and organized, and vehicles topped off with fuel.
 - 5) TF S4 monitors and reports status of subordinate elements as CSS estimate is developed.
 - 6) TF departs the assembly area as provided for in the OPORD; all equipment and supplies move at designated times; elements clear the assembly area as scheduled.
 - 7) Security and concealment is maintained, radio listening silence or minimum radio transmission is maintained.
 - 8) Wire is established as the primary means of communication.
 - 9) Local security measures, LPs/OPs, and patrols are initiated and subordinate element security operations are coordinated at the TF to insure full coverage.
- b. Company/Team preparation and troop leading procedures (MTP 71-1, Task 17-2-0101, 0701; FM 71-123, Chap 2; FM 71-1, Chap 2; FM 7-7J, Chap 2)
 - 1) Company occupies assembly area, establishes security, covers/conceals vehicles, and initiates assembly area activities.

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- 2) Develop an initial time line, based on a reverse planning schedule, to distribute or allocate planning and preparation time.
 - 3) Issue warning orders to subordinates with as much information as available to allow units to begin preparations and precombat checks.
 - 4) Local security measures, LPs/OPs, and patrols are initiated.
 - 5) If sufficient mission information is available, initiate leader's reconnaissance.
 - 6) Initiate resupply, maintenance, and personnel operations; unit is brought to full basic load, damaged equipment is repaired/replaced, replacements briefed and organized, and vehicles topped off with fuel.
 - 7) Unit reports personnel, weapons system, vehicle, and supply status to task force; specific problems or critical areas are identified.
- e. See CCF 19, Direct and Lead Unit During Preparation for the Battle; CCF 25, Provide Operations Security.
2. **Receive Order From Higher Headquarters** (FM 101-5; FM 71-123)
See CCF 18, Plan for Combat Operations.
 3. **Conduct Mission Analysis** (MTP 71-2, Task 7-1-3901-2, 3904-3; FM 101-5, Chap 4; FM 71-2, Chap 2; FM 71-123, Chap 1)
 - a. **Conduct Leader's Reconnaissance** (MTP 71-2, Task 7-1-3901-3; FM 71-2, Chap 2).
 - 1) The commander conducts reconnaissance to confirm tentative plan decisions and to adjust as necessary. Organization of forces to fit the terrain and threat is verified.
 - 2) Avenues of approach and restrictive terrain are identified.
 - 3) Likely enemy locations are identified.
 - 4) Physical control features are identified.
 - 5) Positions are confirmed.
 4. **Issue the Warning Order** (MTP 71-2, Task 7-1-3901-1, 3902-2, 3904-2; FM 101-5, Chap 4; FM 71-2, Chap 2; FM 71-123, Chap 1).
 - a. All subordinate elements are appropriately alerted of the impending mission.
 - b. Subordinate commanders/leaders must know what movements are required, the location of their positions and/or their objectives, when movements must be initiated and completed, obstacle breaching missions or tasks, and other mission critical tasks.
 5. **Commander Issues Guidance** (FM 101-5, Chap 4)
See CCF 18, Plan for Combat Operations.

6. **Prepare Staff Estimates** (MTP 71-2, Task 7-1-3901/3; FM 101-5)

a. **Intelligence.**

- 1) Conduct terrain analysis (MTP 71-2, Task 7-1-3906-1, 3909-1; FM 71-2, Chap 2; FM 34-3 App E).
 - a) Identify terrain that can mask occupation and movement of friendly or enemy forces.
 - b) Analyze obstacles, surface configuration, type soil, drainage and trafficability for effect on movement.
 - c) Evaluate terrain to determine the effect on mobility and counter-mobility.
- 2) Prepare intelligence estimate (MTP 71-2, Task 7-1-3905-1, 3906-1; FM 71-2, Chap 2; FM 34-3 Chap 4-6).
 - a) A terrain analysis is conducted using the factors of OCOKA.
 - b) Weather conditions, as they impact on friendly and enemy operations, are identified.
 - c) Enemy capabilities and intentions are determined; likely enemy obstacles, positions and courses of action identified.
 - d) Doctrinal and situational templates are prepared and analyzed.
- 3) Develop reconnaissance and surveillance plan * (MTP 71-2, Task 7-1-3901-3, 3906-4; FM 71-2, Chap 2,3; FM 71-123, Chap 1,3).
 - a) Reconnaissance is specifically planned for routes and avenues over which movement is planned to be conducted.
 - b) NBC reconnaissance is planned to detect, identify, mark and report suspected contaminated areas which are obstacles to movement.
 - c) Information on identified or suspected natural or reinforcing obstacles and terrain is identified as a collection priority.
 - d) Reconnaissance operations are initiated as soon as requirements are identified, particularly of proposed routes, and are repeated as required.
- 4) See CCF 1, Conduct Intelligence Planning.

b. **Engineer.**

- 1) Integrate engineer effort. The engineer officer augments the task force planning effort and is involved with the planning process beginning with the warning order. The engineer (MTP 71-2, Task 7-1-3902-3; FM 5-101, Chap 3):
 - a) Compiles and analyzes METT-T information to evaluate possible engineer courses of action.
 - b) Conducts a battlefield assessment and mobility analysis.

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- c) Produces an engineer staff estimate or an engineer annex for the task force plan.
- 2) Perform engineer battlefield assessment (FM 5-100, Chap. 6; MTP 5-145-31, Task 05-2-0027).
 - a) Engineer, in conjunction with S-2, prepares detailed analysis of terrain in area of operations, focusing on trafficability and enemy obstacle locations.
 - b) Analyzes weather for precipitation and temperature impact on trafficability, water obstacles, soil conditions, visibility, and engineer vehicle capabilities.
 - c) Analyzes terrain for:
 - 1) Impact of observation on obstacle placement, enemy and friendly.
 - 2) Concealment for engineer equipment and materials during breaching and gap crossing operations.
 - 3) Identification of natural and man-made obstacles and their impact on scheme of maneuver.
 - 4) Determination of engineer tasks to facilitate friendly control and use of key terrain.
 - 5) Identification of mobility corridors and evaluation of engineer actions needed to enhance or hinder movement of friendly and enemy forces.
 - d) Provides input to S-2 on enemy engineer units, capabilities, strengths, and locations.
 - e) Develops a situational template of enemy engineer operations which is incorporated into the engineer estimate/annex.
 - f) See CCF 1, Conduct Intelligence Planning; CCF 23, Provide countermobility; CCF 24, Enhance Physical Protection.
- 3) Conduct mobility analysis (MTP 71-2, Task 7-1-3902-5, 3906-5, 3909-1,2; FM 5-101 Chap 3).
 - a) Aspects of terrain affecting task force maneuverability are identified and assessed.
 - b) The engineer study identifies the following:
 - 1) Existing obstacles which will impede or impair task force movement.
 - 2) Likely/effective potential positions for reinforcing obstacles along friendly and enemy avenues.
 - 3) Company/team routes of advance for mounted movement.
 - 4) Site location for obstacle neutralization.

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- 5) The effects of the terrain on mounted movement (vegetation, slope, soil characteristics, etc.).
 - c) Routes for non-deployed movement of maneuver, support elements, follow-on engineer equipment, and evacuation are identified.
 - d) Physical reconnaissance is conducted to find and verify routes, approaches, obstacles, and breach sites.
 - e) See CCF 5, Conduct Tactical Movement; CCF 23, Provide Countermobility.
- 4) Prepare engineer estimate/annex (MTP 5-145-31, Task 05-2-0002, 0003; FM 5-100, Chap 3; FM 5-101, Chap 3).
 - a) A prioritized engineer plan of support, based on the commander's maneuver scheme, is developed and recommended to the S-3 and/or commander.
 - b) The estimate accounts for the enemy's courses of action.
 - c) Mission analysis identifies commander's intent, area of operations, engineer tasks to be performed, constraints and restraints.
 - d) Situation analysis identifies nature of operation and unusual requirements, incorporates battlefield assessment, and evaluates engineer capabilities, disposition, personnel, logistics (particularly levels of Class IV and V), and equipment.
 - e) Develops more than one course of action and identifies the requirements, tasks, resources, priorities, critical events/actions, and allocation of engineer forces to accomplish each.
 - f) A course of action for engineer support is determined and recommended.
 - g) The estimate makes recommendations for task organization (to include allocation and distribution of TF organic breaching equipment -rollers, plows etc.), command/support relationships, and priorities of effort.
 - h) The estimate identifies engineer service support requirements for Class III, IV, V, and transportation.
 - i) The estimate includes obstacle overlay, engineer work timeline, and list of critical tasks to be directed to subordinate units.
 - j) See CCF 23, Provide Countermobility; CCF 24, Enhance Physical Protection.
- 5) Plan and direct engineer reconnaissance (FM 5-101, Chap. 2; FM 90-13-1, Chap. 2,4; MTP 5-145-31, Task 05-2-0410).
 - a) Elements are tasked to conduct an engineer reconnaissance of a designated area, usually engineers or scouts with engineer augmentation.
 - b) Reconnaissance objectives (main supply route, obstacles locations, general trafficability, etc.) are established.

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- c) Reconnaissance methods (route, zone, area reconnaissance) are determined based on objectives, time, and assets available.
 - d) Focus is on obstacle orientation, construction, composition, type of mines and fortifications used, etc.
 - e) Reports are checked to ensure essential information is recorded and terrain analysis, overlay and estimates are updated.
 - f) See CCF 1, Conduct Intelligence Planning; CCF 2, Collect Information; CCF 23, Provide Countermobility; CCF 24, Enhance Physical Protection.
- c. Fire Support.
- 1) Develop fire support plan (MTP 71-2, Task 7-1-3907-1,2, 3908-4, 3911-1; FM 71-2, Chap 6; FM 71-123, Chap 7; FM 3-100, Chap 3).
 - a) Fires are planned throughout the TF sector to support movement, reconnaissance, counter reconnaissance, surveillance, obstacles and obstacle passage, and subordinate unit missions.
 - b) Indirect fire plan addresses priority of fires, targets of concern and priority targets.
 - c) Artillery and mortar delivered smoke are planned for obscuration and screening requirements.
 - d) Priorities and control measures are established for use of smoke at obstacles.
 - e) FASCAM targets are planned in conjunction with the TF engineer.
 - f) Passive and active air defense measures are developed to neutralize effects of expected hostile air action based on IPB.
 - g) See CCF 7, Employ Mortars; CCF 8, Employ Field Artillery; CCF 9, Employ Close Air Support; CCF 15, Coordinate, Synchronize, and Integrate Fire Support; CCF 16, Take Active Air Defense Measures.
- d. Combat Service Support.
- 1) Determine CSS requirements * (MTP 71-2, Task 7-1-3002-3,5,8, 3912-1, 3913-5; FM 71-2, Chap 7, App C).
 - a) The required quantities of Class III, IV, V, VII, and IX supplies are determined (both normal supplies and engineer specific).
 - b) Additional supply of Class V required for suppression and obscuration missions is considered.
 - c) The established supply priorities comply with the commander's intent.
 - d) Transportation priorities are established for supply and equipment requirements, (such as mine rollers).

- 2) Update combat status (MTP 71-2, Task 7-1-3912-1; FM 71-2, Chap. 7).
 - a) The commander and staff are provided an accurate combat status of the logistical, personnel, maintenance and transportation services situation.
 - b) The update provides the status, and any limitations that impact on the mission, of personnel strengths; weapons systems; vehicles; Class III, V, and IX; and maintenance and transportation capabilities.
- 3) See CCF 28, Provide Transport Services; CCF 29, Conduct Supply Operations; CCF 30, Provide Personnel Services; CCF 31, Maintain Weapons Systems and Equipment.
7. **Staff Develops Course of Action** (MTP 71-2, Task 7-1-3901/4; FM 101-5, Chap 4; FM 71-123)

See CCF 18, Plan for Combat Operations.

8. **Staff/CDR Analyze Course of Action** (MTP 71-2, Task 7-1-3901/4; FM 101-5, Chap 4)
 - a. Plan scheme of maneuver * (FM 71-2, Chap. 3,4; FM 71-123, Chap. 3,4,5,6; FM 5-100, Chap. 6,7; FM 90-13-1, Chap. 4; AMTP 71-2, Task 7-1-3901-7, 3902-8).
 - 1) Defense - Defend, delay, withdrawal, rearward passage of lines.
 - a) A coordinated movement sequence is developed for the covering force battle handover, movement to supplementary positions, positioning counterattack force, movement of reserve force, withdrawal of units, and rearward passage/movement to assembly areas.
 - b) Routes are identified and physical reconnaissance conducted.
 - c) Critical engineer tasks are identified early.
 - d) Obstacle placement and execution provides for friendly mobility/ movement in spoiling and counterattacks.
 - 2) Offense - Attack, movement to contact, breakout.
 - a) A coordinated movement sequence is developed, routes are identified for movement and positioning of maneuver forces from line of departure through actions on final objective, and reconnaissance conducted to identify natural and reinforcing obstacles.
 - b) Known and expected obstacle locations are identified; criteria established for bypass or in-stride breach is established.
 - c) For deliberate breach: support, breach, and assault forces and their separate actions at the obstacle are identified.
 - d) Smoke/obscuration plan developed integrating FA, smoke platoon and maneuver unit organic smoke generating capabilities.

