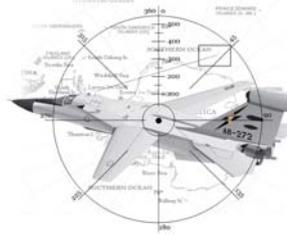


Attachment to Pig Hunt
Dated: 29 December 2007



Fact Sheet

Media Department

ADF Issue

Weapons Systems Brief

Pub: Pig Hunt

Parasaw M249 5.56MM Light Machine Gun



The M249 It has become the automatic rifle of choice for the Global War on Terror and homeland security. The Australian Army uses the F89 Minimi, a locally built version of the FN light machinegun. It is essentially the same, but fitted with a Picatinny rail and a 1.5x magnification optic sight. It also has a longer flash suppressor than the standard Minimi. Two F89s are carried in each nine-man infantry section. Small numbers of the Para Minimi are used by Australian paratroopers.

Introduction

The 5.56MM M249 Squad Automatic Weapon and Light Machine Gun (SAW)/(LMG) is a fully-automatic, gas-operated, magazine or belt-fed, individual weapon. The SAW is an Infantry Weapon used in 2 roles, Automatic Rifle (AR) and Light Machine Gun (LMG). It can be fired from the shoulder, hand-held or from the integral bipod. It is equipped with rails to mount optics and target illuminators and has an optional short barrel for close-quarters operations. The M249 SAW provides the squad with the accurate, effective and sustained fire required to suppress and destroy enemy soft targets.

The Squad Automatic Weapon (SAW) is an air-cooled, belt-fed, gas-operated automatic weapon that fires from the open-bolt position. It has a regulator for selecting either normal (750 rounds per minute [rpm]) or maximum (1,000 rpm) rate of fire. The maximum rate of fire is authorized only if the weapon's firing rate slows under adverse conditions. Although the M249 AR is primarily used as an automatic rifle, it is also used as a light machine gun. It can be fired from the shoulder, hip, or underarm position; or from the bipod-steadied position. When employed as a machine gun, it has a tripod with a T&E mechanism and a spare barrel; however, barrels must not be interchanged with those from other M249s unless the headspace has been set for that weapon by direct support personnel.

Overview

The M249 is an air-cooled, belt-fed, automatic-only firearm that fires from an open bolt position. It can accept linked ammunition through the top-mounted feed tray, or M16 magazines through the side-mounted port. Linked ammunition can be fed from either a loose belt or from a plastic 200-round magazine clipped under the receiver. The SAW features a built-in bipod and a tripod mounting lug for supported fire, and a quick-change barrel that helps prevent overheating during sustained fire.

The gun has an excellent reputation on reliability and firepower, and the latest reports on failures of M249 SAW weapons in Iraq are attributed to the age of the weapons used - most of the current issue M249s in US Army are more than 10 years old and quite worn out.

***United States usage (M249)**

The M249 has been in service with the US Army since 1984. In the USMC, the SAW is usually carried at the fire team level; that is, one member of a three- to five-man team carries this weapon. The SAW is also standard issue for a four- to five-man amphibious reconnaissance team.

***British usage (Minimi)**

Recently, the British Army has equipped each four man fire team (2 per section) with the current variant of the Minimi. It is considered a fire support weapon between light support weapons and general purpose machine guns. They are usually fitted with the Common Weapon Sight (CWS) - an optical day and night sight.

***Australian usage (Minimi)**

The Australian Army uses the F89 Minimi, a locally built version of the FN light machinegun. It is essentially the same, but fitted with a Picatinny rail and a 1.5x magnification optic sight. It also has a longer flash suppressor than the standard Minimi. Two F89s are carried in each nine-man infantry section. Small numbers of the Para Minimi are used by Australian paratroopers.

***Israeli usage (Minimi)**

The Israeli Defence Forces were among the first to introduce the Minimi as a legitimate 5.56 mm SAW, and show its quality in combat. Limited numbers of Minimis were purchased in the early 1990s and saw combat in south Lebanon. The Minimi performed well and bought itself reputation, but in 1995 it was decided to purchase the IMI Negev, an Israeli manufactured 5.56 mm LMG, which fitted more to IDF requirements.

***French usage (Minimi)**

The Minimi is widely used by the French Armée de Terre.

*Nepalese usage (Minimi)

The Nepalese army uses 5,500 Minimi machineguns. The weapon delivery was endorsed on July 11, 2002 by the Belgian government.

Variants

M249 Para - features a retractable stock and a shorter barrel. It was designed as a paratrooper weapon, although its compact dimensions make it desirable in any combat scenario.

