

US Light Tanks at War

1941-45

Steven J. Zaloga



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INTRODUCTION

The US Army fielded no fewer than five different types of light tanks during World War II. Of these, the most important types were the M3 and M5 light tanks, better known by their British name, Stuart. The US light tanks had a troubled history in US Army wartime service, often being employed in roles for which they were not well suited. At first, they were employed in normal tank roles, both for infantry support and tank fighting. They were not effective in either role, so by the middle of the war, they were assigned to secondary missions with the primary tank roles taken over by the M4 medium tank. Light tanks were more successful in the Pacific theatre, though their importance considerably diminished by 1944.

Preparing for War 1937-1941

The limitations of US light tanks can be traced to their origins in the inter-war years. During the 1920s, US tank development was strictly limited by the lack of funding and the large pool of tanks left over from World War I, the Renault FT and its American copy, the Six-Ton Tank. By the early 1930s, the US Army recognized that this design was obsolete, and desired more modern equipment. The development of a standard tank was hampered by the division of responsibility for tanks during the inter-war years. After World War I, the tanks were subordinated to the US Army's Infantry branch on the presumption that tanks were primarily infantry support weapons as they had been during the war. However, the more perceptive leaders of the Cavalry branch realized that the day of horse cavalry were coming to an end, and that mechanization was the future. Since the Cavalry was not allowed tanks under Congressional directive, they renamed their light tanks as "combat cars". Neither branch was able to afford any significant number of light tanks due to small inter-war Army budgets, as well as the Army's narrow strategic vision of future warfare. In the 1930s, US foreign policy was dominated by isolationist sentiment. There was strong opposition to US involvement in any future European wars, and most of the Army's attention was focused on defense of American possessions in the Pacific. Under these circumstances, tanks were not important except as an auxiliary weapon to support the infantry and cavalry. Little thought was given to large tank formations of the type being tested in Europe.

Both the Infantry's Light tanks and the Cavalry's combat cars were designed and manufactured at Rock Island Arsenal. Since the budgets for tanks were so small, both the light tanks and cavalry cars were built using common components. However, the branches could not agree on the ideal design, and the Cavalry sought some difference in its cavalry cars to maintain the pretense that they were not tanks. Due to cost and logistics concerns, the Army placed a strict size and weight limit on these tanks, which

largely accounts for the technical limitations of the light tank design in later years.

The US Army's first light tank in this family was the M2A1 light tank, armed with a .50 cal heavy machine gun in a single turret. While such an armament seems ludicrously puny by World War II standards, in the early 1930s it was an effective anti-tank weapon, capable of penetrating the armor of most foreign tanks of the period. Only ten were manufactured in 1935 before the Infantry decided that twin-turreted designs would be better. The Infantry believed that twin turret designs such as their M2A2 light tank were more effective for infantry support since they could engage two targets at once. The Cavalry stuck with single turret designs through the 1930s, usually armed with a .50 cal heavy machine gun and .30 cal light machine gun in the turret. The M1 Combat Car of 1935 had a chassis almost identical to that of the Infantry's M2A1 light tank, but had a significantly different turret.

US light tanks might have continued down the path set by the M1 Combat Car and M2A2 light tank but for the Spanish Civil War which erupted in 1936. The Spanish Civil War was the first major European war since World War I, and was widely regarded as a testing ground for new European weapons. Although the extent of tank fighting during the war was quite limited, a number of tactical and technical lessons emerged. To begin with, tanks had been shown to be very vulnerable to the new generation of anti-tank guns. During World War I, there were no dedicated anti-tank guns, and instead field guns were used in an improvised role. They were not entirely effective for defense against tanks, since they were large, difficult to conceal, and not available in large enough numbers. The new anti-tanks guns, epitomized by the German PaK 36 3.7cm gun, were small, easy to conceal, and available in significant numbers even in Spain. Heavier armor to defend against 3.7cm guns was clearly needed. The Spanish experience also suggested that the idea of machine gun-armed light tanks was out of date. Gun-armed tanks like the Soviet T-26 had dominated their machine gun-armed opponents. Furthermore, a gun was a more effective weapon for infantry support since it could be used to defeat anti-tank guns, machine gun nests, and enemy tanks.

As a short-term expedient, the US Army decided to begin applying the lessons of the Spanish Civil War on their 1938 production vehicles by increasing the armor thickness. The added weight led to the decision to increase the engine power and space the bogies further apart to reduce the ground pressure. Both the M2A3 light tank and M1A1 combat car adapted these features, although otherwise they were very similar to the final production batches of M2A2 light tanks and M1 combat cars.

The US Army also stepped up its efforts to field a viable anti-tank gun, which would emerge as the M3 37mm anti-tank gun in 1940. The Infantry decided that it would be desirable to use this weapon to equip future light tanks. The Cavalry was not so concerned about this since their main mission was scouting, not tank fighting. As a result, the next evolutionary step in 1940 saw the infantry adopt the M2A4 light tank with a new single turret and 37mm gun, while the Cavalry's M2 combat car retained the traditional machine gun armament.

While the new 1940 versions of the light tanks and combat cars were certainly an improvement over earlier types, they were slipping behind European standards. The Spanish Civil War accelerated the European shift from light tanks to medium tanks as the basis for modern tank forces. In the Soviet Union, this led to the T-34, in Germany to the Pz.Kpfw. III, and in France to the Char B1 bis and Somua S-35. The US Army was also working on a medium tank, the M3 medium tank, but it would not appear in any significant numbers until 1941. As a result, the US tank force through the summer of 1942 would be equipped primarily with light tanks.

The outbreak of another world war in Europe in September 1939 with the German invasion of Poland increased the likelihood that the US would be dragged out of its isolationist refuge into another major conflict. As a result, the US Army began to take trends in European armies much more seriously. The senior US Army leaders of 1940 had served as young officers in France in 1918 and had been trained following French Army practices. The rapid defeat of France in 1940 was profoundly shocking, and led to calls for serious reform in the US Army. The most immediate outcome of the French defeat was the decision to consolidate the tanks under a single branch, the Armored Force, which was formed in July 1940. The cavalry's combat cars were absorbed into this force, being redesignated as light tanks. Improvements were made to the M2A4 light tank, and the final pre-war evolution of the family emerged in March 1941, the M3 light tank. This resembled the M2A4 but used a superior gun mount which better shielded the recuperator, and adopted the trailing idler wheel from the M2 combat car to provide better floatation. The first production batch of 100 tanks was fitted with a riveted turret, but subsequently, a welded turret was introduced. This was part of an Ordnance effort to reduce the use of riveting in armored vehicles since it was feared that in combat, the inner face of rivets would fly into the fighting compartment if struck on the outside by heavy machine gun fire. This effort would gradually be extended to the hull construction as well.

The light tanks were used to equip two types of formations, the separate tank battalions, and the new armored divisions. The separate tank battalions, sometimes called GHQ tank battalions since they were under general headquarters control, were a continuation of the infantry tank role. These battalions would be doled out to infantry formations during combat to provide direct support. The armored divisions were large formations with over 200 tanks, intended to carry out independent missions. Their primary role was offensive and they were intended to exploit breakthroughs once the enemy lines had been breached by the infantry divisions. Not surprisingly, many of the pre-war cavalry officers like George S. Patton gravitated towards these units since they were seen as retaining the spirit of the cavalry and its accent on mobility. The armored divisions were formed from armored regiments, each with two battalions of the new M3 medium tank, and one battalion of M3 light tanks.

Initial Combat: North Africa 1941-43

The first use of the M3 light tank in combat would not involve the US Army, but the British Army. With war appearing likely, the US government increasingly sided with Britain, going so far as to provide arms under the Lend-Lease program. British purchasing missions were desperate to acquire new tanks, and in 1941 began ordering the M2A4 and M3 light tanks. Several hundred M3 light tanks arrived by the autumn of 1941, and were dispatched to Egypt to equip the 7th Armoured Division's 4th Armoured Brigade for the upcoming Operation Crusader. The M3 light tank proved to be an awkward fit in British service. It was not viewed as an acceptable infantry tank as its armor was thin compared to British infantry tanks like the Matilda. On the other hand, it was not viewed as being particularly suitable as a cruiser tank either due to its small turret and short range. However, it was closer to being a cruiser tank than an infantry tank and so was employed as such. A number of modifications were carried out, including adding a seat for the commander so that the co-driver could double as the gunner in combat. Most of the other changes were adaptations for desert combat such as sand shields and additional external stowage. Due to the confusing similarity of the designations of M3 light tank and M3 medium tank, the British decided to give the types their own names to prevent confusion. As a result, the M3 light tank was designated as the General Stuart, though it was often nicknamed the "Honey" by its crews due to its pleasant driving characteristics compared to British tanks of the period.

The combat debut of the Stuart was not auspicious. The 4th Armoured Brigade was roughly handled by the German Afrika Korps in the November 1941 fighting, and one of its three regiments virtually wiped out. The Stuart's 37mm gun was viewed as inadequate, and the tank's short range hampered operations in the vastness of the Libyan desert. However, the problems had as much to do with tactics as

technology. The British armored force regarded tank fighting in the desert as being akin to a naval battle on land. The accent was on direct confrontation of tank against tank. The German tactical doctrine stressed the use of combined arms, and the outnumbered tanks were husbanded for the most opportune moment. Since there was not enough infantry available to the Afrika Korps, the accent was on combined tank and anti-tank gun tactics. In defensive situations, the Germans skillfully deployed their new 5.0cm PaK 38 anti-tank guns as a screen to attire the attacking British tanks, and the German armor waited behind the anti-tank screen before counter-attacking. The small anti-tank guns were difficult to see, and they could easily penetrate the armor of the Stuart or other British cruiser tanks. British tank gunnery was often ineffective since the doctrine still called for firing on the move while the German practice was to fire from the halt. The Germans also enjoyed some advantages in long range fighting due to better tank optics.