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- e) Engineers are integrated into maneuver formations forward to maintain momentum, with bulk of mobility assets with the breach force.
 - f) Includes emplacement of obstacles and mines to protect flanks and block counterattacks.
- 3) Maneuver control measures are developed to delineate the task force scheme of maneuver.
- a) Control measures support the brigade plan.
 - b) Maneuver restrictions are designated, locations of confirmed or suspected NBC contaminated areas are identified for all subordinate elements.
 - c) Measures to maintain proper task force orientation are designated.
 - d) Control measures (such as infiltration routes, direction of attack, company release points, assault position, probable line of deployment, limit of advance, enemy obstacles, intermediate and final objectives, line of departure) should coincide with specific, easily identifiable, terrain features whenever possible.
- 4) See CCF 5, Conduct Tactical Movement; CCF 6, Engage Enemy with Direct Fire and Maneuver; CCF 23, Provide Countermobility.
- b. Organize for combat * (FM 71-2, Chap 3; FM 5-100, Chap 6; MTP 71-2, Task 7-1-3901-9).
- 1) The task force combat and combat support power are tailored to accomplish the mission. Task force executes changes in task organization.
 - 2) TF identifies breaching requirement, designates and task organizes for support, breach and assault forces.
 - 3) Engineer unit and equipment is task organized to support the appropriate force (breach or assault).
 - 4) TF organic breaching equipment (plows, rollers, etc.) is task organized (redistributed) to insure necessary equipment is with appropriate element.
 - 5) Support force is organized with appropriate ADA, FA, and mortar assets to complete mission.
 - 6) CP coordinates linkup location, time, and responsible element.
 - 7) Attachments/detachments reach linkup points at designated time and place.
 - 8) Attachments are received; updated on current situation, OPORDs, SOIs; and resupplied.
 - 9) Engineers are placed well forward in attack formations and are organized to facilitate quick transitions for subsequent missions.
- c. Establish engineer priority of effort * (FM 71-2, Chap 4; FM 5-101, Chap 3; MTP 71-2, Task 7-1-3009-1).

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- 1) A list of priority tasks for the task force engineering effort is delegated to the engineer and maneuver elements.
 - 2) Priorities are established for specific mobility, countermobility, survivability and general engineering tasks.
 - 3) Command and support relationships are delineated for the engineer effort.
 - 4) See CCF 23, Provide Countermobility; CCF 24, Enhance Physical Protection.
- d. Plan mobility operations (FM 71-2, Chap.3; FM 5-101; FM 90-13, Chap 6, App A; MTP 71-2, Task 7-1-3005-1, 3027-2, 3903-3,4, 3909-4).
- 1) The plan identifies the methods and resources required for the neutralization of obstacles located within the task force's route of movement.
 - 2) The mobility plan is consistent with the IPB product, the scheme of maneuver, terrain conditions and results of recon activities.
 - 3) The engineer battlefield assessment and engineer estimate are incorporated.
 - 4) Appropriate mobility missions are assigned to engineer forces and to maneuver Co/Tms.
 - 5) The engineer element and equipment and TF organic equipment (rollers, plows, etc.) is task organized to accomplish its assigned mission.
 - 6) Forces are organized, and commanders identified, to provide a support force, a breaching force, and an assault force.
 - 7) Plan specifically addresses requirements for crossing obstacles, minefields, wet or dry gaps, and for repair/construction of combat roads and trails.
 - 8) Specific provisions are made for acquisition/preparation of crossing/breaching assets; detection, identification and reconnaissance of obstacles; analysis of bypass/breach decision; and breach/crossing operation, reduction, marking and reporting.
 - 9) Engineer execution matrix and synchronization matrix are provided.
 - 10) See CCF 5, Conduct Tactical Movement; CCF 23, Provide Countermobility.
- e. Plan actions on the objective * (FM 90-13-1, Chap 2).
- 1) Commander's decision on how the objective must be attacked to accomplish the mission is critical to successful breach planning.
 - 2) Planned actions on the objective drive where and how task force breach is executed.
 - 3) See CCF 6, Engage Enemy with Direct Fire and Maneuver.
- f. Plan FASCAM employment * (FM 71-2, Chap. 6; FM 5-100, Chap.4; AMTP 71-2, Task 7-1-3908-4).

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- 1) The plan is collectively developed by the S-3, engineer, and fire support officer and FASCAM use is integrated into the scheme of maneuver and fire support planning.
 - 2) Planned employment anticipates enemy movement and delays, disrupts, or canalizes enemy into preferred avenues of approach/ engagement areas.
 - 3) FASCAM reinforces existing obstacles, covers terrain impractical for emplacing conventional mines, is used to enhance flank security, and prevents enemy reinforcement and repositioning by isolating/blocking/slowing enemy elements.
 - 4) See CCF 8, Employ Field Artillery; CCF 23, Provide Countermobility.
- g. Plan for NBC operations (FM 3-3, Chap 1; FM 3-4, Chap 2; FM 3-100, Chap 4,7,10,11; MTP 71-2, Task 7-1-3902-7).
- 1) NBC section plans and coordinates NBC defense and smoke operations; provides NBC and smoke information for estimates, such as NBC threat analysis, NBC posture/capabilities, area analysis for smoke use (enemy and friendly), recommended MOPP levels and troop safety, etc.
 - 2) The plan includes provisions for reconnaissance, detection, alarms/signals, warning, reporting, marking, monitoring, and bypassing to avoid enemy NBC contaminated areas.
 - 3) See CCF 23, Provide Countermobility; CCF 27, Provide Decontamination.
9. **Staff Compares Courses of Action** (FM 101-5, Chap 4)
See CCF 18, Plan for Combat Operations.
10. **Commander Announces Decision** (FM 101-5, Chap 4)
See CCF 18, Plan for Combat Operations.
11. **Staff Prepares OPORD/FRAGO** (MTP 71-2, Task 7-1-3901/5; FM 101-5, Chap 4)
See CCF 18, Plan for Combat Operations.
12. **Issue the OPORD/FRAGO** (MTP 71-2, Task 7-1-3901/7; FM 101-5, Chap 4)
(FM 71-2, App B; FM 71-123, Chap 1; MTP 71-2, Task 7-1-3902-8, 3904-11)
- a. Subordinate commanders, leaders and staff are briefed on their respective maneuver, breaching, coordination, and support responsibilities necessary for mission accomplishment.
 - b. Subordinate commanders and leaders are briefed on their priorities for engineer support.
13. **Refine the Plan** (MTP 71-2, Task 7-1-3901/8; FM 101-5, Chap 4)
- a. Subordinate commanders develop their plans, identify support requirements, evaluate engineer support available, and report shortfalls to task force.

14. **Perform Reconnaissance and Surveillance** (FM 71-2, Chap 3; FM 34-2-1; FM 3-4, Chap 3; MTP 71-2, Task 7-1-3002-3, 3007-1, 3008-1, 3027-1, 3905-2, 3906-4,5, 3909-2)
 - a. Reconnaissance is initiated by the task force to identify, locate, confirm, and monitor enemy activities; combat information is reported to higher and adjacent headquarters.
 - b. Reconnaissance is conducted on routes and avenues over which TF movement is planned.
 - c. Obstacles and contaminated areas affecting unit operations are detected, identified, marked and reported.
 - d. Suitable sites for smoke operations and supporting units are located.
 - e. Obstacle locations, bypass routes, preplanned breach locations, and enemy composition and disposition at the obstacle is confirmed by the scouts prior to TF approach.
 - f. Obstacle reconnaissance is conducted.
 - g. Assets are reallocated as necessary to gain additional information or to acquire information not initially acquired due to asset loss.
 - h. See CCF 2, Collect Information; CCF 3, Process Information; CCF 4, Disseminate Intelligence.
15. **Perform Counter Reconnaissance Actions** (FM 71-2, Chap 4; MTP 71-2, Task 7-1-3905-4, 3028-2,3, 3909-3)
 - a. Task force initiates actions to defeat, disrupt or deny enemy reconnaissance activities.
 - 1) Security is established early and well forward.
 - 2) Security forces to front, flanks, and rear are properly utilized.
 - b. Company/Teams and subordinate units employ local security.
 - c. See CCF 6, Engage Enemy with Direct Fire and Maneuver; CCF 19, Direct and Lead Unit During Preparation for the Battle; CCF 25, Provide Operations Security.
16. **Maintain Operations Security** (FM 71-2, Chap. 2; MTP 71-2, Task 7-1-3028)
 - a. Task Force.
 - 1) The task force performs countersurveillance/counterreconnaissance activities to deny enemy information on position locations and construction.
 - 2) The task force employs passive security measures such as covering/removing vehicle markings, camouflage, concealment, position security, noise and light discipline, operating during limited visibility, and challenge and password, etc.
 - 3) Movement and/or position preparation is hidden from visual observation.
 - 4) Subordinate unit local security measures are coordinated at task force level to insure full coverage.

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- 5) See CCF 25, Provide Operations Security.
- b. Company/Team operations security (MTP 71-1, Task 17-2-0201; FM 71-123, Chap; FM 71-1, Chap 2).
- 1) The integrity and security of the company area of operations is protected.
 - 2) The company performs countersurveillance activities.
 - 3) Information security and deception activities are performed; vehicle markings are covered; and camouflage, concealment, position security, and noise and light discipline are maintained.
 - 4) Mission preparation is hidden from visual observation to deny the enemy information about company intentions.
 - 5) See CCF 25, Provide Operations Security.

OVERCOME OBSTACLES PREPARATION TASK LIST

See CCF 19 for a detailed analysis of command and control of the preparation process and all preparation tasks. Key input/output and products of the process critical for CCF 21 are listed at pages 22 through 23. Preparation tasks 17 through 25 identified in this list are the CCF 19 tasks. The additional tasks and the subordinate tasks identified are those tasks considered by the analyst to be critical to successful preparation for overcoming obstacles. Tasks are not necessarily listed in chronological order. Some tasks are performed concurrently and/or at different echelons in the task force. The chronological or sequential relationship of the tasks is shown in the charts at pages 12-14. Critical tasks that are performed at levels below task force are also listed as sub-paragraphs of the task force tasks and are sub-titled as "Company/team", "Platoon", or "Engineer company" tasks. Only company and platoon tasks considered critical to task force success are listed. References are shown in parenthesis (..) after the task title. Titles not taken directly from the MTP are marked with an asterisk (*). (See note on page 30.)

17. **Command Group Conducts and Receives Briefings**

- a. Conduct briefbacks (FM 71-2, Chap 2; FM 71-123, Chap 2; MTP 71-2, Task 7-1-3901-7, 3903-2; FM 71-1, Chap 2; MTP 71-1, Task 17-2-0101).
 - 1) The sequence of mission events, combat and support responsibilities, and command relationships are briefed by subordinate commanders and leaders down to platoon level.
 - 2) Subordinate leaders demonstrate an understanding of their respective mobility, movement, and security responsibilities.
 - 3) Priorities and schedules for mobility/counter mobility activities, preparations and rehearsals are confirmed and verified.
- b. See CCF 19, Direct and Lead Units During Preparation for Battle.

18. **Command Group/Command Posts Monitor, Supervise, and Direct Execution of Force Protection Operations and Activities**

See CCF 19, Direct and Lead Units During Preparation for Battle.

19. **Command Group/Command Posts Monitor, Supervise, and Direct TF Mission Preparation**

See CCF 19, Direct and Lead Units During Preparation for Battle.

20. **Commander, Commander's Representatives, and Staff Conduct Inspections and Visits**

- a. Conduct pre-combat checks * (MTP 71-1, Task 17-2-0101-11; MTP 5-145-31, Task 05-2-0114; MTP 7-8, Task 7-3/4-1046-5; MTP 17-237-10, Task 17-3-0102).
 - 1) The operational readiness of company/team is confirmed.
 - 2) Maintenance readiness of weapon systems, combat vehicles, mission essential equipment and communications is confirmed.

- 3) Material readiness of ammunition, fuel, breaching and marking equipment is confirmed.
- 4) Personnel readiness of uniform and equipment, accountability, camouflage, and knowledge of mission and responsibilities is confirmed.
- 5) Mission essential equipment prepared and checked, with special emphasis on checking breaching and marking equipment.
- 6) See CCF 19, Direct and Lead Unit During Preparation for the Battle.

21. **Task Force Conducts Rehearsals** (FM 71-2, Chap 2; FM 71-123, Chap 2; FM 90-13-1, App D; MTP 71-2, Task 7-1-3901-7, 3024-7)

a. Conduct rehearsals.

- 1) Rehearsals generally fall into three categories or types: rock drill, walk through, and full scale. Participation varies from commander and key staff/leaders to the entire unit.
- 2) Rehearse breaching operations.
 - a) The timing and coordination for each separate counter obstacle activity is practiced by all participating elements.
 - b) For a deliberate breach, support, breach and assault forces are designated and each co/tm rehearses its individual force mission prior to the task force rehearsal. In stride breaches are conducted and rehearsed at the company/team level.
 - c) Rehearsal must insure forces are prepared to suppress enemy positions, obscure enemy observation of breach site, reduce the obstacle, and assault enemy forces beyond the obstacle.
 - d) Task force elements identified as the support force have responsibilities fixed for overwatch, suppression of enemy overwatch, far side security by direct and indirect fires, and control of obscuration to isolate to breach area.
 - e) Task force elements identified as the breach force have responsibilities fixed for near side security and security of the breach site, possible obscuration of breaching operation, reduction or neutralization of obstacles, providing guides, and marking and improving of breach lanes.
 - f) Task force elements identified as the assault force have responsibilities fixed to assault and dislodge or destroy enemy forces on far side of obstacle, assist support force in suppression, and assist breach force, as required.
 - g) Engineers, dismounted and mounted security elements, fire support elements (including ADA and CAS), direct fire suppression elements, obstacle reduction element, and obscuration elements/smoke assets rehearse/practice their responsibilities as to the conduct of the breaching operation.
 - h) The task force breaching plan is adjusted based on rehearsal feedback.

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- 3) Rehearse evacuation.
 - a) The locations of task force evacuation routes and collection points are known by all members of the task force.
 - b) Task force members know the location of the designated routes for personnel evacuation, personnel collection points, and decontamination points.
 - c) Task force vehicle crew members and maintenance personnel know the location of the MSR, vehicle recovery routes and maintenance collection points.
 - d) Members of the task force know the task force criteria for evacuation of personnel casualties, and combat, combat support, and combat service support vehicles.
 - 4) Rehearse fire support plan.
 - a) Fire support plan is verified with fire support assets.
 - b) Communications are established with indirect fire support assets.
 - c) Subordinate combat elements demonstrate an understanding of the signals for lifting and shifting of fires at the breach site.
 - 5) Rehearse reactions to enemy air.
 - a) Identification, engagement, and fire control measures are rehearsed.
 - 6) See CCF 19, Direct and Lead Unit During Preparation for the Battle.
- b. Company/team conducts rehearsals (MTP 71-1, Task 17-2-0101-11, FM 71-1, Chap 2).
- 1) Events critical to mission accomplishment are practiced in accordance with available time and designated priorities.
 - 2) Rehearse breaching operations.
 - a) The timing and coordination of all aspects of the breaching effort, to include bypassing the obstacle, are practiced.
 - b) Support, breach, or assault tasks are rehearsed depending on mission assigned for task force deliberate breach.
 - c) Support, breach and assault forces are designated from within the company for in-stride breach.
 - d) Support force rehearses the sequence and timing of suppression fires, obscuration fires, and supporting fires.
 - e) Breach force rehearses the sequence and timing of reduction drills, security drills, marking of lanes and gaps.

