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REDLEG Update

The United States Army Field Artillery Branch's Newsletter

Pre-2017 Fires Conference

Knox, Gruber & Hamilton 2016 Winners

Semi Centralized Promotions

Joint Operational Fires and Effects Course Schedule

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Purpose: Founded in 2011, the *Redleg Update* provides past and present Field Artillery leaders with a monthly update of informational highlights to assist in their individual, collective and professional training efforts, as well as report on activities occurring throughout the Field Artillery community.

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<http://sill-www.army.mil/USAFAS/index.html>

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<http://sill-www.army.mil/USAFAS/redleg/page.html>

Stephen J. Maranian
Colonel, U.S. Army
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Stephen J. Maranian

RFIs, Notes, and Notices: To submit a Request for Information (RFI), please email the POC listed below.

Points of Contact:

We appreciate those who have provided announcements, notices, articles and lessons learned.

Additionally, if you have a story of interest or wish to initiate a discussion on any topic or issue facing the Field Artillery community, contact Mr. John Folland, (580) 558-0831, or the editor of the *Redleg Update*, Ms. Sharon McBride, Field Artillery Public Affairs officer, (580) 558-0836.

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From the Commandant's desk

Pre-2017 Fires Conference

I would like to start off this edition of the Redleg Update by inviting everyone to attend the 2017 Fires Conference "Cross Domain Fires: Now and in the Future the Multi-Doman Battle" either in person or virtually May 3-4, 2017.

This is a great opportunity to learn, understand and discuss all things Fires. This year's conference will focus on what we can do now and in the future to expand the capabilities of Cross Domain Fires in support of Multi-Domain Battle. Scheduled speakers include GEN David Perkins, TRADOC Commander; RADM Mark Montgomery, J3, USPACOM, and BG Peter Jones, the Infantry School Commandant. These leaders bring unique personal experiences, perspectives, and knowledge that will help us map a clearer path forward into a very complex multi-domain environment.


Our Field Artillery breakout session is scheduled during the second day of the conference from 9 a.m. to noon. Tentatively scheduled speakers include COL Markus Jones, the 8th Army Chief of Fires; COL David S. Lee, Commander, 19th Battlefield Coordination Detachment, U.S. Army Europe; and COL Thomas R. Bolen, Commander, 11D DIVARTY, who will have an update on their successful engagements in Operation Inherent Resolve. Each of these speakers will share their extensive knowledge and understanding of their very unique operational environments and how Cross Domain Fires are integrated and synchronized to meet, and often exceed, their maneuver commander's expectations.

We will acknowledge the winners of the 2016 Knox, Gruber and Hamilton awards on Day 2. Congratulations to Charlie Battery, 4th Battalion, 1st Field Artillery Regiment, the Henry A. Knox award winner; Bravo Battery, 1st Battalion, 145th Field Artillery Regiment of the Utah Army National Guard as the Alexander Hamilton Award winner; and SFC Zachary S. Wilkerson, 1st Battalion, 94th Field Artillery Regiment, 17th Field Artillery Brigade, from Joint Base Lewis McChord, Wash., as the Edmund L. Gruber Award winner. To learn more about these outstanding awardees, please read the March-April 2017 edition of

the Redleg Update.

On May 4th, there will also be a dedication ceremony recognizing a legendary Artilleryman - General John William Vessey, Jr. GEN Vessey served in the U.S. Army from 1939 to 1985 beginning as a Private in the Minnesota Army National Guard and ending as the Chairman of the Joint Chiefs of Staff. He was a combat veteran of World War II, the Korean War, and the Vietnam War. GEN Vessey is remembered as a "Soldier's Soldier," fair and firm, who always stood up for his troops. So, it is very appropriate that Bldg. 6005, which currently houses the 95th Adjutant General Battalion (Reception), will be dedicated to him. The 95th AG BN (Reception) conducts reception operations for Basic Combat Training, Advanced Individual Training, and English as a Second Language Training Soldiers here at Fort Sill, Okla.

Once again, if you cannot attend in person, please log on to the web and participate in understanding and shaping today's Fires force. Thanks for all you do. We are the world's premier Artillery force - modernized, organized, trained, and ready to integrate and employ Army, Joint, and Multinational fires because of the tremendous efforts of you and your Soldiers,

24/7/365,
Regardless of weather,
In any terrain,
Quickly, Accurately, and Danger Close! 

King of Battle!
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COL Stephen J. Maranian

For more info, or to register go to
<http://sill-www.army.mil/fires-conference/>.

To attend virtually, log onto
<https://conference.apps.mil/webconf/FiresConference2017>.
To virtually attend the FA Breakout sessions go to <https://conference.apps.mil/webconf/FiresConferenceFACMDT-BreakoutRoom>



From the Desk of the Field Artillery CSM

Semi Centralized Promotions

One of the topics I continue to address during my engagements across the force is our historically low boarding/promotions of 13F and 13M to skill level two and three. This is not unique to our branch as the problem exists in various Career Management Fields across the Army. As the Army sets authorizations, based on projected requirements, they WILL meet those authorizations. As Field Artillery leaders, if we do not take action to correct these historically low trends, we will ultimately lose our ability to 'vote' on who becomes noncommissioned officers within our ranks. I don't want this to be overly negative, however I've been beating this drum since I came into this position almost a year ago. While some are working to get better, overall there has not been improvement. This is a call to action for all of us.

