

DUAL PATH STRATEGY SERIES: Part II - Soldier Weapons Primer



**Program Executive Office Soldier
G5, Strategic Communications Office**

November 2010

Soldier Weapons Primer

Editor's note: This feature is the second installment in PEO Soldier's "Dual Path" series. The Dual Path is PEO Soldier's strategy to provide Soldiers with a service rifle that is even more effective, accurate and reliable than the current family of M16/M4 individual weapons. The strategy pursues a rigorous M4 improvement program while simultaneously challenging industry in a carbine competition to deliver an entirely new weapon system that can outperform the combat-proven M4. The articles are intended to educate and inform readers regarding the significant considerations relevant to the search for a new service rifle. This primer draws directly from FM 3-21.8, "The Infantry Rifle Platoon and Squad," and information available online from PEO Soldier's website, peosoldier.army.mil.

With the Army looking to dramatically update the Soldier's service rifle for the first time in nearly 50 years, it's important to understand the context in which the M16/M4 weapon systems operate at the platoon level. As with any new piece of information, understanding the general context surrounding an issue facilitates understanding and eliminates the "soda straw effect." While the M16 and M4 individual weapons are the cornerstone of the infantry's arsenal, they are just one part of the overall firepower that the small unit brings to bear on the battlefield.

To begin, no weapon or Soldier operates in isolation. Soldiers operate as part of a synchronized team that employs a range of weapon systems optimized for a variety of mission requirements. The principle of synchronized effort is formalized in military doctrine. FM 3-21.8 also outlines the principle of "combination:"

"The power of combination creates dilemmas that fix the enemy, overwhelming his ability to react while protecting your own internal weaknesses... Leaders creatively combine weapons, units, and tactics using the principles of complementary and reinforcing effects to create dilemmas for the enemy." FM 3-21.8

Understandably, much attention is paid to the role of the M4 Carbine, which is the mainstay individual weapon for today's Brigade Combat Teams. However, the principle of combination requires employment of a much wider range of weapons to achieve success. A typical infantry platoon will employ a combination of individual and crew-served weapons that range from rifles and grenade launchers to heavy machine guns and shoulder-launched missiles. Each weapon system has its relative merits and dedicated roles. Small unit leaders are trained to employ unit weapon systems to maximum effect for each specific mission faced.

The Arsenal of Individual and Crew-Served Weapons

In the world of small arms, the Army categorizes systems as either individual or crew-served weapons. Individual weapons include systems that are intended to protect the Soldier and enable them to take highly accurate, well-placed shots to defeat the enemy. Following is a list of individual weapons common to an infantry unit:

M9 Pistol: 9mm, 15-rd. mag., semi-automatic, double-action pistol with rail attachment capabilities, personal defense weapon

Assigned to: Machine gunners and other positions, e.g., medics



M16 Rifle: 5.56mm, 30-rd. mag., gas-operated, air-cooled weapon, fires three-round bursts or semi-auto
Assigned to: Combat support and combat service support personnel



M4 Carbine: 5.56mm, 30-rd. mag., designed for lightness, speed, mobility and fire power; standard for all Brigade Combat Teams
Assigned to: Leaders, radio telephone operators (RTO), riflemen, grenadiers, anti-armor specialists



M14 Enhanced Battle Rifle: 7.62mm, 20-rd. mag. features 10-power scope; engages targets beyond range of M16/M4s
Assigned to: Squad Designated Marksman in select units



M500 Shotgun: 12 gauge, 5-rd., slide-operated; short range system for door breaching and crowd control
Assigned to: Arms room weapon drawn as needed



M203A2 Grenade Launcher: 40mm, single shot; mounts under M16/M4, features day-night sights
Assigned to: Grenadiers



M320 Grenade Launcher: 40mm, single shot, stand alone or mounted, features side loading breech, day-night sights; replacing the M203
Assigned to: Grenadiers



Crew-served weapons are employed more for area suppression. Usually of large caliber, these systems deliver high volumes of continuous fire, are heavy and very durable. Extremely powerful on both the offense and defense, they keep the enemy down so that troops can maneuver to a position to engage and destroy them. Crew-served weapons include light, medium and heavy machine gun systems. They are the infantry platoon's most effective weapons against a dismounted enemy force. These formidable weapons can engage enemy targets beyond the capability of individual weapons with controlled and accurate fire. Following are some crew-served weapons:

M249 Squad Automatic Weapon (SAW): 5.56mm, gas-operated, air-cooled, belt- or magazine-fed, 200-rd. ammo packs; features quick change barrel, fires from the bipod, hip, or underarm positions; provides light machine gun capabilities as it lays down a base of suppressive fire
Assigned to: Automatic rifleman



