

US Army Tank Crewman 1941–45

European Theater of Operations 1944–45



Steven J Zaloga • Illustrated by Howard Gerrard

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US ARMY TANK CREWMAN 1941-45

INTRODUCTION

The decisive weapon in land warfare in World War II was the tank. Although tanks had been used in World War I, they did not play a pivotal role until World War II. Armored warfare was neglected in the US Army after World War I, and when World War II started in Europe in 1939, the US tank force was smaller than those of European armies like Italy and Poland. Yet within two years, the US Army had embarked on a massive expansion, forming 16 armored division and more than 60 separate tank battalions. The vast majority of these units served in the campaign in the European Theater of Operations (ETO) in 1944-45 that is the focus of this book.

When examining the experience of officers and men in World War II, there has been the tendency to focus on the extremes: the common enlisted soldier or the great commander. The middle ranks of the tactical leaders – the young lieutenants, captains, majors, and lieutenant colonels – are often given less attention. While there are a number of books and TV documentaries titled something like 'Great Tank Commanders' they often deal with senior commanders like Rommel, Patton, Zhukov, or Montgomery – officers who seldom spent time in a tank during the war. In the US Army in World War II, the highest-ranking officer to fight regularly from a tank in combat was the battalion commander, so this book will examine the career of a US tankerman in World War II from the perspective of a young battalion commander. Creighton Abrams led the 37th Tank Battalion of the 4th



Tankers stand to attention for inspection in early 1942 with their M2A1 medium tanks in the background. Most of the tankers are wearing the pre-war infantry tanker's helmet, easily distinguished by the thick leather 'donut' around the base of the helmet. (MHI)



A tank crew from the 2nd Armored Division pose for a photo in front of their M3 light tank at Fort Benning, Georgia in 1942 with all the vehicle stowage and ammunition displayed. This provides some idea of the considerable amount of equipment and stores carried even in a small vehicle like the M3 light tank. (NARA)

Armored Division in 1944–45, and later became the commander of one of the division's combat commands. Tank combat is very much a team effort, with the four or five men of a tank crew forming the essential kernel of tank combat. This book will also therefore consider the experiences of other tank crewmen of Abrams' battalion.

Abrams and the 37th Tank Battalion were selected for some obvious reasons. The 4th Armored Division was the spearhead of General Patton's Third Army, and is widely regarded by military historians as one of the best, if not *the* best US armored division of World War II. The 4th Armored Division was the only US armored division to be awarded the Presidential Unit Citation for the entire division, due to its sterling performance in the Battle of the Bulge. While the combat record of the Division was exceptional, its formation and training were not very different from that of other US tank units. It excelled in part due to an exceptional group of young combat leaders, in part due to being commanded by Patton, and in part due to the tactical opportunities and challenges it faced during the 1944–45 campaign.

CHRONOLOGY

January 26, 1918	The US Army Tank Corps formed in France to administer tank battalions in combat. Col. G. S. Patton commands 1st Tank Brigade.
January 1918	Tank Service formed in US to train tank crews. Capt. Dwight Eisenhower commands tank school at Camp Colt.
June, 4 1920	National Defense act abolishes Tank Corps; tanks are given to the infantry but the cavalry deploys tank-like 'cavalry cars.'
July, 10 1940	War Department creates the Armored Force under command of Gen. Adna Chaffee at Fort Knox, Kentucky that absorbs infantry and cavalry mechanized units. Force consists of 1st and 2nd Armored Divisions, 70th GHQ Reserve Tank Battalion.

November, 4 1940	Armored Force School at Fort Knox begins training tank specialists.
July, 1 1941	Armored Force expanded to four armored divisions, 11 tank battalions.
December, 7 1941	When war breaks out in the Pacific, the Provisional Tank Group in the Philippines is the first US tank formation to see combat in World War II.
November 1942	First large-scale combat deployment of the Armored Force when the 1st and 2nd Armored Divisions are deployed to North Africa as part of Operation Torch.
July, 2 1943	Armored Force redesignated as Armored Command.
July, 10 1943	Operation Husky, the Allied landings on Sicily begin. Patton's Seventh Army includes 2nd Armored Division.
January, 22 1944	Allies land at Anzio and Fifth Army units in the beachhead eventually include the 1st Armored Division. This is the only US armored division to remain in the Mediterranean theater.
February, 20 1944	Armored Command redesignated as Armored Center.
June, 6 1944	Allies land in Normandy. Initial landings include five US tank battalions.
July, 1 1944	US forces in Normandy are expanded to include two armored divisions and nine tank battalions.
July, 24 1944	First US Army launches Operation Cobra, the breakout from Normandy. Operation eventually involves four armored divisions and 15 independent tank battalions.
August, 15 1944	Seventh US Army lands in southern France and begins advance towards Alsace-Lorraine.
September, 18 1944	German panzer counter-offensive in Lorraine reaches its peak and is checked by 4th Armored Division around Arracourt.
December, 16 1944	Germans launch Ardennes offensive. The 7th and 9th Armored Divisions are involved in defense of St Vith, the 10th is committed to Bastogne. The Battle of the Bulge eventually involves several more US armored divisions and several independent tank battalions.
December, 26 1944	Patton's Third Army breaks into besieged Bastogne with the 37th Tank Battalion in the lead.
October, 30 1945	Armored Center at Fort Knox demobilized.

RECRUITMENT AND ENLISTMENT

Creighton Abrams was a member of a small elite in the US Army, a graduate of the US Military Academy at West Point. Since there were so few West Point graduates, hardly 300 a year, most US Army tank officers received their training in the Reserve Officer Training Corps (ROTC) at colleges and universities, or at the Citizens' Military Training Camps. Yet Abrams was not untypical of US Army tank officers of World War II. He was born on September 15, 1914, the eldest of three children. The family lived in Agawam, Massachusetts, a mill town in the rural western region of the state. His father was a railroad mechanic for the Boston & Albany Railroad. Abrams was an exceptional teenager, serving as class president in his high school, editor of the school paper, and class orator, although he was better known for his role in the high school football team; his classmates picked him as the boy most likely to succeed. Abrams won a scholarship to Brown University, but his family lacked the financial means to support a college education. In his senior year at high school, he learned about West Point and although his family had no particular military tradition, like many ambitious young men from modest backgrounds, the military offered the prospect of education and



A wrecker prepares to haul away a broken down M3 light tank of the 84th Reconnaissance Battalion, 4th Armored Division at Pine Camp, New York in 1942. (NARA)

advancement at government expense. The local congressman was entitled to two nominations for West Point each year, which were awarded on the basis of competitive exams. Abrams scored third of the contestants, but won the nomination later after the first two failed the West Point entrance exam. Abrams also had the one quality that West Point looked for in addition to academic ability: leadership.

On arriving at West Point in 1932, Abrams found the traditional hazing of the Beast Barracks to be humiliating and brutal. Like many young Americans of his age, he found the discipline and petty rules of the peacetime army to be alien, which led to his disdain for some aspects of peacetime army culture, and may account for his mediocre academic performance at the academy. But he adjusted to army routine. On a brighter note, that year he met Julie Harvey from neighboring Vassar College, who would later become his wife. Abrams aspired to play football at West Point, but at a mere 5ft 9in. and 165 pounds, he spent most of the time on the bench. He graduated in 1936 at number 185 out of a class of 276. The Class of 1936 was an exceptional one, including the likes of Bruce Palmer Jr., William C. Westmoreland, and Benjamin Davis Jr.; five men from the class later became four-star generals. Abrams chose the Cavalry as his branch of service, and was assigned to the 7th Cavalry at Fort Bliss, Texas. He proved himself to be an exceptional soldier and after rising to first lieutenant in 1938, was assigned to the 1st Cavalry Division headquarters company. He served as an aide to the divisional commander, an experience that soured him on the traditional perquisites of the senior officer corps in a peacetime army. His pre-war experiences helped to shape his view of a successful commander, believing that an officer should lead by example, and not shun the daily hardships of his troops. Abrams did not fit the mold of a peacetime officer, disdaining to play the role of a spit-and-polish martinet for the

sake of career advancement. He relished the tasks of a fighting man, training himself and his men with vigor and enthusiasm.

The defeat of France in 1940 sent shock waves through the US Army. The American Expeditionary Force had fought alongside the French in World War I, and many senior commanders like George S. Patton had attended officer schools in France. Of all the major European armies, the French Army had the most influence in the inter-war US Army. In response to Hitler's blitzkrieg, the US Army formed its own Armored Force in the summer of 1940. Like many of his contemporaries, Abrams knew that the days of horse cavalry were over. The new Armored Force created an enormous vacuum for talented young officers, and the service was soon dominated by cavalry officers like Adna Chaffee and George S. Patton. Abrams joined them, and was initially assigned to the embryonic 1st Armored Division, an assignment that did not last long as many new divisions were being formed. In April 1941, Abrams was assigned as part of a new cadre to create the 4th Armored Division at Pine Camp, New York, and became the regimental adjutant of the Division's 37th Armored Regiment.

For the young enlisted men of the new 4th Armored Division, the process of becoming a tanker was different from Abrams' experience. The inter-war US Army was a professional volunteer force, however, with war clouds gathering in Europe, the US Congress passed the Selective Service Act in 1940, reinstating the draft. As a result, the new armored divisions had a core of professional officers and non-commissioned officers, but most of the enlisted men were young draftees 18 to 20 years old. Although the Armored Force wanted as many recruits as possible with technical aptitude, there was considerable competition for such candidates, especially from the US Army Air Force. Nevertheless, the Armored Force did better than the army average in getting quality recruits. Groups of young draftees were sent to the new Armored Force Replacement Training Center (AFRTC) at Fort Knox for further sorting. Tankers were in fact a small minority within an armored division – out of a total strength of over 10,000, only about 15 percent were actually tankers. The Armored Force came up with the awkward nickname of 'Armoraiders' for the division's soldiers, but it never caught on.

On arriving at the AFRTC in Fort Knox, the young draftees were sent to the classification office where an officer evaluated the recruit on the basis of tests and an interview. This data was written on a small card and led to the recruit's assignment to a military occupational specialty based on his aptitude. The Armored Force favored men who had some familiarity with mechanical equipment, for example, farm boys familiar with tractors rather than city boys with a better educational grade. The recruits were then subjected to two weeks of basic training followed by about two months of more specialized training. The AFRTC originally consisted of six battalions, each of three companies. A typical company had four platoons, the first for training tank drivers and mechanics, the second for tank gunners, the third for truck drivers, and the fourth for automotive maintenance training. At the end of this training, the young recruit would be assigned to an armored unit, or selected for more advanced training at the Armored Forces School (AFS), also located at Fort Knox. The AFS was intended for further specialist training for tank mechanics, radio operators and other skills. Many tankers passed

through the school to learn tank gunnery, radio operating or tank maintenance. The bulk of the enlisted men passing through the AFS were not tankers, but the many other specialists needed in tank battalions and armored divisions. In addition, the AFS ran the Officer Candidate School for young tank officer candidates. Although this was the official procedure for training tankers, the insatiable demand for trained soldiers led to many short cuts. As an example, it's worth examining the 4th Armored Division's experience.

When the 4th Armored Division was created on April, 15 1941 at Pine Camp, it had a cadre of 600 officers and 3,200 men that was intended to form the core of the division, instructing additional troops as they arrived at the Division. The plan was to assign regular army officers to the highest appointments: the divisional staff, regimental and battalion command and staff. Reserve officers were assigned to company and platoon command and junior staff positions. There was controversy within the army over the transfer of officers to the Armored Force since the infantry, field artillery, and engineers did not want to lose large numbers of their best officers. The Division was luckier than most because the commander of its parent formation, the 1st Armored Division, instructed his staff to pick able young officers for the new division and not use it as an opportunity to dump the unwanted and incapable on the new formation. Abrams was one of the young officers transferred in this process.

The bulk of the new draftees, some 7,400 young men, arrived in late May 1941. The usual plan was to send them through the AFRTC, but the limited capacity at Fort Knox forced the army to send them directly to Pine Camp. The 4th Armored Division was lucky again with a better-than-average crop of draftees. The new recruits came from 13 states, mainly those in New England and the mid-Atlantic coastline, and



Most of the initial armored divisions spent time at the Desert Training Center in the Mojave Desert in southern California in 1942 and 1943 to conduct large-scale training and exercises. The medium tank companies were equipped with the M3 medium tank like these, but they were gradually replaced by the M4 medium tank starting in 1942. (NARA)

were primarily from the more industrial and urban areas. One officer later wrote that 'They are like the best sons and brothers of your (church) members, the best physically and mentally, selected men.' The quality of the recruits was due in some measure to the technical nature of the armored division since 82 percent of all personnel required specialized training.

US tank units first went into action in the Pacific in December 1941, in the Philippines, with two independent tank battalions raised from National Guard units. The first large-scale combat deployment of tank units was North Africa in November 1942 involving the deployment of two armored divisions (1st and 2nd) and a number of independent tank battalions. This was the baptism of fire for the US tank force, and revealed the need for significant improvements in training and organization. Following the use of one armored division (the 2nd) in Sicily in 1943, only a single armored division (the 1st) remained in the Mediterranean theater, seeing service during the Anzio landings in 1944 through to the end of the Italian campaign.

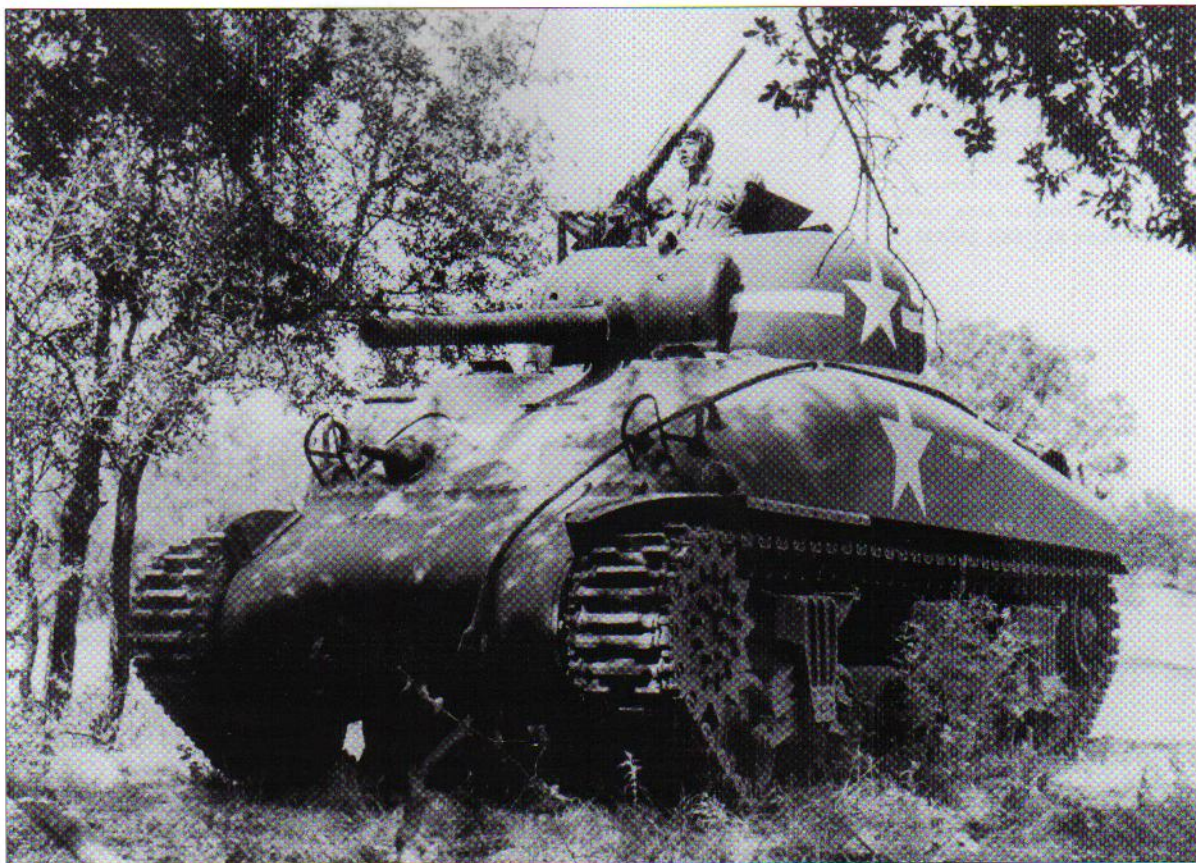
During World War II, the combat experience of young American tankers largely depended on the type of tank battalion in which they served. There were two primary types of tank battalions in 1944–45: the battalions belonging to armored divisions, and the independent tank battalions. Each armored division had three tank battalions (except for the 2nd and 3rd Armored Divisions which retained the older 1942 'heavy' configuration with six tank battalions). These battalions typically fought as part of one of the division's combat commands, a flexible task force organization which usually included a tank battalion, an armored infantry battalion, some armored artillery and tank destroyers, and other support units.

The independent tank battalions were formed primarily to support the infantry divisions. They were not an organic part of the infantry divisions, but were attached as the need arose. Most infantry divisions in 1944–45 had a tank battalion attached during major combat operations.

