

# INFANTRY NEWS



Infantry Museum photos

*A rifle believed to have belonged to Saddam Hussein is now on display at the Infantry Museum on Fort Benning, Ga.*

## Infantry Museum Announces New Exhibit

A Heym 9.3x74R rifle was recently presented to the National Infantry Museum by First Sergeant Michael Hibbs of Company A, 1st Battalion, 30<sup>th</sup> Infantry, 3d Brigade, 3d Infantry Division (Mechanized), on behalf of the Soldiers of Company A. The rifle was discovered during a search of one of Saddam Hussein's presidential palaces during Operation Iraqi Freedom and is believed to have belonged to Saddam Hussein himself. The 9.3x74R is one of the oldest European big-game cartridges, and has long been used for hunting large and dangerous game around the world. The round is .366 caliber and generates muzzle energy approximating that of the .300 Winchester Magnum.

The Model 55B Heym rifle was manufactured in Suhl, Germany, and the action is engraved on all sides with scenes of African big game. The book market value of such a rifle, omitting its connection to the former President of Iraq, is listed at \$8,995; this is but one example of the difference between the lavish lifestyle of Saddam Hussein and that of his subjects.



*At left, Saddam Hussein's initials are engraved on the pistol grip cap. Above, Saddam Hussein's signature is also engraved into the rifle's barrel.*

## Custom Firearms Shop keeps Soldiers on

# T A R G E T

PAULA J. RANDALL PAGAN

**W**hen the Army Shooting Team wins in competitions around the world, its success is not only due to the amazing talent of the Soldiers who are the world's greatest shooters, but the victories are also attributed in a large part to the talent and hard work of some very dedicated Army gunsmiths.

The U.S. Army Marksmanship Unit Custom Firearms Shop at Fort Benning, Ga., produces top-quality, match-grade rifles, pistols and shotguns, as well as much of the ammunition for the Army Marksmanship Unit. The shop has a long history of research and development, including developing and testing the M-21 and M-24 Sniper Systems, Special Reaction Teams Rifles, testing and maintaining the Barrett 50-caliber Sniper Rifle and development or modification to special operations forces weapons.

"The AMU truly has the best small arms gunsmith team in the Department of Defense," said USAMU Deputy Commander Mr. Robert W. Aylward. "Possibly their most unique skill is the ability to take what they have learned in creating the most accurate competition firearms and transferring this knowledge into better combat weapon systems. They take great pride in their ability to take a problem that is presented, usually with extremely short suspense, and produce a real solution. On a monthly basis, a problem is received from the field, and the gunsmiths respond by producing answers that give the command a more reliable, sometimes specialized, but always lethal, combat weapon system. Giving the force what they need when they need it is the shop's mission."

The most recent achievements by the shop is the accurization of the M-16A2 rifle and the M-9 pistol, in which the gunsmiths, machinists and ammunition technicians transformed the reliable combat weapons into match-winning equipment.

Modifications made to the M-16A2 rifle by U.S. Army Marksmanship Unit gunsmiths transformed the reliable combat weapon into a rifle with pinpoint accuracy, even at 1,000 yards. This accuracy contributes to the USAMU Service Rifle Team's success in interservice and national marksmanship championships, according to USAMU Service Rifle Coach Donald L. Heuman. "Despite the prevalent belief that the M-16A2 could never be used



USAMU photos

**Sergeant First Class Steven C. Young, NCOIC of the USAMU Ammunition Loading Facility, primes brass for long-range bolt rifles.**

successfully in competition, the Marksmanship Unit devoted itself to proving how successful it could be.”

Modifications made to the M-16A2 by USAMU gunsmiths include adding interchangeable sight apertures, two stage triggers, a barrel sleeve and redesigning the barrel to prevent warping. Until these modifications were made, the M-16A2 was not a competitive weapon, according to USAMU Service Rifle shooters.

The gunsmiths and shooters determined that the barrel of the M-16A2 warped slightly as a result of heat generated by repeated firing and also by sling tension. The warped barrel, along with the large aperture on the rear sight hindered the accuracy of the weapon. A size choice of the rear-sight aperture and the introduction of a redesigned barrel that withstands warping along with a barrel sleeve improved the performance of the service rifle.