One of the tools currently in use is Command List Integration (CLI). Primary reason is a lack of Soldiers on the promotion recommended list. CLI is the forced integration of Soldiers onto the SGT/SSG list (one year past primary zone eligibility) without the Soldier having appeared before a promotion board. Soldiers who meet this criteria will be integrated onto the Sergeant/Staff Sergeant (SGT/SSG) standing list and awarded 39 and 14 points respectively. In order to attain more points, Soldiers with CLI status must appear before a promotion board; but they are still listed in a promotable status and will be promoted to help meet authorizations. This policy is still not enough to meet authorizations as we are not boarding enough Soldiers and CLI can't close the gap. Currently there is a draft policy at HRC to direct mandatory board appearance for all eligible SGTs and SSGs in an attempt to rectify the issue. Policy does not replace leadership. If we are to truly fix this issue and promote those eligible Soldiers who demonstrate potential to lead at the next level, we need to do so through engaged leadership at echelon. We have the eligible population available, yet for 30+ months, we've had this problem. So how do we get after it?

We can start by ensuring our 'eligible' population

is truly eligible. Basically, eligibility is the requisite time in service, time in grade (TIS/TIG), not flagged or barred and not on temporary profile. So let's start there. In February, for example, there were a total of 569 13F Soldiers 'eligible' for promotion to SGT. If we were able to hold a formation of all 569 of those Soldiers, conduct an APFT, ABCP, check for temporary profiles and screen for derogatory info, how many do you think we would discover were not truly 'eligible'? Bottom line is your eligible population with HRC is what it is on paper, if leaders have not taken the appropriate action(s) to flag or bar Soldiers who are not meeting basic Army standards, then they appear in your eligible population. We need to take the emotion out of it and uniformly enforce the standards with appropriate administrative actions where they are necessary – and this needs to be routine action at the Company, Battery, Troop level, not a surge operation. First Sergeants and Platoon Sergeants, this is your responsibility to initiate and follow through with your commanders.

The next step is getting past the 'excuse' level. When I query junior leaders as to why we're not boarding Soldiers, I get the typical responses of a) 'they're not ready' b) 'they haven't demonstrated leadership' or c) 'they don't want to go to the board'. When a NCO gives me either "a" or "b", my immediate response is "What have you done about it?" which more often than not is met by some convoluted response which doesn't answer the question. We make the mistake of looking for the Soldier who we can take out of a box and stand them up in front of the board and they're good to go. Fact of the matter is, none of us were 'ready' to lead at the next position before we were boarded/selected – the Army promotes/selects on POTENTIAL to lead at the next level. I'll be the first to tell you, I have never felt completely 'ready' for my next position, current one included. However, the Army determined I had the potential, promoted/

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From the FA CSM ... Continued from Page 4

selected me, and I continued/continue to learn and develop at the next level through mentorship, counseling, coaching and experiences.

First line leaders, here's a tip – you've got to engage and invest to get past "a" and "b". Your Soldiers will develop with or without your help, but they will only GROW with your presence. Just telling them they ain't ready or they haven't demonstrated leadership without providing them with a plan that you are involved in, ain't gonna make it happen. I'm not talking about spoon feeding them, I'm talking about LEADING them. It takes some thought and yes some of your time, but can be done for the most part within your current training schedule.

For example, SPC Snuffy, next week on Monday, you will be in charge of supervising PV2 Jones and PFC Smith conducting PMCS of the section commo equipment during command maintenance, here are the 5988E and the TMs you will need, I'll be there to observe and assist if needed. On Wednesday, you will lead PRT. Here's the platoon schedule and the FM 7-22. You will back brief me NLT COB on Thursday this week to ensure you can appropriately demonstrate/conduct the exercises and I can ensure you have all the resources you will need. I will supervise you in each instance and following each event we will conduct performance oriented counseling. Boom. Perfect chance for SPC Snuffy to demonstrate leadership and how 'ready' they are; you'll have documented evidence of SPC Snuffy's performance that can either enforce/disprove your initial assessment of his/her potential – all done within the current schedule. Sergeant and Staff Sergeants, this is your responsibility – figure it out, be creative to nest your opportunities within the time you have – take action and make it routine. You may be surprised at how well your Soldiers will get after it and begin to look for other ways they can 'take charge'.

For the last excuse "don't want to", why are we asking them? I get it if they are on the short final to ETS, but that's only a segment of the population. For the SPCs that say they don't want to become NCOs, run them through the same developmental plan as we did with SPC Snuffy. If they dork it up on purpose, well then you have the counseling to take administra-

tive action and get them out of the eligible pool. Many of them, may probably surprise you and themselves and show that maybe they do have the potential and maybe they do want to become a leader – don't let them shy away from it through excuses; make them show you through a supervised development plan. Kind of like mandatory fun – get them there and they might discover it ain't so bad, but they can't win if they don't play.

