

**NEWSLETTER  
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**IN THIS ISSUE**

- ◆ History of the Master Gunner Program Pt 1
- ◆ US Armor & Cavalry Collection OPEN HOUSE
- ◆ Adaptation Under Fire by David Barno & Nora Bensahel
- ◆ Patton and the US Tank Corps Monument Update
- ◆ Battalion Information

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The Blood and Guts Newsletter covers events and activities within our area and USABOT National.

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# PATTON BATTALION - USABOT

## ILLINOIS - INDIANA - KENTUCKY - TENNESSEE

So excited to take another dive into the Master Gunner Program history. A few weeks ago I for some reason just started typing in some search engines, Master Gunner, and I got some very interesting information. We had talked about this on the USABOT Members page but now I was finding documents from what appear to be the papers of General Donn Starry. This takes us back to the days after the 1973 Arab-Israeli War and what the Army was looking at after that war.

This will cover a few issues of the newsletter as the information is very long and will need to be looked at in depth. We are in a very similar time as 1973. Having just finished the war in Afghanistan and the war in Ukraine we are in the pivotal point of transition. I mention this as warfare has evolved during our twenty year war and outside sources have not been looking down the same stovepipe we have. There is a time to look around and reflect but in 1973 we did not reflect we just took the road to transition. Its important to look at what we did in 1973. How we made that shift.

Look at the questions we were asking. Look at the thought process that took us down the path we took. We did not take the time to really look at the Vietnam War and how we fought that war. We stepped off that bus and right onto another bus in another direction. This is the time to reflect and use those lessons with what is happening to go forward.

On Saturday November 5th I had the honor of attending the Ft Knox area Master Gunners breakfast. I made some great connections and now him some sources to very the very early days of the Master Gunner Program.

I am not sure how many parts there will be to this series. This is part 1 of 2, 3 or maybe even 4. Stay tuned.

In that reflection we have the book *Adaptation Under Fire* by David Barno & Nora Bensahel. As mentioned above we are in a position that we must reflect on the past twenty years and look to the future. We must ensure that our faults and missteps are closely examined to ensure that we don't go down this pathway again. I consider this book to be one of the first to take a deep dive into the past twenty years.

This book highlighted some issues I have seen over the past twenty years. Things that I have always thought that we were not doing well. I probably go too far in my rant but this book is meant for us to be very thick skinned in our AAR of the last few years. And we must be aggressive in our look into what has been happening.

Happy Tanksgiving!!!!

KP Morris  
Patton 6

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## History of the Master Gunner Program

In 2021 on the USABOT Members Facebook page I started a conversation about the beginnings of the Master Gunner Program. I had been looking at how the Arab-Israeli War of 1973, also known as the Yom Kippur War, had brought about many changes to the US Army. One of these was the creation of the Master Gunner Program. This was one of many programs to change to the Army but the focus was on tanks and tank gunnery.

That was a conversation about how that came about. We had members talking about their time in the program and how the MGs changed gunnery and our skills up until Desert Storm. Looking back and still very interested in this I have dug into this some more and have found some documents that show how this came about. The comments we had from the USABOT page were put together into a word document and it was shared with the Armor School and the Master Gunner School. I have found some documents at the US Army Heritage & Education Center in Carlisle, PA. I think that these documents paint a pretty good picture for the need for the Master Gunner Program and how that came about.

Let's go back to 1967 and the Six-Day War which took place 5 to 10 June 1967 between Israel and a coalition of Arab states primarily comprising Jordan, Syria and Egypt (then known as United Arab Republic). The Six-Day War gave the Israelis a false sense of dominance and impacted their doctrine and the way they fight. It would be this arrogance that would cost them early in the 1973 war. The Six-Day war allowed them to feel as though they were untouchable.

After the Six-Day war the US and Russia backed all the warring nations with their latest equipment. There were the newest tanks on each side facing each other. Also there were new technologies at play. You could say it was a near peer battle as they equipment was the most modern going against each other. Russia and the US had trained their partner.

We also need to note some of the key players in the founding of the Master Gunner Program. The first key player is the Chief of Staff of the Army, General Creighton W. Abrams, who was appointed in June 1972 and sworn in on October 16, 1972. It is important to remember that General Abrams would pass away on September 4, 1974. He would never see the shift in the US Army he had created.

The next key player is the new Training and Doctrine Command (TRADOC) commander, General William E. DePuy. TRADOC was created on July 1, 1973. He would hold this position until he retired in 1977.

The commandant of the US Army Armor School was MG Donn A. Starry. General Starry would go on from the Armor School to Command V Corps in Europe from 1976-1977 and then command TRADOC from 1977-1981 replacing General DePuy.

Before I go into the documents I have found I have to provide some information. Although I have not been able to verify a date sometime in November 1973 the US Army sent a team to Israel to gather a Lessons Learned from the 1973 war. This Lessons Learned was tasked by then Chief of Staff of the Army, General Creighton Abrams, to see what the US Army needs to work on. Below is a 1973 briefing by BG Morris J. Brady who headed was the Director of the Special Readiness Group Study (SRGS). This actual briefing is from one being presented to the 8<sup>th</sup> Army in Korea. This will be our start point.

### 1973 MIDEAST WAR BRIEFING INTRODUCTION

In January, GEN Abrams sent me to Israel to find out what he called "the truth," to sort out fact from fancy, to talk to airman, soldiers, headquarters and battalions and find out what really happened. I interviewed some 45 officers from Gen Elazar down, the interviews averaging 2 hours each. The efforts of all of us have been aimed at the tactical aspects of the war and have not included strategic matters. Let me say at the outset that – although the October 1973 Mideast War was a short war in a specialized situation, if one examines the war carefully, it provides insights into Soviet equipment capabilities and tactical doctrine. It was an allout war, heavily mechanized with only atomic and CBR weapons not being used. Much perhaps most important of what we have learned is not new, but it needs reemphasis and confirms most of our own tactics and doctrine.

*(I am skipping the 7 page description of the 1973 Arab-Israeli War for space. There are plenty of books, websites and other places to get a better insight into the war.)*

Let me now discuss some of the details of the tactical aspects of the war. The initial Israeli counterattacks in the Sinai were aimed at relief of the strongpoints along the Suez Canal. It was in these counterattacks that Sagger and RPG antitank weapons achieved their greatest success against Israeli tanks such as the M60A1.

The Israeli success has been attributed by some to a matter of good use of ground, good gunnery, and guts! The Israeli tank is trained first to kill other tanks and after having achieved local tank superiority, to exploit by offensive action. During the war this accomplished by destruction of 1,700 Arab tanks at a cost of 800 Israeli tanks, with half of the Israeli tanks repairable. Overall 75-85 percent of the tank losses were attributed to tank gunfire, emphasizing that the tank remains the best defense against other tanks.

Israeli's were faced with force ratios of 1 Israeli to 3, or 4 Arab tanks. To win outnumbered required good gunnery, and attrition of the Arab force before the Arab force reached its most effective ranges between 1,200 and 1,500 meters. While there were instances of engagements at 4,500 and 4,700 meters, these were exceptions and hits were more a matter of luck than skill. 3,000 meters represented the more normal opening engagement ranges, with the M60A1's range finder and fire control a definite asset as this long range and providing a 50 percent hit probability at the 2000-2500 meter range. Resupply of tank ammunition posed a major problem.

## History of the Master Gunner Program - Cont.

The stowed load of 63 main gun rounds for the M60A1 and 73 rounds in the Centurion represented a significant advantage over the 40 rounds in the T-62. This was a key factor in the Israeli success on the Syrian front.

The Syrians led their attack with infantry and engineers. The defending Israeli tank concentrated their fire on the armored vehicle launch bridge bridging the Israeli antitank ditch. Some Syrians tried unsuccessfully to drive through the ditch. This BTR60 overturned while trying to back out. One Israeli reported that at least 30 tanks were stuck in the ditch at one time.

Arabs were equipped with an abundance of night operations equipment but they did not capitalize upon this capability. Examples of the equipment are the RPG-7 with Starlight scope. The T-62 has the commander's infrared spotlight, the infrared and white light searchlight, gunner's night sight, and driver's night driving periscope.

The Israeli tankers who fought them considered both the M60A1 and the Centurion Mark 8, to be superior to the T-62, the 115mm smooth bore is a fine weapon, but the external fuel cells, fuel and ammunition storage side by side in the fighting compartment, and poor human engineering lead to that Israeli conclusion. Israeli personnel report that after 1 ½ hours in the T-62, the crew is fatigued to the point of exhaustion.

Israeli battle staffs were austere by US standards, but the commanders, as is the doctrine, positioned themselves where they could best evaluate the battle and take immediate responsive action. This was usually well forward. Israeli commander's report that they gave mission type orders to their subordinates to allow for maximum flexibility in their operations.

By comparison, the Arab's appear to have a more conservative approach to the positioning of commanders, and are reported to have been quite detailed in their plans and orders. As a result they often failed to take advantage of opportunities on the battlefield and were quite inflexible in their operations, with instances of Arab commanders failing to exploit obvious success.