USAMU gunsmiths and ammunition technicians say they are still working on further improvements to the M-16A2 rifle, not only for competition but also as a more accurate and effective combat weapon. The unit believes the M-16A2 is the premier weapon on the competitive firing line and on the battlefield. That is why USAMU gunsmiths have worked closely with the U.S. Army Special Operations community

on improving the combat effectiveness of the M-16A2.

Special Operations asked the USAMU to apply its M-16A2 competition accuracy and reliability technology in support of the requirement for a 5.56 mm Special Purpose Rifle. AMU helped to develop the Special Purpose Rifle to include barrel configuration, freefloat handguard and optical and accessory mount technologies, mechanical parts improvement and match quality ammunition.

The collaboration between the AMU shop and the Special Forces community has resulted in match-grade accuracy being applied to the Special Operations Peculiar Modification and Special Purpose Rifle Variant initiatives. Because of the shop’s ability to design, manufacture and make modifications to weapons and ammunition, the Special Purpose Rifle Variant has been designated as the U.S. Special Operations community Mk-12 rifle and fielded to all Special Operations Forces Armywide.

Besides the Mk-12 rifle being fielded to all U.S. Army Special Forces and Ranger units, it is also being reviewed for adoption by the Naval Special Warfare Command; the match combat ammunition is fielded to all Special

Operations units and is being reviewed for possible fielding to Army combat units, according to Sergeant First Class Steven J. Holland of the 5th Special Forces Group.

“USAMU technology and marksmanship training to operational units within the Army Special Operations community have proven timely and beneficial,” Holland continued. “The rifle and ammo were used extensively in support of Operation Enduring Freedom and were determined to be instrumental in the positive outcome of several wildfires where Special Operations forces were fighting a numerically superior enemy. Through the accuracy and reliability of the Mk-12, the operators won the day and remained safe by using the ballistic advantage provided by the Mk-12. The Mk-12 is also deployed and being used to great advantage in the current operation in Iraq.”

Since the early 1990s, Army Marksmanship Unit gunsmiths have been experimenting with ways to enhance the ballistic performance and reliability of the M-9, the Army’s semiautomatic 9 mm pistol. The objective has been to increase the accuracy and durability.

“The M-9 is a good pistol,” gunsmith Staff Sergeant John M. Haidu said. “It’s lightweight, reliable, has a high magazine capacity and shoots a universal-size cartridge.”

The gunsmiths said the modifications are important not only to the USAMU’s mission to compete and win in competitions, but they are also important to the rest of the Army. They said the modified M-9 might someday be integrated into specialized Army organizations such as military police or Special Forces units and eventually perhaps the entire Army. In fact, the USAMU makes a special effort to share its research and development lessons



**A USAMU ammunition technician measures grains of powder for M-16A2 rounds.**

learned with all the Army's proponents for small arms.

"The M-9 has been highly accurized in the modification process to provide our shooters with a weapon of pinpoint accuracy," gunsmith Staff Sergeant Joe D. Harless said. The gunsmiths, who were responsible for the weapon's transformation from the developmental stage to production, said the process involved fine-tuning all the pistol's main components — the barrel, slide, frame and trigger. One initiative to improve the M-9, according to gunsmith Specialist Samuel A. Hatfield, was to reduce the wear caused by repeated pounding of the steel slide against the aluminum frame. To do this, gunsmiths place oval steel inserts in the pistol's frame to act as a buffer against the slide and minimize its movement while in battery. The gunsmiths also replaced the weapon's barrel with an accurate match-grade barrel and placed set screws in the frame to stabilize the bottom rear of the barrel.

"All the components are fitted," Harless said. "The result is that you have a slide that's fitted to the frame and a barrel that's fitted to the slide, which reduces tolerances within the weapon and allows greater accuracy. Also, steel-on-steel contact is better than steel on aluminum; it's much more durable." Another improvement was the adjustment of the triggering system, which allows the shooter to fire the accurized M-9 by exerting a mere 4 pounds of pressure on the trigger — the minimum allowed by rules governing the service pistol match — as compared to the 7 1/2 or greater pounds of pressure required to fire the standard-issue pistol. "Shooters want a particular feel of their trigger when they are competing," gunsmith Specialist



*A USAMU service pistol gunsmith inspects the slide on an M-9 pistol.*

Craig S. Nelson said. "With the proper mating of all related components, we give them what they want."