In addition, get involved in their board prep. Provide them TMs, ADPs and ADRPs along with guidance on how/what to study, don't just point them to the internet to find a study guide. Quiz them, give them questions constantly – this may help you improve your knowledge as well, because you'll have to do the prep to ensure you're on track. If you include all your Soldiers in this, it'll breed some healthy competition and that's always a good thing. It ain't gonna happen on its own, you gotta be part of the solution and part of the process. Sergeants, Staff Sergeants this is your responsibility to initiate and maintain.

We are all responsible, two levels down from our own positions, to ensure we and our subordinate leaders are effectively coaching and developing our subordinates to become leaders. We can't afford to just let it happen, or hope they'll develop on their own. They may, but it won't be the desired outcome to fix this problem or to create future effective leaders. If we want them to GROW, we gotta be there, we gotta be involved in the process. Failure to do so will result in continued decrease in skill level match, leader to led ratio, lagging career progression for all and most detrimental, a decrease in readiness. The entire NCO Corps owns the responsibility to get us back on azimuth, take an objective look at what you are doing/not doing at your level and take a personal interest and appropriate actions to reverse this untenable trend. If not, we'll lose our vote and like it or not, we'll be responsible for the end result. Let's do what NCOs do, train and lead Soldiers – exercise initiative in the absence of orders.

King of Battle!
Redleg 7



CSM Berk Parsons

Knox, Gruber & Hamilton 2016

FORT SILL (April 2017)--The U.S. Army Field Artillery School has announced the winners of the 2016 awards for excellence within the Field Artillery branch.

The **2016 Field Artillery Henry A. Knox Award** is awarded to: **Charlie Battery, 4th Battalion, 1st Field Artillery Regiment.**

This award recognizes the outstanding active duty Army Field Artillery Battery of the Year for superb mission accomplishment and overall unit excellence. Originally called the Knox Trophy and Medal, these awards were established in 1924 by the Chief of Field Artillery and presented annually. They recognized the best Artillery battery (Trophy) and best enlisted Artillery Soldier (Medal) based on performance, excellence, leadership and proficiency. The awards recognized hard work, talent and determination that resulted in performance at the highest of standards. The awards were halted during World War I and were not re-initiated until 2002. The Knox Medal is no longer presented, but was replaced in 2002 by the creation of the Gruber Award for recognition of the individual Artillery Soldier.

In preparation for their missions in Operation Spartan Shield (OSS) and Operation Inherent Resolve (OIR), Charlie Battery, 4th Battalion, 1st Field Artillery Regiment flawlessly conducted pre deployment training and certification. C Battery completed a 30 day Battalion FTX "Operation Grapeshot," a Division Artillery Readiness Test (DART), Iron Focus FTX and FCX, a National Training Center Rotation, as well as the Precision Guidance Kit (PGK) fielding. Based on their superior performance, the battery was selected to spearhead the Battalion's mission in support of Coalition Forces Land Component Command (CFLCC-1) in Kuwait.

The battery transitioned from a 2x8 M109A6 unit to a 3x6 formation. By Sept. 30, the dispersed platoons fired over 1,200 rounds, across multiple provinces in Iraq, and were credited with significant enemy killed in action. The battery was critical to the fight and their timely and accurate fires demonstrate the devastating lethality of a well-trained Field Artillery unit. C Battery's relentless and inspiring dedication to support ground forces epitomizes the bravery of all Artillerymen as well as the relevance of the Field Artillery as a force multiplier.

They have continued their legacy of excellence setting new standards for the Battalion and the 1st Ar-

mored Division Artillery and clearly show why we are the King of Battle.

MOST RECENT KNOX AWARD WINNERS:

2015 Charlie Battery 2-319 AFAR, Fort Bragg, NC
2014 Bravo Battery 4-27 FA Regiment, Fort Bliss, TX
2013 Alpha Battery 2-15 FA Regiment, Fort Drum, NY
2012 Bravo Battery 1-77 FA, Schweinfurt, Germany

The winner of the **2016 Field Artillery Alexander Hamilton Award** is awarded to: **Bravo Battery, 1st Battalion, 145th Field Artillery Regiment of the Utah Army National Guard.**

This award recognizes the outstanding U.S. Army National Guard Field Artillery Battery of the Year for superb mission accomplishment and overall unit excellence. The Alexander Hamilton Award was created in 2002 and is named after American Statesman and Continental Army Artilleryman Alexander Hamilton. Alexander Hamilton was an outstanding Artillery battery commander and a skilled cohort of General George Washington during the Revolutionary War. Hamilton helped frame the U.S. Constitution and also served as the Nation's first Secretary of the Treasury.

B Battery 1-145 FA was tasked with two missions in TY2016; deliver Artillery Fires and support the Homeland Response Force (HRF). B Battery executed both missions flawlessly. The capstone event for the battery was a brigade Artillery live fire exercise at Camp Guernsey, Wyo., and a HRF simulation training exercise (STX) in Denver, Colo. In support of the HRF mission, B Battery trained Soldiers to assist and support security and decontamination efforts in a simulated Chemical, Biological, Radiological, Nuclear and Enhanced Conventional Weapons (CBRNE) environment in order to respond to a domestic disaster.

B Battery also had a very strong presence in the local area and supported the community that supports them. B Battery conducted over 26 community support activities in TY2016. These activities included funeral details, flag ceremonies, color guards, and assisting with local youth recreation programs. The unit members helped with the Santa Flight during Christmas, bringing toys and school supplies to needy children of the local community.

