

# 300 Assaults

## The Rifle Squad Assault as Part of the Platoon Attack



*What can a simulation teach us about the assault that is not already in our manuals?*

Brendan B. McBreen

1 June 2023

[www.2ndbn5thmar.com](http://www.2ndbn5thmar.com)

---

### Abstract

What are the best practices to conduct a squad assault? What skills are needed? What tactics do combat veterans recommend? What techniques work best in what situations? What cues do experts track? What are their priorities? What decisions are required during the assault? Every tactical operation is simple when drawn on paper, but surprisingly complex in the real world, when fighting a competent enemy on actual terrain.

Where are the answer to these questions? Not in the squad manual, which is poorly written and lacks diagrams. Not in our training standards, which are superficial. Not in our school handouts, which lack standardization. And only intermittently in our exercises and unit training, depending on the experience and ability of our unit leaders. Where else can we learn how best to assault? In simulation.

Using a simulation, we conducted 300 assaults, against increasingly difficult enemies, occupying different defensive positions, and from different distances. The results provided tremendous learning experiences and multiple insights. Practice and repetition reinforced key lessons on the importance of pinpointing the location of the enemy, overwhelming him with suppressive fire, reading the dirt, and advancing by fire and movement. Additional lessons helped us to prioritize other aspects of a successful assault.

We then surveyed dozens of Marine leaders asking for recommendations on assault techniques and information on how they learned their own best practices. Most acquired their knowledge of the squad assault on their own, from peers and mentors, in training and in combat. To benefit all Marines, we need to: (1) **Improve our manuals**—manuals drive our training standards and schools, (2) **Train with simulations**—to augment training that cannot be replicated in the field, and (3) **Use simulations to improve our manuals**.

What can we learn from simulations? A great deal. The 300 assaults in this experiment provided rich feedback on complex tactical situations. Some lessons were obvious, some confirmed and reinforced techniques taught by the Marine Corps, and some lessons were surprising. Suppression, cover, and movement under enemy fire are not easily trained when no one is shooting at you. Critics argue that simulations are fake. But your thought processes, estimates, and tactical decisions are exactly the same as they are in real life. Most importantly, simulations can introduce and reinforce lessons that cannot be learned outside of actual combat.

---

## Contents

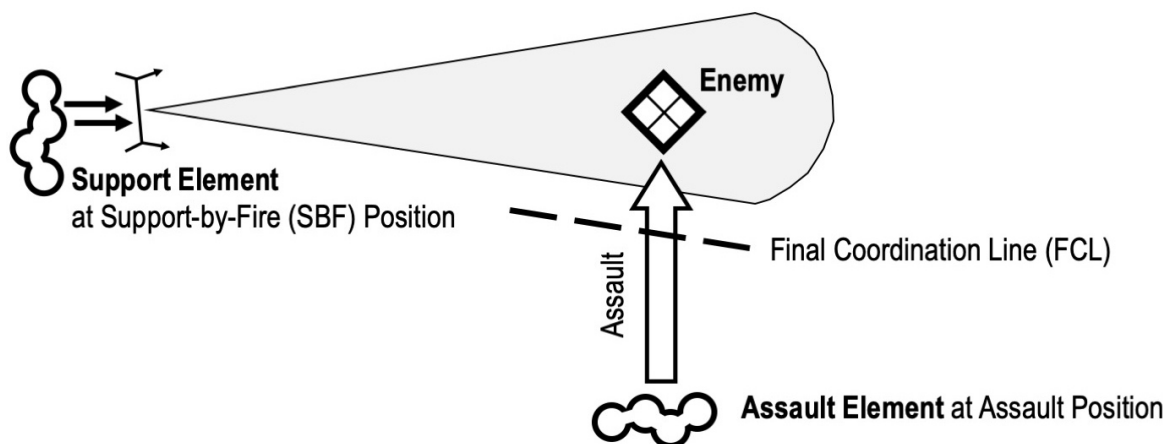
1. What are the questions?	3
2. Where are the answers?	4
2.1. In our manuals?	5
2.2. In our training standards?	6
2.3. In our schools?	6
2.4. In our exercises?	7
2.5. In unit training?	7
2.6. In combat?	7
2.7. Where else can we learn how to assault?	8
3. 300 Assaults	8
4. 300 Results	11
5. Insights for squad leaders	18
6. What is to be done?	20
Acknowledgements	22
References	23
Appendix A. Platoon Attack Order	25
Appendix B. Squad Casualties and Combat Power	27
Appendix C. Example Data Sheet	28
Appendix D. Assault Techniques: Insert page for MCRP 3-10A.4 <i>Marine Rifle Squad</i>	29
Appendix E. Fire and Movement: Insert page for MCRP 3-10A.4 <i>Marine Rifle Squad</i>	31
Appendix F. Assault Fire: Insert page for MCRP 3-10A.4 <i>Marine Rifle Squad</i>	38
Appendix G. The 300 mil Rule: Insert page for MCRP 3-10A.4 <i>Marine Rifle Squad</i>	41
Appendix H. Squad Assault Terms: Insert page for MCRP 3-10A.4 <i>Marine Rifle Squad</i>	43
Appendix I. The SBF Checklist: Insert page for MCRP 3-10A.4 <i>Marine Rifle Squad</i>	47

## 300 Assaults: The Rifle Squad Assault as Part of the Platoon Attack

*What can a simulation teach us about the assault that is not already in our manuals?*

### 1. What are the questions?

I teach lieutenants. Recently, I talked to two young officers, both graduates of The Basic School (TBS) and the Infantry Officer Course (IOC), who were keenly interested in tactics. We talked about the platoon attack, an operation that I have executed, trained, studied, and taught as a Marine infantry officer for twenty-five years. I wanted to impress upon them how complex even a simple evolution could be. On a white board, I drew a diagram and quizzed them on what they had learned:



Q: "Lieutenants. During the attack, when do you stop your support by fire (SBF) machineguns?"

A: "Sir. Right before they shoot the assault element. At the final coordination line (FCL)."

Q: "Is that the same as your assault position?"

A: "No. We *start* the assault at the assault position, which should be very close to the FCL."

Q: "And that's where you do fire and movement?"

A: "No. We start fire and movement only when we're fired on. That's just one part of the assault."

Q: "So if the enemy is completely suppressed, the assault element doesn't do fire and movement?"

A: "Correct. We want to move as close to the enemy as possible, as fast as possible."

My next questions were a bit more challenging:

Q: "If fire and movement is just one assault technique, what are the others?"

A: "Running. Movement to the objective. Then fire and movement. Are there others?"

Q: "Does fire and movement *before* the FCL mean that the SBF has failed to suppress the enemy?"

A: "Not necessarily. But assault techniques *during* the SBF should be different than *after* the SBF."

Q: "During fire and movement, do you move by fire teams or buddy teams? Or individuals?"

A: "Buddy teams. But fire teams are better at massed suppression. What does the manual say?"

Q: "If you deploy online at the assault position, what is the PLD, the probable line of deployment?"

A: "Isn't the PLD only used for a night attack? Is it located before or after the assault position?"

My third set of questions was even more detailed. I wanted the lieutenants to think about specific tactical decisions and how they might develop their own judgement, expertise, and observation skills.

Q: “How do you know when the enemy is suppressed? What clues do you look for?”

Q: “Which assault technique is best in which situation? Against what types of enemy positions?”

Q: “How does a squad leader direct fire and movement when no one can hear him?”

Q: “What is more important—deliberate movement to find cover or speed of the assault?”

Q: “What if the enemy is not firing at you and you don’t know his location?”

Q: “Which enemy weakness is better for us—poor marksmanship or poor morale?”

Q: “How do you assault an enemy machinegun? Are there types of positions that we should avoid?”

Q: “When do you use smoke? On them or on us?”

None of these questions had easy answers, but the professional discussion was rewarding.

Instructors like me often tell lieutenants, “It depends on the situation,” but that’s exactly what we were asking: “*What specific situations require what decisions by what leaders?*”

Q: “So after the suppression stops, your assault element is left all alone advancing on the enemy?”

A: “Yes?”

They had never thought about that. During an attack, supporting units can bring tremendous fires down onto the enemy. Fixed-wing and rotary-wing close air support, artillery, rockets, and missiles destroy enemy fortifications, buildings, equipment, and trucks. Armored vehicles fire heavy machineguns, and mortars tear into enemy positions. The enemy is shocked by our firepower. Eventually, however, all indirect fires stop. Our machineguns and other company-level weapons continue to suppress the adversary as our assault element moves up towards the enemy position. Then, when the risk of friendly fire is too great, even our stationary suppressive fires stop. The contributions of every supporting unit go to zero. All fires cease. The battlefield shrinks to a single 100-meter square. And the squad assaults alone.

How? How do they fight? What do those ten or twelve Marines actually *do*? What do we teach? What decisions do they make? What exactly do we mean when we say, ‘they assaulted the objective’?

## 2. Where are the answers?

Questions on tactics make great conversation for Marine leaders. New Marines depend on their leaders to prepare them for combat and to train them well—tough, repetitively, and realistically. Marines will fight the way they are trained—by our manuals, training standards, schools, exercises, units, and combat-experienced leaders—for that one day when they may have to assault the enemy.

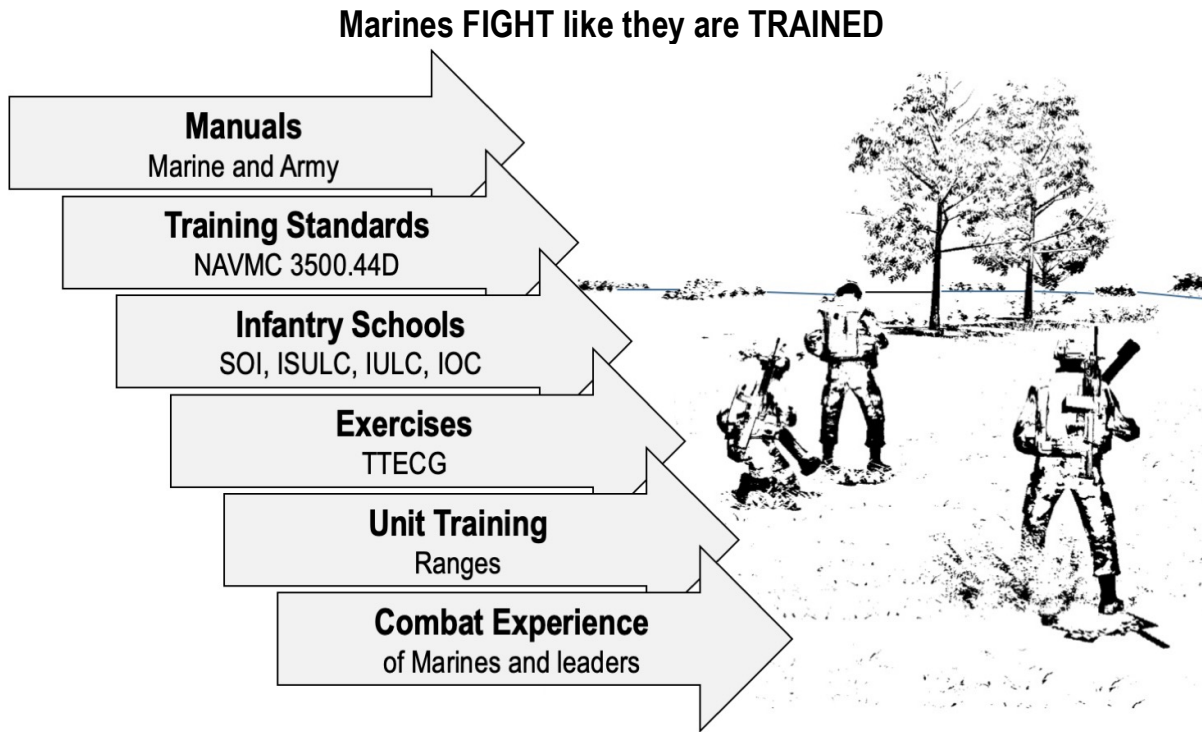
*“The end for which a soldier is recruited, clothed, armed, and trained, the whole object of his sleeping, eating, drinking, and marching, is simply that he should fight at the right place and the right time.”*

– Carl von Clausewitz, *On War*  
Howard & Paret Edition, Princeton University Press, 1984

“The right place and the right time” for the *entire* Marine Corps is closing on the objective with the assault element. Everything we do—manning, training, and equipping—and every capability we field—aviation, artillery, intelligence, reconnaissance, comm, engineers—exists solely to get our infantry squad leader and his Marines into the trench or into the building to destroy the enemy.

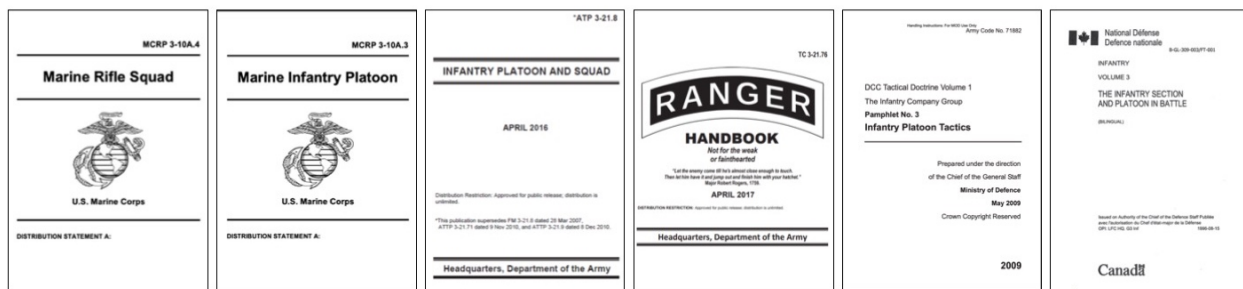
So what does the Marine Corps teach? What assault techniques work best? Under what conditions? How do we teach leaders to read the terrain? To assess enemy actions? How do we teach units and

leaders to maneuver under fire? What factors are most critical for a successful assault? What decisions have to be made by small-unit leaders? What commands are given? What are our best practices for the assault? Where are these answers?



## 2.1. In our manuals?

Our **MCRP 3-10A.4 *Marine Rifle Squad*** (2020) manual does NOT explain how to conduct a squad assault. There is no overall explanation of various assault techniques, which action is best in what situation, or what decisions the squad leader needs to make. The procedural paragraphs on how to move from the assault position, and then conduct fire and movement, assault fire, and close combat are poorly written, disjointed, and confusing. There are no diagrams.



The manual focuses on static definitions and control measures, not useful procedures. When it doesn't know what to say, it reverts to empty phrases that tell the squad leader nothing. "The assault is launched aggressively..." How? "Assault fire is characterized by violence, volume, and accuracy..." When? "[Marines] put themselves in a position of advantage..." Where?

Fire and movement, the most important assault technique, is explained badly in two separate and contradictory paragraphs without pictures. Page 3-14 describes fire and movement for fire teams, but page 1-24 focuses on the buddy-team, ignoring the squad. The importance of massed fire team suppression, the ability to read terrain, and the danger of fratricide—none of these are explained. The technique of assault fire is mentioned on random pages (1-10, 1-15, 1-25, 3-15), but never described. Close combat, fighting through the objective, is only hinted at on pages 1-15 and 1-25.

No other manual makes up for the gaps in our squad manual. MCRP 3-10A.3 *Marine Infantry Platoon* (2020), MCRP 3-10A.2 *Infantry Company Operations* (2018), MCTP 3-01A *Scouting and Patrolling* (2020), and MCWP 3-01 *Offensive and Defensive Tactics* (2019) offer no additional guidance on the assault.

Both the Army's ATP 3-21.8 *Infantry Platoon and Squad* (2016) and TC 3-21.76 *Ranger Handbook* (2017) are better written and include battle drills that describe fire and movement. Their focus is on the fire team, the smallest unit that can actually suppress the enemy. Although assault fire is mentioned on page F-23 of the ATP 3-21.8, the term is not defined in any DOD, Army or Marine Corps dictionary. The British (2009) and Canadian (1996) army manuals for squad and platoon are both clearer, consistent, and better illustrated than ours, and written for their audience in a straightforward, 'how-to' manner. Our squad manual needs to be improved.

## 2.2. In our training standards?

Our training standards do NOT define a successful squad assault. The *Infantry Training and Readiness Manual* (2020), defines the standard for a platoon attack (*INF-MAN-5001 Conduct an Attack*, page 6-14), and the squad standard to support this task (*INF-MAN-4014 Support by Fire*, page 7-23), but there is NO squad-level standard for the assault—the critical task that makes the attack successful.

There are individual training standards for Marines, and standards for infantry leaders—0365, 0369, and 0302—who lead units in the attack. There is a fire team standard (*INF-MAN-3001 Conduct Fire and Movement*, page 7-47) and a related squad standard (*INF-MAN-4001 Conduct an Attack*, page 7-12) for a standalone squad attack, but neither of these define a squad assault as part of a platoon attack.

We need a training standard for the squad assault that addresses multiple assault techniques. For fire and movement, the standard should be “close to within grenade range (20 meters) of the enemy position without getting shot.” Performance steps should include “suppress until there is no return fire,” “move only when suppression is firing,” “select and move from one covered position to another,” and “avoid moving outside mutual support (behind a building or over a crest).”

Standards for leaders of the assault should address selecting the best route for the assault, identifying and communicating the location of the enemy using fire commands, controlling the movement of fire teams, and making tactical decisions and directing units under fire with voice, radio, and hand and arm signals.

Training standards are generated from manuals. If we improve our manuals, we will improve our training standards.

## 2.3. In our schools?

Our schools teach different assault techniques at different courses on different coasts to Marines of different ranks. New Marines are taught fire and movement at the entry-level courses at the Schools

of Infantry (SOI). Squad leader 0365s are taught at the Infantry Small Unit Leaders Course (ISULC), and Platoon Sergeant 0369s are taught at the Infantry Unit Leaders Course (IULC). Lieutenants are taught assault techniques at the Basic Schools (TBS) and Infantry Officer Course (IOC).

Our review of school training materials and interviews with instructors show that when the manuals and training standards are insufficient, instructors are forced to augment the training with their own experiences. But some instructors have little experience, standardization is uneven, and some instruction clearly does not address the complex and difficult details of small-unit combat.

School curriculum is generated from training standards and manuals. If we improve our manuals, we will improve our schools.

## **2.4. In our exercises?**

Our exercise controllers do NOT publish guidelines for a successful squad assault. The classes and briefs from the Tactical Training and Exercise Control Group (TTECG) are rightly designed to explain the parameters of a training scenario but not the solutions. Most, but not all, of the events of our service-level training exercises focus on supporting arms coordination for the MAGTF. Large exercises are not designed to train small units.

But the collected experience of our TTECG coyotes is priceless. They *do* train units on good assault techniques—practical battlefield skills—on multiple ranges, especially 410A, the platoon supported attack. Every month, coyotes observe and mentor units from across the Marines Corps. If a unit has missed something in unit training, the coyotes coach the unit leaders. They assess casualties to reinforce proper execution of suppression, cover, and movement. The techniques that the coyotes teach are the techniques that work. Where are *their* insights and best practices published?

## **2.5. In unit training?**

Unit training can train Marines on the best techniques to conduct an assault—if the unit leaders know what they are doing. Unit training—Marines training alongside the Marines that they will fight beside in combat—is the only training that matters. The only training that develops strong, cohesive units. Schools train individuals, but unit training builds teams. Unit training, however, depends entirely on the experience and abilities of the leaders who conduct it.

If we improve our manuals and our training standards, we will improve our schools and our leaders. Well-trained leaders build well-trained units.

## **2.6. In combat?**

Marines in combat gain experience fighting real-world enemies. Our organization is stronger today because our leaders have two decades of hard-earned knowledge. Where do we collect and publish this expertise? Since World War II, the Marine Corps has conducted thousands of squad assaults—on pillboxes in the Pacific, hilltops in Korea, bunkers in Vietnam, and insurgent outposts in Afghanistan and Iraq. Our manuals should reflect these eight decades of infantry combat, and explain what tactics, techniques, and procedures (TTPs) work best.

Combat veterans understand that their experience is limited to one enemy in one place at one time. And often during a combat deployment, a Marine will never execute many of the tactics that he has

been taught. But our *collected* wisdom—across multiple decades, conflicts, and adversaries—benefits us all. “That’s how we did it in Iraq” is insufficient as an answer because the future situation and the future enemy is always going to be different.

We surveyed dozens of Marine leaders on the squad assault: 0365 squad leaders, 0369 platoon sergeants, and 0302 platoon and company commanders. Certified combat instructors from SOI and TTECG coyotes. All with years of unit training, overseas deployments, and combat experience. What do we teach our squad leaders? What *should* we teach? What are the best techniques for the assault? And where are the answers to these questions? Their comments were detailed and thoughtful and all of them raised more questions. Most agreed that the answers to our questions, the detailed steps of conducting a squad assault, were not easily available. But they should be.

If we improve our manuals, both experienced Marines and new Marines will benefit.

## **2.7. Where else can we learn how to assault?**

In simulation. We can simulate an infantry assault on a computer over and over again. General Berger, the Commandant (2019) has stated, “Wargaming needs to be used...to fill...our greatest deficiency in training... practice in decision-making against a thinking enemy... [Wargaming] gives leaders... ‘reps and sets’ in realistic combat decision making.”