*(I edited out the CBR and field artillery comments.)*

Most of what we have learned from the October war reinforces or confirms our visualization of ground operations on the mid-intensity battlefield.

The key feature of Israeli logistics system was flexibility.

### Combat Service Support

In spite of problems and unforeseen enormous demands, Israeli logisticians made the system work and provided responsive support well forward. Subsequent to the 1967 War the Israeli's established major equipment standardization programs. This standardized equipment was central in designated tactical units, T-55 tanks in one unit, US M60's in another, etc. This facilitated training, operation, resupply, and maintenance. Repair parts and ammunition were carefully preplanned and packaged for wartime use matching anticipated requirements of these designated units.

Repair work was accomplished as far forward as possible. The effectiveness of the Israeli Mobile Contact Repair Teams in the forward areas was exceptional. These teams exchanged 175mm and 8-inch gun tubes, replaced tank power and removed turrets. These teams moved into the battle area as soon as possible. Their flexibility, improvisation, and competence were outstanding. The tremendous consumption rates are an important logistics consideration.

Turning now to the electronic warfare the Egyptians employed EEW extensively. Their signal intelligence and electronic warfare structure closely paralleled the Soviet organizational pattern. Divisions were supported with intercept, direct finding, and electronic countermeasures capabilities. Command and control of these units was maintained at Army level. Both ground and airborne SIGINT collection and ECM platforms were employed by the Arab's.

The Egyptian's were well supplied with Soviet equipment such as captured R330 Jammer, this radar direction finder, and this twin box interceptor and direction finder. The Mideast War reaffirms that EW is a necessary element of combat power.

What you have heard has been a brief review and analysis of the data from the Mideast War – a war that has provided us three unique opportunities:

First, a glimpse for the first time at what we call mid-intensity warfare, that is all out modern warfare with only nuclear, CBR weapons not used.

Second, we have been able to evaluate on a larger scale than ever before, Soviet tactics, doctrine and equipment.

Third, through the Israeli use of US equipment we have been able to gain some insights on how our equipment does against Soviet equipment.

We can expect the Soviets to operate in a similar fashion – even though some equipment may be more modern that they had provided the Arab's – and certainly we can expect better execution. What does this mean, then, for the US Army and our Allies? It means that:

--We need more and better combined arms training. This comes out loud and clear. We need to devise innovative combined arms tactics to counter those known enemy strengths such as air defense, tank and antitank warfare.

--We need to pay more attention to air defense. Divisions, brigades, battalions, and companies have got to get back into the act in air defense, both active, and passive. We have got to base our planning

## History of the Master Gunner Program - Cont.

A Letter from BG Paul Gorman to MG Donn Starry.

8 January 1974

Dear Donn,

For the past week or two we have been engaged in trying to derive lessons from the Israeli War, in which Colonel Prillaman was most useful. The Commanding General has prepared an interim reply to General Abrams' questions concerning what the Army should do, based on the Israeli/Arab experience, and plans to follow it up in June with a more detailed discussion of both problems and proposed solutions.

The attached paper (inclosure 1) is a draft of my input to the exercise. The CG asked me to convey it to you, stating that he wanted to discuss both the diagnosis and the prescription with you.

The second inclosure is a list of tasks derived from the paper mentioned above. There are some larger issues not listed, but you can readily infer those. Our on-going look at EPMS, ATP and for addressing virtually all of the issues, aside from that of engagement simulation.

Inclosure 3 presents guidance for the preparation of Army Training Tests which I have not yet had an opportunity to discuss with General DePuy, but which I believe represents an approach compatible with his concept of ATT's, and General Abrams'. Obviously, the whole subject and ATP's deserves of ATT's more extensive development than I have given them here, but I thought you might like to have some idea of how I am approaching the problem.

Inclosure 4 is a fact sheet from my staff which summarizes the current state of play of ATP/ATT. I expect General DePuy will want to discuss these subjects with you during the forthcoming Combat Arms School Commandants Conference.

Inclosure 5 is a copy of a recent "Kerwin sends" which underscores my thesis.

I would be grateful for your reaction.

Regards, Paul F. Gorman  
Brigadier General, GS  
Deputy Chief of Staff for Training and Schools

To:  
Major General Donn A. Starry  
Commandant US Army Armor School  
Fort Knox, Kentucky 40121

### How to Win Outnumbered

In 1967 the Israelis, using in part upgunned US World War II tanks, whipped technically advanced and numerically superior formations of Arab manned T-54 and T-55 Soviet tanks. In 1973, outnumbered overall in tanks by 8:1, Israeli armor wrought another victory. Israeli tankers emerged from the Yom Kippur War more confident than ever that their tanks can dominate a modern "mid-intensity" battlefield, and that they can fight and win tank-versus-tank battles at long odds. That confidence springs from conviction that their tank crew training – especially in gunnery – makes their machines significantly more effective than machines manned by Arabs. In other words, the Israelis made certain investments in training and personnel management for tank crews which improved the effectiveness of the tank as a weapon system, and they are convinced such investments offset Arab advantages in both quantity and quality of Soviet materiel.

This paper argues that the Israelis are quite right, and that the US Army ought to take heed. The M-60 series tanks, which will be the backbone of our tank fleet for the decade to come, will proffer no clear technical advantage over Soviet tanks, and are bound to be outnumbered on any likely battlefield. The US cannot buy, via any foreseeable materiel development, an upgrading of weapon system effectiveness for its tanks comparable to that which would flow from improved training and personnel management of tank commanders. Such measures are the only means to victory in tank-to-tank battle the US can afford, and the US Army cannot afford to defer them.

### Gunnery Training: Some Historic Parables

Guns and gunnery have been central to the military art for many centuries, but that very antiquity has often obstructed progress, in that professionals too often take gunnery techniques for granted. For example, up until 1898, all gunnery at sea was dependent upon firing with the uproll of the ship. A range was estimated, and an elevation was applied to the gun which, additive to the elevation of the ship at maximum roll, would loft the projectile to the target. The gunner then watched over open sights until the roll of the vessel brought the target into train, and fired. In 1892 telescopic sights had been introduced but until 1898 they were fixed to the gun barrel, and amounted to little more than an uncomfortable version of the open sights. In that year, a British officer by the name of Scott, watching his gunners at service practice, hit upon the notion of up-gearing the screw elevation mechanism to the point the gunner could elevate and depress the gun with the motion of the ship, keeping continuous aim on his target. He rigged the telescope so that the sight apparatus was independent of gun recoil. And he hung a panel target off the mouth of the gun, which, moved up and down

## History of the Master Gunner Program - Cont.

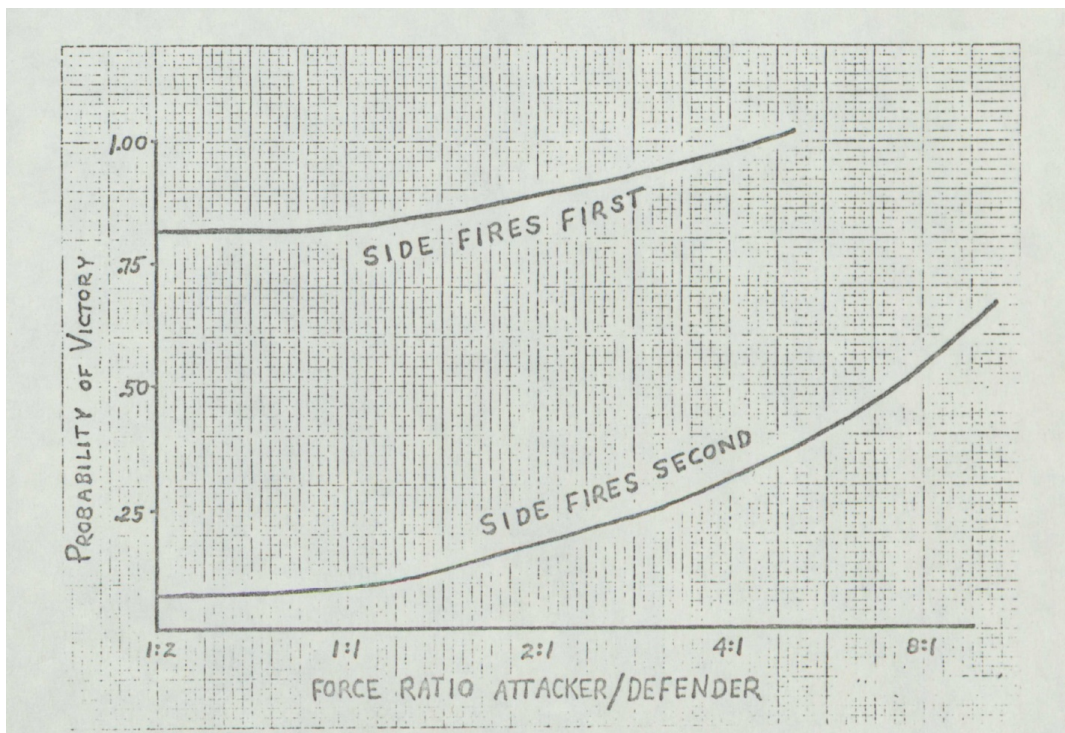
by a crank, simulated the sighting problem the gunner had to solve and provided training without expenditure of ammunition. No expensive Product Improvement Program this; Scott never consulted the Admiralty, and did all the work with his own gunsmith. With his training aids, Scott's gunners improved in effectiveness by an amazing margin. Whereas before gunnery was a slowly acquired, arcane and gymnastic art, it became with Scott's technique a skill any attentive sailor could master in a short time.