- f) Assault force rehearses the sequence and timing of movement through lanes and gaps, and assault the objective.
- c. Engineer company conducts rehearsals (FM 90-13-1, Chap. 2,4, App. D; AMTP 5-145-31, Task 05-2-0114-1,2).
 - 1) Designated engineer support links up with TF assault and breach forces.
 - 2) Detailed rehearsals conducted with task organized forces for support, breach and assault.
 - 3) Engineers construct a practice obstacle system for breach rehearsals.

22. Task Force Plan Modified and Refined

- a. Verify IPB product * (FM 71-2, Chap 2; FM 34-3 Chap 4).
 - 1) Available assets are used to determine enemy disposition, capabilities, and probable courses of action.
 - 2) The enemy situation template is verified and/or updated.
 - 3) Enemy capabilities and dispositions are verified (location of positions, obstacles, contaminated areas, reserves, etc.).
 - 4) Enemy strengths and weaknesses are determined.
 - 5) Probable enemy courses of action are determined.
 - 6) See CCF 2, Collect Information; CCF 3, Process Information.
- b. Disseminate intelligence and combat information * (FM 71-2, Chap 2; FM 3-100, Chap 3; MTP 71-2, Task 7-1-3906-7, 3905-3).
 - 1) Subordinate elements are aware of current enemy situation within their area of responsibilities.
 - 2) Subordinate elements are aware of the friendly situation for higher, adjacent, and lower units.
 - 3) See CCF 4, Disseminate Intelligence.
- c. Disseminate fire support plan * (FM 71-2, Chap. 6; AMTP 71-2, Task 7-1-3907-3).
 - 1) Distribution is made to task force maneuver and fire support elements.
 - 2) Company FIST elements and task force leaders down to platoon level are in possession of a current copy of the fire support plan/target lists and FA fire units/mortars frequencies.
 - 3) The ALO element, direct support artillery FDC, mortar FDC, and brigade FSO/FSE all have a current copy of the fire support plan.

- 4) See CCF 7, Employ Mortars; CCF 8, Employ Field Artillery; CCF 9, Employ Close Air Support; CCF 15, Coordinate, Synchronize, and Integrate Fire Support; CCF 16, Take Active Air Defense Measures.

23. Command Post (TAC, TOC, CTCP) Operations

See CCF 19, Direct and Lead Units During Preparation for Battle.

24. Liaison and Coordination with Higher, Adjacent, Supported, and Supporting Elements

- a. Establish contact and coordinate plans with adjacent units * (MTP 71-2, Task 7-1-3901, 3902).
 - 1) Two-way communication and liaison is established with units to the task force front and flanks, and plans are coordinated and/or exchanged.
 - 2) The task force establishes two-way communication with adjacent units.
 - 3) Adjacent units are knowledgeable of the task force maneuver and fire support plans and are prepared to provide and/or receive mutual support.
 - 4) The following information and plans are coordinated and exchanged:
 - a) Task force mission.
 - b) Scheme of maneuver.
 - c) Supporting fires plans.
 - d) Control measures delineating mutual boundaries.
 - e) Mutual support roles and responsibilities.
 - f) Movement routes into and out of the task force area of operation are designated.
 - 5) Adjacent unit graphics are posted in the TF TOC.
 - 6) See CCF 19, Direct and Lead Unit During Preparation for the Battle.
- b. Company/team coordination (FM 71-1, Chap. 2; MTP 71-1, Task 17-2-0101-11).
 - 1) Intervisibility is effected with adjacent units.
 - 2) Contact is made with lateral and forward units and with supporting elements.
 - 3) Essential battle information is exchanged and the following are accomplished:
 - a) Coordinate passage of lines.
 - b) Exchange fire plans.
 - c) Exchange maneuver graphics.
 - d) Coordinate mutual support.
 - e) Exchange CEOI information.

25. Command Group/Command Posts Position to Control the Battle

See CCF 19, Direct and Lead Units During Preparation for Battle.

26. **Company/Teams Prepare for Combat** (MTP 71-1, Task 17-2-0101; FM 71-123)
- a. Receive and analyze mission (FM 71-123, Chap. 1; MTP 71-1, Task 17-2-0101-2; FM 71-1, Chap 2).
 - b. Issue warning order (FM 71-123, Chap. 1; MTP 71-, 17-2-0101-3; FM 71-1, Chap 2).
 - c. Make a tentative plan (FM 71-123, Chap 1; MTP 71-1, Task 17-2-0101-5,6; FM 71-1, Chap 2).
 - d. Initiate movement to task organize and position forces.
 - e. Conduct reconnaissance (FM 71-1, Chap. 2; MTP 71-1, Task 17-2-0101-8).
 - f. Complete plan and issue OPORD (MTP 71-1, Task 17-2-0101-9,10; FM 71-123, Chap 1; FM 71-1, Chap 2).
 - g. Identify CSS requirements, plan and conduct sustainment operations (MTP 71-1, Task 17-2-0101-12, 0701, 0702, 0703).
 - h. Conduct rehearsals (MTP 71-1, Task 17-2-0101-11; FM 71-1, Chap 2).
 - i. Supervise preparation and conduct coordination (MTP 17-2-0101-11, FM 71-1, Chap 2).
 - j. See CCF 05, Conduct Tactical Movement.
27. **Company/team Plans Mobility Operations** (FM 71-1, Chap. 3; AMTP 71-1, Task 17-2-0501)
- a. Forces are organized to neutralize obstacles and conduct an in-stride breach to maintain task force momentum.
 - b. Appropriate breaching locations are identified.
 - c. Plans are developed to provide for the following:
 - 1) Suppression, obscuration, and security of obstacle site.
 - 2) Neutralization or reduction of obstacle.
 - 3) Control of passage through gap.
 - d. Forces are organized, and commanders identified, to provide a support force, a breaching force, and an assault force.
 - e. Company/team may be designated a support, breach or assault force for a task force deliberate breach. Plans required to support each of those missions, if assigned.
28. **Engineer Company Plans Mobility Operations** (FM 90-13-1, Chap. 3,4; AMTP 5-145-31, Task 05-2-0114)
- a. Forces are organized to support/assist company/team breaching operation.

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- b. Personnel and equipment task organized into the support, breach, or assault forces and are integrated into the combat formations.
 - c. Required engineer Class III (fog oil), IV and V identified and requested.
 - d. Preparations made to recon enemy obstacle and identify best locations to bypass or breach.
29. **Conduct an Engineer Reconnaissance** (FM 5-101, Chap 4,5,6; MTP 71-2, Task 7-1-3902-5; MTP 5-145-31, Task 05-2-0410; MTP 5-145-11, Task 05-4-0407)
- a. Selected units (engineer or scouts) reconnoiter the designated areas and provide detailed information about:
 - 1) Special features and structures in the area (obstacles, barriers to movement, water points, equipment, etc.).
 - 2) Roads, trails, and routes (width, surface, bridges, clearance, tunnels, fords, etc.).
 - 3) Geographical locations and critical terrain features.
 - b. See CCF 2, Collect Information; CCF 23, Provide Countermobility; CCF 24, Enhance Physical Protection.
30. **Conduct a River/Gap Crossing Site Reconnaissance** (FM 5-101, Chap 6; FM 90-13, Chap 2,6; MTP 71-2, Task 7-1-3005-2; MTP 5-145-11, Task 05-4-0404)
- a. Selected unit (usually engineer or scouts with engineer augmentation) conducts river/gap reconnaissance and identifies crossing sites with access and egress routes that can support ongoing combat operations.
 - b. Recon teams are designated to recon both far and near sides (emphasis on far side/shore).
 - c. Access and egress routes are located and checked for overhead obstructions, roadway width, gradients, sharp curves, surface conditions, and existing obstacles.
 - d. River/gap is checked for width, depth, bottom conditions and profile, bank height and slope, soil conditions and consistency, reinforcing obstacles, and, for rivers, the water velocity.
 - e. Surrounding area is checked for covered and concealed assembly areas, fighting positions for supporting weapons, fighting positions on far side after foothold gained, and positions that give the enemy observation or fires on the crossing site.
 - f. See CCF 2, Collect Information.
31. **Conduct Enemy Obstacle Reconnaissance** (MTP 71-2, Task 7-1-3027-1, 3902-5, 3909-2; FM 90-13-1, Chap 2,3,4; MTP 5-145-11, Task 05-4-0411)
- a. Selected element (usually engineer or scouts with engineer augmentation) conducts reconnaissance of suspected or reported enemy obstacle location and determines the following:
 - 1) All obstacles are found.

- 2) Obstacle bypass routes or gaps in obstacle.
 - 3) Specific locations, orientation and dimensions of obstacles.
 - 4) Type obstacle and presence of anti-personnel mines or wire.
 - 5) Composition and construction of obstacle.
 - 6) Composition and location of enemy overwatching forces.
 - 7) Amount of cover and concealment on routes and approaches.
 - 8) Best places to breach, identified by terrain feature.
 - 9) Additional equipment/asset requirements for breaching.
 - 10) Assault position for breach force.
 - 11) Good overwatch and support by fire positions.
 - 12) Specific ways security force can bypass before breach occurs.
- b. See CCF 2, Collect Information; CCF 22, Enhance Movement.

32. Position Forces *

- a. Position engineer elements * (FM 71-2, Chap 6; FM 5-100, Chap 6,7; MTP 71-2, Task 7-1-3004-1; MTP 5-145-31, Task 05-2-0114).
- 1) The engineer task organization is tailored to meet adjusted priorities.
 - 2) Engineers are positioned to accomplish their assigned mission.
 - 3) Task organization occurs as soon as possible after the OPORD is issued.
 - 4) Company/team positions engineers (FM 71-1, Chap. 6).
 - a) The company commander ensures the integration of supporting engineer elements into the company effort, consistent with their assigned responsibilities and priorities.
 - b) The company commander ensures that supporting elements are knowledgeable of the scheme of maneuver, correct positioning, their maneuver responsibilities, and their priority of effort.
 - 5) See CCF 23, Provide Countermobility; CCF 24, Enhance Physical Protection.
- b. Position air defense elements * (FM 71-2, Chap 6; MTP 71-2, Task 7-1-3004-1, 3005-1, 3911-4).
- 1) Air defense elements are linked up with their assigned task force elements, positioned, and critical/vulnerable elements are protected.
 - 2) Two-way communication is established between air defense elements and supported task force elements.

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- 3) Air defense elements have a current copy of the task force operations graphics, the scheme of maneuver and concept for supporting fires.
 - 4) Command relationships for air defense elements are confirmed.
 - 5) Air defense elements are repositioned in compliance with their newly assigned priorities so they are able to protect crossing/breaching sites.
 - 6) See CCF 16, Take Active Air Defense Measures.
33. **Assemble and Prepare Breaching Equipment** * (FM 90-13-1, Chap 3,4; MTP 5-145-31, Task 05-2-0114-1,2)
- a. Required equipment is identified, assembled if necessary, and checked for serviceability.
 - b. Augmentation of the task force with combat engineer vehicles (CEVs), armored vehicle launched bridges (AVLBs), and mine clearing line charges (MCLICs) is requested, if necessary.
 - c. Armor units assemble, check and install mine clearing blades (MCBs), mine clearing rollers (MCRs), and cleared lane marking systems (CLAMSs).
 - d. See CCF 19, Direct and Lead Unit During Preparation for the Battle; CCF 28, Provide Transport Services; CCF 29, Conduct Supply Operations; CCF 31, Maintain Weapons Systems and Equipment.
34. **Perform Combat Service Support Operations** (FM 71-2, Chap. 7; FM 71-123, App. A; MTP 71-2, Task 7-1-3912)
- a. Conduct resupply of Task Force elements. LOGPAC configuration and distribution ensures:
 - 1) Maneuver companies, separate platoons, and nonorganic support elements are in receipt of full basic loads of required Class III and V.
 - 2) Organic and nonorganic task force elements receive adequate resupply of Class IV, and IX.
 - 3) Additional requirements for Class V to support suppression and obscuration missions is considered.
 - 4) Class IV and engineer Class V is distributed in compliance with execution matrix or established priorities, and is delivered to the correct unit, at the correct location, on time.
 - b. Conduct maintenance activities.
 - 1) TOC tracks status, and prioritizes repair, of engineer and organic breaching assets (plows, rollers, etc.) and weapons systems.
 - 2) The repair of engineer/combat vehicles is performed as far forward as the situation allows.
 - 3) Vehicle recovery operations conform with established procedures.

