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The Bursting Bomb

**ISSUE
2-23**

**MARINE GUNNER ASSOCIATION
QUARTERLY MAGAZINE**





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On the Cover: A US Marine Automatic Rifleman, armed with an M1918A2 Browning Automatic Rifle, conducts combat operations in South Korea in 1952. Photo: NARA.

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SITREP...from the Editor:

Welcome to another edition of The Bursting Bomb. I am very excited about this edition since the magazine continues to grow. This effort has also allowed me to reach out, connect, and make new friends—Rich Charette, to mention one. Had it not been for the creation of The Bursting Bomb, while I might have met him at one of our dinner events, I would not have been able to get to know him so well. As you will soon read, we, Marine Gunners (and the Marine Corps, itself) owe him a great deal because of his efforts over those decades of service. I very much enjoyed talking with Rich and I am grateful for the privilege to write his interview. I really hope you enjoy it.

Also in this issue, we have published a brief (everything is relative) history of the US Marine Corps Infantry Automatic Rifle. I am very grateful to Jeff Eby, Charles Clark III, Shelby Lasater, Matt Anderson, Matt Carpenter, Rich Charette, and many more for guidance and assistance in the creation of this important historical article. Naturally, I learned much while researching and preparing to write this article. Readers should be advised that the article, as published here, is perhaps the 20th version from the original draft. The article has been refined repeatedly. I did my very best to present an unbiased and professional article, but admittedly, and at the urging of some of my mentors and friends, I left some “personality” in there. Readers will likely sense this. After all, the history of the US Marine Corps Infantry Automatic Rifle is absolutely brimming with personality—from the notorious Chauchat Light Machine Gun, the beloved Browning Automatic Rifle, the M249 Light Machine Gun, and all the way to the Heckler and Koch M27 Infantry Automatic Rifle. That’s about 100 years of enemy contacts, anecdotes, testing, opinions, experiments, Marine Corps Gazette articles, action Officers,

decision makers, supporters, detractors, and more.

Congratulations to CWO-3/Marine Gunner Phillip D. Blackwell USMC as the 2022 Hulbert Award recipient. I also extend a hearty congratulations to Captain Shan G. Mandrayar USMC as this year’s recipient of the 2022 Lieutenant Colonel William G. Leftwich Award and to Captain Seth R. Hole USMC for earning the 2022 Major Douglas A. Zembiec Award for the Marine Special Operations Officer of the Year. These are prestigious awards, and you should be very proud. Thank you for your hard work, commitment, and service to our Marines, Sailors, and to our beloved country.

I also wish to commend the Marines of the 1st Battalion, 8th Marines who competed and won the Annual US Marine Corps Rifle Squad Competition which was recently conducted aboard Quantico, Virginia. I am very happy to see that the Annual Rifle Squad Competition (a.k.a. “Super Squad Competition”) is not only being conducted annually within the Divisions, but that it has returned to the “Crossroads of the Corps”—Quantico. You should be very proud of your distinguished gold badge which you can wear for the rest of your service (and beyond). Show it off whenever possible! Well done, Marines, and good job, Marine Gunners—those of you who have done the hard work bringing this prestigious competition back to life in our Corps.

Again, creating this magazine is a great honor for me. Thank you for continuing to allow me to serve as the Editor. Please check the FRAGO section for updates to the Annual Dinner and membership information.

The Main Effort of the US Marine Corps is the Rifleman in the Rifle Squad.

Christian Wade
The Editor

SITREP...from the Editor (continued):



Quantico, Virginia, 27 April 2023. The winners of the US Marine Corps Annual Rifle Squad Competition from the 1st Battalion, 8th Marines stand with the Commandant of the Marine Corps and the Sergeant Major of the Marine Corps. Also present are the Training and Education Command (TECOM) Gunner and the Marine Gunner, Deputy Commandant Plans, Policies, and Operations (DC, PP&O). Photo: USMC.



Commandant of the Marine Corps, General David H. Berger and the Marine Gunner, DC, PP&O present USMC Annual Rifle Squad Competition badges to each member of the 1st Battalion, 8th Marines. Photo: USMC.



Ground Awards Dinner, Alexandria, Virginia, 4 May 2023: The 2023 class of student Gunnery stand with CWO-3/Marine Gunner Phillip D. Blackwell (USMC), the recipient of the Hulbert Award for 2022. Photo: Mark Erhardt.



Above (L) Lieutenant Colonel William Groom Leftwich, USMC (KIA 18 Nov 1970 Quang Nam Prov. Vietnam). (M): Marine Gunner Henry Lewis Hulbert USMC (KIA 4 Oct 1918 Blanc Mont Ridge, France). (R) Major Douglas Alexander Zembiec USMC (KIA 11 May 2007 Baghdad, Iraq).

In Memoriam

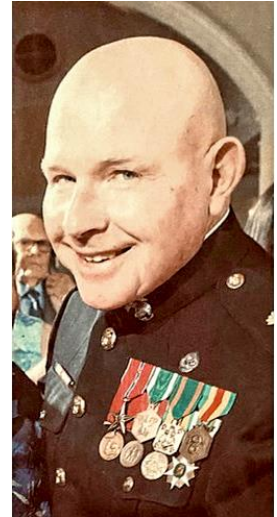
The Marine Gunner Association mourns the passing of our brothers in arms:

CWO4/Marine Gunner Charles J. Julian, USMC (Ret.) passed away on April 28th, 2023.

Chuck began his 28-year career serving our country in the Marines, which included two tours of duty in the Vietnam War. Over his career, he was decorated and awarded 2 Bronze Stars with a Combat “V”, Presidential Unit Citation, Vietnam Service Medal, Combat Action Ribbon, the Rifle Distinguished Badge, amongst many other accolades.

Chuck retired from the Marine Corps in 1986 and went to work for the NRA, having started his own business as a firearms instructor. He taught many law enforcement agencies across the country before contracting with the FBI Academy. Chuck enjoyed spending time with his family and friends, playing and watching golf, reading, and supporting his grandchildren at their many events.

He has been laid to rest at Quantico National Cemetery. He was 84 years old.



CWO4/Marine Gunner Robert J. “Sunny” Sundstrom USMC (Ret.) passed away on May 9th, 2023.

Rob, a native of Pasadena, California, served as a US Forest Service smoke-jumper (fire fighter) until the mid 1980’s, when he decided to join the Marine Corps. Being in his mid-20’s, he entered the Corps with much life experience and wisdom. His service took him all over the world and he helped a great many Marines become tougher, smarter, and more lethal.

Rob answered the call and was selected as a Marine Gunner in 2003, attending The Basic School and the Infantry Officer Course with the class of 2004. His Marine Gunner service included tours in the 3rd and 7th Marine Regiments, including combat tours in Iraq and Afghanistan. Upon retirement from active service, Rob remained in Joshua Tree, California, working for the Marine Corps Logistics and Operations Group (MCLOG) aboard Marine Corps Air Ground Task Force Training Center 29 Palms.

Rob will be laid to rest at the Riverside National Cemetery, California in mid June 2023. Further details will be passed via the email network. He was 62 years old.



FRAGO: MGA Annual Dinner

Gunners and family members, here is the information about the **Marine Gunner Association Annual Dinner**:

When: 1700-2200 Thursday August 17th, 2023

-1700-1830: Cash bar, hors d'oeuvres, seating

-1830-1900: Comments, guest speaker

-1900: (approx.) Salad and dinner

-2000-2030: Coffee, clear tables, raffle

*Cash bar open all night -

Where: Hylton Performing Arts Center

10550 George Mason Circle

Manassas, Virginia 20109

Who: Members of the MGA accompanied by one guest per member

Why: Camaraderie, friendship, and connection.

To enjoy each others company in keeping with the mission statement of the Marine Gunner Association.

The following items are just a few examples of the many items which have been entered into the Annual Dinner raffle. Attendees are encouraged to bring cash to participate in the raffles. Note: There are many more items than are pictured here which will be available for the raffles.



Coordinating Instructions:

While the MGA has reserved the entire Hylton Performing Arts Center building, the dinner will be held in the Gregory Family Theater portion of the building.

Annie Carpenter has arranged for a block of 15 rooms to be available for guests requiring lodging at the Tru by Hilton, located at 10550 Gateway Blvd. in Manassas, Virginia. The following is a booking link for those who wish to schedule one of these rooms (copy and paste into your browser):

https://www.hilton.com/en/book/reservation/deeplink/?cty_hocn=MNZGWRU&groupCode=MGA&arrivaldate=2023-08-14&departuredate=2023-08-18&cid=OM,WW,HILTONLINK,EN,DirectLink&fromId=HILTONLINKDIRECT

Be sure to enter group code: **MGA**

The cutoff date for this link is 15 July. While the link offers a competitively priced room, guests are encouraged to check other booking sites to ensure they are receiving the best possible prices.

The hotel is approx. two miles from the event and taxis and Ubers are readily available.

(Left): Custom AR build donated by Marine Gunner Duane Ledford, USMC (Ret.) from his business, Stay Center, LLC. Specs: Odin Works 16.5" DMR .223 Wylde barrel, gas tube, and adjustable gas block. Timber Creek aluminum lightweight furniture with directional muzzle brake. Trigger Tech 2.5-5 lb. trigger. Magpul CTR butt stock. Strike Ind. anti-walk receiver pins. Odin Works adjustable buffer and spring. Vortex 2" cantilever and Strike Eagle 1-8 Low Power Variable Optic (LPVO).



GLOCK and SIG SAUER sidearms. Donated by GLOCK, Inc. and SIG SAUER.

MGA Executive Staff



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CWO-3/Marine Gunner
Sean Flannery
USMC (Ret.)*

MGA Membership

Application for annual membership is currently open by way of the MGA website (<https://www.marinegunnerassociation.net>).

The link for membership is located on the top center portion of the MGA website homepage.

Membership requirements:

(Full membership)-

*0306 Marine Gunners Active and Retired (Honorable Discharge)

* Annual renewable memberships are \$50 per year

*Note: All editions of The Bursting Bomb will be placed, for public access and sharing, on the Marine Gunner Association website (hyperlink in blue on left of this page).

(Associate membership)-

*\$100 per year. Applications will be reviewed by the Executive Staff

* Note: All editions of The Bursting Bomb will be placed, for public access and sharing, on the Marine Gunner Association website (hyperlink in blue on left of this page).

Messages From the Executive Staff

MGA President

Brothers,

I hope this message finds you well. I am writing to provide you with several updates regarding our active and retired community.

First and foremost, I would like to extend my sincere congratulations to Gunner Phillip Blackwell, the winner of the 2022 Henry Lewis Hulbert Trophy. His outstanding leadership as a Marine Gunner deserves recognition, and I commend him for his exceptional achievements. Furthermore, I want to acknowledge the recent graduates of India Company TBS. Among them, Gunner Nathan Kerr received the Leadership Award, Gunner Shaye Carter excelled in Military Skills, Gunner Neil McCoy was honored with the Gung Ho award, and an impressive 13 out of 18 students finished in the top 10% of the TBS Class. Well done, Brothers! Your dedication and commitment to excellence are truly commendable.

Unfortunately, the past few months have been difficult for our community and extended Gunner family. We have bid farewell to some exceptional individuals who have left indelible marks on our hearts. Gunner Charles “Chuck” Julian USMC (Ret.) passed away on April 28th at the age of 84. Chuck served our country for 28 years, including two tours of duty in the Vietnam War. He was laid to rest with military honors at Quantico National Cemetery in early May. Similarly, Gunner Robert “Sunny” Sundstrom USMC (Ret.) passed away suddenly on May 9th at his home in Joshua Tree, California. Sunny, a combat veteran who served for 28 years in the Corps, became an integral part of the Mojave High Desert community. Sunny’s funeral services will be held at Saint Mary’s Catholic Church in Yucca Valley, CA on June 14, 2023. The

services will commence with a Rosary at 10:00 a.m., followed by a funeral mass at 10:30 a.m. Sunny will be laid to rest at the Riverside Veterans Memorial Cemetery at 2:00 p.m., with a reception to follow at the Joshua Tree VFW later that afternoon. Let us remember our Brothers and keep their families in our thoughts and prayers during this challenging time.

Additionally, we mourn the loss of Sheila Walker, the beloved wife of Gunner Terry Walker, who passed away on May 11th at Onslow Memorial Hospital. Sheila was laid to rest at the Coastal Carolina State Veterans Cemetery on May 19th. Please join me in offering our deepest condolences and keeping Brother Terry and the entire Walker Family in our thoughts and prayers.

In times like these, it is crucial to refocus our attention on what truly matters in life—family and our Brotherhood. Nothing is more important than expressing our love and gratitude to our loved ones. Similarly, let us take a moment to reach out to a Brother we have not heard from in a while. Our lives are filled with busy schedules and various responsibilities, but it is remarkable how often we think or talk about a Brother without ever picking up the phone to call them. When we established this Association, we did so in the days following the tragic death of our Brother, Gunner Jesse Schertz. In our efforts to reach out to the retired community, we soon discovered the lack of available resources for staying connected. Most of us, after retiring, tend to move away from military bases, integrate ourselves into civilian communities, and create distance. However, many of us come to realize that we cannot escape who we are—Marines. As time passes, people around us begin to recognize the difference, and

Messages From the Executive Staff

MGA President

gradually, we start missing the individuals we once served with. Unfortunately, we often find ourselves lacking contact information or making excuses for not reaching out. This Association provides us with the opportunity to reconnect and discover Brothers we didn't know we had. All it takes is the decision to sign up. While it is natural for some to harbor lingering grievances, it is essential to remember that we are a family. We are men who have dedicated our lives to serving our nation and our Marines. As we approach our Annual Dinner in August, I urge you to arrange not just for *the day*, but to spend the entire week in Northern Virginia. Many of us "old guys" will embark on a pilgrimage back to the "Crossroads" with our spouses early in the week to reconnect with long-lost Brothers and form new bonds with those we meet for the first time. If you have been on the fence about joining, I implore you to take that leap—we miss you, Brother!

I cannot express enough how much I am looking forward to our Annual Dinner. This year's event promises to be the biggest and best one yet. I want to express my deepest gratitude to our amazing Executive Staff, who have tirelessly worked for over three years to bring our Association to where it is today. I also want to acknowledge the fantastic Committees that have been working diligently behind the scenes to propel our Association forward and ensure its growth. Additionally, my heartfelt appreciation goes to our Board of Directors for their unwavering support and guidance. I would also like to sincerely thank our sponsors. If not for their generosity, we would not be able to accomplish our goals. It is truly an honor to be a small part of this exceptional Association and witness its remarkable growth. I recognize the potential we hold to accomplish meaningful work for our community, our families,

and beyond.

Lastly, I would like to express my gratitude to Brother Chris Wade, our dedicated Editor-in-Chief. Chris has invested countless hours and unwavering commitment to the magazine during the past several months. At the start of each quarter, we convene to discuss the magazine's direction, and Chris takes the initiative and runs with it. This particular edition holds great significance for our community and is bound to generate feedback. I want to clarify the main focus of the featured article on the M27 rifle. The article aims to highlight the collective power of Gunners when we unite behind an idea, speak with a unified voice, seek input from General Officers, gain top-level approval, and collaborate with procurement professionals. This accomplishment serves as proof that as a community, we can achieve remarkable feats. While numerous individuals rightfully claim their involvement in the development, procurement, and fielding of the M27, it is important to acknowledge that not all of them are Gunners. We owe our gratitude to the many General Officers, Chief Warrant Officers, and Iron Majors who contributed to the procurement process throughout the years. This endeavor required a dedicated team working persistently over an extended period. Furthermore, I encourage you to reach out to me if you have any concerns or issues with the content of the magazine. I invite you to enjoy the article and the entire magazine, as it may provide valuable insights—I know it did for me.

Thank you all for your continued support and dedication to our Brotherhood!