Sims of the American Navy soon learned of Scott's innovation, and although both encountered staunch opposition from traditionalists, their ships soon shot their respective fleets into imitation: in a period of just six years, the fire-effectiveness of the British and American fleets increased by some 3000 percent. As a documented measure, in 1899, before using the Scott technique, five ships of the North Atlantic Squadron fired for five minutes each at a lightship hulk at 1600 yards, scoring just two hits. Six years later, using Scott's continuous aim, one naval gunner, firing at the same range of 1600 yards, scored 15 hits in one minute on a target 25 feet by 75 feet--and half of these struck a 50-inch by 50-inch bull's eye.

In 1940, the British Army, striving to recover from losses of artillery materiel in France, issued from depot stock a venerable light field piece of Boer War vintage which could still shoot dependably, and which, towed by trucks, was sufficiently mobile to add flexibility to England's coastal defenses. But in service practice, the gun crews seemed unable to sustain a reasonable rate of fire. Accordingly, a civilian training expert was called in to study slow motion movies of a five-man crew servicing the piece precisely as called for in the field manual. The expert questioned why it was that, just before firing, two men from the crew ran smartly ten yards or so to the rear of the piece, stood at rigid attention while the gun discharged and recoiled, and then ran back to rejoin the crew. He received no reasonable answer until one old colonel, upon watching the movie, announced that it was perfectly clear what the men were doing: they were holding the horses. That fatiguing excursion eliminated, the gun crews upped their effectiveness by one-third.

These anecdotes are included not to suggest that the Israelis are onto some Scott-like innovation in tank-shooting, or that US tankers teach horse-holding, but to stress that training technique is a central factor in weaponry effectiveness, and that its centrality has often been overlooked, even by so highly professional services as the British Navy and the Royal Artillery. The Israelis took great pains with training in gunnery, especially for tank commanders, and therein lies the explanation of their tactical dominance in the Yom Kippur War.

The effectiveness of the tank in battle, as a weapon system is bound to be highly sensitive to the state of training of the tank commander. It is he who coordinates his vehicle's action with that of other tanks, anti-tank weapons, and artillery; he who positions the tank for engagement, who designates the target, who determines range, who selects the ammunition, and who chooses the moment to fire. If he makes sound choices, he improves his chances of firing at this target before it can fire at him, and of hitting with his first shot. The importance of firing first in multi-tank engagements has long been understood, and has been central to US Army materiel developments and doctrine for years: we want our tanks to operate on the upper curve below, which shows that a capable commander with a well-trained crew, shooting first and hitting, enjoys marked advantages even when badly outnumbered.



This graph, based on analysis of approximately 300 company-level armor engagements in France during World War II, quantifies the tactical advantage which then accrued to the tank unit which got off first rounds. That advantage was so dominant that a side outnumbered 2:1, but shooting first, had a much better chance of winning than one enjoying 4:1 superiority firing second.

## History of the Master Gunner Program - Cont.

This sort of analysis has since underwritten many a materiel oriented US combat development--range-finders, shoot-on-the-move stabilizers, etc. For years US statements of requirements for new tank guns have included such stipulations as "must have 90 percent probability of first round hit at 2000 yards." A recent USAIS staff study of opening ranges in tank battles, from World War II through 1967, showed differences in materiel and terrain, but portrayed a technology stretching toward longer and longer first shot ranges. That technology, during the Six Day War of 1967, permitted the Israelis, on the average, to start shooting at better than 1000 meters. During World War II, in North Africa, comparable figures are about 80 percent of that range. Preliminary reports from the 1973 Yom Kippur War indicates that average opening-range for day-time tank fights may be as much as 150 percent to 200 percent higher than in 1967. These figures point to the presence on the 1973 battlefields of technically advanced materiel that was no doubt used advantageously by the Israeli tank commander. But the evidence is strong--and supported by Israeli contentions--that superior crew training, not that materiel, determined combat outcome.

The Israelis, in discussing tank tactics, explicitly compare tank commanders to fighter pilots. Just as they train their fighter pilots first and foremost for air-to-air combat, so too they train their tank commanders primarily to destroy other tanks in combat. We do not have much data on the tank side of this analogy, but assuming, on the strength of the Israeli victory, parallelism, it is instructive to examine what we know of air-to-air combat.

No weapon system has been so extensively and expensively engineered to diminish human influence on battle outcome as the modern fighter aircraft. In World War II a tank and a fighter cost about the same, but while the tank's cost has since increased by a factor of 10, the fighter's cost has gone up by 100. Yet USAF experience over North Vietnam was comparable to that in Korea and World War II: crew skill remained a primary factor in combat results. In every war since World War I, about four percent of pilots have accounted for 40 percent of air-to-air kills; and if there has been a premium on excellence; the price of mediocrity has been so high that less than one in five pilots has better than a 50-50 chance of surviving his first decisive combat. One analyst, upon examining these data, concluded that:

--Any realistic assessment of the capabilities of projected equipment must properly account for the variability of individual performance, variability allow the selection and maximum exploitation of the rare capabilities of the best operators, while raising to a maximum the performance of the less skilled.

Another analysis of these figures held that:

.. With intensive pilot training and selection, an air force could develop a pilot group capable of sustained 5:1 to 10:1 exchange ratios against any air force that simply produces pilots on a standardized production line curriculum.

The Arab:Israeli fighter ratio was 2.5:1 at the outset of the Yom Kippur war; the air-to-air loss ratio was 56:1.

If the fighter-pilot/tank commander analogy is valid, then the Israelis can look with satisfaction on their policies for the selection, training and management of tank crews. Each trainee learned to be a loader first, and then progressed through the more skilled positions in the crew via a combination of separate school courses followed by experience in a unit. Crews were kept together, and commanders pegged to a specific tank. The Israelis preferred to commission tank officers from the ranks of proven tank commanders. Dry firing, dry runs, and simulation were extensively used in tank gunnery training, and each active Army crew underwent qualification firing twice annually (reservists fired over a two-year span). The Israelis have discovered no training magic; American observers report that their tank ranges are not unlike ours, except that Israeli gunnery training is more intensive, more precise, and more specifically related to combat readiness for specific crews. When they had the ammunition, they fired significantly more ammunition to train gunners and tank commanders than do US Army units each year. They put greater stress upon accuracy and they used surprise targets and multiple targets in their version of the Tank Crew Qualification Course. And since they kept tank commanders and gunners assigned to the same tank, year in and year out, the training was cumulative. The battle was the pay-off: in the Yom Kippur War Israeli tank commanders hit, at ranges up to 3000 meters, Arab antagonists apparently trained to fire only after closing to 800-1000 meters, and incapable of burst-on-target adjustment or any other accommodation to first round miss.

The following table summarizes four battles of the Yom Kippur War, drawn from post-action American reports:

Israeli Posture	Total No. Tanks, T+A	Tank Odds I:A	Tank Exchange Ratio I:A
Night Attack	870	1:2	1:6
Defense	180	1:1	Arabs wiped out
Defense	700	1:6	1: 6
Defense	110+	1:2+	1:50+

Altogether, half the participating tanks were casualties, the Arabs lost more than 800, the Israelis less than 100. These statistics provide three points of interest: (1) Materiel was not determinant; in fact, in the last cited combat the Israelis were manning captured Soviet tanks, so that materiel on both sides was identical. (2) These battles surpass, in numbers battles of tanks engaged, any (recent?) experience of American armor. (3) The outcomes confound US Army doctrine and training techniques, in that were we to stage a war game or maneuver to try to learn how to fight such battles, the side playing the Israelis would have lost each, and the exchange ratios would have been exactly reversed.



## History of the Master Gunner Program - Cont.

In our Field Manual 105-5, Maneuver Control, we teach that when a unit's casualties approach 40 percent, probability of its performing mission approaches 0 percent (p. 177). Yet Israeli tank battalions are known to have slugged on to sweep the field despite losses of 50 percent or more. We also teach that:

"For friendly forces advancing with a combat power superiority of 5 to 1, losses to friendly forces will be about one-fifth of those suffered by the opposing force...When tanks maneuver against tanks, the losses are computed in the inverse ratio of participating tanks of the opposing forces. . ." (pp. 114, 123, 173).