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- 4) The unit maintenance collection point accomplishes recovery and repair.
 - c. Position and operate task force trains.
 - 1) The combat trains remain within effective supporting distance of the maneuver elements.
 - 2) The combat trains are positioned in an area which effectively supports cover and concealment, facilitates movement, and facilitates communications.
 - 3) The trains move as required to maintain positioning for continuous responsive support.
 - d. Prepare for emergency resupply * (FM 71-2, Chap 7; FM 3-100, Chap 2; FM 3-101, App B; MTP 71-2 Task 7-1-3912-3).
 - 1) Adequate quantities of Class III and V are positioned for immediate distribution to the maneuver elements, organic and nonorganic.
 - 2) Class III is packaged for immediate use (fuel tankers filled and operational), positioned for ready access, and protected from destruction or contamination.
 - 3) Class V is packaged for immediate use, positioned for ready access, and protected from destruction or contamination.
 - f. See CCF 19, Direct and Lead Unit During Preparation for the Battle; CCF 28, Provide Transport Services; CCF 29, Conduct Supply Operations; CCF 31, Maintain Weapons Systems and Equipment; CCF 33, Treat and Evacuate Battlefield Casualties.
35. **Prepare for NBC Operations** * (FM 71-2, App. E; MTP 71-2, Task 7-1-3910-1,2,3,7)
- a. Task force elements are prepared to quickly implement NBC protective measures and are aware of the NBC threat, location of contaminated areas, and their NBC responsibilities. The task force accomplishes:
 - 1) Rehearsal of NBC procedures.
 - 2) The operational readiness status of all task force NBC equipment is verified.
 - 3) Subordinate units emplace chemical alarms and monitoring equipment, collect and report NBC information, contaminated areas within the task force's area of operation are identified and marked.
 - 4) TF consolidates and forwards NBC reports to higher and the locations of identified contaminated areas are disseminated to all subordinate elements.
 - 5) The effects of contaminated areas are estimated and downwind hazard information is calculated and disseminated.
 - 6) Chemical/biological monitoring and survey requirements are determined, NBC recon is coordinated.
 - 7) Platoon radiation status charts are screened for possible overexposure.

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- b. The chemical officer predicts the potential effects of nuclear weapons employment for both friendly forces and enemy forces.
- c. Recommendations, resulting from a nuclear vulnerability analysis, indicate task force actions for a reduction of unacceptable vulnerabilities.
- d. Automatic masking criteria is established and commander's guidance on operating in a contaminated environment is disseminated.
- e. See CCF 27, Provide Decontamination.

OVERCOME OBSTACLES EXECUTION TASK LIST

See CCF 20 for a detailed analysis of command and control of the execution phase and all execution tasks. Key input/output and products of the process critical for CCF 21 are listed at pages 22 through 23. Execution tasks 36 through 41 identified in this list are the CCF 20 tasks. The additional tasks and the subordinate tasks identified are those tasks considered by the analyst to be critical to successful execution of actions to overcome obstacles. Tasks are not necessarily listed in chronological order. Some tasks are performed concurrently and/or at different echelons in the task force. The chronological or sequential relationship of the tasks is shown in the charts at pages 12-14. Critical tasks that are performed at levels below task force are also listed as sub-paragraphs of the task force tasks and are sub-titled as "Company/team", "Platoon", or "Engineer company" tasks. Only company and platoon tasks considered critical to task force success are listed. References are shown in parenthesis (..) after the task title. Titles not taken directly from the MTP are marked with an asterisk (*). (See note on page 30.)

- 36. TF Command Posts Locate Where They Can Control the Battle** (MTP 71-2, Task 7-1-3902)
- a. Position command element/TOC * (FM 71-2, Chap 2; MTP 71-2, Task 7-1-3901-11, 3903-1, 3904-1, 14).
 - 1) The command group, Tactical Command Post (TACP), and TOC are correctly positioned on terrain that facilitates security, cover and concealment (hasty or prepared protective positions), observation of battle area, and communications. Elements of the command group are positioned to oversee the breach site/operation.
 - 2) The combat trains command post (CTCP) is positioned to maintain the same communications as the TOC and is prepared to function as the TOC if required.
 - 3) See CCF 20, Direct and Lead Unit in Execution of Battle.
 - b. Maintain communications (FM 71-2, Chap 2; MTP 71-2, Task 7-1-3401, 3902-1).
 - 1) Communication is maintained on the following nets between appropriate task force elements:
 - a) Command net.
 - b) Operations and intelligence net.
 - c) Administration and logistics net.
 - d) Special nets.
 - 2) Elements take prompt action to restore lost communications.
 - 3) OPSEC considerations are applied to all electronic communications (procedures, encryption, transmission time, etc.).
 - 4) At least one command post (TACP, TOC, Alt CP) is always operational.
 - 5) See CCF 20, Direct and Lead Unit in Execution of Battle.

- c. Company/team commander positions (MTP 71-1, Task 17-2-0301-3; FM 71-1, Chap 2).
 - 1) The commander is able to see the activities of, and communicate with, subordinate forces.
 - 2) The commander knows the following information:
 - a) Location of enemy forces.
 - b) Enemy activities.
 - c) Location of friendly forces.
 - d) Friendly force activities.
 - e) Combat status of subordinate elements.

37. **TF Commander Sees the Battlefield** (MTP 71-2, Task 7-1-3901/11; FM 71-100, Chap 1)

See CCF 20, Direct and Lead Units in Execution of Battle

38. **TF Commander Directs and Leads the Execution Phase** (MTP 71-2, Task 7-1-3901/12; FM 71-100, Chap 1)

- a. Execute fire support (FM 3-100, Chap 3; MTP 71-2, Task 7-1-3027-2,5, 3907-3,4,5,6).
 - 1) Enemy NBC weapons and delivery systems are engaged.
 - 2) Fires stop or slow enemy movement and suppress enemy fires.
 - 3) Friendly supporting fires do not result in fratricide.
 - 4) Friendly forces are not silhouetted by friendly FA smoke.
 - 5) Fires are used to isolate breach site and enemy defenses, and shifted as necessary to respond to enemy actions and/or assault force progress.
 - 6) See CCF 6, Engage Enemy with Direct Fire and Maneuver; CCF 7, Employ Mortars; CCF 8, Employ Field Artillery; CCF 9, Employ Close Air Support; CCF 15, Coordinate, Synchronize, and Integrate Fire Support; CCF 16, Take Active Air Defense Measures.
- b. React to enemy air attack (FM 71-2, Chap 6; MTP 71-2, Task 7-1-3911-6; MTP 71-1, Task 44-2-C002-3,4).
 - 1) Enemy aircraft operating near or within the task force's area of operation are identified and their effects neutralized.
 - 2) No friendly aircraft are destroyed by task force air defense fires.
 - 3) Task force takes evasive action, dismounts ADA elements, and disperses as appropriate.
 - 4) See CCF 16, Take Active Air Defense Measures; CCF 17, Take Passive Air Defense Measures.

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- c. Employ FASCAM (FM 71-2, Chap. 6; FM 71-1, App. C; MTP 71-2, Task 7-1-3909-9; MTP 71-1, Task 17-2-1021-10, 0502).
 - 1) Scatterable mines are employed in accordance with the plan of execution and the commander's intent.
 - 2) FASCAM missions are executed at the prescribed time and/or event.
 - 3) FASCAM missions are positioned in front of or on enemy formations to disrupt movement.
 - 4) See CCF 23, Provide Countermobility.
 - d. Use screening fires * (FM 71-2, Chap. 6; MTP 71-2, Task 7-1-3004-5, 3027-5).
 - 1) The enemy force is unable to bring effective direct or indirect fires to bear on the task force maneuver elements.
 - 2) Indirect fire delivered smoke is integrated with obscuration from smoke platoon and maneuver unit smoke assets.
 - 3) Enemy is unable to correctly determine task force direction of attack.
 - 4) Unit distribution methods are required to supply smoke units with the Class III required to sustain smoke operations.
 - 5) See CCF 7, Employ Mortars; CCF 8, Employ Field Artillery; CCF 15, Coordinate, Synchronize, and Integrate Fire Support; CCF 28, Provide Transport Services; CCF 29, Conduct Supply Services.
 - e. Integrate fire support with scheme of maneuver (FM 71-2, Chap 6; MTP 71-2, Task 7-1-3027-2,5, 3907-4, 3908-4,5,7).
 - 1) Task force supporting fires conceal its movement, obscure the enemy's weapons systems, and suppress enemy's movement.
 - 2) Supporting fires, placed on the objective, eliminate the enemy's ability to place effective direct fire on support force, breaching elements, or assault force.
 - 3) Smoke fired in front of the enemy and between the enemy and the task force conceal task force movement, positioning, and breaching operation.
 - 4) Supporting fires, placed beyond and on the flanks of the objective, effectively prevent enemy movement into and out of the objective area and isolate enemy forces in vicinity of breach and planned assault.
 - 5) See CCF 15, Coordinate, Synchronize, and Integrate Fire Support.
39. **TF Command Posts Track and Support the Battle** (MTP 71-2, Task 7-1-3903/3, 3904/14; FM 71-123, Chap 1)
- a. Control air defense forces * (FM 71-2, Chap. 6; MTP 71-2, Task 7-1-3911-3, 7).
 - 1) Air defense elements are able to effectively respond to the tactical situation and the maneuver plan.

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- 2) Air defense forces maintain continuous contact with supported elements.
 - 3) Air defense forces react to the changing tactical situation.
 - 4) Air defense elements monitor the air warning net.
 - 5) Air defense element protects forces as they are massed during the breaching operation and as they pass through the defile created by the breached lane in the obstacle (usually under control of the support force).
 - 6) See CCF 16, Take Active Air Defense Measures; CCF 20 Direct and Lead Unit in Execution of Battle.
40. **TF Conducts Battlefield Update (METT-T based)** (MTP 71-2, Task 7-1-3902/3, 3906/1, 3913/5)
- a. Conduct battlefield update * (MTP 71-2, Task 7-1-3906-7).
 - 1) Maneuver commanders and leaders are given a current intelligence summary immediately prior to crossing the line of departure.
 - 2) See CCF 4, Disseminate Intelligence; CCF 19, Direct and Lead Unit During Preparation for the Battle.
41. **TF Conducts the Decision Making Process (Accelerated)** (FM 71-123, Chap 1)
- See CCF 20, Direct and Lead Units in Execution of Battle
42. **TF Consolidates and Reorganizes** (MTP 71-2, Task 7-1-3022, 3023)
- a. Consolidate and reorganize (FM 71-2, Chap 3; MTP 71-2, Task 7-1-3022, 3023; FM 90-13-1, Chap 4,5).
 - 1) Commander reorganizes forces after passage through obstacle to insure sufficient combat power to continue mission and assault objective.
 - 2) Breaching assets are redistributed to support follow-on forces in assault breaches.
 - 3) Improving lanes, clearing and marking minefield/obstacles is essential to facilitate movement and consolidate forces in objective area.
 - 4) See CCF 6, Engage Enemy with Direct Fire and Maneuver; CCF 20, Direct and Lead Unit in Execution of Battle.
 - b. Conduct emergency resupply * (FM 71-2, Chap 7; FM 3-101, App B; MTP 71-2, Task 7-1-3913-13).
 - 1) Required Class III and V are rapidly resupplied to requesting task force subordinate elements.
 - 2) There are no organic or non-organic task force elements unable to complete their assigned mission as a direct result of a shortage of Class III or V.
 - 3) See CCF 28, Provide Transport Services; CCF 29, Conduct Supply Operations.

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- c. Control and conduct evacuation (FM 71-2, Chap 7; MTP 71-2, Task 7-1-3033, 3912-5,6).
 - 1) Damaged vehicles and personnel casualties are displaced to the rear in accordance with established criteria and priorities.
 - 2) Personnel and casualty evacuation, and vehicle recovery and repair are controlled.
 - 3) Preparations are made to evacuate contaminated equipment and personnel from contaminated areas and to conduct maintenance and medical operations in MOPP in contaminated areas and/or with contaminated equipment, personnel, or casualties.
 - 4) Personnel and equipment evacuation assets are located to facilitate recovery or removal of injured personnel and damaged equipment from breach site/lanes.
 - 5) See CCF 28, Provide Transport Services; CCF 31, Maintain Weapons Systems and Equipment; CCF 33, Treat and Evacuate Battlefield Casualties.
- d. Comply with commander's intent (FM 71-2, Chap 2).
 - 1) Mission essential tasks are accomplished in accordance with planned operational concepts and modifications as directed by the commander.
 - 2) Unit combat effectiveness is maintained throughout the duration of the mission.
 - 3) The desired task outcomes are attained.

43. **Move Tactically** (FM 71-2, Chap. 3; MTP 71-2, Task 7-1-3004)

- a. Task Force.
 - 1) While moving forward of the LD, the task force is prepared for enemy contact.
 - 2) All-around security is maintained during movement and at halts, particularly to front.
 - 3) Terrain is used to mask movement, covered and concealed routes are identified/prepared between primary and alternate/supplementary positions.
 - 4) Fire support is used to mask movement and to suppress enemy forces.
 - 5) Elements maintain mutual support and an overwatch force is in position to support the lead element, which stays within 2/3 effective range of supporting fires.
 - 6) Initial contact with the enemy is made by task force security elements.
 - 7) Correct orientation is maintained by all units.
 - 8) Security element is able to determine enemy disposition, composition, and effects of obstacles.

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- 9) See CCF 5, Conduct Tactical Movement; CCF 6, Engage Enemy with Direct Fire and Maneuver; CCF 7, Employ Mortars; CCF 8, Employ Field Artillery; CCF 9, Employ Close Air Support; CCF 15, Coordinate, Synchronize, and Integrate Fire Support; CCF 16, Take Active Air Defense Measures.
- b. Company/team (FM 71-1, Chap 3; MTP 71-1, Task 17-2-0301).
- 1) Direction of movement is consistent with plans and orders; checkpoints are met on time.
 - 2) Appropriate movement formations and techniques are used; actions are taken at halts and at critical points to identify, locate, and occupy temporary, terrain enhanced, fighting or protective positions; and all-round security is maintained.
 - 3) Orientation is maintained; current location, location of suspected enemy positions, and location of adjacent units is known.
 - 4) Mutual support is provided by maintaining intervisibility between company elements, keeping elements within 2/3 maximum range of each other, and maintaining overwatch.
 - 5) Movement speed is consistent with keeping slower vehicles (AVLB, AVLM, tanks with plows or rollers, dozers, etc.) within responsive support time and distance.
44. **Perform NBC Operations** (FM 71-2, App. E; MTP 71-2, Task 7-1-3910-4,5,6,8,9, 3029)
- a. Task Force.
- 1) Enemy NBC attack is detected, avoided, reported, and a hasty decontamination of personnel and equipment is accomplished, based on combat situation and commander's guidance.
 - 2) The task force protects its forces from Nuclear weapons employment upon notification by using STRIKWARN messages, properly positioning and fixing vehicles, removing all radio antennas and RF cables and using protective positions.
 - 3) An accurate radiation history, by platoon, is maintained on task force personnel.
 - 4) The battalion control and assessment team is task organized to cope with NBC situation and the task force chemical officer ensures that the survey control parties are properly briefed.
 - 5) The task force marks, reports, disseminates location of, and avoids contaminated areas.
 - 6) The task force submits and responds to all NBC reports. NBCWRS is used to consolidate, analyze, and disseminate information on NBC hazards and activities.
 - 7) Effects of NBC hazards are estimated and chemical downwind hazard messages are prepared and sent.