Semper Fidelis,
Matt Carpenter
Marine Gunner Association President



Messages From the Executive Staff

MGA Vice President

Greetings to all and I hope this edition finds you all well. As we get ready to gear up for the summer, I hope everyone had the opportunity to take a moment and enjoy the Memorial Day holiday. As a community of Marine Gunners and our families, Memorial Day holds a special place in all our hearts as a chance to reflect and honor those who paid the ultimate sacrifice in the defense of our Nation.

These past couple of months, Gunners serving throughout the Ground Combat Element and supporting establishment continued to be as busy as ever. Since our last magazine, we have had multiple battalions return from deployment. I would like to take a moment and say welcome home and job well done to all these Marines and Sailors.

Unit Deployment Program, V34
Unit Deployment Program, V12
13th MEU, Battalion Landing Team, 2/4
31st MEU, Battalion Landing Team, 1/4

In May of this year, DC PP&O hosted the Ground Awards Dinner, during which Gunner Phil Blackwell (V14) was recognized as the recipient of the Gunner Henry Lewis Hulbert Trophy. Bravo Zulu to Phil and all the Gunners nominated for this prestigious award. This year the Commandant of the Marine Corps reinstated the Marine Corps Rifle Squad Competition—representing the first time in nearly 30 years that Marine rifle squads from each division faced off at a service level competition.

1st Marine Division V15
2nd Marine Division V18
3rd Marine Division V12
4th Marine Division 3/23

After a grueling 72-hour competition which tested each squad's proficiency in offensive and defensive tactics, patrolling, combat marksmanship, and physical fitness, V18 earned the title of the Marine Corps most proficient squad for 2023.

For the first time since 2019, the US Army hosted the Best Mortar Competition in April aboard Fort Benning, GA. This year's competition featured 22 teams from around the world. The Best Mortar Competition was a multi-day event, pushing the teams to the limits of their combat endurance while evaluating each member's technical and tactical proficiency. Proudly representing the Marine Corps were teams from V18, V27, and V15. All USMC teams finished in the top 10 with V18 taking the award for the best Fire Direction Center (FDC).

Lastly, I appreciate everyone's continued support to the Marine Gunner Association, and I look forward to seeing everyone at the upcoming annual dinner.

Semper Fidelis,

Matt Anderson
CWO-5/Marine Gunner DC, PP&O
HQMC
Marine Gunner Association Vice President



Messages From the Executive Staff Treasurer and Secretary

Fellow members of the MGA,

First, I would like to thank everyone for their continued support and contributions to the MGA. We have made significant progress in a very short time. We are still in our infancy, but we are extremely proud to have had the opportunity to provide financial support to some families in need.

With generous support from Aimpoint, we are also proud to announce that this year we are sponsoring the Gunner Jesse Schertz Scholarship. Gunner Vince Kyzer, the Scholarship Committee Chairman, is optimistic that we could award our first scholarship at the upcoming annual dinner in August.

Since last year, we have almost doubled the sponsorship for the annual dinner. This is a direct reflection of all the support we have received from the members and sponsors of the MGA.

Thank you and God Bless!

Semper Fi,

Kevin Gonzalez
Marine Gunner Association Treasurer



Brothers,

Over the last few months, we have focused on ways to assist our members and their families as they transition out of service. Our goal is to develop relationships with other Veteran service organizations, identify key Veteran's programs, and assist our brothers as they transition. If you want to know more, or if you have ideas that can help transitioning service members, please reach out to me or anyone within the MGA Executive Staff.

We are looking for assistance in many areas. All our committees can use a helping hand. The committees include communications, events, magazine, outreach, and scholarship. If you have time and desire to give back to the community, please reach out to any member of the Executive Staff. We are open to new ideas as well. If you have a recommendation for a way to help the association or to help the association help our community, please reach out to us.

I look forward to seeing you all at the dinner in August.

Sean Flannery
Marine Gunner Association Secretary



*(Above): Quality dining at the annual MGA dinner.
(R): Gunner Mike Brooks mans a sponsor table at a recent Marine Gunner Association annual dinner event in Virginia. Photos: Kevin Gonzalez.*

The MGA would like to thank the following sponsors for their continuing support



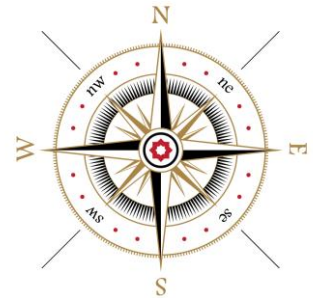
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TBS and IWOC Updates

At the time of publication of the previous issue, the newly Commissioned Marine Gunners had just reported to The Basic School (TBS) to begin the Program of Instruction (POI) for the Warrant Officer Basic Course (WOBC). 18 Marine Gunners graduated from WOBC on 18 May 2023. Congratulations on the completion of WOBC. Readers should remember that each Officer's lineal standing (seniority) within their respective Military Occupational Specialty (MOS) is assigned based on their relative performance during WOBC. These 18 Gunners, for example, will proceed from TBS/WOBC and for the rest of their service, they will be placed into promotion zones ("above, in, and below" zones) based entirely on their WOBC graduation standing and *then* compete based on their performance. This paradigm has changed over the decades of the Marine Gunner program, from one's seniority based on their enlisted (or Officer) rank and time in service (at time of reporting to TBS) to the system we know today— WOBC graduation lineal standing.

We are grateful to the 18 student Marine Gunners for their hard work of conducting the US Marine Corps Annual Rifle Squad Competition. Each Gunner participated in the design, coordination, execution, and evaluation of the 72-hour continuous field exercise aboard Marine Corps Base (MCB) Quantico, Virginia. The evaluation focused on 70% tactical skills-based performance while 30% was focused on live fire lethality, employing the Marathon robotic targets for detailed and accurate hit counts. Student Gunners of TBS, we, the Marine Gunner Association, are deeply appreciative of your efforts to bring back the Annual Rifle Squad Competition to the service level. We realize the Gunners assigned to the National Capital Region also put a great deal of hard work and commitment into this.

What is next for our 18 student Marine



*(Above/L): Commanding Officer, TBS, Colonel Reginald "Reggie" McClam, USMC. Photos: USMC.
(Above/R): CWO-5/Marine Gunner Rich Charette and his niece, a newly graduated Warrant Officer, at TBS/WOBC in May 2023. Rich is the subject of our interview in this issue beginning on page 20.*

Gunners? Now that they have graduated WOBC, the class will conduct an initial Infantry Weapons Officer skills-based assessment, led by Gunner Mark Erhardt. This will provide a baseline of each student's spectrum of knowledge and skill at the beginning of the Infantry Weapons Officer Course (IWOC) POI, in the event Gunner Erhardt should need to adapt to human factors during the conduct of the IWOC POI. The assessment will include a Gunner proficiency exam and an evaluation of each Gunner's live fire range design aptitude.

Once Gunner Erhardt has conducted his evaluation of the skills and knowledge of the class, he will place the students on an official break until just after Memorial Day, at which time the students will formally report back in for IWOC.

The current class of 18 Marine Gunners is scheduled for graduation from IWOC on 20 September 2023. Good luck, Marine Gunners!

Man, Train, and Equip: Rifle Fire Control

The Marine Rifleman—An MCDP-1 doctrinal/philosophical discussion



A US Marine Automatic Rifleman engages a threat with the Heckler and Koch (HK) M27 Infantry Automatic Rifle (IAR). Note: the Marine is employing the weapon in the default “SEMI” (semi-automatic) mode. The AR-15 series selector lever is designed to be quickly placed into “SEMI” while “AUTO” (automatic fire mode) is awkward and slower to enable. Photo: USMC.

Considerations

Project SALVO, as mentioned in the history of the M27 article in this issue, determined that automatic fires do not increase the probability of hit for infantry rifles. *But* what was the exact context of the question asked by the creators of the experiment and was that question precisely answered? Did the creators of the experiment ask the correct question? And how, having drawn this conclusion, did the US Department of Defense make the historic decision to abandon the M14 Service Rifle and fully adopt the AR-15 rifle? Marine Gunners are encouraged to read all about *that*; however, those complexities are not necessarily what this discussion is about.

The Requirements Document for the USMC Infantry Automatic Rifle (IAR), when originally drafted, stated that the IAR should have a fire control system that allowed the Automatic Rifleman to use the following modes (in this order) **SAFE**, **AUTO**, and **SEMI** (not the AR-15

SAFE, SEMI, AUTO system that has existed for over 60 years). In other words, and when thinking in the context of the fire control system of AR-15 series rifles, the USMC IAR was intended to be employed by default on **AUTO**. Semi-automatic operation would be a deliberate and case-specific choice for the shooter (consider the awkward and relatively slow movements required to place the AR-15 series selector lever on **AUTO**).

In 2013, the Marine Corps Warfighting Lab (MCWL) and Weapons Training Battalion (WTBN), Quantico, Virginia, conducted a moving target experiment. The experiment utilized the advanced Marathon robotic programmable targets and initially focused on the M4 rifle—equipped with a 3-shot BURST fire control system. Meanwhile, the HK 416D rifle was working through the process of becoming the USMC selection as the IAR. Naturally, Marines from WTBN Quantico

Man, Train, and Equip

The Marine Rifleman—An MCDP-1 doctrinal/philosophical discussion

Considerations (cont.)

wished to see how the new rifle would perform, given its AUTO-enabled trigger. Note: the USMC also fields the M4A1 “Carbine” (while referred to as a “carbine”, M4s are rifles) in limited numbers which is equipped with a SAFE, SEMI, AUTO fire control system. The respective Military Specifications (MILSPEC) for the M16A2, M16A4, M4, and M4A1 rifles do, in fact, set forth different standards for the trigger breaking weights for the rifles equipped with BURST versus AUTO trigger systems, with the lighter and crisper performance delivered by the respective weapons with the AUTO trigger system. The 3-shot trigger mechanism causes inconsistencies in the break weights of the three positions on the BURST cam within the trigger. The AUTO trigger system does not suffer this issue (including the HK 416D/M27 IAR), producing an unusually crisp and light trigger pull. Readers may remember days [thankfully] long passed when Marines conducted Annual Rifle Training (ART) and qualification while loading one round at a time into their weapons. Marines fired one round, then the bolt locked to the rear. They could then dry-fire cycle the M16A2 trigger system two times before loading and firing another live round (during slow fire) in order to employ the best trigger break of the three, as the BURST cam worked through its positions. Opinion: This was ludicrous, but sadly was not the only foolishness aboard USMC rifle qualification ranges of the 80s and 90s...not even close. But I digress...

The MCWL moving target experiment revealed a somewhat unexpected data point: automatic rifle did produce a statistically

relevant improvement in a Marine’s ability to hit a moving target whose exposure was limited in both time and space (i.e. a robotic target moving at a sprint across an alley—presenting into the engagement area at a precise moment unknown to the shooter).

The Problem: In order to engage such a quickly moving target in a limited exposure situation when the shooter did not know exactly when the target would present (realism), Marines were forced to begin each drill on AUTO. **The AR-15 style selector lever is simply too awkward and inefficient for Marines to instantly place the weapon into the AUTO position.** By the time Marines could place their weapon onto AUTO, the targets were already across the engagement area and gone, causing MCWL to create a quasi-weapon condition (Marines began drills with the selector lever already placed on AUTO to nullify missed engagements).

A Solution: Not long after the MCWL Moving Target Experiment results were released, Marines from WTBN Quantico partnered with Mr. William “Bill” Geissele, the founder of Geissele Automatics. While Geissele Automatics (pronounced “Guy-zell-lee”) currently produces high quality rifles, optical mounts, receivers, and many other accessories, Bill Geissele started in 2004 with exceptional triggers. To address the AUTO trigger problem, Bill designed and created the “High Speed Trigger” or what some have informally called “The Geissele Gas Pedal”. Simply put, **the Geissele High Speed Selector allows Marines to instantly place their weapon into the AUTO position**, when presented with a quickly moving

Man, Train, and Equip

The Marine Rifleman—An MCDP-1 doctrinal/philosophical discussion

Considerations (cont.)

and limited exposure threat (as threats so often are in real life).

Picture this (follow the photos on the right from top to bottom):

The top photo shows the Geissele High Speed Selector in the SAFE position which is identical to the current position of AR-10/15 series rifles (i.e. M16A1, CAR-15, XM177E2, M16A2, M16A4, M4, M4A1, M27, M38, Mk11, Mk12, Mk18, SR-25, M110, M110A1, etc.).

When the Rifleman wishes to immediately employ AUTOMATIC fire against a moving threat in a limited exposure situation, he/she can move the selector lever to the 90-degree position and hold it there under moderate spring tension (the selector will not remain in this position unless the shooter deliberately presses and holds the selector there while the shooter [also] presses/pulls the trigger to fire in the AUTO mode). Naturally, this position is currently SEMI on AR-10/15 series rifles.

When the Rifleman is finished killing the enemy using the AUTO fire mode, he/she lets off pressure to the selector, causing the spring to return the selector to a 45-degree orientation for the default SEMI automatic mode. The shooter can then place the weapon back to SAFE position or press the trigger back to the AUTO position while pulling the trigger to fire again in the AUTO mode.

This trigger system does not rotate past the 90-degree position, eliminating the awkwardness of



Photos: Used with permission from Geissele Automatics.

Man, Train, and Equip

The Marine Rifleman—An MCDP-1 doctrinal/philosophical discussion

Considerations (cont.)

the current fire control system, allowing Marines to instantly employ their weapons on either SEMI or AUTO.

Author’s note: Readers who have not employed the Geissele High Speed Selector might be wondering something akin to “won’t the [forward] pressure the shooter must apply to the bottom of the selector lever, while in the AUTO mode, disrupt the lay of the weapon when firing?” Perhaps initially with inexperienced shooters. While using this trigger system, I detected a slight training curve, so to speak, when first firing in the AUTO mode. After some initial “brain training”, I quickly adapted to the two-action requirement of pressing on the selector lever with my thumb while pulling the trigger in the opposite direction with my trigger finger. I find my brain “accepted” this just as it once accepted the two-eye open aiming concept first solidly introduced by the Trijicon Rifle Combat Optic (or the Armson Occluded Eye Gunsight (OEG) before that). Frankly, it is much simpler than it sounds.



The components of the Geissele High Speed Selector are easy to install and accommodate left- and right-handed shooters. Photo: Geissele Automatics.



Bill Geissele, founder of Geissele Automatics which produces weapons, optical mounts, weapons accessories, and trigger systems for the Department of Defense, several other US Government agencies, and the commercial market. Photo: Geissele Automatics.

Questions:

- What became of the work conducted by WTBN and MCWL? Has this been forgotten?
- If we outfitted a Rifle Company with these triggers, does the USMC have a venue where this concept could be properly tested?
- Could this concept be tested using advanced simulation? There may be environments where this works well and others where the trigger offers little improvement (i.e. close urban fights versus rural environments).
- Are we missing an opportunity for a significant material improvement to the human interface aspect of our infantry rifle simply because someone PCS'd or retired?
- Has anyone considered this capability on the XM7 Next Generation Squad Weapon? Looking at the selector lever, I think not.

-Editor



“Such as Regiments Hand Down Forever...”

An Interview with CWO-5/Marine Gunner Rich Charette USMC (Ret.)

By: Christian Wade

In our previous edition, I was blessed with the honor of introducing Dr. Ray Leach (Marine Gunner/CWO-3 Ret.), a trail blazing Gunner from the first class. Admittedly, if I were to be interviewed, I would not wish to follow a Marine as distinguished as Gunner Ray Leach. I am confident; however, the following interview will not disappoint.

