HANDBOOK

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FRATRICIDE RISK ASSESSMENT FOR COMPANY LEADERSHIP

CENTER FOR ARMY LESSONS LEARNED (CALL)
U.S. ARMY COMBINED ARMS COMMAND (CAC)
FORT LEAVENWORTH, KANSAS 66027-7000

FOREWORD

We expect our first-line leaders to make common-sense decisions on the battlefield every day, often under adverse or unexpected conditions. In any combat situation, many first-line leaders are inexperienced. Mistakes by combat leaders can lead to tragic losses -- that may have been preventable by a seasoned leader. History shows us action taken at company and platoon level has the greatest impact on reducing fratricide.

While fratricide cannot be eliminated, we must be constantly on guard for ways to reduce the risk. The purpose of this guide is to directly assist troop leaders in assessing and reducing that risk. While platoon leaders and their company commanders may still be gaining experience, their senior NCOs are frequently seasoned by years of field and live-fire training. Together, they can apply this Risk Assessment methodology to effectively protect their soldiers while accomplishing the mission.

This simple and straightforward approach capitalizes on the lessons learned form combat operations and from unit experiences at the Combat Training Center (CTCs). The structure will cause the combat leader to take a careful look at the most critical factors contributing to fratricide for his particular operation. This will allow leaders who have never been in a fight to make decisions as if they were veterans. Where conditions indicate a high risk of fratricide, the leader employs appropriate risk reduction measures in his scheme of fire and maneuver.

This is leader business -- if it works in training, you can count on it in the fight!

WILSON A SHOFFNER
Lieutenant General, USA
Commanding

FRATRICIDE RISK ASSESSMENT FOR COMPANY LEADERSHIP

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Unless otherwise stated, whenever the masculine or feminine gender is used, both are intended.

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INTRODUCTION

This handbook is organized into three main sections and three appendices.

- **Section I** describes the contributing factors of fratricide.
- **Section II** describes a methodology for assessing the risk of Fratricide for a particular operation and identifies the primary factors warranting risk reduction measures.
- **Section III** gives illustrative examples of applying the risk reduction methodology and risk reduction measures.
- **Appendix A** is comprehensive list of potential fratricide contributing factors or preconditions, any number of which can combine to increase risk.
- **Appendix B** is the complete Fratricide Risk Assessment Matrix with suggested risk reduction measured keyed to the most critical contributing factors.
- **Appendix C** is a checklist of useful fratricide risk reduction measures derived from JRTC and other TRADOC lessons learned.

SECTION I

FRATRICIDE CAUSES AND EFFECTS

Every incident of fratricide is a function of many contributing factors or preconditions. Ultimately, the combinations of these factors leads to an individual or unit error that produces friendly casualties. As an example, incomplete planning or poor maneuver control can cause forces to converge or intermingle on the battlefield. The resulting local increase in weapons density greatly increases the likelihood of a friend-on-friend engagement. This handbook will help leaders better anticipate and minimize the most important conditions that lead to fratricide such as weapons density.

PRIMARY FRATRICIDE CONTRIBUTING FACTORS

Mission (& C^2)
- High Vehicle or Wpns Density
- Cdr's Intent Unclear or Complex
- Poor Flank Coordination
- Crosstalk Lacking
- No Habitual Relationships

Enemy
- Weak Intelligence or Recon
- Intermingled With Friendly

Terrain
- Obscuration or Poor Visibility
- Extreme Engagement Ranges
- Navigation Difficulty
- Absence of Recognizable Features

Troops & Equipment
- High Weapons Lethality
- Unseasoned Ldrs or Troops
- Poor Fire Control SOPs
- Incomplete ROE
- Anxiety or Confusion
- Failure to Adhere to SOPs

Time
- Soldier and Leader Fatigue
- Inadequate Rehearsals
- Short Planning Time

LEAD TO THESE PRIMARY FRATRICIDE CAUSES:

- A Fatal Navigation Error
- Loss of Fire Control -- Direct & Indirect
- A Reporting, Battle Tracking or Clearance of Fires Error
- Ineffective Maneuver Control
- Casualties in Friendly Minefields
- Combat Identification Errors
- Weapons Errors or Failures in Discipline

"Lack of **POSITIVE TARGET IDENTIFICATION** and the inability to maintain **SITUATIONAL AWARENESS** in combat environments are the **major contributors** to fratricide. If, in addition, we can distinguish between friend, neutral and enemy, we can reduce that probability.

TRADOC-AMC *Combat Identification Interim Report*

PRIMARY CAUSES OF FRATRICIDE:

SITUATIONAL AWARENESS

* **Inadequate Fire and Maneuver Control:** Units may fail to disseminate (via troop-leading procedures and rehearsals) the minimum necessary maneuver and fire control measures to coordinate activities on the ground. Improper use or inconsistent understanding can likewise make control measures ineffective. Situation clarity decreases as density of forces increases when units operate without proper dispersion and spatial separation. This is compounded by plans that allow forces to converge or intermingle without adequate controls. As the battle develops, the plan cannot address obvious enemy moves as they occur and synchronization fails.

* **Direct Fire Control Failures:** Defensive and particularly offensive fire control plans may not be developed or may fail in execution. Some units do not designate target reference points,engagement areas and priorities. Some may designate, but fail to adhere to them. Units fail to tie control measures to recognizable feature. Weapons positioning can be poor, and fire discipline can break down upon contact.

* **Land Navigation Failures:** Never easy, navigation is often complicated by difficult terrain or weather and visibility. Navigation problems can cause units to stray out of sector, report wrong locations, become disoriented, or employ fire support weapons from wrong locations. As a result, friendly units may collide unexpectedly or be erroneously engaged.