This sort of linear relationship has been suspect among theorists. In 1967 an analyst\* (Robert. L. Helmbold, "Some Observations on Validating Combat Models," unpublished) presented a paper at a NATO conference which aggregated the results of some 92 battles in which one side was outnumbered: some between armor forces, some infantry and some air. He reduced the opposing forces to numerical values using conventional firepower scores derived from weapon systems data, as in FM 105-5. He then examined the marginal effectiveness (kills) of each force unit of score. FM 105-5, and orthodox game theory, would predict that as one side added units of force, its effectiveness (kills) would increase proportionately (linearly). But the data from the 92 battles showed a strong advantage for the outnumbered side: doubling the larger force improved the smaller's exchange ratio by a factor of four.

Whether this analysis is accurate or not, the Yom Kippur War provides ample evidence that fighting masses of tanks is different from engagements involving relatively small packets. A sort of "mathematics of melee" becomes operative: individual tank-versus-tank superiority is multiplied many times. Probably panic plays a prominent role. Probably too, the outnumbered force enjoys relative ease in targeting, tank for tank, while the more numerous force, because of mass, has difficulty in finding cover. But whatever the explanation, the implications are plain that modern combat requires forces ready to fight outnumbered in mass-tank battles, trained to exploit fully the phenomena cited above. Assuredly, the high confidence the Israelis trained into their tank commanders played a major role in their dramatic tactical victories.

### The American Tank Commander

Any American would hope that the US Army, like the Israelis, had a well-founded system for attracting, selecting and training competent noncoms to command its tanks. Of all US soldiers, tank commanders ought to be supported in a special way by the TRADOC school system. Such Department of the Army incentives as proficiency pay ought to reward the topflight tank commander, both in recognition of his worth, and as an inducement for other noncoms to compete for his position. And American field training should prepare him for fighting massed armor battles. The fact is that a dismal opposite obtains.

--Worldwide, the US Army is short tank commanders. One CONUS mechanized division, in July 1973, had 11E40 NCOs qualified 47% of authorized MOS to command tanks. The division commander thereupon reclassified involuntarily 48 E6 from other MOS in order to improve his "readiness" posture, and as of January, 1974, had 54 percent of authorized MOS 11E40. In the reclassification proceedings, each candidate, allowed to state his preferences concerning the action, expressed in one way or another disinterest in commanding a tank, and disdain for the long hours, intensive command pressure on maintenance, and hard field work involved in the MOS. Whether that group reflected Army-wide attitudes or not, NCOs Army-wide are not beating down their commander's door to become tank commanders, although the opportunities are plentiful. The US Army has not been able to attract enough sergeants of appropriate rank and skill to man the tanks in units of the Active Army.

-- The majority of US Army tanks commanded by sergeants are in the hands of men rated in the lower half of the NCO Corps, sergeants whose only formal CONARC-TRADOC training was received during AIT five years or more ago. Moreover, TRADOC school prerequisites are such that these men are ineligible for either NCOES at Fort Knox, or the NCO Academy in their division. In November 1973, MILPERCEN sampled, using ADP, TO&E units worldwide to analyze soldiers in the grade of E6 holding MOS 11E40 who were scheduled for reassignment. Of a total of 828# (*A significant sample. Army is authorized 2,238 E6, MOS 11E40, had 1,547 in November 1973, to man the 2000 odd tanks in TO&E units of the Active Army.*) identified for the sample, 435 or 52.5 percent were ineligible for a TRADOC school because their Primary Military Occupational Specialty Score was below 100 (the median score)--in brief, the majority were in the lower half of their MOS-grade group.

--Most of the brighter, more capable noncommissioned officers of Armor Branch in MOS 11E40 are not in command of a tank but in jobs outside TO&E units. The MILPERCEN survey quoted above found that while DA awards proficiency pay to 20% of all E6 in MOS 1140, its sample of 828 in tactical units contained only 130 pro-pay recipients, less than 16% of the total.

--Our doctrine does not relate proficiency in tank gunnery directly to tactics, ATT/ORTT, or even Readiness Reports. Proficiency as a tank commander or a tank gunner is also unrelated to the Enlisted Evaluation System, and does not figure, except indirectly, in promotion, qualitative management actions, or school selection.\* (*A survey of CONUS tank units in November 1973 showed less than half of assigned tank commanders or gunners had fired for qualification in the previous year.*)

Of course, one might draw comfort from asserting that the methods the US Army uses to assess MOS proficiency, to award a PMOS score, and to confer pro-pay, do not reflect the actual high combat prowess of its tank commanders. (After all, facility with the annual 125 question, multiple-choice quiz probably has little to do with battle skills.) But the conclusion seems inescapable that those methods shunt the rewards of incentives of pay, professional schooling (and hence promotion), away from most of our tank commanders. Hence, whatever their other benefits, their contribution to the weapon system effectiveness of the US tank is questionable.

## History of the Master Gunner Program - Cont.

Since the US Army, in denying 50 percent of tank commanders formal schools, depends exclusively tank commanders formal on unit commanders to develop their proficiency it should be noted here that its support for that training has been confined to modest expenditures for practice ammunition and ranges to support one gunnery "season" per tank per annum. A large part of our total annual expenditure of tank ammunition supports training of entry-level soldiers in AIT. The US Army, other than in USAREUR, puts little emphasis on tank commander proficiency. USAREUR stresses TCQC competition, but allows rigged crews for high scores on a thoroughly rehearsed, no surprises, course. Despite ballyhoo over readiness, the fact is that Army Regulation 220-1, on readiness reporting, sets no standard to be achieved in tank gunnery, nor does the Army Training Test for the tank battalion do so: in brief, a US tank battalion commander could conscientiously rate his unit at REDCON 1 even though a large percentage of his tank commanders and gunners had never fired their main guns. Despite every indication that battlefield effectiveness involves an intimate relationship between gunnery and tactics, the US Army seldom, if ever, practices the two together. Our formal tank gunnery ranges are solo tank performances, and, severely constrained by safety, cannot train or test the full range of skills which tank commander govern the tanks' tactical effectiveness, such as multiple, surprise targets. The tank battalion ATT focuses on moving communicating, and includes scored live firing only as an option which stipulates no standard for tank gunnery; indeed, main armament hits are aggregated with those of machine guns in the scoring. Maneuvers or field exercises are even less apt to teach realistic tank tactics which link gunnery and maneuver. Tank recognition training, particularly under field conditions, is rare. In fact, our present ATT/FTX technique leads to potentially murderous emphasis on maneuver in neat formation, and on "engagement" at short ranges where leaders can get "credit," and umpires can decide on a victor. FM 105-5 virtually abrogates controlling tank battles:

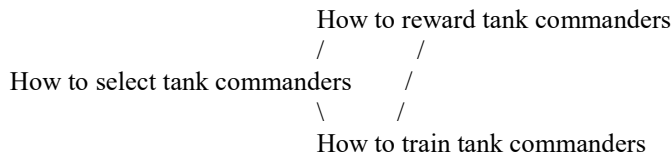
"Fire duels among tanks, self-propelled guns, and antitank guns are judged on the basis of cover, concealment, position, fields of fire, first aimed shot, caliber of weapons, and whether the tanks are stationary or moving. There is no fixed method of determining the victor .. ,.Fire duels at great range are difficult to umpire. Losses are assessed only when, in the opinion of the umpire, a [air decision can be made ... " (Pp. 99, 100, 123).

FM 105-5 is mute on how the umpire would control a night action at any range. And, as we have seen above, the FM prescribes that even when the umpire chooses to adjudicate a fire duel, he must apply a naive linear ration derived from numbers of tanks on each side. This doctrine is the product of our World War II experience, when we prevailed because we overwhelmed the Germans with tanks. Our doctrine presumes friendly superiority of numbers; we train accordingly in the field.

The status of gunnery training within US Army tank units can be summarized as mediocre. Commonly, one finds ill-trained sergeants trying to train crews using rote methods. The company officers supervising the sergeants normally have had the benefit only of Knox's basic course. The field grade officers above usually have had little recent experience with gunnery or tank tactics, and often delve into technique only superficially. This system is clumsy at best in adapting to changes in materiel or doctrine--e.g., in ammunition, in adjustment technique, or in tactics: Fort Knox's mechanisms for passing-the-word are haphazard. Moreover, every indication points to the situation's worsening as changes multiply (the Yom Kippur War will fuel many such), and the US Army's Armor materiel diversifies.

We are already in difficulty over the complexities of our tank fleet. As the types in service proliferated, we have tried to keep pace by adding special courses in our training base, affixing an Army Skill Indicator to the successful trainee, and then relying on our personnel management system to match the entry-level soldier with the equipment on which he was trained. That system's signal lack of success thus far inspires little confidence that we will be able to cope with a larger family of tanks, including three versions of the M60, the XM1 and the M551. Some of the more poignant frustrations of being a tank commander these days, receiving mistrained crewmen, is likely to remain routine: e.g., for crew duty on an M551 (ASI R8), he might get replacements from AIT on the M60A2 (ASI W1); or in knowing that only two out of every five turret mechanics in the unit are school trained for the M551 turret, and that the TO&E provides no school trained supervisor for even those few mechanics--with evident impact on the operability of his tank.