B Battery also deployed four Soldiers during



2016 Field Artillery Alexander Hamilton Award winner

flooding in southern Utah to help with search, rescue, and recovery of missing persons. Finally, the unit fired 460 observed rounds without incident and capped the year with a perfect safety record.

MOST RECENT HAMILTON AWARD WINNERS:

2015 Alpha Battery 3-197 FA Regiment, New Hampshire ARNG
 2014 Alpha Battery 1-181 FA, Tennessee ARNG
 2013 Bravo Battery 1-121 FA Wisconsin ARNG
 2012 Bravo Battery 2-218 FA Oregon ARNG

The winner of the **2016 Field Artillery Edmund L. Gruber Award** is: **SFC Zachary S. Wilkerson, 1st Battalion, 94th Field Artillery Regiment, 17th Field Artillery Brigade, Joint Base Lewis-McChord, Wash.**

This award recognizes an outstanding Field Artillery Soldier for superb individual thought, innovation, and overall excellence resulting in significant contributions to or the enhancement of the Field Artillery's war fighting capabilities. This award is named after Brigadier General Edmund L. Gruber, a noted Field Artillery Officer, who as a First Lieutenant in 1908 composed the "Caisson Song," which the Army adopted as "The Army Song" (The Army Goes Rolling Along) in 1952. The Gruber Award was established in 2002.

SFC Wilkerson performed with distinction as the 2nd Fires Platoon Sergeant, Alpha Battery, 1-94th FAR, Al Asad Air Base-Iraq (AAAB), from Feb. 5, 2016 to Aug. 13, 2016 during Operation Inherent Resolve (OIR). His expertise was instrumental in his battery's ability to provide timely and effective surface-to-surface High Mobility Artillery Rocket System (HIMARS) fires in support of the Combined Joint Task Force-OIR Mission. SFC Wilkerson's platoon successfully fired more than 500 rockets supporting hundreds of combat mis-



2016 Field Artillery Edmund L. Gruber Award winner

sions and all without incident. The platoon's timely and accurate fires resulted in the destruction and degradation of enemy fighters, infrastructure, and equipment through Anbar Province, Iraq.

SFC Wilkerson's contributions to the Field Artillery ensured overall mission success and built confidence in senior Army leaders when employing HIMARS. His leadership, tactical, and technical proficiency resulted in a highly-motivated and lethal force that significantly contributed to the fight against the Islamic State of Iraq (ISIL).

MOST RECENT GRUBER AWARD WINNERS:

2015 SFC Jorge A. Moraguzman, 2-15th FA
 2014 SFC Daniel A. King, 1-320th FA
 2013 1LT Nathaniel J. Holcomb 1-41 FA
 2012 SFC Thomas Robinson 1-377 FA

Congratulations to the winners of the 2016 Knox, Hamilton and Gruber awards. The United States Army Field Artillery School would also like to thank the unit leaders who took the time and effort to highlight their Soldiers and units showing the awesome power and effectiveness of the King of Battle.



Top 10 Army Modernization Efforts of 2016

By David Vergun

WASHINGTON (Army News Service) -- Supporting the fight around the globe means having the best technologies for Soldiers to ensure overmatch against future adversaries in an increasingly complex and dangerous world where the threat is often “elusive and ambiguous,” said Army Vice Chief of Staff Gen. Daniel B. Allyn, speaking at an industry event in Michigan.

This environment will place a premium on unmanned systems, lethal technologies and rapid maneuver capabilities, he added. The Army will need to ride the wave of technology or risk being left behind, cautioned Lt. Gen. Michael E. Williamson.

Consumer electronics are advancing at an “incredibly rapid pace. The average time to obsolescence of some devices, such as home computers and smart phones, is as fast as 24 months,” said Williamson, who is the principal military deputy to the assistant secretary of the Army for Acquisition, Logistics and Technology. He spoke at a “Network Readiness in a Complex World” panel hosted by the Association of the United States Army in July.

In 2016, Army researchers and scientists, along with industry partners, continued to make great strides in modernization. Following is a sampling of 10 of the top advancements and milestones.

30MM CANNON FOR STRYKER

The first prototype Stryker Infantry Carrier Vehicle, outfitted with a 30mm cannon, was delivered to the Army Oct. 27. The upgraded Stryker vehicle will be known as the Dragoon, the name of the 2nd Cavalry Regiment. The prototype also features a new fully-integrated commander’s station, upgraded drivetrain componentry and hull modifications, according to a press release from Program Executive Office-Ground Combat Systems.

“It’s important to realize the genesis of this event,” said Allyn, speaking at the General Dynamics Land Systems Maneuver Collaboration Center in Sterling Heights, Michigan.

Following the 2015 Russian invasion of Ukraine, Army leaders in Europe “identified a capability gap that threatened our forces in theater,” Allyn explained. “The Russians, it turns out, had upgraded and fielded

significant capabilities while we were engaged in Iraq and Afghanistan.”

Army leaders recognized that existing Stryker weaponry placed U.S. forces at “unacceptable risk,” he said. The Urgent Operational Needs statement submitted in March 2015 resulted in a directed Stryker lethality requirement, one that included an accelerated acquisition effort to integrate the 30mm cannon on the vehicles, he said.