These issues became less important as more and better US tanks arrived through Lend Lease. As the new M3 medium tanks reached Egypt, the British shifted the smaller and less adequate Stuarts from tank fighting to the reconnaissance role. By the end of 1942, the Stuart was used primarily in the scouting role, while the new Grants and Shermans took over the tank fighting role.

The first US combat use of the M3 light tank took place in December 1941 in the Philippines. The US Army deployed two units, the 192nd and 194th Tank Battalions, as part of the Provisional Tank Group. These became involved in defending against the Japanese invasion of the Philippines after the war in the Pacific broke out on 7 December 1941. The tanks were often used to form a mobile rearguard to protect the US Army as it withdrew into the Bataan peninsula. The use of tanks in the Philippines was not particularly successful due to the unfamiliarity of many US Army officers with tank employment. Nevertheless, the tank units themselves gave a good account of themselves, and there were a number of encounters with Japanese tanks. The British deployed a single Stuart unit, the 7th Hussars, to Singapore in December 1941 but the city fell to the Japanese before it arrived. Instead, it was deployed to the Burma theater, and fought a series of stubborn rearguard actions against the Japanese. By the time the unit reached India, only a single Stuart remained.

The outbreak of war in 1941 led the US government to place a very high priority on production quantity in order to equip the rapidly enlarging US Army as well as allies such as Britain and the Soviet Union. While the M3 light tank was not viewed as the ideal tank under modern conditions, it was already well into production at American Car and Foundry in Berwick, Pennsylvania. A better armed, and better armored light tank was in development,

the M7, but it would not be available until 1943. So the army made do with the M3. There were a continual string of upgrades through the production of the M3. In October 1941, a third type of turret, the D39273, was introduced which was formed from rounded plates to speed production. To correct the range problem, a set of external gasoline tanks were designed which could be dropped before entering combat. In February 1942, a fourth turret type, the D58101, was introduced which dispensed with the cupola and added two roof hatches instead. These late production M3 light tanks were the least successful members of the M3 family. The US Army's evaluation concluded that they were too cramped and should not be accepted for service, and the British felt obliged to reconstruct the gun fire controls. The British called this version the Stuart hybrid.

The problems with the archaic gun layout in the M3 light tank led to a more extensive upgrade effort which resulted in the M3A1 light tank in May 1942. This had a turret that was externally identical to the late M3 turret, but which introduced many internal changes including a turret basket and power turret traverse. The British were not very happy about the M3A1 turret configuration, and as a result, M3 light tank production continued in parallel to M3A1 production to satisfy British and Soviet Lend Lease requirements. As a result, the final production batches of M3 light tanks are almost identical in external appearance to the M3A1 light tanks, except that they retained the sponson hull machine guns which the M3A1 light tank did not have.

While M3 and M3A1 production was continuing, the US Army had contracted Cadillac to develop a counterpart light but powered by a pair of in-line automotive engines. Although the prototype used an M3 hull, Cadillac used the opportunity to redesign the hull into a more modern configuration. Production began in April 1943 as the M5 light tank. After troop trials, the US Army decided that the M5 was a superior design to the M3A1. As a result, a decision was made to standardize on the M5 in the future. Nevertheless, M3 production was still on-going at American Car and Foundry, and rather than slow down production to introduce an entirely new type, it was decided to modernize the M3 hull to bring it closer to the M5. This resulted in the M3A3 light tank which entered production in January 1943 in place of the M3A1. As this type was intended mainly for Lend-lease export, it also introduced a turret bustle based on a British request to permit the radio to be stowed in the turret rather than the hull. This turret design proved superior to the earlier round turret, and was also adopted on the M5 light tank in September 1942, becoming the M5A1. The M3A3 light tank was never used in combat by US tank battalions.

The Tunisian Campaign

In November 1942, the US Army staged Operation Torch with amphibious landings along

the French North African coast. Although there was some limited combat with the Vichy French forces, including a handful of tank encounters, the fighting soon ended. The US Army then began moving east as part of an Allied plan to crush the German Afrika Korps between the US Army forces and the British 8th Army moving westward after their victory at El Alamein. The main US armored contingent in this operation was the 1st Armored Division. This unit was among the first of the US armored divisions raised, and its equipment was somewhat older than in other divisions. Its light tank battalions were equipped mainly with M3 light tanks, even though other units including some in North Africa already had the newer M5 light tank.

Although the US Army had liaison officers with the British 8th Army, their lessons about the inadequacies of the Stuart had been ignored. There was still the presumption that the M3 light tank would be viable on the modern battlefield, even though German tank design had evolved rapidly since the first use of the Stuart a year before during Operation Crusader. Instead of facing Pz.Kpfw. III with the short 5.0cm gun, US tanks began running into the far superior Pz.Kpfw. IV with its new long 7.5cm gun. The first of these encounters occurred on 25 November 1942 in Tunisia and the M3 light tanks were mauled by the Pz.Abt. 190 before finally being outflanked. The experience through much the rest of the Tunisia fighting was equally discouraging. The 70th Tank Battalion, a separate GHQ tank battalion supporting the Free French, was equipped with the more recent M5 light tank, but found that it too was inadequate. On the one hand, its armor was inadequate against the German 5.0cm anti-tank gun, and its own gun was hopeless against any of the newer German tanks except in side or rear shots. By the spring of 1943, the commanders of the light tank battalions urged that the M3 and M5 be declared surplus and withdrawn from service. American commanders in North Africa, including Gen. Omar Bradley and Gen. George S. Patton, recommended instead that the role of the light tanks be limited to scouting and flank security and the main combat role be taken over by the M4 medium tank.

US Army plans to replace the M3 and M5 light tanks with the new M7 light tank failed to materialize. Ordnance kept uparming and upgunning the M7 so that by the time it became ready for production, it had become a medium tank. As a result, it was cancelled and the US Army was left with barely adequate light tanks. The US Army Ground Forces were unwilling to declare the light tanks obsolete and withdraw them from service since there were so many manufactured. Instead, the advice of Bradley and Patton was taken to heart. US Army tank formations were reorganized. Although a small number of separate light tank battalions remained in service, nearly all other battalions were organized into mixed formations with only a single light tank company for every three companies of medium tanks. In this fashion, the

M4 medium tanks would bear the burden of the fighting, while the M5 light tanks would be assigned more in keeping with their limitations such as scouting and flank security.

Light Tanks in the Pacific

Although the M3 and M5 light tanks were soon obsolete by European standards, they remained a viable weapon through the middle of the war in the Pacific. This was due both to terrain features and the low level of development of the Japanese tank force. Japanese tank design was even further behind than US tank design, and the M5 Stuart was superior to the Japanese Type 95 Ha-go light tank, and a fairly even match for the Type 97 Chi-ha medium tank. In addition, the Japanese army was slow to adopt modern anti-tank guns, and so was obliged to employ improvised means of anti-tank defense until the final year of fighting in the Pacific.

The first large scale commitment of US light tanks in the Pacific after the Philippines defeat was in the later half of 1942 on Guadalcanal. The US Marine Corps began forming its first light tank battalions in 1941, and elements of these units were committed to infantry support on Guadalcanal. The terrain in the southern Pacific was not well suited to tanks due to the lack of roads, and the dense forest cover. Nevertheless, they were used with some success even in this troublesome terrain. The islands of the central Pacific proved more suitable for tank action. The Marines used light tanks during the final phase of the fighting on Tarawa in 1943, but found that the 37mm gun on the M3A1 was not powerful enough to deal with the reinforced coconut log bunkers built by the Japanese. As a result, by the time of the Saipan fighting in the summer of 1944, most Marine M3A1 light tanks had been converted to Satan flamethrower tanks. The Marines retained a number of M5A1 light tanks in the gun mode, mainly to defend the flamethrower tanks during operations. The US Army used M5A1 light tanks on Saipan with some success, and again in later campaigns. But the growing number of Japanese 47mm anti-tank guns, as well as the widespread use of mines and improvised anti-tank weapons like lunge mines, convinced the US Army to rely more heavily on the M4 medium tank in the final year of the war.

Light Tanks in the Northwest Europe Campaign 1944-45

By the time of the Normandy invasion in June 1944, the US Army had almost completely switched over to the M5A1 light tank. In contrast, the British Army used a wide variety of Stuarts including the older Stuart III (M3A1); the Stuart V (M3A3) and Stuart VI (M5A1). The fighting in the Normandy hedgerows was particularly difficult for the US light tank companies. Mines were a special hazard to light tanks due to their thin armor. In addition, their thin armor made them much more vulnerable to newer German anti-tank weapons, especially the panzerfaust. The weaker protection afforded by the light tank's armor led to a higher casualty

rate among light tank crew than among medium tank crew, the odds being one in three of a tanker being killed when a light tank was penetrated versus one in five in the medium tanks. Casualties and tank losses in the light tank companies were so high in the summer 1944 fighting that the armor section at Gen. Bradley's 12th Army Group headquarters requested that the M5A1 be withdrawn from service and all light tank companies be re-equipped with the new M24 light tank that was entering production at the time. Army headquarters refused, in part due to the fact that the new M24 light tank would not be available in quantity until the end of the year, and in part due to the sheer number of tanks already in service and in motor pools in England. There were over a thousand M5A1 light tanks in US Army service in France by August 1944. The experiences in the summer 1944 fighting led commanders to be wary of deploying light tanks where they were likely to encounter German heavy weapons. As a result, US light tank casualties fell after September 1944, but this was due to restrictions on their use rather than improvement in their performance. What success the M5A1 light tank enjoyed in combat was more due to the skills of its crews than to its technical virtue.