Nelson added that by polishing the surfaces and changing the

angles of the components, it makes the trigger pull seem like it's a lot less than 4 pounds.

Along with this, the gunsmiths also replaced both front and rear sights to allow for a better sight picture; the new sights were fabricated in the shop. They also developed a new harmonic tuner, which dampens the vibrations of the barrel.

"Our goal is to give our shooters the technical edge to win," gunsmith Specialist James T. Wilson III said. "The great wins of our pistol team positively prove that we have achieved that goal. I'm proud to be in the Army Marksmanship Unit and to see all the hard work that we do turn into major victories for the Army."

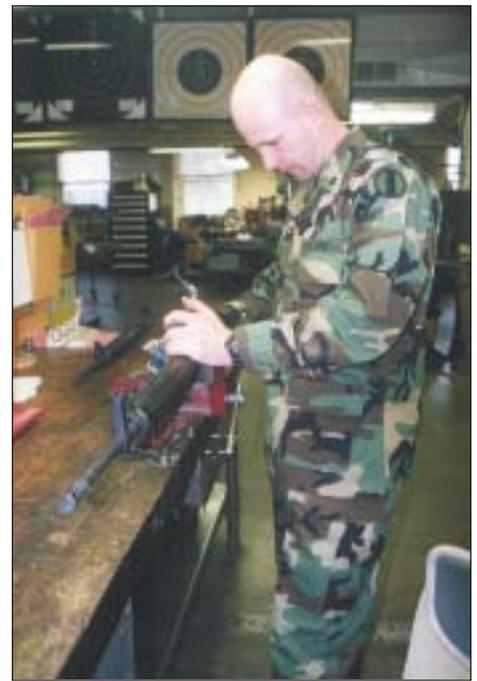
The USAMU Custom Firearms Shop gunsmiths are continuing their work on further improving the modified M-9 pistol.

"We're always looking for an easier, better and more cost-effective process," Harless said. "The gun is great, but we still have a long way to go."

Since tomorrow's modified M-9 will be even more accurate and reliable, USAMU Service Pistol Team Coach Ray Arredondo said

the pistol has unlimited potential.

"I foresee that at some point in the future, the modified M-9 will phase out the .45-caliber service pistol in competition today," Arredondo said. According to William O. Harden, chief of the USAMU Custom Firearms Shop, USAMU gunsmiths have world-class talent for what they do. "Our gunsmiths have a special talent and skill developed through years of technical education and experience. A truly great gunsmith



*USAMU service rifle gunsmith Specialist Thomas A. Grieve inspects the rear sits on an M-16A2 rifle.*

only comes along once in a great while. We are fortunate to have the best assigned to this fine unit," Harden said. "They have to be exceptionally gifted at building guns and ammunition in order to enable our Soldiers to be all they can be in competition. It is truly a team effort. The gunsmiths will continue to work toward improving the combat capabilities of America's fighting forces through research and development of current and future weapons systems."

Another factor in the success of the M-16 are the adjustments made to the ammunition. USAMU ammunition technicians assembled match-grade 600- and 1,000-yard loads. Keeping abreast of the constant demand for world-class match ammunition for the shooters of the Army Marksmanship Unit is far from easy. Yet the Soldiers of the USAMU Shop's Ammunitions Loading Section, say it's a challenge they eagerly face.

Only three Soldiers, Sergeant First Class Steven C. Young and Staff Sergeants John R. Gertz and Douglas E. Mitten are responsible for the thousands of rounds produced each year. Some days when preparing for upcoming matches, the Soldiers load as many as 3,000 rounds, each measured and adjusted to within 500ths of a grain.

The men produce ammunition for rifles and pistols and perform many tests on each cartridge case, propellant, primer and bullet, but say quality is the section's priority.

Quality control for the ammunition section is much more in-depth than at comparable facilities, said Sergeant First Class Steven C. Young, NCOIC of the USAMU Ammunition Loading Facility. USAMU's ammunition technicians continually check to ensure that the quality of the components fits USAMU standards. Cartridge cases are checked for weight, hardness, dimensions and thickness, while bullets are air gauged for consistency.

The role of these Soldiers and the quality of their product are paramount to the success of the USAMU shooters in competition, Young said. "We have to produce ammunition that outperforms the gun, which in turn has to outperform the shooter," Gertz said.