Fielding to the 2nd Cavalry Regiment in Europe will begin in May 2018, which represents “a near-record time from concept to delivery,” according to Allyn.

According to PEO-GCS, the Army has provided programmatic direction to initiate the first two elements of the Stryker Fleet Lethality strategy: providing an under-armor Javelin capability for the Stryker and improving the capabilities of the Stryker Anti-Tank Guided Missile vehicle to better locate and engage targets via networked fires.

LIGHTWEIGHT BALLISTIC SHIRT

When Army engineer Robert DiLalla set out to develop a new design for Soldier protection, he knew he had to break the mold.

The result of his revolutionary approach, which focuses on the Soldier as an athlete, is the gamechanging, Ballistic Combat Shirt, a new lightweight body armor system.

“We set out with this science and technology effort to meet the needs of high-performance athletes, which is what Soldiers are,” said Dilalla, the team leader of the Infantry Combat Equipment Team at the Natick Soldier Research, Development and Engineering Center.

“I was really focused on the human. How can we do something that, without sacrificing protection, makes them feel like they are not wearing protection and improves their ability to do Soldier tasks?”

“This capability significantly increases the protection and flexibility of our personal protective ensemble, ensuring we are giving our Soldiers the edge they need,” said Douglas A. Tamilio, director of

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Modernization... Continued from Page 8

Natick Soldier Research, Development and Engineering Center.

The invention is a departure from the Interceptor Body Armor system, which was an advancement when it was developed for the Marine Corps in the late 1990s. Over the years, however, the armor system increased in complexity and bulk. As additional components were added, it became difficult for Soldiers to put it on. In contrast, the Ballistic Combat Shirt is easy to don.

“So now instead of having to attach all of these components, you can throw it on like a goalie shirt in hockey,” DiLalla said. “It goes on and you don’t need a buddy to help you don the system. It’s form-fitting so the Soldiers like it. Instead of one panel, the deltoid section is three panels. It’s contoured so it stays with you. It moves with you. It has an improved range of motion.”

The shirt weighs 35 percent less than the current Interceptor Body Armor system components it replaces and is less bulky.

The invention has been a hit with users.

“The Soldiers have spoken loud and clear with more than 90 percent user acceptance in multiple user evaluations,” said DiLalla. “Typically, as we assess new body armor components, we’d consider 60 percent a successful number. So we were quietly surprised...”

DOUBLING HOWITZER RANGE

Picatinny Arsenal engineers have been working to create a longer, newly modified M777A2 howitzer that has the potential to double the system’s current artillery range.

The modification, called the Extended Range Cannon Artillery, or ERCA, adds six feet to the cannon and less than 1,000 pounds to the overall system. A mobility demonstration is the first step to determine if the howitzer can be modified for extended range, or if a new system is required. Mobility testing will be conducted at Aberdeen Proving Ground, Maryland, in the near future.

“Right now [the M777] can shoot about 30 kilometers, but once all of the upgrades are complete, it will be able to shoot about 70 kilometers,” said David Bound, M777ER Lead, Artillery Concepts and Design

Branch, which is part of the Armament Research, Development and Engineering Center, or ARDEC.

“It will be able to reach out and hit targets well in excess before the targets can reach them. It will also give a lot of operational overmatch so the warfighter won’t have to worry about coming into a situation where they are under fire before they can return fire,” said Bound.

The M777ER program will ensure that ERCA’s system is suitable for the M777 system. The final ERCA system will be demonstrated with an M109A7 system, which is the Paladin self-propelled howitzer.

NEW HAND GRENADE

Engineers at Picatinny Arsenal are working on the first new lethal hand grenade in more than 40 years, which is designed to give greater flexibility to the warfighter.

The multi-purpose hand grenade design will provide both fragmentation and blast overpressure more effectively and safely than its legacy counterparts.

Once fielded, Soldiers will be able to select and use a hand grenade with different effects simply by flipping a switch, said Jessica Perciballi, ARDEC project officer for Enhanced Tactical Multi-Purpose, or ET-MP, Army, Grenades & Demolitions Division.

Soldiers will not need to carry as many types of hand grenades, Perciballi said. Another feature is that the new grenades are designed for ambidextrous use, meaning that they can be thrown with either hand. Current grenades require a different arming procedure for left-handed users.

“Not only will ET-MP provide additional capabilities and lethality to the warfighter, it will also be the first Army Fuze Safety Review Board and Insensitive Munition-qualified lethal grenade in the Army’s portfolio,” Perciballi added.

“With these upgrades in the ET-MP, not only is the fuze timing completely electronic, but the detonation train is also out-of-line,” said Matthew Hall, Grenades Tech Base Development Lead.

“Detonation time can now be narrowed down into milliseconds, and until armed, the hand grenade will not be able to detonate.”

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Modernization... Continued from Page 9

Hall said the current plan for ET-MP is to transition the new grenades to Project Manager Close Combat Systems in fiscal year 2020.

JLTV DEBUT

The first seven joint light tactical vehicles were turned over to the Army and Marine Corps in late September by Oshkosh Defense for testing at different sites around the force. A total of about 100 of the JLTV “production vehicles” will be provided to the Army and Marine Corps for testing over the next year, at a rate of about 10 per month, officials said. The vehicles will undergo maneuverability and automotive testing at Yuma Proving Ground, Arizona, and other sites around the country.