The M24 light tank was the second attempt to replace the M3/M5 light tank family. It was a completely new design, armed with a 75mm gun. While its gun was not particularly effective against German tanks of the time, it was a significant improvement over the 37mm gun on the M5A1 when engaging German troops in earthworks, bunkers or buildings. The first M24s were deployed in northwest Europe in the autumn of 1944, but they were rarely seen until December 1944. Since there were not enough M24 available at this time to re-equip all light tank companies, the policy was to deploy them with the cavalry reconnaissance squadrons first. This was considered a high priority as the cavalry squadrons were having a hard time carrying out their missions when having to rely on light vehicles such as the M5A1 light tank and M8 armored car. The M24 provided better firepower at a time when cavalry squadrons often had to fight to carry out their scouting mission. The only armored division to receive a full complement of M24 light tanks before the war ended was the 7th Armored Division. The M24 was a thoroughly modern design, and a much better tank than the old M5A1 light tank. It shared the same shortcoming as all light tanks, namely thin armor. But it was better suited to modern combat conditions than the M5A1, which after all, was based on a 15 year old design.

The last US light tank into combat was the M22 light tank, known as the Locust by the British. This very small tank was designed to be transportable by air such as by heavy gliders. It was never used in combat by the US Army, but the British used a small number during the airborne crossing of the Rhine river in March 1945, carried into battle in Hamilcar gliders.

Preparing for War 1937-1941

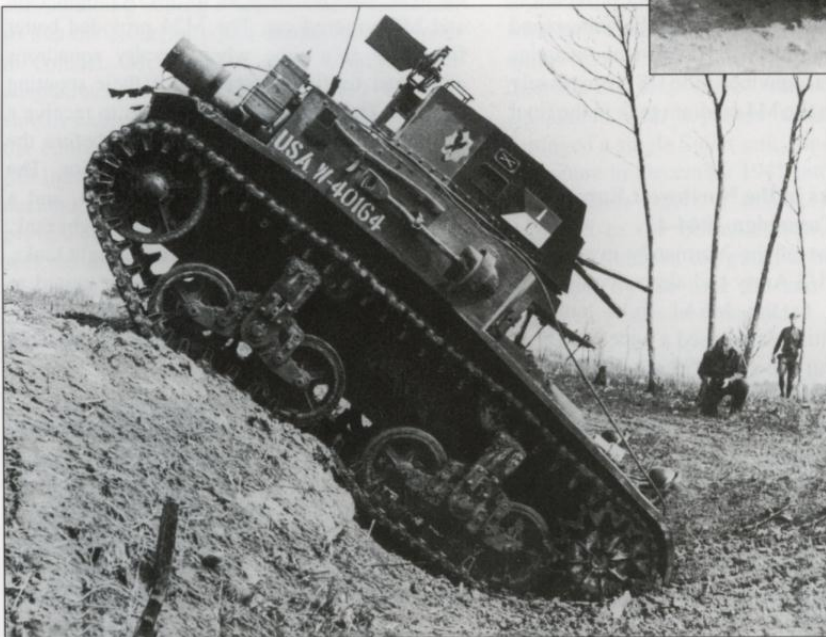
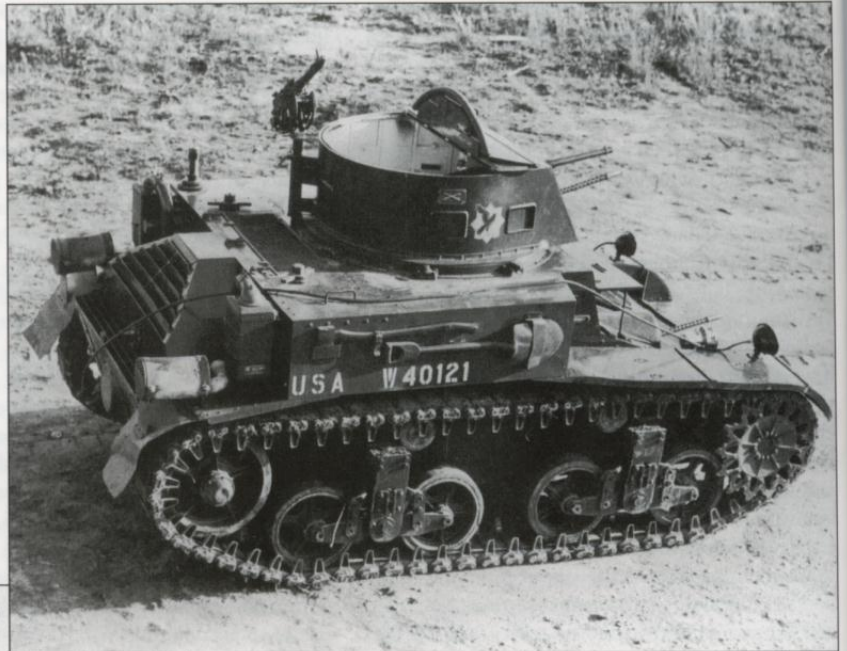


The ancestor of the wartime Stuart tank family was the pre-war infantry tanks and cavalry combat cars. This is a M2A1 light tank, of which only ten were manufactured. In 1936, this light tank served with the 7th Tank Company, 7th Division as evident from the turret insignia of a number 7 under the tank emblem. The tactical marking on the sponson identifies it as the fourth tank of the first platoon. This tank was nominally armed with .50 cal machine gun, but it was not always fitted during peacetime exercises. (Patton Museum)



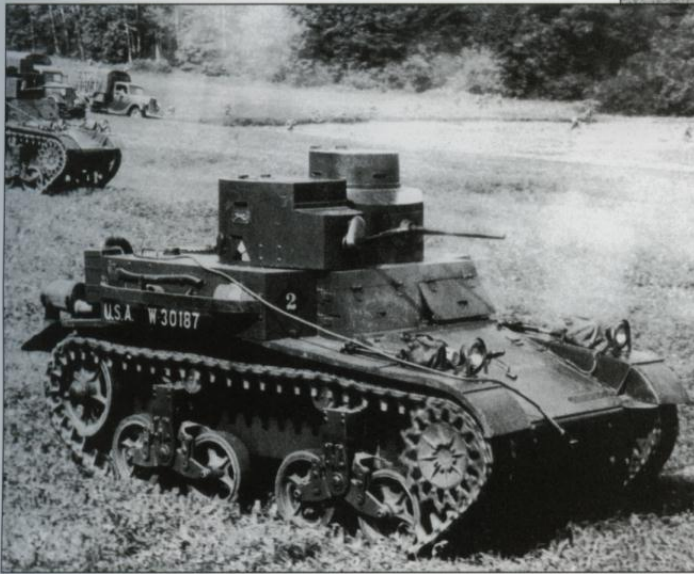
Bearing a closer family resemblance to the wartime Stuart light tanks was this M1 Combat Car. The M1 Combat Car was the cavalry branch's counterpart to the M2A1 light tank. The original production vehicles used a round turret with a .50 cal heavy machine gun and a .30 cal machine gun in independent mountings. The turret marking identifies this combat car as belonging to the 1st Cavalry, a crest which symbolizes the 1st Cavalry's role in the Black Hawk Wars. (Patton Museum)

Another view of a M1 Combat Car of the 1st Cavalry. This view illustrates the many differences between the pre-war combat cars and wartime light tanks. The engine deck is considerably different, and the rear idler is smaller and raised off the ground. Not so evident is the armor thickness, which was much lighter than the wartime M3 light tanks. (Patton Museum)

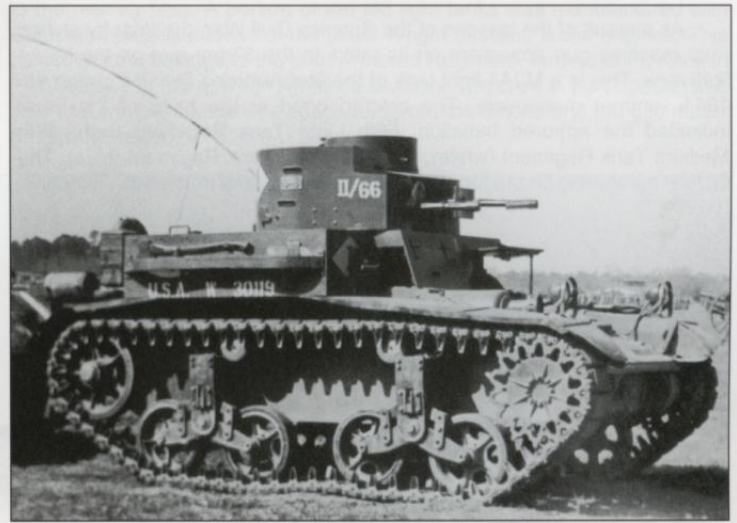


The later production batches of the M1 Combat Car were fitted with a slab-sided turret which was easier to manufacture. This vehicle carries the red and white guidon insignia which identifies it as a vehicle of C Troop. (USNA)

Another M1 Combat Car from the late production batch, used by the commander of the 13th Cavalry, with the distinctive white command guidon with the regimental crest both in the guidon and repeated on the rear side panel. (USNA)



