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rorism Security Teams (FAST), Special Reaction Teams (SRT) and Force Reconnaissance teams.

- Security forces, sniper teams and those working with explosives will be receiving a 7.62-mm. designated marksmanship rifle with leather sling.

- An improved version of the .45-caliber automatic pistol will soon give special operations capable members of Marine expeditionary units more stopping power.

- And something called the Objective Individual Combat Weapon along with its crew-served big brother may someday give a new and frightening meaning to the term "no place to hide."

Meet Major Thomas M. Varmette, project officer for infantry small arms, and David K. Hansen, program analyst/project officer for infantry weapons, who spend their time testing, thinking about and being technically involved in the research and development of such weapons at Quantico's Marine Corps Systems Command. While there are many others like them working on many weapons and equipment projects under the roof of the converted base laundry building, these two are the duty experts one needs to see to get the latest dope and access to the back-room working area where the latest weaponry is kept.

On a recent visit, Varmette pointed to what can be described only as a very small M16 rifle.

"This is the CQBW 5.56-mm., selective fire, compact system designed to incorporate a variety of detachable, mission-oriented accessories, including aiming devices and a sound suppresser," rattled the major in rapid-fire description. "The CQBW is the M4A1 with RAS."

Marines and sailors have for centuries had their own language, nautical and salty in flavor. In today's Corps, especially when it comes to weapons and "systems" (as everything is designed to be interchangeable or work in tandem with everything else), there is the staccato language of acronyms, promiscuously mixed with technical, if somewhat vague, nouns which speak euphemistically of death and destruction.

Varmette grinned sympathetically at a befuddled reporter and switched to "civilian" with a New York accent.

"It is a shortened version of the standard M16A2 service rifle called the M4A1 carbine," he explained. "It is de-

Lead Slinging Leathernecks Get New, Improved Weapons

Story by R. R. Keene

An arsenal of new and improved small-arms weapons systems are being delivered or developed for Marine Corps infantrymen thanks to the efforts and ideas of planners at Quantico, Va.

The Corps' special operators will soon be getting improved rifles, pistols and ammunition tailored to their specific operational and training requirements.

In addition, planners are developing a

whole host of next-generation individual rifles and crew-served weapons which tomorrow's leathernecks may take to the battlefield.

Among the latest accouterments and trappings which may soon be hefted by ground-pounding leathernecks:

- A new carbine with special ammunition designed for use at close quarters and which will replace the MP5 submachine gun is coming to Fleet Antiter-

signed to be fired at close quarters and in tight spaces where the length of the standard M16 [39.62 inches] would restrict its effective use. That's why this shorter weapon is referred to as a Close Quarter Battle Weapon or CQBW."

For several years the Corps has been using an Uzi-looking automatic weapon known as the MP5. It sprayed a lot of hot lead quickly and was capable of being modified with combat-enhancing extras such as a laser spotter, flashlight and silencer. But the U.S. military, and the Marines in particular, wanted something a little more standard, compatible with other weapons and capable of being modified to do more without having to order special parts or require someone trained as an armorer to accompany them on tactical missions. The M4A1 fit the bill.

Also, the MP5, while capable of street sweeping or thoroughly ventilating a room, could not provide the aimed accuracy and distance "needed to get out of a tight jam," Varmette said, "while the M4A1 is accurate up to 500 meters."

That was just one of the reasons the Marines took a closer look at the M4A1 which had been developed in 1989. They noted that the Navy's SEALs were using



The OICW, currently being tested at Marine Corps Systems Command, fires a 20-mm. round that explodes one meter above its intended target. This weapon could one day replace the M16A1.

the M4A1 carbine which had been configured to meet the unique needs of men whose work require special weapons.

"Also, it has many of the same features as the standard M16 service rifle," he noted. "It fires the same 5.56-mm. rounds. It can fire them fully automatic or single shot. Further, 75 percent of the parts on the M16 fit with or are compatible with the M4A1, and that takes a burden off logistics and supply."

But that's where the similarities end. The M4A1 is not intended to be standard infantry issue. It will be the Corps' CQBW not only because it is small, but because it can provide Marines doing special ops, antiterrorism and security missions with many combat options and flexibility.

The key to this flexibility is in part because of the military standard 1913

Rail Adapter System or RAS. The RAS is an adapter system that can be fitted on almost any part of the M4A1, allowing the weapon to be modified for a variety of missions by sliding a particular feature onto a rail for a number of uses.