Here is a web of problems:



If we are to improve ourselves with respect to one part of this nexus, we shall have to operate on all. Answers to these questions must be interdependent.

### How to Train Tank Commanders

The place for TRADOC to begin improving tank combat effectiveness via upgrading tank commanders is with training and doctrine: what is to taught, and how it shall be taught.

First, we should enjoin the Armor School to develop training techniques which marry gunnery with tactics, and permit realistic field training exercises of both. What Knox should look for is a way to pit tank commanders against other tanks, at actual combat ranges. We want to train tank commanders as they would fight, engaging elusive tanks at combat ranges, not sitting-duck cloth rectangles. We want them to confront squarely the first-shot, first-hit payoff/penalty, as opposed to some abstract firepower score



## History of the Master Gunner Program - Cont.

computation. And we want them to learn to shoot and move amid a massed foe, by day and by night.

There is a technology at hand which permits just that: it is possible to use a burst of eye-safe laser energy to simulate a tank round, and to rig all participating vehicles with a laser-detector which, upon being activated, emits a visible signal of hit--in one version, commercially available, the hit cuts the ignition of the target tank and looses a smoke grenade. While such hit-kill devices have to date been of foreign manufacture, the management consultant firm of Arthur D. Little, under contract with CATE, has established that American industry can build a safe, reliable, cheap laser engagement simulation system for training applications.

It would be jejune to state that laser engagement simulation could increase the effectiveness of our tank gunnery 3000 innovation reformed naval gunnery 75 years ago. But possibilities exist for dramatic improvement. As a tactical training technique, an optical simulation of combat firing has already been proven advantageous with SCOPES, the Infantry Squad Combat Operations Practical Exercise (Simulation). Moreover, in Army Research Institute experiments in September and October 1973, at a CONUS post, optical simulation similar to SCOPES was applied to tank unit combat, and successfully so: tank commanders on a delay position were observed to dismount loaders, who with binoculars observed for targets so that the commander did not have to sit with turret exposed; attacking tank platoons demonstrated that they had learned the advantage of overwatch during movement. To promote such training, the British have adopted SIMFIRE, a laser engagement simulator, for each copy of which they are reportedly willing to pay up to 10 percent of the tank production price. The US Army has SIMFIRE in limited use at Fort Knox (for combat developments purposes, not training), and following the CATB lead, has MILES (Multiple Integrated Laser Engagement Simulator) under development. SIMFIRE is expensive, not wholly reliable, and complicated; MILES is more promising as a more recent technology, cheaper, more rugged, more general in application, but has a lower fidelity as a tank gunnery trainer. Miles can and should be made compatible with SIMFIRE. Yet both enjoy very low visibility in the Armor community -- witness their lack of prominence at the Armor Combat Vehicles System Review. The US Army has largely ignored the potential of these devices, and there remains a substantial body of opinion within Armor Branch that, the only satisfactory way to train in gunnery being to shoot the main armament, laser simulators should be suppressed least DOD seize on them to axe ammunition allocations.

There are three other important reasons why CG TRADOC should lend all his weight to the rapid fielding of MILES/SIMFIRE. First, these direct fire simulators, coupled with TWAES (the USMC computer system for field exercise control, which has advantages for indirect fire simulation) could yield important dividends in doctrinal and materiel development: a unit equipped with these devices could, in its field training exercise, become an instrumented laboratory, enacting scenarios for testing US tactics or new equipment. While such exercises would lack the precision and detail of a CDEC experiment, they would provide dense data from troop usage, and could illuminate how a given tactical scenario might be influenced by different force ratios, different terrain, different weaponry, or different commanders, at a fraction of the cost of fully instrumented tests. For example, we might thus quantify the importance of good tank commanders, perhaps obtaining data like that cited above on fighter pilots. Or we might, through trial and error, work out the best tactics for defending or attacking when outnumbered 2:1 or more, conditioning our tank commanders to cope with odds as we develop doctrine.

The second rationale is related to the first: with a full simulation capability for FTX (MILES plus SIMFIRE plus TWAES), the US Army would have a genuine performance test for maneuver battalions, around which realistic ATT or ORTT could readily be staged without elaborate control apparatus, check lists, written records, and the like. FM 105-5 is still based on the control procedures we used in the Louisiana Maneuvers before World War II: flags, horns, loud speakers, fire power scores. However useful these may have been in the era of the 37mm gun and .50 cal MG, they are inept for tank battles which open at 3000 meters, are often fought at night, and develop in a swirling rush. There is no way, using these antique methods, we can satisfactorily train in or evaluate techniques of modern mounted combat. The Armor School ought to start now preparing ATP and ATT based on engagement simulation, so that we will have the doctrine when the materiel is ready.

The third reason for laser simulation is that it offers the only prospect for a training technique which will enable American tankers to train realistically in fire and movement at night. Whatever the advantages of hitting first in the daytime, these are greater at night. But training in the dark with armor is inherently dangerous and wasteful: Maneuver control is all but impossible using current doctrine, and after-action critique futile. Laser engagement simulation could provide the key missing ingredients: built-in control, and credible, visible payoff for proper gunnery technique.

Together with a tactical training technique based on engagement simulation, the Armor School should be also tasked to develop a full-function gunnery simulator for garrison/armory crew training. The basis for this simulator could be the Moving Target Screen component of MILES, linked with turret/hull mock up, and a pneumatic recoil generator. (One can note that Soviet troops in Germany have been observed firing laser weapon simulators or projected targets, and using tank rocker-beds, so that they can conduct practice in "firing" from a moving tank in their motor parks.)

Without waiting for simulators, however, CG TRADOC should direct the integration of tank gunnery into ATT, which will bring it under the AR 220-1 readiness reporting system, and thus obtain for it appropriate command emphasis. He should, moreover, change ammunition allowances, and prescribe at least double the rounds fired by assigned tank commanders and gunners each year.

The Basic NCOES at Fort Knox should become the proving ground and the seminal bed for introducing, testing, and spreading word about better training techniques. That course ought to focus squarely on producing lethal tank commanders.

## History of the Master Gunner Program - Cont.

We should seek DA approval for Knox to train a cadre of Master Gunners, capable of advising how to teach tank gunnery and tactics to tank commanders in units using field engagement simulation and the full-function simulator. (It is germane that REDEYE has been fielded with an expensive, partial-function simulator, involving an MCA-underwritten special building and a full-time O&MA funded civilian operator. less.) These Our tankers deserve no Knox-trained gunnery instructors should be fielded, one to each tank battalion of the US Army. These men would be picked and trained with all the care we give to selecting and qualifying an instructor pilot, for their role is comparable. Each Master Gunner is to be held responsible for advising a unit commander on the proper utilization of simulation equipment, and for proper conduct of all other aspects of tank gunnery. As often as every six months, they should be brought back to Fort Knox for update and debrief, so that Knox has a responsive feedback on gunnery training, and a conduit through which it can pass late information on gunnery technique direct to units. Moreover, as shall be outlined below, the Master Gunners should play an important part in evaluating noncommissioned officers for proficiency pay purposes. In effect, with its Master Gunners, the Knox would take the Armor School to each unit, where it could tailor instruction to the equipment in the hands of the unit, its terrain, and its mission.

With the Master Gunners in place, it ought to be possible to cut back instruction at Fort Knox to the highest density tank alone, especially in AIT, with the expectation that a Master Gunner would give "augmentation training" at the unit if the unit's equipment were different. (In Sheridan units, there is also a need for a Master Turret Mechanic, similarly trained and qualified, for the purpose of training and supervising turret mechanics.)

### How to Reward Tank Commanders

Obviously the US Army should prize, and reward accordingly, the proficient tank commander. But in order to do so, we must find evaluation media which identify the man who excels in those skills which contribute directly to tank weapon effectiveness. This suggests that we should look for performance tests which can be uniformly administered throughout the Army--and that leads us to the full-function simulator as a means of providing a performance test, and the Master Gunners as the quality control mechanism.

But the US Army should not wait for a simulator, and the sketched revision of the Enlisted Evaluation System. CG TRADOC should recommend now that proficiency pay be reserved for those soldiers in MOS 11E40 who are actually serving in tactical units as tank commanders and who have qualified on the standard TCQC within the year. Pro-pay would go to the number among these which equates to 20% the total in their MOS/grade. Eligibility would otherwise be determined by the present written evaluation tests; soon as practicable, however, equipment-specific, "branched" tests should be substituted. And as soon as simulator-based testing can be undertaken, comparative evaluation of performance should supplement written tests. Conceivably, with the Master Gunners deployed, sufficient comparability can be established among unit tank gunnery shoots to employ actual range performance, so that pro-pay would hinge mainly on range scores.