* **Reporting,Crosstalk and Battle Tracking Failures:** Commanders, leaders and their CPs at all levels often do not generate timely, accurate and complete reports or track subordinates as locations and the tactical situation change. Commanders are unable to maintain situational awareness. This distorts the picture at each level and permits the erroneous clearance of fires (both direct and indirect) and violations of danger close.

* **Known Battlefield Hazards:** Unexploded ordnance, unmarked and unrecorded minefields, FASCAM, flying debris from discarding SABOTS and illumination rounds and booby traps litter the battlefield. Failure to make, record, remove or otherwise anticipate these treats lead to casualties.

POSITIVE IDENTIFICATION

Combat Identification Failures: Vehicle commanders, gunners and attack pilots cannot distinguish friendly and enemy thermal and optical signatures at the ranges which they can be acquired. Our weapons can kill beyond the ranges where we have clear ID. Our tactics lead us to exploit our range advantage over the enemy. During limited visibility or in restricted terrain, units in proximity can mistake each other for the enemy due to short engagement windows and decision time. We do not have a means to determine friend or foe, other than visual recognition of our forces and the enemy's. When the enemy and our Allies are equipped similarly, and when the enemy uses U.S. equipment, the problem is compounded. Simple, effective fire and maneuver control measures and plans, good situational awareness and disciplined engagements are absolutely necessary.

OTHER

Weapons Errors: Lapses in unit and individual discipline or violations of the Rules of Engagement allow errors that are not merely accidents. Examples are out-of-sector engagements, unauthorized discharges, mistakes with explosives and hand grenades, charge errors, incorrect gun data and similar incidents.

THE ROLE OF CONTRIBUTING FACTORS OR PRECONDITIONS

Contributing factors, such as anxiety, confusion, bad weather and inadequate preparation, may greatly increase the chances of a navigation error that causes fratricide. Short planning time, failure to rehearse and leader fatigue are other preconditions which may result in a fatally flawed plan or lack of appropriate control measures. Every mission will involve a unique mix of these factors and their relative importance will vary. In some cases, favorable conditions may compensate for a fratricide contributing factor(e.g., bright moonlight reduces navigation and control challenges) or two otherwise minor conditions may combine to greatly increase risk (inexperienced flank platoon leader develops commo problems). **Thus, these contributing factors are a critical dimension of realistic training to reduce fratricide.**

EFFECTS OF FRATRICIDE

The effects of fratricide can be devastating and spread deeply within a unit. **Fratricide increases the risk of unacceptable losses and the risk of mission failure.** Fratricide seriously affects the unit's ability to survive and function. Observations of units experiencing fratricide include:

- Hesitation to conduct limited visibility operations.
- Loss of confidence in the unit's leadership.
- Increase of leader self-doubt.
- Hesitation to use supporting combat systems.
- Oversupervision of units.
- Loss of initiative.
- Loss of aggressiveness during fire and maneuver.
- Disrupted operations.
- Needless loss of combat power.
- General degradation of cohesion and morale.

FRATRICIDE RISK ASSESSMENT IN PERSPECTIVE

The tactically competent and savvy leader must consider the risk of fratricide, take appropriate common-sense measures to reduce the risk and integrate those measures into his mission planning and execution. Combat is inherently risky, but the prudent leader takes reasonable measures to reduce the risk. Good commanders are careful not to place undue emphasis on risk avoidance and thus increase timidity and hesitance during battle. We fight and win by focusing overwhelming combat power on the enemy from three or four different systems, thus, giving him several different ways to die all at once. **Sensitivity to fratricide risk reduction should not deter this focus on decisive, integrated combined arms engagements.**

SECTION II

FRATRICIDE RISK ASSESSMENT

We have discussed the primary causes of fratricide and the consequences of adverse preconditions and contributing factors. Now we will discuss **a technique that allows troop leaders to anticipate these circumstances, assess the relative impact of each contributing factor, and employ risk-reducing measures.** The leader's primary focus is on reducing the likelihood of fratricide.

Fratricide should be addressed early-on. As part of accomplishing your mission while preserving combat power, you should identify and incorporate necessary risk-reducing measures. **Be sure to update your assessment "in-stride" as the situation develops.**

The Fratricide Risk Assessment Matrix we provide in this guide will allow you to address fratricide using the following steps:

1. Identify the fratricide risks using the matrix during your analysis of METT-T factors.

2. Using each submatrix, assess possible fratricide loss and probability.

3. Make decisions and develop ways and means to reduce risks.

4. Implement measures by integrating them into plans, orders, SOPS, training performance standards and rehearsals.

5. Supervise and enforce safety measures and standards.

Leaders at squad, section and platoon levels must consciously identify specific fratricide risk for may mission. Using this structured approach, troop leaders can **predict the most likely causes of fratricide** and **take action to protect their soldiers.** Whether used for an actual combat operation or a training event, this thought process complements the Troop Leading Procedures and analysis of METT-T factors in planning.

The Fratricide Risk Assessment Matrix shows an approach to assess the relative risk of fratricide for combat maneuver platoons and companies. To assign a risk value to each direct cause of fratricde from the previous section, **we pair the most critical METT-T contributing factors associated with each cause.**

For each primary cause, favorable conditions lead to the lower left corner of the matrix and lesser risk values. As either contributing factor becomes unfavorable, risk increases, with **the worst precondition for each kind of fratricide represented by the upper right had corner of the matrix.** To introduce this matrix approach, we will discuss applicable METT-T factors and follow an example platoon-level assessment. For instance, assume an experienced tank platoon leader of a well-trained platoon is attached to a mech company for the first time during a defense. With the help of his platoon sergeant, he reviews the employs the Fratricide Risk Assessment Matrix. To determine the relative risk of fire and maneuver control measures, the leader looks at the first submatrix.