The JLTV is a tactical wheeled vehicle with a chassis that offers protection from underbelly blasts and an “intelligent” suspension system that can be raised and lowered for off-road conditions. It also touts greater fuel efficiency than current tactical vehicles.

In addition to testing at Yuma, the vehicles will undergo testing for cyber integration of command, control, communications and intelligence at the Electronics Proving Ground on Fort Huachuca, Arizona. The vehicles will also be tested for automotive performance at Aberdeen Proving Ground, Maryland and the Cold Regions Test Center on Fort Greely, Alaska.

“It’s on schedule,” said Scott Davis, program executive officer for combat support and combat service support, about the JLTV program. “It’s doing everything we ever expected it to. It’s just incredible.”

QUANTUM PHYSICS

At the U.S. Army Research Laboratory, scientists are looking at new ways to exploit the most fundamental or “quantum” component of light -- the photon -- to enhance communications, sensing and cryptography, and anything else they can think of.

“We don’t really know what all the applications are. But our mandate, in part, is to find those applications,” said Michael Brodsky, a physical scientist at Army Research Laboratory.

In October, Brodsky was setting up a new lab at the ARL, located about 12 miles north of the Pentagon in Adelphi, Maryland. He has boxes there that gener-

ate entangled photons -- the smallest measure of light. It’s entangled photons that are of interest to Brodsky and the Army. A pair of entangled photons exhibits a unique property that Brodsky and his team hope to exploit.

A single photon, on its own, can be captured in a memory unit -- or “quantum storage” -- and subsequently measured. The measurements can be recorded as well. But when two entangled photons are captured and measured in the same way, they yield the same measurements every time, Brodsky said.

Those same two entangled photons could be split up, on different sides of the lab, on different sides of a research campus, or on different sides of the country, and still, because they are entangled, they behave the same way, and so they yield the same measurements no matter where they are.

The results of those measurements are unpredictable -- completely random -- and can be converted to a string of zeros and ones, Brodsky said, but “you get identical strings of zeros and ones at two remote locations. Which, for instance, could be used as a key for secure communications.”

A critical part of cryptography and secure communications is the use of random numbers. On both sides of the communication, both parties will need the same string of random numbers to encrypt that communication. If both parties had one half of an entangled pair of photons, then they would both have an endless supply of random numbers at their disposal, and those random numbers would be the same. So a pair of entangled photons, distributed to two parties, could be used to encrypt communications between the two parties.

Finding ways to distribute entangled photons, and using those entangled photons for secure networking are just two challenges that ARL is working on now. But they are looking at other ways to use entangled photons as well, such as enhancing sensors and quantum computing, for instance.

NEW ARMORED VEHICLE

The first armored multipurpose vehicle, or AMPV, was handed over to the Army Dec. 15 for testing.

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Modernization... Continued from Page 10

The AMPV demonstrator rolled out of the BAE Systems plant in York, Pennsylvania, to begin a 52-month engineering and manufacturing development phase for the vehicle. At least 29 of the vehicles will be manufactured for this phase of the procurement process, officials said.

If the low-rate production option for the AMPV is approved, procurement officials said several hundred of the vehicles will be manufactured for testing over the next four years.

The AMPV will replace the armored brigade combat team's M113 family of vehicles. The AMPV addresses the M113's shortcomings in survivability and force protection, and size, weight, power, and cooling, known as SWAP-C, officials said. It is also designed to incorporate future technologies and the Army's network.

The AMPV has a brand new hull, but it maintains some of the Bradley legacy design, allowing for some compatibility efficiencies, according to Maj. Gen. David G. Bassett, program executive officer for Ground Combat Systems. In fact, about 60 to 70 percent of the parts are common with existing ground combat vehicles, Bassett said during a press conference in October.

The AMPV also has space inside to allow for the addition of new systems in the future, and it comes with an improved power train. The hull is stronger from a force protection perspective, too, he said.

Meanwhile, many Bradleys are still in service, "so we're building new capabilities in an incremental way over time," Bassett said. "I'd love to have replacement programs today for Abrams and Bradleys."

Bassett said. "We could get those plans [for replacements], but it just doesn't fit into this portfolio and budget requirement. Instead we're looking at, do you want to do an ECP-3 [engineering change proposal] on a Bradley or do you want to bridge to a new platform? We're making informed decisions."

HYDROGEN-POWERED VEHICLE

The Army Tank Automotive Research, Development and Engineering Center and General Motors unveiled an energy-efficient tactical vehicle that could one day save lives on the battlefield.

The ZH2 hydrogen-fuel-cell electric vehicle prototype was rolled out Oct. 3, during the Association of the United States Army Annual Meeting and Sym-

posium. Kevin Centeck, team leader for Non-Primary Power Systems, Ground Vehicle Power and Mobility Directorate, TARDEC, said the vehicle comes with several advantages for the Army and Soldiers in the field.

First, the ZH2 operates on hydrogen fuel instead of traditional diesel. It uses much less fuel than traditional tactical vehicles. At idle, it is "extremely efficient," Centeck said. This should reduce the logistics train.