Nor should CG TRADOC wait to reserve slots in Advanced NCOES for serving tank commanders; we should insure that ANCOES classes are filled from their ranks first. The ANCOES should aim at producing platoon sergeants lethal with groups of tanks, and on their way to becoming Master Gunners. Moreover, the CG should seek to have DA promotion boards be instructed to weight heavily service as a tank commander.

### How to Select Tank Commanders

By the time the foregoing measures are taking effect, it ought to be possible for the US Army to approach selection of tank commanders with both more optimism and better system. We should have basis for building up the job as one of the greatest positions in soldiering, and we could be credible because of the incentives for proficiency in the job, and the measures we apply for determining same. Hence, more good soldiers would try for it. And with better training, unit commanders ought to be able better to identify soldiers with an aptitude for the job.

The prospective tank commander ought to be in the tank crew, plus the crucial task of crew leading. Accordingly, before even to being considered for the job, he ought to have qualified, position by position, skill level by skill level, on performance tests in his tank. Only those tests, and his commander's certification that he is a tank-commander candidate, should be prerequisite for going to the Basic NCOES Course.

But the key step in his getting his tank ought to be a gunnery-tactics performance test score better than another potential or serving tank commander in his battalion--the would-be commander should literally have to shoot another man out of the saddle in order to get command of a tank, and a chance at pro-pay.

### TASK LIST

1. Develop training techniques which marry gunnery with tactics, and permit realistic field training exercises of both. (Develop laser devices to simulate firing a tank round - MILES/SIMFIRE.): ARMOR SCHOOL. (pp. 10-12)
2. Push for rapid fielding of MILES/SIMFIRE coupled with TWAES (to obtain important dividends in doctrinal and material development and give the US Army a genuine performance test for maneuver battalions): CG TRADOC. (pp. 11-12)
3. Start now writing an ATT (tactical training technique based on engagement simulation) to utilize the materiel for simulation when it will be ready. Develop a full-function gunnery simulator for garrison/ armor crew training: ARMOR SCHOOL. (pp. 12-13)
4. Make the basic NCOES at Fort Knox the proving ground and the seminal bed for introducing, testing, and spreading word about better training techniques: ARMOR SCHOOL. (p. 13)

## History of the Master Gunner Program - Cont.

5. Train a cadre of instructors (Master Gunners) to be fielded; one to each tank battalion of the US Army. And train Master Turret Mechanics to be fielded, one to each Sheridan unit: ARMOR SCHOOL. (p. 13)
6. Recommend now that proficiency pay be reserved for those soldiers in MOS 11E40 who are serving in tactical units, and paid to the number therein which equates to 20% of the total in the Army: CG TRADOC; CG MILPERCEN. (p.14)
7. Reserve slots now in advanced NCOES for tank commanders and insure that ANCOES classes are filled from their (tank commanders) tanks first: CG TRADOC; ARMOR SCHOOL. (p. 14)
8. Seek to have DA promotion boards be instructed to weight heavily, service as a tank commander: CG TRADOC; CG MILPERCEN. (. 14)
9. Produce platoon sergeants, men lethal with groups of tanks and on their way to becoming Master Gunners: ANCOES; CG TRADOC. (p. 14)
10. Develop a better system for selection of tank commanders: ARMOR SCHOOL. (pp. 14-15)
11. Revise the EES to give practical application of tank tactics and gunnery, to be used in the selection process (promotion, schooling, pro pay, etc.): CG MILPERCEN; CG ARMOR SCH. (p.14)
12. Revise the system of determining readiness posture to place more emphasis on demonstrated performance of tank crews in the areas of tactics, gunnery, maintenance and ammunition. CG TRADOC; CG FORSCOM; DCSOPS DA. (P. 9)
13. Revise ATPs and ATTs to require the use of tactics and gunnery more extensively by individual tank and unit. (We are too hamstrung with safety regulations when it comes to training with of type 5.5mm - 175 mm): CG FORSCOM; CG TRADOC; TSROI TASK FORCE. (p. 9)

Coming next, the US Army tasks all the schoolhouses to review the Brady Report and report key takeaways.

## US Armor & Cavalry Collection OPEN HOUSE




 THE U.S. ARMY ARMOR & CAVALRY COLLECTION  
 In association with  
 THE NATIONAL ARMOR & CAVALRY HERITAGE FOUNDATION  
 PRESENTS
 

**AN OPEN HOUSE FOR THE  
 78<sup>TH</sup> ANNIVERSARY OF  
 THE BATTLE OF THE BULGE**

**SAT. 17 DECEMBER 2022, 10:00 AM-5:00 PM**  
**6078 BRADLEY DRIVE, FORT BENNING, GA 31905**  
**ADMISSION IS FREE**

**ENJOY AND LEARN ABOUT ARMOR HISTORY WITH OVER 190 PIECES OF  
 HISTORIC ARMORED FIGHTING VEHICLES AND ANTI-TANK WEAPONS. THIS  
 EVENT IS HOSTED BY THE COLLECTION TO EDUCATE, PROMOTE, AND TELL  
 THE STORY OF THE U.S. ARMY'S ARMOR BRANCH. STANDARD ACCESS  
 REQUIREMENT (VALID U.S. DEPARTMENT OF DEFENSE ID OR FORT BENNING  
 VISITORS PASS REQUIRED). FOR MORE INFORMATION ON ACCESS, SEE  
[HTTPS://HOME.ARMY.MIL/BENNING/](https://home.army.mil/benning/)**

In 2018, before we had our new buildings, we started an open house program to allow access to a small part (36 vehicles and guns) of the Armor Collection so that we could share the Armor Branch history and mission with its Soldiers and as well visiting members of the public. The program continued to grow in 2019 but was then curtailed by the Covid-19 pandemic and then the move of the Collection across Fort Benning to our new facility. Over the last two years the staff has been extremely busy in conducting this move while still supporting training and education of U.S. Army Soldiers and Civilians, and there is still much more work before we are finished.

However, today we are happy to announce we are at a point that we can begin to restart the open house program. Instead of a small selection of the collection, our primary building with over 190 pieces of Armor history will be on display. Our first event will be on 17 December to mark the anniversary of the Battle of the Bulge and the start of the holiday block leave period here at Fort Benning. This will be an early access experience, as there is still much work to be done with displays and signage.

Visitors wishing to attend must meet Fort Benning access requirements (possession of a valid U.S. Department of Defense ID or Fort Benning visitors pass). Additional information on access can be found at: <https://www.benning.army.mil/GateInfo/>.

Can't make it? Don't worry! Our next open house will be held on 29-30 April to celebrate our 75th birthday and to recognize the start of the Gainey Cup Competition! We also plan additional dates for 2023 and will announce those in the coming weeks.

## Adaptation Under Fire by David Barno & Nora Bensahel

*Adaptation under Fire*  
*How Militaries Change in Wartime*

Lt. General David Barno and Nora Bensahel  
Print publication date: 2020  
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440 pages  
Dimensions: 9.4 x 1.5 x 6.5 inches

### **Description**

A critical look into how and why the U.S. military needs to become more adaptable. Every military must prepare for future wars despite not really knowing the shape such wars will ultimately take. As former U.S. Secretary of Defense Robert Gates once noted: "We have a perfect record in predicting the next war. We have never once gotten it right." In the face of such great uncertainty, militaries must be able to adapt rapidly in order to win. *Adaptation under Fire* identifies the characteristics that make militaries more adaptable, illustrated through historical examples and the recent wars in Iraq and Afghanistan.

Authors David Barno and Nora Bensahel argue that militaries facing unknown future conflicts must nevertheless make choices about the type of doctrine that their units will use, the weapons and equipment they will purchase, and the kind of leaders they will select and develop to guide the force to victory. Yet after a war begins, many of these choices will prove flawed in the unpredictable crucible of the battlefield. For a U.S. military facing diverse global threats, its ability to adapt quickly and effectively to those unforeseen circumstances may spell the difference between victory and defeat.

Barno and Bensahel start by providing a framework for understanding adaptation and include historical cases of success and failure. Next, they examine U.S. military adaptation during the nation's recent wars, and explain why certain forms of adaptation have proven problematic. In the final section, Barno and Bensahel conclude that the U.S. military must become much more adaptable in order to address the fast-changing security challenges of the future, and they offer recommendations on how to do so before it is too late.

### **Editorial Board**

Lt. General David Barno, USA (Ret.) is a Visiting Professor of Strategic Studies and Senior Fellow at the Philip Merrill Center at the Johns Hopkins School of Advanced International Studies. He is also a Contributing Editor and Columnist for *War on the Rocks*. General Barno completed a thirty-year active duty Army career where he commanded at every level. He served with Army Ranger battalions in combat during both the Panama and Grenada invasions. General Barno was the overall commander of U.S. and coalition forces in Afghanistan from 2003 to 2005.