SUBMATRIX 1: When considering **Fire and Maneuver Control**, the platoon leader finds that defensive scheme of maneuver initially ensures spatial separation by virtue of terrain and reinforcing obstacles. His position covers 700m, resulting high dispersion or low force density. However, the platoon's role in the counterattack plan may require maneuver toward other elements or attacking an enemy formation. If situation clarity decreases as he conducts the counterattack, and probable weapons density increases, he predicts a high fratricide risk of seven for the counterattack phase.

FIRE & MANEUVER CONTROL				RATING
DENSITY OF FORCES	CLARITY OF THE SITUATION			
	Maintain Force Separation	Forces Converge	Forces Intermingle	
Heavy	5	7	9	
Normal	3	5	7	
Sparse	1	3	5	

Density of Forces

Low Risk

- Full Dispersion
- Greater the Doctrinal Frontages
- High Risk
- Low Dispersion
- Compressed Frontages

Clarity of the Situation

Low Risk

- Units Stationary with Stand-off
- Masking Terrain Between Adj Units
- High Risk
- Friendly Forces Converge
- Friendly or Enemy Forces Intermingle

SUBMATRIX 2: Effectiveness of the **Fire Distribution Plan** is a function of how well-trained team is to start with, and how well they understand the plan for this mission. Plenty of Preparation Time allows for thorough Rehearsals and Dissemination of the fire distribution plan. However, under Collective Proficiency, the platoon leader in our example selects moderate risk due the task organization. He fells his unit is well-trained, but the parent company and its SOPs are unfamiliar. This leads to a risk value of two for this collective assessment.

FIRE DISTRIBUTION PLAN			RATING
PREP TIME REHEARSALS DISSEMINATION	COLLECTIVE PROFICIENCY		
	Strong SOPs Hab Attchmnts	Mod Trained or Fam Tsk Org	Unseasoned & Unfam Tsk Org
Briefback Rehearsals	3	4	5
Reduced Force Rehearsals	2	3	4
Full Force Rehearsals	1	2	3

<u>Preparation</u>

Low Risk

- Full-Force Rehearsals & Inspections
- Complete Troop-Leading Process
- Thorough Coordination
- Complete Contingency Development

HighRisk

- Abbreviated Troop Leading
- Brief back Rehearsals

<u>Collective Proficiency</u>

Low Risk

- Habitual Team
- Practiced, Effective SOPs
- Fire Control Success in Tng or Cbt

High Risk

- Unfamiliar attachments
- Limited Team Experience in Tng or Cbt

" Time Spent on Reconnaissance is never wasted."

--Lord Wellington

SUBMATRIX 3: **Land Navigation** is normally critical in the offense, but less so in defensive operation. The leader's confidence in his ability to navigate precisely is dependent upon the local terrain, weather and visibility characteristics and any technological navigation aids at his disposal. Assume in our example the tank platoon leader's maneuver role in the counterattack is through somewhat difficult terrain. He has no Global Positioning System, but has extensive opportunity to reconnoiter his route. This puts him on the bottom row of the third submatrix with a risk value of two.

LAND NAVIGATION			RATING
EXTENT OF RECON & IPB	VISIBILITY & NAVIGATION DIFFICULTY		
	Ample Controls High Confidence	Confidence with Much Effort	Very Difficult Low Confidence
Minimal	3	4	5
Limited	2	3	4
Extensive	1	2	3

<u>Extent of IPB & Recon</u>

Low Risk

- Hazards found & Eliminated
- Terrain, Route & Enemy Confirmed
- Guides or Beacons Positioned
- Security Emplaced

High Risk

- No Information Available

<u>Viability & Navigation Difficulty</u>

Low Risk

- Positioning or Vectoring Equipment Used
- Terrain Known to Friendly
- Detailed Route Recon & Prep

High Risk

- No Reconnaissance
- No Technological Aids
- Adverse Viability & Weather

SUBMATRIX 4: The lieutenant's analysis if **Fire Control and Battle Tracking** leads to a low risk rating of three. His vehicular commos reliable and he has on clearance of fires responsibilities until the counterattack, where he has priority of task force field artillery fires. the company FIST is an experienced officer who has been with the company for over six months, and his commo is also good, with **positive clearance of indirect fire at company level.** The platoon sergeant reminds his to also confirm his maneuver does not coincide with any preplanned task force fires.

FIRE CONTROL & BATTLE TRACKING				RATING
CLEARANCE OF FIRES	COMMO & CROSSTALK			
	Reliable Redundant	Adequate Means	Unreliable No Backups	
Passive Only	21	23	25	
Positive	1	3	5	

Clearance of Fires

Low Risk

- Positive Control of All Supporting Fires
- Cleared by eyes on" Ground Unit
- Observed Fire and Adjustments

Very High Risks

- Based on Higher HQ Battle Tracking Only
- "Silence is Consent"

Commo & Crosstalk

Low Risk

- Multiple Radios and Nets
- Leaders Forward, Reporting Higher
- Consistent Lateral Commo & Reports

High Risk

- Max Range Commo or Dsmted Systems
- CPs Do Not Keep Current Unit Status

SUBMATRIX 5: In reviewing the danger of **Battlefield Hazards**, he determines a significant risk. Although none of the planned DPICM is a threat to his tankers, the Task Force commander planned an on-call FASCAM minefield within 1500m of the platoon's counterattack route. Despite partial or better knowledge of likely hazards, there is a major hazard planned for his vicinity; thus, his high risk value is three.