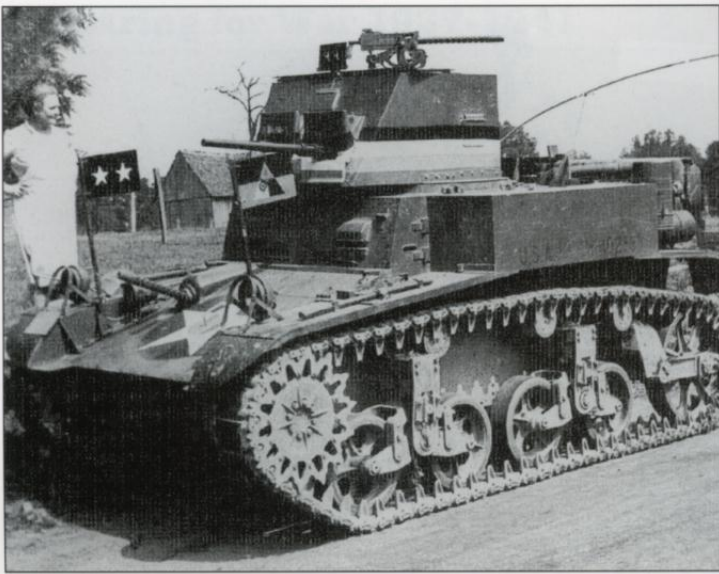
The infantry originally preferred twin turrets on its light tanks, on the presumption that two turrets could engage two targets. As a result, the single turreted M2A1 was replaced in production by the M2A2 seen here. This is a M2A2 light tank of the 28th Tank Company during summer war-games in New York state in 1940. (US National Archives)



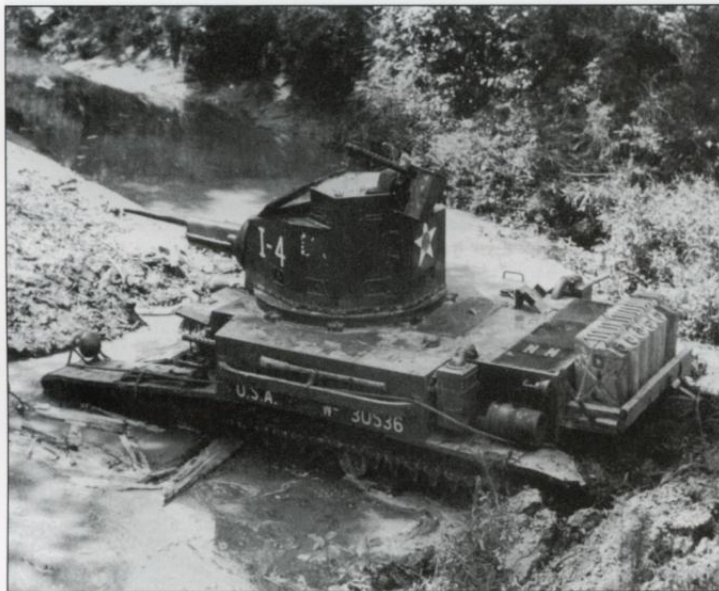
A M2A2 light tank of the 66th Infantry (Light Tanks) at Ft. Benning, Georgia in April 1940. This carries a simplified version of the inter-war style of unit marking, indicating the 2nd Battalion of the 66th Infantry. The unit tactical marking, a diamond with the number 1 inside, indicates the first tank of the first platoon. (USNA)



The later production batches of the M2A2 light tank switched to a slab-sided turret as seen here. This tank carries the normal inter-war style infantry tank turret markings which identify it belonging to Company B, 68th Infantry (Tanks). The black number 4 in the white diamond indicate fourth tank, 1st platoon. The second platoon carried its platoon markings in a circle, the 3rd platoon in a square and the HQ platoon in a diamond. (USNA)



As a result of the lessons of the Spanish Civil War, the infantry shifted from machine gun armament on its tanks to the 37mm gun on the M2A4 light tank. This is a M2A4 light tank of the 2nd Armored Division during the 1941 summer maneuvers. The colored band at the base of the turret indicated the armored battalion: 66th Light Tank Regiment (red); 67th Medium Tank Regiment (white); and 68th Light Tank Regiment (blue). The tactical numbering on the turret identifies this as a tank from Easy Company. (USNA)



The M3 light tank combined most of the features of the M2A4 light tank with the trailing idler of the M2 combat car as well as additional improvements. This is the original version of the M3 Light Tank with the riveted D37812 turret. This tank from the 1st Armored Division is seen crossing the Catawba River on a pontoon bridge during the November 1941 Carolina maneuvers. It lacks a main gun as it was rushed from the ACF plant in Pennsylvania before it could be fitted with a gun at one of the government arsenals. The 1st Armored Division used a set of broken, colored lines at the base of the turret to identify its component regiments. The battalion is blatantly advertised on the sponson side. (US National Archives)

The last of the pre-war combat cars was the M2. The M2 combat car shares some important details with the later M3 light tank, including the enlarged rear idler wheel intended to reduce the vehicle's ground pressure. When the infantry and cavalry tank units were merged into the Armored Force in the summer of 1940, the M2 Combat Car became the M1A1 light tank. Gen. George S. Patton used this light tank as his personal vehicle after assuming command of the 2nd Armored Division in 1941, evident from the two white stars on a red rectangle. The four colored turret bands were intended to represent the combat regiments under his command which used colored turret bands as a means of identification. This tank was photographed near Manchester, Tennessee in August 1941 during war-games, and it will be noted that it already sports the blue-drab registration number on the hull side. (USNA)

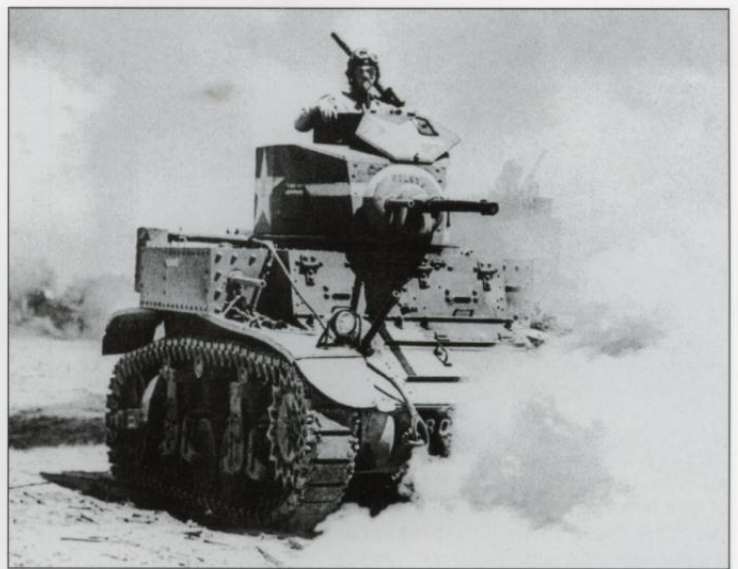


Another M2A4 light tank of the 2nd Armored Division is seen here in swampy ground during the 1941 Louisiana maneuvers. The Armored Force at the time used national insignia similar to the US Air Force, except with the colors reversed: a red background circle, white star and blue center disc. The extra jerrycans on the rear deck are due to the poor range of the M2A4 light tank, a failing of all members of this tank family due to low internal fuel stowage. (USNA)





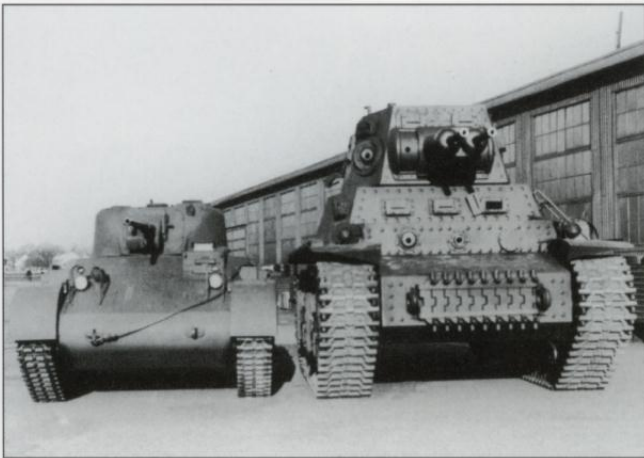
The original riveted D37812 turret was quickly superseded by the welded D38976 turret after only the first hundred had been built. This is another 1st Armored Division tank during the November 1941 Carolina maneuvers, crossing a bridge over the Wateree river. (USNA)



This is a Light Tank M3 (diesel) evident from the long tube connected to the rear air filter. A portion of the M3 light tanks was manufactured with Guiberson diesels instead of the usual Wright gasoline radial engines. This particular tank belongs to the 80th Armored Regiment, formed at Ft. Knox in 1942 as part of the new 8th Armored Division. The crew is participating in a chemical warfare exercise, evident both from the smoke and the gas mask. (Patton Museum)



A column of M3 light tanks of the 34th Armored Regiment, 5th Armored Division come under mock attack by A-20 bombers at the Desert Training Center at Indio, California in September 1942. These tanks are fitted with the third turret type, the D39273 round turret which was introduced into production in October 1941. The large white "M" on the turret side is intended to mark these tanks as medium tanks during the desert wargames since so few of the new M4 medium tanks were actually available for training. (MHI)