Dr. Nora Bensahel is a Visiting Professor of Strategic Studies and Senior Fellow of the Merrill Center at the Johns Hopkins School of Advanced International Studies (SAIS). She is also a Contributing Editor and Columnist for *War on the Rocks*. She has held senior positions at the Center for a New American Security and the RAND Corporation, and previously taught at American University and Georgetown University. She holds a Ph.D. in political science from Stanford University.

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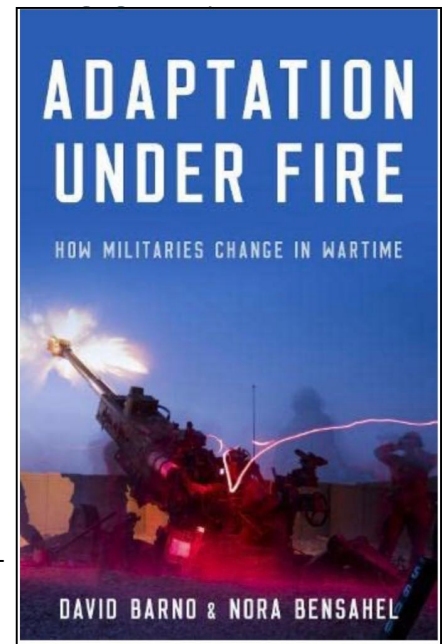
### **My Review and notes**

Improvise, Adapt, Overcome, the famous words that always ring in my ears. From a movie that is where I first learned about training as you fight. Heartbreak Ridge and Gunny Sergeant Highway. The very first thought I had before even cracking open the book.

Are we adapting? And the question from the book is *did* we adapt in 20 years of the War on Terror?

Before we get in depth into this question I have to make it known that while reading this book I kept seeing a name come up. About ¾ of the way through this name kept reappearing. So I peaked in the back at the Bibliography and found that David Barno had been sourced in nearly twenty articles. I went to the Index and he had nearly three pages of mentions in the book. I shared this name with a friend who has a podcast as I thought he needed to look into this guy. And when I sat down to write my review I found that this guy I was looking at, is the co-author of the book!

This is a great time to look at this question. We are coming out of a recent war that is being compared to the Vietnam War. We have a near peer in a war against another country and the US Army is trying to get prepared for the next war. Next year 2023 is the 50<sup>th</sup> anniversary of the 1973 Arab-Israeli War. I find it interesting that we are in a time of reflection and now a new modern war is being waged. In 1973 we were coming out of Vietnam when the Arab-Israeli War took place. That war put us on the course that made the Army of Desert Storm. But it took from 1973 to 1991 to make that happen. That was almost twenty years.





## Adaptation Under Fire by David Barno & Nora Benashel - Cont.

I know that this title mentions Adapting during wartime but as I looked back at the change that took place in 1973 we did that while facing the Soviet Union along the border of East and West Germany. Other than two small operations in Grenada and Panama we were in a lull of a sort of peacetime. And the war we were preparing for was not a war in the desert of Saudi Arabia and Iraq.

It is important to remember that in 2009 General Martin Dempsey who was then commander of TRADOC saw a moment where we were so focused on Iraq and Afghanistan that we were not prepared for the next war. And he started the change to get us back to a war fighting Army. Prepared to wage war in another region and not operating the way that we were. From 2009 to 2022 the US Army has been working to learn, train and fight in a near peer battle of the future.

Along comes a war between Russia and Ukraine. And what we are seeing on Twitter and Facebook live, in real time, is modern war at your fingertips. And this is a modern war with all the new technology. And as we are discussing adapting in wartime we are seeing firsthand the Ukraine military and its people are adapting every day.

I find it interesting that Russia has decided to wage war against a country that was so much of their military in the days of the Cold War. A country that very much knows how the function and operate. What many are learning now is that Ukraine has spent the past five or more years being trained by Western Armies to prepare for this scenario. And the Ukrainians are putting up one hell of a fight.

In order for you to adapt you must train for war. Train as you fight. Training will bring about technology and that drives your ability to adapt. But you must be looking around and seeing what is happening in the world. You can't have your head buried in the sand. Did we adapt between World War I and World War II? No! For some twenty years we had just enough or what we thought was enough. But did we adapt? It is something to look back at WWII and look at each year from 1941-1945 as to the changes that were happening and the speed of that change.

On page 36 of this book is an excellent look at why Doctrine, Lesson Learned and After Action Reviews are important to future operations. In every book you read about Delta Force you will always hear about the AARs and how hard those are gone over. Everyone has to have thick skin because they are brutal. But you will also read that AARs Drive Future Operations in the unit. This page covers the German Army adaptation from WWI to WWII.

The French Army in 1917 had relied on detailed orders to orchestrate massive complex offensive operations. Thus in 1918 the *French Army struggled to adapt during the last year of the war, when mobile operations became more commonplace. As a senior French commander observed at the time, "The command no longer knows how to shake off the formula of position warfare, to break away from the detailed prescriptions and multiple calculations which it has occasioned. When confronted by the unexpected, it remains confused; its action is marked by slowness and hesitation; thus, in most cases, it allows the most favorable opportunities for action escape. It no longer knows how to act with speed."* *The French army's experience in WWI, which was dominated by the intricate planning required for "methodical battle" and the central role of firepower, continued to have outsized impact on its interwar thinking and planning. Page 37.*

At this point in the book I started keeping a list of key words. So far I have Doctrine, Lessons Learned and AARs.

As we are looking at the 1973 Arab- Israeli War the authors of the book did the same thing. And as you study the 1973 War you will be keenly aware that the 1967 Six Day War left the Israeli's feeling overconfident. This overconfidence almost cost them in the opening of the 1973 War.

I have now added two more words to the key words, Doctrine, Lesson Learned , AARs and now have added Technology and Leadership.

Under leadership on page 73 we see. *Adaptability, according to the US Army, serves as "insurance against ambiguity, adversity, and uncertainty found on every battlefield," and it enables leaders "to achieve mission accomplishment in dynamic, unstable, and complex environments." Adaptable leaders need to be comfortable with uncertainty and ambiguity and "see each change thrust upon them as an opportunity rather than a liability." That requires open-mindedness, cognitive flexibility, and creativity, so military leaders can figure out how to use their knowledge and experience in new and different ways.*

And this little bit that covers almost all of the Engineer officers that I served with in the battalion leadership. *At times, ambitious military leaders in peacetime, and during wartime, may seek to ensure future promotions by doing everything possible to prevent their subordinates from making mistakes. Yet such micromanagement strips young leaders of vital trail-and-error experiences in training needed to develop the confidence and independent judgement that they need to succeed in battle. A well known military saying notes, "Good judgement comes from experience, and experience comes from bad judgement."* Page 75.

It is here that I noted that in 1973 the War College should have focused on guerilla warfare. How did we win in the Pacific vs how were the NVA and VC successful in Vietnam? As mentioned by some Counterinsurgency or COIN was not the answer in Vietnam. And there are those that argue about COIN in Iraq and Afghanistan. Would learning about guerilla warfare provide a better understanding into defeating these types of enemies? I really fell like we have not studied the guerilla warfare in the Pacific in WWII as we should.



## Adaptation Under Fire by David Barno & Nora Bensahel - Cont.

There was much mention of the success of Civil Affairs units. Civil Affairs cannot win alone. Nation Building is not a task for the US Military. That is the State Dept area. There are issues with the military providing that type of mission. The State Dept, the UN, and NATO are better designed for that mission than the US military. And the problem is this is seen as humanitarian aid being "militarized." Page 129.

Provincial Reconstruction Teams (PRT) seemed to be sort of the answer. Again this puts too much military into the role. Which begs the question as to why the State Dept is not working to build their capability to support this mission? The military is used for its support and logistical capability. What is the State Dept doing in their review to ensure in the future we are better prepared?

As the book dives into the technology and equipment used to adapt the mention of the Mine Resistant, Ambush-Protected (MRAP) vehicles. They discussed the "hillbilly armor" that was used in the early days of the war. But it is pointed out that the issues with MRAP, Humvee, Stryker vs JTLV is contractors. Which to me is a whole other issue with the military. I am going to get on my soap box. The government should ALWAYS set the standard not contractors. As in WWII, you will build the vehicle we need the way we need it, to OUR standard. Parts must interchange with what is in the inventory. No contractor should EVER be allowed to have a design of THEIR own that no one else can produce. Why are there so many WWII vehicles still operational today? They were built to the GOVERNMENT STANDARD.

Here is another example of issues with contractors during the War on Terror. The issue of the Distributed Common Ground System (DCGS) which had an Army portion known as DCGS-A. This program vs one similar by a competitor known as Palantir. This revolves around General Officers and contractors. Here we have a product, DCGS-A, not living up to the contract and the competitor, Palantir. This part of the book shined a light on a general officer who knowingly changed a government audit to make her program look good. And was caught! Was she fired? No. What is she doing now that she has left the military? Working for a government contracting company working to get and manage government contracts.