The purpose of this historical piece is to connect Marine Gunners from the first class with Gunners of the present and beyond (and everyone in between). I cannot help but contemplate the sarcastic and cynical tone with which I began writing the opening statements of the first interview, only to discover that a healthy and productive relationship had developed between the US Marine Corps and her Marine Gunners—largely because of the dedication and resilience of Marine Gunners, many of whom preceded us. Commandant Alfred M. Gray, Jr. USMC (Ret.) brought us back, but it has been ours to lose since the program was reactivated. Instead of “losing the ship”, the work of our brothers has created a robust program which continues to provide value to Marines and Sailors who must locate, close with, and destroy our nation’s enemies.

While I deeply enjoy writing pieces about firearms, knives, and other “Gunner 101” related topics, no other aspect of creating this magazine holds a candle to the experience of conducting interviews with our fellow Marine Gunners, getting to know them, and learning from them. This does not surprise me, however, since the aspects I miss most after 30 years of service are the Marines (and not necessarily the Marine Corps, per se). So, allow me to introduce one of those magnificent Marines, CWO-5/Marine Gunner Richard “Rich” Charette USMC (Ret.).

Rich Charette grew up in Massachusetts and graduated high school in 1974. Upon graduation, he set about on a plan to attend a two-year college to earn an Associate degree in architectural engineering at the Wentworth Institute of Technology in Boston, Massachusetts. He attended classes for one day and decided this was not for him. He returned home and began working at a gas station where he had worked during high school. In his words, he was “going nowhere fast” and his father was disappointed with his lack of effort. After a few months, Rich attended a car show in Hartford, Connecticut where he encountered a Marine Corps recruiter. After watching a recruiting video and talking with the recruiter, Rich decided to join the Marine Corps. Rich enlisted in the Corps on February 11th, 1975. When he talked with his father after his enlistment, Rich remembers his father's approval and expression of pride in Rich’s commitment. After a brief period in the Delayed Entry Program, Rich attended Recruit Training aboard Parris Island, South Carolina on April 14th. Due to his excellent performance, Rich earned a Meritorious Promotion to Private First Class (PFC). After graduation from Recruit Training, Rich was sent to Infantry Training School, which in those years, was located at Camp Pendleton, California. He earned the Military Occupational Specialty (MOS) of 0311 Rifleman.

Rich executed Permanent Change of Station (PCS) orders to Marine Barracks Fort Meade, Maryland. While he awaited his security clearance, he was temporarily assigned to the 3.5-inch Rocket Launcher section of the Enlisted Instructor Company at The Basic School (TBS) in Quantico, Virginia. He was promoted to Lance Corporal (LCpl) shortly after arrival and

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then to Corporal (Cpl) once he had achieved the necessary time in grade in 1975. Once he received his security clearance, he was then reassigned to the Marine security detachment which guarded the National Security Agency. In March of 1976, Rich was awarded Marine of the Year at the Marine Barracks and was meritoriously promoted to Sergeant (Sgt). For those keeping track, Rich had been promoted to Sergeant at just about two years of service. In his words, he “was not ready for Sergeant.”

In September of 1977, the Marine Barracks at Fort Meade was being disbanded. Rich received PCS orders to Company F, 2nd Battalion, 4th Marine Regiment aboard Okinawa, Japan. During this 13-month tour, he served as a Platoon Guide and in 1978, when the unit began to suffer shortages of Staff Non-Commissioned Officers (SNCOs), Rich “fleeted up” to serve as a Platoon Sergeant and Platoon Commander (in the absence of a Lieutenant). Readers are advised to “do the math”. Rich was serving as a Platoon Sergeant and Platoon Commander, at the rank of Sergeant, with only three years time in service—remarkable by any standards.

In October 1978, Rich reported to Drill Instructor School, graduated, and subsequently served as a Drill Instructor aboard Parris Island, South Carolina (PISC). Soon after his commencement of duties as a Drill Instructor, he was selected to the rank of Staff Sergeant, however, due to a high promotion number, Rich waited 18 months before he was promoted in 1980. Rich successfully completed his two-and-a-half-year tour as a Drill Instructor and received PCS Orders to the 3rd Battalion, 3rd Marine Regiment aboard Hawaii.

Upon arrival in Hawaii, Rich was assigned as a Rifle Platoon Sergeant in Company I. During



(L) 1st Lieutenant Whitenack and Sergeant Rich Charette, the leadership of 3rd Platoon, Company F, 2nd Battalion, 4th Marines in Okinawa, 1978. Photo: Rich Charette.

his assignment in 3rd Battalion, 3rd Marines, Rich completed two WestPac deployments where he and his unit conducted contingency operations in support of the USMC’s operations in Beirut, Lebanon. After conducting two WestPac deployment cycles, Rich was assigned as the Staff Non-Commissioned Officer In-Charge (SNCOIC) of the 3rd Marine Regiment Rifle Squad (often called “Super Squad”) which went on to win the 1983 USMC-wide Rifle Squad competition before subsequent competitions were pushed down to the Division level.



Somalia-1983. SSgt Charette (center on knee) conducts bi-lateral training with Somalia Army soldiers. Rich is armed with a Soviet made RPD Light Machine Gun. Photo: Rich Charette.

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In 1984, Rich was transferred to serve as the Assistant Marine Officer Instructor (AMOI) at the Naval Reserve Officer Training Corps (NROTC) staff of the University of Mississippi. Not long after he reported for duty, he was selected for and promoted to the rank of Gunnery Sergeant (at an astonishing nine years of service). Having recently served as a Drill Instructor, Rich was well suited to the tasks of teaching basic Marine Corps customs and courtesies, culture, organization, and drill. He was also responsible for ensuring the Officer Candidates were in excellent physical condition. He was assisted in these duties, albeit unofficially, by the fact that the manager of the gymnasium and Olympic-size pool happened to have served as a USMC PFC during the battle for Iwo Jima. Rich deeply enjoyed his four-year assignment as the AMOI, and in 1988, he received PCS orders to 1st Battalion, 8th Marine Regiment aboard Camp Lejeune, North Carolina. Before executing those orders, however, he decided to apply for a Commission as a Marine Gunner. For those doing the math in their heads, one can quickly determine that Rich simply did not have enough time in service in 1988 (approximately 13 years) to be considered.

Rich assumed duties as the Company Operations Chief of Weapons Company. In 1989, Rich deferred submitting a Gunner application package due to his time in service status and in 1990, he intended to defer again until the next year. Just before the submission deadline, a Battalion Commander who was serving on the Division-level Gunner selection board, contacted Rich and encouraged him to submit his application. Rich was just able to make the application deadline and in late 1991,

Rich was notified that he had been selected for service as a Marine Gunner.

It is important that I pull us out of the timeline to focus on the reason Rich decided to apply for the Marine Gunner program. Many of us can relate to his reasoning. While he was assigned as the Company Operations Chief of Weapons Company, 1st Battalion, 8th Marines, Rich came to the proverbial “fork in the road” in the way of the two-track promotion system. As a Gunnery Sergeant (in a Master Sergeant billet), Rich pondered his existence as a First Sergeant and Sergeant Major. He estimated that these billets spent much time working in offices while devoting much of *that* time to dealing with the small percentage of Marines who cause trouble. Rich found this unacceptable and opted for the path of Master Sergeant and Master Gunnery Sergeant—technical billets which would likely allow one to remain in a rifle battalion with the Marines. When he considered the life of a Marine Gunner, though, he knew *this* was for him—Gunnery remain in operational units with the Marines, dealing with weapons and training (and little else). For these reasons, Rich chose the often very demanding path traveled by the Marine Gunner (and we are very fortunate that he did).

Back to the timeline. Rich attended the Warrant Officer Basic Course (WOBC) and the Infantry Officer Course (IOC) in 1991. Upon graduation from IOC in the fall of 1991, CWO-2/Marine Gunner Rich Charette executed PCS orders to assume duties as the Battalion Gunner for the 1st Battalion, 4th Marines aboard Camp Pendleton, California (just after the battalion moved from 29 Palms to Camp Pendleton). What is important to note is that Rich arrived as a replacement for the first Battalion Gunner of

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1st Battalion, 4th Marines, a Gunner from the first (1989) class. As amazing as that is, Rich received no turn-over and never met the Gunner whom he replaced, which brings us to a discussion point:

Marine Gunners often do not receive a formal face-to-face turn-over with the Gunner they are replacing at a unit. While the need for a formal turn-over might seem intuitive, there are instances where this may be counter productive or even damaging. Marine Gunners are typically intelligent, experienced, and very aggressive Officers. Having two of these energetic creatures in the same location could be akin to a cosmological paradox... The US Marine Corps is a people business and there is nowhere this is more pronounced than the Marine Gunner community. Sometimes, it may be best to allow the incoming Gunner to report to a unit **after** the outgoing Gunner has already departed. Even if there are no personality issues between the Gunners, allowing a Gunner to arrive to a unit where the previous Gunner has left might allow the newly arrived Gunner to establish his new ideas, practices, and working relationships. This can allow both the Gunner and the unit to move forward with fresh and positive energy. Naturally, leadership within the Gunner community and commanders can determine best courses of action based on each situation as it arises.

So, newly Commissioned Gunner Charette reported for duty at his new battalion, the 1st Battalion, 4th Marines, and it seems that nobody knew what to do with him. Rich was assigned to the S-3 Operations section of the battalion, and it did not take him long to realize that he had much work to do to educate the unit's leadership as to his purpose and potential.



CWO-2/Marine Gunner Rich Charette standing on an Iraqi Army T-54 tank during a deployment stop in Kuwait in 1992 (1st Battalion, 4th Marines Gunner). Photo: Rich Charette.

Many of us can relate to the “S-3 Zulu” phenomenon whereby a Marine Gunner is initially treated like just another staff Officer within the S-3. Despite this, Rich got to work on designing crew served weapons training and began creating working relationships with the Lieutenants of the battalion so that he could assist them in the training of their Marines. In 1992, Rich and his battalion began preparing for the upcoming Marine Expeditionary Unit (Special Operations Capable) (MEU(SOC)) deployment. Rich took every opportunity to assist the companies in the creation of training to either augment or replace training provided by the Special Operations Training Group (SOTG) (i.e. Tactical Recovery of Aircraft and Personnel, etc.). Just prior to deployment, Rich and his

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bride, Kathy (herself a Marine Officer) were married. Rich and his unit deployed and quickly found themselves in Kuwait, not long after Operation DESERT STORM. Rich soon began creating expeditionary training ranges out of empty desert, building combined arms live fire ranges with, for example, integration of live fragmentation grenades in the assault. Rich returned with this battalion at the end of the deployment and in late 1992, he executed orders to 3rd Battalion, 6th Marines at Camp Lejeune, North Carolina. He once again received no face-to-face turn-over with the previous Battalion Gunner, but he did receive a turn-over folder which was left for him. Rich was installed into the S-3 Operations shop and informed of his collateral duties as, for example, the Classified Materials Systems (CMS) custodian. Rich was becoming disillusioned with his circumstances, and he was beginning to question his decision. Again, many of us can relate to Rich's frustration. As if to make matters worse, Rich had joined a unit whose deployment cycle would find them conducting operations which had no live fire components (i.e. operations in Norway and the USMC Mountain Warfare Training Center at Bridgeport, California). During these operations, Rich was often relegated to serving as a watch officer. He was promoted to CWO-3 during this assignment.

It was at this low point in his service as a Marine Gunner when Gunner Ray Grundy paid Rich a visit, offering encouragement, support, and advice. This visit allowed Rich to refocus and energized him toward a clearly defined mission—to do whatever he could to help train the battalion's Marines to close with the enemy. From the depths of frustration and thoughts of retirement all the way to a fresh focus, purpose,

and the rewards of preparing Marines for combat, we happen upon the core of Rich Charette's legacy; that of a humble infantry leader who arrives at a training range with one simple and very sincere question, “How can I help?”



1993 (3rd Battalion, 6th Marines Battalion Gunner). Gunner Charette enjoys Skijoring at the USMC Mountain Warfare Training Center, Bridgeport, California Photo: Rich Charette.

For the remainder of 1993, Rich continued to support his unit with creative training, fostering competition with the “Super Squad” competition and the Competition in Arms Program (Division Matches). In 1993, he conducted a MEU deployment where his unit went ashore in Somalia, covering the US withdrawal of forces from the country. In true US Army fashion, they left a large amount of ammunition behind which Rich put to good use after having created several expeditionary range facilities in the desert of Somalia. It was during these couple of months of live fire training when Rich felt, “This is where the Gunner is supposed to be.” After over two years of service as a Marine Gunner, he was getting closer to Gunner nirvana—that magical place where a Gunner is involved in everything that happens in a battalion and

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everyone is standing in line at his door awaiting his sage counsel. He was not quite there yet, but he felt it heading in that direction.

In 1994, shortly after returning from the deployment, his unit was recalled and put back to sea, destination Haiti. Despite the dramatic redeployment, his unit simply “cut gator squares” in the ocean, only to be replaced by another 2nd Marine Division unit which did go ashore. In early 1995, just months after returning home again, his unit was redeployed to Guantanamo Bay, Cuba. Rich and his fellow Marines and Sailors went ashore in support of humanitarian operations (Jan-Mar 95), resulting from the civil unrest in Haiti and an influx of refugees. Once again, Rich set about maximizing the local facilities to create live fire training opportunities for his Marines. He also designed and executed a decathlon where Marines conducted the movements in full combat equipment, moving from competitive live fire event to the next.



1994 (3rd Battalion, 6th Marines Battalion Gunner). Gunner Charette conducting bi-lateral weapons training in Greece with the Greek 32nd Marines Brigade. Photo: Rich Charette.

Authors note: Throughout the interview, Rich continued to attribute his profound change of attitude and the positive shift in his momentum to a seemingly simple visit from Gunner Ray Grundy. I cannot stress this concept enough. Ray’s sincere expression of concern and words of encouragement not only had a major effect on Rich’s state of mind but allowed Rich to achieve ever greater success in his efforts to help the Officers and men of his battalion prepare for combat (the essence of our purpose as Marine Gunners).

Upon his return from MEU operations, Rich and his wife received orders to the Marine Corps Air Ground Combat Center (MCAGCC) 29 Palms, California. Rich reported for duty as the Battalion Gunner of the 3rd Battalion, 7th Marines. In keeping with the times, Rich received no turn-over since the previous Battalion Gunner had already departed. Once again, he was placed into the S-3 shop, where the command intended for him to serve as the “S-3 Zulu”, and if this was not enough, he was assigned collateral duties as the “Armory Officer” (whatever *that* means). But times were about to change...(Enter, stage left—Gunner Tim Gelinias, the 7th Marines Regimental Gunner).

Rich continued to push forward, making every effort to break out of his command’s attempts, intentional or not, to suppress him in place in the office. It was at this moment that Gunner Tim Gelinias, the 7th Marines Gunner, visited the newly assigned Battalion Commander, conducting what some might call an “intervention”. After this Gunner-to-Commander discussion, Rich’s duties as the “Armory Officer” were immediately terminated. While Rich still had responsibilities in the S-3 shop, he found himself free to travel to the field and get directly

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involved in preparing Marines for combat. His Commanding Officer, Lieutenant Colonel G. Steven Lauer USMC (Ret.), pulled Rich into the Battalion Command Element. On one side was the Battalion Sergeant Major, attending to his concerns, and on the other, the Battalion Gunner, attending to his. Rich’s full potential was finally



The Command Element of 3rd Battalion, 7th Marines in Ban Chan Khrem, Thailand (circa 1996). (L-R): Sergeant Major, Commanding Officer, and Rich. Photo: Rich Charette.

unleashed, and with the direct support of his Commanding Officer, he got busy with the tasks of training our Rifle Squads for close combat. With the help of Gunners Ray Grundy and Tim Gelinas, and a Commanding Officer who understood the full potential of a Marine Gunner, Rich had finally arrived at a place where he was “off the leash”. He was able to procure more ammunition, more ranges and training areas, and infuse far more realism into the training of the Marines (remember Rich was also stationed in 29 Palms—arguably the best place to be a Marine Gunner). With his new-found freedom, Rich took himself down to the Rifle Squad level, creating realistic combined arms live fire training which sought to empower the Squad Leader to the highest level of capability. Rich ensured Squad

Leaders were trained in employing indirect and other non-organic fires, and that all training was conducted to an appropriate standard. Rich (and his Marines) enjoyed his assignment in the 3rd Battalion, 7th Marines for three years, completing another Unit Deployment Program (UDP) tour to the Far East. Upon returning from the UDP, he was transferred to serve as the 7th Marines Regimental Gunner. Gunner Tim Gelinas moved over to serve as the Tactical Training Exercise Control Group (TTECG) Gunner, where he continued to be accessible to all the other Gunners. Rich served as the Regimental Gunner until 2000, and during this time, he enjoyed complete freedom of movement and effort, and was assigned no collateral duties. Rich also benefitted from having two Marines who assisted him (one of whom was his driver) and a tactical vehicle, with which he roamed at will. For those who served with him in the 29 Palms Gunner community at the time, Rich was known to arrive at a training event, approach the Gunner who was hosting the event, and humbly ask to be put in wherever he could help...and then Rich would help (cue Gunner Mike Brooks—“Gunnery do windows.”)