The Marmon Herrington Company produced a number of types of light tanks for export in 1941-42, mainly for the Dutch East Indies. When the Dutch East Indies fell to the Japanese in early 1942, this left the company holding several hundred tanks. The US Army had little interest in these and most were shipped off to export clients. Instead, Marmon Herrington shifted to production of the M22 light tank for the US Army, the smallest US tank of the war, intended for airborne delivery. The M22 sitting on the left is dwarfed by the unusual MTLS-1G14 tank, armed with twin 37mm guns. (Patton Museum)



An M5A1 light tank during training exercises by the 5th Armored Group (Colored) at Camp Hood, Texas in October 1943. This was one of a number of segregated armored units in the US Army at the time. The light tank carries the group crest on the glacis plate. (US Army)



Built by Marmon Herrington, the M22 aero tank was intended to provide support during airborne assaults. Although accepted for service by the US Army, it was used only in training as here at Ft. Knox in 1943. The only combat use came with the British during the Rhine airborne landings in March 1945. (US Army)



The M3 light tank was supplied to a number of Latin American countries in World War II, and Brazil received a handful of light tanks from the 1941 production batches. These are a batch of M3 light tanks with the second style welded turret on parade in Ecuador during the war. (USNA)

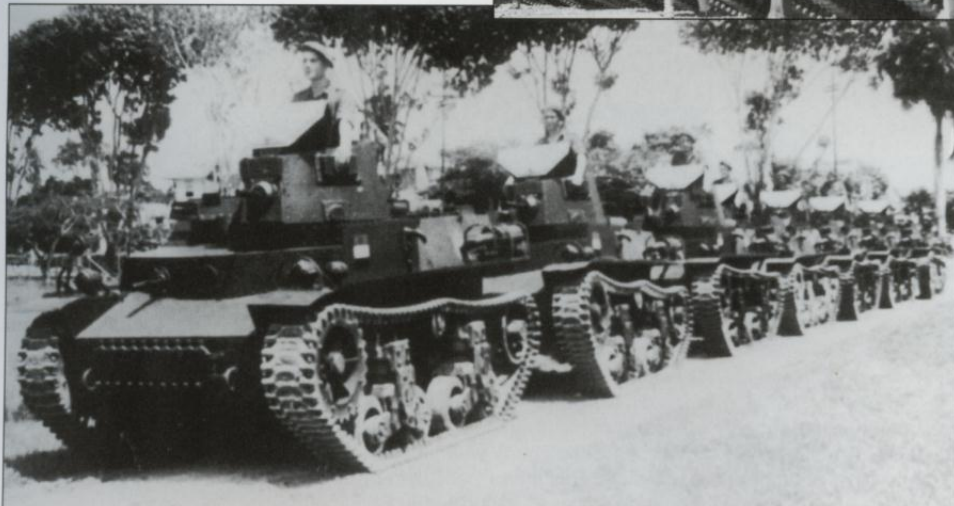


A total of 19 of the M48A1 tanks were delivered to Netherlands forces protecting the Dutch possessions in the Caribbean, the Dutch West Indies. These were used during training exercises, but saw no combat. This particular tank served with Dutch forces in Surinam/Dutch Guyana (Just Probst)



Ecuadorian tankers receive instruction on their new CTMS-1TBI tank. Although not deemed satisfactory by the US Army, these tanks remained in service in Ecuador well after the war. (USNA)

The US Army evaluated the Marmon Herrington CTMS-1TBI tank, but found it "thoroughly unreliable, mechanically and structurally unsound". As a result, the thirty tanks that had been built were shipped off to various Latin American armies, including Ecuador as seen here, which received 12. (USNA)



The most common of the Marmon Herrington light tanks were the CTLS-4TAY and CTLS-4TAC which were designated as the T14 and T16 light tanks in US Army service. Of the 452 built, the US Army took over 240, Australia another 149, and 63 were sent to Dutch troops in the Caribbean. Most Dutch tanks served in Surinam as seen here, but after the war some were shipped to the Dutch East Indies, their original destination, where they fought against Indonesian nationalist militias. (Just Probst)

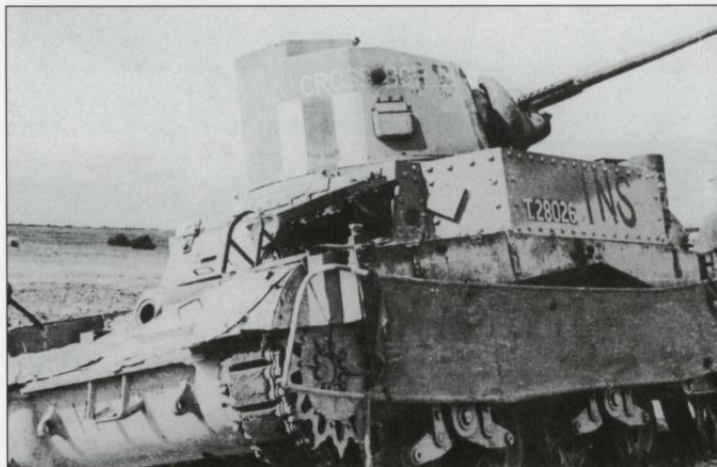
Initial Combat: North Africa 1941-43



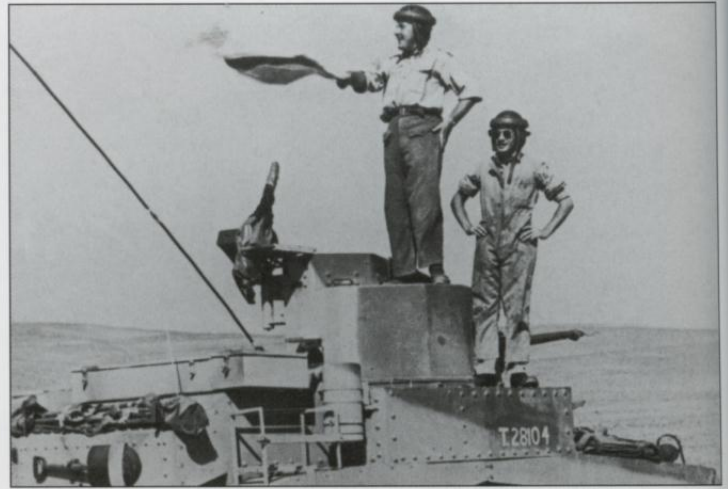
Shortages of tanks prompted Britain to order light tanks from America through the Lend Lease program. At first, only the M2A4 light tank was available and a hundred were ordered. A total of 4 were shipped to Egypt in June 1941 for trials as seen here. So far as is known, they were not used in combat. (The Tank Museum)



The 4th Armoured Brigade underwent extensive training on the Stuart in Egypt before Operation Crusader. The Stuart was not built according to British specifications, so many small details were modified before it was committed to combat. This is a view of the 8th King's Royal Irish Hussars during the maneuvers prior to Operation Crusader. During the fighting, this regiment was virtually wiped out. (The Tank Museum)



Prior to moving to the front, the Stuarts had "sun-shields" added. These were covers designed to make the tanks look like trucks to aerial reconnaissance. In some cases, the units left the lower panel of the sun-shields in place during combat, as it helped reduce dust. This is "Crossbow", a Stuart of the 3rd RTR, 7th Armoured Division knocked out during Operation Crusader. (MHI)

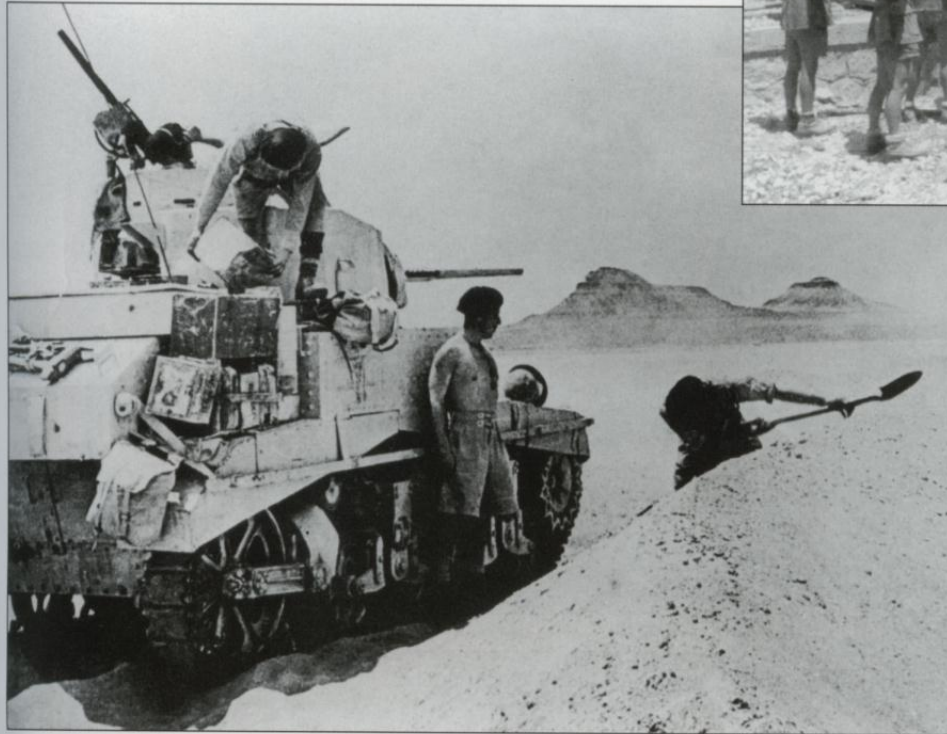


In British service, the M3 was named the General Stuart, though it was more popularly called the Honey. It first equipped the 4th Armoured Brigade of the 7th Armoured Division during Operation Crusader in November 1941. This is a view of a Honey of the 8th King's Royal Irish Hussars on training in Egypt before the battle, with the crew still wearing the US style tanker's helmet. (The Tank Museum)



