TRAINING NOTES

Merging Technology and Training

The 82d Airborne Division's Master Gunner Program

MAJOR MALCOLM B. FROST
CAPTAIN JOHN C. JACKSON
MASTER SERGEANT MICHAEL A. VALDEZ

The 82d Airborne Division recently undertook a bold initiative to improve marksmanship skills and the lethality of the individual paratrooper. Modeled after the mechanized infantry master gunner program, this program is designed to provide a foundation of NCO subject matter experts who are charged with improving marksmanship through training, new equipment integration, and small arms systems maintenance.

Since marksmanship performance has remained high in the 82d, the purpose of this program is not to revive a lost skill. On the contrary, the influx of night vision devices (NVDs), optics, and lasers has given light forces an unprecedented opportunity to own the night in a small arms clash. Yet to date the potential of this increased capability has not been fully realized. The division's master gunner program is simply recognition that if we are to capitalize on this technology and increase lethality at night, we must have a core of experts trained on current capabilities, weapon configurations, and the unique technical aspects that each device brings to our weapons. Master gunners must also be intimately involved in the fielding of new equipment and be responsible for the challenges involved in integrating each device with the weapon.

Where We've Been

To initiate the program, the leaders first had to define its parameters. The possible weapon systems included the M4, M249, M240B, Mk 19, M2, TOW, Javelin, and 81mm and 60mm mortars. These systems were divided into three groups on the basis of priority and a realistic workload for the master gunners:

Phase I weapons are the M4, M249, M240B, and Javelin—the initial focus of the master gunner program.

Phase II weapons are the Mk 19, M2, and TOW.

Phase III weapons are the 81mm and 60mm mortars.

At the same time, the leaders had to make decisions about personnel. What is the appropriate master gunner rank at each unit level? Should they be given special duty (SD) status so they can fully concentrate on master gunner duties without distractions? Which units need master gunners?

Leaders soon decided that the program would begin with 14 master gunners serving in SD status. One master sergeant at division, one sergeant first class in each of the infantry brigades, nine staff sergeants in the infantry battalions, and one staff sergeant in the engineer battalion. Additionally, each infantry and engineer company was charged with providing one staff sergeant to serve as master gunner as an additional duty.

Identifying the right personnel to serve as the 14 primary master gunners was considered critical to the success of the program. NCO expertise would be the program's touchstone, and short-term sacrifices would have to be made to achieve long-term success. This important duty therefore fell onto the division's command sergeants major, who hand-selected NCOs to fill the master gunner positions. Each battalion and brigade master gunner was interviewed by his unit CSM and appointed with the principal duty title of master gunner. Upon selection, each was stabilized in his position for one year.

Where We Are

Once the initial pool of master gunner candidates had been selected, coordination was quickly made with 2d Battalion, 29th Infantry Regiment, at Fort

Benning, Georgia, to provide a foundation of institutional training on the key topics ranging from weapon configuration to marksmanship. As the proponent for all small arms systems, 2d Battalion provided the expertise necessary to conduct this training and help the 82d with this initiative.

On the surface this may seem a small point, but during the first phase of the five-week long training, NCOs from the 82d and the 29th exchanged ideas and tested various methods of mounting, boresighting, and firing the M4, M249, and M240B weapon systems. Every aspect of the training incorporated devices from the nightfighting arsenal. During this training, both teams of NCOs learned a great deal, shared knowledge, and dispelled myths about training with night-vision equipment. During the second phase of the training with the 29th, the master gunners concentrated on the Javelin gunnery and training devices, and earned the 2C additional skill identifier (ASI). Additionally, they were able to gain insight and provide input on new developments and upcoming fieldings from the Infantry School's Directorate of Combat Developments.

The first week of training began with the M4 modular weapon system with integrated rail adapter system (RAS). The master gunners received extensive classroom instruction on boresighting procedures for every device integrated into the RAS. This instruction included the characteristics and technical aspects of own-the-night equipment, the various target offsets for each aiming laser, safety considerations of equipment, mounting procedures, and preventive maintenance.