BATTLEFIELD HAZARDS			RATING
USE OF ADD'L DUD-PRODUCING MUNITIONS	KNOWLEDGE OF EXISTING HAZARDS		
	Extensive	Partial	Extremely Limited
Unknown	3	4	5
Major	2	3	4
Minor	1	2	3

<u>Hazard-Producing Munitions</u>

Low Risk

- No Use in Sector
- Force is Survivable of Munitions in Use

High Risk

- FASCAM on Maneuver Route or Flank
- DPICM on Objective, CAS Danger Close
- Type of Munitions are Unknown

<u>Knowledge of Existing Hazards</u>

Low Risk

- Thorough Reconnaissance Possible
- Friendly Presence of AO
- All Hazards Reported & Marked

High Risk

- AO controlled by Enemy
- Friendly Use of Munitions Unreported
- "Don't Know What to Expect"

SUBMATIRX 6: **Combat Identification** is generally a strength with this platoon with near optimal acquisition and engagement ranges of under 1600m. However, the platoon sergeant is very skeptical of the unit's expedient recognition SOP based largely upon IR chemlights and bon-thermal panels. This results in a moderate risk value of three.

COMBAT IDENTIFICATION			RATING
ENGAGEMENT RANGES & FIELDS OF FIRE	FRIENDLY RECOGNITION & MARKING SYS		
	Practiced Very Effective	Expedient Some-what Effective	Marginally Effective
ID Unlikely	3	6	7
Marginal ID	2	4	5
Optimal ID	1	2	3

Engagement Ranges

Low Risk

- Fields of Fire & Range Make ID Likely
- Acquisition Range Matches ID Range

High Risk

- Vegetation or Range Make ID Unlikely
- Acquisition Exceeds ID Range

Recognition System

Low Risk

- Established, Very Effective & Well-Understood
- Works at Acquisition Range Day & Night

High Risk

- Short Range
- Not Thermally & IR Distinct

SUBMATRIX 7: The risk of **FIRE CONTROL DISCIPLINE** is a low value of two, because the task force Rules of Engagement (ROE) have proved very effective in preventing inappropriate weapons employment. The platoon's attached status elevates it slightly due to differences in equipment and command relationships.

FIRE CONTROL DISCIPLINE			RATING
COMMAND & CONTROL OR SUPERVISION	RULES OF ENGAGEMENT (ROE)		
	Complete & Effective	Complete Some-what Effective	Expedient Untested
Ad Hoc-Improvised	4	6	7
Attached	2	4	5
Organic	1	2	3

Command & Control

Low Risk

- Competent Supervision of Weapons Employment
- Habitually Associated Elements
- Wpns Restrictions & Limitations Known

High Risk

- Improvised Chain of Command
- Unfamiliarity with Unit SOP & Techniques

Rules of Engagement

Low Risk

- Complete (e.g.main effort, reserve & rear)
- Balance Safe Opns with Mission Reqt's
- Covers EPWs, Refugees & Neutrals

High Risk

- Non-Specific or Permissive
- Not Understood or Enforced

SUBMATRIX 8: Finally, the lieutenant and his platoon sergeant consider the platoon's **Soldier and Leader Preparedness**. They have been together over eight months and have great confidence in themselves and their soldiers. The training level is high, but combat experience is limited. Considering these factors they use a moderate training level combined with low exertion and fatigue to assess a low risk level of three.

SOLDIER & LEADER PREPAREDNESS			RATING
MISSION-RELATED EXPERIENCE & COMPETENCE	SOLDIER & LEADER FATIGUE		
	Rested Low Exertion	Mod Rest & Exertion	Limited Rest High Exertion
Unseasoned	5	7	9
Moderate Experience	3	5	7
Highly Experienced	1	3	5

Mission-Related Experience

Low Risk

- Cbt or Cbt Tng Ctr Seasoning
- Competent, Confident Leaders Execute Commander's Clear Intent
- Disciplined, Acclimated Soldiers

High Risk

- Ill-Prepared to Achieve Cdr's Intent
- Unseasoned Soldiers with Seasoned Leaders
- Unseasoned Leaders and/or Soldiers

Soldier & Leader Fatigue

Low Risk

- Disciplined, Effective Sleep Plan
- Exertion Rate Managed Throughout Opn

High Risk

- Overloaded Soldiers, Prolonged Opns
- Leaders Fail to Rest
- Ineffective Sleep Plan

OVERALL RISK: The total risk value based upon this assessment is then 25, putting the platoon in the caution area for this mission. Despite being well-trained and operating under generally favorable conditions, the platoon must consider several important fratricide countermeasures to reduce risk. After reviewing the highest risk areas, the platoon leader and platoon sergeant decide which risk reduction measures will be possible, practical and effective.

LOW RISK	CAUTION	HIGH RISK	TOTAL
8 to 20	21 to 30	> 30	

The leaders' new appreciation of how risk affects this mission will allow them to apply appropriate controls **without compromising mission accomplishment.** Typically, they will combine several conventional control measures with specific antifratricide controls. The counterattack phase of this defense clearly entails the most risk. Controls to reduce risk due to **Fire and Maneuver, Battlefield Hazards** and **Combat Identification** could include:

- Recon and mare entire route with key leaders.
- Coordinate directly with overwatching elements.
- Establish a Restricted Fire Line or other spatial separation for supporting fires.
- Recon firing positions masked by terrain from friendly fire.
- Rehearse entire move with full platoon and overwatching elements.
- Mark extent of FASCAM safety zone on ground, modify route and possibly register the target for accuracy.
- Establish a codeword and signal for FASCAM emplacement.
- Add thermally visible smudge pots to tanks or thermally mark counterattack positions.
- Back brief commander in detail on all measures and coordination.