Simulations are not real. But *all* training is not real—classroom, field, and even range training. Experienced professionals need to use their judgement to extract real-world lessons and ignore any unrealities. Simulations have biases and design flaws. But our leaders, trainers, umpires, and coyotes have opinions and biases too. A simulation can never prove or confirm a tactic, but it can provide insights into the various factors that lead to success or failure in a given tactical situation.

Simulations are ideal for repetition, to identify trends and best practices. They enable experimentation, risk-taking, and catastrophic failure. Simulations provide a continuous series of tactical problems that require difficult tactical decisions and generate immediate consequences. Simulations enable us to view our actions from the enemy’s point of view. A realistic simulation helps us internalize lessons on what is important to the fight and what is not.

## **3. 300 Assaults**

Using a computer simulation, we constructed an infantry platoon attack against an enemy position on a hill. The final step of this attack was the assault, where one squad of the attacking platoon assaulted up and cleared the remaining enemy on the objective. Over a period of four months, we repeated this assault 300 times—against different types of enemies, defending different fighting positions, with different weapons, and from different distances.

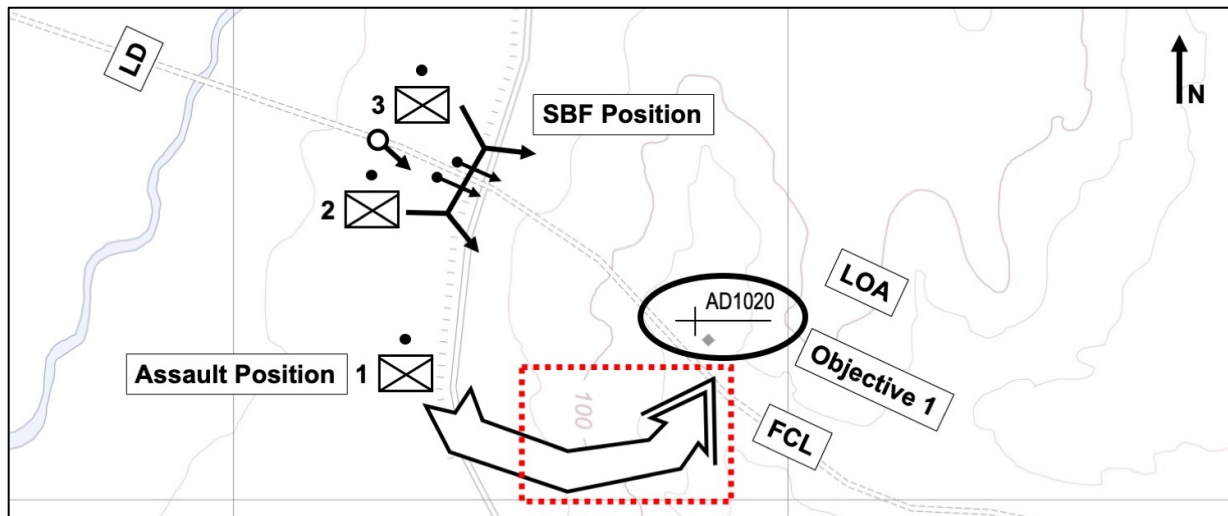
- a. The simulated attack was a platoon daylight dismounted flanking attack. The concept of operations (CONOPS) is shown in Figure 1. A standard Marine infantry platoon of approximately 44 Marines, reinforced with three 60mm mortars and two medium machineguns, attacked an enemy position on a hill occupied by 12 to 15 enemy soldiers. No artillery, air, or vehicles supported the attack.

The terrain was rough terraced hills, generally open, with intermittent trees, scrub grass, and vegetation that provided concealment and some cover. See Figure 2. The uneven folds in the



hills and changes in elevation provided intermittent defilade for the assault element and often blocked visibility of the enemy. From some unobstructed positions, however, the enemy could see the assault element moving 400 meters away.

The platoon attack order in Appendix A dictated the sequence of events. From the line of departure (LD) in the woods, the platoon crossed a creek and moved across low ground to the cover and concealment of a road embankment. Protected by the security element, the support element—with attached mortars and machineguns—established a support by fire (SBF) position. After sighting enemy positions, deploying weapons, and assigning targets and sectors, the support element opened fire.



**Figure 1.** The CONOPS for an infantry platoon attack. The squad assault is highlighted.

A massive volume of fire, from the majority of the platoon, overwhelmed the enemy. Mortar rounds exploded on the objective, machineguns destroyed visible positions and tore up the ground, and automatic rifle and 40mm grenade fire suppressed enemy soldiers.



**Figure 2.** View of the objective from the assault position behind the road embankment.

The assault element—a rifle squad of 13 Marines—had moved south to the assault position. On the platoon commander’s order—“Assault!”—the squad crossed the road and moved forward toward the objective. On top of the hill, three or four remaining enemy soldiers turned toward the new threat on their flank.

- b. The computer simulation we used was the current *Combat Mission (CMSF2)* v2.03, produced by Battlefront.com. This simulation models small-unit ground combat with extreme realism and tremendous detail, down to individual weapons and soldiers. Terrain—which dictates most of ground combat—is precisely modelled: dips and folds in the ground, visibility, lines of sight, concealment, and protective cover. Weapons are accurately modelled: ranges, trajectories, effects, ammunition expenditure, and reload and redeployment times.

Soldier skills are modelled: marksmanship, speed of movement, battlefield awareness, and response times. Human factors are modelled: fatigue, morale, leadership, and experience. Exhausted soldiers react slowly. Soldiers with low morale and poor leadership often panic and run. The fidelity of the simulation makes it an ideal tool to simulate an infantry attack—especially multiple repetitions of the same infantry attack—against an unpredictable enemy.

The simulation models artillery and mortar fire, but our mortars ceased fire before the assault element advanced. Our single simulated enemy position had no reinforcements, no indirect fire, and no additional overwatch positions from which to provide mutual support. Friendly fire, casualty evacuation, night combat, night vision optics, and unmanned aircraft systems (UAS) were NOT simulated. For each of our assaults, a human made the decisions for both sides. No computer artificial intelligence was used.

- c. We established six scenarios, each representing a different type of enemy of increasing abilities:
- Scenario A. Assaults against **three** enemy **conscripts** with **automatic rifles** lying in the **open** grass and **facing** the assault element.
  - Scenario B. Assaults against **three** enemy **conscripts** with **automatic rifles** manning a **fighting hole** and **facing** the assault element.
  - Scenario C. Assaults against **three** enemy **conscripts** manning a **machinegun** in a **fighting hole** and **facing** the assault element.
  - Scenario D. Assaults against **three well-trained** enemy soldiers with **automatic rifles** lying in the **open** grass and **facing** the assault element.
  - Scenario E. Assaults against **four well-trained** enemy soldiers with **automatic rifles** manning a **fighting hole** and **facing** the assault element.
  - Scenario F. Assaults against **three well-trained** enemy soldiers manning a **machinegun** in a **fighting hole** and **facing** the assault element.

For each scenario, we executed ten assaults from 400 meters, ten assaults from 200 meters, ten assaults from 100 meters, and ten assaults from 50 meters. The enemy changed positions and tactics after each assault. For some scenarios, additional assaults were conducted.

Enemy parameters. The conscript enemy used for scenarios A, B, and C had low morale and poor leadership. Soldier skills, especially marksmanship and camouflage, were poor. The well-trained enemy used for scenarios D, E, and F was comparable to a modern Marine unit, with high levels of weapons skills, leadership, and morale.

Friendly parameters. The assault element was a squad of 13 Marines, armed with M16 rifles, M249 SAW, M203 40mm grenades launchers, optics, and full ammunition. They were well-rested and well-trained, with excellent morale, good communications, and good leadership.

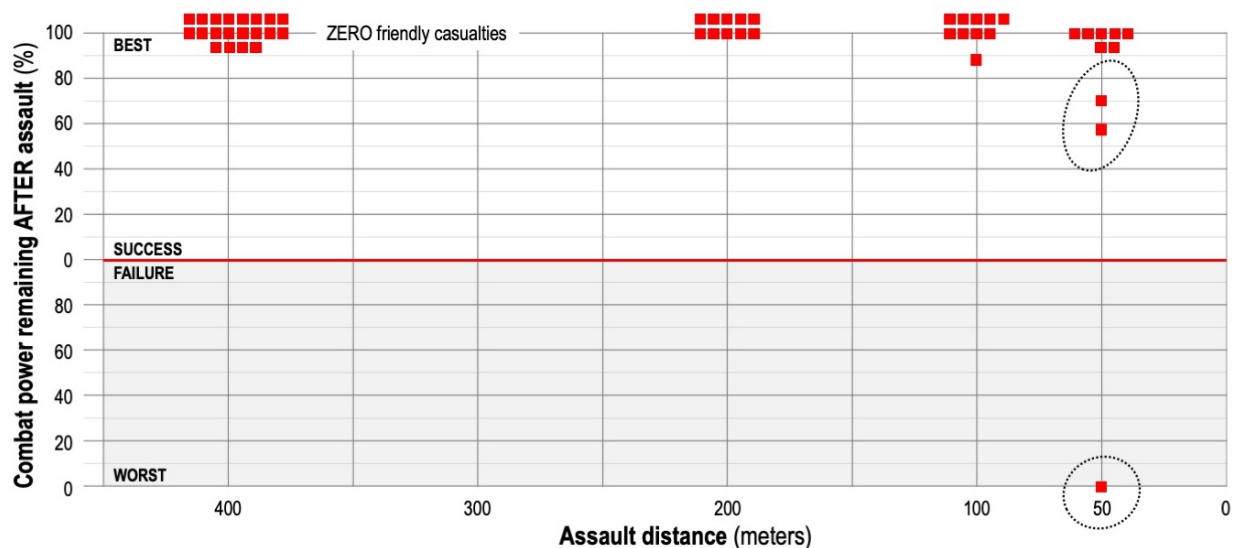
## 4. 300 Results

The results from all six scenarios, 300 assaults, are plotted on the six charts below, each assault at a distance of 400, 200, 100, or 50 meters. The success of the assault was defined as the remaining combat power of the squad—a function of casualties—plotted on the vertical axis. Each casualty increasingly reduced the combat power of the squad.

The top half of the chart is mission success—the enemy was destroyed, captured, or ran away. The bottom half of the chart, shaded gray, is mission failure—the enemy remained in position.

A successful assault that suffered zero casualties was plotted at 100 percent combat power, the top line of the chart. A successful assault with four casualties was plotted at 70 percent. An unsuccessful assault that incurred two casualties was plotted in the gray bottom half of the table at 88 percent. The squad is still capable, but they did NOT destroy the enemy. An unsuccessful assault that was pinned down and destroyed with nine or more casualties was plotted in the gray bottom half at 0 percent combat power. The squad failed its mission and was combat ineffective. See Appendix B for the relationship between casualties and combat power. See Appendix C for an example data sheet.

- a. Scenario A. Assaults against **three** enemy **conscripts** with **automatic rifles** lying in the **open** grass and **facing** the assault element. A conscript enemy with bad marksmanship, located and exposed in the open, was quickly overwhelmed by a heavy volume of accurate suppressive fire.

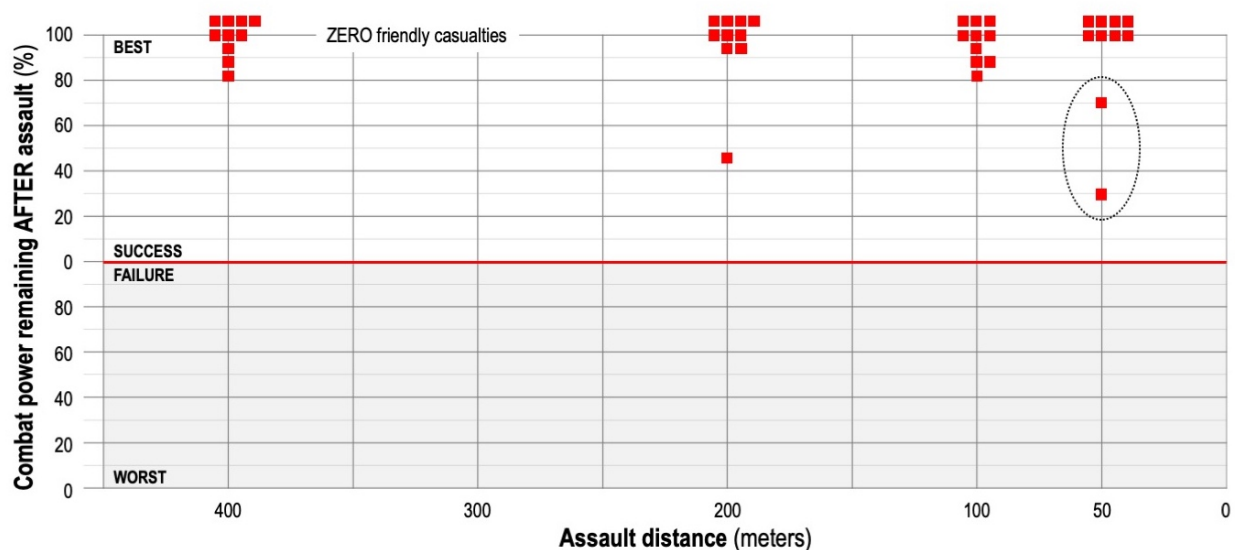


**Scenario A.** Assaults against **three** enemy **conscripts** with **automatic rifles** lying in the **open** grass and **facing** the assault element (n = 50).

- (1) At **400 meters**, all twenty assaults succeeded. Four assaults incurred one casualty each. The conscript enemy usually fired early, and poorly, giving away his position. Assaulting squads used fire and movement to advance. Well-aimed fire from behind cover suppressed the enemy. Conscript enemy soldiers with low morale often surrendered or ran away in panic.
- (2) At **200 meters**, all ten assaults succeeded without any casualties. Enemy positions on the crest were silhouetted, found immediately, and overwhelmed with fire. Enemy positions back from the crest without visibility suffered a lack of battlefield awareness. Assaulting squads advanced by fire and movement, found covered ground, and used 40mm grenades on the enemy in the open to increase effective suppression.

- (3) At **100 meters**, all ten assaults succeeded. Squads crested the last rise online using assault fire behind smoke. Enemy positions in the open were easy to find and overwhelm with fire. One squad suffered two casualties when an unseen enemy shot first into the smoke.
- (4) At **50 meters**, most assaults quickly destroyed the enemy. But three times, when the enemy stayed hidden and held their fire, the assaulting squad was surprised by fire. One assault ended in disaster when a hasty, bunched up squad, rushing in front of a hidden enemy, was caught in the open.

b. Scenario B. Assaults against **three enemy conscripts** with **automatic rifles** manning a **fighting hole** and **facing** the assault element. An ill-trained enemy, even in fighting holes, was overwhelmed by effective suppression. Visible fighting holes delayed the destruction of the enemy, but enabled the squad to locate his exact position and shoot first—important to avoid surprises and suppress any return fire from the enemy.

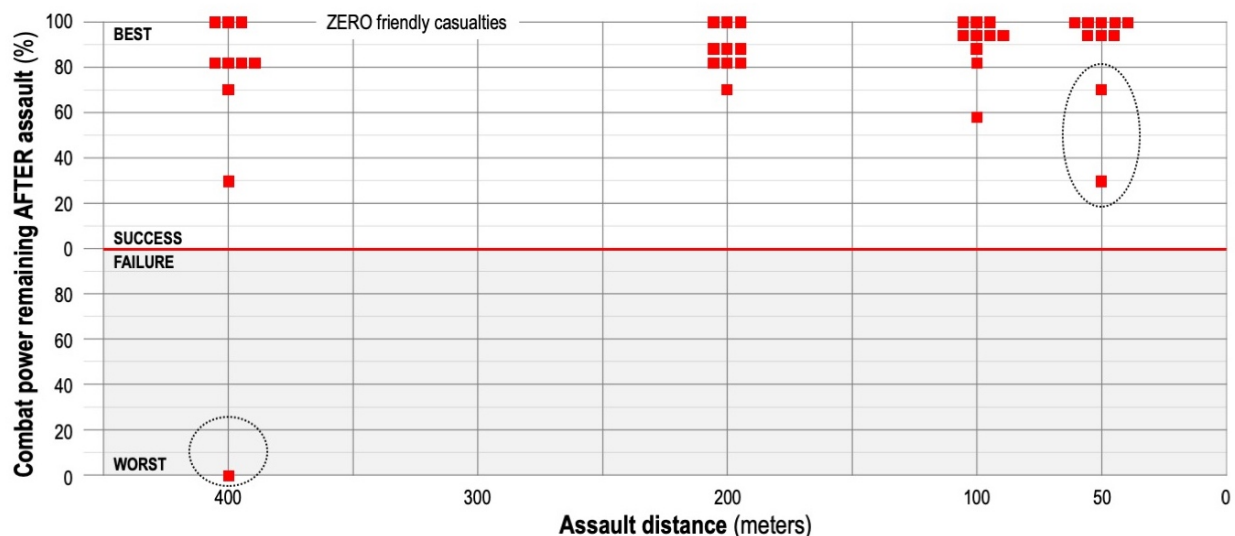


**Scenario B.** Assaults against **three enemy conscripts** with **automatic rifles** manning a **fighting hole** and **facing** the assault element (n = 40).

- (1) At **400 meters**, all ten assaults succeeded. Three assaults suffered casualties. The enemy’s poor marksmanship gave away his position. Aggressive fire and movement panicked the enemy, and his low morale drove him to surrender or run more than half the time.
- (2) At **200 meters**, all ten assaults succeeded. Most assaults executed deliberate fire and movement with three fire teams, enabling the squad to locate and then mass fires on the enemy. Two cases suffered casualties when hasty movement pushed one fire team over the crest without the mutual support of the other two teams. In one unfortunate case, the entire squad rushed past an unlocated enemy position and surprise fire wounded six. Fighting holes protected the enemy when suppressed, but only delayed his eventual destruction.
- (3) At **100 meters**, all ten assaults succeeded. Friendly casualties were all caused by short-range surprise fire from unlocated enemy positions. Shooting first is important to the enemy, especially with poor marksmanship, but immediate friendly return fire overwhelmed the enemy every time, even in their fighting holes.

(4) At **50 meters**, all ten assaults succeeded. Two hasty assaults, bunched up in the open, were surprised by unlocated enemy fire and suffered four and seven casualties. These casualties reduced the squad's ability to return fire, find cover, or move, which would have been disastrous against a determined enemy with better marksmanship. At close range, finding the enemy and shooting first is more important than at farther ranges.

c. Scenario C. Assaults against **three enemy conscripts** manning a **machinegun** in a **fighting hole** and **facing** the assault element. A machinegun manned by conscripts was still deadly, but it was successfully defeated by deliberate fire and movement—two teams fired continuously to maintain suppression, while one team moved to the next covered firing position. Marines caught in the open were often casualties.



Scenario C. Assaults against **three enemy conscripts** manning a **machinegun** in a **fighting hole** and **facing** the assault element (n = 40).

- (1) At **400 meters**, nine of ten assaults succeeded, but averaged over three casualties per assault. Long assaults increased exposure to machinegun fire. Cover was not always available. When the assaulting squad was engaged at 400 meters, they could not return fire to suppress. One disastrous assault was pinned in the open for six minutes, lost all ability to return fire, and then crawled back out of the beaten zone behind smoke.
- (2) At **200 meters**, all ten assaults succeeded, but averaged almost two casualties per assault. Fire and movement was executed slowly and deliberately, with two teams firing to ensure continuous suppression of the machinegun and one team moving to cover. Two assaults suppressed the wrong position, but were able to change targets before the final assault.
- (3) At **100 meters**, all ten assaults succeeded, but the enemy machinegun caused casualties seven out of ten times. When the enemy relocated to an alternate position—five times—the assaulting squad had to change direction and tactics while under fire. One assault used smoke on one flank to misdirect the enemy's fire.
- (4) At **50 meters**, five close assaults quickly overwhelmed the enemy with no casualties, crawling forward, firing first, and suppressing the panicked machinegun team. Two assaults were disasters. One was pinned in the open while assaulting the wrong position, and one was shot up while trying to assault behind smoke.

d. Scenario D. Assaults against **three well-trained** enemy soldiers with **automatic rifles** lying in the **open** grass and **facing** the assault element. Three well-trained enemy soldiers, even without cover, were deadly when they remained unlocated. Unlike conscripts, this enemy recovered faster from suppressive fire and reoriented quickly when surprised. Assaulting squads were successful when they concentrated overwhelming and accurate suppressive fire on the enemy.