Upon completion of classroom instruction, and before firing a round down range, each master gunner had to display expertise and pass hands-on tests in the operation and boresighting of the laser borelight, AN/PAQ-4C and AN/PEQ2A aiming lasers, AN/PAS-13 thermal weapon site, and M68 close combat optic. Once this segment was completed, training moved to the ranges. The master gunners boresighted lasers and zeroed the back-up iron site and the close combat optic. They conducted dry-fire exercises, and practice and record fires with the M4 in various configurations during the day and at night.

The second week of training was dedicated to the M249 squad automatic weapon and M240B machinegun. In addition to reiterating the marksmanship fundamentals for machinegun firing, the lectures introduced the M145 machinegun optic during the day and incorporated the lasers at night. Some of the fundamentals of rifle and machinegun marksmanship were adjusted for firing with night vision devices (NVDs) and lasers. In addition, the instructors provided feedback on how to run fixed-fire ranges more efficiently.

In the third week of training, the master gunner transitioned to the Javelin Training Device Course, and the NCOs were introduced to the Javelin system and training devices. The basic skills trainer (BST)—a computer simulated device—was used to train the NCOs to train soldiers on Javelin firing procedures and target acquisition, selection, and engagement. They also trained with the field tactical trainer (FTT), which uses MILES to simulate firing Javelin at a vehicle at ranges up to 2,000 meters.

During the completion of each training event, significant issues from the small arms and Javelin training were brought up, and any necessary adjustments were incorporated into the process. Upon completion of the training, the NCOs were given copies of all the training materials and lesson plans that were used. This included the results of training, statistics, research material, fielding plans, technical manuals, and detailed after-action reports from the commander of 2d Battalion, 29th Infantry.

The most important lesson learned—and the common thread that led to increased marksmanship performance for all small arms weapons (M4, M203, M249, M240B)—was the proper use of the laser borelight. The borelight proved to be fundamental in enabling the NCOs to use all of the nightfighting equipment effectively, along with NVDs and advanced optics. Proper use of the borelight as detailed in the accompanying chart ensured that all optics and laser aiming devices were effectively zeroed to each weapon.

Remarkable results were achieved during the first two weeks of small arms training. Upon completion of their training with the 29th Infantry, every 82d Division master gunner had made appreciable gains in live-fire qualification standards. As an example, the following results were achieved at night with 40 to 45 percent illumination: M4 with AN/PAQ-4C—29 of 40 soldiers tested were able to qualify; M249 with AN/PAQ-4C—7 of 11 qualified. Additionally, the average for M68 CCOs during the day was 35 of 40 hits.

To complete the training on Phase I weapons, the master gunners received additional technical training at Fort Bragg on maintenance procedures, fielding, and rigging (for airborne operations) of small arms and OTN equipment. This training was one week long, covered the technical aspects of the Phase I weapon systems and their components, and provided the master gunners with an understanding of the process involved in the fielding, testing,

PROCEDURES FOR USING THE LASER BORELIGHT TO ZERO OPTICS AND LASER AIMING DEVICES

1. Read the associated manual for the laser borelight.
2. Use the 10-meter zero lanyard provided in the laser borelight kit as fielded.
3. Zero the laser borelight to each weapon before zeroing any of the advanced optics or laser aiming devices
4. Use a heavy ruck sack or aiming box to stabilize the weapon while using the borelight to zero optics and laser aiming devices. (NOTE: A hand-held weapon will not allow the borelight to properly zero advanced optics or laser aiming devices.)
5. Use the proper offset zero targets for each optic or laser aiming device from the Small Arms Integration Booklet (SAIB) when zeroing weapons with the laser borelight.

NOTE: The SAIB can be found in the General Dennis J. Reimer Training and Doctrine Digital Library at:

http://www.adtdl.army.mil/cgi-bin/atdl.dll/st/saib/saib.htm.

and maintenance of new weapons and OTN equipment.

Day-to-day, master gunners will continue to observe ranges and provide training assistance to units and soldiers on marksmanship issues and compile marksmanship training data. This will help identify marksmanship training deficiencies and unit trends that can be shared with the division as a whole through the network of master gunners. They will communicate information to commanders on upcoming changes in small arms technology and will present and solve issues on behalf of their units and the division. They will also identify maintenance trends and systemic problems with small arms and OTN equipment. The master gunners will work closely with the G7 (Force-Modernization) personnel and provide valuable insight from the user perspective during new equipment fielding meetings. While the first priority of the master gunner program is to train the initial pool of NCOs, they are already working issues and aggressively disseminating information in an effort to improve marksmanship and meet the challenges of technological evolution in the entire division.