Other more routine, but no less important, measures will further reduce other risks:

- Complete full-force rehearsals of all phases and possible contingencies (include limited visibility and MOPP).
- Coordinate with any adjacent units that will move mounted or dismounted.
- Review and test understanding of plan and ROE to instill confidence and discipline in execution.
- Enforce absolute compliance with sleep plan and security plan.

In summary, leaders must select the most relevant measures which have the best payoff and integrate them into their planning and preparation. The leadership must then **employ those controls with the greatest payoff in risk reduction.** The platoon sergeant's experience is often key to determining this payoff. This highlights the need for the chain of command to implement the Troop-Leading Procedures as efficiently as possible in any situation.

The following section will discuss examples of fratricide risk assessment for various organizations in different scenarios. Review these for a better appreciation of how the Fratricide Risk Assessment Matrix can meet your unit fratricide reduction training requirements. We offer this Fratricide Risk Assessment Matrix can meet your unit fratricide reduction training requirements.

We offer this Fratricide Risk Assessment Matrix as an effective technique to control fratricide. Please direct any suggestions to the CALL point of contact. Each of the Combat Training Centers (CTCs) is now recording fratricide incident data which should lead to a much clearer understanding of fratricide contributing factors and preconditions. As trends emerge, we will publish them in future products.

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SECTION III

FRATRICIDE RISK ASSESSMENT EXAMPLES

SCENARIO No. 1 INFANTRY PLATOON

A light infantry platoon prepares to be the company main effort during a night attack in a built- up area 36 hours from now. The platoon leader and platoon sergeant are experienced in this environment, but have several new personnel, to include one squad leader and two team leaders. The town has narrow streets and mostly two-or three-story buildings with basements. Adjacent companies are attacking in zone to seize objectives separated by only slightly wider streets from this platoon's company objective. Priority of artillery fires is retained at battalion level.

RISK ASSESSMENT:		**Risk Level**
*** FIRE AND MANEUVER CONTROL**		
Density of Forces	Confined & Concentrated by Streets & Bldgs	9
Clarity of Situation	Platoons Will Intermingle in Bldgs	
*** FIRE DISTRIBUTION PLAN**		
Preparation Time	Full-Forced & Lmtd RehearsalVisibity	2
Collective Proficiency	Moderately Trained	
*** LAND NAVIGATION**		
Extent of Recon & IPB	Negligible, None of Bldg Interiors	3
Visibility & Navigation	Simple Structures, High Confidence	
*** FIRE CONTROL AND BATTLE TRACKING**		
Clearance of Fires	No positive Control of Adj Units	23
Commo & Crosstalk	Good Commo, but Erratic in MOUT	

RISK ASSESSMENT: **Risk Level**

*** BATTLEFIELD HAZARDS**

Hazard-Producing Munitions	Minor Use of DPICM; No Use of FASCAM	2
Knowledge of Hazards	Partial Knowledge of Hazards	

*** COMBAT IDENTIFICATION**

Engagement Ranges	ID Unlikely due to Cover & Obscuration	6
Recognition & Marking Sys	Expedient Day & Night Bldg Markings	

*** FIRE CONTROL DISCIPLINE**

C2 or Supervision	Organic, but New Leaders	4
Rules of Engagement	Only Somewhat Effective for MOUT	

*** SOLDIER AND LEADER PREPAREDNESS**

Mission-Related Experience	Mixed Experience	5
Soldier & Leader Fatigue	High Exertion, but Rested	

OVERALL RISK: High Fratricide Risk 54

RISK REDUCTION MEASURES:

- Coordinate Use of Bldgs & Numbering System to Keep Forces Separate
- Precede Arty Missions with Marking Round, Codeword or Signal
- Rehearse Room & Building Clearing & Marking SOPs
- Report Progress by Building & Floor
- Carefully Coordinate Use of Smoke
- Drill Soldiers & Leaders on ROE & Contingencies

SCENARIO No. 2 ENGINEER PLATOON

A divisional engineer platoon in a Heavy Division is supporting a balanced mech task force conducting a defense in sector in less than 24 hours. A light infantry battalion is preparing a deliberate defense in the restricted terrain on one flank. Platoon priority of work is a survivability positions for tanks and Bradleys, but the task force has one major countermobility priority which is a turning obstacle on the light infantry flank. When enemy lead elements enter brigade sector, the platoon will occupy a battle position to the rear where it has control of fires in a flank engagement area. This platoon is a cohesive team that has worked with this task organization often.