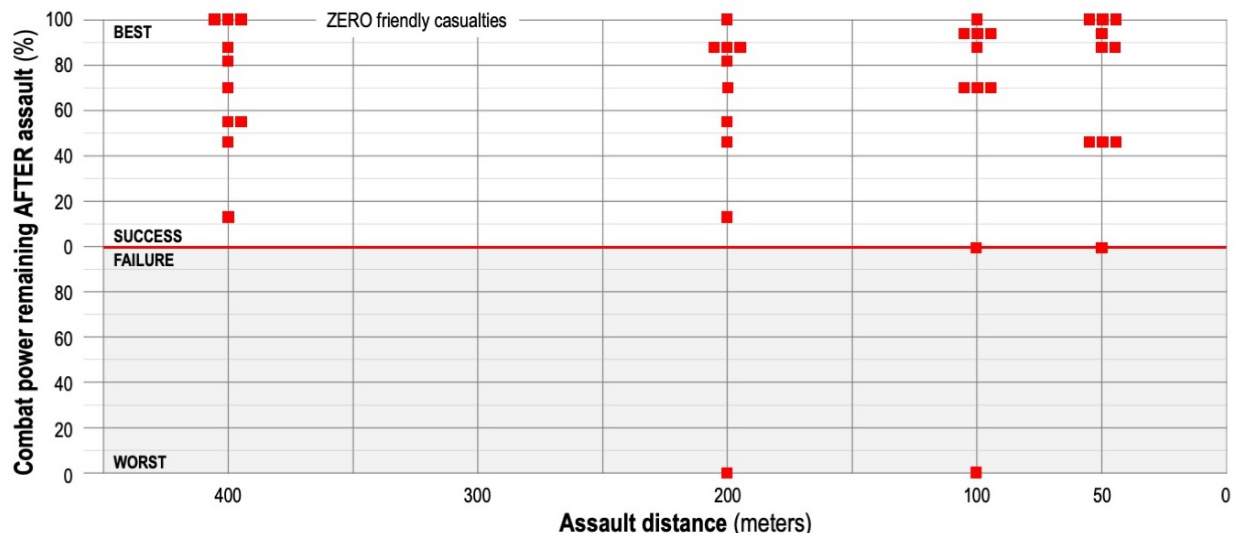


**Scenario D.** Assaults against **three well-trained** enemy soldiers with **automatic rifles** lying in the **open** grass and **facing** the assault element (n = 50).

- (1) At **400 meters**, all ten assaults succeeded—six with casualties. Against an enemy silhouetted on the crest of the hill, concentrated fires led to success. When the enemy was positioned back from the crest, without visibility, the assaulting squad advanced behind covered ground. The final assaults surprised the enemy and were effective at close range. One near-failed assault suffered multiple casualties when the assaulting squad was pinned without cover at 200 meters in open ground.
- (2) At **200 meters**, all ten assaults succeeded—but six assaults suffered four or more casualties. Fire and movement, using 40mm grenades to increase suppression, enabled squads to close on the objective. Squads used covered ground and made multiple successful assaults over the crest, on-line, with smoke. The less-successful attacks suffered when the enemy stayed hidden and opened fire late, one time wounding six Marines by shooting into the smoke.
- (3) At **100 meters**, all ten assaults succeeded—five without casualties. Rapid fire and movement using covered ground, followed by dispersed, on line assault fire behind smoke, worked well multiple times. One near-failed assault was almost destroyed by a single stubborn, well-trained and accurate enemy soldier, unseen in the tall grass.
- (4) At **50 meters**, most assaults quickly overwhelmed the enemy. But 20 percent of the assaults (4 of 20) ended in disaster when squad leaders had difficulty locating the enemy. The orientation of the enemy did not matter—enemy infantry that was not facing the expected assault repositioned quickly and opened fire in less than one minute. The location of the enemy, hidden in vegetation or tall grass, mattered more than orientation.
- (5) Note. The outliers—the circled assaults—cannot be discounted. At every distance, one or two assaults (10 or 20 percent), were pinned down by the enemy and nearly destroyed—

usually because the squad could not locate the enemy. Even in open terrain, three well-trained soldiers who can stay hidden can destroy a friendly squad.

- e. Scenario E. Assaults against **four well-trained** enemy soldiers with **automatic rifles** manning a **fighting hole** and **facing** the assault element. A well-trained enemy is dangerous at all ranges, but when his fighting position is visible, it can be continually suppressed by well-coordinated fire and movement—two fire teams shooting while one moves. The priorities are (1) find the enemy, (2) smother with suppressive fire, and then (3) move forward using covered terrain.

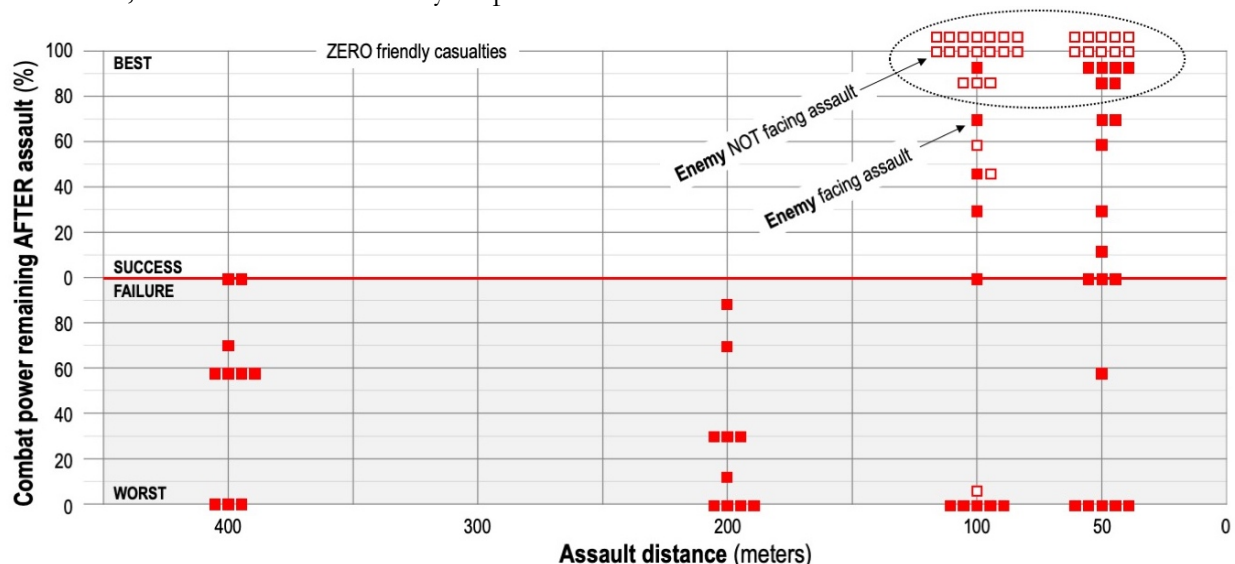


**Scenario E.** Assaults against **four well-trained** enemy soldiers with **automatic rifles** manning a **fighting hole** and **facing** the assault element. A rapid assault against enemy in the open overwhelms the position (n = 40).

- (1) At **400 meters**, all ten assaults succeeded with varying levels of casualties. The key actions for the best assaults included pinpointing a visible enemy position early and suppressing it with fire. No smoke was used. The worst assaults, with four or more casualties, had fire teams pinned in the open before the squad gained fire superiority.
- (2) At **200 meters**, nine of ten assaults succeeded. Two assaults initially suppressed the wrong enemy position, but then stopped, gained fire superiority, and moved on. The slowest assault ran low on ammunition and the enemy was able to recover from being suppressed. One disastrous failure resulted from a hasty squad rush to a distant position. The enemy caught them in the open, the squad never gained fire superiority, and casualties mounted.
- (3) At **100 meters**, eight of ten assaults succeeded, most with four or fewer casualties. These assaults maintained almost 100% suppression, 100% of the time, allowing fire teams to close to within grenade range. Casualties usually occurred before suppression started when the enemy shot first. The two failed assaults moved against the wrong position and were pinned in the open, one on the far side of a crest with no mutual support.
- (4) At **50 meters**, six assaults had two or fewer casualties. Most of these assaults crawled forward under the enemy position in the dead space beneath the crest and used assault fire to mass weapons on the enemy from close range. No smoke was used. The four assaults with six or more casualties were impatient, rushing to poor positions without suppression.

(5) Note. During two assaults, one at 400 meters and one at 100 meters, the fire and movement technique evolved into an actual squad flank attack. Two fire teams maintained their initial positions, not moving, and essentially became a stationary SBF with excellent line of sight and suppressive effects on the enemy. The third fire team was able to bound multiple times in a row, flanking and then destroying the enemy position.

f. Scenario F. Assaults against **three well-trained** enemy soldiers manning a **machine gun** in a **fighting hole** and **facing** the assault element. Squads that assaulted a well-trained machinegun team from beyond 100 meters were all destroyed. Assaulting squads inside 100 meters were successful only half the time, but with significant casualties. A rapid assault, across a short distance, against a known enemy location, surprising the machinegun that was *not* facing the assault, overwhelmed the enemy 80 percent of the time.



Scenario F. Assaults against **three well-trained** enemy soldiers manning a **machinegun** in a **fighting hole** and **facing** the assault element (n = 80).

- (1) At **400 meters**, all ten assaults failed. Long-range machinegun fire caused casualties before the squad could even see or range the enemy. A long, slow approach increased the amount of time the squad lacked cover, and increased the time the machinegun could track targets. Some assaults raced to the dead space at the base of the hill and then attempted a 50 meter assault. Long assaults were exhausting and difficult to control.
- (2) At **200 meters**, all ten assaults failed. Two raced to defilade at the base of the hill with enough combat power to conduct a 50 meter assault. Fire and movement could not suppress the distant, dug-in machinegun. Squads had difficulty finding multiple covered positions across a long distance inside the machinegun beaten zone. Three assaults, after suffering casualties, used smoke to conceal their movement, and then outran the smoke.
- (3) At **100 meters**, against an alert machinegun facing the assault, half of ten assaults failed completely. Squads were pinned in the open, unable to move. One squad had eight Marines shot in the first 40 seconds. The five successful assaults all used smoke. But smoke was unreliable. One assault, where the smoke drifted onto the enemy, suffered only one casualty. But the other four assaults behind smoke suffered increased casualties.



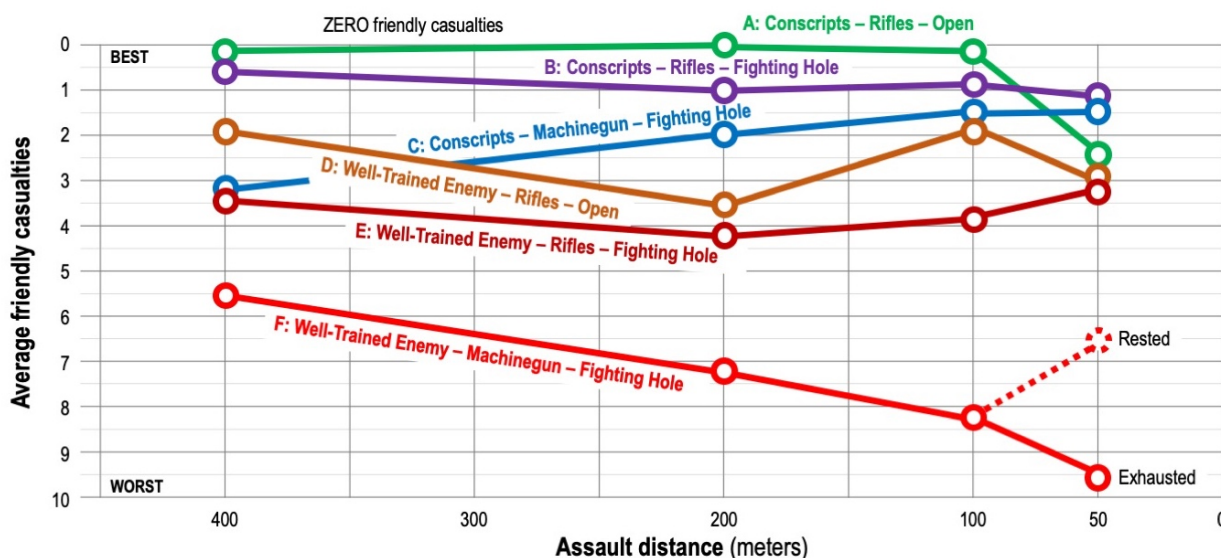
When the machinegun was *surprised* at 100 meters, most squads were successful. The open boxes—representing a machinegun NOT facing the assault—show 19 of 20 successful assaults, most with zero casualties. Rapid assaults across 100 meters destroyed the enemy before he could reposition his machinegun. Five of 20 assaults, where the enemy turned his weapon quickly, did suffer casualties. One slow assault was a disaster.

- (4) At **50 meters**, against an alert machinegun facing the assault, every one of 20 squads, 100 percent, incurred casualties. Half of the squads destroyed the enemy, but suffered significant losses, and five squads were destroyed completely. When the enemy shot first inside 50 meters, the results were disastrous.

When the machinegun was *surprised*, facing the wrong direction, the enemy had no time to respond. At 50 meters, every one of ten squads, 100 percent, quickly overran the enemy with assault fire in less than a minute without casualties.

- (5) Note. An enemy machinegun, firing at you, is a known position. This simplifies the squad leader’s job. None of the 80 assault squads in this scenario—half of whom failed utterly—were confused by unknown or hidden enemy positions.

- g. **Scenario trends.** As the skill, protection, and weaponry of the enemy increased with each scenario, the average number of friendly casualties increased. Long-distance assaults did not always incur more casualties than shorter assaults. Although shorter distances were not as exhausting and did not expose the assault element to as much fire, any mistake made by the squad during a short assault—an incorrect enemy location, a bad direction, or a hasty rush to an exposed position—could not quickly be corrected and often resulted in exposure to enemy fire.



**Scenario Summary.** Average friendly casualties when assaulting against increasingly difficult enemies: Scenarios A through F (n = 300 assaults and over 700 casualties). Note: In the Scenario F data, “Exhausted” squads suffered an average of 9.6 casualties after having already moved 400 meters under fire. “Rested” squads assaulted only 50 meters.

The biggest advantage of a long assault was that the enemy usually fired early and confirmed their position, weapons, and numbers to the assaulting squad. Most casualties inside 50 meters occurred when the enemy position was not known—or had moved—and the assaulting squad

was surprised. Fighting holes protected the enemy but they also clearly located their position and helped focus the fires of the assaulting squad.

For most of the 300 assaults, the enemy was facing the assault element—the worst case. When the enemy was surprised, not facing a near assault, friendly casualties were often zero. But the assault element could not know the enemy orientation before starting the assault.

## 5. Insights for squad leaders

What can a simulation teach us about the assault that is not already in our manuals? The overarching lesson of this experiment is **how lethal the assault can be**, even for professionals. Our single, simple tactical problem—assaulting *one* suppressed and isolated enemy position occupied by only *three or four* enemy soldiers—was supremely dangerous. Random events and small miscalculations often had deadly results, even for squads doing everything right. When the enemy took evasive action, shifting positions, our squads were shot from a new direction. More enemy, in more interlocking positions, would have been much worse.

- a. **Find the enemy first.** All your tactical decisions are better if you know the enemy's location. Enemy soldiers with poor camouflage and poor fire discipline are easier to find, but a well-trained enemy can only be found when you see their fire. Inside 50 meters, you have no time to reorient if you assault in the wrong direction and get surprised by close enemy fire.
  - All Marines need to search for the enemy: “Ten o'clock! Trenchline! One-hundred meters!” Crosstalk between Marines helps situation awareness. Optics help. UAS help.
  - You then need to tell everyone the enemy's location to focus the squad's actions.
  - If the enemy relocates, you will assault an empty position, and be fired on from a new direction. If a second enemy position opens fire, you will need to change tactics to respond.
- b. **Shoot first and shoot the most.** Overwhelm the enemy with accurate, concentrated, and continuous suppressive fire. Fire superiority keeps their heads down and prevents return fire.
  - Concentrate fires on one position at a time. Immediately concentrate *all* fires on any enemy machinegun. Your fire commands prevent dispersed fire.
  - Concentrate *fire teams* of suppression. Single weapons are weak and ineffective. Sometimes, even four weapons have gaps in fire, with reloading, stoppages, movement, and casualties.
  - Concentrate 40mm grenades. The M32 is tremendously valuable against trenches—near misses are still effective. Your squad's marksmanship insures hits and near misses.
  - A weak enemy is easier to suppress and takes longer to recover. When effectively suppressed, an enemy with poor leadership or low morale may surrender or panic.
- c. **Read the dirt.** Select routes that protect your Marines. Find terrain with cover—irregular dips and shoulders. Try to see the terrain from the enemy's point of view. Where is his dead space?
  - Fifty percent of tactics is dirt. Your techniques are meaningless if you choose poor ground.
  - Do not get trapped in the open, in the enemy's beaten zone. Get to dead space quickly.
  - Terrain, not the individual Marine or his leader, dictates where we can move.
- d. **Advance using fire and movement.** After the SBF stops, you must provide your own suppression while under enemy fire. Fire and movement is not a rote drill, but a tactical evolution with multiple tactical decisions that a leader must direct and control.

- Shoot more and move less. Conduct deliberate fire and movement with two fire teams shooting while one fire team moves. Three fire teams provide multiple tactical options.
- Each fire team moves to a spot with a good line of sight to fire on the enemy. If not, they move again immediately. They cannot support the squad if they cannot fire. Line of sight is more important than cover.
- If your fires become sporadic, stop the squad, reload, and then fire all hands. Regain fire superiority, then continue fire and movement.
- Fire and movement is exhausting. Do not race. Do not start until you are fired on. At more than 300 meters, fire and movement is ineffective—you cannot see or shoot the enemy.

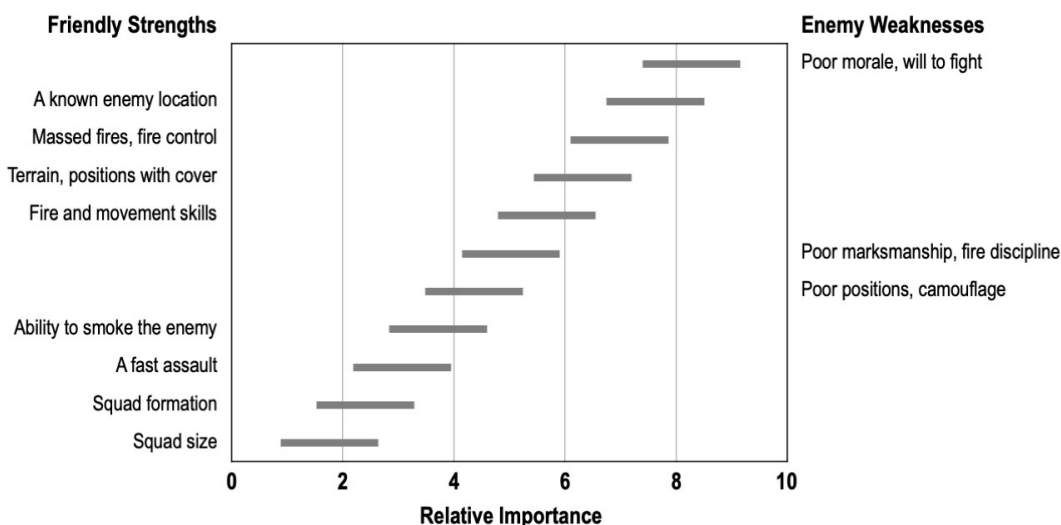
e. **Other insights** from our simulation experiment:

- **Casualties matter.** More than two casualties starts a dangerous downward slide. Your fires slow, enemy fires increase. If you are suppressed, you cannot move to cover. Any treatment of your own casualties further reduces your firepower. You must regain fire superiority—everyone must fire—or you’ll be pinned in the open and more casualties will occur.
- **Enemy skills matter.** Your decisions and tactics are different for strong versus weak enemies. Even one or two well-trained enemy soldiers can decimate your squad. The weaker the enemy, the more successful the assault. Enemies with low alert levels, poor battlefield awareness, unsure leadership, and bad morale are surprised and unnerved by your assault.
- **Enemy size matters.** The enemy on the objective should be as small and as weak as possible. Ideally, his condition should be wounded, wet, suppressed, cold, and exhausted. Avoid assaulting a large number of well-trained, vigorous enemy soldiers defending multiple, well-prepared, and mutually supporting positions.
- **Marksmanship matters.** Effective suppression is hits and near misses. Well-aimed fire is especially important against enemy trenches, fighting holes, and buildings. Marines can close on a hardened position only when it is effectively suppressed and the enemy is cowering. Distance benefits the better marksmen.
- **Fighting holes matter.** Trenches, fighting holes, and buildings protect the enemy. Your fires cannot kill an enemy ducked inside a hardened position. When your suppression stops, the enemy recovers and fires back. A single remaining soldier, if well-protected, can shoot your entire assault element. But visible fighting holes *do* help your squad locate the enemy.
- **Suppression is temporary.** Suppressive fire, both indirect and direct, has no long-term effect. The enemy is not stunned for twenty minutes. When your suppression slows to intermittent fire, the enemy recovers and fires back. Well-trained and well-led enemies recover faster than weak enemies. Your suppression should be nearly continuous.
- **Speed matters.** Move fast when the enemy is suppressed so that he does not have time to respond or reposition. Alternate bursts of speed with slower deliberate actions during fire and movement. Avoid making hasty decisions and avoid rushing into open terrain.
- **Exhaustion matters.** A long slow approach is deadly—Marines cannot crawl 100 meters. A long, rapid approach is also deadly—Marines cannot run 400 meters or hit the deck thirty times. Exhausted Marines shoot poorly, move slower, and make bad tactical decisions.
- **Distance matters.** Assault from as close as possible, but only if you know the exact location of the enemy. A close assault surprises and overwhelms the enemy and exposes your squad for a shorter amount of time. Fire and movement should be as short a distance as possible.
- **Smoke is unreliable** and unpredictable in the wind. Shoot 40mm smoke at the enemy to blind. Do not throw hand smoke in front of your own position, except as a feint. It identifies your position, blocks your vision, and causes your unit to bunch up and lose direction.

- **Avoid enemy machineguns.** Do not assault a well-sited and dug-in machinegun from beyond 100 meters when it is facing you. Assault a machinegun from the flank, close and fast. An enemy machinegun caught in the flank cannot be repositioned quickly.

f. **Features of a successful assault.** What actions, attributes, or features are most important to a successful assault? Based on our experiment, we prioritized the varying attributes of any assault.