The experiences of these two types of units were different because the tank battalions of the armored divisions usually fought in cooperation with familiar infantry and artillery units of their own division. Although a few of the independent tank battalions were attached for most of the war to a single infantry division, the majority were attached to different divisions for varying lengths of time. The battalion's tank companies were often parceled out among the infantry regiments, so on many occasions the tankers of the separate battalions found themselves fighting in support of strangers, in isolation from the other tank companies of their own battalion.

BELIEF AND BELONGING

The average American GI during World War II was patriotic and committed to the nation's war goals. The Japanese attack on Pearl Harbor and Germany's declaration of war left little doubt in the minds of most Americans that it was a 'good war.' Unlike most European armies, the US Army of World War II was multi-ethnic due to large-scale immigration into the United States during the preceding half-century. The two largest ethnic groupings in American society were those tracing their ancestry



The 4th Armored Division converted from M3 medium tanks to the M4A1 and M4A3 prior to their transfer to Camp Bowie in Texas in the summer of 1943. This M4A1 named 'Forth Worth' is from Co. F, 37th Armored Regiment. (NARA)

back to the British Isles and Ireland, and those from Germany. More recent waves of immigration had come from Italy and Eastern Europe. Due to the immigration restrictions of 1921, most GIs were native born, but often with parents who were immigrants. Soldiers coming from recent immigrant families were apt to be every bit as patriotic as other GIs since there was strong pressure in American society for them to assimilate. Although America was at war with Germany and Italy, there was little concern about divided loyalties. German immigration had occurred decades before, or even longer. Italian immigrants tended to be more loyal to their religion and region than to the nation. The US Army was still segregated in World War II, so nearly all armored units were made up of Americans of European descent, although in 1942 the army decided to begin forming a number of African-American tank units. Four of these battalions were deployed in combat, two in Italy and two in Europe. Of these, the 761st Tank Battalion particularly distinguished itself, being awarded the Presidential Unit Citation, and on several occasions it fought alongside the 4th Armored Division.

TRAINING FOR COMBAT

There was considerable turmoil in the 4th Armored Division for the first year of its existence as it trained its new troops and units. On average, about a tenth of the division's personnel were away from Pine Camp at

The first large-scale commitment of armored units took place in November 1942 with Operation Torch, the invasion of North Africa. This is the tank crew of a M3 medium tank of Co. D, 2/13th Armored Regiment, 1st Armored Division near Souk el Arba, Tunisia on November 23, 1942. (NARA)



any one time, usually attending specialist courses at Fort Knox. As more and more soldiers acquired new skills, the division set up its own schools at Pine Camp to train replacements. Just as the 4th Armored Division had been born from a cadre of the 1st Armored Division, the 4th Armored Division was obliged to provide a cadre for other new armoured divisions, starting with the 5th in September 1941.

In spite of his splendid record training the 4th Armored Division, its first commander, Maj. Gen. Henry Baird, was 60 years old, too old in the army's eyes to lead a major tank unit in combat, so in May 1942 he was replaced by Maj. Gen. John S. Wood. Nicknamed 'P' Wood for his professorial style while at West Point, he was one of the army's top mobile warfare experts and was later called 'the American Rommel' by B.H. Liddell Hart. Wood was not a big hit with the division when he first arrived due to his strict enforcement of regulations. He was nicknamed 'Paper and Butts,' due to his frequent admonishments to keep the unit areas clean. Wood was typical of most senior US Army commanders of the day, having served during the 'spit-and-polish' days of the peacetime army. During training in the Mojave Desert in 1943, he insisted that the men wear their shirts buttoned at the neck and their sleeves down, in spite of the sweltering 120-degree heat. This type of impractical adherence to the rules was widely resented by the men, but was deliberately fostered by senior officers to differentiate between the leaders and the led. This style of command was far more difficult to maintain at battalion level and some of the more petty rules were ignored, especially once a unit reached France. Abrams tried to maintain a businesslike environment in his battalion. Officers seldom used first names when speaking to each other or to their men and although he was strict on discipline, he was close enough in age to his men to understand their point of view.

The 4th Armored Division was trained and at full strength by the summer of 1942, and conducted its first divisional exercise at Pine Camp

in early September 1942, before being sent to participate in army maneuvers in Tennessee later that month. Senior commanders offered a mixed judgment of the division: it was unrealistically aggressive and tended to attack in a piecemeal fashion, but it had a commendable spirit. The new divisional commander began to improve his reputation with the troops when Wood loudly defended his unit after the commander of the Second Army had called it 'an undisciplined rabble' for not following the maneuver plan.

By this time, Creighton Abrams was a captain, and in July 1942 had been assigned to command the 3rd Battalion, 37th Armored Regiment. Abrams impressed his regimental commander who later remarked that he was 'the best soldier I ever saw ... Abe wasn't flashy a bit, but he was damn well impressive. When he said something, he meant it and that was it.'

After the Tennessee maneuvers, the 4th Armored Division was dispatched to the Desert Training Center in southern California. This was the primary exercise area for armored divisions since the Mojave Desert provided an ideal area for large-scale maneuvers and training. The Mojave also allowed for much more extensive live-fire training for the tanks' main guns, and the division experimented with tank-vs-tank fighting, firing at each other using the .30 cal. co-axial machine guns. At the same time the division switched equipment, substituting the newer M4A1 and M4A3 medium tanks and M5A1 light tanks for their old M3 medium and M3 light tanks. By this time, Abrams had adopted the tradition of naming his tank *Thunderbolt*, taken from the thunderbolt emblazoned on the Armored Force insignia. During his career, he had seven tanks, four of these during training and three during combat named Thunderbolt I through VII. Abrams' leadership of the 3rd

The US Army was still segregated in World War II, and two black tank battalions saw combat in the European theater in 1944. This is a platoon from Co. D, 761st Tank Battalion (Colored) doing a weapons check on their M5A1 light tanks in England on September 27, 1944, prior to being deployed to France with Patton's Third Army. This unit was awarded the Presidential Unit Citation for their combat performance. (NARA)

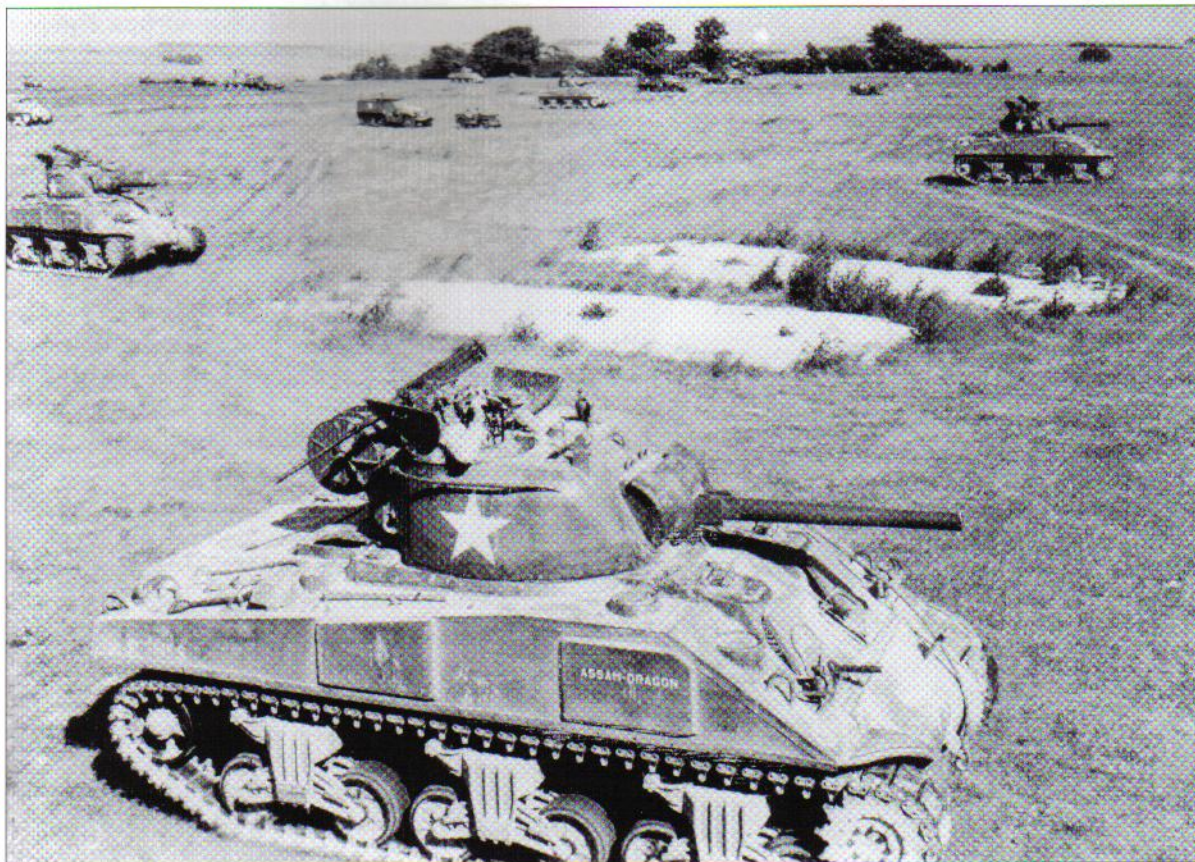


Battalion attracted favorable attention, and in March 1943 he was reassigned as executive officer of the regiment. Following the training in the Mojave, the division was transferred yet again, to Camp Bowie in Texas in June 1943, where Wood further cemented the loyalty of his men when he insisted on a regular supply of beer for the troops, even though the camp was located in a dry county.

In the wake of the US Army's combat experiences in Tunisia in early 1943, the Army Ground Forces (AGF) decided to reorganize the armored divisions, dropping the armored regiment structure in favor of independent tank battalions. The reorganization led to a smaller armored division, losing about 25 percent of its personnel strength. In early 1942, Gen. Baird had decided on a new personnel policy to exploit the continual turmoil caused by the formation of cadres for other divisions and the frequent reorganizations. The division would give up senior lieutenant colonels who would then be free to go on to positions in the new divisions. But they would be replaced by experienced junior officers from the division's own ranks, ensuring greater stability. As a result, when the 37th Armored Regiment disappeared due to the 1943 reorganization, Major Creighton Abrams became commander of the reorganized 37th Tank Battalion. Even after the official reorganization, Abrams made a number of changes in battalion structure. The headquarters company was initially allotted only two tanks, one for himself and one for his executive officer. As Abrams planned to fight from his tank, but also wanted his staff officers to be equally mobile he pulled a M4 medium tank from each of the three companies and allotted them to his S-2 (intelligence officer), S-3 (operations officer), and liaison officer.

The frequent turmoil in personnel ranks in the 4th Armored Division had some unexpected benefits. In anticipation of personnel transfers, many young enlisted men were trained in the tasks of soldiers one or two ranks above them. As a result, by 1944, the 4th Armored Division had become a 'division of non-coms' with most privates being capable of taking over the responsibilities of sergeants. This would be an enormous resource once the division began suffering combat casualties in France in 1944, as the unit had a ready supply of experienced, trained personnel. In addition, the division became adept at performing its own training, and blending new replacements into its existing formations.

In December 1943, the 4th Armored Division made its final move prior to combat, being shipped off to England in anticipation of the battle for France. The division deployed to former British Army camps in Wiltshire near Avebury and Salisbury Plain, and in February 1944 became part of the new Third Army. Its commander, Gen. George S. Patton, paid a two-day visit after which he judged the division 'a fine unit.' On February, 22 1944, the Division began to conduct large-scale exercises on Salisbury Plain. Patton selected the 4th Armored Division over the 5th and 6th for a major training exercise in May 1944 due to his greater confidence in the unit, after all its tank battalions had carried out live firing on the British tank gunnery range at Minehead in March. This was the most realistic gunnery training it had ever experienced and by June, the division's tank gunnery had improved markedly. Abrams was particularly insistent on thorough gunnery training, and the 37th Tank Battalion was regarded as the best prepared in the division. During



continuation training in June, each tank battalion was allotted 1,000 rounds of main-armament ammunition per battalion, or 20 rounds per tank, a lavish amount given wartime restrictions. The 37th Tank Battalion began loading on LCTs in Portland Harbor on 9 July 1944 and disembarked on Utah Beach at dawn on 11 July 1944.

When the 4th Armored Division arrived in France in the summer of 1944, it had the makings of an excellent combat unit, having had been training for three years, and being well prepared in the technical aspects of armored warfare. It had also benefited from the experiences of tank units that had seen combat earlier, such as the 1st Armored Division in Tunisia, and the 2nd Armored Division in Sicily. The 4th Armored Division was lucky in several other key respects, particularly having such exceptional senior officers as Wood, Abrams, and many others, and an above-average selection of enlisted men. Furthermore, it was fortunate in being assigned to Patton's Third Army. As would become evident in the campaign that followed, Patton's cavalry mentality was ideally suited to armored warfare, and he used his units, especially the 4th and the 6th Armored Divisions, to their best advantage. By contrast, armored units in Hodge's First Army and Simpson's Ninth Army were often used in a more conservative fashion, reflecting the infantry mentality of their senior commanders. The division was further helped by being deployed to France later than 2nd and 3rd Armored Divisions which had arrived there in June 1944, and had both suffered heavy casualties in late June and early July in the bocage, the hedgerow terrain of Normandy which

The two armored divisions attached to Patton's newly formed Third Army trained on Salisbury Plain in England in 1944 before being deployed to France. This is an exercise by the 6th Armored Division on June 23, 1944. The M4 medium tank in the foreground, nicknamed 'Assam-Dragon,' carries two reels of telephone wire on the turret bustle for laying communication lines. (Patton Museum)

was ill-suited to tank warfare. The 4th Armored Division first entered combat in late July during Operation Cobra, the breakout from Normandy, a baptism of fire that was less arduous and costly than for other US armored units, while still providing invaluable experience in the realities of war.

APPEARANCE, EQUIPMENT, AND WEAPONS

Although much of the everyday uniform of US tankers was identical to that elsewhere in the US Army, they received a variety of specialized clothing due to the nature of their work, including coveralls similar to those used by mechanics to reduce the chances of clothing becoming snagged inside the tank. One of the better items issued to tankers was the winter combat jacket, a tight-fitting, wool-lined, short coat lacking the usual assortment of pockets found on infantry battledress. Once again, the aim was to provide clothing that would not become caught up inside the tank. This jacket, contrary to its name, was worn year round except in the hottest summer months, and even then was carried in the tank for cold or rainy summer weather. Winter wear also included the bib-front winter combat trousers, another very practical item of clothing that provided warmth in winter conditions without overly encumbering the tanker. Once committed to combat in 1944, tankers ended up with various items of clothing, some as substitutes, some due to personal preference, and could be seen wearing jackets or other items worn by the infantry, just as infantrymen could be seen wearing the winter combat jacket.



A young tank commander in a M5A1 light tank looks for targets during the campaign in France in the summer of 1944. He is wearing the Model 1942 tanker's helmet, with a pair of standard Resistol goggles. To his side is a Browning .30 cal. machine gun, the standard defensive armament on M5A1 light tanks. (NARA)

Armored units were particularly distinguished by their headgear. Most tankers at Fort Knox became familiar with the winter combat helmet, a cloth helmet designed to be worn under the actual helmet in cold weather. In fact, it was worn year round, especially in training, as it was cheaper than the Model 1942 armored forces' helmet. The ensemble of cloth helmet and the winter jacket was popularly called the 'Buck Rogers suit' at Fort Knox, due to its similarity to the costumes worn in the popular movie serials of the time.

Tankers were also issued a special tanker's helmet that was intended to provide some cushioning and protection when inside the tank, and that had integral ear-flaps to contain the earphones connected in to the tank's intercom system. While some tankers in 1941 still received the pre-war infantry or cavalry vehicle helmets, most received the new Model 1942 armored forces' helmet, developed from a pre-war Rawlings football helmet. By the autumn of 1944, many tankers had found that the tanker's helmet was flawed since it offered inadequate protection against shrapnel and small-arms fire. This was a particular problem for tank commanders who usually rode with their heads outside the turret. Due to an increasing number of casualties among tank commanders, the US Army tried to obtain British tank crewmen's helmets, but were told that they were in short supply. The more common solution was to take a large-sized M1 steel helmet, remove the liner, and mount either the entire Rawlings helmet, or just the ear-flaps, into it. Most photos of Abrams during the 1944-45 campaign in NW Europe show him wearing this combination. Some units from the First Army found a supply of pre-war French mechanized cavalry helmets, and used these as well.

Goggles for eye protection were issued, the Resistol pre-war pattern being common through 1944, while the cheaper M1944, single-lens goggles were also used in France.

Tankers were not issued personal weapons; .45 cal. automatics were only issued to battalion officers, including the commanding officer, executive officer, and S-3. Other members of the crew had to use the weapons issued with the tank for self-defense. These varied depending on the type of tank and the period of the war. Early on the .45 cal.