RISK ASSESSMENT:		**Risk Level**
*** FIRE AND MANEUVER CONTROL**		
Density of Forces	Normal Defensive Frontages	7
Clarity of Situation	Eng Tms May Mix With FT & Flank Units	
*** FIRE CONTROL PLAN**		
Preparation Time	Brief Back Rehearsals Only in Defense	3
Collective Proficiency	Very Confident of Platoon Proficiency	
*** LAND NAVIGATION**		
Extent of Recon & IPB	Extensive Operation in this Sector	2
Visibility & Navigation	Only Moderate Challenge at Night	
*** REPORTING AND BATTLE TRACKING**		
Clearance of Fires	Eng Plt has no Positive Clearance of Fires	23
Commo & Crosstalk	Commo with all Elements Only Adequate	

RISK ASSESSMENT: **Risk Level**

*** BATTLEFIELD HAZARDS**

Hazard-Producing Munitions	Major Additional Minefield Installed	2
Knowledge of Hazards	Engineers Know Existing Hazards	

*** COMBAT IDENTIFICATION**

Engagement Ranges	ID Marginal due to Eng Specific Equip	5
Recognition System	Marginal due to Light Bn on Flank	

*** FIRE CONTROL DISCIPLINE**

C2 or Supervision	Organic Chain of Command	1
Rules of Engagement	Rules of Engagement are Well-Enforced	

*** SOLDIER AND LEADER PREPAREDNESS**

Mission-Related Experience	Highly Trained	3
Soldier & Leader Fatigue	Lmtd Rest, High Exertion in the Defense	

OVERALL RISK: High Fratricide Risk During Defensive Prep 48

(Reduces to **28--Caution** after platoon occupies BP and gains positive control of fires)

RISK REDUCTION MEASURES:

- Detailed Link-Up Plan for Blade Teams & TF Elements
- Flank Coordination for Turning Obstacle Emplacement Team
- Enhance, Inspect & Enforce Vehicle Markings
- Conduct Commo Checks, Updates to TOC Every Hour
- Engineer Element to TOC Eavesdrops on Fire Support Element Calls for Fire
- Monitor and Manage Soldier and Leader Fatigue

SCENARIO No. 3: HEAVY MORTAR PLATOON

A relative new leader of 4.2"mortar platoon has 24 hours to prepare his soldiers for a deliberate attack in his mech-heavy task force. His initial priority of fire is to a dismounted supporting attach during the night from a LD firing position. He then shifts to support the main effort for a dawn assault of mounted and dismounted mech elements Terrain is the typical rolling hills of central Germany, with large forest of tall trees on the high ground separated by meadows and farm fields. The mortarmen are veterans of many live-fire exercises, but have not previously engaged the enemy in this mid-intensity scenario.

RISK ASSESSMENT:		**Risk Level**
*** FIRE AND MANEUVER CONTROL**		
Density of Forces	Multiple Routes & Psns, Normal Dispersion	5
Clarity of Situation	Platoon Will Converge TF Reserve in Mvt	
*** FIRE CONTROL PLAN**		
Preparation Time	Full Force Rehearsals	2
Collective Proficiency	Moderately Trained	
*** LAND NAVIGATION**		
Extent of Recon & IPB	Several TF Units Will Confirm Route	2
Visibility & Navigation	Moderately Difficult, No GPS	
*** REPORTING AND BATTLE TRACKING**		
Clearance of Fires	Positive Clearance of Fires	3
Commo & Crosstalk	Adequate Commo for this Terrain	

RISK ASSESSMENT: **Risk Level**

*** BATTLEFIELD HAZARDS**

Hazard-Producing Munitions	Minor Use Planned for Zone	2
Knowledge of Hazards	Expect Partial or Better Knowledge	

*** COMBAT IDENTIFICATION**

Engagement Ranges	ID Marginal due to Cover, Concealment	5
Recognition System	TF SOP Not Working Well with Vegetation	

*** FIRE CONTROL DISCIPLINE**

C2 or Supervision	Organic Chain of Command, Trained	2
Rules of Engagement	ROE Weak or Danger Close Engagements	

*** SOLDIER AND LEADER PREPAREDNESS**

Mission-Related Experience	Leaders Unseasoned, Soldiers Anxious	5
Soldier & Leader Fatigue	Rested, Low Exertion	

OVERALL RISK: Fratricide Risk in Caution Area 26

RISK REDUCTION MEASURES:

- Enhance & Inspect Vehicle Markings
- Coordinate Psn Occupations with Security Element on LD & TF Reserve
- Conduct Fire Support Rehearsal of Entire Mission with priority to Objective
- Conduct Detailed Troop Leading & Walk-thrus to Assure Soldier Confidence
- Confirm and Troubleshoot Navigation Plan

SCENARIO No. 4 SCOUT PLATOON

A Scout platoon leaders prepares to screen forward of his balanced Armor Task Force on a night movement to contact. The mission involves desert terrain with intermittent obscuration due to fog and dust. The Scouts have priority of artillery fires until the Task Force reaction to contact is initiated. He has 18 hours to prepare, but his soldiers have just completed a difficult reconnaissance mission. That mission was very successful, and platoon reacted well to several enemy contacts. However, deasert maneuver with only one Global Positioning device proved very challeging. The platoon leader and platoon sergeant feel that leaders and soldiers validated their readiness, competence and the unit ROE.

RISK ASSESSMENT:		**Risk Level**
*** FIRE AND MANEUVER CONTROL**		
Density of Forces	Sparse	5
Clarity of Situation	Contact Likely, Forces May Mix	
*** FIRE CONTROL PLAN**		
Preparation Time	No Full Rehearsals, Limited Coordination	3
Collective Proficiency	Strong SOPs, Cohesive Team	
*** LAND NAVIGATION**		
Extent of Recon & IPB	No Advance Recon	4
Visibility & Navigation	Only 1 GPS for 3 Sections, Visibility Poor	
*** REPORTING AND BATTLE TRACKING**		
Clearance of Fires	Commo & Line-of-Sight	3
Commo & Crosstalk	TF Uses Both Pros & Passive Clearance	

RISK ASSESSMENT: **Risk Level**

*** BATTLEFIELD HAZARDS**

Hazard-Producing Munitions	Major Preplanned DPICM & MLRS	4
Knowledge of Hazards	Extremely Limited Info on Existing Hazards	