"One goal was to make the parts common and easily accessible," said Varmette. And it looks like they have more than accomplished that. Now, one small but powerful rifle can accomplish many things. For example, the rifleman can become a grenadier by attaching an M203 grenade launcher.

He can also sight directly in on not only the target, but on that specific portion of the target he wants to hit by attaching the AN/PEQ-4 laser dot pointer illuminator.

There's also an optical device item



The Close Quarter Battle Weapon is a compact 5.56-mm. rifle designed to allow Marines to fight in tight spots such as buildings or ships' compartments. The system includes a variety of optional accessories the Corps can opt for and should be in leatherneck hands next summer.



mm. NATO round, that's because it is.

"This is not a new sniper rifle," said Varmette. "This is going to provide FAST Company and SRT designated marksmen with the ability to rapidly engage targets from longer range than the M16. And because the 7.62 round has good penetration it will also be used by EOD [Explosive Ordnance Disposal] personnel to detonate explosives such as mines."

After determining a requirement for such a weapon, officials pored over 10,000 old M14 rifles to find the 1,000 they wanted and paid a dollar apiece for each. With the help of expert team shooters from the Marksmanship Training Unit at Quantico's Weapons Training Battalion, they then designed a new barrel and a few added extras to improve the rifle. This included a fiberglass stock guaranteed to last for the life of the weapon.

Those who fired the M14—or any rifle for that matter—will also appreciate the new DMR's adjustable cheek pad mounted on the stock, the adjustable stock butt and pistol grips behind the trigger guard, and the attached bipod all designed to help the shooter "hold 'em and squeeze 'em" at greater distances. Varmette said the DMR can accurately engage targets at ranges 600 to 800 meters. What makes it really dead-eye accurate is its 10-power Leupold Mark 4M3 scope which enables the shooter to put out 15 well-aimed rounds per minute.

"Old Corps" shooters will note the DMR also comes equipped with an adjustable leather sling. That's right, leather. Yes, the more things change, the more they remain the same.

There are some differences. This rifle does not have the M14's selector switch to allow it to fire the 20 rounds in the

The Designated Marksman Rifle is not a new sniper rifle, but rather a weapon that provides FAST, SRT and EOD Marines with the ability to engage targets—including unexploded ordnance—at great distances.

known as the advanced combat optical gunsight which allows the shooter to see down the barrel with both eyes. The device works without batteries on ambient light.

If it is still too dark, he can flip on his 9-volt visible light illuminator which is actually a small flashlight.

If he needs to quietly put out rounds from the business end of his weapon, he has a sound suppresser or "silencer" that has a 30-decibel noise reduction. "It takes away the bang, and the only thing you hear sounds like a spring recoiling," said Varmette.

The new CQBW also has the standard carrying handle with iron sights and includes an option to mount a forward hand grip to allow leatherneck shooters to fire seven 30-round magazines in sub-machine-gun fashion. A combat load of 300 rounds can also include Control Penetration Ammunition which is currently being developed. This ammo quickly diminishes in power as it hits its target,

thus reducing the possibility of hitting and seriously wounding or killing fellow Marines or noncombatants nearby. The effect on the intended target, however, is still deadly.

The 6.4-pound CQBW with accessories is also coated and sealed to provide protection from water down to a depth of 66 meters. It even has its own carrying case which can be bought commercially.

The cost is \$589 for the basic rifle. The Corps plans to purchase 916 to replace the MP5, and they will be fielded by the second quarter of Fiscal Year 99.

Varmette said many of the rifle's accessories are already in the fleet so no new purchases are required.

When it comes to saving money and using proven technology to enhance the modern Marine on the battlefield, nothing tops the Designated Marksman Rifle or DMR.

If the DMR looks, to those who came in the Corps in the early to mid-1960s, like the M14 rifle that fired the 7.62-

Leathernecks will soon be able to train with added realism when they storm buildings and clear rooms by shooting color-paste markers from their modified issue weapons. They will know by the splotches left behind by the new training ammunition if they put the paint on target.

The Special Effects Small Arms Marking System (SESAMS) was developed by the Marine Corps Systems Command, Quantico, Va. While paintball wars have been popular for years with people wanting to play at combat, paintball guns don't look or feel anything like Marine Corps weapons.

With SESAMS, Marines use their own M16A2 or M9 to fire special rounds that have plastic, colored-paste-filled tips that leave a mark where they hit. Additionally, there are versions of the SESAMS that can also be used with the new Close Quarter Battle Weapon, and development of a shotgun

version is underway. Weapons are slightly modified to fire the paste rounds.