Crew-served weapons *continued*

M240B/L Medium Machine Gun: 7.62mm, belt-fed, air-cooled, gas-operated, and fully automatic; mounts on a bipod, tripod, aircraft or vehicle; uses 100-rd. bandoleer; features quick change barrel. Integral to unit defensive fires. Provides highly reliable and lethal medium support fire for ground units
Assigned to: Weapons squad gunner



Javelin Close Combat Missile System: Man-portable, shoulder-fired, "fire-and-forget" weapon system. Major components are a reusable command launch unit with day-night sights, and a missile sealed in a disposable launch tube assembly. Top-attack or direct-fire mode, target lock-on before launch; limited back-blast enables gunners to safely fire from enclosures
Assigned to: Weapons squad javelin gunner



MK19 40mm Grenade Machine Gun: Air-cooled, blowback-operated machine gun. Belt-fed, tripod or vehicle mounted; delivers a heavy volume of high-explosive firepower against enemy personnel, lightly armored vehicles, and hovering aircraft
Assigned to: Organic to the battalion weapons company, not the rifle platoon, but many infantrymen use it. Common to MP, combat support and combat service support units



M2 .50 Caliber Machine Gun: Belt-fed, heavy machine gun mounts on most vehicles; highly effective against light armored vehicles, low- and slow-flying aircraft and boats
Assigned to: Organic to the battalion weapons company, not the rifle platoon, but many infantrymen use it. Heavy infantry units often have M2s mounted on vehicles. Common to MP, combat support and combat service support units



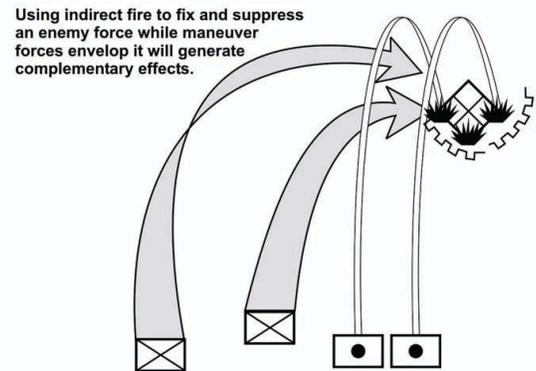
Fire for Effect – Putting it all together

At this point, it's apparent that the diversity of weapons available to the infantry platoon offers a devastating and lethal capability. However, how unit leaders actually employ their Soldiers and their weapon systems in concert is critical to the success or failure of the mission. For success on the battlefield, today's leaders are trained to generate "dilemmas" for the enemy that they cannot recover from.

According to FM 3-21.8, a dilemma is a situation in which the enemy is presented with two or more equally bad alternatives. Alternately, a "problem" is a situation in which the enemy is presented with only one bad alternative. When presented with a dilemma, an enemy will hesitate as they are forced to decide between equally bad options. Because the enemy's choice is an option in which the friendly force has the upper hand, the unit leader is able to exploit the enemy's decision. However, relying on a single

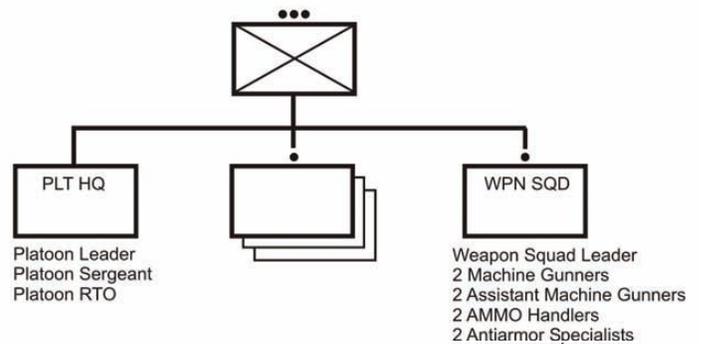
weapon, unit, or tactic only presents the enemy with a problem that can most likely be escaped from. Without a second or third stressor, the enemy is able to react and stay in the fight.

One simple example of how leaders can create a dilemma for the enemy is by combining low-trajectory weapons (M4, M249, M240) with high-trajectory weapons (M203A2, M320, Javelin). If the enemy gets up from his position and attempts to move, the automatic rifleman can engage him. If the enemy decides to stay in his position behind frontal cover, the grenadier can engage him. This united effect of the automatic rifleman and grenadier outweighs the effect either would have if they engaged the enemy without the other. Meanwhile, the rifleman is either reinforcing the automatic rifleman, fixing another target, or providing security and observation.



FM 3-21.8

The base fighting force charged with creating dilemmas for the enemy is the platoon. In its simplest form, the infantry platoon is organized with three rifle squads, a weapons squad, and a platoon headquarters. Each squad comprises two or more self-contained fire teams, which are the base fighting elements within the infantry platoon. For the purposes of considering how all the pieces come together, let's take a look at the doctrinal fire team organization to see how the teams are organized and equipped to take the fight to the enemy. Naturally, task organization varies by unit, particularly in theater.