**Enemy weaknesses.** On the right side of the table, the listed enemy weaknesses may or may not exist, but before an assault starts, the SBF might destroy a weak enemy’s will to fight. An aggressive assault may cause a poorly-led enemy to panic and run. During the assault, the enemy’s poor marksmanship, fire discipline, badly-sited positions, and insufficient camouflage all increase the odds that the assault will be successful.



**Feature of a successful assault.** Note: Relative values only, on a scale of 1 to 10, with 10 being “most important.”

**Friendly strengths.** Unlike enemy weaknesses, friendly strengths can be learned and trained. In the friendly feature list on the left side of the table, a known enemy location was determined to be the first priority. Every decision that a leader makes is better if the enemy’s location, size, orientation, and type of defensive position is known. UAS would help. The ability of a squad leader to concentrate overwhelming fire on a specific enemy position was the second most important feature of a successful assault. All Marines need a position with a good line of sight to fire on the enemy. This is more important than cover.

Terrain was next. To close on the enemy, Marines need cover. Leaders select terrain that protects Marines and masks them from enemy fires. This was followed by fire and movement skills—the practiced teamwork and assault SOPs that enable the squad to advance under the protection of their own suppressive fires. Fire and movement requires training and practice.

The ability to smoke the enemy was the next key feature, lower on the list. A fast assault was good, but not required. Sometimes deliberate actions and tactical patience was better, to avoid making hasty mistakes. After speed, the least important features of a successful assault was squad formations and then squad size.

## 6. What is to be done?

Hundreds of Marine leaders—as we learned from our surveys, discussions, and simulated battles—have very advanced understanding of how to conduct an assault. They know good TTPs—what to do on the battlefield, what to look for, and what to avoid—and they have trained their Marines on these critical skills. They have thought deeply about the details of these tactical problems and have developed strongly held opinions, insights, priorities, and procedures.

But much of their knowledge was acquired on their own, from peers and mentors, informally, in training and in combat. In most cases, they will admit, the institution provided only partial instruction and insufficient published guidance. To benefit *all* Marines for the long term, we need to:

- a. **Improve our manuals.** The *manual* drives the training standards that steer the schools that prepare our leaders. Leaders then conduct unit training to prepare for combat. The *manual*, however, is the bedrock, the foundational document that describes how we fight and explains best practices. Why do we not prioritize manuals? Excellent manuals should replace *all* the mediocre student handouts across our schools.

We have combat-experienced Marines, skilled instructors, a history of success in battle, and tactically savvy commanders. During this experiment, we learned more about the assault from talking to thoughtful, professional Marines than we ever learned from any published guidance. Capture this expertise! Appendices D through I are a series of recommended improvements to MCRP 3-10A.4 *Marine Rifle Squad*. We need to improve our manuals.

- b. **Train with simulations.** Every month, every leader in the Marine Corps, across all MOSs, should make an estimate of a situation, make a tactical decision, and fight. Simulations provide tremendously realistic training for leaders. Unlike much unit training, simulations provide immediate feedback while encouraging practice, repetition, experimentation, and internalizing lessons on what works. Simulations are convenient and available, and augment training in ways that cannot always be replicated in the field.
- c. **Use simulations to improve our manuals.** Marine Corps manuals that teach tactics—how to fight—would benefit from combat simulation insights. Wargaming, often used to test concepts, should also be used to improve our TTP publications. Manual writers would benefit from simulations. Illustrators would benefit from simulations.

The 300 assaults conducted during our experiment all examined a very narrow tactical problem. Yet the feedback was tremendously rich, identifying challenges and solutions, and raising questions that our previous training and deployments had not uncovered. Decisions on casualties plagued the squad every time. Combining teams and fighting with short units is rarely trained. In simulation, Marine leaders are faced with unique combinations of factors and complex situations that require decisions that they have not faced before. These need to be captured and published.

Fighting a simulation provides insights, not proof. Yes, many lessons were obvious. Some lessons confirmed our tactical techniques, and some lessons reinforced the importance of techniques that we had been taught and not practiced. But some lessons were surprising and counterintuitive—and forced us to develop new tactics. Most importantly, some of these lessons

could not be learned outside actual combat. The two critical concepts of suppression and effective cover are not easily trained or emphasized when no one is shooting at you.

Thoughtful critics argue against the artificiality of computer simulations. The terrain and the enemy are fake. The weapons, ranges, rounds, trajectories, and effects are all simulated. The leadership, morale, and exhaustion levels of the simulated enemy soldiers are just numbers. But the challenges are real. Your thought processes—your estimates of the situation, analyses of the enemy, evaluation of options, and tactical decisions—are exactly the same as they are in real life. What goes on inside your head, your tactical decision making, is authentic regardless of where or how you conduct the training. As Marine John Schmitt famously said, *“Cognitive fidelity is more important than physical fidelity.”*

Some skills are difficult to train. After dozens of assaults, the lethality of enemy fire forced us to look more carefully at the terrain. Half of tactics is dirt. Professionals understand that reading the ground makes squads successful in combat. But how do we train our leaders? This is not map reading. Only when someone is shooting at you, and your nose is in the mud, do you really start to value micro-terrain. Evaluating, selecting, and exploiting the dirt is a leadership skill, but only superficially mentioned in our manuals and training handouts. Mistakes can be deadly if you are exposed to enemy fire in the open. It is impossible to teach this in the classroom or on ship, yet critical on the battlefield. Simulations can help teach skills that are difficult to train elsewhere.

What can we learn from simulations? A great deal. Simulations can improve our manuals, improve our TTPs, and improve the training of our small-unit leaders. Simulations can shift the emphasis of what we teach, away from sterile multiple choice definitions and control measures and more toward real-world, dynamic procedures for how to fight on actual terrain. We all seek better guidance. We should start small, with the basic tactics of small-unit combat. Strong squads make strong platoons which make strong companies.

*“Train your squads. Bricks are more important than architects.”*

– B.B. McBreen

## Acknowledgements

Thank you to the following people:

Bruce Gudmundsson and *The Tactical Notebook*: [tacticalnotebook.substack.com](http://tacticalnotebook.substack.com)

Arnel David and Gregory Pickell of the U.S. Army and *Fight Club USA*.

Edward Farren and Andrew Elliott of the British Army and *Fight Club UK*.

U.S. Marines John Auer, Geoff Ball, Garrett Boyce, Michael Breslin, Quentin Dickey,

Nicholas Duncan, Gregory Jamero, Kyle King, Grayson Lee, Zachary Schwartz,

Thomas Simpson, Chad Skaggs, Eric Todorski, PJ Tremblay, Matthew Tweedy,

and Daniel Villalobos.

## References

### U.S. Marine Corps Publications

MCRP 3-10A.4 *Marine Rifle Squad*, 7 Aug 2020.

MCRP 3-10A.3 *Marine Infantry Platoon*, 31 Aug 2020.

MCRP 3-10A.2 *Infantry Company Operations*, 4 Apr 2018.

MCTP 3-01A *Scouting and Patrolling*, 24 Jul 2020.

MCTP 3-01 *Machine Guns and Machine Gun Gunnery*, 9 Sep 2022.

MCWP 3-01 *Offensive and Defensive Tactics*, 20 Sep 2019.

NAVMC 3500.44D *Infantry Training and Readiness Manual*, 17 May 2020.

TTECG *Safety Policy*, 2022.

MCO 3570.1C (AR 385-63) *Range Safety*, 30 Jan 2012.

*The Fire Team (1927–1955)*, 1955.

### U.S. Army Publications

ATP 3-20.98 *Scout Platoon*, 4 Dec 2019.

ATP 3-21.8 *Infantry Platoon and Squad*, C1 23 Aug 2016.

TC 3-21.76 *Ranger Handbook*, 26 Apr 2017.

DAPAM 385-63 *Range Safety*, 16 Apr 2014.

### British Army Publications

DCC Tactical Doctrine Volume 1. *The Infantry Company Group, Pam3, Infantry Platoon Tactics*, May 2009.

### Canadian Army Publications

B-GL-309-003/FT-001 *The Infantry Section and Platoon in Battle*, 15 Aug 1996.

### The Basic School (TBS) Publications

B2F2837 *Rifle Squad Tactics*, TBS no date.

B3J3718 *Rifle Platoon in the Offense*, TBS no date.

Berger, D.H. (2019) *Commandant's Planning Guidance*. HQMC.

English, J.A. (1981) *On Infantry*. Praeger.

Goya, Michel. (1997) Le Cerveau du Chef de Groupe de Combat comme Priorite Strategique. *Revue Defense Nationale*.

This article, referenced in Bruce Gudmundsson's *Tactical Notebook* (2023), was the genesis of our experiment. In 1997, Captain Michel Goya of the French Marines ran an experiment. He had each of the nine squads in his company assault across hundreds of meters of broken terrain in order to destroy a three-man enemy team in a prepared position. In the first run, only two of nine squads killed all three defenders. In the second run, only four of his nine squads, now familiar with the terrain, killed all three defenders. When he put different squads leaders in charge of different squads, the results were the same, equally bad.

His conclusions were: (1) that squad leaders needed more tactical authority, autonomy, and training (2) that rote battle drills were not sufficiently flexible in complex tactical situations, and (3) that fire teams needed to be interchangeable and armed with the same weapons.

**O’Leary, M.** (1999). *The Canadian Infantry Section Attack, Part One: Attrition Training in a Manoeuvre Army*. [www.regimentalrogue.com](http://www.regimentalrogue.com)

Captain O’Leary’s excellent study concludes: (1) that fire and movement by teams is extremely difficult to do well, (2) that non-infantry units conducting local security missions cannot train to it, and (3) that the Canadian squad (section) of two teams is too small to successfully execute it. The mechanization of the Canadian infantry has led an over-reliance on the suppressive fires of the infantry fighting vehicle and an increasing indifference to the complexities of small-unit tactics.

**O’Leary, M.** (2000). *The Canadian Infantry Section Attack, Part Two: Initiative is Always an Option*. [www.regimentalrogue.com](http://www.regimentalrogue.com)

**Patton, G.S.** (1947). *War As I Knew It*. Houghton Mifflin.

**Sattler, V. & O’Leary, M.** (2010). Organizing Modern Infantry: An Analysis of Section Fighting Power. *Canadian Army Journal*, Vol 13.3, 23–53.

**Swain, R.M.** (1994). *Selected Papers of General William E. DePuy*. U.S. Army Command and General Staff College.

**Watling, J. & Reynolds, N.** (2023). *Meatgrinder: Russian Tactics in the Second Year of Its Invasion of Ukraine*. Royal United Services Institute (RUSI) for Defence and Security Studies.

In the current 2022–2023 Ukrainian war, Watling and Reynolds emphasize the distinctions between line infantry—who can only dig and hold ground—and assault infantry—who can take ground. To succeed in battle, the Armed Forces of Ukraine (AFU) need skilled and competent assault infantry:

- “Training for assault operations against fortified positions... (is) a critical training priority.” (ii)
- “Suppressing enemy positions during assault actions is essential.” (25)
- “Tactics... will be decisive... particularly... taking entrenched and fortified positions,” (26)
- “We need... effective assault... leaders... able to coordinate... platoon (and) company... engagements.” (27)



## Appendix A. Platoon Attack Order

This platoon attack order—see Figures A-1, A-2, and A-3—took thirty minutes to write, leaving sufficient time for the leaders of the platoon to conduct their most important tasks: supervising preparations and rehearsals. Most of the details of equipment, movement, signals, call signs, communications, and contingencies should be well-trained SOPs.

By doctrinal tradition, the Platoon Commander led the main effort assault element. The Platoon Sergeant led the support by fire (SBF) element.

<b>1st Plt, E/2/5, 16 Jan 2024</b>
<b>S:</b> <u>EMLCOA. 12-15 EN DEF Hill 114, firing on road convoys.</u>
<b>HHQ:</b> "E" secures road (S) to MUSAT IOT enable convoys.
<b>M:</b> At 0610, 1st Plt DESTROYS EN on Hill 114 (OBJ 1) IOT enable friendly road use.
<b>E:</b> CONOPS. Right flank ATK. Squad + MG + 60mm SBF, behind embankment, suppresses EN (5 min). ME squad flanks right (south). FS—Mortars suppress AD1020.
1st Sqd. ME. DESTROY EN on Hill 114 (OBJ 1) IOT enable friendly road use.
2nd Sqd. Secure SBF. BPT FIT ME.
3rd Sqd + MG. SBF. Suppress OBJ IOT enable ME assault.

Figure A-1. Platoon attack order.

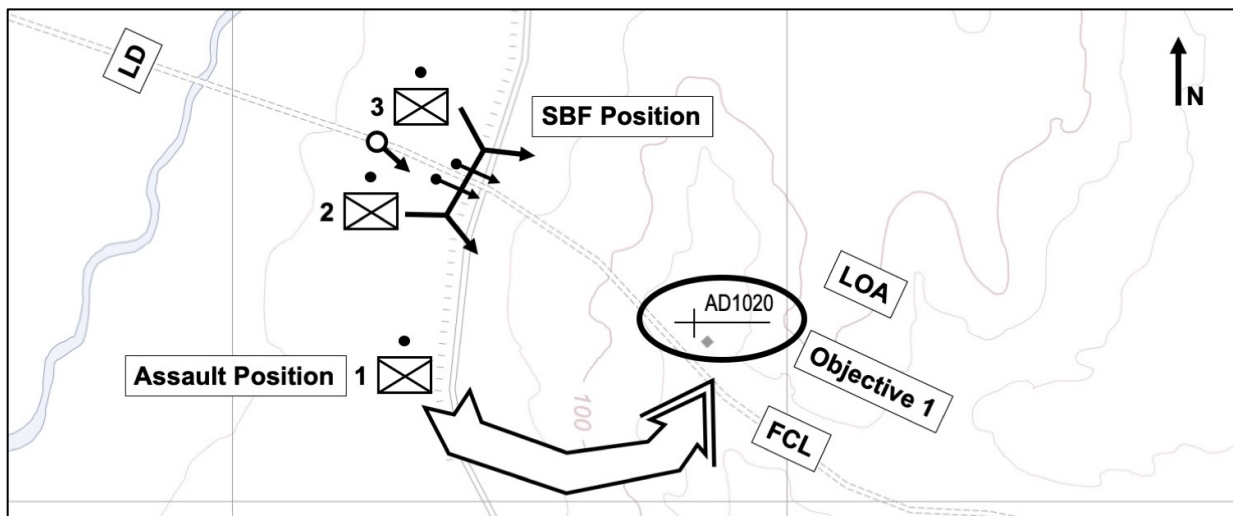


Figure A-2. Concept of operations (CONOPS) graphic.

Coord: All weapons sectors stay north of FCL on road.

A: CASEVAC—CCP @ SBF position behind road. 2d sqd A&L.

C: PltCdr leads 1st Sqd (ME Aslt Element). PltSgt leads SBF.  
"Shift Fire" command (PltCdr) by VHF. Alternate: RSC.

---

O: (N). (N)-(S) road. (E)-(W) dirt road. Hill 114 = OBJ 1.  
LD in treeline, (W) of streambed. SBF behind road  
embankment (18S TD 884 307). Covered assault position  
(S) along embankment (18S TD 883 303). FCL=dirt road.  
60s TGT AD1020 (18S TD 888 303): Building on Hill 114.

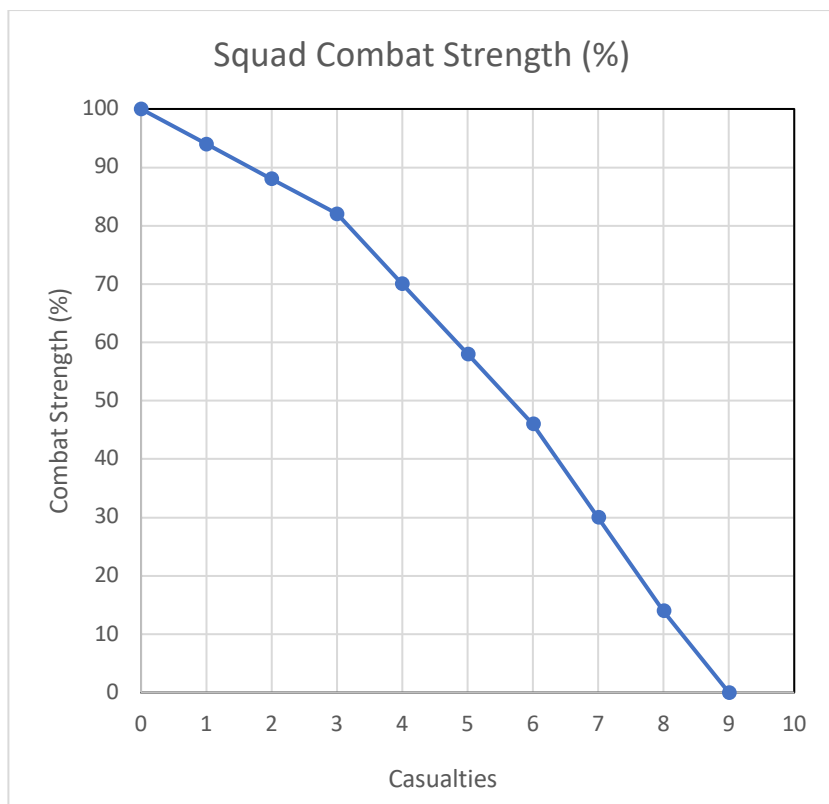
TO @ 2130:

- 1st Sqd (ME Assault Element)
- 2d Sqd (Security Element)
- 3d Sqd + (2) MG + 60mm mortars (SBF Support Element)

Figure A-3. Platoon attack order (continued), including orientation and task organization.

## Appendix B. Squad Casualties and Combat Power

For our experiment, we determined that the first three casualties to a rifle squad of 13 Marines would reduce combat power by 6 percent each: from 100 to 94 to 88 to 82 percent. The next three casualties would reduce combat power by 12 percent each: from 82 to 70 to 58 to 46 percent. The next three casualties would reduce the combat power of the squad to zero, or 16 percent each: from 46 to 30 to 14 to 0 percent. This non-linear relationship between casualties and combat power is shown in Figure B-1.



**Figure B-1.** Squad combat strength reduced by casualties.

This is optimistic. Most squads are not fully manned with 13 Marines, and six casualties would almost certainly destroy any squad. Every casualty has an increasingly negative effect. After the first two, a dangerous downward slide occurs. The casualties reduce the squad’s ability to return fire, find cover, or move forward. Any protection or treatment of casualties further reduces combat power. A squad that cannot regain fire superiority will be pinned in the open and suffer still more casualties.

The Marine Corps fire team—four Marines with an automatic weapon—was developed in Nicaragua in the 1930s and officially adopted after extensive combat experience during World War II. Originally, three fire teams of three Marines each, with a sergeant squad leader—a squad of ten Marines—was considered ideal for combat. A Marine Corps review (*The Fire Team*, 1955), stated that the fourth member of the fire team was added in 1944 specifically to absorb the high casualties that the Marine Corps was experiencing in the Pacific islands (English, 1981, p. 165).

This philosophy corresponds to Figure B-1. A fully-manned squad of 13 Marines can absorb three casualties, 25 percent, and still fully function. And casualties are not just from combat. Squads are reduced every day through under manning, illness, leave, and other reasons.

# Appendix C. Example Data Sheet

For our experiment, all data was recorded on a spreadsheet. See the Figure C-1 example. For each assault, friendly and enemy casualties were noted, along with elapsed time and notes on lessons learned. Three-hundred separate assaults were conducted between January and April 2023.