The crew of a M5A1 light tank of Co. B, 759th Tank Battalion (Light) eat K-rations near their tank during the Battle of the Bulge on December 30, 1944. The tanker on the left is wearing the cloth winter helmet that could be worn separately as seen here, or under the tanker helmet. The tanker on the right is wearing the tanker's helmet as well as the winter jacket, typical of tank crews in the ETO. (NARA)

The interior of the M4 medium tank was very cramped. The gunner sat in the front right side of the turret with the tank commander behind him. This is the initial version of the M4 medium tank using a periscopic gunner's sight. The tank commander is resting his arm on the protective guard behind the breech of the 75mm gun. This photo was taken inside a Sherman tank during maneuvers in Louisiana in July 1943. (NARA)



Thompson sub-machine gun was commonly issued on the basis of one or two per tank. The crew was also expected to remove the vehicle's .30 cal. Browning machine guns for use in self-defense, and a tripod was provided for this purpose. By 1944, the cheap M3 .45 cal. 'grease gun' became the most common type of weapon issued for self-defense. In the 4th Armored Division, the tanks were modified in England with racks for grease guns for all five members of the crew. As was common elsewhere in the US Army, tankers managed to 'acquire' additional weapons for self-defense, tank commanders often ending up with pistols, ideally with shoulder holsters that were less apt to snag when climbing in and out of the tank. Reports from army observers visiting tank units in combat in 1944-45 stressed the need to equip all tank crew with pistols and shoulder holsters since, when abandoning the tank, there was rarely enough time to locate and remove the M3 grease gun.

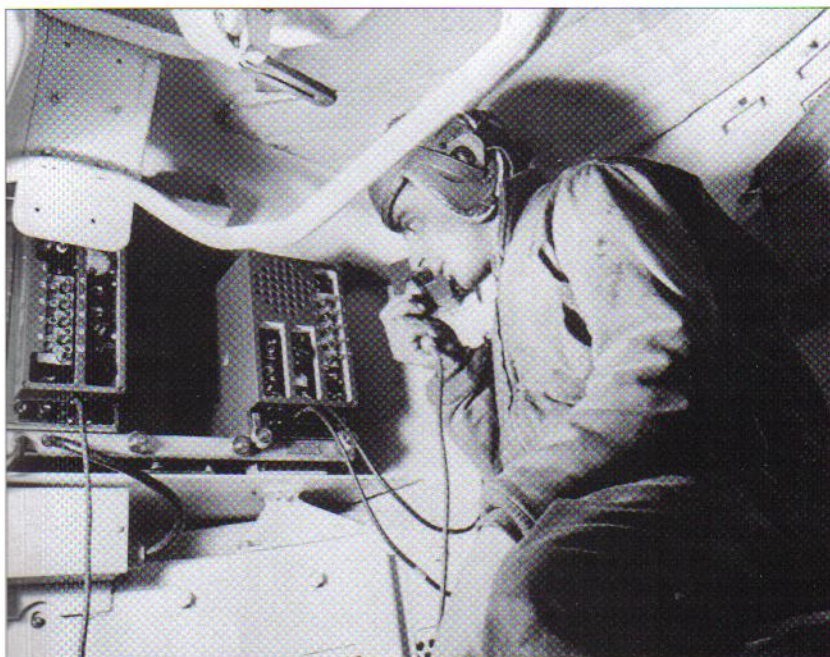
By the time of the 1944 campaign in NW Europe, there were two principal types of tank in service in the US Army: the M5A1 light tank and the M4 series of medium tanks. Each tank battalion had three companies (A to C) with medium tanks and one company (Co. D) with light tanks – a total of 53 M4 medium and 17 M5A1 light tanks. A significant difference from the crew standpoint was that the M5A1 light tank had one less crewman, the turret having only two crewmen, commander and gunner, with the commander doubling as the loader. A medium tank turret had three men – tank commander, gunner and loader. (Further details on these tanks can be found in New Vanguard 33: *M3 & M5 Stuart Light Tank 1940-1945* and New Vanguard 73: *M4 (76mm) Sherman Medium Tank 1943-65*.)

In terms of priority, the crew positions went in the order: tank commander, gunner, driver, loader, bow gunner; the tank commander was always the highest-ranking member. Like most armies, the US Army

believed that a three-man turret crew was ideal, since in earlier types of tank with two- or even one-man turret crews, the commander was forced to concentrate on activities other than leading the crew, such as loading ammunition. The platoon leader was usually a young 1st or 2nd lieutenant, the platoon sergeant was usually a staff sergeant, and the remaining three tank commanders in a tank platoon were 'buck' sergeants.

The commander's tasks were demanding, since he also operated the tank's radio. All US tanks had an FM radio, a significant innovation in tank warfare since it permitted the use of the radio during movement. Most other armies still relied on AM radios that were difficult to use during movement since the metal-on-metal contact of the suspension induced radio interference. In the M4 tank, the radio was mounted in the bustle of the turret behind the commander, the standard tank radios in US tank platoons being the SCR-528 transceiver and the SCR-538 receiver. In a standard tank platoon, the platoon leader and the platoon sergeant had the SCR-528, including a transmitter and a receiver, while the other three tanks only had a receiver, the SCR-538. In combat, transmitters from damaged or destroyed tanks were usually salvaged for re-use, and many platoon leaders ended up with the SCR-508 combination that was basically the SCR-528 but with a second transmitter added to permit the radios to be tuned simultaneously to the platoon net and the company or battalion net. In Abrams' 37th Tank Battalion, the tanks with the SCR-538 were gradually upgraded through late 1944 to SCR-528 standards by adding a transmitter. In well-trained units like the 4th Armored Division, loaders were usually trained to assist the commander in operating the radio.

On the initial versions of the M4, the commander had a two-piece split hatch over his head, fitted with a rotating periscope. The commander's vision through this periscope was very limited, and the only practical way for him to view the neighboring terrain was to ride with his



The loader was stationed in the left side of the turret and this photo was taken from the front of the tank looking upward and rearward. Besides loading the main gun, the loader was responsible for assisting the tank commander with the vehicle radio stowed in the rear bustle of the turret as seen here. This photo is from the 741st Tank Battalion during training at Fort Polk in 1943. The battalion was one of the two that landed in the first wave at Omaha beach on D-Day. (NARA)

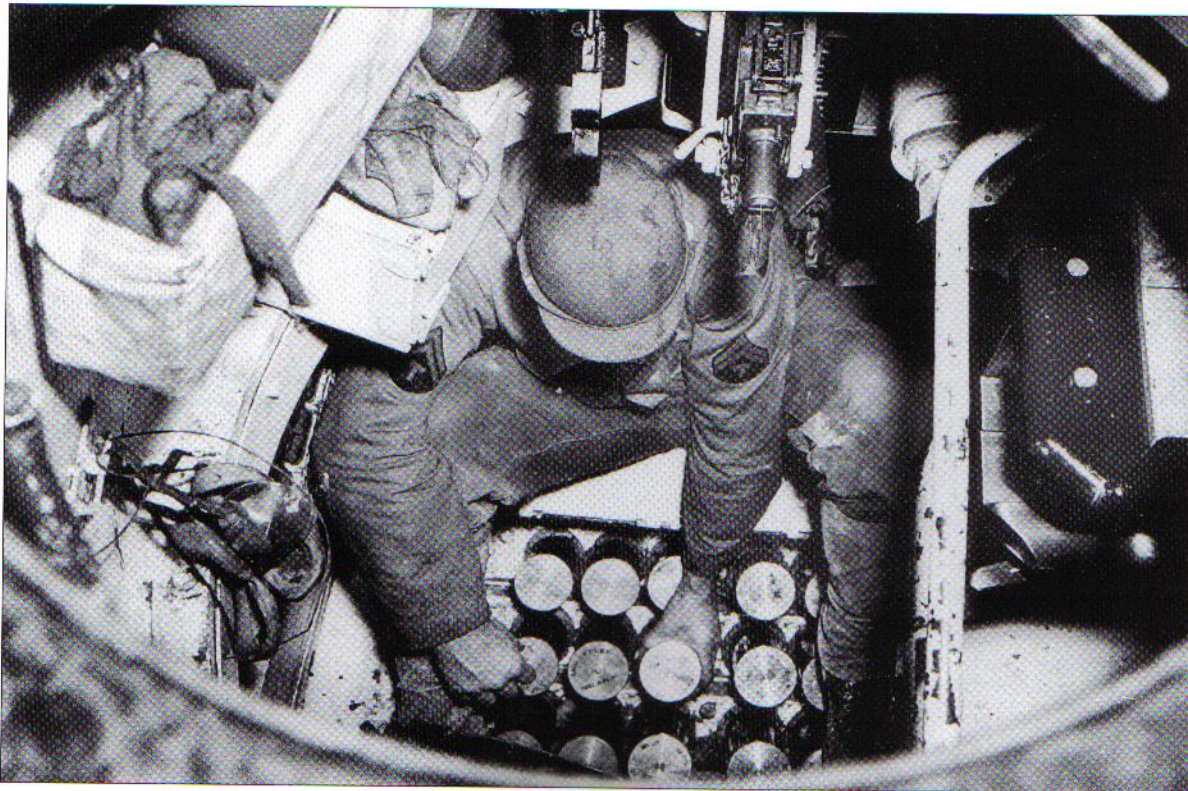
head out of the hatch. In the summer of 1944, new M4 tanks began arrive with all-vision cupolas that offered much superior vision from under cover. These first appeared on the new M4A1 (76mm) but also on new production M4A3 tanks and other types in increasing numbers.

Above the commander's hatch was a .50 cal. Browning heavy barrel machine gun. This was intended for anti-aircraft protection, but in fact it was much more often used for self-defense of the tank and for attacking ground targets that did not warrant the use of the main armament. In the 37th Tank Battalion, it was often used for 'prophylactic fire,' engaging suspicious bush, copse, building, or terrain feature that might harbor an enemy ambush. The .50 cal. heavy machine gun was very destructive, and proved to be extremely effective in attacking enemy infantry and trucks. The 4th Armored Division placed a great deal of emphasis on its use. George Bruce Clarke later recalled:

I told my men that the greatest thing on the tank was a free .50 cal. in the hands of the tank commander. We were not able to fight from tanks with the tank commander buttoned up – that has never been successfully done. [Buttoned up] he can't hear or see and so pretty soon he unbuttons. Now if he's got a free .50 cal. machine gun, all he has to do is press his thumb and he can pick out a dangerous spot. It may be a bazooka flash or something. He can throw a burst there without even thinking about giving an order.

On the early M4, the .50 cal. machine gun was mounted on a pintle that was attached to the commander's hatch. On later tanks with the

The loader's station in combat became cluttered with ammunition. Here, a loader is seen filling the floor ammunition racks in a M4A3 (76mm) from the 774th Tank Battalion in Luxembourg on November 20, 1944. The breech of the main gun can be seen to the right, while the breech of the co-axial .30 cal. machine gun can be seen to the right of his head. (NARA)



all-vision cupola, it was fitted to a pintle behind the commander's hatch, very awkward for the commander who had to expose himself to use the weapon. On the M4A1 (76mm) and M4A3 (76mm), both of which had the large round loader's hatch with pintle, units often moved the machine gun to the loader's side due to its more convenient mounting. Other units came up with their own improvised solutions. On Abrams' Thunderbolt VII, he had a .30 cal. machine gun mounted in front of the cupola for his personal use.

The tank commander communicated with his crew via the vehicle intercom. Tankers' helmets could be fitted with a throat microphone, but many tank commanders preferred the alternative hand-held microphone. The US Army trained its tank crews to use a prescribed series of terse communications to carry out standard operations. The official sequence for a tank commander to his gunner and loader instructing them to engage an enemy tank went as follows:

INSTRUCTION

'Gunner'

'Tank'

'Shot'

'Traverse right'

'Steady ... steady ... on!'

'One thousand'

'Fire!'

'On the way!'

EXPLANATION

This alerts the gunner to the following commands.

This tells the gunner the type of target.

This tells the loader which type of ammunition to use.

This tells the gunner where to find the target.

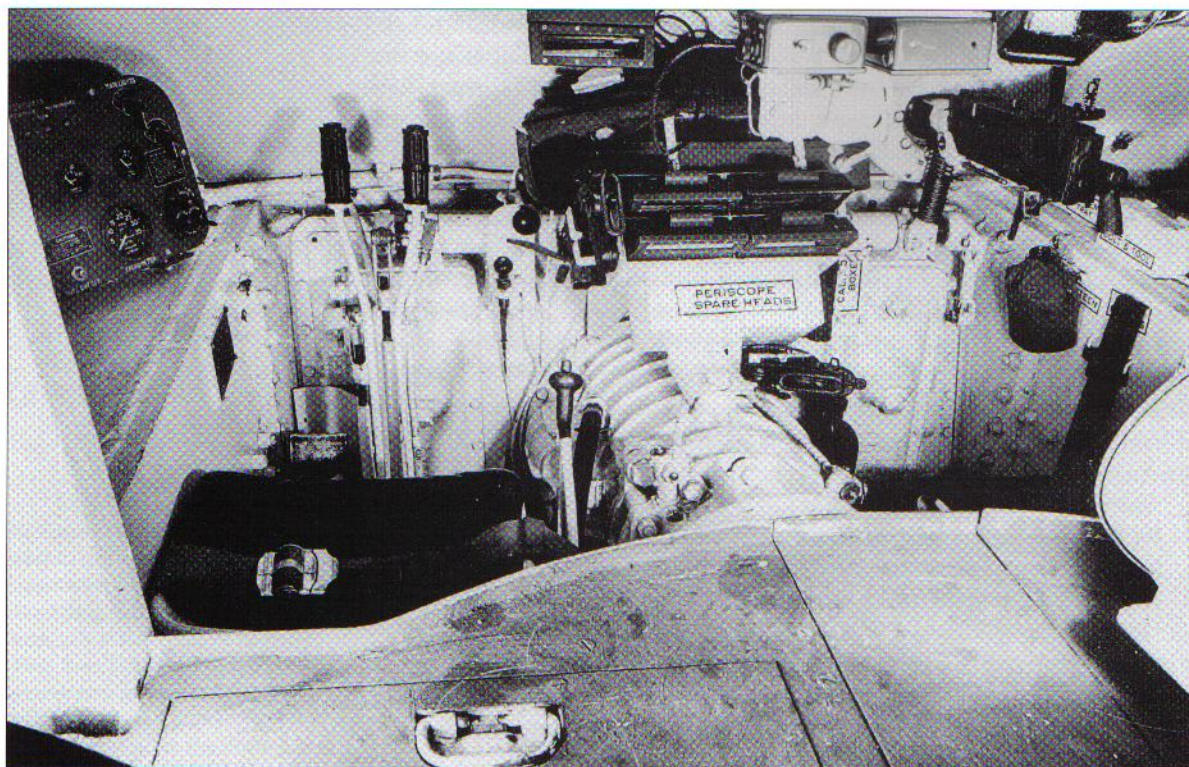
This tells the gunner that he has found the target and to stop traversing.

This tells the gunner the range.

This tells the gunner to engage the target.

This is the gunner's response to the commander telling him that he has fired.

In combat, these sequences were frequently shortened or dropped entirely. A more common sequence would be something like: 'Get that enemy tank over by the barn on the side of the hill.' There is a widespread popular belief that tanks spent most of their time in combat fighting other tanks, but this was not the case, and in the ETO, only about 15 percent of the targets engaged by US tanks were German armored vehicles. Buildings and field fortifications were the most common targets, accounting for about 30 percent of the targets engaged, while trucks and other wheeled vehicles were about 10 percent. Anti-tank guns and artillery were about 13 percent, while enemy troops were about 15 percent. Ammunition expenditure reflected this, and high-explosive rounds were the most common type carried by the tank, followed by armor-piercing and smoke. There is some evidence to suggest that Abrams and his crew had the highest score in the ETO with over 50 enemy tanks and other armored vehicles destroyed, the other major contender for the title of 'top gun' being Sgt. Lafayette Poole's tank 'In the Mood' of the 3rd Armored Division. Neither Abrams nor his crew thought such tallies to be important and did not keep a record as the concept of 'tank aces' did not exist in the US Army in World War II.



This shows the forward hull of a M4A1 (76mm) medium tank. The driver sat to the left and his steering controls can be seen in front of his seat. The bow gunner sat on the other side of the vehicle transmission, and the bow .30 cal. machine gun can be seen to the right. (Patton Museum)

Besides his responsibility for directing his crew, a tank commander was also responsible for coordinating the actions of his tank with those of other tanks in his platoon. The platoon leader was responsible for directing the fire of the platoon, while the other four tanks were supposed to follow his example, though in reality tanks often became separated from one another in combat, and individual tanks would engage targets if threatened. Unit commanders were also responsible for coordinating the actions of their tanks with other supporting units such as infantry. In armored divisions like the 4th Armored, it was unusual for tank platoons to be assigned to support infantry – the smallest unit detached to support infantry would normally be a tank company.

Second in seniority was the gunner. The gunner, as his position implies, was responsible for aiming and firing the main armament and the co-axial machine gun under the direction of the commander. This task required considerable training and the fate of the crew could often depend on the gunner's skill. The gunner sat immediately in front of the commander in the M4 turret, on the right-hand side. His gun controls varied depending on the type of tank. The early M4 tank used a periscopic gunner's sight that proved far from ideal due to its low magnification. By the time of the 1944 campaign, most of the 75mm-armed M4 tanks had shifted to the M34A1 gun mount that had a telescopic sight. This was a superior alternative as the magnification was better. The turret traverse and gun elevation were controlled via a hydraulic system with a manual back-up. In tank-vs.-tank combat, this gave the M4 some advantage over the slower-moving turrets on German tanks. The gun was fired using a button on the gun-control handle or the foot-pedal. The M4 medium tank's 75mm gun was fitted with a

gyro-stabilizer to permit firing on the move. Tank crews of the 4th Armored Division were trained in its use and veterans recall having used it in combat. It required considerable practice for it to be effective, and in some units the gyro-stabilizer was considered inefficient and too hard to maintain, so was not often used. Abrams' gunner, Sgt. John Gatusky, was considered the battalion's 'top gun' with an unerring eye for hitting even the most difficult targets.

