

2016 Sullivan Cup: Demonstrating Mastery of Fundamentals and Relentless Pursuit of Excellence

by COL John M. Cushing and MAJ Wes Wilhite

The U.S. Army Armor School hosted the third biennial Sullivan Cup competition at Fort Benning, GA, May 1 to 6. Named for retired GEN Gordon R. Sullivan, it pitted the top tank crews from the U.S. Army, U.S. Marine Corps and allied North Atlantic Treaty Organization nations against each other with the intent of identifying the “top tank crew.”

The competition drew 16 crews: 10 equipped with the M1A2 Abrams, four with the M1A1 Abrams and two crews from Canada equipped with Leopard 2A4 tanks. The six-day competition tested the physical, tactical and technical prowess of the crews through a battery of testing, situational-training exercises (STXs) and an enhanced live-fire exercise (LFX).

The M1A1 crew from 1st Battalion, 252nd Armor Regiment, 30th Armored Brigade Combat Team, North Carolina Army National Guard, was crowned the Sullivan Cup top tank crew at the 2016 Armor Ball. The M1A2-equipped crews representing 3rd Battalion, 66th Armored Regiment, and 1st Battalion, 68th Armored Regiment, captured second and third places, respectively.

This article discusses the Armor School’s preparation for the third iteration of the Sullivan Cup and provides feedback to the Armor community about how to improve tank-crew proficiency. Ultimately, only the best tank crews demonstrated continuous mastery of the fundamentals, remained resilient when encountering uncertain situations and maintained controlled aggression throughout the competition.

Planning and preparation

Planners at the Armor School were careful to define the purpose of “the tank crew” and to answer the fundamental question of “what makes a tank crew distinct?” Framing these important aspects allowed the planners to identify the most critical tasks tank crews must perform to prevail in a complex world. Ultimately, this concept served as the foundation for the events in the 2016 competition, producing a physical event – a mounted STX that included land navigation, critical 19K military-occupation specialty-specific tasks and a two-part LFX.

Armor School leaders began planning for the 2016 competition immediately after the 2014 Sullivan Cup had ended with a comprehensive after-action review (AAR) to ensure the event continues to improve with each iteration.

Critical concerns from the previous Sullivan Cup included:

- Competitor acclimatization;
- Tank maintenance and preparation;
- Evaluator certification; and
- Firm standards of evaluation.

These observations led to several structural changes to the 2016 competition:

- **Better acclimatization and preparation of tank crews** – The Armor School allotted a full five days for tank crews to exercise their vehicles with the Fort Benning fleet-maintenance team before the start of the competition and a complete live-fire accuracy screening test (LFAST) under the observation and guidance of the Abrams Master Gunner School. Early arrival allowed crews to conduct physical training in the Georgia climate.
- **Firm standards and evaluator expertise** – The 194th Armored Brigade worked in partnership with many training brigades and tenant units at Fort Benning to select only the best evaluators. Abrams master-gunner instructors evaluated every tank engagement and completed every AAR in the live-fire competition. The Noncommissioned Officer Academy provided its combat-vehicle identification instructor to enforce the standards of evaluation for the Advanced Leader’s Course. Lastly, 14th Combat Support Hospital provided medical experts to grade the tactical combat-casualty lane during the mounted STX. All evaluators were certified by the brigade commander and command sergeant major during a series of

rehearsals prior to the arrival of the tank crews. Thus, only experts from across the Maneuver Center of Excellence evaluated the tank crews.



Figure 1. Cadre from 1st Battalion, 81st Armor Regiment, lead U.S. Marine Corps armor crewmen through the tow-cable crawl event – part of the Armor Crewman Physical Proficiency Test – during the 2016 Sullivan Cup. Only the best evaluators were selected from Fort Benning’s training brigades and tenant units. (Photo by 194th Armor Regiment Public Affairs)

Physical event

In 1974, while serving as the chief of the Armor School, GEN Donn A. Starry created the Armor Crewman Physical Proficiency Test (TC 17-15-8) to instill morale and *esprit de corps* in the Armored Force by providing a challenging physical event using tank-specific equipment. Leaders from 1st Battalion, 81st Armor Regiment, transformed the test to capture changes in tank equipment during the last 40 years while maintaining the original five-event test’s traditions.