*** COMBAT IDENTIFICATION**

Engagement Ranges	ID Unlikely on Acquision	6
Recognition System	Expedient, But Well Understood	

*** FIRE CONTROL DISCIPLINE**

C2 or Supervision	Organic Chain of Command	1
Rules of Engagement	Confident in Complete ROE	

*** SOLDIER AND LEADER PREPAREDNESS**

Mission-Related Experience	Highly Trained, Combat Toughened	5
Soldier & Leader Fatigue	Limited Rest Opportunity	

OVERALL RISK: High Fratricide Risk 31

(Upon contact Fratricide Risk Goes to **51--Extremely** High when Scouts lose positive control of fires)

RISK REDUCTION MEASURES:

- Place GPs in Center, Flank Sections Keep in Sight
- Inspect Vehicle Markings, Ensure Thermal Component
- Thorough Brief Back With Cdr, S3 & Lead Teams; discuss GSR Vectoring w/S2
- Maintain Visual Contact & Commo with Lead Element
- Scouts Clear all Arty Fires within 4000 meters
- Rehearse React to Contact and Reaction to Mines

APPENDIX A:

FRATRICIDE CONTRIBUTING FACTORS

(OR PRECONDITIONS)

MISSION (and C2):

Nature of Operation
Complexity of Plan or Intent
Adequacy of Reconnaissance
Direct Fire Control Plan or Measures?
Adjacent Forces Intermingled
360 Fight?
Are we the flank unit?
Unit position with respect to main body
Weapons systems density
Converging Forces
Are stragglers present?
Control of Space
Rules of Engagement
Communication or Reporting Failures
Crosstalk Lacking
Synchronization failure
Detached or Reconnaissance Element involved
Dissemination of Plan
LOs or Adequacy of adjacent unit coordination
Guidance to Attached or Detached elements
Disruption of C2
Feasibility of Fratricide Risk Reduction

ENEMY:

Enemy or Friendly Forces Intermingled
Enemy has similar equipment
Enemy activity

TERRAIN:

Day versus Night
NBC environment
Land Navigation
Terrain (OCOKA)
Orienting Terrain
Engagement Ranges
Compartmented vs Featureless terrain
Obscuration (Fog, Smoke, Dust)
Precipitation
Battlefield hazards (unrecorded or marked minefields, submunitions, etc.)

TROOPS and EQUIPMENT:

Individual proficiency and experience
Collective proficiency
Leader competence
Leader Experience (seasoning)
Situational Awareness
Rehearsals Adequate
Clearance of Artillery Fires
Fatigue or Physical Condition or Endurance
Effective SOPs
Acclimation to region
Habitual Attachments
Location of Tactical Air Control Party
Weapons Errors (Accidents, charge errors, wrong deflection, etc.)
Unit manning level
Soldier's Load
Anxiety, Confusion, Fear
Combat Identification (ground to ground and air to ground)
Friendly Weapons effects (Penetration, blast, ricochet)
Communication Redundancy
Availability of Protective Equipment (MOPP, Flack Vests, Hazardous material)
Availability of Task-Related Equipment
Availability of Navigation and Positioning Equipment
IFF expedient for ground forces

TIME:

Planning Time
Continuous operations with minimal sleep
Continuous operations without sleep
Operation Duration and Intensity of Operation
Soldier and Leader Rest

APPENDIX B: FRATRICIDE RISK ASSESSMENT MATRIX

(From CALL Handbook, 92-3)

SITUATIONAL AWARENESS

FIRE & MANEUVER CONTROL				RATING
DENSITY OF FORCES	CLARITY OF THE SITUATION			
	Maintain Force Separation	Forces Converge	Forces Intermingle	
Heavy	5	7	9	
Normal	3	5	7	
Sparse	1	3	5	

FIRE DISTRIBUTION PLAN				RATING
PREP TIME REHEARSALS DISSEMINATION	COLLECTIVE PROFICIENCY			
	Strong SOPs Hab Attchmnts	Mod Trained or Fam Tsk Org	Unseasoned & Unfam Tsk Org	
Brief back Rehearsals	3	4	5	
Reduced Force Rehearsals	2	3	4	
Full Force Rehearsals	1	2	3	

LAND NAVIGATION				RATING
EXTENT OF RECON & IPB	VISIBILITY & NAVIGATION DIFFICULTY			
	Ample Controls High Confidence	Confidence with Much Effort	Very Difficult Low Confidence	
Minimal	3	4	5	
Limited	2	3	4	
Extensive	1	2	3	

FIRE CONTROL & BATTLE TRACKING				RATING
CLEARANCE OF FIRES	COMMO & CROSSTALK			
	Reliable Redundant	Adequate Means	Unreliable No Backups	
Passive Only	21	23	25	
Positive	1	3	5	

BATTLEFIELD HAZARDS				RATING
USE OF ADD'L DUD-PRODUCING MUNITIONS	KNOWLEDGE OF EXISTING HAZARDS			
	Extensive	Partial	Extremely Limited	
Unknown	3	4	5	
Major	2	3	4	
Minor	1	2	3	

POSITIVE IDENTIFICATION

COMBAT IDENTIFICATION				RATING
ENGAGEMENT RANGES & FIELDS OF FIRE	FRIENDLY RECOGNITION & MARKING SYS			
	Practiced Very Effective	Expedient Some-what Effective	Marginally Effective	
ID Unlikely	3	6	7	
Marginal ID	2	4	5	
Optimal ID	1	2	3	