The driver was next in seniority. Driving a World War II tank was much harder than driving modern tanks as they relied on clutch-and-brake steering more akin to that of a tractor than of an automobile. Besides actually driving the tank, the driver had to have a reasonably good appreciation of tactics and terrain, since in the heat of battle the commander often depended on the driver's common sense to get the tank into the best position, at the same time minimizing its vulnerability to hostile fire.

The men who had the lowest status within the crew were the loader and assistant driver. The loader's task required less skill than the other turret tasks, and so in many units it went to one of the less experienced members of the crew, although in the 37th Tank Battalion, the loader was often expected to assist the tank commander in handling the radio. He was responsible for loading the main gun as well as the .30 cal. co-axial machine gun located immediately in front of him in the left side of the turret. Although the loader had a seat in the turret, more often than not he stood to carry out his actions in combat since it made it easier to move around to take out the required ammunition, some of which was scattered in bins throughout the tank, with most being located in bins in the floor below. Most US tanks in the 1944-45 campaign carried extra tank gun ammunition, and this was crammed into every available space. In early M4 tanks like those first used by the 4th Armored Division in the summer of 1944, the loader's location was the least popular as he had no escape hatch. The driver and co-driver in the front each had a hatch, and there was a large hatch over the tank commander. When a tank was hit in combat, the tank commander exited first, followed by the gunner, and then by the loader who had to crawl under the gun to exit the turret. If either the commander or gunner was incapacitated, this could block the hatch and trap the loader. On later production M4 tanks, a separate hatch was finally added for the loader to solve the problem.

The assistant driver was located in the front of the hull to the right of the driver. He was primarily responsible for operating the .30 cal. hull machine gun, but his tasks in combat included helping the loader by feeding him ammunition from forward bins difficult to reach from the turret.

Tank operation required a well-trained and well-coordinated

US tanks were equipped with self-defense weapons. Early in the war, the .45 cal. Thompson sub-machine gun (top) was most common. However, by 1944 the standard type was the inexpensive M3 .45 cal. sub-machine gun, better known as the 'grease gun' due to its similarity in appearance to the mechanic's tool. (USAOM, APG)



crew. Abrams had the same crew through the 1944–45 fighting: Joe Gatusky (gunner); Bob Stilwell (driver); Len Katz (loader) and Ed Hanus (assistant driver).

ON CAMPAIGN

The Normandy Breakout

The 37th Tank Battalion was alerted for action shortly after midnight on the night of July 26 while encamped near Raffoville, France. Patton's Third Army had been activated on the right flank of Bradley's First Army as part of the exploitation phase of Operation Cobra, the breakout from Normandy. With the breakout proceeding as planned in the St Lô area, the Third Army was directed down the coast with the aim of breaking into Brittany. For three days, the 4th Armored Division moved unopposed through areas already cleared by other units, ending up outside Coutances on July 26, 1944. The 37th Tank Battalion received baptism of fire on July 30, 1944 while advancing towards Avranches when it began to encounter resistance from retreating German units. A tank sergeant from Co. D was wounded in the skirmish, and 100 prisoners were taken.

During the August fighting, the 37th Tank Battalion was part of Col. Bruce Clarke's Combat Command A (CCA), a task force that typically consisted of the 37th Tank Battalion, an armored infantry battalion (AIB) riding in half-tracks, an armored field artillery battalion equipped with M7 105mm howitzer motor carriages, and supporting units. A frequent combat organization was to team up a company of tanks from the 37th and a company of armored infantry, with the field artillery battalion providing fire support from the rear. The armored division's mechanized infantrymen were called 'armored doughs' and rode into combat in M3 half-tracks.

The battalion lost its first tanks on July 31, 1944 when CCA advanced through the key road junction at Avranches. The M4 tanks of Capt. Spencer, Co. A commander, and a platoon leader from Co. B were knocked out. Creighton Abrams was in the thick of the fight, and destroyed the first enemy tank when Thunderbolt V engaged a panzer outside Avranches and knocked it out with three quick rounds of AP (armor piercing) ammunition. The Battalion advanced past Rennes as part of an effort to clear off the Breton peninsula. Encounters with German units were sporadic, and the rapid advance by the tanks frequently frustrated German efforts to set up new defense lines. For example, on the afternoon of August 3, a company of 500 German infantry with two towed anti-tank guns was discovered coming down one of the roads outside Rennes. A M7 (105mm) assault gun of the HQ company blasted the guns, and the directed fire on the column from the neighboring 22nd Armored Field Artillery Battalion which decimated the unit. While many popular accounts of tank warfare in World War II stress the rare occasions of tank-vs.-tank combat, the intended role for US armored divisions was to penetrate behind the main line of resistance and wreak havoc against unprepared German reinforcements, command posts, and supply lines like the incident mentioned above. By August 5, the Battalion had crossed the base of the Breton peninsula and was approaching the coast near Vannes and Lorient.



A column of M4 medium tanks of 8th Tank Battalion, 4th Armored Division pass through the Avranches area on their way into Brittany in early August. The 8th Tank Battalion made much more extensive use of camouflage than the division's other two tank battalions. (NARA)

Another typical action occurred on August 6 when the local French resistance reported German defenses outside Vannes. A small force was formed around Lt. Jonathan Anderson's Co. C, 37th Tank Battalion with a platoon of armored doughs from A/53rd AIB and the HQ company's M4 (105mm) assault gun platoon. The German defensive position was centered around four emplaced 20mm anti-aircraft guns that were all knocked out in a brief firefight. Anderson's force then proceeded down the road, destroying German trucks and routing the entrenched infantry. Around 1700hrs that day, Lt. Anderson was killed by machine-gun fire from a German armored car, and command was taken over by the platoon sergeant, Howard Smith. Staff Sergeant Smith had been wounded in the face earlier in the day but had refused to be evacuated. By the end of the mission, the task force had killed or captured about a hundred German troops and destroyed 80 German trucks and other vehicles. Smith was recommended for the Silver Star, and received a field commission to 2nd lieutenant. The intense training prior to the campaign in France allowed the Battalion to fill losses in officer appointments from within the ranks when the occasion demanded it.

German defenses near many of the major Breton towns were based around rear-area flak positions since there were so few other heavy weapons available, which led to some dramatic encounters. On August 8, Lt. Martson of Co. B, 37th Tank Battalion was on point during an effort to seize the high ground east of the Scorff river outside Caudan. After directing his driver to crash through a hedgerow, he was horrified to discover that he was facing four massive German 128mm anti-aircraft guns in the field beyond. The German crews were equally surprised, but Martson's crew managed to knock out the nearest gun with 75mm fire, and then suppress the other three with machine-gun fire until the rest of the platoon arrived and destroyed the remaining guns.

By mid-August, the 4th Armored Division had fulfilled its mission to cut off the Breton peninsula. In two weeks of fighting, the division had captured 4,653 prisoners and destroyed or captured 241 vehicles, while losing 15 tanks and 20 other vehicles. 'P' Wood was itching to become involved with the real action – the drive towards the Seine river and Paris – and convinced Patton to shift the division eastward. On 10

August, the division conducted a rapid 80-mile road march from Vannes to Nantes, and had the town cleared by August 12. The division's new role was to serve as the southern flank of Patton's Third Army as it advanced towards the Seine river, although the 37th Tank Battalion had been shifted into the CCR (Combat Command Reserve) for much-needed maintenance. When the Battalion returned to combat on August 15 it was assigned to advance along the Loire river and destroy any remaining bridges, to prevent German forces from advancing on the lightly defended southern flank of the advancing Allied forces.

In late August, the battalion was assigned to Col. Clarke's CCA for the advance into Lorraine. On August 28, it crossed the Marne where it engaged in a series of skirmishes with truck-borne German infantry while moving up to Chalons which was captured on August 29, along with a cache of 30,000 gallons of fuel. By this stage of the campaign, the Wehrmacht was in full retreat over the Seine river, and resistance tended to be very sporadic and often concentrated in small towns or villages. The rapid advance of the division deep behind German lines frequently surprised the German forces – during the advance on St Dizier on August 30, the M5A1 light tanks of Co. D raced across a Luftwaffe airfield, destroying three aircraft on the ground before they could take off. The next day near Commercy, two platoons of tanks from Co. A advanced into a large courtyard to find it occupied by a German infantry company eating lunch near their troop train. The tanks destroyed three locomotives, several cars, two 88mm guns and a number of trucks as well as capturing over a hundred startled German infantry. The German commander had apparently fled in the chaos 'with his face fully lathered and razor in hand' according to the battalion diary.

A pair of M4 medium tanks of the 8th Tank Battalion, 4th Armored Division burn near Avranches, France on July 31, 1944 after being hit by concealed German anti-tank guns. Veterans of the 37th Tank Battalion recall passing this scene moments later as the division rapidly moved through the city, the gateway into Brittany. (NARA)



Fighting inside a World War II tank was an exhausting and stressful experience. The M4 medium tank was not spacious inside, especially once it was filled with ammunition and stowage. In combat, the air inside became a fetid mixture of sweat, oil, human bodies, and cordite fumes; in summer the tank was baking hot, and in winter it was dank and cold. The interior was dark, the crew's periscopes offered a very limited view of the exterior and were useless at night. Tankers had to keep a wary eye peeled for any movement or odd shape because the tank was perennially hunted by any number of enemy weapons from the hand-held *panzerfaust* anti-tank rocket to the dreaded 88mm anti-tank gun. The tank was a big, obvious target so the crew needed to be constantly vigilant.

While tankers did not experience the numbing exhaustion of the infantry's foot-slogging existence, tank combat had its own physical demands. Gen. Bruce Clarke later described the life of tankers in combat in World War II:

The failure of many armored division commanders was the failure to appreciate that an armored unit produces a tremendous workload on its men ... It just isn't possible to fight men in a tank day-after-day, day-after-day. The tank gives you claustrophobia – they are crowded in there with ammunition, right up against them. The place is dark. The tank is noisy and it vibrates ... You fight inside a tank 12 hours a day and that's pretty debilitating, well it's not like an infantryman in the open air ... Then at night, you've got to haul the ammunition, probably over several hills, because you aren't located where a truck can drive right up to you and give it to you. And you've got to haul your fuel in five-gallon cans. You have to check your tracks and all that sort of business. And you have to provide local security to keep the damn enemy from coming and throwing a grenade in the turret.

Young unit commanders like Abrams and his company and platoon leaders were further burdened by the responsibilities of command. Gen. Clarke later wrote: 'Armored action involves large road space, close timing, elaborate supply plans, and extensive plans for maintenance. It involves careful coordination and teamwork with all arms: artillery, mortar, and air support must be tied in. Communications must be coordinated and perfectly established. To do all these requires thorough and deliberate planning.' Abrams later remarked that commanding a tank unit required not only the intellect to plan and execute the mission, but the stamina to endure the stress and exhaustion of weeks of sustained close combat.

Successful armored divisional commanders soon learned that it was not possible to keep their tank battalions in continuous contact with the enemy. The tanks soon suffered unacceptable rates of mechanical breakdown and the men became too exhausted. In the 4th Armored Division, the tank battalions were periodically rotated back through CCR (Combat Command Reserve) where the tankers could rest, repair and maintain their equipment, and absorb new replacements for combat casualties.

RIGHT The tank commander of a well-camouflaged M4 medium tank of the 8th Tank Battalion, 4th Armored Division stands outside the turret to get a better aim with his .50 cal. machine gun while engaging German troops trying to blow up a Marne river bridge on August 21, 1944. (NARA)



BELOW A tanker's work is never done. Two crewman of this M4A1 medium tank of the 7th Armored Division clean out the 75mm gun barrel of their tank during a lull in the fighting in September 1944 during the advance through Belgium. (Patton Museum)



Tank units like the 37th Tank Battalion did not suffer the high casualty rates of comparable infantry battalions in the ETO, though casualties were by no means light. During the 1944–45 fighting, the battalion suffered 138 killed in action and over 500 wounded, meaning that most tankers had a greater than even chance of becoming a casualty at some point in the nine months the battalion was committed to

combat. Tank commanders were the most vulnerable since the rule in the 37th Tank Battalion was that commanders fought from an open hatch so that they could better understand the terrain and enemy around them. On more than one occasion, Abrams threatened to weld open the hatches of some inexperienced tank commanders when he caught them buttoning up in action.

Casualties among tank crews were inflicted in a number of ways, but by far the most prevalent being German direct-fire weapons such as anti-tank and tank guns, which accounted for 68 percent of the casualties according to one study, although the total varied from unit to unit. The next most common was German infantry anti-tank weapons, especially the *panzerfaust* and *panzerschreck* anti-tank rockets that accounted for 19 percent of the casualties. However, it should be noted that these numbers shifted over time, anti-tank and tank guns being the most common cause of casualties in the summer of 1944, but *panzerfausts* gradually becoming a more widespread threat in 1945. The third

most common was from mines, accounting for about 8 percent of crew casualties. In this case, mines took the greatest toll of drivers and bow gunners, since they were invariably closer to the point of detonation.

When tanks burned after being hit by anti-tank guns and rockets, this was often mistakenly attributed to the use of gasoline engines in American tanks. In fact, serious tank fires were mainly caused by ammunition propellant beginning to burn, whereupon there was nothing to do but bale out. Crews soon learned to place clothing and other flammable items on the outside of the tank to prevent minor fires smouldering away unnoticed that could quickly become a raging furnace once the ammunition was ignited. The most dangerous fires were those that were caused by direct hits impacting the ammunition as this could create a flash fire that gave the crew very little time to leave the tank. The initial versions of the M4 in service in the summer of 1944 had their ammunition in



steel bins. Battlefield surveys found that about 60 to 80 percent of these tanks burned after being penetrated by anti-tank rounds. Later that summer, the first of the 'wet stowage' M4, M4A1 and M4A3 tanks began to appear which had the ammunition stowed in tubes within a water-filled container; this helped to dampen any hot shards of metal from an enemy projectile that penetrated into the fighting compartment. Later battlefield surveys found that only 10-15 percent of tanks with wet stowage burned after being hit. In spite of the advantages of wet stowage, most tankers still found it necessary to carry 30 to 40 rounds of additional ammunition in their tanks that had to be stowed outside the protected containers. About half the tanks penetrated by enemy tank and anti-tank gun fire could be repaired, and over 70 percent of those penetrated by hand-held anti-tank rockets.

On average, one tanker was killed and one wounded every time an M4 tank was penetrated by a German anti-tank weapon. Typically, the crewman in the path of the projectile was killed. Crews soon learned to abandon the tank quickly after it was penetrated due to the hazard of a flash ammunition fire. Nevertheless, more US tankers became casualties outside their tanks than inside, as once outside the tank they were immediately exposed to enemy fire including small arms and artillery.

During the first four months of combat in France, Abrams and his crew used this M4 medium tank, nicknamed Thunderbolt V, with its distinctive cartoon on the side. (Patton Museum)

The Lorraine tank battles

On September 1, 1944, the 37th Tank Battalion was assaulted by a German tank platoon that quickly withdrew. An artillery barrage followed and in the early afternoon the Luftwaffe staged a rare daylight attack by 29 FW-190 and Ju-88 with bombs and rockets, but lost three aircraft in the process to .50 cal. machine-gun fire. It was a hint of the intense combat that would follow later in the month, but the battalion was pulled out of the line for a week's rest, and the tankers had their first hot showers since late July. The large quantities of German stores captured in the preceding weeks were issued on a scale of one bottle of wine or cognac to each man once a week. Entertainment was provided by a Special Service unit that showed movies for three nights in the neighboring Fort de Gironville. The lull in the fighting permitted the battalion's first awards ceremony with four tankers being awarded the Silver Star, and ten the Bronze Star.

The battalion returned to combat on September 11 as part of an effort to advance over the Moselle river and encircle the city of Nancy. The neighboring 8th Tank Battalion managed to cross the river over some shallow canals, but the crossing was delayed when German artillery hit one of the spans of the bridge assigned to the 37th Tank Battalion. The commander of XII Corps, Maj. Gen. Manton Eddy, instructed Clarke to move the CCA over the Moselle as soon as possible to create a second pincer movement around Nancy. The intended bridgehead at Dieulouard had nearly been overrun the night before by an attack of the 3rd Panzergrenadier Division, and the bridgehead on the east bank remained under intense artillery fire. In the pre-dawn hours of September 13, Eddy and Clarke met on the west bank to discuss whether it was wise to try to put a large mechanized force into such a small and contested bridgehead. Clarke pointed out that 'We can't do much fighting on this side of the river' and called Abrams forward for his opinion. Abrams said, 'That's the shortest way home,' so Eddy authorized the attack. The vanguard was a column of M8 armored cars

from D Troop, 25th Cavalry who had to engage German troops on a neighboring bridge as they crossed at 0620. The 37th Tank Battalion began moving across at 0913, racing up the slopes beyond the bridge and past the smouldering wreckage of German StuG.III assault guns and burning M4 tanks of the 702nd Tank Battalion knocked out the night before. Abrams was on the radio constantly encouraging his units to keep pushing beyond St Genevieve. The 37th Tank Battalion and the accompanying 53rd AIB reached the assembly area around noon under intense artillery fire, and began an attack towards Benicourt. After a strike by P-47 Thunderbolts against retreating German columns, the advance continued toward Chateau Salins. The light tanks of Co. D ran into a German

A rare view of the tank fighting around Arracourt on September 24, 1944 by the 37th Tank Battalion. A medic is tending to a wounded tanker behind a hill while the tank fighting continues on the skyline above. (NARA)



mechanized column, and called in Co. B for support. A number of SdKfz 251 half-tracks and four StuG.III assault guns were knocked out in the fighting, and over a hundred prisoners taken. By the end of the day, CCA was deep behind German lines, and threatening to complete the envelopment of Nancy. The divisional log noted: 'The rapid drive of CCA through the enemy lines has so disrupted the enemy forces that small groups have been apprehended wandering, almost aimlessly, through their bivouac areas.'