Author’s note: Rich reflected on his time in the 7th Marines with great pride and he expressed that his time in the 7th Marines was the best time of his over 28 years of service. The aspect of his service there which was most noticeable was the bond he had developed with his fellow 29 Palms Gunners (and of course, with his fellow Officers and Marines). He mentioned how close the Gunner community was at the MCAGCC (this is a timeless trend, it seems) and how the community would rally to help each other with both professional and personal issues. Rich mentioned Gunners, from the 29 Palms

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community at the time, who had an impact on his life and professional effectiveness—Tim Gelinias, Hank Lowery, Ruben Wright, Jeff Eby, and Dave Dunfee (among others).



(L-R): Marine Gunners Jeff Eby, Rich Charette, Clyde Downing, and Dave Dunfee, the Gunners of the 7th Marine Regiment in 1999 (29 Palms, California). Photo: Dave Dunfee.

In 2000, Rich executed PCS orders to Quantico, Virginia, where he assumed the duties of a newly created billet, The Basic School (TBS) Gunner (and Occupational Field Sponsor). Readers should note that in 2000, Rich was the only Marine Gunner assigned to the National Capital Region (NCR). By contrast, in 2023, the following NCR Marine Gunner billets exist:

- CWO-5: Deputy Commandant Plans, Policies, and Operations (DC, PP&O).
- CWO-5: Deputy Commandant Capability Development and Integration (DC CD&I).
- CWO-5: Training and Education Command (TECOM).
- CWO-4: Director, Marksmanship Programs Management Section (MPMS).
- CWO-3: Weapons Training Battalion Gunner (WTBN).
- CWO-4: The Basic School (TBS) Gunner.
- CWO-4: Marine Corps Systems Command (MCSC) Program Manager, Infantry Weapon Systems (PM IWS).
- CWO-3: Infantry Officer Course (IOC).
- CWO-3: Marine Corps Warfighting Lab

Historical and philosophical discussion: Upon his transfer to serve as the TBS Gunner in 2000, Rich had served over 25 years, had completed many deployments, and had been transferred back and forth, all over the world. The Gunner MOS had approximately 40 boat spaces, and at the time there was no supporting-establishment structure where Gunners could rest from the stresses of constant deployment cycles. I asked Rich how he kept going, especially considering that in his first years as a Battalion Gunner, his Commanders did not employ or treat him in the manner common (and in fact, required) today. Rich explained that he was able to push through the initial frustrations and stay focused on his fundamental mission (which he could see through the haze of unit-induced “S-3 Zulu” noise) because of the encouragement and concern of [at least] two senior Marine Gunners (Ray Grundy and Tim Gelinias). He was able to achieve Marine Gunner “escape velocity” from all that was keeping him suppressed from his full potential by the intervention of Tim Gelinias with the new Battalion Commanding Officer. This is exactly what happened to me, the author, when in 2007, Gunner Terry Walker (who was not even in my own Division) conducted an intervention with my Commanding Officer—changing my life, my career, and immeasurably increasing my potential energy to help Marines prepare for combat. Admittedly, in one day, I went from loathing being a Marine Gunner and preparing for immediate retirement, to loving my job with all my heart (thank you, Terry Walker). But this isn’t about me. This is about Marine Gunners who went before us and recognizing them for all they did to create the Marine Gunner program from nothing, in 1988, to the powerful force of advocacy for Riflemen in Rifle Squads and

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everyone who supports them. Once Rich was unleashed, he was able to tap directly into the vitality of Lieutenants and their Marines, causing him to be refreshed, energetic, and full of enthusiasm.

Back to Rich and his new assignment as the TBS Gunner, a billet which included many new collateral duties. These collateral duties, however, were not in the spirit and context of those mentioned before. Rich assumed collateral duties as the IOC Gunner and began to become a critical subject matter expert in the Marine Corps advocacy and acquisitions process (PP&O, CD&I, WTBN, MCSC, etc.). Readers are advised to look back to the bottom left of the previous page to see where I am going with this. Rich's credibility and contributions to these processes were so profound, that additional Marine Gunner structure, extremely difficult as it is to create, *was* created to maximize the potential of each of these lines of effort. As General Officers in the Ground Combat Element (GCE) advocacy process recognized the value-added of a Marine Gunner, they began to facilitate (demand, is perhaps a better word) the creation of Marine Gunner structure within these agencies—most often at the destruction of another occupational field's own structure. One historical example that illustrates how this phenomenon, akin to continental shift, works over time is when Rich was the Battalion Gunner of 3rd Battalion, 7th Marines, [then] Captain David Furness was the Company Commander of Company K. Lieutenant General David Furness is, in fact, [now] the Infantry Advocate (among many other responsibilities) and while I will not speak for him, he has grown up in the Corps alongside Marine Gunners like Rich Charette and many

others. I cannot do justice with words to the ways in which our community has grown, for the purpose of assisting the US Marine Corps in its efforts to prepare for war. We owe this largely because of bonds among warriors which were forged decades ago, by young Marine Gunners and the Company Grade Officers with whom they served. Many of those Company Grade Officers are now serving as General Officers and continue to look to their Marine Gunners for counsel. I offer that this is why we are still here, considering that the Marine Gunner program has come and gone several times over the last 100 years.

Back to the interview...Gunner Rich Charette conducted the first annual Marine Gunner Symposium in 2001. There existed no such thing from 1989 to 2000. Imagine a Marine Corps where a new service rifle could be adopted without consulting a Marine Gunner...or a new “Light Machine Gun (LMG)” in the Automatic Rifleman billet could be adopted. This was the Marine Corps for many years before 1989. I encourage every Gunner who attends the upcoming Marine Gunner Symposiums to pay close attention during the historical brief that describes what each yearly Gunner Symposium accomplished. That brief is extraordinary for its own sake, but it also shows the beginning of the service-wide influence of the Gunner community. With his creation of the Marine Gunner Symposium, Rich laid the foundation for decades of positive influence on the Marine Corps. The Commandant of the Marine Corps (CMC), General James L. Jones attended, as did many other General Officers, including Commandant Alfred M. Gray Jr. USMC (Ret.). How apropos that the creator of the Marine Gunner program, as it is today,

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should attend the first Gunner Symposium. Commandant Gray even attended a Mess Night, as the Guest of Honor, at the end of that year's Symposium.

In 2001, Rich was promoted to CWO-5 where Gunner Ray Grundy had the honor of pinning Rich's rank insignia. Rich also assumed a role as a Class Advisor for all the Warrant Officers and Chief Warrant Officers of the Warrant Officer Basic Course (WOBC), a role that continues to be part of the TBS Gunner's duties today. Rich also conducted the 2002 Gunner Symposium where a great deal of work was completed on formalizing the nature of Marine Gunner structure, duties (both what they are and are not), and responsibilities at every unit level (i.e. placing a Battalion Gunner into the Command Element to allow for greater freedom and effectiveness). Rich was ideally suited for the work of assisting in the changes to the MOS Manual, for example, because he had endured improper employment by some of his previous commands. The Gunner Symposium made great advances on doctrinal themes (i.e. the nature of the USMC Automatic Rifleman, Fire Team construct and doctrinal employment, Buddy Pairs, and combined arms enabled at the lowest level of maneuver element, etc.). Gunnery also made progress on the creation of formal Marine Gunner training programs, which have evolved into the Infantry Weapons Officer Course (IWOC) and the Advanced Infantry Weapons Officer Seminar (AIWOS). Even the “Range Officer Merger” was discussed during these early Gunner Symposiums.

In his additional duties while serving as the TBS Gunner, Rich assisted in the creation of the IOC “PALMFEX”, an intense training package that is still conducted, as part of the

IOC Program of Instruction (POI). The first IOC PALMFEX was conducted in 2002 at [what came to be formally known as] the Marine Air Ground Task Force Training Center (MAGTF-TC) 29 Palms, California. PALMFEX continues to this day and student Marine Gunnery at the IWOC continue to study it as part of their POI.

CWO-5/Marine Gunner Rich Charette retired, along with his wife (then a USMC Limited Duty Officer (LDO) Captain), on December 1st, 2003. Rich selected this time in order to achieve two years in grade and to allow other Marine Gunnery to have a chance at serving as a CWO-5 (there were only four CWO-5 Marine Gunner boat spaces at that time) before their 30-year service limitations were reached. Note that Rich was the first CWO-5 promoted from his 1991 class of Marine Gunnery.



The Basic School, Infantry Officer Course Staff, Quantico, Virginia, 2002. (L-R): Major Jeff Kenney, Captain Rory Quinn, Captain Chris Bronzi, Gunner Rich Charette. Photo: Rich Charette.

Upon returning home to central Pennsylvania, Rich took a few months of time off to relax and settle in. It wasn't long before

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An Interview with CWO-5/Marine Gunner Rich Charette USMC (Ret.)

Rich got hired on to a home building crew where he worked for about two years. He reflected on the disadvantages of being a “junior man” on a construction crew while in his late 40’s. He soon took another job managing a local food bank. To become more connected to his church, Rich began working as a facilities manager and custodian at the church, and when several churches combined, he continued to volunteer and assist where he could. When he entered his early 60’s, Rich began working as a volunteer on humanitarian deployments to Haiti, where he conducted ten visits over the years. He also created a handyman business called “Rent an Old Marine” where he donated all the proceeds to a school in Haiti. He remains active in his church, leading a men’s group.

Rich reflected that he had been keeping his distance from the Marine Corps and the Gunner community over the years since he retired. The creation of the Marine Gunner Association, however, and efforts by Gunner Matt Carpenter and others to reach out to him have allowed Rich to increase or reestablish his connections with our community. Also, Rich’s niece was recently promoted to Warrant Officer, and Rich was able to travel to Quantico for her promotion ceremony. Naturally, her promotion ceremony was surrounded by the promotions and pinning ceremonies of Marine Gunners, many of whom either know Rich or have heard of him.

Rich, with the humility for which he is well known, thought that, perhaps, the Gunner community was not interested in him or the story of his service. I, the author, am not entirely sure that I have talked him out of his position. Thankfully, though, I was able to conduct this interview with him and let him know that he is a

very welcome member of the Marine Gunner Association and that we deeply appreciate all that he has done and continues to do for the Marine Corps and our community.

As another Gunner who was reluctant to join the Marine Gunner Association (my reasons were nonsensical, though), it is my great honor to write this story.

Author’s note: I wish to express my sincere thanks to Gunners Ray Grundy, Tim Gelinias, and to anyone else who assisted Gunner Rich Charette through his demanding service to our Corps and Country. I hope that after reading this, you have an idea of all that you have done for us, if not by simply helping Rich when he needed it. Naturally, you have done far more in your service than [only] this, but for the purposes of this discussion, this one thing you did was incredibly powerful and helpful to all of us (and to the Marine Corps). For those Marine Gunners who did this for others and whose names are not mentioned in this interview, you also have my sincere gratitude.

And for Rich Charette, those Gunners *you* directly mentored went on to mentor me and my peers.

Such as Regiments Hand Down Forever.



*Rich (on left), with Gunner Shaye Carter, recently attended the Commissioning and pinning ceremonies at TBS with the new class of Marine Gunners.
Photo: Gunner Mark Erhardt.*



The US Marine Corps Rifle Squad M27 Infantry Automatic Rifle (IAR)—A Historical Study

By Christian Wade



The US Marine Corps Heckler and Koch M27 Infantry Automatic Rifle (IAR). Photo: Heckler & Koch

How did we get here?

I know what you are thinking... “Are we really going to do this?” Yes, we are...and we should.

In order to discuss anything related to the USMC M27 Infantry Automatic Rifle (IAR), we must begin at the beginning—the concept of the automatic rifle, itself. The primary purpose of this historical study is to focus on the M27 IAR and the Marines and others who brought this program to fruition and why. **Author’s note:** The history of all that came before the M27 is essential to this study, and I will endeavor to include as much detail and context as possible, however, I will also apply as much precision and brevity to the matter as I can. There are a great many books about these subjects. I am not writing a book; but I will provide a thorough reference section at the end of this article. Weights are rounded to whole numbers.

Let us consider our place in time based on the other historical studies readers have enjoyed from our earlier Bursting Bomb issues. We find ourselves in the trenches and fields of the “Great War”—World War I (WWI), [beginning for this discussion] in 1918. We also know where we are in the context of small arms weapons and ammunition designs of the time. Artillery, aircraft, machine guns, snipers, and “tanks” (and much

more) have all come together in a conflagration that will result in over 40 million casualties—20 million dead. Consider the newly created automatic rifle’s place in the seemingly incomprehensible complexity of this new and highly industrialized combined arms war. In a macro sense, High Explosives (HE) typically do most of the killing in modern war. The automatic rifle, while a critical material capability for gravel-agitating Infantrymen, is but a footnote in the great cacophony of death and destruction that was WWI, but we are here to focus on the automatic rifle.

What is an automatic rifle and why does a requirement for an automatic rifle exist? Conceptually positioned between the capabilities, size, weight, cost, and portability of the infantry rifle and the light machine gun (LMG), the automatic rifle serves to provide a high volume of accurate and mobile fires against enemy positions in close combat applications to facilitate movement, closing with, and destruction of enemy forces. In our study of the US infantry rifle program from 1850 forward, we know that by WWI, numerous technological advancements had taken place in order to facilitate all these small arms and ammunition capabilities (i.e. smokeless powder, spitzer bullets, semi-automatic pistols, bolt action rifles, general purpose machine guns, and automatic rifles, etc.). In fact, so

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The infamous WWI-era French Chauchat “machine rifle” which was often used by Marines in the manner of a light machine gun instead of as an automatic rifle. This 20-pound weapon had numerous flaws and suffered a poor reputation, however deserved. Photos: Open source.



The revered Browning Automatic Rifle (BAR) caliber .30-06 Springfield. (Top): M1918. (Lower): M1918A2. Photos: Open source.

many technological advancements were fielded simultaneously that leadership on both sides took years to grasp the effects and refine battlefield tactics (for example: at Belleau Wood, US Marines conducted a frontal attack across a flat cultivated field in the face of German machine gun fire—the Germans firing from protected and somewhat concealed fighting positions, no less). Note: Marines would do well to study this battle in detail and not rely on legends. One visit to the Aisne-Marne American Cemetery at Belleau, France can help properly orient a scholar and cure any misconceptions caused by spurious folklore.