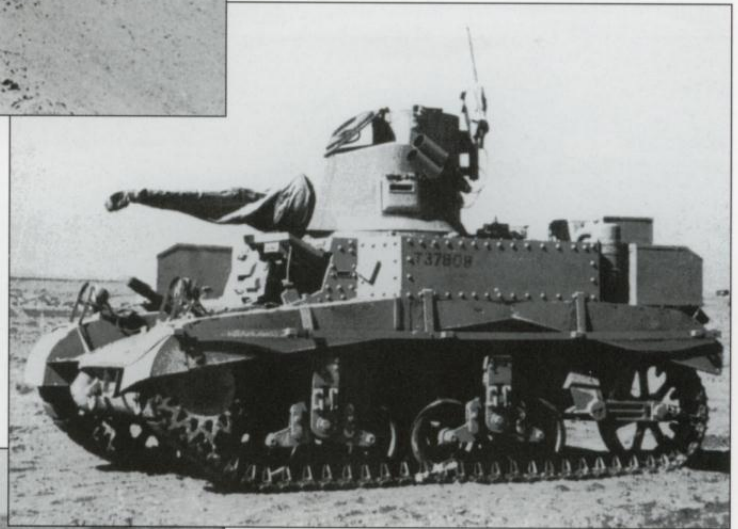
The 4th Armoured Brigade suffered very heavy casualties during Operation Crusader. Nonetheless, the automotive reliability of the Stuart served it well, and enabled the unit to keep more tanks in the field than most other armoured brigades. This is another of the 4th Armoured Brigade's Stuart, knocked out by what appears to be a 5.0cm anti-tank gun hit on the glacis plate. This photo was taken by Col. G. B. Jarrett, who was a US Army ordnance officer assigned to the British 8th Army after the battle. (MHI)

A number of Stuarts were captured intact by the Afrika Korps during Operation Crusader in November 1941, and during subsequent fighting in January 1942. A number of these were put into use under German colors, some apparently in a unit used to guard Rommel's headquarters. The captured Stuarts were repainted in an overall sand color. (USNA)

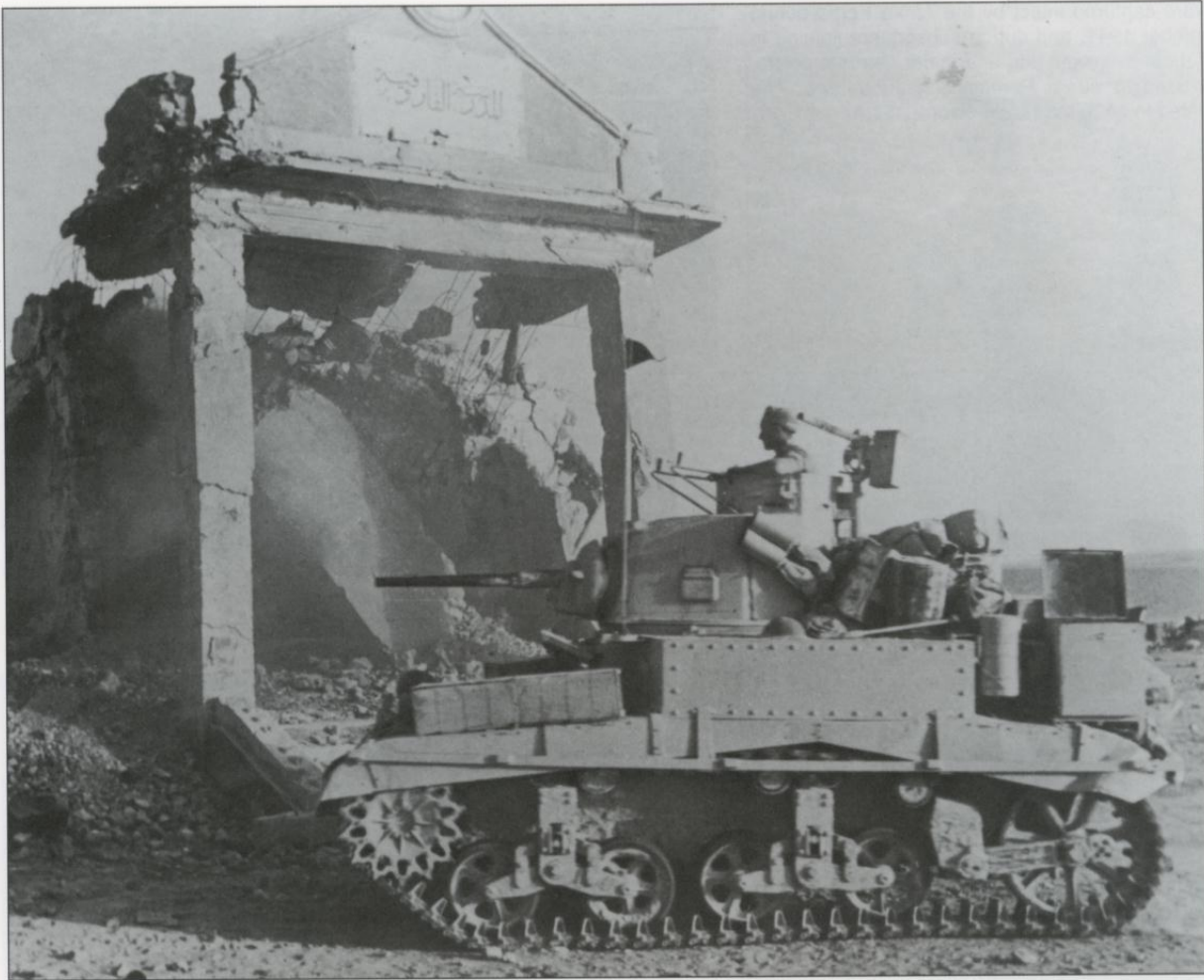


A Honey crew takes up position in Egypt in 1942. This shows some of the features added by British workshops including the sand shields, mounting frame for the sun-shields, rack for water tins, and the blanket box on the engine deck. Such features were essential in desert combat. Following Operation Crusader, the geometric Caunter camouflage scheme largely disappeared. (MHI)

After the heavy losses of Operation Crusader, the US sent additional Stuarts, including the improved type with the round turret. This particular example served with the 7th Armoured Division during the fighting in March 1942. Due to the inadequacies of the Stuart in tank combat, the British 8th Army gradually shifted the role of the Stuart to that of a reconnaissance vehicle. (MHI)



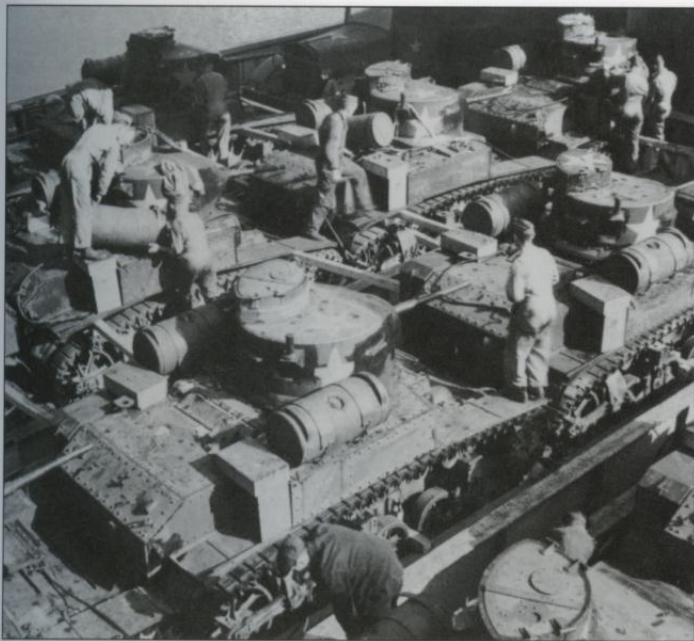
A Stuart tank escorts a New Zealand 2nd Infantry Division column through the ruins of Sollum in November 1942. Stuarts were operated by the division's cavalry regiment. (The Tank Museum)



The configuration of stowage on the Honey became more elaborate after Operation Crusader in November 1941 as more kit was added. This included smoke mortars and additional stowage racks for "flimsies", the name given to the small rectangular tins used by the British forces to carry water and fuel. (The Tank Museum)



As better American tanks such as the M3 Grant and M4 Sherman were delivered to British forces, the role of the Stuart continued to diminish. By the later phase of the desert campaign, the British began the practice of customizing the Stuart for the reconnaissance role by removing its turret. This gave the tank more speed and maneuverability. Here, a turretless Stuart Recce vehicle trails a column of Sherman during the Tunisian fighting in 1943. (The Tank Museum)