The fight for the Dieulouard bridgehead was the start of an intense series of skirmishes in Lorraine that would culminate in the raging tank battles around Arracourt later in the month. Unbeknown to Patton, in late August, Hitler ordered a major counter-offensive in Lorraine aimed at cutting off the Third Army's spearhead and destroying it using four newly formed panzer brigades. Two of these inexperienced brigades were committed prematurely and decimated: Panzer Brigade 106 by the 90th Infantry Division near Mairy on September 8; and Panzer Brigade 112 by the French 2nd Armored Division near Dompierre on September 13.

The 37th Tank Battalion spent most of September 14 trying to find intact bridges over the Marne-Rhine canal. During the fighting in Valhey, 'Absentee,' a M4 tank of Co. A, was hit by a German anti-tank gun. The bow gunner was trapped inside the burning tank and his commander, Sgt. Joseph Sadowski, tried to free him and drag him out, but was killed by small-arms fire in the process. He was the first and only member of the battalion to be awarded the Medal of Honor. The intensity of the day's fighting was evident in the final tally: 26 German armored vehicles destroyed, 135 trucks, 10 anti-tank guns, 230 German infantry killed, and 187 captured.

The battalion reached its next staging area near Arracourt on the afternoon of September 15 and spent the next few days consolidating positions on the east bank of the Moselle for a planned attack towards the Saar. On September 18, the long-delayed German panzer offensive began in disjointed fashion with an attack by Panzer Brigade 111 against



The crew of Sgt. Timothy Dunn of the 37th Tank Battalion set up a bivouac near Chateau Salins on September 26, 1944, shortly after the tank battles near Arracourt. The vehicle tarpaulin has been erected to create a tent for the crew. (NARA)

US mechanized cavalry posts outside Luneville. Clarke despatched a small task force under Maj. Bill Hunter consisting of A/37th Tank Battalion and B/53rd AIB as reinforcements. By the end of the day, Abrams had only a single medium tank company under his command as Co. B had also been detached to support the 53rd AIB. Shortly before midnight, Co. C reported the sound of enemy mechanized columns, and in the dark a patrol found tank tracks leading off the road in front of their positions.

The weather at dawn was extremely foggy and visibility poor when the first Panther tanks of Panzer Brigade 113 began to appear out of the mist. They were first spotted by the battalion liaison officer, Capt. W. Dwight as he was traveling between outposts in his jeep around 0730hrs. Dwight radioed to Abrams warning him of the German activity. Shortly afterwards, the German column bumped into the light tank platoon of Staff Sgt. Mallon from Co. D near Moncourt. Mallon's tank knocked out a SdKfz 251 half-track and a truck leading the German column, but when the Panthers began emerging from the fog, Mallon ordered his outnumbered force to withdraw.

No US tanker relished encountering a Panther tank as it was very well armored in the front, and the M4's 75mm armor-piercing round invariably bounced off. The later 76mm gun was more effective at ranges under 400 yards, but the Panther could easily penetrate the frontal armor of the M4 tank at ranges over 1,000 yards. The only hope for the US tankers was to move to a flank and engage the Panther's thinner side armor.

Mallon's warning had alerted outposts of Co. C, and when two Panthers were knocked out by flanking fire from Lt. Smith's platoon, the German column began to withdraw. With Capt. Lamison's Co. C the only medium tank company available, Abrams ordered him to delay the Germans as long as possible until reinforcements could be brought back from other sectors. Lamison formed a roving platoon to cover the gap between his two outposts. The US tankers enjoyed a greater familiarity with the local terrain and Capt. Lamison's platoon reached a commanding ridge west of Bezange-la-Petite to trap the withdrawing panzer column. As the eight surviving Panthers appeared, four were quickly knocked out by close-range fire from the flanks, and before the Germans could respond, the M4 tanks moved behind the cover of the reverse slope. In the dense fog, the Panther crews had no idea where the American tanks were located, and seconds later the M4 tanks reappeared from behind the ridge and destroyed the remaining four Panthers.

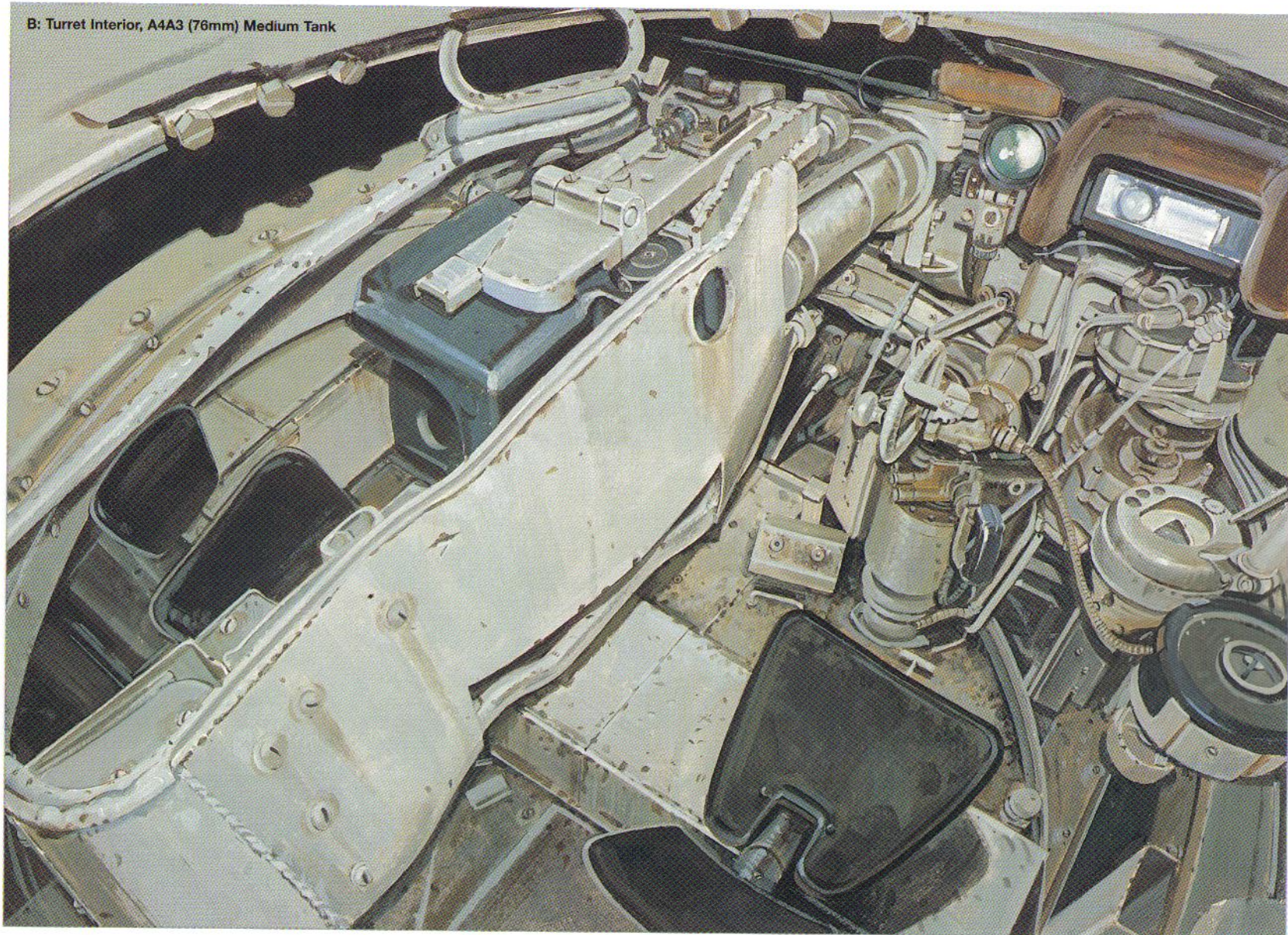
Capt. Dwight in the meantime had reached Arracourt and was ordered to take a platoon of M18 tank destroyers from the 704th Tank Destroyer Battalion to reinforce the outpost near Lezey. On the way to Lezey, near Bezange-la-Petite, the platoon encountered the lead elements of the western spearhead of Panzer Brigade 113. Unobserved in the thick fog, the M18s deployed in a shallow depression and began engaging the German tanks at a range of only 150 yards from hull-down positions. In the sharp firefight that ensued, nine German tanks were knocked out, but three of the four M18 Hellcats were put out of action as well. The German column retreated.

Abrams secured permission to recall Hunter's task force and radioed him to 'Dust off the sights, wipe off the shot, and breeze right on

A: US Army Tanker, Summer 1944



B: Turret Interior, A4A3 (76mm) Medium Tank



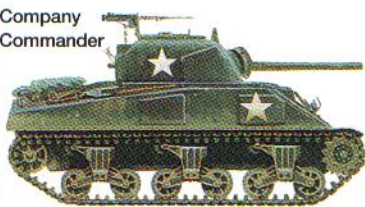
C: Thunderbolt at Arracourt



Company B, 37th Tank Battalion, July 1944

Headquarters*

Company
Commander



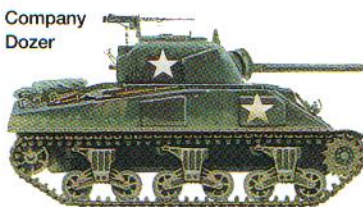
Buccaneer

Company
Assault
Gun



Back Breaker

Company
Dozer



Bulldozer

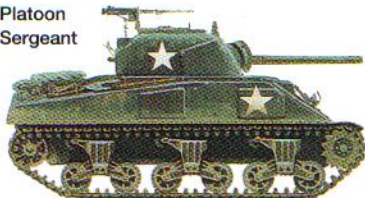
1st Platoon

Platoon
Leader



Blockbuster

Platoon
Sergeant



Betty Boop



Berlin Bound



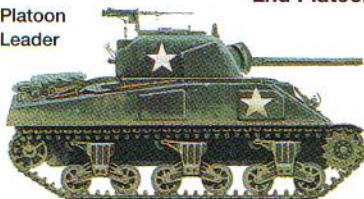
Battlebaby



Beer Barrel

2nd Platoon

Platoon
Leader



Boiler Maker

Platoon
Sergeant



Bock Beer



Ballentine



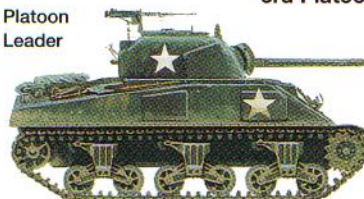
Budweiser



Blatz/Blue Ribbon

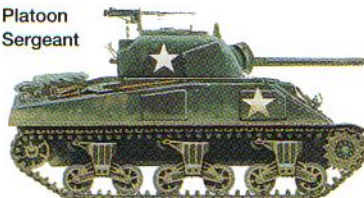
3rd Platoon

Platoon
Leader



Brother Toby

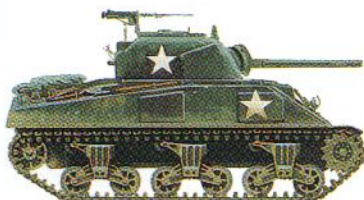
Platoon
Sergeant



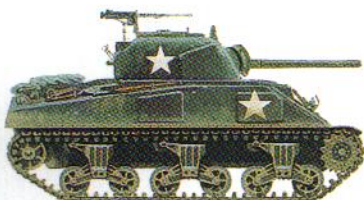
Brooklyn Boy



Beaufighter



Blenheim



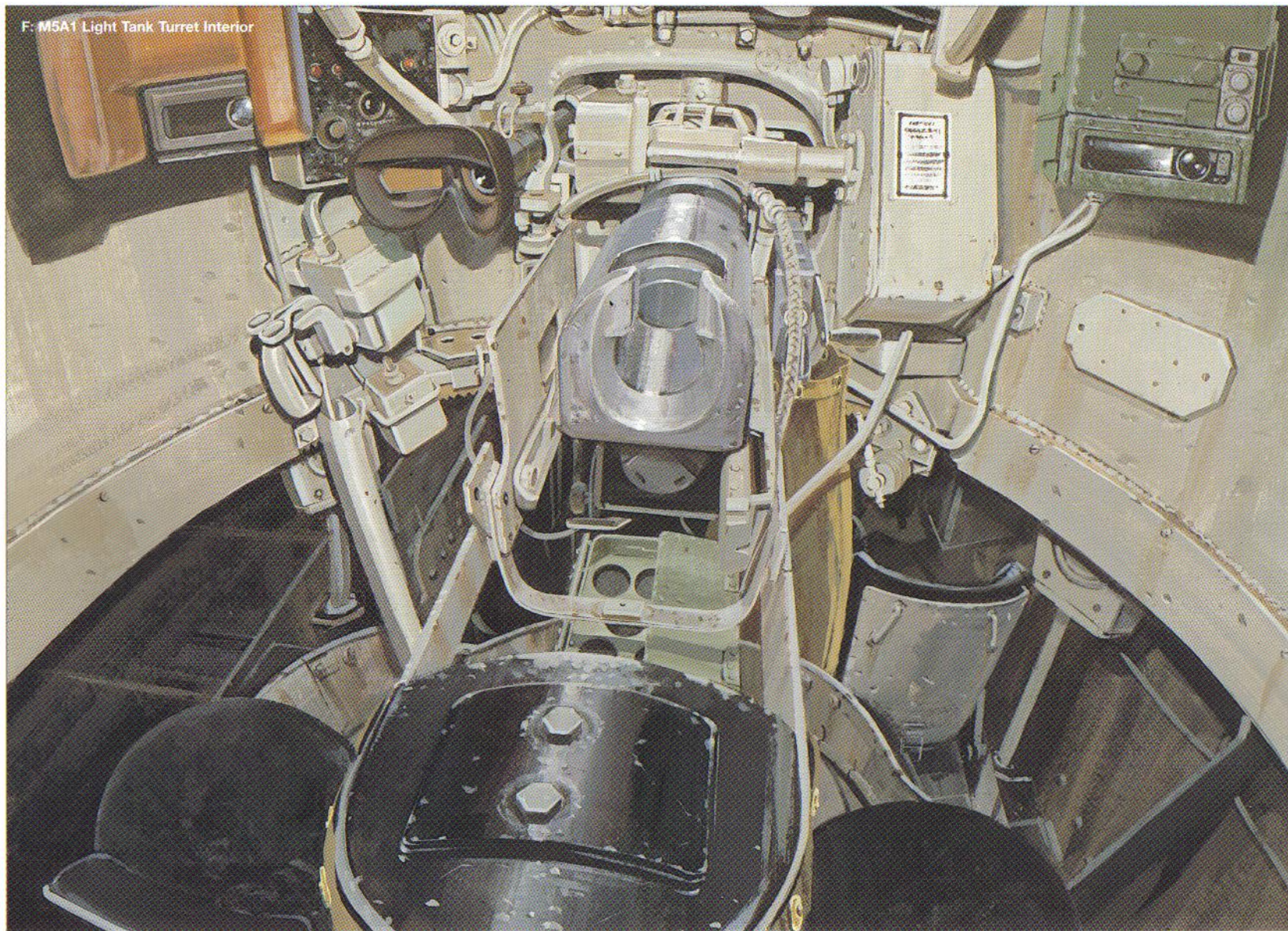
Blondie

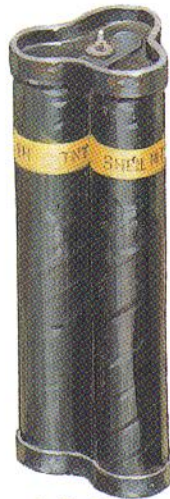
*Company support included a M32 tank recovery vehicle, M3 half-track, 2 1/2 ton truck, two jeeps and three trailers

E: Thunderbolt at Bastogne



F: M5A1 Light Tank Turret Interior





H: M4 Medium Tank Crew Layout





An army photographer took a few close-up photos of tank crews of the 4th Armored Division on September 26, after the 37th Tank Battalion had been pulled back from the fighting around Arracourt. This is Pvt. Kenneth Boyer, of Co. B, 37th Tank Battalion, sitting on one of the M4 (105mm) assault guns of the headquarters company. (NARA)

through.' Hunter collected two companies of M4 tanks, and reached Dwight's positions northeast of Rechicourt in the early afternoon. A counter-attack was staged against Hill 297 with the two tank companies, Co. A hitting head-on and beginning to engage at 400 yards, and Lt. Turner's platoon from Co. B approaching the German tanks from the flank and engaging at 250 yards. While the M4 tank could not penetrate the Panther frontally, the sides were another matter and eight Panthers were soon knocked out, five by Turner's tank alone. The tactic for engaging Panthers head-on was to fire first with a 'Willy-Pete' – a white phosphorous smoke round. The smoke round would usually blind the Panther, and then the outgunned M4 tanks could maneuver to attack their vulnerable sides with normal armor-piercing ammunition. In some cases, the acrid smoke from the phosphorous round would be sucked into the Panther turret, forcing the crew to abandon the tank. After being hit by white phosphorous smoke rounds, some inexperienced German crews abandoned their tanks thinking they were on fire.