Where We're Going

The next step for the 82d is to develop a framework that will ensure the continuity of the master gunner program. This requires a campaign strategy that balances the collective issues necessary to ensure long-term survival of the program with the immediate needs at the small unit and individual level.

As with any new program, command emphasis is vital. Without it, the program would wither away in short order. In the 82d, the commanding general, assistant division commander for operations, and division CSM are firmly rooted in their support of the master gunner program. To illustrate this in more tangible terms, the division is developing a master gunner policy letter that will address the scope of the program, master gunner duties and responsibilities, division events that will be supported, and clear guidelines for the use of this valuable asset. The policy letter is intended to ensure that master gunners remain proficient, act as a collective body to support large-scale marksmanship events, get ahead of the lag in technical expertise on the fielding of OTN equipment, and proliferate the program over time by teaching and sustaining a core of master gunners at company level.

As this is an NCO-driven program, the division CSM continues to be integral to the program's success. He is behind the program on several fronts. First, he has worked with the Total Army Personnel Command (PERSCOM) to give one-year minimum stabilization to the initial pool of master gunners from battalion to division levels. Next, he will be the final approval authority for the use of the master gunners. Specifically, he will oversee the master gunners to ensure that their focus remains on marksmanship and night vision equipment, and that units do not overstep their bounds and use master gunners for other duties. Finally, he will chair the division master gunner conferences, where decisions on configuration, programs, supported events, and equipment fielding will be made in a forum that includes the division's CSMs, master gunners, and G4 and G7 Force Modernization personnel.

In order to effectively disseminate the knowledge developed at Fort Benning, the master gunners ran the division's first three-week Company Master Gunner Course in March-April 2001. This course was similar to the training received from the 29th. The first week concentrated on configuration, zero, equipment operation, practice and record fire for the M4. Also critical to the first week of training was training on the proper operation of NVDs, which is too often overlooked. To see targets clearly at night, each soldier must understand how to focus the devices, adjust the diopter, and gain brightness control. The second week focused on the M249 and M240B, and the third week, on the Javelin. This first course primarily centered on training the infantry and engineer line company master gunners. In the short-term, it has helped push expertise down to the soldiers in line units. In the long term, the division plans to run quarterly company master gunner courses to sustain the training base and increase the number of master gunners within companies and battalions across the division.

In addition to bringing some of their expertise to company level, the master gunners will serve crucial roles in leader and unit training. The division's master gunners will be the proponents for all small arms and night fighting equipment related issues in the unit. As the train-the-trainers for small arms and OTN equipment boresighting, zeroing, and firing, they will be a tremendous asset for small unit leaders in the planning, setup, and conduct of fixed-fire ranges. They will participate, advise, and provide oversight for the execution of machinegun weeks and marksmanship densities. By supervising unit armorers and helping coordinate for replacement parts, maintenance, and turn-in procedures of all small arms and OTN equipment, they will play a key role during their unit's Operational Readiness Survey inspection before the unit assumes responsibility for Division Readiness Force 1 missions. The master gunners will also work closely with trainers and maintainers to keep units abreast of systemic trends in maintenance deficiencies and apply lessons learned at the user level.

Several initiatives are also being developed that will enable the division to keep up with the pace of change, exchange ideas, and share knowledge. These are included in a master gunner Website (https://airborne.bragg.army.mil/82mastergunner/), a master gunner Newsletter, and a master gunner Bi-weekly Update.

The master gunner Website will provide information on configuration, maintenance, new equipment fielding, division marksmanship standards, and force modernization issues. Included will be photographs of fully configured weapons and detailed photos with instructions on each piece of equipment that must be mounted on each weapon. It will also provide links to Army websites that are critical to the program, and points of contact, including the division's master gunners and support personnel from the Directorate of Combat

Developments—Project Managers (PM) Small Arms and Night Vision at Fort Benning—2d Battalion, 29th Infantry, and Picatinny and Rock Island Arsenals.