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- 8) Subordinate units are given specific instructions (from Tac SOP) when TF receives nuclear or chemical attack warnings.
 - 9) Task force personnel comply with designated MOPP and initiate automatic masking when indicators such as enemy smoke/artillery/rockets are employed, chemical alarms are activated, detector paper changes color, aircraft spray, or chemical/biological symptoms are observed.
 - 10) Task force decontaminates by priority and IAW commander's guidance.
 - 11) See CCF 27, Provide Decontamination.
- b. Company/Team and Platoon (MTP 71-1, Task 03-2-C013; MTP 7-8, Task 7-3/4-1021-14)
- 1) Platoons employ the Automatic Chemical Agent Alarm System upwind from their positions.
 - 2) Automatic masking is done if alarm activates.
 - 3) Units report alarm detections to higher headquarters and perform other chemical detection and identification procedures, reporting results.
45. **Prepare Expedient Fords** (FM 5-101, Chap 6; MTP 5-145-11, Task 05-3-0603)
- a. Selected engineer element constructs an expedient ford at a specified site and for designated vehicle types and densities.
 - b. Suitability of site is determined based on water depth, current velocity, type bottom, slope and condition of banks, and trafficability of shore routes.
 - c. Unit establishes job site security and sweeps ford area for mines.
 - d. Unit constructs approaches to the ford with slopes appropriate for designated vehicles.
 - e. Unit prepares ford bottom by filling gaps and overlaying with limbs, brush or timbers.
 - f. Unit ensures ford is at least 6 meters wide and edges are marked across stream width.
46. **Construct Combat Roads and Trails** (FM 5-101, Chap 7; MTP 5-145-11, Task 05-2-0705)
- a. Selected engineer element constructs, or repairs existing, combat trail or road in designated area.
 - b. Worksite security is established.
 - c. Route is delineated and start/finish points established.
 - d. Route is cleared and grubbed as required (trees, shrubs stumps, etc. are removed).
 - e. Cuts and fills made to correct excessive grades and damage.

- f. Soil is compacted and stabilized as required.
 - g. Road width and expedient surfacing are in accordance with OPORD directive.
 - h. Roadside ditches, culverts and expedient fords constructed to provide drainage and avoid water damage to road.
47. **Perform Hasty River/Gap Crossing Operations** (FM 5-101, Chap 6; MTP 71-2, Task 7-1-3005-4,5,6)
- a. Task force crosses river or gap bridgeable by AVLBs and is able to continue combat operations.
 - b. Reconnaissance has determined that bypass is not possible.
 - c. Traffic control is established, air defense at site provided, and assault force and crossing assets positioned.
 - d. Advance guard secures near side, clears mines/obstacles at crossing site and prepares access route and entry location.
 - e. TF secures far side of river/gap, eliminating enemy direct and observed indirect fires and providing sufficient space for dispersion of forces as they cross.
 - f. TF obscures the crossing site from enemy visual contact with artillery and mortar delivered smoke and smoke units.
 - g. Egress points are improved/prepared and marked.
 - h. Crossing means provided by clearing/preparing ford, swimming amphibious vehicles, repairing existing bridge, employing AVLBs, or constructing rafts or bridges.
 - i. For dry gaps, CEVs, ACEs, or blade tanks are used to reduce banks and provide access and egress points.
 - j. Task force crosses in specified sequence, maintaining dispersion.
 - k. See CCF 5, Conduct Tactical Movement.
48. **Support a River Crossing Operation *** (FM 90-13, Chap 3; MTP 5-145-31, Task 05-2-0600)
- a. Task force, as part of a brigade unit conducting a deliberate river crossing, conducts one of the following:
 - 1) Assault crossing unit: Dismounts vehicles, organizes overwatch element with attached armor forces and dismounted infantry vehicles, organizes dismounted assault elements, and assaults across the river in engineer operated assault boats or by airmobile assault to secure lodgement for reinforcing armor vehicles.
 - 2) Supporting unit: Occupies attack by fire position to provide suppressive fire support for the assaulting unit.
 - b. TF engineer unit may be tasked to support with the following:

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- 1) Identification and maintenance of crossing site (site reconnaissance and preparation of access and egress banks).
 - 2) Preparation, rehearsal and operation of assault boats for assault force.
 - 3) Preparation of engineer regulating points for driver briefings, vehicle checks and diversion of overclass vehicles.
 - 4) Construction of M4T6 float bridge when augmented by Corps assets (Task 05-2-0608).
 - 5) Construction of a class 60 float bridge when augmented by Corps assets (Task 05-2-0613).
49. **Breach Defended Obstacles** (FM 71-2, Chap 5; MTP 71-2, Task 7-1-3027, 3909-5; FM 5-101, Chap 6; FM 90-13-1, Chap 3,4; MTP 71-1, Task 17-2-0501; MTP 5-145-31, Task 05-2-0114)
- a. Task force.
 - 1) Obstacles are neutralized, reduced or bypassed before they degrade the momentum of the attack.
 - 2) Enemy and natural obstacles are identified prior to the arrival of the main body.
 - 3) Obstacle reconnaissance determines availability of bypass routes. Decision to bypass considers:
 - a) Suitability of terrain and probable location of kill sacks.
 - b) Likelihood of being channelized or ambushed.
 - c) Impact on mission, boundaries, or follow on forces.
 - 4) If breaching obstacle is most viable option; support, breach and assault forces are designated and actions taken to:
 - a) Suppress: Support force moves into position, provides overwatch for the breach force, isolates the point of penetration/breach, and suppresses the enemy with direct and indirect fires.
 - b) Obscure: Support force obscures the breach site from enemy visual contact with artillery and mortar delivered smoke and smoke units. The breach force obscures the breaching operation.
 - c) Secure: Breach force establishes near side security of the breach site. Support force secures far side with direct and indirect fires.
 - d) Reduce: Breach element breaches obstacle, prepares lanes, secures far side, and maintains control to pass following unit through lanes.
 - e) Assault force moves through obstacle and forces withdrawal of enemy forces which can place direct fires on the breach site.
 - f) The breach site corresponds to the location designated by the task force.

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- g) Supporting fires are shifted to cover the assault effort.
 - h) Task force improves breach and marks lanes.
- 5) See CCF 6, Engage Enemy with Direct Fire and Maneuver.
- b. Company/team and Platoon breach obstacles (FM 71-1, Chap 3; MTP 71-1, Task 17-2-0501; FM 7-7, App. O; MTP 7-8, Task 7-3/4-1014).
- 1) Obstacle is appropriately neutralized or bypassed without degrading the momentum of the attack. Obstacle reconnaissance is reported.
 - 2) If hasty or in-stride breach is required, then company/team:
 - a) Moves into position with designated support, breach, and assault forces.
 - b) The following are effectively sequenced to support the main effort:
 - 1. Location for obstacle neutralization is appropriately selected.
 - 2. Suppression of enemy forces with direct and indirect fires.
 - 3. Use of obscuration fires.
 - 4. Use of indirect fires.
 - 5. Security to breaching elements.
 - 6. Breaching force breaches obstacle.
 - 7. Breaching force secures far side and provides suppressive fire for assault force.
 - 8. Assault force moves through obstacle and clears far side.
 - c) Breaching operation is timed to facilitate final assault.
 - d) The best method for reducing the effects of the obstacle is selected.
 - 3) If company/team is part of a task force deliberate breach, company/team is designated the TF support, breach or assault force.
- c. Engineer company/platoon conducts breaching operations (FM 90-13-1, Chap 3,4; FM 20-32, Chap 8,9; MTP 5-145-31, Task 05-2-0114; MTP 5-145-11, Task 05-3-0103).
- 1) Supporting engineer elements are task organized and integrated into the task force support, breach, and assault forces.
 - 2) Enemy obstacle reconnaissance has been conducted.
 - 3) Engineer platoon leader advises maneuver commander on best location for bypass or breach.
 - 4) Engineer platoon leader advises breach force commander on location, size and number of lanes needed.
 - 5) Engineer platoon leader and breach force commander select means for breaching (explosive line charges [MICLIC, etc.], mechanical means [mine plows, CEV, ACE, tank blades, AVLB etc.], or manually [explosives or grapnels]).

- 6) Obstacle is breached, creating the required number of lanes by clearing all mines/booby traps from the lane areas.
- 7) Entrance and exit points of safe lanes are marked initially and sides marked as soon as time and assets available.
- 8) Guides provided for follow-on forces.
- 9) Lane locations are recorded and reported.

50. **Support by Fire** (MTP 71-1, Task 17-2-0306).

- a. Company occupies positions that offer adequate cover and concealment and allow placement of effective direct fires on enemy positions that can overwatch the breach site.
- b. Obscuration/screening fires and supporting indirect fires are placed on the enemy positions to deny observation, isolate point of penetration, and provide security to far side of obstacle at the breach site.
- c. Enemy positions are engaged and fires are shifted or lifted as required to support the breaching and assault forces.
- d. See CCF 6, Engage Enemy with Direct Fire and Maneuver.

51. **Conduct Minefield Clearing Operations** (FM 20-32, Chap 8; MTP 5-145-31, Task 05-2-0111)

- a. Task force has mission to widen/improve breach lanes or partially clear minefield for follow-on forces. TF engineers conduct clearing operations.
- b. Engineer unit commander establishes marking parties, control points, and mine sweep teams.
- c. Number of lanes and required lane widths are determined.
- d. Method to improve lane is selected, based on personnel, equipment, safety, and time.
- e. Requirement for additional, new, lanes is determined.
- f. Requirement to counter enemy FASCAM fired to remine obstacle/cleared lanes.
- g. Mines in the lane are located and marked, either visually, by probing or with electronic mine detector.
- h. Mines are removed, either with explosives or manually with grappling hooks.
- i. Lane is proofed (absence of mines is verified either electronically or with rollers, etc.)
- j. Improved lanes are marked, recorded, and reported.

52. Mark and Report Obstacles

- a. Mark a minefield (FM 5-101, Chap 4,5; FM 20-32, Chap 9; MTP 5-145-11, Task 05-4-0110; AMTP 71-2, Task 7-1-3909-5).
 - 1) Enemy and friendly minefields within the task force area of operation are easily identifiable to friendly forces.
 - 2) Minefields are guarded until they are appropriately marked and are marked in accordance with established procedures.
 - 3) Entry and exit points and limits of lanes and gaps of minefield are marked.
 - 4) Initial lane marking includes, as a minimum: final approach marker, entrance funnel, entrance markers, left handrail, and exit markers.
 - 5) Intermediate lane marking provides sufficient marking for two-way, single lane traffic and includes, in addition to initial markings: right handrail markers, exit funnel markers, far recognition markers, and far side final approach marker.
 - 6) Markings must be visible at a distance, through smoke and dust, and at night (if required).
 - 7) In forward areas, markings are such that safe lane location is not exposed to the enemy.
 - 8) There are no friendly losses due to minefields under task force control.
 - 9) See CCF 23, Provide Countermobility.
- b. Report obstacles and breaches (FM 5-101, Chap 4; FM 20-32, Chap 9; MTP 71-2, Task 7-1-3909-6).
 - 1) All information concerning obstacles is rapidly reported to the task force TOC.
 - 2) TF TOC reports information concerning obstacles to the brigade TOC, and disseminates the information to task force subordinate commanders and adjacent unit commanders as it becomes known.
 - 3) See CCF 23, Provide Countermobility.

**LESSONS LEARNED RELEVANT TO CCF 21
EXTRACTS FROM LESSONS LEARNED BULLETINS**

1. **NTC Commander's Memorandum — November 1985**

Mobility, Countermobility and Survivability

During offensive operations, finding and neutralizing obstacles is a critical task which should be performed in advance of the attack. This requires detailed reconnaissance, distinctive breach marking schemes, and continuous security at the breach until the main body arrives. These locations must also be concealed from the enemy for as long as possible. Guides, colored smoke, and aircraft marking panels are three techniques used to orient forces.

Field artillery FASCAM must be carefully planned by the engineer, FSO, and S-3. Like any obstacle, it is best used at a choke point covered by effective indirect and AT fire. It can be argued that these principles apply even more strongly to FASCAM because the mines are surface laid and visible. An undisturbed enemy in column can work through this type of field quickly. FASCAM can be very effective for lane and gap closure and for blocking enemy breaches. Preplanning FASCAM is a must.

Command and Control

Frequent changes in task organization should be avoided. The teamwork advantage is often far more important than a slightly more desirable mix of forces. Also, the timing of a change requires careful analysis. The significant advantage of a daylight link-up and the time required to receive the OPORD and to coordinate SOPs and LOGPACs must be considered.

2. **CAII Newsletter No. 3 — September 1986**

Maneuver

The reconnaissance party should include an engineer to provide route and obstacle evaluation.

3. **CATA Commander's Comments, The CS Team — May 1987**

Mobility

Well drilled breaching SOPs are the key to mobility. Ideally, the scout platoon (with an engineer NCO or squad attached) or follow-on infantry identify obstacles before the attack begins. Stealthy breaching at night can then occur. Guides, colored smoke, or VS 17 panels orient the assault force to the lane(s). Regardless of the method, breaching is so complex that repetitive training is critical. This is a combined maneuver/engineer problem.

Training

As minimum training, breaching procedures must be ruthlessly drilled.

4. **CALL Newsletter 88-2: Minefield Breaching — May 1988**

Mass

Identify Enemy Weakness.

Recon is the basis for successful attacks. Initiate recon rapidly, recon takes time and minefield recon takes much more time.