SC1	Date	Time	FR/shot	EN/shot	EN EPW/Ran	Total EN cas.	SUCCCEED Strength	FAIL Strength	Minutes	Sort	SC1 - 400m. Three conscripts manning a machinegun in a fighting hole.
1	3/9/2023	2022	0	4	0	4	100.00	FALSE	10	1	EN behind crest cannot see. FR used dead ground, but cannot find EN. FR are surprised inside 100m, but respond and destroy MG.
2	3/9/2023	2152	3	4	0	4	82.00	FALSE	13	2	EN fires @ 400m = 2 cas. F&M but NOT a lot of cover. EN relocates. Must be found again.
3	3/9/2023	2213	3	3	1	4	82.00	FALSE	14	2	EN fires @ 400m = 2 cas. F&M but NOT a lot of cover. EN relocates. FR smokes on line over crest. Must be found and destroyed.
4	3/9/2023	2233	4	4	0	4	70.00	FALSE	29	3	EN shot @ 400m = 5 cas. FR pinned in open 600 minutes. FR had difficulty suppressing EN. EN abandoned position. Small squad (6) made final assault.
5	3/10/2023	2056	7	4	0	4	30.00	FALSE	8	1	FR behind dead ground = 10 cas. Smoke on final assault. EN turned to look and shoot = 3 FR cas.
6	3/10/2023	2056	3	3	1	4	82.00	FALSE	8	1	EN shot @ 400m = 5 cas. Smoke on final assault. EN turned to look and shoot = 3 FR cas.
7	3/10/2023	2156	9	4	0	4	82.00	FALSE	14	2	EN shot @ 400m = 5 cas. F&M (uncollected) used to dead ground. On line assault over crest. EN relocates, but then overwhelmed.
8	3/10/2023	1439	0	4	0	4	82.00	FALSE	14	2	EN shot @ 400m = 3 cas. FR F&M (uncollected) used to dead ground. On line assault over crest. EN relocates, but then overwhelmed.
9	3/11/2023	2037	0	2	2	4	100.00	FALSE	3	1	Deliberate, slow, 3 FT F&M with MORE fire, less movement. EN was suppressed. Smoke over crest. On line assault fire destroyed EN in the open.
10	3/11/2023	2101	0	4	0	4	100.00	FALSE	9	1	Deliberate, slow, 3 FT F&M with MORE fire, less movement. EN was suppressed. Successive bounds. Terrain dictates which team goes next, NOT SL.
AVG			3.2	3.1	0.5	3.6	80.9				EN show to recover from suppression. FR is faster to recover. Key skill is reading ground and avoiding MG fire at distance. Last assaults were slow.
SC2	Date	Time	FR/shot	EN/shot	EN EPW/Ran	Total EN cas.	SUCCCEED Strength	FAIL Strength	Minutes	Sort	SC2 - 200m. Three conscripts manning a machinegun in a fighting hole.
1	3/17/2023	1438	2	2	2	4	88.00	FALSE	10	2	Two FR FT suppressed EN MG with heavy fire, 100% of time. Conscripts MORE vulnerable to suppression (and longer to recover). FR F&M zig-zagged.
2	3/14/2023	0831	0	2	2	4	80.00	FALSE	8	1	FR suppressed EN MG with heavy fire, 100% of time. Conscripts suppressed, relocated. F&M closed on position. Grenades into fighting holes.
3	3/14/2023	0904	0	2	2	4	80.00	FALSE	8	1	FR suppressed EN MG with heavy fire, 100% of time. Conscripts suppressed, relocated. F&M closed on position. Grenades into fighting holes.
4	3/14/2023	2203	4	3	1	4	70.00	FALSE	4	1	HASTY FR advance to dead ground. EN fired first = 4 cas. F&M up dead hill. EN ran.
5	3/15/2023	0854	2	3	1	4	88.00	FALSE	7	2	FR suppression WRONG EN position. One FR team firing was NOT enough. Good F&M from behind shoulder of hill. Overwhelmed EN in last minute.
6	3/15/2023	2140	3	3	1	4	82.00	FALSE	10	3	FR suppression WRONG EN position = 3 FR cas. Smoke to avoid fire. Move to shoulder of hill. F&M up hill. On line assault fire over hill.
7	3/15/2023	2156	0	2	2	4	100.00	FALSE	5	1	Two FT suppress MG. Conscripts are easily suppressed. F&M behind smoke, straight up the hill to overwhelm EN.
8	3/16/2023	1927	2	2	2	4	88.00	FALSE	10	2	EN relocated. FR suppressed old position. F&M found new position with casualties.
9	3/16/2023	1936	0	4	0	4	100.00	FALSE	5	1	EN stayed hidden, which allowed F&M to close and destroy EN position.
10	3/16/2023	2001	0	4	0	4	82.00	FALSE	13	3	Cought up on 3 cas. EN relocated, so FR suppression fire was used. FR F&M behind hill, destroyed EN.
AVG			1.9	2.4	1.6	4.0	88.0				Avoid chase. EN shooting, they win. Two FT suppression is good for MG. Conscripts are easier to suppress, longer to recover. MG is dangerous.
SC3	Date	Time	FR/shot	EN/shot	EN EPW/Ran	Total EN cas.	SUCCCEED Strength	FAIL Strength	Minutes	Sort	SC3 - 100m. Three conscripts manning a machinegun in a fighting hole.
1	3/19/2023	2023	1	4	0	4	94.00	FALSE	8	2	EN relocated. FR F&M created and shot EN fleeing. SECONDARY position then shot FR (=3 cas).
2	3/19/2023	2038	3	1	3	4	82.00	FALSE	10	4	EN relocated (unlocated by FR). Shot first = 3 cas. Ran and surrendered under FR F&M pressure. Unlocated SECONDARY position then shot FR.
3	3/19/2023	2053	0	1	3	4	100.00	FALSE	8	1	EN relocated. FR (bino) located EN. Crawled over crest and shot first into fighting holes. EN fled. Unlocated SECONDARY EN shot more FR.
4	3/20/2023	0844	5	2	2	4	58.00	FALSE	8	5	EN relocated behind crest. FR smoke indicated approach to EN. EN shot first into (bunched up) FR = 5 cas. FR fired at wrong position. Locate EN.
5	3/20/2023	0858	0	4	0	4	100.00	FALSE	7	1	EN relocated. FR used smoke to misdirect EN shot first, but (bad marksmanship) missed. FR three-part F&M found EN and overwhelmed EN.
6	3/20/2023	1949	1	3	2	4	82.00	FALSE	5	2	EN shot @ 100m = 1 cas. EN shot @ 100m = 3 cas. FR shot EN on line.
7	3/21/2023	2006	1	2	2	4	94.00	FALSE	6	2	EN fled. Shot down as they ran. FR crossed rise on line.
8	3/21/2023	2038	2	4	0	4	88.00	FALSE	13	3	EN fought, but was shot. Then ran.
9	3/21/2023	2038	2	4	0	4	88.00	FALSE	13	3	EN relocated and shot FR as they searched. FR flanked left for around. Took 10 minutes to close on OBJ.
10	3/21/2023	2201	1	4	0	4	100.00	FALSE	7	1	EN shot first (and poorly) = 0 cas. Good F&M. Shot EN bunker from three directions.
AVG			1.4	2.7	1.3	4.0	90.4				Closer dir (100m) is better defined, better surprise, less opportunity to get shot. Locating EN is important.
SC4	Date	Time	FR/shot	EN/shot	EN EPW/Ran	Total EN cas.	SUCCCEED Strength	FAIL Strength	Minutes	Sort	SC4 - 50m. Three conscripts manning a machinegun in a fighting hole. Facing the assault element.
1	3/22/2023	2238	4	2	2	4	100.00	FALSE	5	3	Three part fire. EN shot @ 400m = 4 cas. Then ran (NOT into smoke) and then ran into a MG.
2	3/22/2023	2238	0	2	2	4	100.00	FALSE	5	1	Three FT bounding. Saw first, shot first. EN fled.
3	3/23/2023	0846	1	4	0	4	94.00	FALSE	5	2	Three FT bounding. Saw first, shot first. EN fled.
4	3/23/2023	0846	1	4	0	4	94.00	FALSE	5	2	Three FT bounding. Saw first, shot first. EN fled.
5	3/23/2023	0857	0	3	1	4	100.00	FALSE	5	1	Three FT crawling over ridge and fired first. Shot EN.
6	3/23/2023	0904	0	3	1	4	100.00	FALSE	6	1	Three FT crawling over ridge and fired first. Shot EN.
7	3/23/2023	0913	7	3	1	4	30.00	FALSE	8	4	FR assaulted WRONG position. EN shot first, trapping FR in open. Near disaster, but EN still ran when fired upon with overwhelming fires.
8	3/23/2023	0921	1	3	1	4	94.00	FALSE	5	2	Rapid FR assault with F&M overwhelmed EN.
9	3/23/2023	0946	1	3	1	4	94.00	FALSE	5	2	Rapid FR assault with F&M overwhelmed EN.
10	3/23/2023	0946	0	3	1	4	100.00	FALSE	7	1	Rapid assault. MG is silent.
AVG			1.4	2.7	1.3	4.0	88.2				Shoot first to suppress conscripts. Location is key. Keep MG silent with overwhelming suppression.

Figure C-1. Example data sheet from Scenario C: Assaults against three enemy conscripts manning a machinegun in a fighting hole and facing the assault element (n = 40).

## Appendix D. Assault Techniques: Insert page for MCRP 3-10A.4 Marine Rifle Squad

### Assault Techniques

**Squad Assault as part of a Platoon Attack.** See Figure D-1. During the platoon attack, the support by fire (SBF) element suppresses the objective to enable the assault element to advance and destroy the enemy. The assaulting squad leader must make multiple tactical decisions, assessing the enemy (positions, weapons, dead space, and activities), the terrain (routes, cover, concealment, and lines of sight), and his own unit (locations, effective suppression, lines of sight, casualties, and ammunition).

The squad leader's options and decisions during the assault change as the situation changes. Some techniques are best used while the SBF is still firing, while some are used after the SBF has stopped.

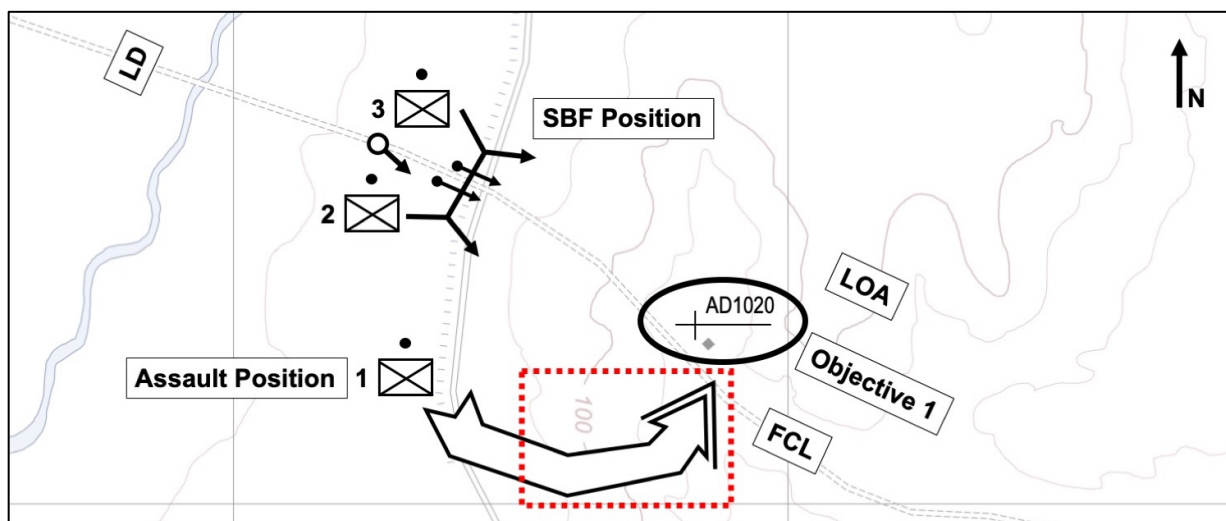


Figure D-1. Infantry platoon flank attack. The squad assault is highlighted.

**Movement Techniques.** Based on the terrain and the enemy's fire, the squad leader moves the squad forward as fast as possible with as much cover as possible towards the best positions possible.

- **Column** or **Line** (and the line variants: wedge, echelon, or vee).
- **Walking** or **Crawling**. Or running. Fast or slow.
- **Squad Movement** or **Fire Team Bounds**.  
See **Bounding Overwatch**, a slow technique used when the enemy's location is NOT known.

**Suppression Techniques.** When under direct enemy fire, the squad leader transitions to suppression techniques, either during the SBF or ideally, as late as possible after the SBF stops.

- **Fire and Movement.** The squad provides its own suppression without a stationary SBF.
- **Assault Fire.** The squad advances a short distance online, all hands suppressing a weak enemy.

**Final Assault Techniques.** At the objective, inside grenade range, the squad leader transitions to close combat techniques—to enter, fight through, and clear the objective, trench, or building. Or gain a foothold in a complex position to support follow-on forces.

- See **Clear a Trenchline**.
- See **Clear a Building**.
- See **Grenade Techniques**.

- See **Smoke Techniques**.

**Supporting techniques** used during the squad assault:

- See **The 300 mil Rule**.
- See **Hasty Breach of a Wire Obstacle**.
- See **Fire Commands**.
- See **Fighter-Leader**.
- See **Base Unit**.

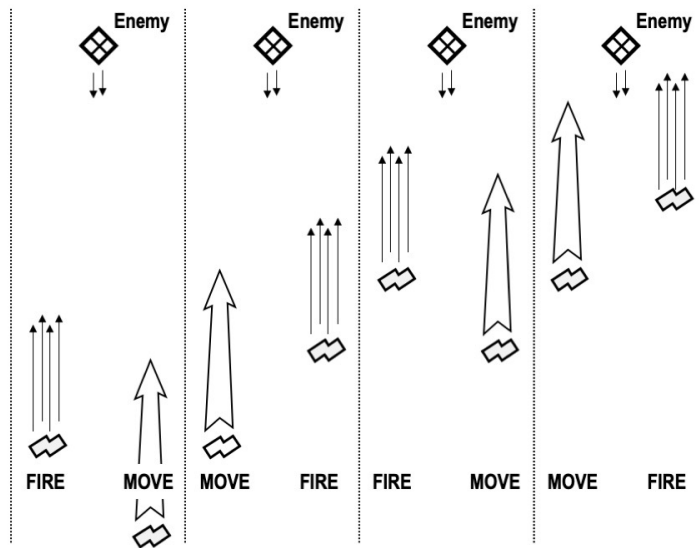
#### **Related techniques**

- See **Break Contact**, an immediate action drill that requires individual fire and movement.
- See **React to Enemy Ambush**, an immediate action drill that requires fire and movement.
- See **Meeting Engagement**, an immediate action drill that requires fire and movement.
- See **The Squad Attack**, an SBF plus (1) left flank, (2) right flank, or (3) frontal assault.
- See **The SBF Checklist**, a list of steps for the SBF element leader.

**Appendix E. Fire and Movement:** Insert page for MCRP 3-10A.4 *Marine Rifle Squad*

**Fire and Movement**

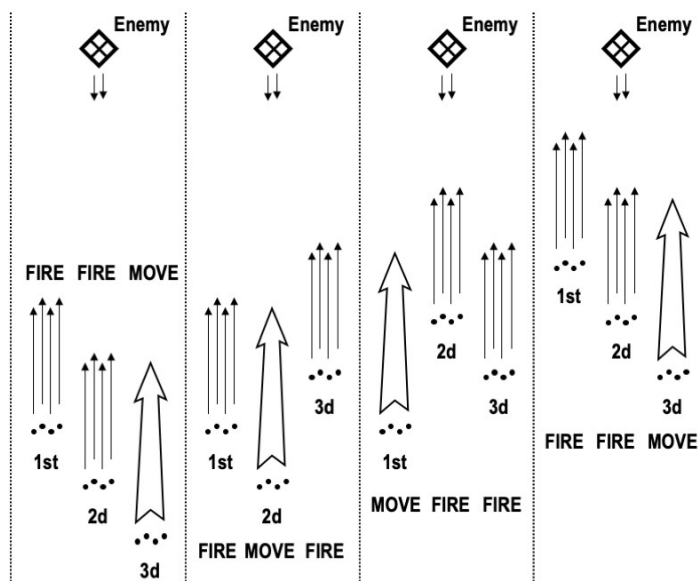
**Fire and Movement** is an assault technique. Under enemy fire, a unit advances in multiple elements, providing its own suppression, without the supporting fires of a separate, stationary support by fire (SBF) unit. Elements can be individuals, buddy teams, or fire teams.



**Fire and Movement: Basics**

1. One element fires on the enemy. One element moves forward. Firing and moving occur at the *same time*. The firing element suppresses the enemy, so the moving element can get forward.
2. Elements alternate, bounding past each other, with one element always firing to protect the movement of the other.
3. The firing element watches the moving element pass to avoid friendly fire. The moving element finds a new covered position and then opens fire.
4. When the forward element opens fire, the rear element moves. The distance to move—long or short—is based on the terrain and enemy fires.

**How to conduct Fire and Movement** with a Marine rifle squad. A squad conducts fire and movement with three fire teams. The squad leader identifies the enemy position, orders “Fire and Movement!” and controls the base unit. The other fire teams shoot and move while guiding on the base unit.



**Fire and Movement: Marine Rifle Squad**

1. Two fire teams fire on the enemy. The rear fire team moves forward. Firing and moving occur at the *same time*. The firing teams suppress the enemy, so the moving fire team can get forward.
2. Fire teams alternate, bounding past each other, with two teams always firing to protect the movement of the rear team.
3. The firing teams watch the moving team pass to avoid friendly fire. The moving fire team finds a new covered position and then opens fire.
4. When the forward fire team opens fire, the rear fire team moves. The distance to move—long or short—is based on the terrain and enemy fires.

The cardinal rule is to move *with* the fire: **There is no movement without fire.** Each firing element requires (1) a known enemy location, (2) a field of fire onto the enemy, (3) a covered position, and

(4) visibility of friendly moving units. If a fire team position has no line of sight to fire on the enemy, they must immediately move. They cannot support the other fire teams without fire on the enemy.

Fire and movement is NOT a fixed drill, with set lanes, distances, and order of movement. Fire teams do not slow down or select positions to keep alignment with adjacent teams. Fire teams shoot and move independently, always supporting each other, and respond dynamically to the terrain, the enemy, and the directions of the squad leader. Teams can advance as individuals, pairs, or together, while maintaining team integrity. When a moving fire team stops and opens fire, the rear fire team must get up and move forward automatically, without orders.

**Tactical Decisions Needed during Fire and Movement.** A well-trained squad executes the mechanics of fire and movement with minimal control. But the squad leader must direct and control the overall evolution. Unit leaders continuously assess the changing situation, judge enemy resistance, evaluate alternative actions, show initiative, and make tactical decisions that keep the squad moving forward:

- The squad leader, using the **base unit**, directs fire teams how to move, how fast, and how far. If the squad leader identifies a new enemy position, he shifts fires (and movement) onto that target.
- The squad leader, if his suppressive fires are ineffective, may **stop all movement** and order the entire squad to reload and fire simultaneously, gain fire superiority, then resume the assault.
- The squad leader **transitions** the squad from movement, to fire and movement, and then to close combat—entering and clearing the enemy’s position.
- The squad leader may direct a team with **casualties** to stop moving, and change the sequence of who moves next. The squad leader can combine teams and execute two-part fire and movement.
- The squad leader, if the enemy is weak or completely suppressed, can order **two fire teams** to advance simultaneously and far, while keeping only one fire team shooting.
- The squad leader may **switch fire and movement techniques** from fire teams, to buddy teams, to individual movement. Increased enemy fire requires *larger* fire elements and volumes of fire.
- The squad leader may stop fire and movement and transition to a **squad attack**, with two fire teams stopping to fire as a SBF, while one fire team assaults the objective, left or right flank.
- The squad leader may stop a fire team from moving over a crest or around a building and losing **mutual support**. If a fire team leader loses mutual support he must immediately move again.
- The squad leader may stop a fire team from moving if **suppression stops** or is ineffective and the enemy increases fire. A team leader can stop moving if suppression is insufficient.
- If a fire team leader’s new position enables clear fire on the enemy, he may decide not to move. In some terrain, a fire team may move only a **short distance** and not bypass the lead team.
- If covered terrain allows, a fire team leader may move **twice as far**. If the enemy is cowering and not firing, a fire team may move twice as far. Adjacent team positions do not dictate movement.
- If a fire team is blocked by an **obstacle**, or blocked by enemy fire—a beaten zone in open terrain—the fire team leader will take the initiative and cross-over *behind* an adjacent team.
- A fire team leader may move his people as individuals, **pairs**, or all together, and still retain team integrity to shoot together. Suppression requires mass fires—automatic weapons and 40mm.
- If a fire team leader **cannot see** the rear flank of a moving fire team, he stops his team from firing and then moves closer to the distant team.

**How to order Fire and Movement.** The squad leader shouts “Squad! Fire and Movement!” Since both enemy and friendly fire will drown out both radio and voice commands, especially at a distance, hand and arm signals are primary and voice (or radio) are secondary. Fire team leaders guide on the base unit being controlled by the squad leader for direction, location, actions, and rate of advance: “Follow me and do as I do!” The squad leader must depend on the decisions of his fire team leaders.



**How to signal Fire.** There is no hand and arm signal for “Fire and Movement!” The British Army signals “Fire and Movement” with a rolling motion of one arm at waist level. Well-trained units do NOT need continuous signals, but the squad leader does need to direct specific actions:



“Fire Team”



“Are You Ready?”  
“I am Ready”



“Commence Fire”  
“Fire Faster”  
“Fire Slower”



“Cease Fire”

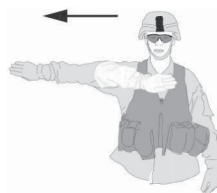
**How to signal Movement.** The squad leader may need to point out positions, change directions, order halts, or increase speed. Teams that are not doing what is needed must be directed.



“Come Forward”



“Double Time”



“Change Direction”



“Halt”

**Note:** All infantry hand and arm signals are executed with *one* non-firing arm. **Sources:** Appendix B of MCRP 3-10A.4 *Marine Rifle Squad*, TC 3-21.60 *Visual Signals*, and Appendix F of MCTP 3-01C *Machine Guns and Machine Gun Gunnery*.

**How to identify the location of the enemy.** All Marines should identify enemy positions and shout out direction and distance. The squad leader focuses fire with tracers, laser, or a **Fire Command**:

- “Squad!”                      “Ten o’clock!” (pointing rifle)                      [Alert, Direction]
- “Enemy trench!”              “One hundred meters!”                      [Description, Range]
- “Sustained!”                      “Fire!”                      [Assignment, Control] ADDRAC

Fire commands concentrate squad fires on one enemy position at a time in order to gain fire superiority. Dispersed fires, weak and unsustainable suppression, are insufficient to enable movement. The squad leader prioritizes targets—most dangerous first, and near before far.

**When to conduct Fire and Movement.** During a platoon attack, after indirect fire stops, and then the support by fire (SBF) element ceases direct fire, the assault element continues to advance. The squad leader orders fire and movement when the squad is fired on by an enemy:

- That is exactly located in a single position.
- That has been nearly destroyed by the suppressive fires of the SBF element.