Patton visited Arracourt late in the day and talked with 'P' Wood about future plans. Wood reported that CCA had destroyed 43 enemy tanks during the fighting, mostly factory-fresh Panthers, at a cost of 6 killed, 3 wounded, plus 3 M18 tank destroyers, and 5 M4 tanks knocked out. Patton believed that the German strength in the area had been spent and ordered Wood to continue the advance the next day.

On the early morning of September 20, CCA of the 4th Armored Division moved out from the area near Lezey on their planned offensive and had reached as far as Dieuze when the division's rear elements near Arracourt reported that German tanks were attacking again from the Parroy woods. This time, it was the tanks of Panzer Brigade 111 that had missed the previous day's battle due to poor map reading. About eight German tanks had appeared out of the mist 1,000 yards from the 191st Field Artillery Battalion as it was preparing move out. The 155mm howitzers were quickly swung around and began to take on the tanks at point-blank range. A few of tanks and tank destroyers from other units joined in and the panzer attack was beaten off under intense fire.

Abrams ordered the 37th Tank Battalion back towards Lezey to clean out the area of German tanks once and for all. In the meantime, a Pz.Kpfw. IV company, supported by anti-tank guns, took up ambush positions on the approaches to the area where the earlier fighting had taken place. When Co. C, 37th Tank Battalion crested the rise, they came under heavy and accurate fire from the tanks and anti-tank guns below, losing a half-dozen M4s in a few seconds. The Americans pulled back over the rise and waited for Co. B to reach them. After forming up, the two companies maneuvered to gain a better position and in the ensuing tank fighting, knocked out six German tanks. A further five Panthers were knocked out later in the afternoon when the American task force reached Bures. Contrary to standard tactical doctrine, Abrams decided to launch a night tank attack to seize control of Moncourt.

Hitler was furious to learn that the carefully husbanded panzer brigades had been squandered with so little effect and that his plans for an early and quick victory over Patton had been frustrated. On September 21, he sacked the Army Commander. When the panzer attacks resumed on September 22, the lead columns from Panzer Brigade 111 were delayed by a cavalry screening force, giving Abrams time to move the 37th Tank Battalion northward and occupy a hill near Trois Crois looking down into the valley east of Juvelize, where the Germans were moving forward. Co. A took on the German tanks at ranges of 400 to 2,000 yards and called for field artillery support. During the fighting, the commander of Panzer Brigade 111 was killed and by the end of the day, the brigade had been reduced to seven tanks and 80 men from an original strength of over 90 tanks and 2,500 men. The following day, the commander of Panzer Brigade 113 was killed by a strafing P-47 Thunderbolt. Although both panzer brigades had been decimated, they were reinforced by the 11th Panzer Division and other units to continue the futile offensive.



Capt. J. F. Brady was a company commander of Co. A, 35th Tank Battalion, 4th Armored Division and is seen here on October 2, 1944 talking with his crew over the vehicle microphone. In front of him is the periscopic sight, his only means of vision when the hatch was closed. (NARA)

By this time, a shortage of fuel led Patton to postpone any further advance towards the Saar, so on September 25, the 37th Tank Battalion was pulled back, and the forward defensive positions occupied by armored infantry battalions. During the fighting around Arracourt on September 19–22, CCA knocked out 79 PzKpfw. IV and Panther tanks of which 55 were credited to the 37th Tank Battalion. A total of 21 US tanks were knocked out, 14 from the 37th Tank Battalion (several of which were later repaired). The disproportionate number of tank losses in the Arracourt battles were clearly attributable to the experience and better training of the 37th Tank Battalion. The German panzer brigades outnumbered CCA and their Panther tanks were significantly better than the M4 tank in tank-vs-tank combat, but the panzer brigades had only been recently formed, and their training was inadequate.

As the German Lorraine counter-offensive finally petered out in late September, the 37th Tank Battalion was withdrawn from combat on October 2 for rest and refit. The rest area was a field of thick, clinging mud, but after 77 days of combat, it was a welcome break for Abrams and his tank crews. Company messes were set up, and the battalion received its first hot meals since the breakout from Normandy. The tank crews were able to send their clothes to a quartermaster laundry for the first time since they had arrived in France, and the first hot showers in a month were arranged in neighboring towns. A traveling USO show arrived and put on two performances, and the battalion was visited by a Red Cross Clubmobile staffed by young American women who dispensed coffee and donuts – ‘extremely beneficial to morale’, according to the battalion diary. An awards ceremony was held: Abrams received an Oak Leaf Cluster to his Silver Star; three Silver Stars and four Bronze Stars were awarded to other tankers. Five sergeants received field commissions to 2nd lieutenant and the battalion also received its first replacements: six officers and 23 enlisted men; most of the enlisted men had been trained as infantry, so the battalion had to carry out its own tanker training.

Abrams wrote to his wife shortly after the Lorraine fighting:

Things have been most pressing, the pace has been furious, the attacks ferocious, this over a period of weeks is fatiguing. I haven't had my clothes off, I haven't been dry, I haven't been warm. Except for quick naps, I haven't slept for two weeks. There's no time to eat right, there's no time to think – it's attack, attack, attack. When things are that way, the men have got to be led. Someone has got to be cheerful, confident, and intelligent – someone has got to be first.

After a couple of days rest, he apologized to his wife for the weary tone of this letter in another one, but it was an accurate reflection of the



This portrait of Lt. Col. Creighton Abrams was taken in the late autumn of 1944 and he is seen wearing a regular M1 steel helmet over the usual tanker's helmet, a common field improvisation in 1944–45. (Patton Museum)



The thick, clinging mud of Lorraine proved to be one of the main opponents of Patton's Third Army in the bitter November fighting. This is a M4A3 (76mm) from the neighboring 6th Armored Division, bogged down after hitting a mine near Hellimer, France on November 25, 1944. (NARA)

stress that enveloped young tank commanders after weeks of close combat. Abrams won the respect and admiration of his troops both for his obvious and unpretentious bravery in combat, as well as his concern for their welfare. He had a fiery temper, particularly after too many days without sleep, but his calm and confident demeanor under fire was very reassuring to the young tankers serving alongside him. He was not an officer who led from the rear and could be seen in the thick of the fighting, standing in the hatch of Thunderbolt, chomping on a cigar, barking instructions over his radio. One soldier later recalled: 'Abrams could inspire aggressiveness in a begonia.'

It was not all rest and recreation during the October lull in the fighting. The incessant rain had turned the farm fields into vast seas of mud so that tanks became bogged in. On October 17, new 'duck-bill' end extenders were fitted on the tracks of their M4 tanks to give them better traction in the mud. The battalion had lost ten tanks in combat since July, and six replacements arrived in late October. Clarke wanted Abrams to take one of the new M4A3 (76mm) tanks that were generally disdained in the 4th Armored Division. The new version of the Sherman tank had a longer 76mm gun with better anti-tank performance than the usual 75mm gun; it could penetrate a Panther turret front at ranges under 400 yards, but its high-explosive shell contained only half the punch of that of the 75mm gun. Tank-vs-tank fighting was relatively uncommon, and Abrams' experienced tankers placed greater importance on high-explosive firepower than anti-tank performance. Clarke realized that none of the tankers in CCA would take the new tanks until Abrams did, and eventually convinced him to swap his worn-out Thunderbolt V for one of the new tanks – Thunderbolt VI.

On October 21, the battalion was visited by Patton to watch Co. A demonstrate the performance of the new widened tracks in the mud. Later in the week, 13 men and one officer left on a prized three-day pass to Paris, the first during the campaign in France; 70 more men were given eight-hour passes to the nearby city of Nancy. On October 31, Abrams was surprised to learn that his immediate commander, Lt. Col. Bruce Clarke, had been promoted to full colonel and was being transferred to help reorganize the troubled and badly led 7th Armored Division. Clarke recommended to 'P' Wood that Abrams take his place as head of CCA, and warned him that if he did not, he would be gone in a month. Although Wood had a good understanding of mechanized combat, Clarke felt he badly needed subordinate leaders who better understood the day-to-day realities of tank fighting and in his opinion there was no one better than Creighton Abrams. Although Abrams was given command of CCA in early November, it was to be only temporary; the battalion executive officer, Maj. Bill Hunter, took over command of the 37th Tank Battalion.

Autumn mud

The fighting in November 1944 was some of the worst the battalion ever experienced. The weather had remained damp and cold, and the farm fields of eastern France were a quagmire. Tank operations were conducted on a front 'one tank wide,' forced down whatever roads were available. Such tactics were invariably costly, particularly when facing a skilled and determined opponent like the 11th Panzer Division. The commander of XII Corps, Gen. Manton Eddy, sent both the 4th and 6th Armored Divisions along narrow axes of attack, euphemistically called 'ice-pick' tactics. Gen. Wood felt it was an atrocious misuse of armor and complained bitterly to Eddy. The fighting on November 12 was typical. A German infantry attack was met by a counter-attack by Maj. Hunter leading Co. B, several of their tanks becoming bogged down in the mud



The autumn mud proved to be such a barrier that the 4th Armored Division often had to use their light tanks to bring wounded tankers back for medical aid, like this crew from the 8th Tank Battalion on December 1, 1944. (NARA)



During the fall and winter campaign of 1944, Abrams fought from a M4A3 (76mm) seen here in front of a half-track on November 14 when the battalion was fighting near Quebling, France. The distinctive Thunderbolt VI insignia can be seen on the side of the hull. (NARA)

under fire from German tanks. Artillery smoke rounds shielded them, but two tanks were lost. The battalion diary noted bluntly: 'Mud made any large-scale maneuver impossible.' Falling temperatures also led to a growing list of crew casualties from frozen feet. On November 16, Maj. Hunter had to be evacuated, with Maj. Ed Bautz taking command of the battalion, although Abrams returned to assume command the following day after Gen. Wood decided to replace him as CCA commander with a surplus colonel from his staff. The

same day, Abrams was informed that he was being awarded the Distinguished Service Cross for his leadership during the Lorraine tank battles, the army's second highest distinction next to the Medal of Honor. After a frustrating and costly three weeks of fighting, the battalion was pulled back on November 22, 1944 for rest and refit. The men were very pleased to receive a warm turkey dinner for Thanksgiving Day, a real treat after weeks of fighting in mud and freezing rain.

One of the more shocking bits of news for Abrams and his tankers was the announcement on December 3 that Patton was relieving their divisional commander, the widely admired 'P' Wood. He had a troubled relationship with the younger commander of XII Corps, Gen. Manton Eddy, and had been very critical of Eddy's leadership during the awful November campaign. On December 1, Eddy visited Wood shortly after word had arrived that one of his favorite battalion commanders, the



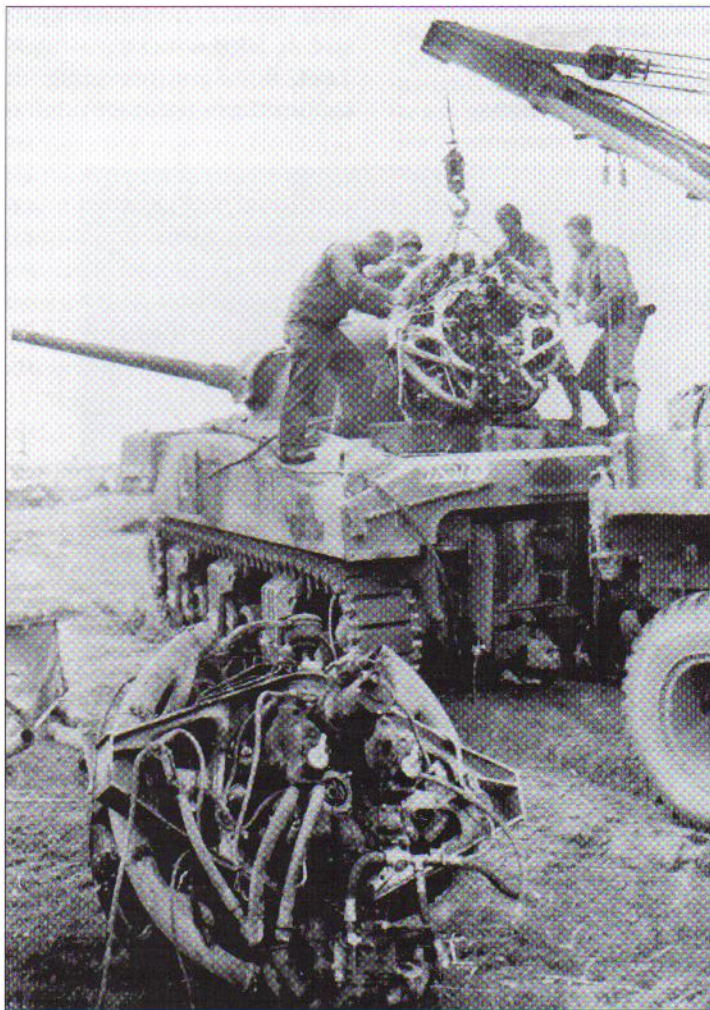
The senior commanders of the Third Army discuss future operations in Lorraine on November 13, 1944 near Chateau Salins. From left to right are: Brig. Gen. Holmes Dager (CCB, 4th Armored Division); Gen. Omar Bradley (12th Army Group), Maj. Gen. John 'P' Wood (4th Armored Division); Lt. Gen. George Patton (Third Army) and Maj. Gen. Manton Eddy (XII Corps).

25-year-old Lt. Col. Art West of the 10th AIB, had just been seriously wounded. Frustrated, Wood again accused Eddy of misusing the division, blaming him for West's loss as well. Eddy decided he had enough of this sort of intemperate behavior and phoned Patton to demand that he relieve Wood. Patton was reluctant to do so, regarding him as one of the best divisional commanders in Europe, but felt he was too worn out to continue to lead the division. Realizing how important the division was to Third Army Patton appointed his own chief of staff, Maj. Gen. Hugh Gaffey, to take over.

The 37th Tank Battalion returned to combat in early December, slowly advancing through the Maginot Line towards the German frontier and the Saar. On December 5, the 37th Tank Battalion took part in 4th Armored Division's attempt to seize the high ground near Dehlingen. The battalion had advanced to within 1,000 yards of Singling and after cresting a ridge, came under intense anti-tank fire. Fourteen medium tanks were disabled, five to tank fire from their old adversary, the 11th Panzer Division, the other nine to the thick mud. Many of the tanks were so badly bogged down that they had to be abandoned, and then they were further damaged by German artillery fire. It was the heaviest loss the battalion had ever suffered in one day, as a result of which the 37th Tank Battalion was down to only two medium tank companies the next day when it assaulted Singling. Gen. Fritz Bayerling, commander of the Panzer Lehr Division, witnessed the attack, describing it as 'an outstanding tank attack, such as I have rarely seen, over ideal tank terrain.' However, the fight for Singling was inconclusive, and on 8 December the battalion was pulled back into reserve.

Co. A was detached from the battalion the following week to support an attack by the 346th Infantry, and ended up being the first unit of the battalion to enter Germany on 16 December. The remainder of the battalion joined the fighting along the German border over the next few days. On the morning of December 19, 1944, the battalion was ordered to reform in Mittersheim. Although details were sketchy, the company commanders were told that the battalion would take part in an urgent operation to relieve US forces trapped in the Ardennes. As it was understrength, the 37th Tank Battalion remained in divisional reserve, following behind the rest of

Each tank battalion had a service company to conduct basic repairs. In this case, a wrecker is being used to change the Continental R-975-C1 400 hp radial engine from a M4 tank of the 31st Tank Battalion, 7th Armored Division in the Netherlands on October 6, 1944. (NARA)



the division as it advanced into Belgium. At the time, the 37th Tank Battalion had only about half of its authorized medium tank strength with 28 M4 medium tanks (instead of 53), 6 M4 105mm assault guns, and 13 M5A1 light tanks (instead of 17).

Battle of the Bulge

The 4th Armored Division was the vanguard of Patton's Third Army in its remarkable attempt to relieve the besieged 101st Airborne Division in Bastogne. CCA was in the lead of the assault, formed around the 35th Tank Battalion and the 51st AIB, with the neighboring CCB including the 8th Tank Battalion and 10th AIB. The division had to completely reorganize in the midst of miserable winter weather, and move from Lorraine to the Belgian frontier, a process that took nearly four days. First contact with the Wehrmacht occurred on December 22 when CCA fought all night to wrest control of Martelange from the 5th Fallschirmjaeger Division, while CCB fought for Chaumont. It was not divisional policy to fight with all three combat commands, but under the desperate circumstances in the Ardennes, CCR was committed as well. On the morning of December 24, 1944, the 37th Tank Battalion attacked Bigonville, with the armored doughs of the 53rd AIB riding on their tanks. The following day, CCR attacked Removille, with A/37th and A/53rd attacking straight up the road into the town, and C/37th Tank Battalion providing covering fire. About 300 prisoners were captured when the town fell on Christmas Day, and the battalion halted

for the night. By the morning of 26 December, CCR was the closest of the three combat commands to Bastogne, and by mid-afternoon only a short distance separated Patton's relieving force from the outer edge of the beleaguered perimeter. The orders from CCR were to assault Sibret in order to reach Bastogne.