M249 SPW - the Special Purpose Weapon has Picatinny rails mounted on the feed cover and forward grip, a short barrel and a Para-style retractable stock. Some features from the SAW and Para models were removed to save weight - these include the STANAG magazine port, the tripod mounting lug and the built-in bipod. The SPW was adopted by the US SOCOM under the designation Mk46 Mod 0.

Many US SAWs have been modified to carry SPW-style Picatinny rails on the feed cover. This allows them to mount commercial day and night optical sights like the M68 Aimpoint or low-magnification scopes. Additionally, some SAWs have fixed steel tubular stocks instead of the polymer stock pictured above.

All SAWs can mount the laser equipment needed to participate in a MILES combat simulation. This picture shows an M249 fitted with MILES gear.

The weapon can also mount 3rd party suppressors. In particular, Gemtech manufactures suppressors designed to be mounted on NATO standard flash hiders, such as the one used by most variants of the M249. In reality however, this practice is discouraged since most suppressors overheat when subjected to sustained fire.

Background

The M249 is interesting because while its standard ammunition feed is by 200 round disintegrating belts, it is also capable of firing ammunition from standard M16 magazines inserted in a magazine well in the bottom of the SAW. Ammunition is fed into the weapon from a 200-round ammunition box holding a disintegrating metallic split-link belt. The SAW also has an alternating feeding method using 20- and 30-round M16 rifle magazines. The weapon has a quick-change barrel; however, barrels must not be interchanged with those from other SAWs unless their headspace has been set for that weapon by direct support personnel. The M249 SAW is used to engage dismounted infantry, crew-served weapons, antitank guided missile (ATOM) teams, and thin-skinned vehicles. The SAW has become the standard automatic rifle of the infantry squad and has proven useful with the changing of the M16 to a three round burst weapon.

The purpose of the automatic rifleman billet is to provide a short-term automatic fire missions against point targets in the last 100 yards of the infantryman's assault. The M249 has proven to be a very good light machinegun, when firing from a stable position and not required to conduct fire and movement with a rifle squad.

Although employed as an automatic rifle by the Marine Corps, the SAW is designed like a medium machinegun. As such it has design features that make it a more versatile weapon, such as; it can be belt or magazine fed thus providing more continuous fire before reloading and it has a quick change barrel feature which allows barrel changes during periods of continuous firing without taking the weapon out of action for more than a few seconds. The SAW also has greater effective range and a higher rate of fire than any other weapon in the present rifle squad. The SAW can provide a heavy volume of continuous, accurate fire in support of offensive or defensive operations. Its presence in large numbers (e.g., nine per rifle platoon) at the small unit level has significantly increased the combat power of those units. In the past, medium machine guns were often attached to platoons or squads, more out of concern over the lack of fire power in those small units than for sound tactical reasons. The introduction of the SAW into those units has changed that. The SAW provides the platoons with significant fire power against enemy personnel and light equipment. Because of this, more times than not, the company's machine gun section can now be employed as a section, in a

general or direct support role, rather than attached out. The SAW's presence, in any type of unit, increases the available fire power and provides additional flexibility to the unit leader in terms of weapons employment options.

Automatic rifles allow rifle squads to take a light automatic weapon with them in the assault. In the defense, they add the firepower of 10 or 20 riflemen without the addition of manpower. Characteristically, automatic rifles are light, fire rapidly, and have more ammunition than the rifles in the squad that they support. Each squad has three automatic rifles. No additional equipment configuration is needed, because the automatic rifleman fires the M249 either from the bipod mode or from various hand-held positions. In either the offense or defense, automatic riflemen must restrict themselves to firing three-round bursts to maintain their effectiveness against enemy targets. The M249 in the bipod or hand-held mode moves too easily off its point of aim after three rounds and automatic riflemen must readjust their aim. In the offense, the automatic rifleman is limited to what he can carry and fire on the move. Hence, while the automatic rifle affords a high volume of fire, it also rapidly consumes ammunition. Conservation and careful logistic planning become important.

When used as a machine gun, the M249 requires a tripod, a T&E mechanism, and a spare barrel. These items increase the stability, the ability to make minute adjustments in aiming, and the ability to fire greater than three-round bursts. Because machine guns are not as mobile as automatic rifles, they normally remain with and form the key weapon of the base-of-fire element. It is possible to bring a machine gun with the maneuver element for added firepower in the assault. But once it has set up, it becomes another base of fire and is quickly left behind by the rest of the element as it sweeps across the objective. It will spend more time displacing than firing. Machine guns target enemy automatic weapons, key weapons, and command and control elements. Once the enemy deploys, machine guns engage his supporting automatic weapons. As the enemy closes, if the machine guns have destroyed all of the enemy's supporting weapons, they can engage the assaulting troops with enfilading fires across the platoon front.