Start fire and movement as close to the enemy as possible, as late as possible. Fire and movement slows down the momentum of the assault and exhausts the unit.

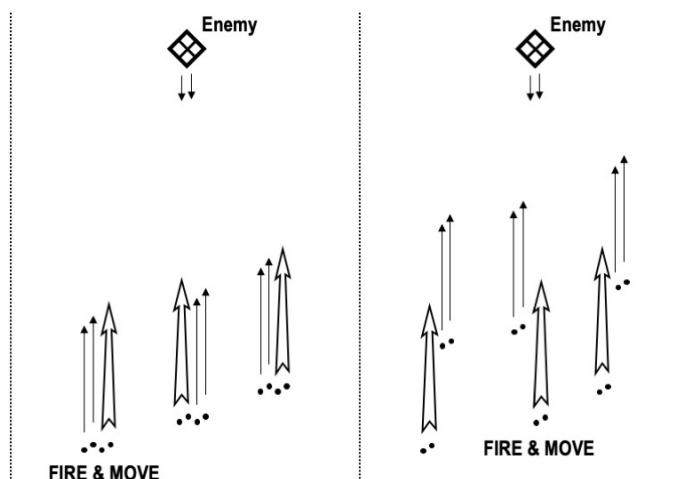
**Do NOT conduct Fire and Movement** against:

- An unlocated enemy position. The squad leader must identify a single location to riddle with fire.
- Multiple, mutually supporting enemy positions. The selected initial foothold in a complex enemy position must be isolated from mutual support.

**When to use smoke.** When the enemy is exactly located, shoot 40mm smoke at his position to obscure his vision and reduce return fire. Smoke is unpredictable, unreliable, and slow to billow. Do NOT throw hand smoke in front of your own unit, except as a feint, a signal, or to protect a casualty. Hand smoke identifies your position to the enemy, blocks your vision, and causes your unit to bunch up and lose direction.

**How to handle casualties.** Do NOT stop for casualties. Clear the objective and then return. The best way to protect your casualties is to quickly destroy the enemy. Casualties who can, should keep shooting. The platoon commander should designate a separate, follow-on aid and litter team with a corpsman. All movement increases exposure, which increases the risk of casualties. Distance increases exposure and casualties. Heavy loads and exhaustion increase exposure and casualties. If a fire team is reduced to two Marines, those Marines should join an adjacent fire team.

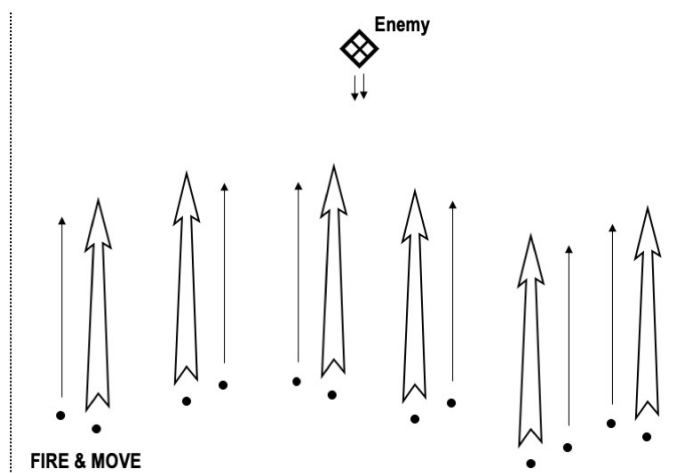
**How to conduct Fire and Movement by buddy teams.** Buddy teams are easier to control at the fire team level. Two Marines present less of a target to the enemy. When using fire and movement at 50 meters to break contact or assault through an ambush (especially when moving in column in narrow terrain), buddy team fire and movement is the norm. But in the assault, dispersed fires are difficult to concentrate and one or two weapons generate only weak and ineffective suppression. A large number of moving elements, assaulting over a distance, are difficult for the squad leader to control,



#### Fire and Movement by Buddy Teams

1. Two Marines fire on the enemy. Two Marines move forward. Firing and moving occur at the *same time*.
2. Buddy teams alternate, bounding past each other, with one buddy team always firing to protect the movement of the other.
3. Each fire team—two buddy teams—executes fire and movement **separately** and **simultaneously**. Fire teams advance with some awareness of adjacent teams, but may end up separated by terrain or enemy fire.

**How to conduct Fire and Movement by individuals.** Individual Marines are less of a target to the



#### Fire and Movement by Individuals

1. One fore Marine fires on the enemy. One aft Marine moves forward. Firing and moving occur at the *same time*.
2. Marines alternate, bounding past each other, with one Marine always firing to protect the movement of the other.
3. Across the squad, each buddy team of two Marines executes fire and movement **separately** and **simultaneously**. Marines advance with some awareness of adjacent Marines, but may end up separated by terrain or enemy fire.

especially while crawling in close terrain. Individual movement is often used for fire and movement drills—break contact or react to enemy ambush—when moving in column in narrow terrain, under close-range, chaotic conditions. But in the assault, individual fire is NOT suppression, and the squad leader cannot control or direct a dozen scattered individual Marines.

### Other uses of Fire and Movement

- **Break Contact** is an immediate action drill that requires individual fire and movement. See the “Australian Peel” in ATP 3-20.98 *Scout Platoon* (2019), pages 5-45 to 5-48.
- **React to Enemy Ambush** is an immediate action drill that requires fire and movement.
- **Meeting Engagement** is an immediate action drill that requires fire and movement.
- **Bounding Overwatch** is a movement technique that is essentially the same as fire and movement, without the fire or the enemy.

### Notes on Fire and Movement

- Fire and movement is NOT a substitute for a separate, stationary SBF element, suppressing the enemy continuously from one flank. Every assault element should be supported by an SBF.
- Weapons sections—machineguns, mortars, and assault rockets—do not generally conduct fire and movement. Weapons should be used in the SBF position.
- The U.S., British, and Canadian Armies—with two fire teams in their squads (sections)—execute two-part fire and movement: easier to train, easier to control, but with less volume of fire.
- 40mm grenades effectively suppress enemy trenches, fighting holes, and vehicles. Armored vehicles may not be vulnerable to fire, but can still be buttoned up and blinded by suppression.
- “The assault” is often mistakenly equated with “fire and movement.” But fire and movement is just one of many assault techniques.
- Under fire, Marines are taught to run low, zig-zag, drop to one side, and then roll or crawl into position. A recommended distance is five to seven steps, or “I’m up, he sees me, I’m down.” But the enemy and terrain actually dictate the distance to move. If suppression is 100% effective, and the enemy is cowering and not firing, a Marine may be able to move across a parking lot.

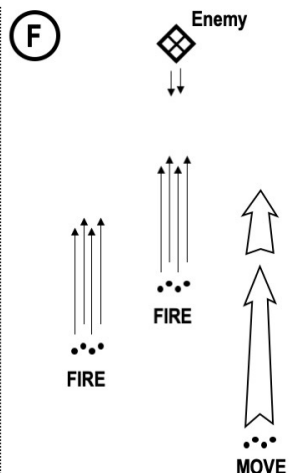
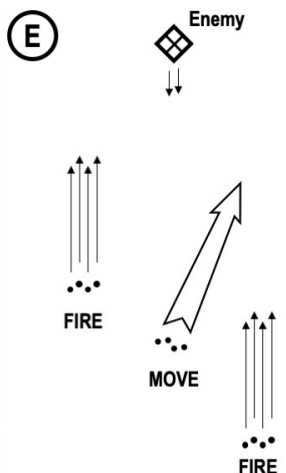
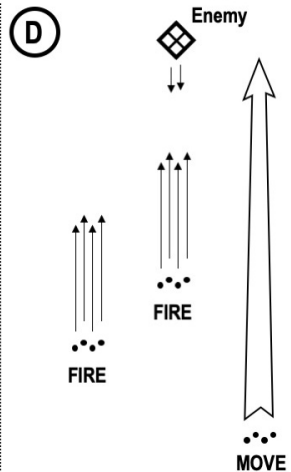
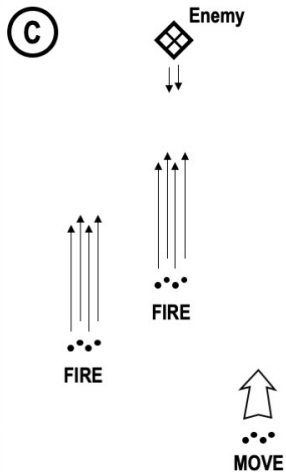
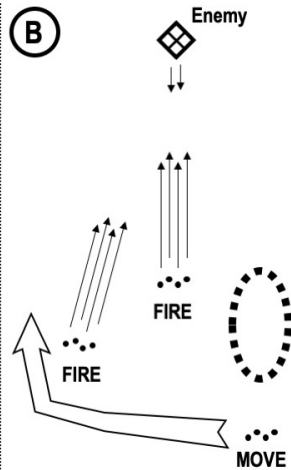
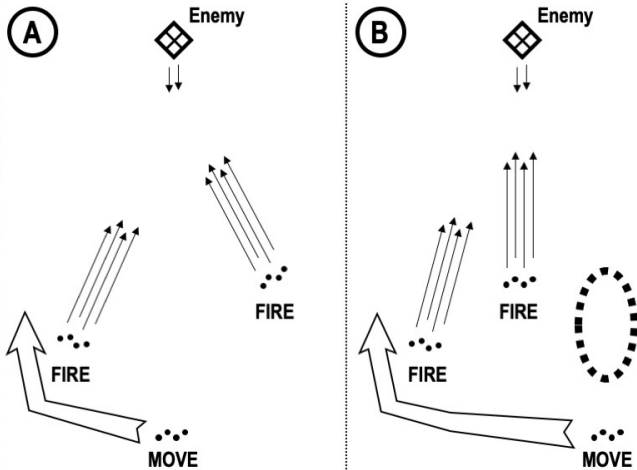
**How to train a squad on Fire and Movement.** Fire and movement is difficult. It cannot be done for the first time in combat. Effective fire and movement requires trained and cohesive infantry units, with tactically-strong leaders, superb fire control, good marksmanship, and disciplined Marines who will advance against an entrenched enemy (O’Leary 1999). It is not a technique for untrained units conducting local security. Units that lose momentum or control while under enemy fire will fail.

Leaders, especially, must train on multiple complex situations, fire commands, reading the ground, and selecting routes that provide cover and avoid beaten zones. Tactical decisions by leaders must reflect the mission, current enemy resistance, suppression, speed, ammunition, and casualties.

- In an open field, 100 meters long, train fire teams on the sequence of fire and movement: when to shoot, when to move, and when to stop. Emphasize that an open field has no cover.
- In a training area with close, uneven terrain, woods, vegetation, or buildings, establish a mock enemy position on a hill or in a building. Assign two ‘enemy’ Marines to sound a whistle or air horn to simulate intermittent enemy fire. From 100 meters, train fire teams to bound forward while under enemy fire. Assess casualties for moving without fire or choosing poor positions.
- On a live-fire range, establish a mock enemy position in the target area. From 100 meters, conduct fire and movement by fire teams, buddy teams, and individuals. Within safety constraints, encourage teams to move different distances, and ignore alignment. Discourage a

focus inward, toward each other, and emphasize a focus outward, on the enemy. Range restrictions may prevent you from moving behind an adjacent team, or shooting while running. Emphasize that live fire on an open range is always quick, short, and successful, and hides the real-world challenges of long movements across complex terrain against a real enemy.

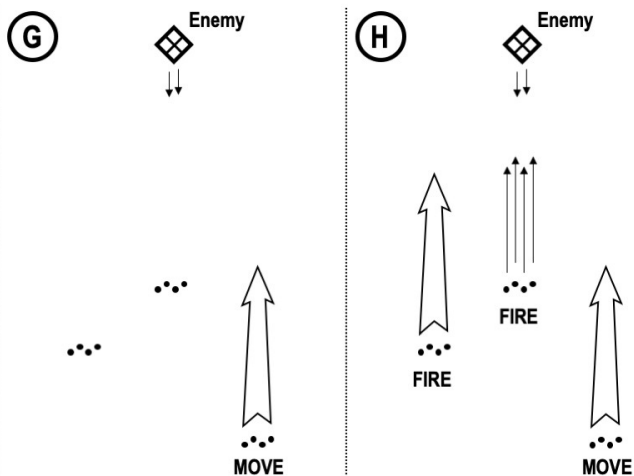
- On a sand table or white board, train squad leaders and fire team leaders on common tactical situations. Then in a training area, with just squad leaders and fire team unit leaders, conduct a tactical exercise without troops (TEWT) to walk through these same specific tactical situations:



### Training Scenarios

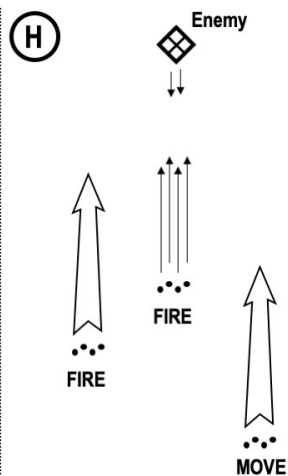
- Converging fire:**  
The rear fire team is blocked from moving into converging friendly fire. Rear fire team executes a **cross-over** and peels left behind adjacent fire team.
- Beaten zone:**  
The rear fire team is blocked from moving into open terrain by enemy fire. Rear fire team executes a **cross-over** and peels left behind adjacent fire team.
- Short bound:**  
Rear fire team moves short for good line of sight and effective fires on the enemy. Who moves next? Squad leader changes sequence or directs rear fire team to **move again**. If rear fire team stopped for enemy fire, casualty, or weapons stoppage, they get up and immediately move again.
- Long bound:**  
Rear fire team moves long, protected by defilade and good dirt. Option: Squad leader stops and transitions to **squad attack**: two teams fire as SBF, while one team assaults the objective.
- Do not move:**  
Middle fire team, moving to good covered position, cuts in front of friendly fire! The rear fire team ceases fire, reducing suppression by half.
- Move twice:**  
If the rear fire team's new position has no line of sight to fire on the enemy, they must get up and immediately move again. A team cannot support the squad without fires.

### Training Scenarios



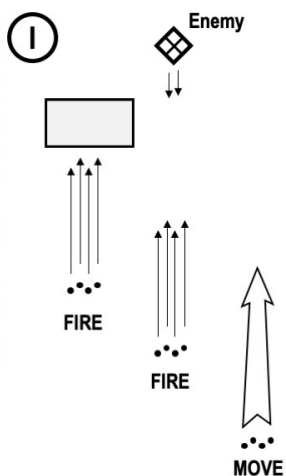
**G. All stop:**

If friendly suppression is stopped or ineffective, the enemy will recover and fire. The rear fire team, now moving without suppression, must stop. The squad leader directs all teams to reload, open fire, regain fire superiority, and resume fire and movement.



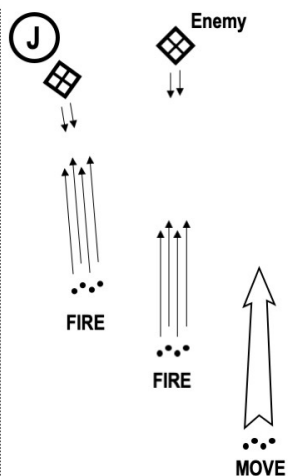
**H. All go:**

If the enemy is weak or completely suppressed, the squad leader can direct *two* fire teams to advance simultaneously and far, keeping only *one* fire team shooting.



**I. Obstacle:**

If a fire team's line of sight and effective fires are blocked by an obstacle (building, wall, or terrain), that fire team must move. A team cannot support the squad without firing. The rear fire team is now moving with *half* the suppression.



**J. New enemy:**

If a new enemy engages the lead fire team, the rear fire team is now moving with *half* the suppression.

### Notes on direction

- While learning the sequence of fire and movement, a squad leader may overcontrol his teams:
  - “1st Team. Prepare to Rush!” “Two o’clock! Twenty meters!” “Rush!”
  - “2d Team. Fire!”
  - “3d Team. Cease fire! Prepare to Rush!”
- Fire teams may communicate their status back to the squad leader and adjacent teams:
  - “Moving!” “Set!”
  - “Shooting!”
  - “Reloading!”
- In a well-trained squad, however, much of this shouting is unnecessary, as teamwork builds familiarity and confidence. The squad leader, a fighter-leader, controls his squad using the base unit. Fire teams fire and move while guiding on the base unit. Some commands are needed—corrections and adjustments—but the basic mechanics of fire and movement should unfold with initiative and minimal control.
- Untrained squads may need excessive guidance on the battlefield, even down to assigning specific objectives—direction and distance—to each fire team. But untrained squads should not conduct fire and movement against an actual enemy.

## Appendix F. Assault Fire: Insert page for MCRP 3-10A.4 *Marine Rifle Squad*

### Assault Fire

**Assault Fire** is an assault technique. The unit advances on line, continuously firing their weapons without stopping to improve their aim. The line formation enables maximum fire to the front. Ideally, this heavy volume of fire suppresses a weak, isolated enemy—who cower in their positions unable to see or return fire—until the assault element overruns the adversary position.

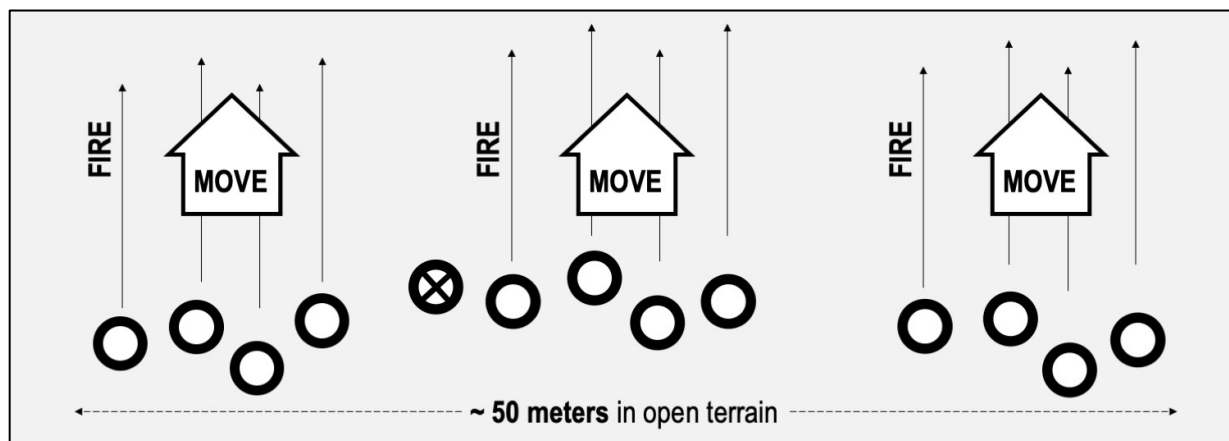
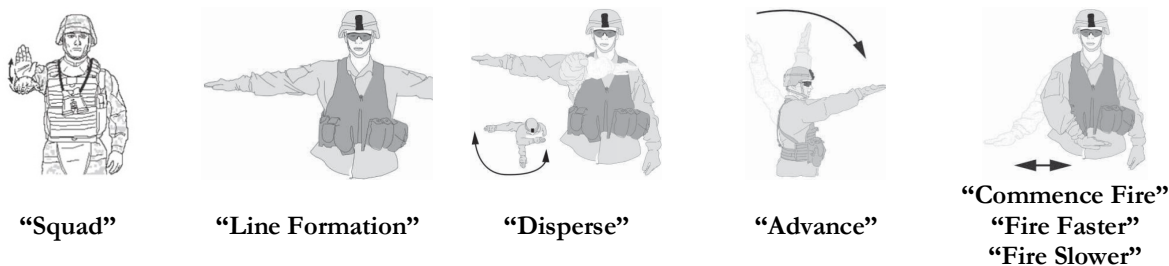


Figure E-1. Squad conducting assault fire.

**How to conduct Assault Fire** with a rifle squad. With the squad leader controlling the base unit (fire team), the squad forms a line and advances directly at a located enemy position, guiding on the base unit. The squad fires continuously on semi-automatic at both visible and suspected enemies. Automatic rifles, with the heaviest fire, reload on the move. All Marines shoot low and adjust fires upward. At the enemy position—bunker, trench, fighting position, or building—the squad throws grenades and transitions to close combat to enter and clear the position. See Figure E-1.

**How to order Assault Fire.** The squad leader’s, “Squad! Assault Fire!” triggers an SOP drill: Marines reload weapons and advance on line. Without an SOP, five commands are required: “Squad! Line Formation! Disperse! Advance! Commence Fire!” Note that movement will be slowed by an uphill slope, thick terrain, poor visibility, or unit exhaustion.

#### How to signal Assault Fire



**Note:** All infantry hand and arm signals are executed with *one* non-firing arm. **Sources:** Appendix B of MCRP 3-10A.4 *Marine Rifle Squad*, TC 3-21.60 *Visual Signals*, and Appendix F of MCTP 3-01C *Machine Guns and Machine Gun Gunnery*.

**How to identify the location of the enemy.** All Marines should identify enemy positions and shout out direction and distance. The squad leader focuses fires with tracers, laser, or a **Fire Command**:

- “Squad!                      “Ten o’clock!” (pointing rifle)                      [Alert, Direction]
- “Enemy trench!”      “Fifty meters!”                      [Description, Range]
- “Sustained!”              “Fire!”                      [Assignment, Control] ADDRAC

**When to conduct Assault Fire.** *Assault Fire can be high-risk against a competent enemy.* During a platoon attack, after indirect fire stops, and the support by fire element ceases direct fire, the assault element continues to advance using one of multiple assault techniques. The assault element transitions to Assault Fire when they have **almost reached** the objective, against an enemy:

- That is exactly located in a single position with few enemy soldiers. Ideally, in close terrain.
- That has been nearly destroyed by the suppressive fires of the SBF element.
- That is still suppressed, or slow to recover from the suppressive fires of the SBF element, cowering in position, and unable to see or return fire.
- That is weak, untrained, exhausted, poorly led, with low morale, and about to panic and run.
- That has bad marksmanship, little ammunition, and poor weapons.