DISCIPLINE

FIRE CONTROL DISCIPLINE				RATING
COMMAND & CONTROL OR SUPERVISION	RULES OF ENGAGEMENT (ROE)			
	Complete & Effective	Complete Some-what Effective	Expedient Untested	
Ad Hoc-Improvised	4	6	7	
Attached	2	4	5	
Organic	1	2	3	

TROOPS

SOLDIER & LEADER PREPAREDNESS				RATING
MISSION-RELATED EXPERIENCE & COMPETENCE	SOLDIER & LEADER FATIGUE			
	Rested Low Exertion	Mod Rest & Exertion	Limited Rest High Exertion	
Unseasoned	5	7	9	
Moderate Experience	3	5	7	
Highly Experienced	1	3	5	

LOW RISK	CAUTION	HIGH RISK	TOTAL
8 to 20	21 to 30	> 30	

FRATRICIDE Risk Reduction Measures	Routine Measures Low Risk	Caution →	Extraordinary Measures High Risk
• FIRE AND MANEUVER CONTROL	Brief Backs Supervision PMCS & Pre Combat Checks	Lim Vis Rehearsal Reinforce Clear Intent Cross-Level/Consolidate Equip	Converging/Adj Forces Rehearsal Task Force Rehearsal
• FIRE DISTRIBUTION PLAN	Extensive Rehearsals SOPs Synchronization Matrix	Modify Task Organization Some Direct Fire Units-Wpns Hold or Tight Limited Visibility Plan	Multiple Synchronization Rehearsals Modify Plan Limited Objectives
• LAND NAVIGATION	Detailed Navigation Plan Reconnaissance Confirms Impact of Terrain-Weather-Enemy	Ground Guides/Night Vision Aids Redundant Navigation Aids Marking Enemy Positions	Multi-Echelon Navigation Extensive Recon/Centralization Reduce Equipment Dependence
• FIRE CONTROL AND BATTLE TRACKING	Positive Clearance of Fires Commo Checks Fire Support Rehearsal	**Positive** Clearance of Fires Restrictive Control Measures SOP Guides/Beacons/Vectoring	**POSITIVE Clearance of Fires** More Leaders Forward Redundant Commo Provide Backups
• BATTLEFIELD HAZARDS	Safety Discipline Disseminate Known Hazards	Vehicle Hazards Considered Rehearse React to Hazard Review Equip Limitations	Add Intermediate Objectives Special Log/Maint Actions Detailed Deception
• COMBAT IDENTIFICATION	Sustain CVI Skills Boresight Cbt Vehicle Recognition Sys	CBT ID Enhancements IFF Expedients for Exposed Elements	Clear IR Friendly Marking Multiple Recognition Signals
• FIRE CONTROL DISCIPLINE	Review ROE Challenge/Password Discipline Inspections Buddy System	Lighten Load/Review Equip List Simplified Plan Simplicity/Repetition Modify ROE	Interim Halts/Assessments Challenge/Password Enhancements Rotate High Stress Positions
• SOLDIER AND LEADER PREPAREDNESS	Address Seasonal Hazards Sustainment Training Sustain Morale Full Troop Leading Process Sleep Plan	Max Use of Transport Abbreviated Troop Leading Process Refresh Mission Specific Skills Controlled Pace in Execution	Priority of Tasks Priority of Rehearsals FRAGO only for Efficiency Request Additional Combat Power Don't Exceed Tng Proficiency

APPENDIX C

FRATRICIDE REDUCTION MEASURES**

Mission

Tactically Sound and Simple Scheme of Maneuver
Complete and Concise Orders
Doctrinally correct clearance of fires
CPs and TOCs accurately track the battle; render timely reports
Maintain graphics two levels down
Use large scale battalion and brigade sector sketches for detail
Coordinate with adjacent units; track adjacent battle
Subcompartment sectors and assign responsibility during LIC
Aviation and maneuver elements must coordinate and communicate
Get Air Tasking Order day prior and see what's flying
FA Bn HHB Cdr clears fires around BSA--he is FSO for the FSB
Only allow the QRF in the BSA perimeter
SOCCE is the key to coordination of SOF and conventional unit maneuver
Anticipate or assess fratricide risk during planning
Send key leader on objective reconnaissance--(e.g., squad leader from lead platoon)

Enemy

Know enemy characteristics and equipment
Know hostile criteria and enemy aircraft flight profiles
Additional recognition signals or markers

Terrain

Navigate Accurately--Know your Location
Fire control measures on identifiable terrain
Unit boundaries on identifiable terrain
OCOKA Analysis to identify fratricide risk
Redundant navigation aids or checks
Control the MSR--Know what should be on it and what shouldn't

Troops and Equipment

Always Rehearse--Don't accept excuses
Consider Limited visibility rehearsal
Situational Awareness--Units, Enemy, Hazards
Know your weapon and vehicle orientation
Anticipate where weapon system density will be highest
Recognize Battlefield Stress
Use validated SOPs to simplify operations
Know Rules of Engagement
Accurate and timely spot reports
Positive Target Identification--Don't shoot first, ask questions later
Sustain good aircraft identification training program
Train BSA troops in threat ID and survivability skills
Know friendly weapons effects
Train worst-case MOUT--flimsy structures or high fragmentation

Time

Maximize Planning Time
Prioritize Tasks or Rehearsals or Reconnaissance
Multiple WARNORDs and FRAGOs to save time
Adjust pace and Tempo

****Derived from JRTC "Tips to Prevent Fratricide" and TRADOC Fratricide Prevention Measures**