The standard **infantry platoon** is organized with three rifle squads, a weapons squad, and a platoon headquarters.

FM 3-21.8

The Rifle Squad's Fire Teams

The **Team Leader (TL)** provides fire team command and control and is armed with the **M4 Carbine**. The M4 is a direct-fire weapon that fires ball and tracer 5.56mm ammunition. In this capacity, the rate of fire for the M4 is not based on how fast the Soldier can pull the trigger. Rather, it is based on how fast the Soldier can accurately acquire and engage enemy targets.



The **Grenadier** provides high-explosive (HE) indirect fires for both point and area targets. The grenadier is currently armed with the **M320 or M203 40mm Grenade Launcher** in addition to an M16 or M4. The grenadier provides the fire team with complementary effects by firing in a high trajectory out to 350 meters on either point or area targets. The weapons fire several types of munitions including, high explosive (HE), high explosive dual purpose (HEDP) (antipersonnel/antiarmor), riot control, buckshot, and signaling. As with the rifleman, the grenadier's rate of fire is based on how quickly he can accurately acquire and engage the enemy. The grenadier performs three functions: suppress and destroy enemy infantry and lightly armored vehicles with HE rounds, provide smoke to screen and cover his squad's fire and movement, and employ illumination rounds to increase his squad's visibility and mark enemy positions.



The **Automatic Rifleman (AR)** provides an internal base of fire with the ability to deliver sustained suppressive small arms fire on area targets. He is normally the senior Soldier of the fire team. The AR's primary weapon is currently the **5.56mm M249 Machine Gun**, a direct-fire, low-trajectory weapon that is primarily used to fire linked ball tracer 5.56mm ammunition. The M249 provides the unit with a high volume of sustained suppressive and lethal fires. The AR employs the M249 to suppress enemy infantry and bunkers, destroy enemy automatic rifle and antitank teams, and enable the movement of other teams and squads.

Armed with an **M4**, the **Rifleman** is an integral part of the fire team whose primary role is to destroy the enemy with direct, precision fire for point targets. The second role of the rifleman is to engage likely or suspected enemy targets with suppressive fire. He must be an expert in handling and employing his weapon. A rifleman may also be assigned as a squad **Designated Marksman (DM)**. Chosen for his demonstrated shooting ability and experience, the DM provides precision support fire in the offense during the assault and engages targets to the maximum effective range of his weapon in offensive, defensive, and retrograde operations. The designated marksman typically employs an optically enhanced **M4 or M16**. Since 2009, as a result of approved operational needs statements, select units have been able to arm their DMs with the **M14 Enhanced Battle Rifle**, which has significantly greater range than the M16 or M4 and is equipped with a 10-power scope.



The Weapons Squad

Complementing the platoon's three rifle squads, the **Weapons Squad** provides the primary base of fire for the platoon's maneuver. It is comprised of two medium machine gun teams, two medium close combat missile teams, and a weapons squad leader who is normally the senior squad leader, second only to the platoon sergeant.

The two-man medium **Machine Gun Team** is comprised of a gunner and an assistant gunner. The machine gun teams operate 7.62mm **M240 Series Medium Machine Guns**. These teams provide the platoon with medium-range area suppression at ranges up to 1,000 meters. Machine gunners are a self-contained element or operate with a rifle squad to provide long-range, accurate, sustained fires against enemy infantry, fortifications, buildings, and lightly armored vehicles. Machine gunners also provide a high volume of short-range fire in self defense against low-flying aircraft.



The two-man **Close Combat Missile Team** is comprised of a gunner and an ammunition handler. These teams employ shoulder-launched munitions (SLM). These are lightweight, single-shot weapons that consist of unguided rocket-type cartridges packed in launchers. SLMs provide the Soldier a direct- and indirect-fire capability to defeat enemy personnel within field fortifications, bunkers, caves, masonry structures, armored vehicles and tanks. Soldiers use SLM to engage enemy combatants at both close- and long-range distances. Currently, the team employs the **Javelin** missile system.



The Net Effect: Fearsome Capability

In sum, the American Soldier's arms, training and tactics add up to a fearsome and lethal capability. There is little doubt that a U.S. Army infantry platoon stands as one of the best-equipped, best-trained and highest-performing military forces in the world. Over time, the Army will continue to update tactics while integrating new small arms capabilities that strengthen the Warfighter and raise his performance even higher. One example of this is the development of airburst weapon systems such as the XM25 that fires smart munitions. Other efforts include the M4 improvement program and the upcoming carbine competition that will challenge industry to deliver an individual weapon that can overall outperform the combat-proven M16 and M4 weapons. In upcoming installments of the Dual Path series, we will take a closer look at the Army's upgrade plans and the aspects of lethality that contribute to the overall performance of Soldiers on the battlefields of tomorrow.