The paste is biodegradable, environmentally friendly and washes off with soap and water. It currently comes in two colors: red and blue. "If the round hits exposed skin, it leaves a stinging feeling," said Major Thomas M. Varmette, project officer for infantry small arms at MARCORSYSCOM.

The SESAMS has been field tested at Camp Lejeune, N.C., by 2d Reconnaissance Battalion and Special Reaction Teams of Military Police. "The Marines loved it," said Varmette.

The SESAMS is a realistic way of training for combat at close quarters. Marines get the chance to train with the same weapons used on an everyday basis. The SESAMS should hit Corpswide this month.

—Sgt Jason J. Bortz

magazine at automatic. At 11 pounds, it's also nearly 16 ounces lighter than the original M14.

Another updated and improved weapon from the past is already in the hands of MEU(SOC) leathernecks as a backup weapon for particularly dangerous assignments. It is the .45-caliber automatic pistol. The 1911A1 model has been given a makeover, including the addition of a stainless steel trigger on which the pull can be adjusted to suit the shooter's preference. There are also ambidextrous safeties on both sides of the pistol, a beaver tail safety and a combat hammer with combat serrae. It has a drop-in Barstow barrel, making it easier to assemble. It also sports a wraparound grip. Like the DMR, the MEU(SOC) .45 was improved with the help of marksmen and gunsmiths assigned to Weapons Training Battalion at Quantico.

What else is working its way into the Corps' hardware inventory? David Hansen gave a preview of what can only be called "awesome."

Forget the space-age rifles carried by the "Colonial Marines" in the sci-fi thriller "Aliens" or the soldiers in "Starship Troopers." The Objective Individual Combat Weapon or OICW may well have them both beat. The OICW, however, is not science fiction. We're talking about a real weapon with a special fire control system that could hit the field by 2005 if the Corps decides to buy it.

The OICW is deadly because it doesn't have to hit its target directly to destroy it. It utilizes a laser range finder to pinpoint the precise target range over which a high-explosive (HE) 20-mm. round will air burst, sending small but deadly fragments at such a high velocity that they can penetrate almost any body armor.

"Suppose you see one of your enemies duck behind a bunker," explained Hansen. "With this, you aim at where he's at. The weapon makes a laser adjustment, you squeeze off a round of 20-mm. ammunition, it goes directly over your enemy's head and explodes less than a meter above him. No more hiding in defilade."

"Suppose you start taking shots from someone using a window in a concrete building. You aim at where he's likely hiding, next to the window for protection. You fire your 20-mm. ammunition which goes through the window. The round's fusing system ensures the HE warhead explodes evenly and completely. When it goes off there is a 500 percent increase in the probability of your enemy being incapacitated. There's no place to hide."

Hansen pointed to the rifle's lower



The bigger brother of the OICW is the OCSW or Objective Crew Served Weapon. It can fire 25-mm. exploding shells at a rate of 260 rounds per minute at a range of 2,000 meters. The weapon is being considered as a replacement for the MK19 grenade machine gun.



barrel. "If you notice, it is an over and under. You can also fire 5.56-mm. ammunition from the rifle below."

The weapon will ultimately weigh between 11 and 15 pounds and can fire effectively up to 1,000 meters. It can be used comfortably by left- or right-handed shooters. A single trigger controls both barrels, and a simple laser, red dot, sighting system makes it almost impossible for the shooter to miss his target day or night. Although there's not much recoil when the round is sent downrange, the resulting explosion has an "extremely violent effect on targets," Hansen said.

If all goes as planned, the OICW has the potential to selectively replace both the M16 and M203 grenade launcher.

And while the OICW may be considered awesome, what is truly awesome is its bigger brother, the OCSW or Objective Crew Served Weapon System. This weapon could be a replacement for the MK19 grenade machine gun and

maybe the M2 .50-caliber machine gun, said Hansen.

At 37 pounds, it is a gas-operated, link-fed, 25-mm. automatic/semi-automatic, tripod-mounted, crewed weapon that can saturate the battlefield with 260 rounds of death and destruction per minute out to 2,000 meters.

"If you hear it coming, it's too late for you and those with you," said Hansen. "Fragments are going to burst overhead almost simultaneously."

It has day and night, all-weather capability, direct view optics, a laser range finder and fuze-setting capabilities that can give the Marines their own mini-version of carpet bombing.

Hansen and Varmette are both excited about the potential all these new and proposed weapons might provide Marine infantrymen. *Leatherneck* will keep you posted on their progress.