Use all available recon assets: Don't "Over Mission" recon elements. If more than one engineer platoon supports the task force, consider augmenting all platoon sized recon assets with engineers. If only one engineer platoon supports the task force, maintain engineers available to recon detected obstacles as part of the attack.

Include minefields as NAI: Assume all avenues of approach are mined until recon determines otherwise.

Provide redundant communications and ensure dissemination of information.

Actions on Contact: On contact with enemy fire or obstacles the unit deploys and develops the situation. Vehicles and protective obstacles define the enemy position. Tactical obstacles outline the fire sack. Covered/concealed routes provide bypasses and safe avenues to assault and overwatch positions. To develop the situation, units must maintain control, mutual support and movement.

Ensure Unity of Effort.

Drill breach procedures: Develop combined arms teamwork. Only well drilled combined arms teams successfully breach. Each part of the team must understand and perform their role to avoid catastrophic loss of the breach force.

Push logistics forward: Breaching operations require massive material consumption. Maintaining a 1000m smoke screen for 30 minutes requires 500 white phosphorus mortar rounds. The mortar platoon basic load is 528 rounds of all types. To prepare for material consumption: identify required breaching material; determine how to transport/distribute it; push forward this material from higher echelons; request throughput of additional required material to lower echelons.

Push Engineers Forward: Push engineers rapidly forward to mass and synchronize at the decisive point. Normally the most crucial engineer tasks are forward where minefields are under fire or where nuisance minefields disrupt main body movement. Changing a task organization is complex and time consuming so make the change early to allow time for synchronization. Rapidly push engineers forward to the:

- Advance guard (during movement to facilitate rapidly breaching/bypassing and reporting obstacles not under fire).
- Breach force(s) (during the breach to assist in the actual obstacle breaching).
- Recon forces (as practicable for detecting, reconning and bypassing obstacles, and for detailed obstacle reconnaissance if required).

Train all soldiers to manually breach: Engineers will not always be available and cannot be available everywhere if massed at the decisive point.

Organize to breach: Designate assault, breach, and support forces. Specify responsibilities for breach site selection, control of all fires, lifting and shifting of fires,

which support force suppresses what position, who adjusts and executes fire support to include smoke, and who confirms/requests counterfire.

Plan march order based on type terrain and likelihood of enemy contact (METT-T).

Plan and Issue a Clear/Complete Order: Employ backwards planning. The objective of an attack is to destroy the enemy or seize terrain, not to breach an obstacle. First define actions on the objective: assault, consolidation, and reorganization. From this movement to the objective, to include breaching, flow logically. Wargame courses of action and employ briefbacks to ensure clarity and understanding of staff and subordinates.

Prepare to Execute: Rehearse countermine drills. Engineers prepare and inspect equipment and rehearse detection, recon, reduction, proofing and marking minefields down to the individual task level. Task force conducts a combined arms rehearsal that usually consists of a walk through of the concept of operation with commanders and possibly platoon leaders and fire support officers representing their units.

Isolate Enemy Weakness.

Isolate the part of the enemy's defense system to be attacked from the supporting fires of other parts of the defense so that the task force's efforts can be concentrated against it.

- Use terrain to avoid enemy fires and to exploit gaps in his defenses.
- Use smoke to cover movement.
- Use artillery and mortars to suppress adjacent enemy positions (to include using smoke).
- Attack adjacent positions by direct fire or by maneuver.

Recon the Minefield.

Upon completion of the recon, the commander decides to:

- Bypass: Most desirable course of action, take care not to bypass into a fire sack or away from the weak point in the defense.
- Hasty Breach: Viable option if task force has sufficient forces to rapidly secure to far side of the obstacle with available fire or dismounted infantry assault.
- Deliberate Breach: Task force masses overwhelming fires, conducts detailed recon, and prepares extensively for the breach.

Breach.

Suppress: Counterfire is critical to manual breaches and must be coordinated with brigade for division and corps fires. Support forces provide direct fires normally under S3 control. SHORAD needs to mass vulcans at breach to protect lane while stingers protect teams. Suppression aimed at:

- The platoon being assaulted.
- Adjacent/supporting platoon strong points.
- The battalion mortar battery.
- Elements of the regimental artillery group.

Obscure: Clever use of weather and terrain is the best obscuration method. Alternatively, employ screening smoke between enemy and friendly forces. Don't employ

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smoke on or near breach site because it creates C&C problems, silhouettes the assault forces, and identifies the breach site.

- Initiate smoke on enemy with mortars, they are under TF control and use WP which builds up smoke rapidly.
- Plan to sustain smoke with other assets such as chemical smoke platoon, field artillery, smoke pots, on board vehicle smoke, or engine exhaust smoke.
- Smoke platoon effective if wind/weather correct and sufficient time available to build up smoke screen.

Secure: TF gains possession of far side of crossing site and deploys in a manner which prevents its loss to the enemy.

- Dismounted infantry can assault or infiltrate using approaches not available to vehicles, securing the other side before the breach.
- Support force secures the far side given overwhelming fire superiority.
- Indirect fire support can neutralize small isolated targets with a massive volume of fire.

Reduce: Create a clear lane through the minefield by sequentially accomplishing the following tasks. Each task requires a platoon due to attrition, additional minefields, and the friction of war (Murphy's Law).

- Recon to determine minefield's forward edge.
- Clear the lane of mines.
- Proof the lane to confirm it is clear of mines.
- Mark entrance, sides, and exit.
- Post guides to control traffic and keep lane open. Have recovery assets nearby.
- Treat lanes like a defile, designate someone to control movement.

Assault.

Obstacle reduction involves the minimum effort to get the assault force through the obstacle. Situation dependent, the lead vehicles may be the means to proof the lane.

- Cross/lead with detection element.
- Retain control of the breach site.
- There is no momentum in an assault through a reduced lane.
- Position a single leader to rapidly expedite the combined breach and assault force actions. (e.g. commander with the assault force, retaining S3 with the breach force, command group positioned to overwatch both.

Clear.

Unit guides remain until relieved by follow on engineers or until minefield is cleared of all mines. This is a Division/Corps responsibility, with engineer arrival ensured by Brigade.

Lane Requirements.

As a rule of thumb, the following are recommended:

- One lane per assault company.
- Plan two breach attempts per required lane.
- Plan breaches 200 meters deep.

- Complete breach with two lanes per task force, 300 meters apart.
- Initial lanes 4 meters wide, improve to 8 meters as situation allows.

5. **CALL Newsletter No.88-3: Heavy Forces — Fall 1988**

Maintain Positive Control of Engineer Work

Mass engineer headquarters forward: Habitually employ an engineer company headquarters with each committed battalion task force and involve them in the planning process.

Fix Responsibility For Engineer Effort With Maneuver Commanders: Responsibility for success or failure ultimately resides with the maneuver commander. Both engineer and maneuver elements execute engineer tasks. Regardless of who does the work, the task supports a maneuver commander's plan. The simplest method to coordinate intent, logistics support, work party security, siting, etc. is to give the mission to a maneuver company commander and assign engineer support as required.

Employ Engineer Execution Matrices: Engineer execution matrices and clear detailed commander's guidance, continually monitored by the TOC/command group assures that responsibility stays fixed and receives command emphasis.

Include Breaches in All Attack Planning and Training

Task forces do not adequately plan for breaches: Task forces don't adequately recon, secure, suppress, and obscure prior to breaching. Breaching is an integral combined arms part of all attacks. As such, poorly synchronized attacks cause breaches to fail while poorly synchronized breaches cause attacks to fail.

Identify the enemy weakness and then mass on it: Verify the situational template before breaching or bypassing. The recon prior to the attack or actions on contact must achieve this.

Ensure unity of effort: Train breaching as an integral part of all attacks. Push engineers forward. Train all soldiers and units to manually breach. Designate and specify the responsibilities for the assault, breach, and support forces. Conduct a combined arms breaching rehearsal.

Isolate the enemy weakness with terrain, obscurants, or fire.

Recon minefields before deciding to bypass, or conduct a hasty/deliberate breach. Most threat minefields are surface laid 200-300 meter wide strips.

Neutralize enemy fires before reducing the obstacle: Suppress with direct fire (support force), counterfire, and massed SHORAD. Initiate obscuration with mortars and sustain with artillery or chemical smoke platoons. Secure flanks and far side of obstacle with infantry assault/infiltration, fire support neutralization of fires, or destruction fires from an overwhelming support force.

To reduce the lane sequentially: Recon the minefields forward edge, clear the lane, proof the lane, mark the entrance/exit/sides, then post guides and recovery assets.

Use Dismounted Infantry

During offensive operations, finding and neutralizing obstacles is a critical task which should be performed in advance of the attack. This requires detailed reconnaissance, distinctive breach marking schemes, and continuous security at the breach until the main body arrives. These locations must also be concealed from the enemy for as long as possible. Guides, colored smoke, and aircraft marking panels are three techniques used to orient forces.

Push Logistics With the Warning Order

Concurrent with the warning order push standard logistics packages to subordinates. Don't wait for the OPORD or subordinate requests. Transportation is scarce and CL IV/V mission loads are enormous. S4s determine unique logistics requirements based on standard missions (such as offense or defense) in garrison. Then they organize standard (SOP) means to transport and distribute this material. During operations they:

- Conform higher push packs on receipt of higher warning order.
- Allocate these push packs to subordinates IAW SOP.

Request throughput of additional required material to lower echelons based on the OPORD, planning refinements and subordinate requests.

6. CALL Newsletter No. 89-4: Corps/Division - November 1989

Battlefield Clutter

Positive action must be taken to disseminate obstacle (friendly and enemy) and NBC contaminated areas to every corner of the organization. Consider establishing a "CINC" battlefield clutter responsible for:

- Maintaining a consolidated chemical, barrier, obstacle overlay with the locations of all battlefield clutter regardless of source.
- Ensuring that copies of the overlay are disseminated to all staff, subordinate, adjacent, and higher units (maneuver and log) on a regular basis.
- Ensuring the overlay is considered during planning and in updating IPB products.

7. CALL Newsletter No. 90-5: Fire Support - May 1990

FASCAM

As with any obstacle system, the Engineer is the staff proponent for planning the employment of FASCAM. The FSO and FSCoord must coordinate with the engineer in planning and coordinating FASCAM. The FSO can then work out inconsistencies between the planning and logistics estimates and can provide the commander with planning considerations, employment constraints, and safety zones for FASCAM minefields.

8. CALL Newsletter No. 90-8: Winning in the Desert II - September 1990

Key Terrain

Key terrain in the desert is largely dependent on the restrictions to movement that are present. If the desert floor will not support wheeled vehicle traffic, the few roads and desert

CCF 21 - Overcome Obstacles

tracks become key terrain. Cross-roads are vital as they can control military operations in a large area. Desert warfare is often a battle for control of the lines of communication (LOC). The side that can protect its own LOC while interdicting those of the enemy will prevail. Water sources are vital, especially if a force is incapable of long distance resupply of its water requirements. Defiles play an important role where they exist. In the Western Desert of Libya, an escarpment that paralleled the coast was a barrier to movement except through a few passes. Control of these passes was vital. Similar escarpments are found in Saudi Arabia.

**LESSONS LEARNED INTEGRATED
INTO CCF 21 TASK LIST**

PLANNING

1. **Direct and Lead Task Force During Planning for the Battle**
2. **Receive Order From Higher Headquarters**
3. **Conduct Mission Analysis**
4. **Issue the Warning Order**
5. **Commander Issues Guidance**
6. **Prepare Staff Estimates**

- a. Intelligence.

Conduct terrain analysis.

Key terrain in the desert is largely dependent on the restrictions to movement that are present. If the desert floor will not support wheeled vehicle traffic, the few roads and desert tracks become key terrain. Cross-roads are vital as they can control military operations in a large area. Desert warfare is often a battle for control of the lines of communication (LOC). The side that can protect its own LOC while interdicting those of the enemy will prevail. Water sources are vital, especially if a force is incapable of long distance resupply of its water requirements. Defiles play an important role where they exist. In the Western Desert of Libya, an escarpment that paralleled the coast was a barrier to movement except through a few passes. Control of these passes was vital. Similar escarpments are found in Saudi Arabia.

Develop reconnaissance and surveillance plan.

Recon is the basis for successful attacks. Initiate recon rapidly, recon takes time and minefield recon takes much more time.

Use all available recon assets: Don't "Over Mission" recon elements. If more than one engineer platoon supports the task force, consider augmenting all platoon sized recon assets with engineers. If only one engineer platoon supports the task force, maintain engineers available to recon detected obstacles as part of the attack.

Include minefields as NAI: Assume all avenues of approach are mined until recon determines otherwise.

Provide redundant communications and ensure dissemination of information.

The reconnaissance party should include an engineer to provide route and obstacle evaluation.

b. Engineer.

Conduct mobility analysis.

Positive action must be taken to disseminate obstacle (friendly and enemy) and NBC contaminated areas to every corner of the organization. Consider establishing a "CINC" battlefield clutter responsible for:

- Maintaining a consolidated chemical, barrier, obstacle overlay with the locations of all battlefield clutter regardless of source.
- Ensuring that copies of the overlay are disseminated to all staff, subordinate, adjacent, and higher units (maneuver and log) on a regular basis.
- Ensuring the overlay is considered during planning and in updating IPB products.

Prepare engineer estimate/annex.

Employ Engineer Execution Matrices: Engineer execution matrices and clear detailed commander's guidance, continually monitored by the TOC/command group assures that responsibility stays fixed and receives command emphasis.

c. Fire Support.

d. Combat Service Support.

Determine CSS requirements.

Concurrent with the warning order push standard logistics packages to subordinates. Don't wait for the OPORD or subordinate requests. Transportation is scarce and CL IV/V mission loads are enormous. S4s determine unique logistics requirements based on standard missions (such as offense or defense) in garrison. Then they organize standard (SOP) means to transport and distribute this material. During operations they:

- Conform higher push packs on receipt of higher warning order.
- Allocate these push packs to subordinates IAW SOP.
- Request throughput of additional required material to lower echelons based on the OPORD, planning refinements and subordinate requests.