The website will also provide links to the master gunner Weekly Updates and monthly Newsletter. The Weekly Update will provide short-term snap-shots of working issues—training, maintenance, recent force modernization issues, a running eight-week calendar, and a "What's New" section. The monthly master gunner Newsletter will take a broader approach to these same areas. It will tell the story of where the program has been in recent months and where the mid- to long-term focus will be in training, maintenance, and fielding. It will also sum up the issues and decisions reached at the division master gunner conferences and any fundamental shifts in the program's azimuth.

Every weapon carried by a light or airborne infantryman is no longer just a weapon or weapon system. Each go-to-war weapon in the inventory is now an ever-changing element of systems that includes the soldier. The individual soldier must be trained on the complexities of configuring, boresighting, zeroing, firing, and maintaining these systems. "Basic" marksmanship is a misnomer. Putting accurate, well-aimed fire down range for one-shot, one-kill takes a higher level of training in an environment based upon night fighting equipment. To achieve success in this environment, order must replace the confusion that the complexities of technology bring to the forefront. This means we must have expert trainers in our warfighting units. For years, light infantry has needed a program that addresses this problem. The Infantry needs an institutional foundation that can embrace this problem and put solutions into the hands of the primary trainers—the NCO Corps.

The 82d's Division master gunner program, along with the critical expertise of the 29th Infantry, is an initial step toward grasping and solving the issues light forces face as they attempt to merge training with technology. What we need now is for the institutional base to grab hold of this program and exploit it. This is significant because it is not just the light infantrymen who will be using these devices. Every infantry unit and many non-infantry combat arms units will eventually receive them. As we move into the future, this training must be integrated into the NCO Education System (NCOES) so that every NCO has the basic skills necessary to train soldiers at the squad and platoon level.

A good start point is a mirror of the mechanized infantry master gunner program—an institutional course to train the trainers, an MOS identifier, positions in the MTOE, and recognition from the Infantry community, higher Army headquarters, and the Army that the true experts and best our NCO Corps has to offer must serve in these crucial light, air assault, and airborne infantry master gunner positions.

Major Malcolm B. Frost is a 1988 graduate of the U.S. Military Academy and has a Master's degree from Webster University. He served his first tour in the 4th Infantry Division and has commanded companies in 3d Battalion, 325th ABCT (Italy) and the 3d U.S. Infantry (The Old Guard). He also served as aide to the Chief of Staff of the Army, and is now S-3 for 3d Battalion, 504th Infantry, in the 82d Airborne Division.

Captain John C. Jackson is a 1993 graduate of the U.S. Military Academy. He has served as a platoon leader with 2d Battalion, 502d Infantry, 101st Airborne Division, and the 1st Battalion, 75th Ranger Regiment. He has also served as platoon trainer for the Infantry Officer Basic Course and is currently commanding Company C, 2d Battalion, 29th Infantry.

Master Sergeant Michael A. Valdez was a scout squad leader in the 2d Battalion, 327th Infantry, 101st Airborne Division; a squad leader in the 5th Battalion, 502d Infantry, Berlin Brigade; and the V Corps Readiness NCO in Germany. In the 82d, he has served as a rifle platoon sergeant, battalion operations sergeant, and battalion intelligence sergeant in the 2d Battalion, 504th Infantry, and is currently the 82d Division master gunner.

Master Marksmen

In the Light Infantry

SERGEANT FIRST CLASS KENNETH WOLFE

Infantrymen today continue to struggle with marksmanship, especially under combat conditions. Trends at the Joint Readiness Training Center (JRTC) continue to document that soldiers do not engage targets effectively. Until unit leaders make marksmanship a command focus instead of a biannual requirement, it will continue to be unrealistic, less cost effective, and in many cases unsafe. Consider the precious training hours and dollars spent on leadership development and unit training. All of that time and money is wasted if soldiers cannot effectively engage targets.

I recommend that all light infantry battalions designate a Master Marksman, and make him responsible for establishing and directing a comprehensive marksmanship program within the unit. The Army's mechanized infantry and armor units as well as the Marine Corps have such programs in place.