With all the factors of this new type of war considered, one can easily see why armies would seek an “automatic rifle” to fit between the capabilities and physical characteristics of infantry rifles (the bolt action Springfield M1903) and LMGs (Chauchat and the numerous machine guns of the time). In those days, USMC units often manned a 7-man automatic rifle squad, armed with two Chauchats while the other Marines were armed with M1903 rifles and M1911 pistols. Infantry units could task organize, based on the requirements for each situation—moving automatic rifles to where most needed during battles...often into “internal support by fires”.

The Chauchat served in this role until just before the end of WWI when the USMC began to

field the much-welcomed M1918 Browning Automatic Rifle (BAR).

After a relatively quick period from inception to prototype production, in 1917 Browning held a live fire demonstration of his new design, not yet called the “BAR”. In May of 1917, Browning’s “machine rifle” was accepted for production and service as the first IAR. While placed into US service in 1917, the “BAR” (so named in a US Ordnance manual in 1918) became the “M1918” to distinguish it from another Browning weapon accepted by the Army in 1917, the M1917 Browning Heavy Machine Gun. The USMC began fielding the BAR just prior to the Armistice, however, numerous BAR specimens had already been acquired from US Army personnel, as is tradition for the Marine Corps.

WWI ended in late 1918. Early in the war, USMC rifle platoons, for example, had sections of “Hand Bombers”, Rifle Grenadiers, Riflemen, and Automatic Rifles and could be task-organized in virtually limitless configurations. Towards the end of the war, the USMC began to organize the rifle platoon into something more akin to today’s construct—most notably, the automatic rifle (BAR) was finding its place, in an organic sense, into the “rifle squad” (the term not coming of age until

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late in War II). The USMC continued to use this basic design until relatively recently. We will come back to this.

From the 1920's until 1944, the USMC changed rifle squad structure numerous times and for many different missions, often due to manpower restrictions. The BAR continued to serve, but in some small unit designs, BARs were occasionally replaced by Thompson or Reising submachine guns (SMG) and later during World War II, a small quantity of short-lived M1941 Johnson Light Machine Guns.

The USMC entered WWII, and after applying the lessons-learned from the 1920's, 30's, and early 40's (i.e. Marine Raider operations, and Fleet Marine Force operations), the USMC task-organized all infantry battalions and subordinate elements into the design we most certainly recognize today. In 1944, each USMC Fire Team had four Marines; a Team Leader, Automatic Rifleman, Assistant Automatic Rifleman, and Rifleman. There were three Fire Teams per Rifle Squad, each [theoretically] built around the "firepower" of the automatic rifle. Naturally, the BAR was employed within the capabilities of the weapon system, insofar as these capabilities could be objectively and effectively measured during close combat, and relative to the other weapons fielded at the time. Readers may consider that the BAR earned an excellent reputation during combat operations and is considered by some as one of the finest weapons ever produced. Contemplate, however, that the BAR was initially measured against the bolt action M1903 (essentially a Mauser 1898 copy) and the Chauchat (a weapon with a very poor reputation). The BAR was a powerful, reliable (when cleaned and oiled regularly), automatic, 20 round detachable-box magazine-fed weapon firing the .30-06 cartridge. The BAR also weighed-in at nearly 20 pounds and each filled magazine weighed a pound and a half. The BAR's cult of personality



A US Marine engages enemy forces with a BAR (with accessories removed) during World War II. Photo: NARA.

notwithstanding, the weapon began its retirement from service in the late 1950's, thus beginning over 25 years of searching for a replacement for the BAR. At no point during those 25 years did the USMC alter, in any way, the organizational requirement for an Automatic Rifleman, around whom each Fire Team was built, nor did the USMC remove the requirement for a dedicated automatic rifle. This remains true to the date of publication. It is at this point where I must transition to exploring small arms weapons procurement in the US Armed Forces.

Since the beginning of the 20th century, the US Army has taken the lead for small arms weapons development, and the other services have [normally] been required, through Congressional orders, pressure, or through budget concerns, to simply adopt small arms weapons that were designed by US Army ordnance personnel, as opposed to for example, specific nautical mission requirements of the US Navy and Marine Corps. For the purposes of brevity, I will only touch on the US Army Projects NIBLICK and SALVO in the hopes that readers will conduct their own research into these programs and the details of their effects (which are still felt today). Each research project yielded weapons which were acquired by the US Army—in line with their unique philosophical

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and doctrinal requirements, and then forced upon the other services due to Congressional pressure and regulations (i.e. Goldwater-Nichols Act, Federal Acquisitions Regulation (FAR), and other ever-changing legislative requirements). While these regulations bring efficiencies to the acquisition system of the US Department of Defense (DOD), there are disadvantages since, of course, no system is perfect in every context or application.

While Project NIBLICK was concerned with a grenade launcher, resulting in the adoption of the M203 Grenade Launcher, Project SALVO, beginning in 1951, addressed the general capabilities of infantry service rifles. The standard US service rifles at the time were the M1903 [obsolescent] and M1. Other rifles, like the Belgian FN FAL, were researched by the US Army. The US Armory and Arsenal at Springfield, Mass. was also working on modifications to the M1 Service Rifle, resulting in the M14 Service Rifle. As one can easily deduce, there was much happening in the US small arms world after World War II (and much of it was dubious). The common thread among all these rifles is that they are all relatively large, .30 caliber, long range, [primarily] semi-automatic “battle rifles”. Project SALVO was researching the concept of a rifle system that fired a flechette (or multiple flechettes). SALVO’s thesis was that lightweight rifles with high relative rates of fire would be more effective, considerably deadlier, and offer a higher mechanical probability of hit than the current service rifles. Ironically, while there may have been potential of some of these individual concepts, the US Army found that automatic fire did not increase hit probability. Despite this conclusion, the US Army decided to adopt the AR-15 rifle, designating it as the “M16”. Note: I have mentioned numerous historical programs which merit their own study (i.e. Projects NIBLICK and SALVO, the adoption of the M16 rifle, the FN FAL vs the M14 rifle, the US



A short-lived US service rifle, the M14. This rifle was a development based on the M1 Service Rifle and in US service from mid 1960's to early 1970's. Photo: Open source.

Armory and Arsenal at Springfield and its closure, and more). I reiterate that I am purposely only scratching the surface, so to speak, of the enormity of historical information that pertains to all these topics. There have been volumes of books written about this, and my intent is not to compile all of that here, but to provide references at the end.

Let us refocus on the automatic rifle, and reenter the timeline in the 1950's and 60's. With the convergent lines of effort of the M14 Service Rifle vs. FN FAL project, Project SALVO, Defense Secretary Robert McNamara's influence, and the adoption of the AR-15 rifle as the “M16”, what of the automatic rifle through all this turbulence? Remember that “much of it was dubious” part I mentioned?



The US Army Special Purpose Individual Weapon (SPIW), a 1950's program to create a flechette firing rifle. Photo: US Army.



One of the conclusions of Project SALVO, an early example of an M16 Rifle. Photo: Open source.

The US Army replaced the M1 Service Rifle in 1959 with the M14, and the USMC followed suit in 1961. The US Army and Marine Corps were both

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without an automatic rifle and to further complicate matters, neither service had fully fielded the M14 as a replacement to the M1 by the early 60's. Lacking any other material options, the USMC began [re]installing selector levers onto M14 rifles, unlocking automatic fire, to create automatic rifles within Fire Teams (some USMC units had earlier locked the selector switch on their M14s). The M14 "automatic rifle", however, with barrel mounted bipod, proved insufficient to the automatic rifle task. It overheated easily and was simply too light, with recoil too pronounced, to serve as an effective automatic rifle. In 1967, and due to pressures applied by Secretary of Defense McNamara, the M14 Service Rifle was replaced by the M16 and the US Armory and Arsenal at Springfield, Mass. was shut down (it is currently a museum).

During the late 1960's and into the 70's, the US Armed Forces transitioned to the M16 series rifle. The purposes of this historical study is not to focus on the debacle of this transition. I will simply



Various adaptations of the M14 Service Rifle (top: automatic rifle configuration). While the M14, as a standard infantry rifle, was short-lived, it continued to serve in specialty forms into the 21st Century. Photo: Open source.

remind readers that there are entire books devoted to this very important and tragic series of events. I note this transition period, because the US Army, generally the lead small arms weapons research, development, and procurement agency for the US Armed Forces, did not produce a dedicated automatic rifle, based on a unique requirements document. The US Army and USMC simply attempted to employ M16A1 rifles in the automatic rifle role by installing a rudimentary bipod to the barrel. While the initial engineering failures of the M16 and associated ammunition were largely fixed by the early 1980's, attaching a bipod to an M16A1's barrel, telling a Marine to place his weapon on "AUTO", and informing him that he is now an Automatic Rifleman does not an Automatic Rifleman make. **From the early 1960's until 2011, the USMC did not field a dedicated automatic rifle.**



Remember this? M16A1 with bipod in the "automatic rifle" configuration. Photo: Open source.

Alas, enter the M249 Light Machine Gun (LMG) in the role of the "Squad Automatic Weapon (SAW)." I will refer to the M249 LMG as either a "LMG" or a "SAW", depending on the context, but it is a machine gun, and no mistake. Many readers will remember the term "SAW gunner", which replaced the actual doctrinal and correct term, "Automatic Rifleman". Since the early 1970's the US Army was searching for an LMG to employ as a squad organic weapon. There was no automatic rifle in US service at the time, nor was

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employment of standard service rifles, as automatic rifles (especially after the adoption of the 3-shot burst trigger system of the M16A2 Service Rifle in the 1980s), a viable technique for satisfying the requirement. Throughout the 1970's, the US Army tested and developed several LMGs (and an automatic rifle) for employment in the squad and by 1980, the ~16-pound FN Minimi LMG had emerged from years of testing as the winner. With a 200 round ammunition drum attached (assuming it remained attached), the M249 LMG, at its lightest possible weight, tipped the scales at 23 pounds.



An early (late 1980's) USMC M249 "SAW" (FN Minimi) with 200 round drum magazine. Photos: Open source.

The USMC adopted the M249 LMG (as a "SAW") in 1985 and began fielding in 1986. Readers may remember that while units awaited fielding of the M249 LMG, armories often issued [very old] M16A1 Service Rifles with the rudimentary bipods and the obligatory, "You are now the Automatic Rifleman" blessing, from the armory custodian while he disrespectfully gestured something resembling the sign of the Cross. Once USMC units began receiving M249 LMGs, years of Engineering Change Proposal (ECP) items began to arrive, causing the weapon to become heavier, more complex, and more expensive (i.e. *take a deep breath*: ventilated upper handguards, heavy-duty machine gun buttstocks, sliding tubular buttstocks, sliding machine gun buttstocks, 1913 Rail modified feed tray cover assemblies, new barrels with modified gas blocks and gas regulators, short barrels (whose muzzle devices often separated after ten



(Top): M249 LMG "Para SAW"—on average, a 12(+) Minute of Angle firearm.

(Middle): A very accessorized USMC M249 LMG.

(Bottom): A USMC M249 LMG with Rifle Combat Optic (RCO) and 100 round ammunition "nut sack" pouch.

rounds), new compensators on barrels (replacing the ones that were shot off after ten rounds), foldable carrying handles, 1913 3-way-orientation forward rail systems, grip pods, spare barrels and bags, optics, aiming devices, and more). I am reminded of *The Modern Prometheus*. By the time the USMC adopted the M27, the 25+ pound M249 LMG and the M240 Medium Machine Gun were nearly the same weight after successful efforts by Marine Corps Systems Command (MCSC) and the US Army to significantly lighten the M240B with the M240L "Lima furniture kit."

Remember that the USMC did not change

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the doctrinal context of the Automatic Rifleman from its 1944 intent. In the mid 1980's, the USMC issued a LMG to 0311 Riflemen—the term “light” being relative to other machine guns (except our other machine gun, the M240B), and the term “machine gun” meaning a class of weapon generally considered sufficiently complex and important enough to require a separate and unique Military Occupational Specialty (MOS). Many of us know this unique MOS as “0331 Machine Gunner.”

By 1989, the USMC had largely completed fielding the M249 LMG to Ground Combat Element (GCE) units. Coincidentally, the first class of Marine Gunners had just arrived at The Basic School (TBS) and the Infantry Officer Course (IOC).

A Machine Gun in the Role of the Automatic Rifle

Marine Gunners began reporting for duty at Rifle Battalions in 1989. Gunners soon noticed a capability gap in the concept of employment of the Automatic Rifleman and the systemic failures of a LMG in the role. These gaps manifested, for starters, with the general inability of LMG-equipped Automatic Riflemen to keep up within the assault element during attacks—often causing the M249s' fires to be masked (and ceased) by much faster displacing Riflemen. While the M249 LMG weighed 23 pounds with a 200 round ammunition drum, additional drums of ammunition (7 pounds each) further slowed them down, often to exhaustion, while moving in the attack. To mitigate this well-known problem, commanders often removed the Automatic Riflemen from the assault element, instead placing them in an improvised “internal support by fire” to mitigate their lack of mobility and concentrate their volume of fire. This harkens back to the days of WWI and the Chauchat. In other instances, and even when dealing

with Automatic Riflemen who had no physical issues keeping up with the assault element, their technical skill and experience with the M249 LMG was insufficient to keep the relatively complex machine gun in operation, given its “personality”—especially at night. Stoppages and malfunctions with machine guns can be challenging to troubleshoot and clear, even for experienced and well-trained Machine Gunners, most notably in low light or darkness (when flashlights are a no-go).

Culturally, and given the USMC Fire Team construct, the M249 LMG was often issued to the “FNG” (Google it) or most junior man. The conversation often sounded something like, “**Here, Boot. You carry the SAW,**” as if it was some kind of punishment (it was). In some units, the most important weapon in the Fire Team was forced upon the least experienced Marine since the more senior Marines did not want to carry it or clean it anymore. This is a dark historical fact which many do not wish to acknowledge.

When properly maintained and with a disciplined and experienced operator, the M249 LMG is a well engineered and sufficiently capable weapon, its mechanical accuracy notwithstanding. Enter the realities of human factors, most notably, the fact that the Marine Corps turns over approximately 75(+)% of active-duty enlisted personnel every four years, and one can see that when considered in terms of DOTMLPF (-C), most of the problems with the M249 LMG begin with the letters “P” (Personnel) and “T” (Training)...and not entirely “M” (Materiel).

Note: DOTMLPF (-C) stands for Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities, (and Cost).

While anecdotes are often not useful as trustworthy data, I write the following in the allegorical sense. In 2007, I served as the Battalion Gunner for the 1st Battalion, 1st Marines. After

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many visits to unit live fire training events, I noticed a severe overall deficiency in the general skill level of the Battalion's Automatic Riflemen with the M249 LMG. As the deployment to Iraq drew nearer, I arranged and conducted an "Automatic Rifleman Clinic" at one of the automated range complexes aboard Camp Pendleton, California (Range 218A, for those who remember). The course consisted of five days of Training and Readiness Manual (T&R)-based training with evaluations to-standard, both day and night. "Brilliance in the basics!" I had also devoted a large percentage of the Battalion's total 5.56mm linked ammunition allocation toward the training. At the end of the week, I felt I had really made significant progress in training nearly every Automatic Rifleman in the Battalion for the upcoming deployment to Iraq (there were nearly 80 Automatic Riflemen present for the entire week!). I was so proud. The next week, I attended a platoon live fire night attack near Case Springs. During one of the attacks and while observing with Night Vision Goggles (NVG's), I noticed an Automatic Rifleman, who was in the prone position, repeatedly firing his M249 directly into the ground about two meters in front of his "Support By Fire" (SBF) position. As I quickly approached him, I could see that his AN/PEQ-15 was activated and pointing into the ground at the point of impact of every burst. I ran up to him and yelled for him to cease firing immediately because he was firing burst after burst straight into the ground and endangering the maneuver element (with which he was not, for the record—since the Automatic Riflemen had been separated and "massed" into a SBF). The maneuver element was quickly approaching the commander's prearranged "shift fire" line. I asked him why he was completely failing in the performance of his duties when I had just trained, educated, and evaluated him on all these skills the week before. He

responded that he had not attended the training and that he had just been issued the M249 the day before the attack. At that moment, I realized that I would never be able to solve the problem when the "goal post" kept constantly moving (the personnel turn-over was too fast, too often, and well beyond my control), and I could not [completely and consistently] change the cultural phenomenon of, "Here, Boot. You take the SAW."