“That way shooters have all the advantages to improve themselves and the equipment doesn’t impede their performance. If the ammunition produced here isn’t up to the highest standards, the shooters are at a disadvantage.”

Maintaining the number of rounds and the high quality demanded sometimes is a tangible pressure the Soldiers can feel. One-tenth of a grain of gunpowder in a mismeasured round changes the impact of the bullet enough to cause a top shooter to lose a competition.

“All it takes is one round with the wrong powder charge to lose a national title,” Mitten said. “That’s how important it is for us to be here doing our job.”

Despite the constant demand for quality ammunition, the ammunition technicians rarely fall behind. Constant communication between the ammunition technicians and the shooters, as well as periodic checks of the ammunition bunker, help keep the Soldiers on top of the demand.

In their off-duty time, the ammunition technicians search for even higher quality by striving to create new combinations of gunpowder, primers, casings and bullets that will outperform the unit’s current standard.

“We’re always looking for better ways to streamline our production process to improve production flow and product quality,” Young said. The ammunition technicians constantly test the various ammunition components and equipment for quality and reliability. Each product they use is evaluated for internal purposes so as to supplement commercially published results. Manufacturers are not the only ones interested in the USAMU testing results. Frequently the Marksmanship Unit is inundated with telephone calls for information and advice. According to Young, many others are concerned with accurate ammunition have called wanting load data.

Despite the continued interest from the competitive shooting community, the Marksmanship Unit will only give minor technical advice and not specific information about the manufacturing process since the ammunition they produce is designed specifically for use in USAMU custom-built firearms.

“Our mission remains the same,” Harden said. “We’re trying to find that combination that makes or breaks the game.”

# USAMU shooters share techniques with Special Forces Soldiers

PAULA J. RANDALL PAGAN

In addition to dominating national and international marksmanship competitions, the champion shooters of the U.S. Army Marksmanship Unit Service Rifle Team have also been busy passing along their shooting techniques to other U.S. Army Soldiers, including some of the most highly decorated in the history of our nation.

The Service Rifle Team, headed by Staff Sergeant Jared N. van Aalst, conducted an advanced rifle marksmanship clinic for seven members of the 5th Special Forces Group (Airborne) of Fort Campbell, Ky., at Easley and Pool ranges on Fort Benning in December 2002.

“We do advanced rifle marksmanship train the trainer for all units, but now we’re doing tactical training for special operations units or any type of sniper section,” van Aalst said. “It went very well. The idea we’re trying to push is that our type of competitive shooting training ties in with tactical training. The biggest thing for Soldiers is understanding the limitations of their weapons and alternate shooting positions.”

“We did this training so our detachment could improve long-range marksmanship capability,” said Captain Heath Harrower of the 5th SFG. “We’re getting different training ideas that we can use and we’re sharing ideas on training and equipment. We’re also getting techniques that we can employ for our sniper teams.”

According to Harrower, the USAMU Service Rifle shooters emphasize basic rifle

marksmanship skills. “But it’s more than a refresher course,” he said. “It builds on the fundamentals.”

Both on the ranges and in the classroom, the Special Forces Soldiers learned from the Service Rifle Team how to read and correct for the wind, range estimation and reading the mirage.

“The two most important things to work on are trigger squeeze and sight alignment; it’s what we’ve been emphasizing,” Harrower said. “We learned variations and different techniques for trigger squeeze employed by a sniper team when engaging targets. We also used the Noptel (a computerized marksmanship training system), which was a very effective tool to track sight alignment before, during and after the shot.”

Besides shooting on the USAMU ranges, the elite Soldiers also toured the USAMU Custom Firearms Shop where they spoke with USAMU gunsmiths, machinists, reloaders and ammunition technicians who build and modify USAMU weapons and ammunition.

“I was very impressed with the gun shop. There is a lot of knowledge here that a unit could use and a lot of answers to be found here on weapons, ballistics and bullets,” Harrower said. “This training has enhanced our long-range shooting capability and it was very worthwhile. We would do it again and recommend it for other members of our unit.”



*U.S. Army Service Rifle shooter Specialist Aaron F. Rebout (left) gives a few marksmanship tips to Captain Heath Harrower of the 5th Special Forces Group at Easley Range.*

USAMU photo