Abrams expected Sibret to be heavily defended, and after consulting with the 53rd AIB commander, Col. 'Jigger' Jacques, he decided to attack through Assenois instead, even though it was contrary to his orders. He brought forward the battalion operations officer, Capt. Dwight, and put him in command of a task force consisting of Co. C, 37th Tank Battalion and Co. C, 53rd AIB. Abrams then ordered Dwight to assault through Assenois and break into Bastogne. Dwight's team received fire support from four 105mm howitzer battalions and a battalion of 155mm howitzers. The column was led by the Co. C commander, Lt. Boggess, riding in Cobra King, a heavily armored M4A3E2 assault tank and the attack began around 1610hrs with three tanks leading, followed by half-tracks. Boggess proceeded into the town even before the artillery fire

The wet autumn of 1944 and the accompanying mud forced the adoption of extended end connectors to M4 medium tanks to improve their traction. Here, the crew of a M4 medium tank have already removed the left track of their M4 tank and replaced the normal end connectors with the wider 'duck-bill' extended end connectors while in Baesweiler, Germany on December 5, 1944. (NARA)



had lifted, avoiding much German resistance. Once the artillery lifted, the German defenders in Assenois tried to disable the armored infantry column by throwing Teller mines underneath their half-tracks. They succeeded in blowing up one of them and knocking out three more with *panzerfaust* anti-tank rockets, but the accompanying infantry soon drove off the defenders in house-to-house fighting, taking 428 prisoners. Boggess was the first to reach the defensive perimeter of the 101st Airborne Division, and by late afternoon, Capt. Dwight was greeted by the commander of the 101st Airborne, Gen. McAuliffe. By dusk, Dwight's battle group was within the Bastogne perimeter and Abrams drove up in his tank Thunderbolt VI to confer with McAuliffe about getting the much-needed supply column into Bastogne. Shortly after midnight, Co. A, 53rd AIB attacked the woods north of Assenois and by 0300hrs the road was clear for vehicular traffic. Later in the day, the M5A1 light tanks of Co. D escorted a relief column into Bastogne consisting of 40 supply trucks and 70 ambulances. For the next few days the battalion cleared and widened the approach route into Bastogne, and finally began to receive replacement tanks to make up for their shortages, including five of the new M4A3E8 tanks with the improved HVSS suspension, making the battalion the first to use this new version of the Sherman tank in combat. At the end of the month, the battalion had 34 M4 tanks of which seven were in maintenance: 20 M4s with 75mm gun, seven M4A3s (76mm), and seven M4A3E2 assault tanks instead of the authorized 53 tanks. Co. D had its full complement of 17 M5A1 light tanks, and the assault gun platoon had all six of its authorized M4 (105mm) assault guns. The main source of casualties for the next several days came from the numerous Luftwaffe air raids on Bastogne. When the battalion went into

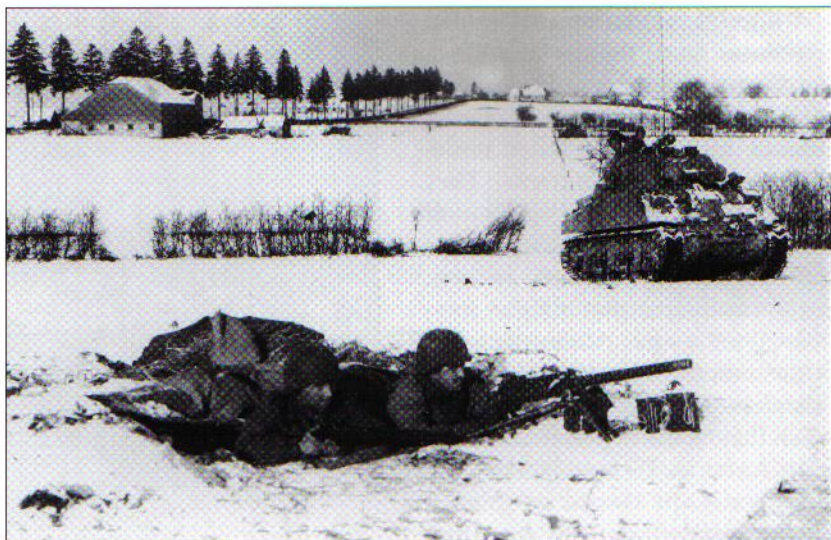


The 37th Tank Battalion led the way in the relief of Bastogne, with a M4A3E2 assault tank like the one here from Co. C in the vanguard of a 37th Tank Battalion column inside Bastogne in late December shortly after the breakthrough. (MHI)



The attack to relieve Bastogne was costly, with the 4th Armored Division losing 49 medium tanks during December 1944. Here, a M26 'Dragon Wagon' tractor is used to recover a M4 knocked out by two anti-tank gun rounds that had penetrated the side near the star marking. (NARA)

RIGHT The 4th Armored Division took part in the subsequent efforts to seal the 'Bulge' in the Ardennes front, and here on January 3, 1945, one of the division's M4 medium tanks passes by an armored dough foxhole with one of the soldiers manning a .30. cal Browning light machine gun. (NARA)



ABOVE A pair of snow-encrusted M4 medium tanks of the 35th Tank Battalion, 4th Armored Division deploy in the fields of Sainlex, Belgium on December 31, 1944 during efforts to widen the southern corridor into Bastogne. (NARA)

of the tanks, but after a single Co. B tank was modified late in January, the division decided against any further conversions. Abrams switched tanks during this lull, transferring to one of the newly arrived M4A3E8 tanks, Thunderbolt VII, his last tank of the war.

The battalion briefly returned to combat on January 10, 1945 in support of a paratroop advance, but it was still so badly understrength that the battalion was again returned to reserve in neighboring Luxembourg. On January 14, replacements arrived including three officers and 70 enlisted men. By this stage of the war, the heavy casualties among infantry and tank crews had grown to the point where most new replacements did not have specialist training, and although the 4th Armored Division had experience in training its own personnel, it was a burden for a unit already overstretched by continual combat.

On January 16, Gen. Gaffey arrived to pin a second Oak Leaf Cluster to Abrams' Silver Star for his leadership in the Bastogne operation. The battalion also received its second allotment of Paris passes, with six officers and 18 enlisted men selected, whilst those less fortunate finished giving their tanks a coat of whitewash camouflage on January 22. The

reserve in early January, the maintenance unit began a program to substitute the .50 cal. heavy machine gun for the usual .30 cal. co-axial machine gun in the tanks to give them more firepower as Abrams wanted a machine gun with a higher cyclic rate and more punch. This project began on January 6, and a demonstration was given to Abrams two days later of the first tanks that had been modified. In late January, Abrams instigated a program to mount flamethrowers in some



The 4th Armored Division was the first unit in the ETO to deploy the new M4A3E8 tank in combat, with the 37th Tank Battalion receiving a small number in December to replace earlier losses. This version had a new suspension with better traction in snow and mud, and one is seen here in a defensive position along highway H-4 outside Bastogne on January 8, 1945. (NARA)

last two weeks of January were spent training the new replacements, and gunnery practice on improvised firing ranges. In early February, the maintenance crews from the battalion attended a demonstration from the Third Army's ordnance battalion on how to strip armor plate off wrecked German and American tanks and attach it to the M4A3 (76mm) for better protection, but as the resources available to the battalion were insufficient to carry out such an extensive upgrade, the Third Army contracted the work out to local Belgian factories. The 4th Armored Division received 35 of these up-armored M4A3 (76mm) tanks, and in March the upgrade was performed on Abrams' Thunderbolt VII. The division also used the February lull to upgun its M4A3E2 assault tanks with a 76mm gun instead of the usual 75mm gun, and this was done by the division's 126th Ordnance Maintenance Battalion. Finally, the battalion's tanks were fitted with chicken wire for attaching camouflage. The first furloughs to the United States were approved in early February and one officer and three enlisted men left for thirty days on 12 February. Abrams got his first break after nearly six months of combat, and left on a pass to Paris on February 15, 1945.

The Rhine Rat Race

The 37th Tank Battalion returned to combat on February 24 as the 4th Armored Division took part in operations along the German border, pushing out of Luxembourg towards Bitburg. The terrain was extremely mountainous, and intense fighting continued for nearly a week. By March 1, the battalion had lost seven tanks, with six tankers killed and 21 wounded, but German casualties had been much higher: 11 tanks (including one Tiger), nine self-propelled guns, eight half-tracks, 17 anti-tank guns, and over 1,400 prisoners. This was followed by 'Operation Lumberjack,' a major effort to push to the Rhine river. It was better known to Abrams and his tankers as the 'Rhine Rat Race' as after

One of the new M4A3E8 tanks went to the crew of Capt. Jimmie Leach who is seen here pointing to the tank's name, 'Block-Buster 3rd', with his carbine after it was whitewashed in late January 1945. Leach, the Co. B commander, was wounded twice in one day during the advance on Bastogne and ended the War with the DSC, Silver Star with two oak leaf clusters and several other decorations. The M4A1E8 tank at the Battle of the Bulge museum in Diekirch is painted with Block-Buster markings to honor him and his crew. (Col. James Leach)



Resupply of fuel and ammunition was part of the tanker's daily chores. Ammunition had to be loaded into the tank round by round as seen here near Jodeville, Belgium on January 5, 1945 during the Battle of the Bulge. (NARA)



a few days of fighting through the initial German defenses, the Germans began a hasty retreat to the Rhine with the 4th Armored on their heels. An accompanying journalist described the fighting as 'concentrated mayhem.' On March 3, during a lull in the fighting, Abrams was awarded an Oak Leaf Cluster to his DSC.

Much of the Rhine Rat Race saw the 37th Tank Battalion deployed in conjunction with Maj. Harold Cohen's 10th AIB. Abrams and Cohen were somewhat amused when they were shown German propaganda leaflets: 'Beware of Abrams and Cohen. Roosevelt's highest paid butchers. Jewish criminals. Qualifications: one killed his mother and the other was born a bastard.' When one reporter said he was going to run the story but that he would say that Abrams was actually of Scottish Presbyterian ancestry, Abrams asked him not to mention his religion, as he found the Nazi bigotry obnoxious.

On March 5, the 37th Tank Battalion crossed the Kyll river as part of CCB and made a 20-mile advance into Germany against continuous opposition. The fighting was a confused mixture of heavy fighting against veteran units like the 2nd Panzer Division, but only half-hearted resistance from rear area supply units fleeing to the Rhine. During the final phase of the Rhine Rat Race the battalion knocked out, disabled or captured 12 Panther and five King Tiger tanks, about 900 trucks, several hundred horse-drawn wagons,

about 100 artillery pieces, and took nearly 3,000 prisoners, among whom was Gen. Lt. Graf von Rothkirch, commander of LIII Corps. Despite these encounters it was not unusual for the battalion to advance 20 or 30 miles per day.

On reaching the Rhine on March 8, word arrived that Abrams was being promoted to a full colonel and transferred to command CCB, taking over from Gen. Dager who was to take command of the 11th Armored Division. As it happened, the 37th Tank Battalion would remain under his direction, since Abrams tried to have it assigned as often as possible to CCB. The 37th Tank Battalion was again taken over by the battalion executive officer, Maj. Hunter, who had only returned a few weeks earlier from three months in hospital.

The 4th Armored Division crossed the Rhine on the night of March 24 as part of the Third Army's breakout. Tank columns raced for the bridges over the Main river and the 37th Tank Battalion reached the river around noon, eventually finding an intact railroad bridge. Several attempts by the Luftwaffe to destroy it were unsuccessful. The division had yet another command shake-up when Gaffey was transferred to corps command and was replaced by Gen. William Hoge who had commanded one of the engineer special brigades on D-Day, and the CCB of 9th Armored Division during the Battle of the Bulge and its recent capture of the Rhine river bridge at Remagen.

The battalion's most controversial mission started on March 26 when Patton appeared at Abrams' headquarters and ordered that a force be sent to liberate a large prisoner-of-war camp near Hammelburg, 40 miles behind German lines. Abrams said he would lead CCB to accomplish the mission, to which Patton stated that neither he nor his entire combat command would go, just a small force. Since Cohen was receiving medical treatment, Abrams selected the 10th AIB operations officer, Capt. Abe Baum. Task Force Baum consisted of Co. C, 37th Tank Battalion, Co. A, 10th AIB, a light tank platoon from D/37th and some assault guns from the HQ company. Abrams was extremely angry about the raid, realizing that such a small force would have a hard time carrying out the mission under the prevailing fluid conditions. As it transpired, Task Force Baum did reach the Hammelburg camp, but was



If a tank crew was lucky, the 2½-ton truck carrying the supplies could drive near the tank to unload the supplies as seen here near Weims, Belgium with a 7th Armored Division M4 receiving fuel on January 20, 1945. If the unit was under fire or in rough terrain, the crew would have to carry the supplies to their tank from the nearest road. (NARA)

Repairs were done where and when possible. Here some tankers of the 6th Armored Division repair a transmission that has been taken off a M4 (105mm) assault gun near Bastogne on February 4, 1945.



unable to fight its way back to US lines and most of its troops were captured by early April. It was learned after the war that the camp contained Col. John Waters, Patton's son-in-law, and there was suspicion that his liberation had been the objective of this ill-advised mission.

On April 1, the 4th Armored Division was awarded the Presidential Unit Citation for its extraordinary accomplishments in the Ardennes and Operation Lumberjack. The division remained around Gotha for a week while other units caught up, and 81 new replacements arrived for the 37th Tank Battalion, to make up for the 77 men of Co. C lost with Task Force Baum. By this stage of the war, with most of the organized Wehrmacht encircled and captured in the Ruhr pocket, German resistance was very sporadic. Back into action, the 4th Armored Division raced 100 miles in three days, finally being halted to permit the 76th and 80th Infantry Divisions to catch up. It was redirected into Bavaria, and drove down the autobahn to Bayreuth where the division enjoyed a USO show staged in Hitler's favorite opera house. The push into Bavaria was ordered because there were suspicions that Hitler planned a last-ditch defense in the Alps, but when that rumor evaporated, the division was sent east into Czechoslovakia, where it was greeted enthusiastically by the Czechs. Abrams was at CCB headquarters in Horazdovice when he received word at 1800hrs on May 7 that there would be an unconditional surrender of all German forces as of 0001hrs, May 9.

THE AFTERMATH

The end of the war was not the end of the 4th Armored Division's operations. Nearly 80,000 German troops tried to surrender to the division or infiltrate past it to avoid capture by the nearby Red Army. One of their old adversaries, 11th Panzer Division, tried to borrow gasoline to reach US lines. Another column of German vehicles



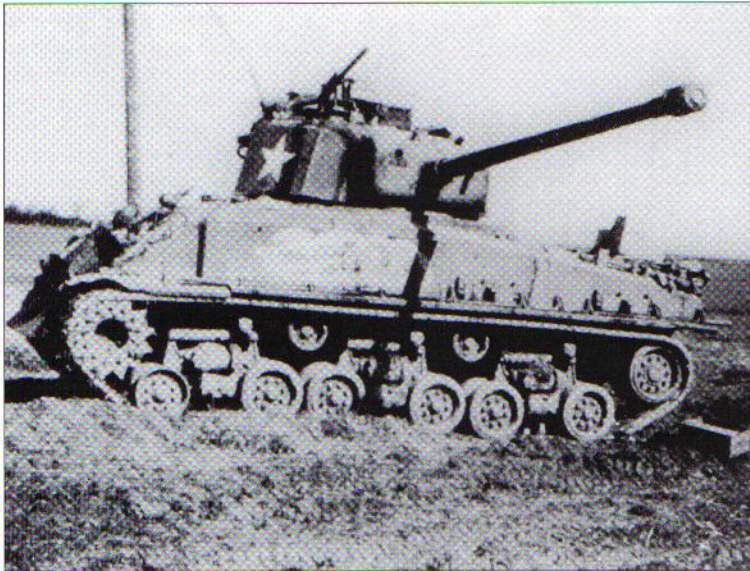
stretched eastward 35 miles, and the commanding officer complained about the delays entering US lines as the rear end of his column was under attack by the Red Army. The staff of Seventeenth Army were given the task of organizing the hordes of German troops in the area, and there was the curious sight of German officers wearing armbands marked 'Liaison Officer' wandering through the 4th Armored Division bivouacs. Contact was first made with the Red Army on May 11, and prisoner transfers began on May 14.

By the end of May, there was only one thing on the mind of the tankers, and that was going home. It was summed up in a song they coined, sung to the tune of 'Lili Marlene':

Dear President Truman, why can't we go home?
 We have conquered Berlin, we have conquered Rome,
 We have licked the master race,
 And now there's some shipping space,
 Why can't we go home, oh, why can't we go home?