7. Staff Develops Course of Action

8. Staff/CDR Analyze Course of Action

a. Plan scheme of maneuver.

Plan and Issue a Clear/Complete Order: Employ backwards planning. The objective of an attack is to destroy the enemy or seize terrain, not to breach an obstacle. Wargame courses of action and employ briefbacks to ensure clarity and understanding of staff and subordinates.

Operational planning should emphasize night movement of units. To minimize the problems of dust and enhance deception, movement should be accomplished utilizing multiple routes. Priority should be placed on training to support this requirement.

Associated with night movement is the requirement for night passage through lanes in minefields and forward passage through friendly forces.

Plan march order based on type terrain and likelihood of enemy contact (METT-T).

b. Organize for combat.

Frequent changes in task organization should be avoided. The teamwork advantage is often far more important than a slightly more desirable mix of forces. Also, the timing of a change requires careful analysis. The significant advantage of a daylight link-up and the time required to receive the OPORD and to coordinate SOPs and LOGPACs must be considered.

Organize to breach: Designate assault, breach, and support forces. Specify responsibilities for breach site selection, control of all fires, lifting and shifting of fires, which support force suppresses what position, who adjusts and executes fire support to include smoke, and who confirms/requests counterfire.

d. Plan mobility operations.

Task forces do not adequately plan for breaches. Task forces don't adequately recon, secure, suppress, and obscure prior to breaching. Breaching is an integral combined arms part of all attacks. As such, poorly synchronized attacks cause breaches to fail while poorly synchronized breaches cause attacks to fail.

Ensure unity of effort. Train breaching as an integral part of all attacks. Push engineers forward. Train all soldiers and units to manually breach. Designate and specify the responsibilities for the assault, breach, and support forces. Conduct a combined arms breaching rehearsal.

Well drilled breaching SOPs are the key to mobility. Ideally, the scout platoon (with an engineer NCO or squad attached) or follow-on infantry identify obstacles before the attack begins. Stealthy breaching at night can then occur. Guides, colored smoke, or VS 17 panels orient the assault force to the lane(s). Regardless of the method, breaching is so complex that repetitive training is critical. This is a combined maneuver/engineer problem.

During offensive operations, finding and neutralizing obstacles is a critical task which should be performed in advance of the attack. This requires detailed reconnaissance, distinctive breach marking schemes, and continuous security at the breach until the main body arrives. These locations must also be concealed from the enemy for as long as possible. Guides, colored smoke, and aircraft marking panels are three techniques used to orient forces.

Fix Responsibility For Engineer Effort With Maneuver Commanders: Responsibility for success or failure ultimately resides with the maneuver commander. Both engineer and maneuver elements execute engineer tasks. Regardless of who does the work, the task supports a maneuver commander's plan. The simplest method to coordinate intent, logistics support, work party security, siting, etc. is to give the mission to a maneuver company commander and assign engineer support as required.

e. Plan actions on the objective.

First define actions on the objective: assault, consolidation, and reorganization. From this movement to the objective, to include breaching, flow logically.

f. **Plan FASCAM employment.**

Field artillery FASCAM must be carefully planned by the engineer, FSO, and S-3. Like any obstacle, it is best used at a choke point covered by effective indirect and AT fire. It can be argued that these principles apply even more strongly to FASCAM because the mines are surface laid and visible. An undisturbed enemy in column can work through this type of field quickly. FASCAM can be very effective for lane and gap closure and for blocking enemy breaches. Preplanning FASCAM is a must.

As with any obstacle system, the Engineer is the staff proponent for planning the employment of FASCAM. The FSO and FSCoord must coordinate with the engineer in planning and coordinating FASCAM. The FSO can then work out inconsistencies between the planning and logistics estimates and can provide the commander with planning considerations, employment constraints, and safety zones for FASCAM minefields.

9. **Staff Compares Courses of Action**

10. **Commander Announces Decision**

11. **Staff Prepares OPORD/FRAGO**

12. **Issue the OPORD/FRAGO**

Plan and Issue a Clear/Complete Order: Employ backwards planning. The objective of an attack is to destroy the enemy or seize terrain, not to breach an obstacle. Wargame courses of action and employ briefbacks to ensure clarity and understanding of staff and subordinates.

13. **Refine the Plan**

14. **Perform Reconnaissance and Surveillance**

In the attack, reconnaissance is vital. Dismounted infantry can use stealth, darkness, and restrictive terrain to reconnoiter enemy positions and obstacles. They find and mark obstacle bypasses, begin to breach, secure the breach site or conduct supporting attacks with the main mounted attack. Dismounted infantry owns the night.

15. **Perform Counter Reconnaissance Actions**

16. **Maintain Operations Security**

PREPARATION

17. **Command Group Conducts and Receives Briefings**

18. **Command Group/Command Posts Monitor, Supervise, and Direct Execution of Force Protection Operations and Activities**

19. **Command Group/Command Posts Monitor, Supervise, and Direct TF Mission Preparation**

20. **Commander, Commander's Representatives, and Staff Conduct Inspections and Visits**

21. Task Force Conducts Rehearsals

As minimum training, breaching procedures must be ruthlessly drilled.

Drill breach procedures: Develop combined arms teamwork. Only well drilled combined arms teams successfully breach. Each part of the team must understand and perform their role to avoid catastrophic loss of the breach force.

Prepare to Execute: Rehearse countermine drills. Engineers prepare and inspect equipment and rehearse detection, recon, reduction, proofing and marking minefields down to the individual task level. Task force conducts a combined arms rehearsal that usually consists of a walk through of the concept of operation with commanders and possibly platoon leaders and fire support officers representing their units.

22. Task Force Plan Modified and Refined

a. Verify IPB product.

Identify the enemy weakness and then mass on it. Verify the situational template before breaching or bypassing. The recon prior to the attack or actions on contact must achieve this.

b. Disseminate intelligence and combat information.

Positive action must be taken to disseminate obstacle (friendly and enemy) and NBC contaminated areas to every corner of the organization. Consider establishing a "CINC" battlefield clutter responsible for:

- Maintaining a consolidated chemical, barrier, obstacle overlay with the locations of all battlefield clutter regardless of source.
- Ensuring that copies of the overlay are disseminated to all staff, subordinate, adjacent, and higher units (maneuver and log) on a regular basis.
- Ensuring the overlay is considered during planning and in updating IPB products.

23. Command Post (TAC, TOC, CTCP) Operations

24. Liaison and Coordination with Higher, Adjacent, Supported, and Supporting Elements

25. Command Group/Command Posts Position to Control the Battle

26. Company/Teams Prepare for Combat

27. Company/Team Plans Mobility Operations

28. Engineer Company Plans Mobility Operations

29. Conduct an Engineer Reconnaissance

30. Conduct a River/Gap Crossing Site Reconnaissance

31. Conduct Enemy Obstacle Reconnaissance

Upon completion of the recon, the commander decides to bypass or conduct a hasty or deliberate breach.

32. **Position Forces ***

a. Position engineer elements.

Mass engineer headquarters forward: Habitually employ an engineer company headquarters with each committed battalion task force and involve them in the planning process.

Push Engineers Forward: Push engineers rapidly forward to mass and synchronize at the decisive point. Normally the most crucial engineer tasks are forward where minefields are under fire or where nuisance minefields disrupt main body movement. Changing a task organization is complex and time consuming so make the change early to allow time for synchronization. Rapidly push engineers forward to the:

- Advance guard (during movement to facilitate rapidly breaching/bypassing and reporting obstacles not under fire).
- Breach force(s) (during the breach to assist in the actual obstacle breaching).
- Recon forces (as practicable for detecting, reconning and bypassing obstacles, and for detailed obstacle reconnaissance if required).

33. **Assemble and Prepare Breaching Equipment**

34. **Perform Combat Service Support Operations**

Push logistics forward: Breaching operations require massive material consumption. Maintaining a 1000m smoke screen for 30 minutes requires 500 white phosphorus mortar rounds. The mortar platoon basic load is 528 rounds of all types. To prepare for material consumption: identify required breaching material; determine how to transport/distribute it; push forward this material from higher echelons; request throughput of additional required material to lower echelons.

Request throughput of additional required material to lower echelons based on the OPORD, planning refinements and subordinate requests.

35. **Prepare for NBC operations**

EXECUTION

36. **TF Command Posts Locate Where They Can Control the Battle**

37. **TF Commander Sees the Battlefield**

38. **TF Commander Directs and Leads the Execution Phase**

c. Employ FASCAM.

Field artillery FASCAM must be carefully planned by the engineer, FSO, and S-3. Like any obstacle, it is best used at a choke point covered by effective indirect and AT fire. It can be argued that these principles apply even more strongly to FASCAM because the mines are surface laid and visible. An undisturbed enemy in column can

work through this type of field quickly. FASCAM can be very effective for lane and gap closure and for blocking enemy breaches. Preplanning FASCAM is a must.

- d. Use screening fires.

Isolate the enemy weakness with terrain, obscurants, or fire.

Isolate the part of the enemy's defense system to be attacked from the supporting fires of other parts of the defense so that the task force's efforts can be concentrated against it.

Use smoke to cover movement.

Use artillery and mortars to suppress adjacent enemy positions (to include using smoke).

39. TF Command Posts Track and Support the Battle

40. TF Conducts Battlefield Update (METT-T based)

41. TF Conducts the Decision Making Process (Accelerated)

42. TF Consolidates and Reorganizes

43. Move Tactically

Actions on Contact: On contact with enemy fire or obstacles the unit deploys and develops the situation. Vehicles and protective obstacles define the enemy position. Tactical obstacles outline the fire sack. Covered/concealed routes provide bypasses and safe avenues to assault and overwatch positions. To develop the situation, units must maintain control, mutual support and movement.

44. Perform NBC Operations

45. Prepare Expedient Fords

46. Construct Combat Roads & Trails

47. Perform Hasty River/Gap Crossing Operations

48. Support a River Crossing Operation

49. Breach Defended Obstacles

Recon minefields before deciding to bypass, or conduct a hasty/deliberate breach. Most threat minefields are surface laid 200–300 meter wide strips.

During offensive operations, finding and neutralizing obstacles is a critical task which should be performed in advance of the attack. This requires detailed reconnaissance, distinctive breach marking schemes, and continuous security at the breach until the main body arrives. These locations must also be concealed from the enemy for as long as possible. Guides, colored smoke, and aircraft marking panels are three techniques used to orient forces.

Neutralize enemy fires before reducing the obstacle: Suppress with direct fire (support force), counterfire, and massed SHORAD. Initiate obscuration with mortars and sustain with artillery or chemical smoke platoons. Secure flanks and far side of obstacle with infantry assault/infiltration, fire support neutralization of fires, or destruction fires from an overwhelming support force.

To reduce the lane sequentially: Recon the minefields forward edge, clear the lane, proof the lane, mark the entrance/exit/sides, then post guides and recovery assets.

Train all soldiers to manually breach: Engineers will not always be available and cannot be available everywhere if massed at the decisive point.

Isolate Enemy Weakness.

- Isolate the part of the enemy's defense system to be attacked from the supporting fires of other parts of the defense so that the task force's efforts can be concentrated against it.
- Use terrain to avoid enemy fires and to exploit gaps in his defenses.
- Use smoke to cover movement.
- Use artillery and mortars to suppress adjacent enemy positions (to include using smoke).
- Attack adjacent positions by direct fire or by maneuver.

Recon the Minefield.

- Upon completion of the recon, the commander decides to:
- Bypass: Most desirable course of action, take care not to bypass into a fire sack or away from the weak point in the defense.
- Hasty Breach: Viable option if task force has sufficient forces to rapidly secure to far side of the obstacle with available fire or dismounted infantry assault.
- Deliberate Breach: Task force masses overwhelming fires, conducts detailed recon, and prepares extensively for the breach.

Breach.

- Suppress: Counterfire is critical to manual breaches and must be coordinated with brigade for division and corps fires. Support forces provide direct fires normally under S3 control. SHORAD needs to mass Vulcans at breach to protect lane while stingers protect teams. Suppression aimed at:
 - The platoon being assaulted.
 - Adjacent/supporting platoon strong points.
 - The battalion mortar battery.
 - Elements of the regimental artillery group.
- Obscure: Clever use of weather and terrain is the best obscuration method. Alternatively, employ screening smoke between enemy and friendly forces. Don't employ smoke on or near breach site because it creates C&C problems, silhouettes the assault forces, and identifies the breach site.
 - Initiate smoke on enemy with mortars, they are under TF control and use WP which builds up smoke rapidly.
 - Plan to sustain smoke with other assets such as chemical smoke platoon, field artillery, smoke pots, on board vehicle smoke, or engine exhaust smoke.
 - Smoke platoon effective if wind/weather correct and sufficient time available to build up smoke screen.

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- Secure: TF gains possession of far side of crossing site and deploys in a manner which prevents its loss to the enemy.
 - Dismounted infantry can assault or infiltrate using approaches not available to vehicles, securing the other side before the breach.
 - Support force secures the far side given overwhelming fire superiority.
 - Indirect fire support can neutralize small isolated targets with a massive volume of fire.

- Reduce: Create a clear lane through the minefield by sequentially accomplishing the following tasks. Each task requires a platoon due to attrition, additional minefields, and the friction of war (Murphy's Law).
 - Recon to determine minefield's forward edge.
 - Clear the lane of mines.
 - Proof the lane to confirm it is clear of mines.
 - Mark entrance, sides, and exit.
 - Post guides to control traffic and keep lane open. Have recovery assets nearby.
 - Treat lanes like a defile, designate someone to control movement.

Lane Requirements.

- As a rule of thumb, the following are recommended:
 - One lane per assault company.
 - Plan two breach attempts per required lane.
 - Plan breaches 200 meters deep.
 - Complete breach with two lanes per task force, 300 meters apart.
 - Initial lanes 4 meters wide, improve to 8 meters as situation allows.

Assault.