Second, since the vehicle uses hydrogen with electric power, it has an extremely low acoustic signature, meaning it's very quiet. "It's silent mobility, silent watch," Centeck said. "You don't give away your position by turning on the engine."

Third, the ZH2 has a radically reduced thermal signature because it doesn't operate as hot as a diesel engine, which means the heat signature is harder to pick up by enemy thermal sensors, providing additional stealth for Soldiers.

A fourth, less direct, but nonetheless important advantage cited by Centeck, is that the ZH2 demonstrated that the Army could build such a vehicle rapidly, using mostly off-the-shelf parts. The ZH2 took just one year from concept to delivery. The vehicle itself is basically a Chevy Colorado platform.

NEW TOURNIQUET

Hemorrhage control is the No. 1 thing you can do to save lives on the battlefield, according to Lt. Gen. Nadja Y. West.

"Stop the bleeding as soon as you can, and stop it as much as you can," said West, who serves as surgeon general of the Army and commander of the Army Medical Command. She spoke Aug. 18, at a meeting of the Defense Writer's Group in Washington, D.C.

One of the latest advances in treating hemorrhaging on the battlefield, West said, is what is known as the "junctional tourniquet," which can be applied to wounds in ways not possible with conventional tourniquets.

Traditionally, a medic or fellow Soldier can apply a tourniquet just to a person's limb, she explained. A traditional tourniquet cannot be used to stop hemorrhaging in the abdomen, chest, groin, waist, pelvis or

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Modernization... Continued from Page 11

armpit.

Developed at Army Medical Research and Materiel Command, Fort Dietrick, Maryland, the junctional tourniquet is essentially a belt with one or more inflatable air bladders that can be puffed up, somewhat like a blood-pressure cuff, to apply pressure to a wound.

The device can be deployed to stop hemorrhaging in about 60 seconds.

The junctional tourniquet is now being fielded to Soldiers in harm's way, but it's so new -- just months since fielding -- that West hasn't yet been briefed on how many lives it has saved, though she believes the number will be significant over time. The new tourniquet is currently being fielded only to medical personnel, though it may in the future become available to line troops, she said.

IMPROVED TURBINE ENGINE

Degraded lift capability is especially problematic in areas where high-altitude, high-temperature flights are required, including nearly half of Afghanistan, said Maj. Gen. William K. Gayler.

Gayler, commander, U.S. Army Aviation Center of Excellence and Fort Rucker, Alabama, spoke at the Army Aviation Association of America-sponsored 2016 Army Aviation Mission Solution Summit in Atlanta, April 29 and 30.

Using the UH-60 Black Hawk helicopter as an

example, Gayler said an average of about 78 pounds per year have been added annually -- for all the right reasons. That includes increased protective gear, ammunition, new technologies and so on. Over the years, those increases have totaled about a ton-and-a-quarter.


All of that weight affects speed, lift, range, maneuverability and the amount of stuff that can be carried, he said.

Years ago, four Black Hawks could move a platoon, he pointed out. Now, it takes eight or nine and by 2020 -- assuming the linear weight increases continue at the current rate -- it will take 15 to 20, he said.

The Improved Turbine Engine Program, or ITEP, is a completely new engine that will likely one day replace those currently in the AH-64 Apache and Black Hawk helicopters, Gayler said. It will return a lot of that lost capability.

"ITEP is critical," he said. "We must get it right to buy back maneuverability."

Brig. Gen. Bob Marion, Program Executive Officer-Aviation, said ITEP is a big deal for the Army and it will be resident in about 85 percent of its platforms. It also has potential for Future Vertical Lift, or FVL, if not the motor then pieces of the technology, he said.

FVL's engineering and manufacturing development doesn't begin until fiscal year 2024 with the first aircraft test in FY26. 

What is a Traumatic Brain Injury?



TBI Facts

- TBIs can occur on the battlefield, the football field, the playground, in a car accident, and even at home.
- A mild TBI/concussion is treatable; early detection is extremely important.
- Common causes of an TBI/concussion on the battlefield include blasts, vehicle collisions, or blows to the head.

Traumatic Brain Injury (TBI) is a disruption of brain function, resulting from a blow or jolt to the head, or penetrating head injury. The severity of the TBI is determined at the time of the injury and may be classified as: mild, moderate or severe.

COMMON SIGNS AND SYMPTOMS:

- **Headaches**
- **Changes in sleep**
- **Dizziness**
- **Nausea/vomiting**
- **Fatigue**
- **Balancing Problems**
- **Sensory changes**
- **Slowed thinking**
- **Difficulty concentrating**
- **Memory problems**
- **Depression or anxiety**
- **Mood swings**

Joint Operational Fires and Effects Course Schedule

Course Scope:

Joint Operational Fires and Effects Course (JOFEC) is designed to bridge the gap to educate leaders from all services, Multinational partners, and other Governmental agencies on the necessary skills to employ Joint Fires and apply the Joint Targeting Process to achieve lethal and non-lethal effects, in order to accomplish the Joint force commander's objectives. Students

will receive instruction and application of joint doctrine, Joint operational environment, Joint Targeting Process, Joint Functions and Staff responsibilities, Joint and service capabilities and platforms, and how Joint Fires and Effects are synchronized. The course prepares students to plan and coordinate Fires at the Operational level of a Joint headquarters in military operations including integrating across all domains.