Until Japan was defeated, there would be no demobilization. Instead, it was a return to the mundane chores of a peacetime army. The tanks and vehicles, in a bad state after months of fighting, were gradually repaired, with dents removed from fenders, and paint finishes brought up to parade standard. The first inspection of the 37th Tank Battalion

'Roosevelt's highest paid butchers,' according to German propaganda. Creighton Abrams is seen here to the left with Maj. Harold Cohen who commanded the 10th Armored Infantry Battalion that often fought alongside the 37th Tank Battalion in the 1945 campaign. (Patton Museum)



Abrams' third tank during the European campaign was this M4A3E8 named Thunderbolt VII, seen here in the spring of 1945 after it has been modified with appliqué armor. Abrams had a .30 cal. machine gun added in front of the cupola that was easier to use than the awkwardly located .50 cal. machine gun. (Patton Museum)

on June 1 was not a success, so more repairs and repainting of the tanks followed, along with a return to close-order drill. The battalion sparked two weeks later in Landshut, Germany when the 4th Armored Division held its first divisional formation since Camp Bowie in 1943.

When the war against Japan ended in August, the army began a process of returning troops to the United States based on combat time. Points were assigned based on time in combat, wounds and other factors, with the cut-off being set at 85 points. Many tankers from the 37th Tank Battalion qualified, and when the

total was lowered to 55, most were able to head back home. By October, the 4th Armored Division redeployed 14,000 men, more than its nominal strength. In March 1946, the remnants of the division were used to create the Third Army Constabulary Force for occupation duty, marking a temporary end to the division.

By the end of the war, the 31-year-old Abrams had won the Distinguished Service Cross twice, two Silver Stars, a Bronze Star for valor, and the Legion of Merit. Patton boasted to a divisional commander, 'I'm supposed to be the best tank commander in the Army, but I have one peer – Abe Abrams. He's the world's champion.' When later told of this, Abrams barked, 'He never said that to me – and he had plenty of chances!'

Abrams did not remain with the 4th Armored Division long. Gen. William Hoge who was shipped off to the Pacific to study future army basing in the Philippines, selected Abrams for his board and in July 1945 Abrams was back in Washington with the Operations Division of the General Staff. After discussing his future with his wife, he decided to stay in the army. In 1946, he was reunited with Bruce Clarke at Fort Knox, heading the tactics department of the Armored School. Abrams' progress was slow over the next decade – a tanker in a post-war army dominated by paratroopers. After studying at the Command and General Staff College at Fort Leavenworth, he was hand-picked by the commander of US forces in Europe to rebuild the 63rd Tank Battalion, which like many armored units had deteriorated after the War. During the Korean War, he served as a corps chief of staff, and on return to the US, was appointed chief of staff of the Armor School at Fort Knox. After a tour in the Pentagon, he was promoted to brigadier-general in 1959, serving as assistant commander of the 3rd Armored Division in Germany, and then divisional commander at the time of the 1961 Berlin crisis. Abrams received considerable press attention at this time, and due to his tanker background, inevitable comparisons to Patton. His former commander Bruce Clarke told one reporter that 'there's no question that Abrams is smarter, cooler, and more stable than Patton – and equally, fiercely aggressive,' and he



A M4A3 of Co. C, 35th Tank Battalion, 4th Armored Division moving through the outskirts of Frankfurt on March 28, 1945. (NARA)

appeared on the cover of *Time* magazine as America's No. 1 soldier. Abrams served as assistant deputy chief of staff for civil affairs in 1962–63; an especially difficult job due to the army's politically charged role in the government's desegregation programs in the South. He received his third star as commander of V Corps in Europe.

In 1967 Abrams became the deputy commander of US forces in Vietnam, the secretary of defense noting that he was an officer who had demonstrated 'the capacity for dealing objectively with matters of the broadest significance for national security' and was soon deputy commander of US forces in Vietnam. On October 16, 1972, he was appointed to the army's highest post, becoming army chief of staff and a stabilizing force in an army demoralized by the Vietnam War. Sadly his career was cut short by cancer, and he died on September 4, 1974, aged 60. His three sons followed the same career, two also becoming generals, and his three daughters married army officers.

There are many reminders of Abrams and the 37th Tank Battalion today. Probably the best known is the M1 Abrams tank, the US Army's current main battle tank. When the first production tank rolled off the assembly line in 1980, it carried the markings of his wartime M4 Sherman, Thunderbolt.

MUSEUMS AND COLLECTIONS

The Patton Museum of Armor and Cavalry is located near the Armor Center at Fort Knox, Kentucky and has the single largest display devoted to the US tank force in World War II, including an extensive vehicle collection and an excellent library. The Ordnance Museum at Aberdeen Proving Ground in Maryland has a very extensive collection of US tanks on display. There are numerous smaller museums around the United States containing exhibits devoted to the Armored Force, including various divisional museums on serving army bases.

There have been many Sherman tanks in museums or on army posts as gate guards painted 'Thunderbolt' in honor of Creighton Abrams, including one at the Citadel in South Carolina. The only known surviving tank from the 37th Tank Battalion is the M4A3E2 assault tank, Cobra King, commanded by Lt. Boggess that led the way into Bastogne. It has stood as a gate guard at a number of US Army posts in Germany, most recently at Vielseck. Other tanks have been marked in honor of other members of the 37th Tank Battalion, including a Sherman in the Battle of the Bulge museum in Diekirch, Luxembourg carrying the markings of the Co. B commander, Capt. (later Col.) Jimmie Leach, and another at the Patton Museum at Fort Knox.

Few museums have comprehensive collections of US World War II tanker battledress, although many military museums have an example or two of tankers' clothing. By far the best are those associated with the Battle of the Bulge. The Historical Center located outside of Bastogne, Belgium, has an excellent collection of US tanker's uniforms and equipment on display, including fairly rare examples such as the early pattern winter jacket. The Battle of the Bulge museum in Diekirch, Luxembourg also has a very good display of US tanker battledress.

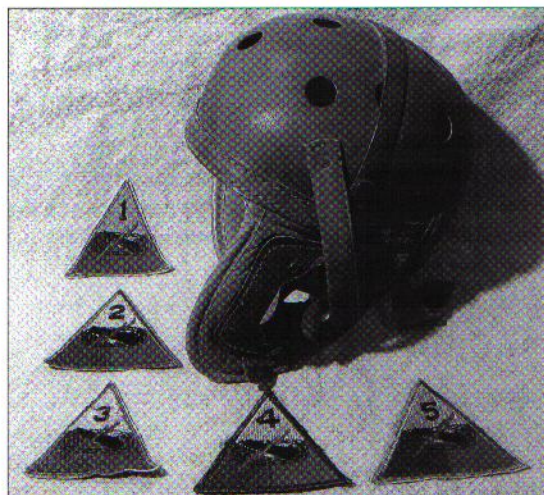
COLLECTING

There were very few items of battledress specific to the Armored Force, so collecting US tanker memorabilia is essentially similar for other items of US equipment. There has been less interest in collecting US tanker equipment than of paratrooper or infantry equipment, if for no other reason than the small numbers of tanker re-enactments due to the shortage of tank owners.

US tankers' helmets are one example of specialized equipment and collectors would be well advised to consult Chris Arnold's *Painted Steel: Steel Pots*, Vol. II (Bender Publishing, 2000) for more detail on the many variations of these helmets. From the author's experience, authentic World War II tanker helmets are becoming harder to obtain, and certainly more expensive. In the 1970s, it was generally easier to find examples in good condition in Europe as so much equipment had been left behind after the War for the use of many European armies under the Military Aid Program (MAP) in the late 1940s and early 1950s.

Another popular item for collectors is the winter jacket; it is becoming increasingly difficult to find authentic examples from World War II, although reproductions have been manufactured in recent years to cater for re-enactments and military vehicle collectors. A quick perusal of militaria shops in Paris in the summer of 2002 uncovered several wartime examples for sale, including a 4th Armored Division jacket. Information on US tankers' uniforms can be found in Martin Brayley's *Uniforms of the US Armored Force 1941-45* (Military Modelling, Vol. 31, No. 8, August 2001) and Windrow, R. and Hawkins, T., *The World War II GI* (Windrow & Greene, 1993).

A popular item for collectors is the Rawlings tanker's helmet seen here surrounded by the divisional patches of several World War II armored divisions. (Author)





A M4A3E2 (76mm) assault tank is parked in Alzey, Germany on March 20, 1945 as the M4A3E8 medium tank of Maj. Hunter, the 37th Tank Battalion commander, passes by during the advance on Worms. (NARA)

For enthusiasts on a budget, unit insignia is a far less expensive alternative to battledress. The distinctive triangular armored patches are widely available, although many are of post-war manufacture. The wartime armored divisions did not use the rectangular tab below the triangle with the division's nickname, so that is one simple way to distinguish them from the post-war examples. Many of the independent tank battalions disappeared after the war, so the chances are reasonably good that patches with these numbers are genuine wartime examples, although as in all fields of military collecting some care has to be taken to avoid post-war reproductions and fakes. It is easier to collect World War II US tanker insignia than, for example, Nazi memorabilia, which is more avidly sought.

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This account is also based on many unpublished sources including the 37th Tank Battalion diary and interviews with veterans. Most of the armored divisions published histories after the War, as did many of the separate tank battalions, although these tend to be institutional histories that provide very little feel for the day-to-day experiences of the tankers. The independent tank battalion histories tend to provide a closer look at the experience of the tankers, but are also far more erratic in quality. There are many books on US armor in World War II, and the list below concentrates on those relating to the 4th Armored Division and a few of the more illuminating memoirs.

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The 4th Armored Division ended the War in Bohemia in western Czechoslovakia. Here a local Czech woman gets to play tank driver in a M4A3E2 (76mm) assault tank of the 35th Tank Battalion near Pisek in May 1945. (Ivan Bajtos)



COLOR PLATE COMMENTARY

A. US ARMY TANKER, SUMMER 1944

US Army Tanker, Summer 1944. This plate shows the typical uniform of US Army tankers in the ETO in the summer of 1944, based around the Model 1943 herring bone twill (HBT) coveralls. The coveralls proved impractical in the combat conditions, so they became less common after the summer of 1944. He is wearing the standard Model 1942 tanker's helmet with the one-piece Polaroid goggles. Around his throat is the T30D throat microphone, which was an alternative to a conventional microphone due to better voice clarity inside a noisy tank. The wiring for this throat mike includes a SW-141 switch and the wiring which plugs into the vehicle intercom system. The other wiring coming from the tanker's helmet is for the earphones and also plugged into the vehicle intercom system. He is also carrying a .45 cal Colt M1911A1 pistol in leather holster, not a standard item but one which tankers tried to obtain. He is wearing Model 1943 leather holster.

The illustrations to the right show the various types of US tanker's helmets used in 1940-45. The pre-war infantry tanker's helmet seen at the top was popularly called the "donut" helmet due to its distinctive round leather protective band. The cavalry armored crewman helmet in the middle was similar, but lacked the distinctive "donut" band. These were replaced by the Rawlings tanker's helmet at the bottom which was officially adopted as the standard Armored Forces helmet in 1942.

Below are the standard tanker's self-defense weapons. The Thompson .45 cal sub-machine gun above was the more common tanker's self-defense weapon in earlier campaigns, but could still be seen in the ETO in 1944-45 in some units. The M3 grease gun .45 cal. sub-machine gun below was more commonly used in 1944-45 as is also seen on the figure here.

B. TURRET INTERIOR, M4A3 (76MM) MEDIUM TANK

This illustration shows the interior of a M4A3 (76mm) medium tank looking from the tank commander's position. The 76mm gun evident to the left has a protective guard around the breach to prevent the crew from being injured when the gun recoils. The gunner's seat and gunner's controls are to the right. The gunner had two sets of fire controls, a telescopic sight to the left and a periscopic sight above and to the right, either of which could be used to aim the gun. The mechanism immediately in front of the gunner is the drive motor and

The 4th Armored Division commander, Maj. Gen. John 'P' Wood sitting in the jeep talks to the commander of Combat Command A, Col. Bruce Clarke, during the fighting in Lorraine in October 1944. Clarke preferred to command CCA while flying in the back seat of a Piper Cub. (Patton Museum)



controls for the turret traverse and elevation system. This was hydraulically operated which accounts for the amount of tubing going from the various motors and controls to the oil reservoir. It was operated by a hand control, but manual traverse and elevation handles were provided in the event that the hydraulic system had problems. The black circular system to the far right is the azimuth indicator that showed the gunner and commander where the turret was aimed in relation to the rest of the tank hull.

C. THUNDERBOLT AT ARRACOURT

During the tank fighting around Arracourt in late September 1944, Abrams used Thunderbolt V, a M4 medium tank. It was fairly typical of the M4 tanks of the 1944 campaign, having a M34A1 gun mount with telescopic sight, and the side appliqué armor to protect the ammunition and crew. All Abrams' tanks were named Thunderbolt, and carried a cartoon depiction of a set of three red thunderbolts piercing the clouds. The marking on Thunderbolt V also included the usual US Armored Force triangle behind this. The bumper codes in this view are covered with mud, but if visible would read 4^37^ HQ-1. In the background is a knocked-out German Panther Ausf.G of the type encountered during the Lorraine tank fighting.

D. TANK COMPANY ORGANIZATION

This plate shows the standard configuration of a US tank company in 1944, using Co. B of the 37th Tank Battalion as an example. The company included three identical tank platoons with five tanks each, and a headquarters that included the company commander's tank, a company M4 (105mm) assault gun, and a company bulldozer tank (shown

here without the blade fitted). In the 37th Tank Battalion, all tanks were given a name starting with the company letter. Some had an obvious theme such as the beer names in the 2nd Platoon. Not shown on the plate is the company support vehicles which included two jeeps towing 1/4-ton trailers, a 2 1/2-ton mess truck towing a one-ton trailer, a T5 (M32) VTR (vehicle, tank recovery) and a maintenance M3 half-track.

E. THUNDERBOLT AT BASTOGNE

This plate shows a column of tanks led by Abrams in Thunderbolt VI advancing towards Bastogne around Christmas 1944. Abrams switched to a M4A3 (76mm) medium tank in the autumn of 1944 after the Arracourt tank battles at the request of the CCA commander, Col. Bruce Clarke. As in the case of his previous tanks, it carried the Thunderbolt cartoon on the hull side. The tank is fitted with duck-bill extended-end connectors for better traction in snow and mud.

F. M5A1 LIGHT TANK TURRET INTERIOR

The interior of the M5A1 light tank was extremely cramped due to its small size. Unlike the M4 medium tank, the gunner sat on the left side in the M5A1. Immediately in front of him

Creighton Abrams officially recognizes the field commissions given to several sergeants during the September fighting in a ceremony on October 14, 1944. The tankers from left to right are: Lt. Edward Mallon (Co. D); Lt. Charles Walters (Co. A); Lt. James Farese (Co. B); and Lt. Roy Smith (medical detachment). Farese, also decorated with the Silver Star, was later killed during the fighting for Singling in early December 1944. (Patton Museum)



was the telescopic sight for the gun, with a periscopic sight above and slightly to the left. The commander sat in the right side of the turret and doubled as a loader. The tank radio was in a bustle behind the turret crew.

G. US TANKER, WINTER 1944-45

US Tanker, winter 1944-45. This plate shows Abrams in typical US tanker battledress in the winter of 1944. He is wearing the standard Winter combat jacket with leather palmed wool gloves and an army-issue olive drab wool scarf. His pants are the standard winter combat trousers. In many units, the tank commander and some other crewmen such as the driver would regularly wear their M1 steel helmet shell over the Model 1942 tanker's helmet to provide some ballistic protection since the tanker helmet was only fiber-board.

The accompanying illustrations show the 75mm tank gun ammunition routinely handled by tankers. Ammunition came in a cloverleaf bundle of three rounds which consisted of three rounds of ammunition in black fiber-board tubes with removable metal-end caps. The ammunition was removed from this packing before loading into the tank. Ammunition could also come packed in four-round wooden boxes, but by

1944, the two-round packing box seen towards the bottom was more common. This was usually finished in a brown stain with markings painted in yellow, and sealed with black metal straps. Inside were two rounds of ammunition in black fiberboard tubes. The ammunition itself was color coded. So from left to right, the 75mm M48 high explosive round had an olive drab projectile, the M64 smoke round had a gray projectile, the M61 armor-piercing capped was black while the M61A1 armor piercing was olive drab. The divisional insignia for 4th Armored Division seen to the center left was worn by all organic units of the division including the 37th Tank Battalion. It was generally not worn on coveralls, but rather on the winter jacket, on the left shoulder. A typical separate tank battalion insignia is also shown here, that of the 773rd Tank Battalion.

H. M4 MEDIUM TANK CREW LAYOUT

This plate shows the positions of the crew in a M4 medium tank. The tank commander sat or stood in the rear right side of the turret with the gunner immediately in front of him. The loader was on the left side of the turret with the gun in between him and the rest of the turret crew. In the front of the hull were the driver on the left and the bow gunner on the right.



A fine character study of a young tanker after too many days in the front line in the autumn of 1944. This is Sgt. John Parks in a photo taken on December 10, 1944. (NARA)

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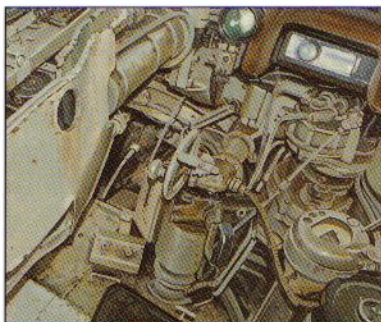
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