The five events included:

- **Ammunition lift** – A crewman must lift a 120mm high-explosive anti-tank, or HEAT, round from the ground to above his head as many times as possible in two minutes.
- **Track block shuffle** – Each crewman must move 10 two-block tank-track sections 20 meters as fast as possible.
- **Tow-cable crawl** – Each crewman must crawl 15 meters with a tow cable and sprint back to the start line as fast as possible.
- **Road-wheel roll** – Each crewman must roll an M1 Abrams tank road wheel around the distance of a baseball diamond (about 240 feet) as fast as possible.
- **One-mile run** – Each crew must complete a one-mile run in duty uniform. Crews were allotted a minimum of two minutes between each event.



Figure 2. A tank crew demonstrates upper-body strength during the ammunition-lift event of the 2016 Sullivan Cup's Armored Crewman Physical Proficiency Test. (Photo by 194th Armor Regiment Public Affairs)

STX lane

After testing the physical grit of our crewmen, the Armor School tested 19K technical proficiency in the STX lane. Developed by the leadership of 5th Squadron, 15th Cavalry Regiment, the STX lane required tank crews to receive a platoon operations order and successfully navigate to 12 graphic-control measures in less than six hours. During the lane, crew members reacted to five situation-based training lanes:

- Prepare vehicle for combat;
- Perform tank maintenance;
- Provide tactical combat-casualty care;
- Complete a sector sketch; and
- Conduct vehicle identification.

The Armor School selected these tasks with the vision that a tank crew must demonstrate mastery in the following areas:

- Mounted land navigation without digital aids;
- Crew-level evacuation and combat-lifesaver tasks;
- Mastery of hull maintenance and recovery tasks;
- Swift preparation of a vehicle for combat operations;
- Accurate identification of combat vehicles; and
- Preparing a hasty battle position.

Crew-level LFX

Shortly after the 2015 Maneuver Warfighter Conference, 194th Armored Brigade, the Weapons and Gunnery Branch of Directorate of Training and Doctrine and the Abrams Master Gunner School began developing the crew LFX for the 2016 Sullivan Cup. The Armor School commandant cautioned that the scenario “will not be your father’s gunnery qualification table.” Therefore, the scenario was designed to evaluate the most challenging performance measures on the most challenging range at Fort Benning. Based on the feedback of the Maneuver Warfighter Conference and communication with training-center live-fire teams, it was determined the following areas present the greatest challenges to the Armored Force:

- Multiple target engagements;
- Change of weapon systems;
- Changes of ammunition type;
- Broad lateral dispersion of targets; and
- Speed of target acquisition.

The LFX scenario required crews to demonstrate consistency by firing four day engagements and three night engagements. Then they returned a second day to fire another three day engagements from a different lane. Each engagement featured multiple target scenarios, requiring crews to engage two to four targets while frequently changing ammunition type and weapon systems.

All target engagements required the entire crew's full participation. Each crew member had to be proficient in his assigned position to produce successful results – drivers assisted in the acquisition of troop targets; loaders scanned out of the hatch to assist with target acquisition while sometimes called on to engage troop targets; and both gunners and tank commanders used all sights available to acquire targets.

Highlighting specific challenges, the first day run featured a graded call for fire engagement without digital capability or the Global Positioning System. Each crew's score was determined by the accuracy of their call for fire request and the proximity to a target group. The night run featured a call for illumination engagement (supported by 198th Infantry Brigade's Mortar Leader Course) during which the competing tank crews called a pre-planned illumination target to identify and engage two unheated vehicle targets. Both days featured engagements that required operation of the tank in emergency mode, requiring crews to manually lead targets from both the gunner and tank commander stations.

In addition, the crews were introduced to the Fort Benning Digital Multipurpose Range Complex and to the efficient employment of ammunition. Traditionally reserved for platoon LFXs, the range featured a width of 1,600 meters and elevation changes of 75 meters. The terrain produced a broad lateral dispersion of targets and required crews to use all crew positions available to acquire targets.

Crews were not allocated a full ammunition load (in accordance with Training Circular 3-20.31, ***Training and Qualification, Crew***) for each engagement. Instead, tracer rounds were removed from all coaxial engagements to minimize range fires while also ensuring that crews demonstrated mastery of machinegun engagement techniques. Also, no more tank rounds were allocated for re-engagement of missed targets. All M1A2 crews were equipped with thru-sight video, and all target effects were vetted by both digital and visual means by master gunners to ensure the highest standards and quality of the competition. These constraints produced extremely challenging conditions, forcing the crews to make every round count and to engage targets in a timely and aggressive manner.

Evaluation

The overall scoring of the competition was based on a cumulative total of 2,000 points: 400 points for the physical event, 600 points for the STX lane and 1,000 points for the LFX. The top-four highest scores advanced to the final event, the shoot-off.