***training dates subject to availability*

***course dates subject to change*

Course security clearance: SECRET Required

Contact your S3 Training NCO for more information

ATTRS information: <https://www.atrrs.army.mil/atrrsec/>

FY: 2017

School: 061

Course: 2E-SIL8/250-ASIL8

Course Title: JOINT OPERATIONAL FIRES AND EFFECTS

Length: 2 Weeks

Schedule:

Class	Report Date	Start Date	End Date
001	5 Feb 17	6 Feb 17	17 Feb 17
002	5 Mar 17	6 Mar 17	17 Mar 17
003	26 Mar 17	27 Mar 17	7 Apr 17
004	7 May 17	8 May 17	19 May 17

FY: 2018

School: 061

Course: 2E-SIL8/250-ASIL8

Course Title: JOINT OPERATIONAL FIRES AND EFFECTS

Length: 2 Weeks

Schedule:

Class	Report Date	Start Date	End Date
001	26 Nov 17	27 Nov 17	8 Dec 17
002	28 Jan 18	9 Jan 18	9 Feb 18
003	25 Mar 18	26 Mar 18	6 Apr 18
004	10 Jun 18	11 Jun 18	2 Jun 18
005	12 Aug 18	13 Aug 18	24 Aug 18

Prerequisite:

Active Army and Army Reserve, Army National Guard, Marines, Air Force, Navy 03/04/05/06, WO1/CW5, E7/E8/E9 and ABCA equivalent personnel serving or slated to serve in fires and effects coordination cells from Fires, Aviation, and Maneuver Enhancement brigades up to Joint Task Force/Combatant Command level. An understanding and working knowledge of the Joint Targeting Cycle and the Air Tasking Order Cycle is encouraged.

All students are encouraged to prepare for the course by completing courseware on the DOCNET Joint web site (<http://www.dtic.mil/doctrine/docnet/courses/courses.htm>), in particular the Joint Fire Support (JP 3-09), Joint Targeting (JP 3-60), Joint

Task Force Headquarters (JP 3-33), and Joint IPB (JP 2-01.3) courses.

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Marines to get Smart Phones to call in Fire Support

By Mathuel Browne

Marine Corps Systems Command

This fiscal year Marines will receive smart phones that make calling for fire support easier, quicker and more accurate. The Target Handoff System Version 2 is a portable system designed for use by dismounted Marines to locate targets, pinpoint global positioning coordinates and call for close air, artillery and naval fire support using secure digital communications.



The system is an upgrade to the Corps' current Target Handoff System and is made up of a laser range finder, video down link receiver and a combat net radio.

"Our current THS, though capable, needed to be smaller and lighter to better support dismounted operations," said Capt. Jesse Hume, THS V.2 project officer for Marine Corps Systems Command. "With the new version, Marines will obtain a lightweight device equipped to provide immediate situational awareness on where friendly and enemy locations are, and the ability to hand off target data to fire support to get quick effects on the battlefield."

THS V.2 also allows Marines to coordinate fire support missions more precisely, minimizing collateral damage, Hume said. THS V.2 uses commercial off-the-shelf smartphones that reduce the system's total weight from roughly 20 to 10 pounds, making it easier to transport. It also features new, more intuitive software. Information is transmitted via an encrypted combat net radio, ensuring mission security. Matthew Bolen, assistant engineer for THS, said the use of COTS products eliminates the cost of investing in proprietary hardware and decreases the time it takes to equip the Corps with new technology.

"With the new commercial products, THS V.2 will be half the price of the previous system, while incorporating the speed of current advancements in

handheld technology and encryption," he said.

Designed for use by forward observers, air controllers and joint terminal attack controllers, THS V.2 allows users to quickly and accurately determine a target's location and digitally transmit (hand-off) the data to supporting arms elements. The system automatically generates coordinates for targets identified by a Marine and digitizes the information into a map application pre-installed on the smartphone, eliminating the need for manual input.

Once digitized, the information is transmitted to the Fire Support Coordination Center, where the proper approach of attack is determined. The FSCC then coordinates air, artillery or naval fire support to extinguish the threat.

"THS V.2 provides embedded, real-time tactical information with ground combat element units down to the squad or platoon level," said Gunnery Sgt. Nicholas Tock, THS operations chief. "If we are on patrol and we take contact from machine guns in a tree line, a satellite that passes over once every few hours is not going to help an infantry unit kill that target. THS V.2 is for that close combat."

The system's upgraded software includes a new, easy-to-understand interface similar to operating systems used by everyday mobile users. THS V.2 will also come with a pre-installed "Start Guide" help app with step-by-step tutorials ranging from configuration to trouble shooting operations.

"Start Guide is an intuitive app that goes through setup procedures, troubleshooting procedures and many other quick-reference materials," said Chuck Schuster, MCSC's liaison to the Aviation and Missile Research Development and Engineering Center.

"This is the first time to our knowledge that a feature like this has been pre-installed on a system for Marines." THS V.2 is part of the MCSC's joint fires and combined arms arsenal. Joint fires describe the use of weapon systems in a joint environment involving forces from two or more components in coordinated action in support of a common objective.