By 2003 Marine Corps SAWs were worn out and apparently beyond repair. They had far exceeded their service life. Many Marines are duct taping and zip tying the weapons together. Reconnaissance units were requesting parasaw, infantry units requesting collapsible buttstock.

One of the ARNG critical readiness requirements is individual weapons modernization. As of 2005 the ARNG still had an inventory of 11,000 M16A1's serving as substitutes for the M249 in the Automatic-Rifle role. Also, still in the ARNG inventory are 3,753 M60 Machine Guns substituting in the Light Machine Gun role. These weapons are obsolete and obtaining ammunition for the M16A1 rifle has become increasingly difficult. The M249 is issued to units requiring the capability to deliver high rates of suppressive fire. It has become the automatic rifle of choice for the Global War on Terror and homeland security.

The FY2006 RDD validated an ARNG requirement for 32,221 M249's at a cost of \$3k each. On hand were 19,714 M249's in both roles, most of which are deployed. Future fielding to fill the remaining UFR of 12,507 weapons has been suspended IOT push the entire weapons production to deploying units. ARNG BCT's deploying to OIF have received ~220 additional M249's for the mission. M249's are being substituted for M240B's in many deploying CS and CSS units. There is no alternative weapon to fill this requirement.

Funding the M249 SAW will give National Guard Soldiers the same capability as Active Army Forces to deploy and operate with maximum effectiveness on all fronts of the Global war on Terror. It contributes to their ability to rapidly and effectively defend themselves with high volume, suppressive fire in adverse conditions. It is essential that the M16A1's be replaced as soon as possible. The M16A2, A4 and M4 fieldings are partially funded, but alone will not displace all the A1's and M-60's. Failure to fund the M249 fielding will increase risk to the soldiers and costs of pre-deployment cross-leveling, which also degrades the ARNG's ability to train for and execute its federal and state missions.

Primary function: Hand-held combat machine gun

Manufacturer: Fabrique Nationale Manufacturing, Inc.

Length: 40.87 inches (103.81 centimeters)

Weight:

With bipod and tools: 15.16 pounds (6.88 kilograms)

200-round box magazine: 6.92 pounds (3.14 kilograms)

30-round magazine: 1.07 pounds (.49 kilograms)

Bore diameter: 5.56mm (.233 inches)

Maximum effective range: 3281 feet (1000 meters) for an area target

Maximum range: 2.23 miles (3.6 kilometers)

Rates of fire:

Cyclic: 725 rounds per minute

Sustained: 85 rounds per minute

Unit Replacement Cost: \$4,087

Features

The Squad Automatic Weapon (SAW), or 5.56mm M249 is an individually portable, gas operated, magazine or disintegrating metallic link-belt fed, light machine gun with fixed headspace and quick change barrel feature. The M249 engages point targets out to 800 meters, firing the improved NATO standard 5.56mm cartridge.

The SAW forms the basis of firepower for the fire team. The gunner has the option of using 30-round M16 magazines or linked ammunition from pre-loaded 200-round plastic magazines. The gunner's basic load is 600 rounds of linked ammunition.

The SAW was developed through an initially Army-led research and development effort and eventually a Joint NDO program in the late 1970s/early 1980s to restore sustained and accurate automatic weapons fire to the fire team and squad. When actually fielded in the mid-1980s, the SAW was issued as a one-for-one replacement for the designated "automatic rifle" (M16A1) in the Fire Team. In this regard, the SAW filled the void created by the retirement of the Browning Automatic Rifle (BAR) during the 1950s because interim automatic weapons (e.g. M-14E2/M16A1) had failed as viable "base of fire" weapons. Early in the SAW's fielding, the Army identified the need for a Product Improvement Program (PIP) to enhance the weapon. This effort resulted in a "PIP kit" which modifies the barrel, handguard, stock, pistol grip, buffer, and sights.

AMMUNITION

The preferred combat ammunition mix for the M249 is a four-ball (M855) and one-tracer (M856) mix. There are other variations of 5.56-mm ammunition available; however, the four-and-one mix allows the gunner to use the tracer-on-target (TOT) method of adjusting fire to achieve target kill.

Type Use

M855 Ball Against light materiel targets and personnel.

M193 Ball Range training.

M856 Tracer Observation of fire, incendiary effects, and signaling.

M196 Tracer Training.

M199 Dummy During mechanical training.

M200 Blank During training when simulated live fire is desired. (A blank firing attachment must be used to fire this ammunition.)

SHORT SQUAD AUTOMATIC WEAPON

The Short Squad Automatic Weapon shortens the SAW by more than 10 inches. This developmental effort is intended to produce a weapon that is easier to maneuver for improved MOUT maneuverability and improved Airborne/Air Assault jump ability.