Figure 3. The Royal Canadian Armoured Corps Crew assembles tank track on the tank-maintenance lane during the situational-training exercise of the 2016 Sullivan Cup. (Photo by 194th Armor Regiment Public Affairs)

Shoot-off

The shoot-off was the final event of the competition, with only the best four crews chosen to vie for the Sullivan Cup. It required tank crews to destroy remnants of an “Arianan Mechanized Infantry Battalion” reinforced with a tank company in a decisive-action training environment-based scenario. In only three engagements, the tank crews were presented 22 targets (15 vehicles, six soldiers and one helicopter). Tank crews were provided only one tank round for each vehicle target and a total of 400 rounds of small-arms ammunition for troop targets.



Figure 4. GEN Robert “Abe” Abrams, U.S. Army Forces Command commander, selects the firing order as part of the 2016 Sullivan Cup shoot-off lottery. (Photo by 194th Armor Regiment Public Affairs)

Observations and challenges

The last 14 years of combat demonstrate today’s Armor crewmen must be physically fit, situationally aware and technically proficient to dominate their opponents and overcome harsh terrain conditions. With that in mind, the Armor School stressed the need to maintain a competitive mindset of physical dominance and resiliency throughout the physical and STX events. The crews rose to the challenge and performed exceptionally in the physical and STX lanes events, with only 180 points separating the first and last crews when they entered the final event: the live-fire scenario. None of the crews were out of the competition until the final day.

The Abrams Master Gunner School ultimately provided an incredibly challenging live-fire scenario. Crews quickly learned the scenario was not a traditional Table VI qualification table. While most observers believed the Commander’s Independent Thermal Viewer (CITV) would provide the M1A2 crews a distinct advantage over M1A1 crews, tank-crew evaluators (TCEs) (using thru-sight video during evaluation) found that most M1A2 tank commanders did not employ the CITV for target acquisition, but instead only used it to assess effects during multiple target engagements. The M1A2 crews who used the CITV during the entire engagement process performed better than the crews who only used CITV to assess effects. Also, when faced with multiple targets or change-of-weapon-system engagements, the synchronized and aggressive crews clearly distinguished themselves from the rest of the field.

Lastly, tank crews must continue to understand and develop confidence in the fire-control system while operating under degraded conditions. For example, both day runs featured emergency-mode engagements. The first run required the gunner to manually (calculate) induce lead on a moving flank target. The next run required the tank commander to do the same. While few crews successfully qualified both engagements, the master gunner-led AARs gave the crews an opportunity to recall and demonstrate mastery on their second run.

In summary, the challenging scenario provided an excellent learning model to identify gaps and potential atrophied skills within our live-fire training program.

Ultimately, the Sullivan Cup tank crews demonstrated they are physically fit, mentally resilient and technically competent in their chosen profession. The competing crews once again proved why they are the best armored crewmen.

Looking to the future, armored brigade combat teams should continue to focus on mastery of the fundamentals, and they should seek more opportunities within their formations to challenge and develop the Armored Force. Gunnery should not be just a calendar event; it should be trained throughout the year to truly obtain platform mastery. Table VI is not the end. Rather, it's the beginning of tank-crew proficiency. Company and battalion leaders must ask: "What am I doing after crew qualification to continually develop crew-level coordination and proficiency?"

Units should continue to employ both live and simulated training following crew qualification to continue improvement. The Advanced Gunnery Training Simulator (AGTS) program must be continued after crew qualification. After Table VI qualification (based on availability of ammunition), master gunners should identify additional scenarios for their best crews to test them with increasingly challenging engagements.

Units must strive to return to mastery of the basics that set the foundation for successful crew live-fire qualification – for example, prep-to-fire checks, LFAST procedures, boresighting and effective armament accuracy checks (AACs) – while developing precision-gunnery competencies. Ultimately, these areas set the stage for future crews to pursue excellence at the next Sullivan Cup competition and to hone their skills to fight and win our future conflicts. Leaders must sustain the competence and commitment of the Armor crewman to maintain our prominent position on the world stage.

The Armor School will continue to improve the Sullivan Cup competition in subsequent iterations to ensure our best crews are prepared, challenged and poised to meet the new challenges that await them in an uncertain world.

The 2018 Sullivan Cup competition will be April 29 to May 4, 2018, at Fort Benning. The Battlehard Brigade and the U.S. Army Armor School are now planning it ... see you on the high ground.

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