For General Officers I hold the Abrams standard. As a GO its not about you, never has been and never will be. It's about what you do every day to make the Army better. That is your job, it's not about the job beyond the military. As we have seen during this period there were many who were eyeing the job with the contractor companies, a book deal or about a position on a television network. That's not the Abrams Standard.

As the authors point out in the later part of the book is that we have to be able to adapt to prepare for the next war. On page 254 there is a great example of what not to do. In a military training exercise the Opposing Force was allowed to do what they thought to defeat the Blue Forces. The OPFPR overwhelmed the Blue Force destroying it quickly and handily. The exercise was halted, the OPFOR was restricted, and the exercise was run again. Each time the OPFOR won it was again restricted on what it could do. The Marine GO left the exercise in disgust. This is not the way to adapt!

There are many ways listed in the book for improving the adaptability of the military. Some very good ideas and they all revolve around the list I mentioned before: Doctrine, Lessons Learned, AARs, Technology, Leadership and another item I think should be there SOPs.

I would also rank this book as one of the top 5 books to be used in any after action review of the war in Afghanistan and Iraq. I would also go so far as to say that General Barno's paper in Military Review, "Fighting "The other War": Counterinsurgency Strategy in Afghanistan, 2003-2005," issue 87, No 5, September-October 2007, is what I would use a guide for meeting mission accomplishment.

When we look back at the wars in Afghanistan and Iraq we need to be aggressive in the research about what happened, what worked, what didn't, what we needed, and as you can see this book really gets the juices flowing as to a legitimate debate about how do we fix this. This is the thick skinned AAR that is needed. How do we ensure that in the next conflict we use all of the tools in the toolbox to find, fix and finish our enemy. The DoD needs to push for the State Dept to do the same internal review and after action report to ensure that they are ready for the next conflict. And DoD needs to ensure that "Nation Building" is never tasked to the DoD.

Having just finished this book I was listening to *Military Historians Are People Too* podcast with Georgia Southern University history professors Brian Feltman and Bill Allison. They were talking to David Silbey who has written *The British Working Class and Enthusiasm for War, 1914-1916* (Taylor & Francis), *A War of Empire and Frontier: The Philippine-American War, 1899-1902* (Hill & Wang), and *The Boxer Rebellion and the Great Game in China: A History* (Hill & Wang). His latest book is *The Other Face of Battle: America's Forgotten Wars and the Experience of Combat*, which he co-authored with Wayne E. Lee, Anthony E. Carlson, and David L. Preston (Oxford University Press). I highly recommend the podcast and this interview with him. He mentions that the US was great at COIN in the 18th and 19th Century but we seem to have failed to retain that knowledge. He also points to the fact we are shifting quickly to another threat to try and not look at why COIN failed or why we failed at COIN again.

### Patton Monument Report for 2022

As of November 24, 2022, the Monument fund has \$26,477.00.

Total in Monument Account: \$26,477.00.

The Bourg Tee Shirts we have on hand. **(UPDATED)**

**Large:** Yellow - 2, **2XL:** Yellow - 2, Tan - 2, OD - 3, **3XL:** Yellow - 2, Tan - 2, OD - 1, **4XL:** Yellow - 1.

M4 Tee Shirt

**Large:** Tan - 1.

**2XL:** Tan - 1

**New Mugs!!!**

We now have the 15oz Red Ball Express mug and the new 15oz Treat'em Rough Mug!

**Lapel Pins**

We are looking at \$12 each for these.



**Patton Battalion Funds / Memberships / Dues**

The Patton Battalion, as of November , has 438 members on our battalion Facebook page. Out of those 451 members we are currently at 93 paid members. The Patton Battalion has \$0.97 in funds in the PayPal account. We have \$415.66 in the Patton Operating account. Battalions funds are \$416.51. There are no Monument funds in the Battalion account as of this time.

In order to be a paid member of the battalion you must be a paid member of USABOT National. Again, a paid first year membership of \$15.00 which gets you a free battalion patch. Since we now have the battalion patch in the larger size both in color and subdued you have a choice as to which one you want free with your paid membership.

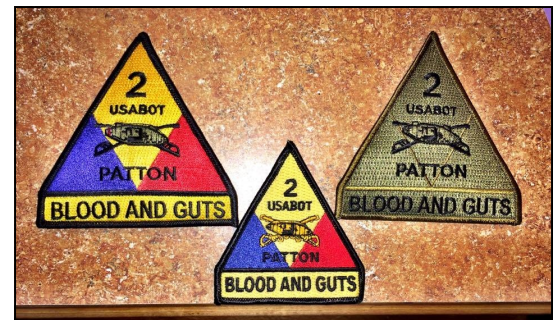
Both patches are also available for \$5 EA.

Your annual membership renewal will be \$10.00 every year after that. **Annual dues for the battalion are now due in June of each year!**

You can pay for your battalion membership through Paypal at: **pattonbattalion@outlook.com** or **patton.battalion@usabot.org**.

If you don't have a Paypal account you can send a check or Money Order to:

**Patton Battalion - USABOT**  
1432 Flood Road  
Shelbyville, KY 40065



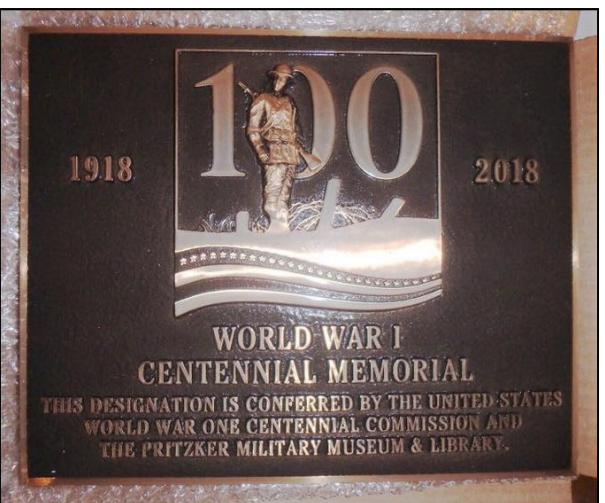
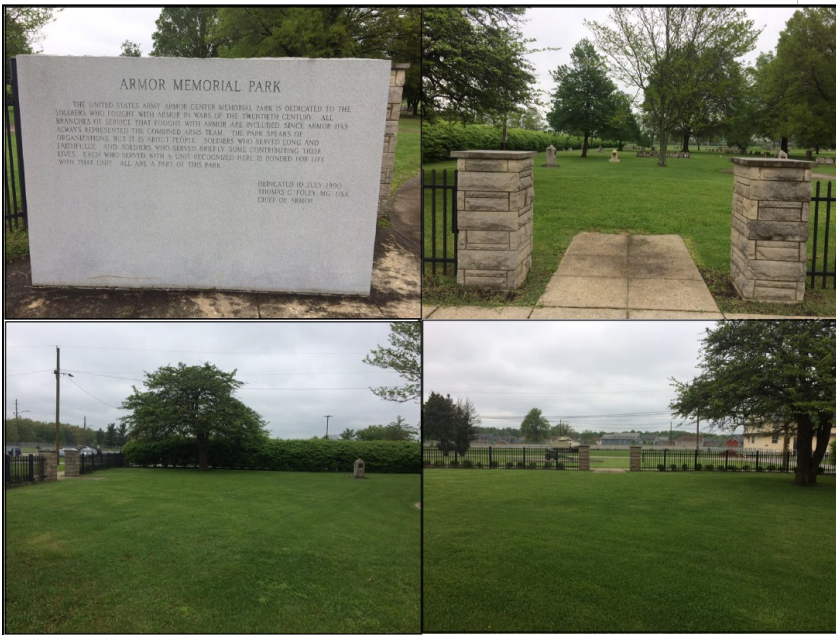
**ATTENTION**  
USABOT Memberships can be renewed and purchased By mail at  
USABOT  
68 West Marion ST  
Doylestown, OH 44230  
Make checks payable to USABOT  
If at all possible try to go the USABOT Store Online and register there so that the G4 can track.  
**WWW.USABOT.ORG**



# Patton Joins the US Tank Corps Monument

The US Tank Corps shirts we still have few tees left!

<https://19seriesclothing.com/>







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Be sure to check us out on  
Twitter @pattonbattalion



Coming up in the December Issue - History of the Master Gunner Program.

Upcoming Events

**US Cavalry & Armor Association Chapter Fort Knox** - Stable Call monthly meeting, 3rd Thursday of every month, Location TBD - Fort Knox, KY.

**Indiana Military Museum Schedule 2023**

The Great War Event, April 1-2, 2023  
WWII Event Spring - TBD  
WWII Event Fall - TBD  
Vietnam War Event - TBD

**Eleventh Annual Tanker Homecoming** - Tucson, AZ. Dates TBD.

**Gainey Cup** - Ft Benning, GA, 1-5 May 2023.

**Operation Anvil - Battle for Southern France 1944-** Phil Moore Park, Bowling Green, KY.

**Patton and the US Tank Corps Monument** - Fort Knox - **TBD**