The following weapons have been discussed but not yet shown (T-B): M1903 Service Rifle (.30-06), M1 Service Rifle (.30-06), M1A1 Thompson SMG (.45 ACP), M50 Reising SMG (.45 ACP), M1941 Johnson LMG (.30-06), FN FAL (7.62x51mm NATO).



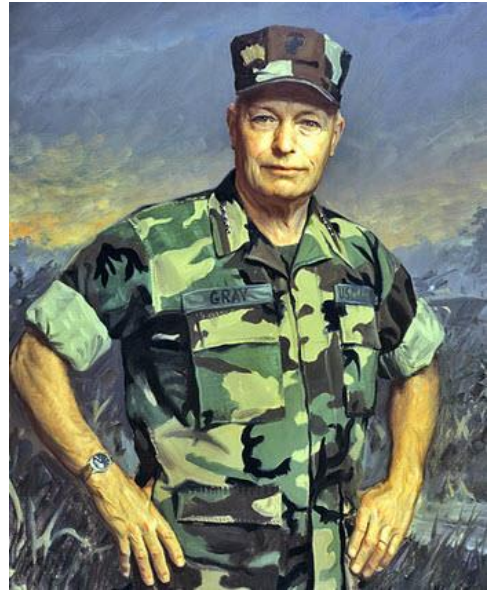
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Enter the Marine Gunners.

In 1989, the first class of Marine Gunners, MOS 0306 Infantry Weapons Officers, graduated The Basic School and executed orders to their respective rifle battalions. Commandant Gray's vision became reality—the Commissioning of a group of anomalous and highly experienced Staff Non-Commissioned Officers who would do nothing more than focus entirely on the science, art, and philosophy of Warfighting...for the rest of their careers (and likely, for the rest of their lives). The first class of Marine Gunners included fourteen Officers, several of whom were highly experienced combat veterans of the Vietnam War, and some with further experience in Beirut and elsewhere.

While the US Marine Corps began fielding the M249 LMG in 1986, the Ground Combat Element (GCE) had not completed full fielding until the end of the 1980's, about the time the new class of Marine Gunners “hit the Fleet.” It did not take long for the Gunners to notice the serious problems caused by assignment of the M249 LMG in the automatic rifle role. Gunners of today might pause and ponder something to the effect of, “Why didn't those Gunners do something immediately about the problems with the LMG in the automatic rifle role?” That is an excellent question and asking it is entirely understandable from today's perspective, considering the influence of today's Gunner community. Readers should remember that the Marine Gunner community, freshly created in 1989, would take over a decade to gain its first billet in the National Capital Region (NCR), host the first Marine Gunner Symposium, and to begin to participate in the GCE Advocacy process. This is the reason it took so long for a Marine Gunner to “do the work” of, for starters, drafting a requirements document, let alone staffing said

requirements document, through the entire Marine Corps, especially considering the emotions connected with this (and we will get to that).



Commandant of the Marine Corps (CMC) General Alfred M. Gray Jr. USMC (Ret.), the father of today's Marine Gunner program. Photo: USMC.

Marine Gunners noted that while the concept of the M249 LMG (as a light machine gun) was a sound concept on paper, introduction of human and environmental factors caused the following problems:

- Poor reliability on the battlefield due to a long list of factors (training, weapon age and wear, the level of training and education of the operator, environmental conditions, and many more factors).
- A lack of ammunition compatibility with other members of the Rifle Squad.
- An unnecessarily high use of ammunition.
- Barrel changes reduce system accuracy and require two different zeroes which is not practical.
- Other weapon systems have greater mechanical accuracy and consistently produce more hits than

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the M249 LMG.

-The M249 LMG requires a high level of training to master. All Marines within the Rifle Squad must be specially trained on the weapon to employ it during combat operations.

Note: The preceding list was paraphrased from a 2001 article in the *Marine Corps Gazette* by CWO-5/Marine Gunner Ray Grundy USMC (Ret.) entitled The M249 Light Machine Gun in the Automatic Rifle Role.

As the Marine Gunner program matured, Gunners began to capture all the data, empirical and anecdotal, relating to the systemic failures of the M249 LMG in the automatic rifle role, thus beginning an over two-decade effort to educate USMC decision makers in a very counter intuitive concept with the following considerations:

-The M249 LMG is not the optimal weapon for the USMC Automatic Rifleman, but not because the M249 is a substandard weapon—as mentioned earlier, the FN MINIMI (M249) LMG has long since established itself as a satisfactory machine gun. It is, however, NOT an automatic rifle.

-The M249 LMG, under certain circumstances, can produce a very high [relative] volume of fire. When hearing and seeing several M249s firing on an objective, for example, most observers are deeply impressed by the intensity of fire. When the hits are measured, however, the illusion of “fire power” collapses. Most battle-hardened and experienced soldiers are not impressed by mere noise and will quickly deduce that they are not being effectively suppressed. They will then get up and move forward in the attack. Deep training scars have been imprinted on countless Marines simply by executing the Range 410 and Range 400 live fire attacks where no hits are measured on any of the small arms reactive targets, but it sure seems like “nothing could survive all of that...” Readers are encouraged to study the US Marine Corps’

participation in the battles of Iwo Jima, Peleliu, and Okinawa before they hold onto volume of fire absolutist logical fallacies. Volume of fire has utility, but not simply for its own sake. The US Marine Corps *Small Wars Manual* (para. 6-24) states, “Volume of fire can seldom replace accuracy of fire in a small war.” Naturally, the USMC fights more than just “small wars”, and Marine Gunners endeavor to find the balance in everything.

-The M249 LMG, with accessories, weighs approximately 20 pounds (even before adding ammunition belts, regardless of their size) causing significant mobility problems for Rifle Squads and Platoons. Simply stating, “The Marines need to PT more...” is not a solution to this problem (even though that might be true), whereas a lighter weapon might be. Just when MCSC makes a required piece of equipment lighter, Marines will often simply replace that weight with something else. With the issuance of a lighter and more accurate weapon, the responsibility falls upon the small unit leaders and commanders to ensure Marines are not “filling in” the weight savings with other potentially unnecessary gear. There is a balance somewhere between a high degree of mobility and carrying everything one might possibly need.



A USMC Automatic Rifleman attacking Range 410A, armed with an M249 LMG. Do the math. That is a lot of weight. Photo: USMC.

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-M249 LMGs were generally not trusted to conduct close combat tasks during operations in urban terrain (i.e. room clearing) due to concerns with reliability and handiness. Some units even issued Automatic Riflemen M16s or M4s under certain circumstances. “CLUNK” (an M249 bolt slamming forward and failing to fire when intending to fire) seems like the loudest sound in a gunfight...and it was all too often heard in USMC Fire Teams. Not only can the M249 LMG have reliability issues, many units carried the weapon at Condition 3 (ammunition on feed tray, over a closed bolt with the weapon on “fire”) because the automatic sear can fail to hold the bolt to the rear, even when on “safe” (for readers unfamiliar with this concept, this typically causes the weapon to fire at least one live round (sometimes more), although with M249s, it can also cause the “CLUNK” I just mentioned, which would be a good thing in this scenario, ironically).

-I mentioned the “internal support by fire” practice that many commanders employed to compensate for the lack of mobility of Automatic Riflemen while maximizing their volume of fire (notice I did not write “accuracy of fire”). This technique undermined the integrity of all three four-man Fire Teams—a concept which was designed to better facilitate the evacuation of casualties while allowing remaining Marines to collect into new Fire Teams. When the “internal support by fire” was no longer needed, those Marines were forced to displace and conduct a link-up with their respective Fire Teams. While this works fairly well during daylight on Range 400 (with as much big sky as Montana), it might not work so well at night in the jungle islands of the Far East or in a city in eastern Europe when the power is out. Another Range 400 training scar, perhaps.

After over a decade of a handful of Marine Gunners measuring, qualifying, classifying, and

quantifying (even live fire testing automatic rifles against the M249 LMG), we arrive at the year 2001 to discuss the efforts of the Marines of the 2nd Battalion, 7th Marines, the very Marines, in fact, for whom the M27 is named.



*(Above): The unit logo of the 2nd Battalion, 7th Marines, the namesake of the M27 IAR. See the previous edition of *The Bursting Bomb* to identify the depicted edged weapon.*

Photo: USMC.

In May of 2001, the 1st Marine Division tasked 2nd Battalion, 7th Marines to assess several automatic rifles compared to the M249 LMG. During this early test, the weapons employed were the Heckler and Koch (HK) G36, the Singaporean Ultimax 100, and a Colt Automatic Rifle (shown below).



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The phase one test results showed the following findings:

- The HK G36 rose abruptly off the gun-target line during automatic fire because the rifle is too light.
- The Ultimex 100 was unusable due to an improperly configured optical and iron sighting system (the Marines could not gain sight picture due the weapon's low sight line).
- The Colt AR can be operated in either the closed bolt or open bolt modes. While the weapon is very similar to the M16 series (and that is usually a good thing), imagine an M16 that fires from the open bolt. Marines are trained to immediately close an M16 bolt that is locked to the rear. On the Colt Automatic Rifle, that causes the weapon to fire. During the test, Marines induced many negligent discharges from the Colt AR in the open bolt mode. I will pause for the reader to sit back and visualize a Squad of Marines trying to employ open bolt M16 rifles. In the end, the Colt AR design was determined to be untenable, given the training demands of the closed and open bolt operating system.

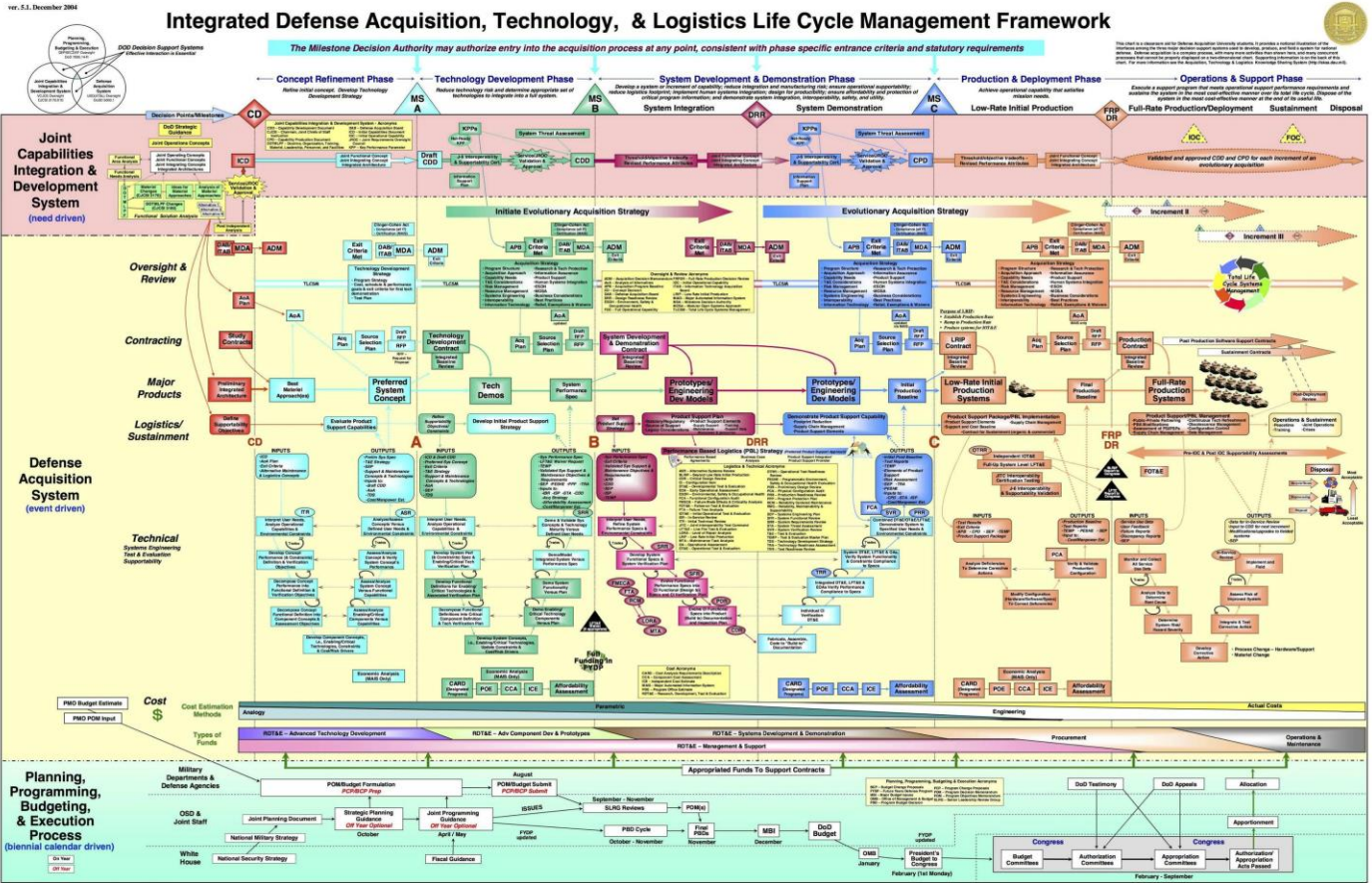
Despite the specific shortcomings of the tested weapons, the Marines found the concept of the automatic rifle equal to the doctrinal task of the USMC Automatic Rifleman—a lightweight, robust rifle, capable of providing accurate automatic fires to facilitate movement and for the suppression or destruction of enemy threats during close combat.

At the conclusion of the phase one testing, the Battalion Gunner of 2nd Battalion, 7th Marines was able to receive 1st Marine Division Commanding General-level endorsement of the Universal Needs Statement (UNS) for the replacement of the M249 LMG (in the Fire Team) with a true automatic rifle. That Marine Gunner had been attempting to gain endorsements of the UNS since he first drafted it in 1999. The acquisitions process had formally begun.

As the 2nd Battalion, 7th Marines Gunner battled the UNS up through his chain of command, he also introduced this line of effort into the Marine Gunner advocacy process (remember the first Gunner Symposium was conducted in 2001 at Quantico, Virginia). This is a fine example of lines of effort from within the Gunner community which then feed directly into the Infantry Operational Advisory Group (IOAG), the group of Colonels holding critical billets within the infantry community. The IOAG can endorse efforts, pushing them ever higher to the Ground Combat Element (GCE) Conference, the Ground Board, the Marine Corps Requirements Oversight Council (MROC), the Assistant Commandant of the Marine Corps (ACMC), and the CMC. Readers should be advised that not only was the 2nd Battalion, 7th Marines Gunner, with the creation of an Automatic Rifle UNS, fighting a very emotional and philosophical service-level fight, he was also attempting to acquire and field a weapon in a divergent doctrinal and Federal Acquisitions Regulation (FAR) path from the US Army. Given the FAR and all the other US laws that regulate defense acquisitions, this complicates matters exponentially. When the US Marine Corps wants a different weapon than the US Army, Congressional complications are guaranteed to arise.

In 2002, the IOAG endorsed the replacement of the M249 LMG in the Rifle Squad with an Infantry Automatic Rifle (IAR). Note: "IAR" was a general term used to describe the capability. No acceptable material solution had yet manifested by 2002. A chart, shown on the next page, illustrates the path this requirement took before coming to fruition as the M27 IAR. Note the diagram does not include friction caused by, for example, a request to procure and field a weapon that is manufactured in Oberndorf am Neckar, Germany. That took some finesse.