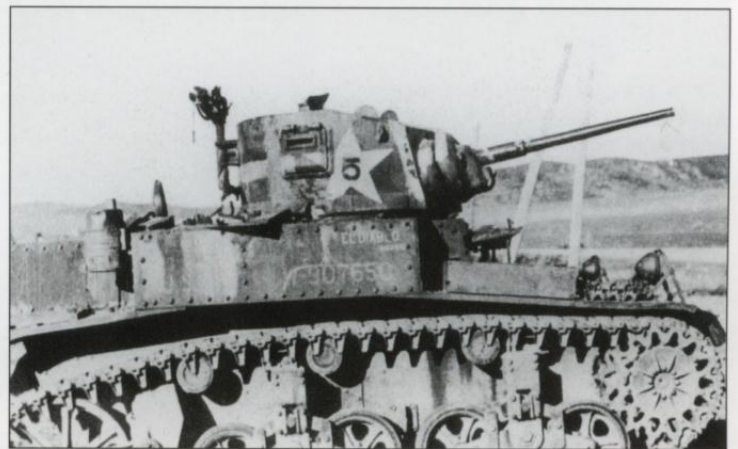


The US Army's 1st Armored Division saw the first large scale commitment of M3 light tanks in the European theater in November 1942 during the landings in North Africa. The division's two light tank battalions were equipped mainly with M3 and M3A1 light tanks. Those M3 light tanks being prepared for transport here are fitted with the third style round D39273 turret. (The Tank Museum)

This M3 light tank of the 1st Armored Division named "El Diablo" was knocked out during the fighting in Tunisia in February 1943. The fourth production type of the M3 light tank used the improved D58101 round turret with two roof hatches and no cupola. This type is frequently misidentified as the later M3A1 light tank which externally was very similar. But from the registration number on the hull side, it is evident that this is a late production M3 light tank produced in April 1942. (USNA)



Under the initial configuration, the armored regiments in US armored divisions had two battalions of medium tanks and one battalion of light tanks. This is a line up of the 1st Armored Division's M3 light tanks in North Africa prior to being committed to action in Tunisia. They are primarily M3 light tanks with the third type round D39273 turret. (MHI)

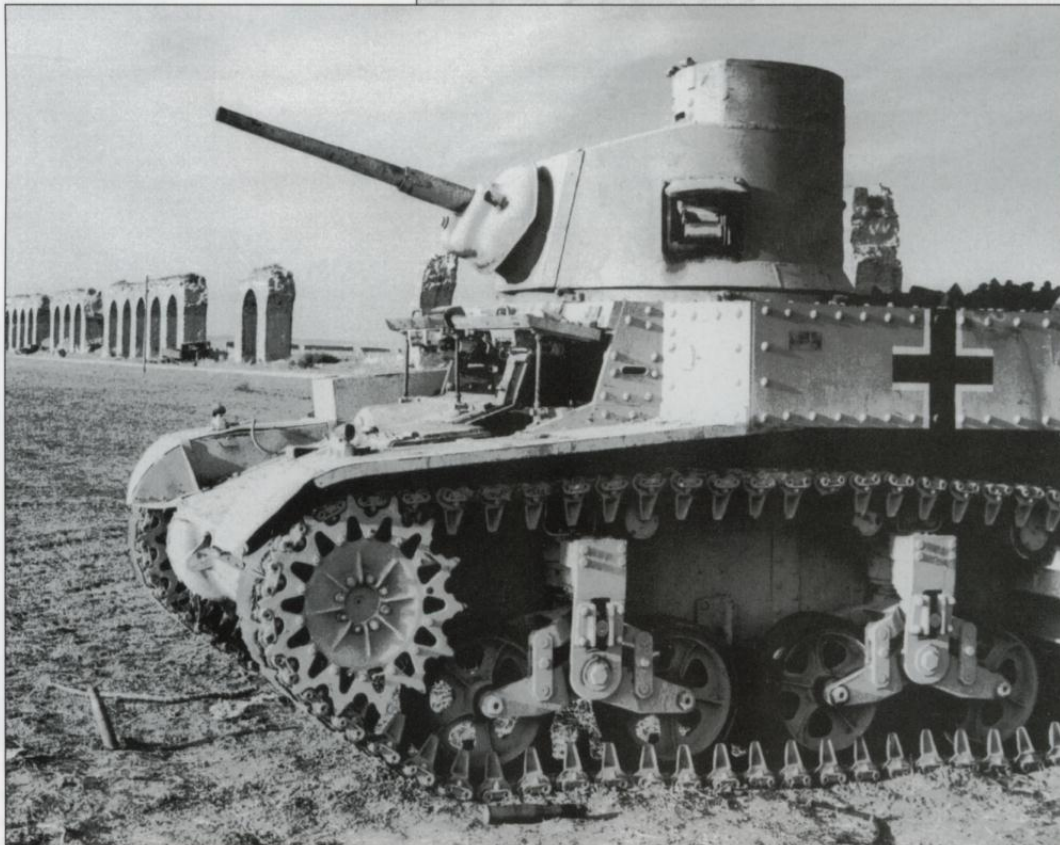


A column of the 1st Armored Division moves forward in Tunisia in early 1943. By this stage of the fighting, the division had begun to camouflage its vehicles by applying a rough coating of light colored mud over the original olive drab paint. The M3 light tank is fitted with the fourth D58101 turret, while in front of it are a M3 medium tank and a M3 half-track. (The Tank Museum)



This is a M3 light tank of the 1st Armored Division with the third, round D39273 turret type, during operations near east of Maknassy, Tunisia in March 1943 with Djebel Naemia in the background. From the turret markings, this appears to be a tank of Company A, 13th Armored Regiment. (US Army MHI)

A M3 light tank escorts a British truck convoy near El Guettar on 8 April 1943. This tank has the fourth, D58101 turret, and is evidently not a M3A1 light tank since it is fitted with the sponson machine guns. (MHI)



The Afrika Korps captured a number of M3 light tanks from the 1st Armored Division during the fighting at Kasserine Pass, and put some of them back into operation. The US Army captured this example at Cheylas, south of Tunis, in 1943. (MHI)



Some US Army units had received the newer M5 light tank by the time of the Tunisian operation in 1943. This is a M5 light tank of the 899th Tank Destroyer Battalion operating near Maknassy on 8 April 1943. (MHI)



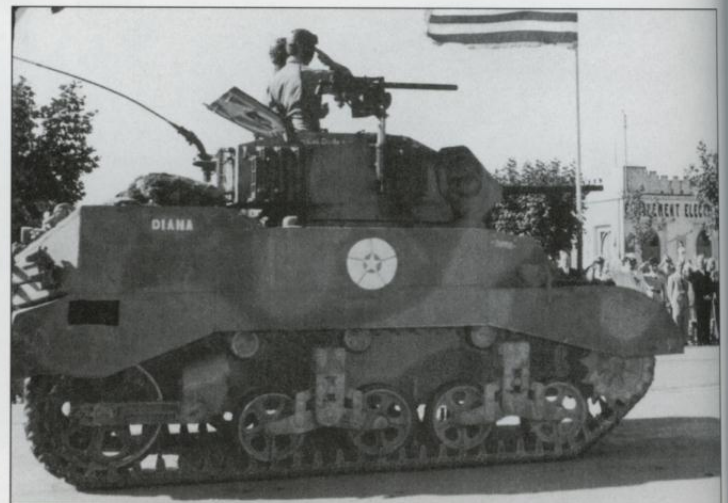
A pair of M3 light tanks of the 1st Armored Division with British troops operating alongside. This is probably a training exercise, as the 1st Armored Division seldom operated with British units at the small unit level during the Tunisian campaign. (The Tank Museum)



Another view of the same exercise from a different angle. The nearest of the M3 light tanks appears to be named "Zone". This is a late production M3, as it features the welded hull. Curiously enough, the M3 remained in production alongside the newer M3A1 for several months in 1942, and as a result, the later production batches are very similar externally. (USNA)



Following the fighting in Tunisia, there were a number of victory parades in North Africa. This is a M5 light tank in Rabat, Morocco during the Fourth of July parade. It is finished in a two color camouflage scheme, probably as a result of orders connected with the upcoming Sicilian invasion. (MHI)



One of the new M5A1 light tanks during the 4th of July parade in Rabat in 1943. The enlarged circle around the white star was a marking ordered for the upcoming Sicily invasion to prevent the misidentification of the star as a German cross at long ranges. It is repeated in modified form on the roof as is evident by looking carefully at the turret roof hatches. (USNA)



A M5 light tank named "Flapper II", probably from the 899th Tank Destroyer Battalion, during one of the parades in Morocco. The mantlet on the vehicle shows one of the evolutionary changes to shape over the gun tube. (USNA)

Early Combat: The Pacific War 1941-43



The first US combat use of the M3 light tank came in the Philippines where the 192nd and 194th Tank Battalions were deployed as the heart of the Provisional Tank Group. They saw considerable fighting during the campaign, but were not particularly well used due to many infantry officers' unfamiliarity with tank operations. (Michael Green)



Few photos of the M3 light tanks in the Philippines have survived. This is a rare view of a tank of Company B, 192nd Tank Battalion which actually carried some markings, the name "Helen" on the turret. (Patton Museum)



M3 light tanks were the main type deployed in the Pacific region for the first year of the war. Here, Maj. Gen. Alexander Patch inspects a company of M3 light tanks of a separate tank company attached to the Americal Division on New Caledonia on 31 May 1942. From its registration number, W-302714, this is from the November 1941 production run and is fitted with the standard D39273 round turret. (US Army)



Britain attempted to reinforce its Far East garrisons with tank units in early 1942. The 7th Hussars was shipped from North Africa with its Stuart light tanks and fought a series of costly rearguard actions in Burma, including several tangles with the Japanese 14th Tank Regiment. By the time the survivors of the unit reached British lines in India, only one Stuart remained in action. This was turned over to the 7th Light Cavalry which renamed it "Curse of Scotland" and converted it into a turretless command tank. It was operated by Lt. Col. Jack Barlow for much of the war. (The Tank Museum)