**Do NOT conduct Assault Fire** against:

- An unlocated enemy position. The squad leader must identify a single location to riddle with fire.
- A strong, prepared and hardened enemy position—well-sited, dug-in, and camouflaged.
- Multiple, mutually supporting enemy positions. Adjacent enemies must be blocked or isolated.
- An enemy machinegun.
- An distant enemy in open terrain, with good visibility and fields of fire.
- A well-trained, competent enemy with high morale, strong leaders, and good marksmanship. Stubborn enemy units who quickly recover from suppression are unlikely to panic.

**When to use smoke.** When the enemy is exactly located, shoot 40mm smoke at his position to obscure his vision and reduce return fire. Smoke is unpredictable, unreliable, and slow to billow. Do NOT throw hand smoke in front of your own unit, except as a feint, a signal, or to protect a casualty. Hand smoke identifies your position to the enemy, blocks your vision, and causes your unit to bunch up and lose direction.

**How to handle casualties.** Do NOT stop for casualties. Clear the objective and then return. Since Assault Fire is used immediately in front of the objective, the best way to protect your casualties is to quickly destroy the enemy. Casualties who can, should keep shooting. The platoon commander should designate a separate, follow-on aid and litter team with a corpsman. All movement increases exposure, which increases the risk of casualties. Distance increases exposure and casualties. Heavy loads and exhaustion increase exposure and casualties. If a fire team is reduced to two Marines, those Marines should join an adjacent fire team.

**How to train a squad on Assault Fire**

- In an open field, establish an Assault Fire SOP to disperse ten or more Marines across 50 meters of open terrain—the width of a football field. Transition to Assault Fire from (1) a stationary assault position, (2) a moving column or wedge formation, and (3) a mock fire and movement sequence, where each fire team is widely separated. Transition to Assault Fire using voice commands, then radio, then only hand and arm signals.

- In a training area with close, uneven terrain, woods, vegetation, buildings, or trees, establish a mock enemy position. Train the squad leader on identifying the enemy position, issuing a fire command, transitioning to Assault Fire, and then maneuvering the squad toward the enemy.
- On a live-fire range, establish a mock enemy position in the target area. Train the squad leader on issuing a fire command, transitioning to Assault Fire, and then maneuvering the squad toward the enemy. Train the Marines on engaging targets with live fire, reloading weapons on the move, and maintaining an Assault Fire formation while advancing.

**History of Assault Fire.** The Assault Fire technique, formerly called “marching fire,” has been taught to U.S. infantry units since the Browning automatic rifle (BAR) was introduced in 1918. In World War II, General George S. Patton strongly believed that marching fire increased the confidence of his inexperienced troops, who were instructed to shoot every time their left foot hit the deck (Patton, 1947).

But General William E. DePuy, a World War II lieutenant who rose to command the Army’s training command after Vietnam, discredited marching fire, deleted it from Army doctrine, and emphasized that all attacks needed stationary suppressive fire (Swain, 1994). DePuy wrote that in combat against a competent and well-led enemy, hidden in strong fighting positions, U.S. units conducting Assault Fire would walk straight into the enemy’s engagement area and be destroyed by devastating fire. Modern weapons and plentiful ammunition do not give an assault element any advantage because every enemy is also armed with modern weapons.



## Appendix G. The 300 mil Rule: Insert page for MCRP 3-10A.4 *Marine Rifle Squad*

---

### The 300 mil Rule: “Don’t shoot your buddy”

The **300 mil rule** is a technique to avoid friendly fire. When Marines are in front of you, do NOT shoot unless there is more than 300 mils between your weapon and the nearest Marine. Measure this distance with your spread hand, outstretched, which is approximately 300 mils wide. See Figure F-1.

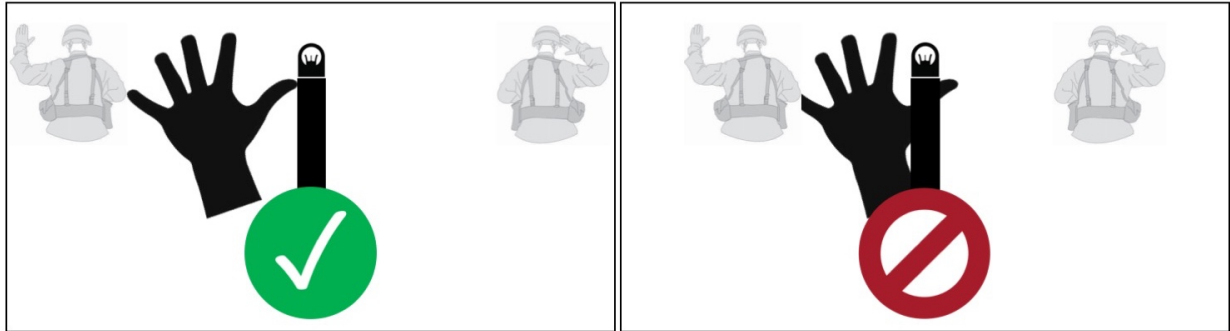


Figure F-1. A spread hand, outstretched, equals 300 mils to the left (or right) of your weapon.

**When to use the 300 mil rule.** In combat, during the assault, during fire and movement, and during close combat in restricted areas like buildings, trenches, or enemy positions, teams of Marines move and shoot very close to each other. Use the 300 mil rule to avoid shooting your buddy.

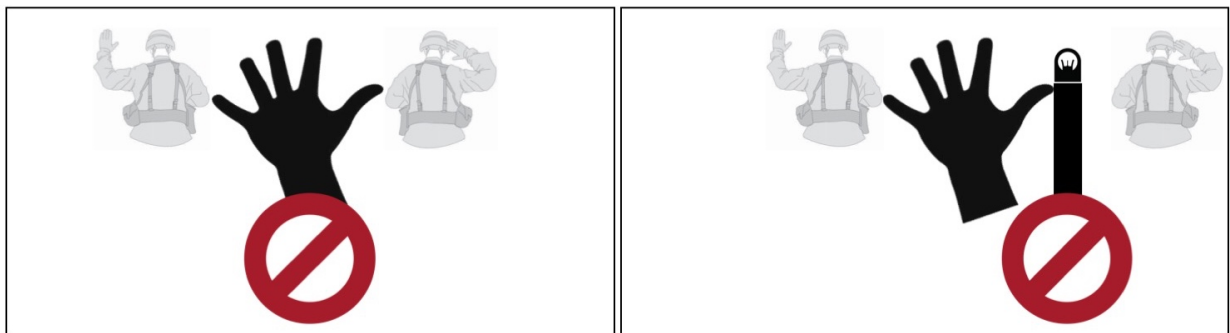


Figure F-2. Do NOT shoot unless there is 300 mils between your weapon and the nearest Marine.

**How NOT to use the 300 mil rule.** See Figure F-2. Do NOT shoot between two Marines who are only 300 mils apart. Do NOT aim 300 mils away from one Marine but dangerously close to another. Do NOT use your fist. A fist is approximately 150 mils—half of the requirement. See Figure F-3.

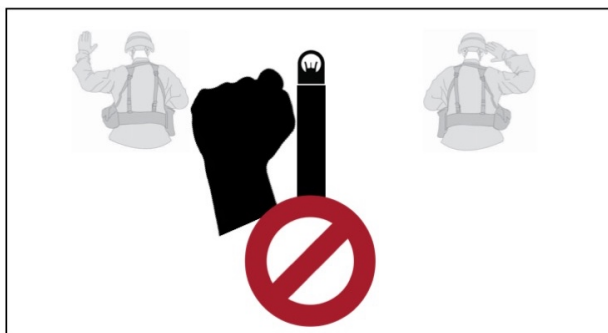


Figure F-3. A fist is only 150 mils—half of the distance required.

### How to train a squad on the 300 mil rule

- In a training area—open, wooded, or urban—place two Marines forward, twelve or fifteen feet apart. Direct other Marines to approach from behind, holding their weapons, measuring 300 mils, and saying, “No,” “No,” and then, “Fire,” when they are close enough to shoot safely.
- In a training area, run a fire and movement drill, a trench clearing drill, or a room clearing drill. Freeze the drill at different times and ask specific Marines where they can and cannot shoot in order to avoid friendly fire.
- On a live-fire range, run a fire and movement drill. Train Marines—NOT on line—to safely shoot between their buddies.

**Note.** Do NOT use this technique when serving as a stationary support by fire (SBF) element. The 300 mil rule is intended for units moving together, conducting an assault. Separate techniques are used by the SBF element when shifting fires in front of an assault element. The fixed distance between the SBF and the objective, and the decreasing distance between the assault element and the objective must be taken into account, and require different calculations and procedures.

**Source for the 300 mil rule.** DAPAM 385-63 *Range Safety* (2014), paragraph 17-4.o., dictates “15 degrees...between...the closest individual” and any small arms fire. The *TTECG Safety Policy* (2022), defines a 15 degree minimum distance in Section 2-2 on page 9.

A spread hand is approximately 15 degrees, but everyone’s hand is slightly different. A spread hand of ~ 8", outstretched ~ 26" from your face, creates a triangle of ~ 17 degrees, or ~ 300 mils ( $17 \text{ degrees} \times 17.777 \text{ mils/degree} = 302 \text{ mils}$ ). A fist of ~ 4", outstretched ~ 26" from your face, creates a triangle of ~ 8.5 degrees, or 150 mils ( $8.5 \text{ degrees} \times 17.777 \text{ mils/degree} = 151 \text{ mils}$ ). For hand/mil diagrams, see page 2-7 of MCTP 3-01C *Machine Guns and Machine Gun Gunnery* (2022).

## Appendix H. Squad Assault Terms: Insert page for MCRP 3-10A.4 *Marine Rifle Squad*

---

Tactical terms must be precisely defined and standardized to improve our understanding. Unless otherwise noted, the terms below are defined by the following standard dictionaries:

- *DOD Dictionary*, Apr 2023
- *Marine Corps Supplement to the DOD Dictionary*, 10 Sep 2020
- FM 1-02.1 *Operational Terms*, 9 Mar 2021

**assault**—2. To make a short, violent, but well-ordered attack against a local objective, such as a gun emplacement, a fort, or a machine gun nest. (*DOD Dictionary*) (NO *Operational Terms*) (NO *Marine Corps Supplement*)

**assault fire**—Assault fire is designed to keep the enemy suppressed once covering fires are lifted by fixing the defenders in their fighting positions. Assault fire permits the assaulting squad to close to within hand grenade range of the enemy position without sustaining heavy casualties from enemy small arms fire. The assault is made as rapidly as possible based on the ability of individuals to deliver a heavy volume of well-aimed fire. The speed of the assault will be governed by the slope and condition of the terrain, visibility, and physical condition of the squad members. Assault fire is characterized by violence, volume, and accuracy. Assault fire is designed to kill or suppress the enemy until the assault element can overrun the position. (Used, but not defined in MCRP 3-10A.4 *Marine Rifle Squad*, 7 Aug 2020) (NO *DOD*) (NO *Operational Terms*) (NO *Marine Corps Supplement*)

- **Note** that the **assault fire** technique, called “marching fire” during World War II, has no formal definition.

**assault position**—A covered and concealed position short of the objective from which final preparations are made to assault the objective. (*Operational Terms*) That position between the line of departure and the objective in an attack from which forces assault the objective. Ideally, it is the last covered and concealed position before reaching the objective (primarily used by dismounted infantry). (*Marine Corps Supplement*) (NO *DOD*)

- **Note** that at 50 meters, the **assault position** would essentially be on the **final coordination line** (FCL).

**attack**—A type of offensive operation that destroys or defeats enemy forces, seizes and secures terrain, or both. (*Operational Terms*) An offensive action characterized by coordinated movement, supported by fire, conducted to defeat, destroy, or capture the enemy or seize and/or secure key terrain. (*Marine Corps Supplement*) (NO *DOD*)

**attack position**—The last position occupied by the assault echelon before crossing the line of departure. (*DOD Dictionary*) The last position an attacking force occupies or passes through before crossing the line of departure. (*Operational Terms*)

- **Note** that the **attack position** is *before* the **LD**.

**base of fire**—Fire placed on an enemy force or position to reduce or eliminate the enemy’s capability to interfere by fire and/or movement with friendly maneuver element(s). It may be provided by a single weapon or a grouping of weapons systems. (*Marine Corps Supplement*)

- **Note** that a **base of fire** is the actual rounds being fired downrange, not the unit doing the firing.

**base unit**—One subordinate unit that the other subordinate units guide on. The unit leader directs the base unit to control the entire unit’s direction, position, and rate of movement. (Used, but not defined in MCRP 3-10A.4 *Marine Rifle Squad*, 7 Aug 2020) (NO *DOD*) (NO *Operational Terms*) (NO *Marine Corps Supplement*)

**beaten zone**—The area on the ground upon which the cone of fire (of a machinegun) falls. (MCTP 3-01C *Machine Guns and Machine Gun Gunnery*, 2 May 2016) (NO *DOD*) (NO *Operational Terms*) (NO *Marine Corps Supplement*)

**bounding overwatch**—A movement technique used when contact with enemy forces is expected. The unit moves by bounds. One element is always halted in position to overwatch another element while it moves. The overwatching element is positioned to support the moving unit by fire or fire and movement. (*Operational Terms*) (*Marine Corps Supplement*) (NO *DOD*)

**close combat**—The violent, uncontrolled firefight that occurs inside an enemy position—trench, bunker, building, or fighting position—where combatants often shoot at ranges of less than 10 meters. (Used, but not defined in MCRP 3-10A.4 *Marine Rifle Squad*, 7 Aug 2020)

- **Note** that **close combat**, part of the mission of the Marine rifle squad, has no formal definition.

**close quarters battle (CQB)**—Sustained combative tactics, techniques, and procedures employed by small, highly trained special operations forces using special purpose weapons, munitions, and demolitions to recover specified personnel, equipment, or material. (*Operational Terms*) (NO DOD)

- **Note** that **CQB** is defined only for special operations forces.

**concealment**—Protection from observation or surveillance. (*Operational Terms*) (*Marine Corps Supplement*) (NO DOD)

**cover**—1. Protection from the effects of fires. (*Operational Terms*) 4. Protection from the effects of direct and indirect fire. It can be provided by ditches, caves, river banks, folds in the ground, shell craters, buildings, walls, and embankments. (*Marine Corps Supplement*) (NO DOD)

**covered approach**—1. Any route that offers protection against enemy fire. 2. An approach made under the protection furnished by other forces or by natural cover. (*Operational Terms*) (NO *Marine Corps Supplement*) (NO DOD)

**dead space** (dead ground)—The area within the maximum range of a weapon which cannot be covered by fire or observation from a particular position because of intervening obstacles, the nature of the ground, the characteristics of the trajectory, or the limitations of the pointing capabilities of the weapon. (MCTP 3-01C *Machine Guns and Machine Gun Gunnery*, 2 May 2016) (NO DOD) (NO *Operational Terms*) (NO *Marine Corps Supplement*)

**defilade**—1. Protection from hostile observation and fire provided by an obstacle such as a hill, ridge, or bank. 2. A vertical distance by which a position is concealed from enemy observation. 3. To shield from enemy fire or observation by using natural or artificial obstacles. (*DOD Dictionary*) 1. Protection from hostile observation and fire provided by an obstacle such as a hill, ridge, or bank. (*Operational Terms*) (NO *Marine Corps Supplement*)

**final assault**—The last step of the assault, within grenade range of the enemy, when the assault element transitions to enter, fight through, and clear the objective: trench, building, or position. (NO DOD) (NO *Operational Terms*) (NO *Marine Corps Supplement*)

- **Note** that final assault has no formal definition, and the more accurate term, ‘close quarters battle (CQB)’ is defined for only special operations units.

**final coordination line (FCL)**—A phase line close to the enemy position used to coordinate the lifting or shifting of supporting fires with the final deployment of maneuver elements. (*Operational Terms*) A line used to coordinate the ceasing and shifting of supporting fires and the final deployment of the assault echelon in preparation for launching an assault against an enemy position. (*Marine Corps Supplement*)

- **Note** that a flank attack uses a final coordination line (FCL), not a restrictive fire line (RFL), to deconflict fires with the support by fire (SBF) element. An RFL is used for converging forces.

**fire and movement**—The concept of applying fires from all sources to suppress, neutralize, or destroy the enemy, and the tactical movement of combat forces in relation to the enemy (as components of maneuver, applicable at all echelons). At the squad level, it entails a team placing suppressive fire on the enemy as another team moves against or around the enemy. (*Operational Terms*)

A technique primarily used in the assault wherein a unit or element advances by bounds or rushes, with subelements alternately moving and providing covering fire for other moving subelements. Fire and movement may be done by individuals (personnel or vehicles) or units (such as fire teams or squads). Usually, fire and movement is used only when under effective fire from the enemy because it is relatively slow and difficult to control. (*Marine Corps Supplement*) (NO DOD)

**fire command**—A specific sequence of information given by a control authority that causes a crew to begin performing a sequence of actions and provides detailed direction to choose the ammunition type, aim the weapon, and engage the target. Each element given by the controller requires a response from a crewmember to ensure correct aiming and engagement. After the initial fire command, subsequent fire commands using the same sequence of information can be used to adjust the point of impact to ensure the desired target effect. (*Marine Corps Supplement*) (NO DOD)

**fire superiority**—That degree of dominance in the fires of one force over another that permits that force to conduct maneuver at a given time and place without prohibitive interference by the enemy. (*Operational Terms*) (NO DOD)

- **Note** that **fire superiority** means “effective suppression.”

**flank**—The right or left limit of a unit. (*Operational Terms*)

**flank attack**—A form of offensive maneuver directed at the flank of an enemy. (*Operational Terms*)

- **Note** that a platoon can only independently conduct two forms of offensive maneuver: **flank attack** and **frontal attack**. Envelopment, penetration, turning movement, and infiltration are directed by larger units.

**flanking attack**—An offensive maneuver directed at the flank of an enemy. (*Marine Corps Supplement*)

**frontal attack**—A form of maneuver in which the attacking force seeks to destroy a weaker enemy force or fix a larger enemy force in place over a broad front. (*Operational Terms*)

An offensive maneuver in which its main action is directed against the front of the enemy forces. (*Marine Corps Supplement*)

**geometry of fire**—the physical offset between friendly units on a battlefield. This offset must be maintained in order to prevent fratricide. (NO DOD) (NO *Operational Terms*) (NO *Marine Corps Supplement*)

**limit of advance (LOA)**—A phase line used to control forward progress of the attack. (*Operational Terms*) An easily recognized terrain feature beyond which attacking elements will not advance. (*Marine Corps Supplement*)

**line of departure (LOD)**—1. In land warfare, a line designated to coordinate the departure of attack elements. (*DOD Dictionary*) **LD** (*Operational Terms*)

**massed fire**—2. Fire from a number of weapons directed at a single target point or small area. (*DOD Dictionary*) (*Operational Terms*) (NO *Marine Corps Supplement*)

**mutual support**—That support which units render each other against an enemy, because of their assigned tasks, their position relative to each other and to the enemy, and their inherent capabilities. (*DOD Dictionary*) (*Operational Terms*) (NO *Marine Corps Supplement*)

**objective**—1. The clearly defined, decisive, and attainable goal toward which an operation is directed. (*DOD Dictionary*)  
A location used to orient operations, phase operations, facilitate changes of direction, and provide for unity of effort. (*Operational Terms*)

**on line**—An infantry formation where each individual or unit is adjacent to each other, facing and able to fire on the enemy. (NO *Operational Terms*) (NO *Marine Corps Supplement*) (NO DOD)

**overwatch**—A task that positions an element to support the movement of another element with immediate fire. (*Operational Terms*) 1. A tactical movement technique in which one element is positioned to support the movement of another element with immediate fire. 2. The tactical role of an element positioned to support the movement of another element with immediate fire. (*Marine Corps Supplement*) (NO DOD)

**probable line of deployment (PLD)**—A phase line that designates the location where the commander intends to deploy the unit into assault formation before beginning the assault. (*Operational Terms*) An easily recognized line selected on the ground where attacking units deploy in assault formation prior to beginning an attack. (*Marine Corps Supplement*) (NO DOD)

- **Note** that the **probable line of deployment (PLD)** and the **assault position** are essentially the same thing. A PLD is used only if the assault element does NOT cross the **LD** in their assault formation, and then does NOT form for the assault at the **assault position**. “The **PLD** can be collocated with the **assault position**” (MCWP 3-01). At night, or in close terrain, the **PLD** may follow the covered **assault position**: units move forward in column, then form on line at a PLD, shortening the distance they have to move on line in the dark.

**restrictive fire line (RFL)**—A specific boundary established between converging, friendly surface forces that prohibits fires or their effects from crossing. (*DOD Dictionary*) (*Operational Terms*)

**support by fire (SBF)**—A tactical mission task in which a maneuver force moves to a position where it can engage the enemy by direct fire in support of another maneuvering force. (*Operational Terms*) To engage the enemy by direct fire to support a maneuvering force using overwatch or by establishing a base of fire. The supporting force does not capture enemy forces or terrain. (*Marine Corps Supplement*) (NO DOD)

**support by fire position**—The general position from which a unit performs the tactical mission task of support by fire. (*Operational Terms*) (NO *Marine Corps Supplement*) (NO DOD)

- **Note** that the ideal support by fire (SBF) position is elevated above the objective.