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(Above): Here is a Defense Acquisitions University graphic representation of the path the USMC IAR had to take from UNS to full fielding and life cycle. Photo: DAU.

In early 2005, after several years of intra-service debate and delay, the IAR UNS was ready for formal action by the Infantry Weapons Capabilities Integration Officer (IW-CIO) at the Combat Development and Integration (CD&I) office in Quantico. An Initial Capabilities Document (ICD) was created. By way of acquisitions cause and effect, MCSC, in the summer of 2005, published a Request for Information (RFI) to industry (with objective and threshold attributes) to determine if industry had, or could produce, an automatic rifle meeting those definitions.

As the system attributes of the IAR coalesced, the matter of ammunition configuration and feeding came to a decision point. Instead of the originally required 100 round minimum magazine capacity, the requirement for ammunition and magazine commonality with other Marines in the Rifle Squad became the logical choice. Also, industry had not yet produced a 100 round magazine capable of supporting the weapon to the degree of required reliability and portability (and still has not). Given the requirement for ammunition commonality among the Rifle Squad, the weapon could not utilize a belt-fed system.

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In 2007, and after submissions from industry were analyzed and further inputs from the Gunner Community considered, the IW-CIO was able to create the Capabilities Development Document (CDD), marking the “Milestone B” moment in the process. In 2007, CD&I and MCSC had compiled numerous industry submissions (at no cost to the government) and began testing. After several rounds of testing, there remained four automatic rifle submissions; two from Colt and one each from Fabrique Nationale (FN) and Heckler and Koch (HK). In December of 2008, MCSC drafted four individual Indefinite Delivery, Indefinite Quantity (IDIQ) contracts to facilitate further testing of each weapon and a contract for the winner (assuming there was one). The total service procurement objective of the IAR program was [then] 6,500 weapons. Colt offered their sample weapons (each) for a total of \$14 million, FN at \$27.9 million, and HK at \$23.6 million. Among weapons which were not accepted, were samples from Ultimex, LWRC, and the Knight’s Armament Company. Reasoning for these decisions are closely kept secrets, restricted under source selection regulations of the FAR.

When interviewed by the *Small Arms Review*, the USMC IW-CIO at the time, explained that the testing and decision team did not approach considerations of submissions with any personal bias. They simply chose the best test weapon that met all the requirements. He stated that the HK 416 rifle won the source selection based on cost, schedule, performance, and past performance (with priority placed on **performance**). While the HK 416 had won this battle, there were more battles to come.

In November 2009, the IW-CIO incorporated all the lessons learned from the process and what was already contained in the CDD, thus creating the Capabilities Production

Document (CPD) at Milestone C. Readers can reference the flow chart on the previous page to follow along with the process. MCSC and the Marine Corps Operational Test and Evaluation Activity (MCOTEA) continued testing the HK 416 rifles. Cold weather testing was conducted in February 2010 at Fort McCoy, Wisconsin. Hot and humid testing was conducted at Camp Shelby, Mississippi during the summer months. After hot and humid weather testing, MCSC determined that the HK416’s rate of fire exceeded optimal levels, and an engineering change was made to the gas block, lowering the maximum rate of fire under all ambient conditions. This refinement helped minimize wear and tear and enhanced accuracy during automatic firing, especially during hot conditions.

As the HK 416 was undergoing intense testing in 2010, the philosophical and doctrinal debate continued throughout the Marine Corps. In fact, and somewhat ironically, the CMC (General James Conway) publicly expressed to the press that he had reservations about losing the “fire power” and “volume of fire” of the M249 LMG. Readers should remember that at no point did the Marine Gunner community, nor any of the capability/requirements documents state that anyone wished to remove the M249 LMG from US Marine Corps service, at large. After all, a great many [more] M249 LMGs serve in many units outside of USMC rifle battalions. Many Marines, who participated in the spirited debate throughout the years, seemed not to realize that the automatic rifle requirement addressed only the infantry Fire Team and Rifle Squad and like units (and by consequence, the Machine Gun Sections in the Weapons Platoons). A great many Marines who had never served (and would never serve) in a Marine Corps rifle battalion, let alone a Rifle Squad, would offer their opinions, creating a

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cacophony of often nonsensical noise and static. While the CMC's statement regarding his concerns is sincere and understandable, the irony lies in the historical fact that his was the original 1st Marine Division Commanding General's endorsement for the Automatic Rifle UNS, allowing it to achieve escape velocity toward Headquarters Marine Corps where it came back to him for a service level decision. Not that CMC General Conway needs any defense of his actions, but as CMC, he was faced with an exponentially more complex situation regarding the automatic rifle decision. For one example, Congress would be very interested in his rationale for removing a weapon that appeared to work well for the US Army, but that was not acceptable for the US Marine Corps (and the added costs to the US taxpayer associated with the IAR program).

Commandant James Conway turned the Corps over to the leadership of General James F. Amos on October 22, 2010, and retired shortly thereafter. General Amos had been serving as the ACMC where coincidentally, he had just spent some live fire time with the HK 416 on the rifle range at Quantico, Virginia. Following his training time with a prototype IAR, he began to quite publicly express his appreciation for the IAR as a proper weapon for the Automatic Rifleman. He also pondered aloud the logical question as to why the IAR could not be the next US Marine Corps Service Rifle. Naturally, we will come back to that.

Thankfully, before he retired, General Conway had been listening to both his advisors and to the Marines in the Fleet regarding their concerns about the perceived loss in fire power by removing the M249 from the Fire Team. As mentioned before, he had ordered MCOTEA to become directly involved with MCSC to ensure the Corps was gathering unbiased and objective data from all the testing. In fact, I (the author), overhead the



(Above left): 34th CMC General James T. Conway USMC (Ret.)
(Above right): 33rd CMC General James F. Amos USMC (Ret.)

comment, "This [the IAR] is the most tested weapon in the history of the world!" while I was walking through a passageway in the MCSC offices in 2010. By the time General Amos began his service as CMC, there was an enormous amount of objective and empirical test data to assist him in this historical decision which had been turned over to him upon General Conway's retirement.

It is at this point that I, the author, must admit, in the spirit of full disclosure, that I was one of those skeptics contributing to the aforementioned cacophony of nonsensical noise. For the purposes of brevity, I will simply state that I was an outspoken critic of the [M27] IAR. To educate me, in 2009, the PP&O and MCOTEA Gunners conducted an intervention whereby they invited me (a euphemism for forcible kidnapping) to observe the MCOTEA testing which at the time, was being conducted by Marines of the 1st Battalion, 7th Marines in 29 Palms, California. Over several days of live fire testing, I watched the IAR put my beloved M249 SAW to shame **in the role of the automatic rifle**. As one who appreciates the scientific method and having been respectfully educated and shown the error in my ways, I am deeply grateful to those two Marine Gunners for

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showing me the truth.

In 2010, and with all the MCOTEA data in hand, the CMC approved a Limited User Evaluation (LUE). The following points are a summary of the MCOTEA test results:

-M27s delivered, on average, a higher volume of fire both during daylight and darkness/low light conditions. The M27 IAR is drastically more reliable and simpler to operate than the M249 LMG (especially at night). The M249 is often “out of the fight” while the M27 is operational. While the M27 is likely to require more frequent reloading, reloading the M27 IAR is not only faster, it is also more practical given ammunition commonality among the entire Rifle Squad. On the rare occasion a Marine encounters a stoppage with an M27, bringing the weapon back into an operational status is quick, simple, and safe...relative to the M249 LMG.

-Marines can achieve more hits on targets with significantly less ammunition expended, consequently mitigating the need for reloading.

-The M27 system is less than half the weight of the M249, spare ammunition being the variable. Magazine commonality among the Rifle Squad mitigates this issue for Automatic Riflemen when efficient techniques are employed to ensure Automatic Riflemen are fed ammunition as required during the fight. Ammunition resupply has always been a concern for M249 LMG-equipped Automatic Riflemen because the M249 uses a unique feeding belt/drum mechanism. While the M249 LMG is designed to operate using standard US 30 round M16 series magazines, evidence strongly suggests this exacerbates reliability concerns, to the extent that Marines and Soldiers avoid this technique.

-The Automatic Rifleman melded into the Squad, appearing to carry the same weapon as all the other Marines (who were carrying M4s and M16A4s at



(Above): An US Marine Corps Automatic Rifleman, armed with an M27 IAR, provides security during patrolling operations in Afghanistan. Photo: USMC.

the time). Snipers are trained to eliminate enemy automatic weapon operators as a priority. The M249 LMG stands out in a crowd whereas the M27 IAR does not. Note: This point has been rendered irrelevant since all Marines in the Rifle Squad now employ M27 IARs (or M4s).

-Human factors: Marines, especially those who had experience carrying and employing the M249 LMG, tended to outwardly display an entirely different positive and uniquely sentimental reaction when issued an M27 IAR. This is not unusual, in a subjective sense, because many US Marines joined the US Marine Corps for sentimental and intangible reasons. It seems logical that a Marine would be happy and enthusiastic, and show it, when he/she is issued an exceptional infantry rifle—which is far more reliable, much lighter, in excellent condition (M27s are relatively new), and can achieve 1.5 minute of angle shot groups with standard M855 Ball ammunition. Does it matter that Marines tend to develop an emotional bond of personal ownership with their M27? **Absolutely.**

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-The training continuum from the entry level Combat Marksmanship Program, using M16 series rifles and optics, to the issuance of the IAR to a newly assigned Automatic Rifleman is far more efficient than with the M249. The M27 IAR operates nearly identically to an M4. Very minimal training is required when issuing this weapon to any basically trained Marine, regardless of experience.

Back to the timeline. After MCOTEA released the test results, the IW-CIO requested a low-rate production delivery from HK of 458 IAR's and these were delivered on the US Marine Corps Birthday, November 10, 2010. These rifles and associated New Equipment Training (NET) were issued to five battalions; four rifle and one LAR battalion, all of which were preparing for deployment to Afghanistan. In early 2011, 1st Battalion, 3rd Marines deployed to Afghanistan and began reporting on the performance of the IAR, and they were extremely happy with their new weapons.

As all of this was happening in early 2011, CD&I and MCSC decided to name the new IAR the "M27" in honor of the Marines, of 2nd Battalion, 7th Marines, who originally tested the concept and created the requirements document. Until that point in the process, the M27 was named, according to its proprietary nomenclature, the "HK 416D".

On May 23, 2011, with only one rifle battalion being having been deployed in support of the LUE, the CMC approved full fielding of the M27 IAR in the role of the automatic rifle (in infantry battalions, LAR Scout teams, and Reconnaissance teams). Naturally, Marine Corps training sites (i.e. TBS, IOC, and the Schools of Infantry) also received an appropriate allocation according to the original IAR fielding plans. Each rifle company Machine Gun Section would add six M249 LMGs (to supplement their already issued

M240B Medium Machine Guns (MMGs) while the remaining M249s would be returned to the USMC supply system. While the authorized purchase limit was over what was required to fully outfit the intended units, PP&O took excess M27s and repurposed them to replace the aging Mk12 Special Purpose Rifle (SPR)—a "Designated Marksman Rifle" (DMR). MCSC managed to repurpose other optics and associated rifle system components (slings, magazines, bipods, suppressors, etc.), pairing them with excess M27s, creating the M38 DMR, named for the first unit to be fielded, the 3rd Battalion, 8th Marines. Neither the Mk12 SPR nor the M38 DMR have ever been Programs of Record for the USMC, but rather they served as "Urgent UNS items" which are managed over their life cycle in a much different manner than systems like, for example, the M240B MMG.



(Above): An US Marine Corps Machine Gunner, armed with an M240B 7.62mm Medium Machine Gun. Photo: Defense.gov.

The M27 IAR, after a controversial introduction, has subsequently settled very well into service in the Marine Corps. While there have been no issues with the performance of the weapon in the automatic rifle role, small unit leaders needed some time to adjust their doctrinal employment to a Fire Team and Rifle Squad which was no longer anchored on a LMG. Marines began the work of determining best practices for the basic concepts of an Automatic Rifleman's "combat load" of ammunition and the most efficient methods for carrying more magazines within the Squad.

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Marine Gunners immediately noticed a cultural change within Fire Teams. The days of “Here, Boot, you take the SAW” are gone, replaced with something more akin to “Put your mouthpiece in, we’re going to ground fight to see who gets the M27.” Naturally, the assignment of the Automatic Rifleman and the M27 IAR transcends who, among the Squad, is the best ground fighter, but the culture, as it relates to the most important weapon in the Fire Team, has changed for the better.

From CMC full-fielding decision until 2016, the M27 IAR fulfilled its doctrinal role as intended. The unit replacement cost of an M27 IAR, at the time of the relatively limited initial Authorized Acquisition Objective (AAO) was approximately \$2700.00. Each M27 IAR was issued from MCSC with a compliment of the following associated equipment:

- 3.5x Trijicon Squad Day Optic (SDO) with Ruggedized Miniature Reflex (RMR) Sight mounted above the ocular lens assembly, [all] mounted on a Larue locking throw lever mount.
- Full compliment of 30 round magazines (Magpul GenM3 to mitigate M855A1 feeding issues).
- AN/PEQ-16 night aiming device.
- Harris/Larue 1913 Rail interfacing folding bipod.
- Manta Rail covers (for 1913 Rail protection, wire-dressing, grip enhancement, and heat insulation).
- Blue Force Gear 2-point adjustable “Vickers Combat Application Sling (VCAS)”. This sling became the standard rifle sling of the Marine Corps.

I mentioned that we would come back to Commandant Amos’s remark about the potential of the M27 IAR to become the USMC Service Rifle. He first inquired about this during his visit to Weapons Training Battalion (WTBN) Quantico in October 2010, when he first fired the [then] HK 416D, fresh from source selection. He tasked the PP&O Gunner, the Program Manager, Infantry

Weapons (PM IW) for MCSC, and the IW-CIO to produce a report for him on, most importantly, the answer to that question, and other courses of action in the case his request was not feasible. The fundamental answer to CMC’s question regarding the M27 IAR as the USMC service rifle was that the FAR would not allow the expansion of the requirements document for an automatic rifle to be “cut and pasted” onto the service rifle requirement. The US Marine Corps has maintained the M16A1, M16A2, the US Army Modular Weapon System (M16A4 and M4), and M4A1 as its service rifle(s) since 1971. The US Army is the Primary Inventory Control Agency (PICA) for all those programs and the USMC simply purchases these weapons from existing US Army contract mechanisms. Attempting to expand the M27 IAR requirement, even if the USMC could produce the money for this, would not pass Congressional oversight. While all of this makes for an interesting story, the US Marine Corps simply did not have the money to do this, even if it were found legal. When Commandant Amos received this answer, he then asked the PP&O Gunner and the IW-CIO how our existing “service rifle” might be improved to be more “M27-like” (CMC’s words in quotes). This began the USMC “M16A4 PIP” (Product Improvement Program) initiative. Marines from WTBN Quantico began, as Colonel John Boyd would say, “destroying and creating” the M16A4 Service Rifle to “make it more M27-like” (under the mistaken assumption that the M16A4 was the “proper” USMC service rifle while the M4 was not). When the two prototypes had been built, the Marines stepped back and gazed with wild wonder at the joy they had found. After a short period of shock and embarrassment, they realized that the USMC already had this rifle—86,000 of them, in fact...the Colt M4 Carbine (tested and proven to be superior to the M16A4 in many ways).

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When the answer to the RFI reached the CMC’s desk, General Robert Neller had assumed duties as the 37th CMC. In 2016, he ordered all infantry battalions to “pure fleet”, removing and replacing every M16A4 Service Rifle with an M4 Service Rifle.