- Obstacle reduction involves the minimum effort to get the assault force through the obstacle. Situation dependent, the lead vehicles may be the means to proof the lane.
- Cross/lead with detection element.
- Retain control of the breach site.
- There is no momentum in an assault through a reduced lane.
- Position a single leader to rapidly expedite the combined breach and assault force actions. (e.g. commander with the assault force, retaining S3 with the breach force, command group positioned to overwatch both.

50. Support by Fire

51. Conduct Minefield Clearing Operations

Unit guides remain until relieved by follow on engineers or until minefield is cleared of all mines. This is a Division/Corps responsibility, with engineer arrival ensured by Brigade.

52. Mark and Report Obstacles

**CCF 21
CRITICAL TASKS AND OTHER LINKAGES**

<u>TASKS</u>	<u>OTHER LINKAGES</u>
1. Direct and Lead Task Force During Planning for the Battle	
b. Company/Team preparation and troop leading procedures	Platoons - Platoon Leader issues W.O., MTP Task 7-3/4-1046-4 - Issue Warning Order, Task 071-326-5502
3. Conduct Mission Analysis	
a. Conduct Leader's Reconnaissance	Platoon Leaders/Platoon - Conduct recon and perform continuous recon during operations, MTP Tasks 7-3/4-1046-10,16 - Conduct leader's recon, MQS Task 01-3120.00-0015, Task 071-410-0010 - Analyze terrain using OCOKA, MQS Task 03-3120.00-0002
4. Issue the Warning Order	Platoons - Platoon Leader issues W.O., MTP Task 7-3/4-1046-4 - Issue Warning Order, Task 071-326-5502
6. Prepare Staff Estimates	
b. Engineer	
Perform engineer battlefield assessment	- Prepare an engineer evaluation of terrain, MQS Task 01-1960.12-0008 - Analyze terrain using OCOKA, Task 071-331-0820
c. Fire Support	
Develop fire support plan	- Plan for use of supporting fires, Task 071-410-0020
d. Combat Service Support	
Determine CSS requirements	Platoon - Requests CS and CSS required to execute tasks, MTP Task 7-3/4-1046-22

TASKS

OTHER LINKAGES

8. Staff/CDR Analyze Course of Action

- a. Plan scheme of maneuver

Platoon Leaders
 - Plan for use of control measures, MQS Task 01-3154.00-0147

12. Issue the OPORD/FRAGO

Platoon Leaders
 - Issue orders and FRAGOs, MTP Task 7-3/4-1046-18,19
 Platoon Leaders
 - Use a map overlay, MQS Task 01-3140.00-0014, Task 071-326-5055

14. Perform reconnaissance and surveillance

Platoon Leaders/Platoons
 - Conduct a recon patrol, MQS Task 03-3164.00.0005
 - Read and use a map, Tasks 071-329-1000 thru 071-329-1019
 - Conduct day & night surveillance w/o electronic aids, Task 071-331-0804
 - Recognize enemy & threat armored vehicles, Task 878-920-1001
 - Collect data for route classification, Task 051-196-2010
 - Analyze terrain, Task 071-331-0820
 - Perform route, zone, area recon, MTP Tasks 17-3-1017, 1018, 1019; MTP Tasks 7-3-1059, 1042, 1043
 - Collect and report information SALUTE, Task 071-331-0803
 - Prepare route recon overlay, Task 051-199-0001

16. Maintain operations security

- Practice noise, light and litter discipline, Task 071-331-0815
 - Use tactical operations codes and numerical cipher/authentication system, Tasks 113-573-4003, 4006
 - Recognize ECM and implement ECCM, Task 113-573-6001

PREPARATION

17. Command Group Conducts and Receives Briefings

- a. Conduct briefbacks

Platoon Leaders
 - Conduct briefbacks, MTP Task 7-3/4-1046-14

20. Commander, Commander's Representatives, and Staff Conduct Inspections and Visits

TASKS

OTHER LINKAGES

- | | |
|---|--|
| <p>a. Conduct pre-combat checks</p> | <p>Platoon Leaders/PSGs</p> <ul style="list-style-type: none"> - Platoon conducts readiness, maintenance, & functional checks, MTP Task 7-3/4-1046-5 - Leader's pre-combat checks, MTP Task 17-3-0102, 1033 - Conduct troop leading procedures, MTP Task 05-3-1018 |
| <p>21. Task Force Conducts Rehearsals</p> | <p>Platoon Leaders</p> <ul style="list-style-type: none"> - Conduct rehearsal, MTP Task 7-3/4-1046-14 - Perform rehearsals, MTP Task 17-3-1034 |
| <p>26. Company/Teams prepare for combat</p> | <p>Platoon Leaders</p> <ul style="list-style-type: none"> - Plan for use of control measures, MQS Task 01-3154.00-0147 <p>Platoon Leaders, squad leaders</p> <ul style="list-style-type: none"> - Issue orders and FRAGOs, MTP Task 7-3/4-1046-18,19; Task 071-326-5055 - Conduct briefbacks, MTP Task 7-3/4-1046-14 - Requests CS and CSS required to execute tasks, MTP Task 7-3/4-1046-22 |
| <p>27. Company/team plans mobility operations</p> | <p>Platoon Leaders</p> <ul style="list-style-type: none"> - Choose route & designate movement techniques based on METT-T, MTP Task 7-3/4-1025-2,4 - Select movement route using a map, Task 071-326-0515 - Plan actions on contact, MTP Tasks, 7-7J Drill, 7-8 Drill |
| <p>30. Conduct a river/gap crossing site reconnaissance</p> | <ul style="list-style-type: none"> - Determine limiting slopes & curves, Task 051-196-2001, 2002 - Determine stream (gap) width & velocity, Task 051-196-2003, 2004 |
| <p>31. Conduct enemy obstacle reconnaissance</p> | <ul style="list-style-type: none"> - Recon an obstacle and a bypass, MTP Task 17-3-1020 |
| <p>33. Assemble and prepare breaching equipment</p> | <ul style="list-style-type: none"> - Use & maintain demolition equipment, Task 051-193-1001 - Maintain, install and use mine clearing blade, TM 9-2590-509-10, NO MTP TASKS IDENTIFIED |
| <p>34. Perform combat service support operations</p> | <p>Platoon Leaders/Platoons</p> <ul style="list-style-type: none"> - Conduct sustainment operations, MTP Task 7-3/4-1058 |

TASKS

OTHER LINKAGES

35. Prepare for NBC operations

Platoons

- Prepare for NBC attack, MTP Task 7-3/4-1050, 1051
- Use and maintain M8 or M8A1 Chemical Agent Alarm, Task 031-503-2008
- Use and maintain AN/PDR-27 and IM-174 radiac equipment, Task 031-503-3013, 031-505-1011
- Plan for and supervise positioning of Automatic Chemical Agent Alarm System setup, Task 031-503-4002

EXECUTION

36. TF Command Posts Locate Where They Can Control the Battle

b. Maintain communications

- Send a radio message, Task 113-571-1016
- Use automated CEOI, Task 113-573-8006

38. TF Commander Directs and Leads the Execution Phase

a. Execute fire support

Platoon/Platoon Leaders (indirect fire)

- Employ fire support, MTP Task 7-3-1006
- Call for/adjust indirect fire support, Task 061-283-6003
- Locate target by grid coordinate, Task 061-283-1002

b. React to enemy air attack

Platoon

- Defend against air attack, MTP 7-3/4-1027-3,4

d. Use screening fires

- Plan for use of supporting fires, Task 071-410-0020

e. Integrate fire support with scheme of maneuver

- Plan for use of supporting fires, Task 071-410-0020

42. TF Consolidates and Reorganizes

a. Consolidate and reorganize

Platoon/Platoon Leader

- Consolidate & reorganize after the attack, MQS Task 01-3152.00-0018
- Consolidate & reorganize following enemy attack while in the defense, Tasks 071-430-0007, 0008

43. Move tactically

Platoon Leaders/Platoons

- Move tactically, MTP Task 7-3/4-1025

TASKS

OTHER LINKAGES

- | | |
|---|---|
| 44. Perform NBC operations | <ul style="list-style-type: none"> - Conduct terrain driving & operate vehicle during darkness, MTP Task 7-3/4-1062-5,12 - Navigate using map & compass, MQS Task 03-3120.00-0001, Task 071-329-1000 thru 1019 - Move as a member of a fire team, Task 071-326-0501 - Navigate while mounted, Task 071-329-1030 - Direct driver over a terrain route, Task 071-326-3001 - Drive a BFV, Task 071-324-6001 - Drive an M48/M60 series tank, Task 171-123-1050 - Drive an M1 series tank, Task 171-126-1002 <p>Platoons</p> <ul style="list-style-type: none"> - Cross a nuclear/chemical contaminated area, MTP Tasks 7-3/4-1052 & 7-3/4-1077; - Recognize and react to NBC hazard, Tasks 031-503-1018, 1019 - Decon self and personal equipment, Task 031-503-1007 - Use M8/M9 detector paper to detect and identify chemical agent, Task 031-503-1014, 1020 - Use M256/M256A1 chemical detector kit, Task 031-503-3001 - Mark NBC contaminated area, Task 031-503-1021 |
| 45. Prepare expedient fords | <ul style="list-style-type: none"> - Prepare a BFV for fording, Task 071-410-0008 |
| 47. Perform hasty river/gap crossing operations | <p>Platoon/Platoon leaders</p> <ul style="list-style-type: none"> - Employ stream crossing techniques, MQS Task 01-3120.00-0210 - Employ AVLB, MTP Task 05-4-0009 - Employ CEV, MTP Task 05-5-0011 - Vehicles ford/swim water obstacle or cross bridge or raft, MTP Tasks 7-3/4-1062-9, 10 |
| 48. Support a river crossing operation | <ul style="list-style-type: none"> - Construct M4T6 & CL 60 float bridges, MTP Task 05-2-0608, 0613 |
| 49. Breach defended obstacles | <p>Platoon Leaders</p> <ul style="list-style-type: none"> - Breach obstacles, MTP Task 7-3/4-1014 - Move over, through, or around obstacles, MQS Task 03-3151.00-0004, Task 071-326-0503 - Locate mines by visual means, Task 051-192-1021, 1022 - Conduct a hasty breach of a minefield, Task 051-192-4046 - Employ CEV, MTP Task 05-5-0011 |

TASKS

OTHER LINKAGES

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| 50. Support by fire | <ul style="list-style-type: none"> - Construct detonating systems, Task 051-193-1002 thru 1007, 1011, 1013, 2030 <p>Platoon/Platoon Leaders</p> <ul style="list-style-type: none"> - Select temporary fighting positions, Task 071-326-0513 - Select and overwatch position, Task 071-326-5606 - Select hasty firing positions during MOUT, Task 071-326-0557 - Overwatch/support by fire, MTP Task 7-3/4-1007 - Control organic fires, Task 071-410-0019 - Engage targets with main gun, TOW, or 25 mm auto gun, Tasks 171-129-1020, 171-126-1036, 071-316-3006, 071-314-0012 - Read and use a map, navigate with map and compass, Tasks 071-329-1000 thru 071-329-1019 - Recognize friendly & threat armored vehicles, Task 878-920-1001 |
| 51. Conduct minefield clearing operations | <ul style="list-style-type: none"> - Locate mines, Task 051-193-1021 thru 1023, 1040 - Construct detonating systems, Task 051-193-1002 thru 1007, 1011, 1013, 2030 |
| 52. Mark and report obstacles | |
| b. Report obstacles and breaches | <ul style="list-style-type: none"> - Collect and report information SALUTE, Task 071-331-0803 |

OVERCOME OBSTACLES**REFERENCES****Field Manuals**

- | | |
|------------------|--|
| FM 5-100 | Engineer Combat Operations, November 1988 |
| FM 5-101 | Mobility, January 1985 |
| FM 7-7J | The Mechanized Infantry Platoon and Squad (Bradley), May 1993 |
| FM 20-32 | Mine/Countermine Operations, September 1992 |
| FM 34-2-1 | Reconnaissance and Surveillance and Intelligence Support to Counterreconnaissance, June 1991 |
| FM 34-3 | Intelligence Analysis, March 1990 |
| FM 71-1 | The Tank and Mechanized Infantry Company Team, November 1988 |
| FM 71-2 | The Tank and Mechanized Infantry Battalion Task Force, October 1988 |
| FM 71-123 | Tactics and Techniques for Combined Arms Heavy Forces: Armored Brigade, Battalion/Task Force, and Company/Team, September 1992 |
| FM 90-13/FM 7-26 | River Crossing Operations, September 1992 |
| FM 90-13-1 | Combined Arms Breaching Operations, February 1991 |
| FM 101-5 | Command and Control for Commanders and Staff (Coord. Draft, Aug 1993) |

ARTEP Mission Training Plans

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|--------------------|--|
| ARTEP 5-145-11-MTP | Mission Training Plan for the Combat Engineer Platoon, February 1989 |
| ARTEP 5-145-31-MTP | Mission Training Plan for the Engineer Company, February 1989 |
| ARTEP 7-8-MTP | Mission Training Plan for the Infantry Rifle Platoon and Squad, Sep 1988 |
| ARTEP 71-1-MTP | The Tank and Mechanized Infantry Company and Company Team MTP, Oct 1988 |
| ARTEP 71-2-MTP | The Tank and Mechanized Infantry Battalion TF MTP, October 1988 |

Other Related Sources

Combined Arms Battle Tasks: Battalion Task Force - Deliberate Attack, Hasty Attack, Movement to Contact, and Defend

Combined Arms Battle Tasks: Company Team - Deliberate Attack, Hasty Attack, Movement to Contact, and Defend

Combined Arms Battle Tasks: Platoon - Deliberate Attack, Hasty Attack, Movement to Contact, and Defend

Published Lessons Learned

NTC Commander's Memorandum - November 1985

CALL Newsletter No. 3 - September 1986

CATA Commander's Comments, The CS Team - May 1987

CALL Newsletter 88-2: Minefield Breaching - May 1988

CALL Newsletter No. 88-3: Heavy Forces - Fall 1988

CALL Newsletter No. 89-4: Corps/Division - November 1989

CALL Newsletter No. 90-5: Fire Support - May 1990

CALL Newsletter No. 90-8: Winning in the Desert II - September 1990