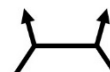
**suppress**—A tactical mission task that results in temporary degradation of the performance of a force or weapons system below the level needed to accomplish the mission. (*Operational Terms*) To temporarily degrade an opposing force or the performance of a weapons system below the level needed to fulfill its mission objectives. (*Marine Corps Supplement*)

**suppression**—Temporary or transient degradation by an opposing force of the performance of a weapons system below the level needed to fulfill its mission objectives. (*DOD Dictionary*)

**suppressive fire**—Fires on or about a weapons system to degrade its performance below the level needed to fulfill its mission objectives during the conduct of the fires. (*Operational Terms*) (*Marine Corps Supplement*)

**Appendix I. The SBF Checklist:** Insert page for MCRP 3-10A.4 *Marine Rifle Squad*

**The SBF Checklist**



During the platoon attack, the SBF element leader must:

<input type="checkbox"/>	<b>RECON the SBF position.</b> COMPARE the map to the actual ground. SELECT and DIAGRAM planned positions for crew-served weapons.	<b>OCCUPY</b>
<input type="checkbox"/>	<b>SECURE the SBF position.</b> EMPLACE a security element. BPT occupy the SBF by force—against enemy resistance.	
<input type="checkbox"/>	<b>OCCUPY the SBF position.</b> ORIENT Marines to the objective.	
<input type="checkbox"/>	<b>LAY machineguns.</b> ASSIGN targets. SIGHT azimuths and sector limits with a compass. SPECIFY rates of fire. Machinegunners RECORD target data.	<b>TARGET</b>
<input type="checkbox"/>	<b>LAY mortars.</b> ASSIGN targets. SIGHT azimuths with a compass. ESTIMATE ranges. SPECIFY rates of fire. Mortarmen RECORD target data.	
<input type="checkbox"/>	<b>LAY other weapons.</b> DEFINE sectors for individual weapons—those without traverse the elevation (T&E) mechanisms.	
<input type="checkbox"/>	<b>INSPECT.</b> Personally INSPECT each weapons sector—machineguns, mortars, and individual weapons—with a compass. ASK each Marine to state their task and their target.	
<input type="checkbox"/>	<b>COMMENCE fire</b> —on order. WATCH the enemy. WATCH your impacts. CONTROL fires. SHIFT targets and change rates of fire based on enemy actions. SHIFT targets based on feedback from the assault element. UPDATE the assault element on what the enemy is doing.	<b>FIRE</b>
<input type="checkbox"/>	<b>WATCH the assault element</b> —moving toward the enemy from the assault position, to the FCL, to the objective.	
<input type="checkbox"/>	<b>SHIFT fire</b> —if planned and if sufficient ammunition remains. KEEP supporting fires ahead of the assault. KEEP the enemy suppressed by continuing to fire.	
<input type="checkbox"/>	<b>CEASE fire.</b> Stop each weapon separately to stagger the fire. NOTIFY the assault element.	
<input type="checkbox"/>	<b>DISPLACE</b> the SBF element to the objective. CONSOLIDATE to repel enemy counterattack, distribute ammunition, and evacuate casualties.	

**SBF Position.** The priorities for the SBF position are: **visibility** to the objective, **range** to the objective, and partial **defilade**—to protect against enemy return fire. Ideally, the SBF position is elevated above the objective. The mortar firing position may be separate. Visibility of Marines in the assault element moving up to and occupying the assault position is *not* required, but the SBF element *must* have visibility of the assault element approaching the FCL and the objective.

**SBF Weapons.** Machineguns on tripods with T&E mechanisms are the primary SBF weapon. Indirect fires—mortars and 40mm grenades—are second. Rockets and missiles, and vehicle or ground-mounted M2HB .50 cal and Mk19 40mm machineguns may augment the SBF element.

Rifle squads—with 5.56mm rifles, automatic rifles, and 40mm grenades—CAN be assigned as the SBF element for objectives closer than 500 meters. If they cannot range the objective, or cannot provide fixed fire on specific azimuths, they may be tasked to provide security and carry additional machinegun ammunition for the SBF element.

At every range, the SBF element should maximize organic indirect fires. Especially against trenches and enemy troops digging in the open, bombs can be better suppression than bullets. See Figure I-1.

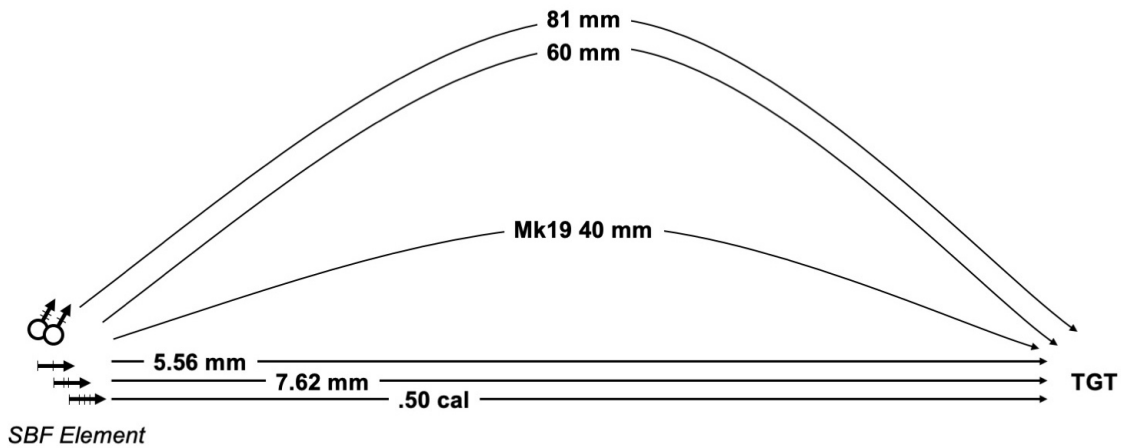


Figure I-1. SBF Element fires.

Inside 300 meters, the assault element should maximize M32/M320/M203 40mm rounds. At 30 meters, the assault element uses hand grenades. Especially against trenches and enemy troops digging in the open, bombs can be better suppression than bullets. See Figure I-2.

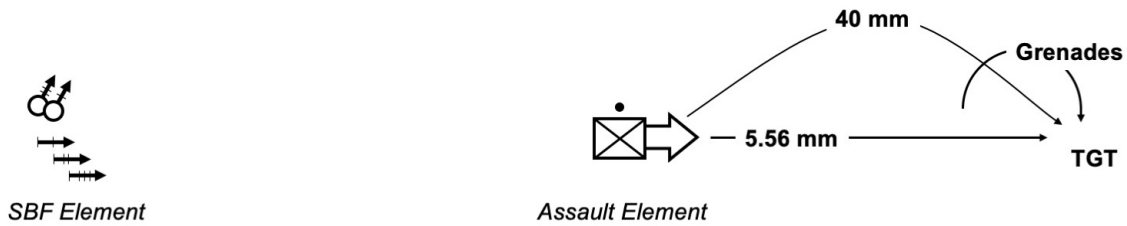


Figure I-2. Assault Element fires. Note: SBF Element has CEASED firing.

**SBF Task.** During the platoon attack, the standard task of the SBF element is: *“Suppress the enemy in order to enable the assault element to close on the objective.”* See Figure I-3.

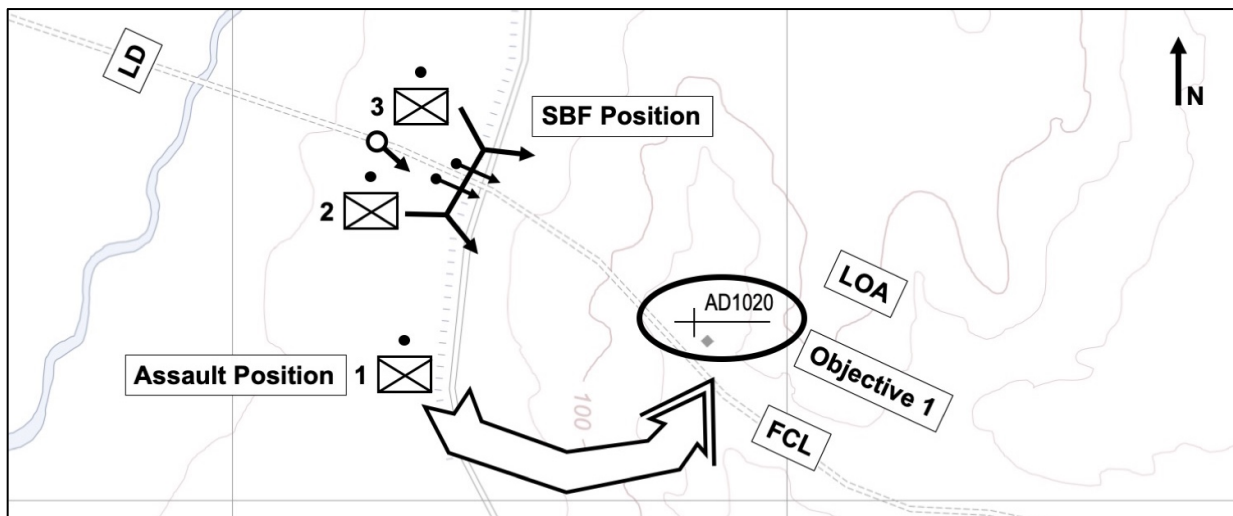


Figure I-3. CONOPS graphics for infantry platoon flank attack.



**SBF Targets.** The SBF element leader—shoulder to shoulder with each weapons’ team leader—ASSIGNS targets, SIGHTS targets with SCO (or binoculars or rangefinder), and then verbally CONFIRMS azimuths and sector limits with a compass. Machinegunners RECORD target data:

<b>Machinegun 3: M-240B</b>					<b>17 JUN 2025</b>
1: PDF	R100	+50 / 3	600 m	7.62 mm	Trench = PDF
2	R280	0 / 3	680 m	7.62 mm	Vehicle
3	R400	-50 / 3	800 m	7.62 mm	RLL = FCL
4: SHIFT	L400	-50/3	800 m	7.62 mm	LLL = SHIFT

**Source:** MCTP 3-01C *Machine Guns and Machine Gun Gunnery*, 9 Sep 2022, pages 4-22 through 4-27. **Notes:** A full range card is DA Form 5517-R *Standard Range Card*. Ideally, the right lateral limit (RLL), or left lateral limit (LLL), of the T&E stops on the FCL. The shift azimuth is the opposite flank.

**SBF Signals.** The SBF element leader controls *all* fires of *all* weapons using voice commands. Multiple SBF locations for separate weapons can often provide better target coverage, or better range and angles of fire, but this is NOT recommended because it complicates coordination. The SBF element, the assault element, and the CO communicate by radio. There are two critical signals: “COMMENCE FIRE” and “CEASE FIRE,” both of which need an alternate pyrotechnic signal.

**SBF Observation.** The SBF element leader needs three things to control fires: **(1)** a clear line of sight to the **target**, **(2)** a clear line of sight to the **assault element**, and **(3)** continuous **radio communication** with the assault element. The SBF element leader uses binoculars to watch the assault element. Each weapons team leader should also watch and be capable of SHIFTING and CEASING fire by themselves. Mortars generally do NOT have visibility, but their observer does.

**SBF Duration.** The SBF element leader estimates the SBF duration based on weapons assigned, ammunition available, and planned rates of fire: “5 minutes.” During the order, all leaders, especially the assault element leader, must understand this critical number. The SBF element leader holds back some ammunition for contingencies: “Holding back 10%.” During the attack, the SBF element leader calls, “Round count: 1 minute remaining!”

**SBF Control of Fires.** While firing, the SBF element leader can shift targets and increase (or slow) rates of fire based on observation of enemy actions and return fires. Likewise, the assault element leader, with a different, closer view of the objective, can call on the SBF element to shift targets or increase (or slow) rates of fire: “Increase suppression on bunker number two!”

**SBF SHIFT FIRE.** Shifting fire is desirable but not required. If sufficient ammunition is available, shifting fire to the opposite flank can keep the enemy suppressed while the assault element closes. Each weapons team leader needs to sight and record a shift azimuth.

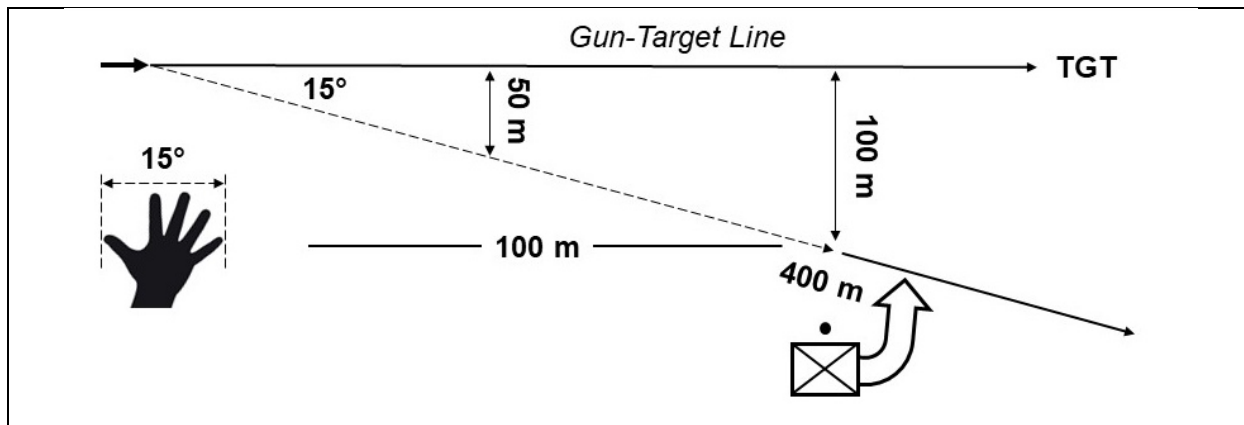
**SBF CEASE FIRE.** The SBF element leader stops each weapons system separately—at staggered ranges—as the assault element approaches the objective. *All* SBF weapons must stop at the FCL. There is only one FCL. Each weapon system does NOT have its own FCL. The assault element then closes rapidly from the FCL to the objective before the enemy can recover from suppression.

<b>When the assault element is:</b>	<b>from the gun-target line,</b>	<b>cease firing:</b>
8PE <sub>D</sub> + 400 meters	(IAW DAPAM Fig 9-1 and Table 9-1.)	81 mm mortars.
8PE <sub>D</sub> + 250 meters	(IAW DAPAM Fig 9-1 and Table 9-1.)	60 mm mortars.
100 meters	(IAW DAPAM para 17-4.o.)	.50 caliber machineguns.

100 meters	(IAW DAPAM para 17-4.o.)	7.62 mm machineguns.
100 meters	(IAW DAPAM para 17-4.o.)	5.56 mm infantry automatic rifles.

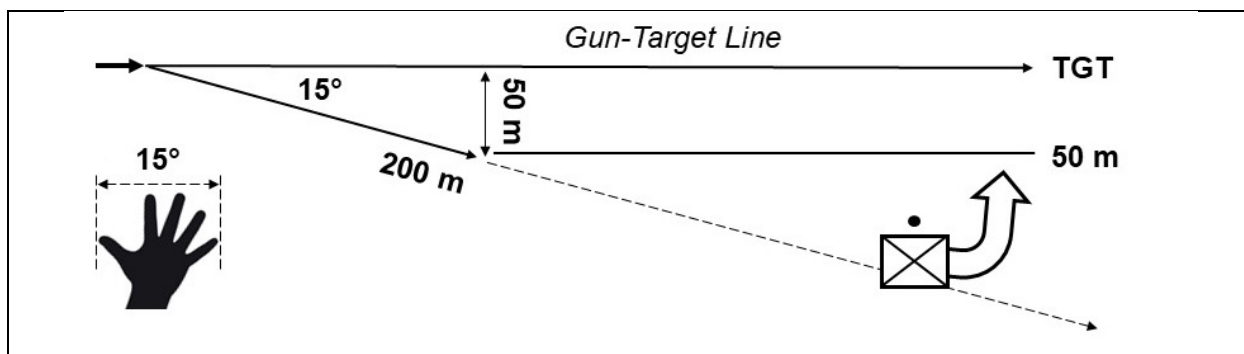
**Source:** MCO 3570.1C *Range Safety*, 30 Jan 2012, DAPAM 385-63 *Range Safety*, 16 Apr 2014, and MCRP 3-31.6 *JFIRE*, Oct 2019. **Notes:** All SBF weapons are stationary. Machineguns are mounted on a tripod with T&E. Mortars are *not* in hand-held mode. IAR are on a supported bipod position. M32/M320/M203 40mm grenades launchers are restricted IAW DAPAM para 17-5.a.(1).

DAPAM 385-63, para 17-4.o. states, “(For) Small arms (5.56mm, 7.62mm, and .50 caliber), ground-mounted... machine guns... there must be an angle of **15 degrees or 100m** (whichever is greater) between the limit of fire and the near flank of the closest individual...” See Figure I-4.



**Figure I-4.** Fifteen degrees or 100 meters from the gun-target line (whichever is greater). **Source:** DAPAM 385-63. **Notes:** The assault element is short of the impact area. An outstretched hand is approximately 15 degrees (300 mils) wide. Beyond 400m from the gun, the assault element is *more* than 100m from the gun-target line. At 1000m from the gun, the 15-degree restriction puts the assault element approximately 250 meters from the gun-target line.

**In combat, unit commanders** can adjust the small arms limits toward 50 meters, based on unit proficiency, visibility, terrain, weather, geometries of fire, and dispersion. For example, in the open desert, on established ranges, one unit waiver reads, “Maneuvering personnel must remain at least **15 degrees or 50 meters** off the gun target line, whichever is *more* permissive to the maneuvering unit.” (*TTECG Safety Policy*, 30 Jun 2021. Para 2-2.a. for 5.56 mm and 7.62 mm, and para 3-2.c. for M32/M320/M203 40mm grenade launchers) See Figure I-5.



**Figure I-6.** Fifteen degrees or 50 meters from the gun-target line (whichever is less). **Note:** The assault element is short of the impact area. The assault element can move inside the 15-degree wedge (toward the 50 meter limit) when it is farther than 200 meters from the machinegun.

## The SBF Checklist for Night Attack

During the platoon **night** attack, the SBF element leader must:

<input type="checkbox"/>	RECON the SBF position <b>during daylight</b> . COMPARE the map to the actual ground. SELECT and DIAGRAM planned positions for crew-served weapons.	OCCUPY
<input type="checkbox"/>	SECURE the SBF position <b>during daylight</b> . EMPLACE a security element. <b>MARK the SBF flanks with IR chemlite bundles.</b>	
<input type="checkbox"/>	OCCUPY the SBF position <b>at dusk</b> . ORIENT Marines to the objective <b>while it is still visible.</b>	
<input type="checkbox"/>	LAY machineguns. ASSIGN targets. SIGHT azimuths and sector limits with a compass <b>and hand-held laser pointer</b> . SPECIFY rates of fire. Machinegunners RECORD target data, <b>MARK sectors with luminous tape or directional chemlites, and ILLUMINATE the T&amp;E with an IR chemlite.</b>	TARGET
<input type="checkbox"/>	LAY mortars. ASSIGN targets. SIGHT azimuths with a compass <b>and hand-held laser pointer</b> . ESTIMATE ranges. SPECIFY rates of fire. Mortarmen RECORD target data and <b>EMPLACE aiming stakes.</b>	
<input type="checkbox"/>	LAY other weapons. DEFINE sectors for individual weapons—those without T&E mechanisms. <b>MARK sectors with luminous tape or directional chemlites.</b>	
<input type="checkbox"/>	INSPECT. Personally INSPECT each weapons sector—machineguns, mortars, and individual weapons—with a compass. ASK each Marine to state their task and their target.	FIRE
<input type="checkbox"/>	COMMENCE fire—on order. WATCH the enemy <b>through NVGs</b> . WATCH your impacts. CONTROL fires. SHIFT targets and change rates of fire based on enemy actions. <b>IDENTIFY targets with a hand-held laser pointer.</b> SHIFT targets based on feedback from the assault element. UPDATE the assault element on what the enemy is doing.	
<input type="checkbox"/>	WATCH the assault element—moving toward the enemy from the assault position, to the FCL, to the objective. <b>ASSIGN one Marine to continually watch the assault element through NVGs. The assault element leader is marked with a flashing programmable IR beacon. All assault element Marines are marked with glint tape or IR chemlites.</b>	
<input type="checkbox"/>	SHIFT fire—if planned and if sufficient ammunition remains. KEEP supporting fires ahead of the assault. KEEP the enemy suppressed by continuing to fire.	
<input type="checkbox"/>	CEASE fire. Stop each weapon separately to stagger the fire. NOTIFY the assault element. <b>At night, stop the squad individual weapons early.</b>	
<input type="checkbox"/>	DISPLACE the SBF element to the objective. CONSOLIDATE to repel enemy counterattack, distribute ammunition, and evacuate casualties.	

**SBF IR Night Signals.** The SBF element leader accepts risk when using laser pointers and IR markings. The enemy may also be equipped with NVGs and laser pointers. Flashing IR beacons can be mistaken for enemy muzzle flashes.