As Marine Corps infantry battalions “pure flected” with M4s, the Marine Corps Warfighting Laboratory (MCWL), under the command of [then] BGen Dale Alford USMC, began an experiment which focused on new and emerging technologies. Admin note: each infantry battalion maintained their respective M27 IARs for Automatic Riflemen and M4A1s in the Scout-Sniper Platoons. The MCWL experiment, called “Sea Dragon 2025”, focused on the 3rd Battalion, 5th Marines. CMC General Neller and BGen Alford directed that every Marine in the rifle battalion should be armed with an M27 IAR. They also merged another Marine Gunner initiative of the time, the employment of sound suppressors (sometimes incorrectly referred to as “silencers”) on regular force infantry rifles. Traditionally, the US Army and Marine Corps only issued sound suppressors to Special Operations Forces (SOF) and Scout-Snipers. Some elements of the 2nd Marine Division were included in the experiment and were also issued weapons and equipment normally reserved for SOF. The advantages, for example, observed from equipping all infantry Marines with sound suppressors were so convincing, that Commandant Neller approved the further acquisition of a sound suppressor for every infantry Marine in the USMC (using the existing Knight’s Armament Company QDSS-NT-4 suppressor that had been in service for many years). Another revelation from the experiment was the increase of fire power, reliability, precision, and mobility gained from equipping every Marine in the Rifle Squad with an M27 IAR and a sound

suppressor. After further experimentation at WTBN, Quantico, and a significant reduction in the cost of an M27 IAR (now approximately \$1300 each), Commandant Neller, with support from BGen Alford, ordered the purchase and fielding of enough additional M27 IARs to field every Marine in every Rifle Squad in the USMC. After some Congressional posturing and objections to the purchase of more German rifles, LtGen Brian D. Beaudreault (DC, PP&O) was able to successfully maneuver the USMC past a Congressional protest and funding hold, to achieve full fielding of the M27 IAR as the standard infantry rifle in the



*(Above left): The 37th CMC, General Robert B. Neller USMC (Ret.)
(Above middle): MajGen J. Dale Alford USMC (Ret.)
(Above right): LtGen Brian D. Beaudreault USMC (Ret.)
Photos: USMC.*



(Above): US Marine Riflemen of the 1st Marine Division compete in the Division “Super Squad” Competition aboard Camp Pendleton, California in February 2023. Photo: USMC.

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(Above): The SIG Next Generation Squad Weapons (XM7 Service Rifle and XM250 Automatic Rifle) Photo: SIG.

USMC Rifle Squad. Another interesting paradigm that had shifted considerably was that the leadership of the Marine Corps recognized that not every Marine in the Marine Corps must have the same rifle. It is acceptable, in fact apropos, for Riflemen in Rifle Squads to be issued a rifle that is superior to everyone else's, when budget limitations demand it.

The US Marine Corps CD&I has been participating, albeit from a distance, with the US Army in the requirements development of the Next Generation Squad Weapons. In early 2022, the US Army announced that SIG had won the contract to produce the weapons intended to replace the M4A1 and M249 LMG in the US Army infantry squad. The US Marine Corps is patiently observing this program and may directly participate in the future. For now, and for the immediate future, the HK M27 IAR will continue

to serve faithfully as the US Marine Corps Rifleman's [Automatic] Rifle.

The adoption of the M27 IAR in the US Marine Corps was an enormous undertaking, made possible by too many people to mention here. The only participants in the process who are mentioned by name (other than Defense Secretary Robert McNamara, John M. Browning, and authors of references) are the General Officers who were key decision makers along the way. It would not be appropriate to mention some of the Marine Gunners and HQMC personnel who brought this program to fruition while failing to mention others. While I have referenced myself to demonstrate my experiences and mistakes, I have removed any mention of a specific Marine Gunner or action officer. Those who helped make this happen know who they are.



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(Above): A US Marine Machine Gunner attacks a Japanese position with a Browning M1919 .30 caliber Machine Gun while on the move during combat operations in the Pacific during WWII.

Photo: USMC.



The Infantry Rifle 1850-2023

An MGA Quarterly Magazine Historical Series

Part III: Continued from the 2-22 Edition

1898- The United States entered into war with Spain—the Spanish American War (April 21st-August 13th, 1898). During combat operations in support of the Cuban War of Independence, it became apparent that the US Army service rifle at the time, the Springfield Krag-Jørgensen, was inferior to the enemy's rifle, the Mauser 1893. This capability gap was most apparent during the Battle of San Juan Hill where a US Army force of approximately 15,000 soldiers was delayed by a much smaller force of Spanish defenders, causing significant US casualties. This trend continued to play out during the rest of the war, causing the US Army to seek a rifle and cartridge which could close this capability gap. Fortunately for the United States, thousands of captured 7x57mm Spanish Mauser 1893 rifles were brought back to the US, where some were thoroughly studied by the Springfield Armory in Massachusetts.

The Mauser 1893 design was found to be physically superior due to several reasons; easier

field maintenance, generally faster reloading by way of stripper clips, a robust double-locking lug bolt, and a strong and simple extractor design. Springfield Armory (not to be confused with the modern US firearms manufacturer by the same name) began designing prototypes that combined features from the Krag-Jørgensen and the Mauser 1893, but these prototypes were unsuccessful. In 1898, the German Mauser design was further improved, creating one of the finest bolt action rifles ever produced, the Mauser Gewehr 98 (in 7.92x57 Mauser as of 1903). Without diving into the politics and drama of the Springfield Armory and US Army leadership of the time, the US decided to simply copy, in large part, the design of the Mauser 98. Readers are encouraged to research the international corporate legal battles which ensued, where the US was forced to pay royalties to German corporations for patent infringement on both the rifle design and that of the projectile.



*(Top): A Spanish Mauser 1893 rifle in 7x57mm Mauser.
(Bottom): A German Mauser Gewehr 98 7.92x57mm Mauser.
Photos: Open sources.*

The Infantry Rifle 1850-2023

An MGA Quarterly Magazine Historical Series

Part III: Continued from the 2-22 Edition

1903- The Springfield Armory and Arsenal spent several years creating prototypes which included features of both the Spanish Mauser 1893 and the Springfield Krag-Jørgensen designs (US Model 1900 and 1901). When these designs proved unsuccessful, Springfield Armory simply produced a near copy of the Mauser 98, christening the new service rifle, the “United States Rifle, caliber .30-03, Model 1903.” The US Army officially adopted the M1903 Service Rifle and new cartridge in June of 1903. Note that in 1906, after the adoption of the German-designed “spitzer” bullet, the US formally created the .30-06 Springfield cartridge (the earlier .30-03 having a round-nose bullet). M1903 rifles produced from 1906 forward had the required modifications that facilitated the new cartridges. The “thirty-aught-six” is still a common and very effective sporting rifle cartridge today, over 100 years later.

The US Navy and Marine Corps, during the Spanish-American War, had been employing the Springfield 1873 Trapdoor rifle and the Winchester

M1895 Lee Navy 6mm straight-pull bolt action rifle.

With the US Army’s adoption of the Springfield M1903 Service Rifle, the US Congress became involved, ordering all the US Armed Forces to adopt the same service rifle. Naturally, the US Marine Corps quickly adopted the new M1903. Due to the time required for full-fielding of an entire armed service, the USMC maintained earlier service rifles in detachments and units which were not considered “front line service” until those rifles could be replaced by M1903’s.

The US Marine Corps chose to focus their limited numbers of Springfield M1903 rifles by ensuring a priority of issuance to forward deploying Marines, preventing substitution with obsolescent (or other) service rifles of the time. The Springfield M1903 earned a reputation as one of the finest service rifles ever fielded (naturally, since it was essentially a Mauser 98 clone). Ironic, perhaps, that both US forces and their enemies, the German army, were both issued basically the same rifle.

M1903 (and variants) USMC Service Rifle

-Shoulder fired, bolt action, stripper-clip loaded, internal magazine fed, smokeless powder (1903-1906 round nose bullet and 1906- Spitzer [pointed] bullet)

-Caliber: 1903-1906 .30-03 Springfield, 1906- .30-06 Springfield

-Rifle: OAL: 43.2 inches. Barrel: 24 inches

Notes: The rifle and ammunition designs are largely based on the Mauser rifle and ammunition (including the pointed “spitzer” bullet design). The US was, in fact, sued for patent infringement, lost in court, and was forced to pay \$200,000.00 in royalties on the rifles to Mauser Werke and \$412,520.55 (interest added to 1928) to Deutsche Waffen Munitionsfabriken.



(Top): German Mauser Gewehr 98 7.92x57mm Mauser.
(Bottom): Springfield M1903 .30-06 Service Rifle.
Photos: Open sources.

The Infantry Rifle 1850-2023

An MGA Quarterly Magazine Historical Series

Part III: Continued from the 2-22 Edition

1903-1942- The US Marine Corps adopted the Springfield M1903 and employed the rifle in one of its variants, service and sniping rifles, from before WWI until the Vietnam War. The Springfield M1903 served as the principal service rifle of the USMC from 1903 until 1941, when the USMC began replacing M1903s with the M1 Service Rifle. Initially, there were metallurgical issues with early production rifles due to heat treating inconsistencies at the factories, and a small number of receivers failed when firing causing injuries to the shooters. A US Army investigation determined that serial

numbers below 800,000 (for Springfield rifles) and below 286,506 (for Rock Island rifles) were likely to have brittle receivers and could fail when firing. The US Army took steps to replace the lower serial number rifles, however, the USMC did not pull any M1903 Service Rifles from service due to budget concerns and a high demand for the rifles. Springfield M1903 rifles with serial numbers higher than those listed above for each respective manufacturer are often called “high numbered” receivers and are considered safe to shoot.



(Above): A Springfield M1903A3 (note Lyman National Match rear sight and pistol grip section of butt stock). Photo: Open sources.

Interesting fact: While the Springfield M1903 was the official service rifle of the US Army and Marine Corps, the Army fielded a great many more M1917 Service Rifles (shown to right) to Europe in WWI (an Enfield pattern rifle made in the US by various manufacturers). While the US Marine Corps did procure a small number of M1917 rifles, none were issued to Marines who deployed to Europe during WWI.



(Above): Both sides of a US Rifle, Model of 1917, Caliber .30. This rifle is based on the British P14 Enfield design but chambered in .30-06 Springfield. Photo: Armémuseum, Stockholm, Sweden



(Above): A Springfield M1903A3 with straight stock and rear aperture sight.

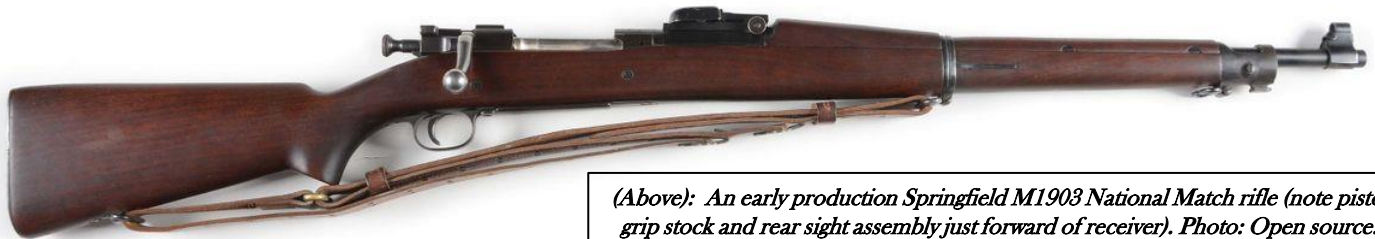
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(Above): An early production Springfield M1903 (note straight stock and large rear sight assembly just forward of receiver). Photo: Open source.



(Above): An early production Springfield M1903 National Match rifle (note pistol grip stock and rear sight assembly just forward of receiver). Photo: Open source.



(Above): One of the most iconic US Marine Corps rifles ever fielded, the Springfield M1903-A1 sniper rifle with Unertl 8x optic. Photo: Rock Island Auction Company.



*(Above): Another sniper rifle used by the USMC, the M1903 with Winchester A5 optic.
(Below): US Marines employing variants of the M1903 rifle. Photos: Open sources.*



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(Upper left): US Marines at Camp Perry in 1909 with M1903 Service Rifles.

(Middle left): US Marines conducting combat operations on Guadalcanal in 1942 armed with M1903 rifles.

(Lower left): US Marine Raiders on Guadalcanal in 1942 armed with M1903 Service Rifles.

(Upper right): A US Marine from the 2nd Marine Division in World War I with his Springfield M9103 Service Rifle.

Photos: USMC and NARA.

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1941- The US Marine Corps adopts the M1 Service Rifle and begins replacing Springfield M1903s, first to rear echelon units and then to front line combat units. The M1903 will remain in service in some units for many years and as a sniper rifle for two more decades into the Vietnam War. The US Army officially adopted the M1 Service Rifle in 1936 (a.k.a. “Garand”, as Soldiers often called the rifle...the author recommends not using the name “Garand” when speaking to a Marine from that era). There was some “push back” from elements within the Marine Corps, with the belief that adoption of a semi-automatic rifle would erode US Marine Corps marksmanship skills due to the self-loading and faster firing design of the M1. The M1903 Service Rifle is still issued to the two flanking Marines of the US Marine Corps Color Guard who are assigned to the Marine Barracks, 8th and I.

The Springfield M1903 Service Rifle was the official infantry rifle of the US Marine Corps from 1903 until 1941 (and served for many more years as it was replaced by the M1 Service Rifle). While the models discussed in this historical piece include the M1903, M1903-A1, M1903A3, and M1903A4, there are many more sub-variants within those models. Several different manufacturers produced M1903 variants for decades with many modifications to the process being introduced over the years. Many earlier variants were pulled back to ordnance depots and rebuilt with the modifications of the time. Collectors will be happy to know that



(Above): The US Marine Corps Color Guard at Marine Barracks Washington DC, armed with Springfield M1903 Service Rifles. Photo: USMC.

there are hundreds and thousands of M1903 rifles on the commercial market. Buyers should beware, however, as many post-military rifles have been modified, reconditioned, re-barreled, or have been “sporterized”, and are no longer in original condition.

The US Rifle, Model of 1903, Caliber .30 holds such a revered place in the history of the US Marine Corps that tradition has held for a great many years that the National Ensign and the US Marine Corps Colors are flanked by two enormous Marine Infantrymen who are armed with M1903s, and this will likely never change.

We will continue this historical study in the next issue with the M1 Service Rifle in 1941.

-Editor



(Above): The magnificent M1 Service Rifle. Photo: Open source.



In the Next Bursting Bomb...

MGA SITREP & Message Traffic from the Executives and Staff

Interview with a Marine Gunner

Update on the Marine Gunners at TBS and IWOC

USMC Fireteam Concepts

USMC Rifle Squad Concepts

United States Service Rifle and Marksmanship Historical Study

Contributions from our Members

Mental Health Concepts



Update to Mk2 historical article in edition 1-23: The Editor/author was able to obtain a relatively rare Utica Cutlery Co. Mk2 knife (early 1960s manufacture). The author found this fine collectable at an antique shop in northern California. Note the nine rivet sheath (a pre-1963 feature). Photo: Editor.

**If you, or someone you know needs help, support is available 24/7. Service members and their families can call Military OneSource at 1-800-342-9647, or chat at militaryonesource.mil. Service members, Veterans, and their loved ones can also call the Military and Veterans Crisis Line at 1-800-273-8255 and Press 1, chat at veteranscrisisline.net, or text to 838255. The National Suicide Prevention Lifeline is available to anyone at 1-800-273-8255.

More excellent sources for Veteran's mental healthcare are:

The Headstrong Project: Contact <https://theheadstrongproject.org> and select "Connect to Care".

The Cohen Veterans Network: Contact at <https://www.cohenveteransnetwork.org/> . Help is available for Veteran mental health issues and for help in transitioning from military to civilian life and family related issues.



*"The 2000 Yard Stare"
Painting by Thomas Lea
Battle of Peleliu.*