Although originally intended for the troops in the Dutch East Indies, so many Marmon Herrington light tanks were manufactured that 240 of the CTLS-4 version were absorbed by the US Army for coastal defense duties. The closest these came to combat was in the Aleutians, where they narrowly missed engagement against the Japanese forces which landed there. This is a T16 light tank of the 602nd Independent Tank Company on Umnak island, supporting the 135th Infantry regiment of the Missouri National Guard in 1942. (MHI)



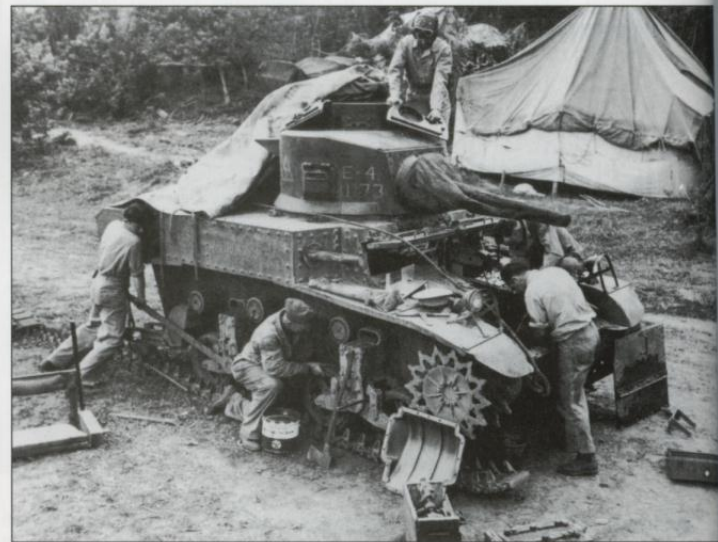
A close-up of the same T16 while the crew takes a cigarette break. There were two versions of this tank made, the T14 with the turret on the left, and the T16 as seen here with the turret on the right. Neither type was well made, and the Ordnance Department dropped them from service later in the year. (MHI)



The Marine Corps operated a small number of M2A4 light tanks, and this one is undergoing repair, probably on Guadalcanal in the summer of 1942. (USMC)



A M3 (diesel) light tank in US Marine service at an unidentified location in the Pacific in 1942, possibly with a defense battalion on Midway. It has been refinished in a plain sand camouflage which was unusual for Marine armor. This particular vehicle is fitted with the third D39273 turret type (USMC)



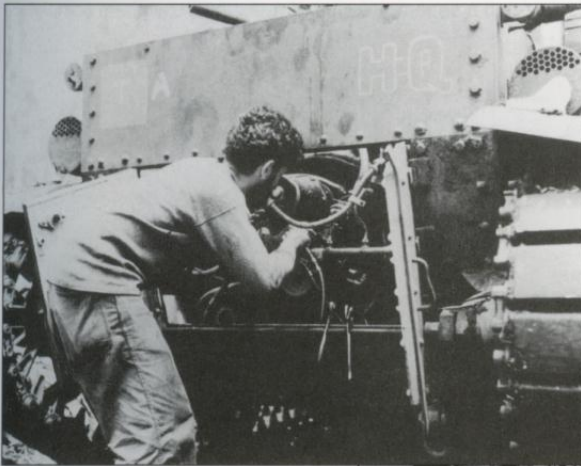
Another Marine Corp M3 (diesel) in the south-west Pacific in 1942 undergoing heavy repair. From the registration number, this is from the January 1942 production run. There are extensive tactical markings on the turret, the meaning of which are not immediately clear. (USMC)



An early M3 with the second-type D38976 welded turret in Marine Corps service in the south-west Pacific, possibly Johnson Island, during training in the summer of 1942. (USMC)



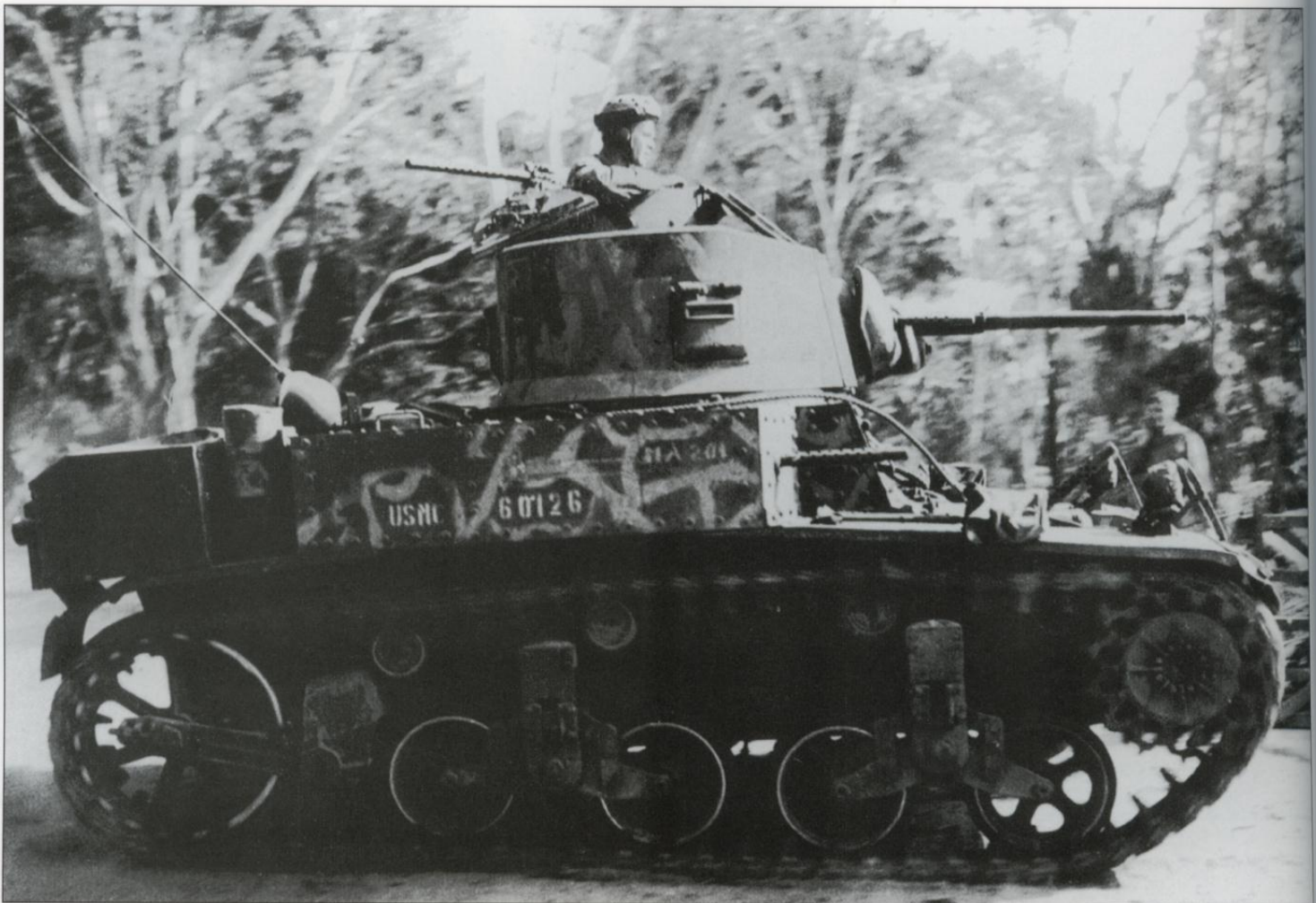
A M2A4 light tank leads a column of light tanks from the US Marine 1st Tank Battalion during fighting on Guadalcanal in the autumn of 1942. The two following vehicles are a M3 with the round D39273 turret and another M2A4. The Marine use of the M2A4 light tank was the only time this type was used in combat by US forces in World War II. The 1st Tank Battalion was the only Marine tank unit on Guadalcanal until B Company, 2nd Tank Battalion arrived in October 1942. (USMC)



An interesting rear view of a M2A4 light tank of the HQ Company, 1st Marine Tank Battalion on Guadalcanal in November 1942. This shows the tactical markings carried by the battalion on the rear plate. (USMC)

A M3 light tank with the welded D38976 turret in service with the Marines on Guadalcanal in November 1942. The harsh jungle terrain and tenacious Japanese defense made the use of tanks on Guadalcanal quite difficult. (USMC)



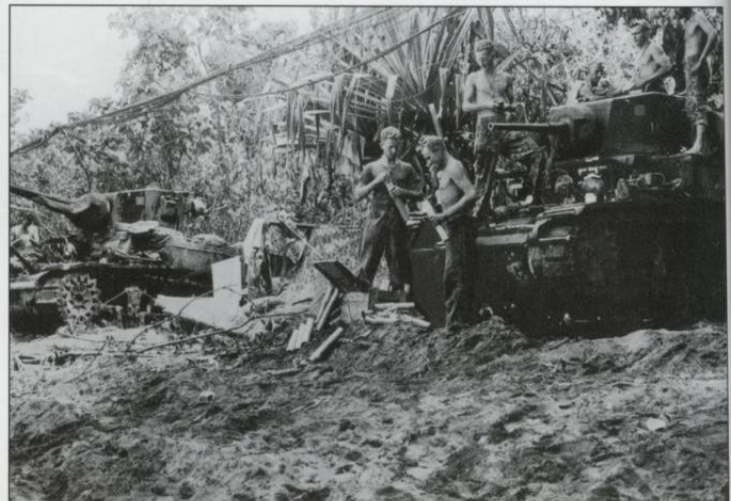


A M3 light tank with the round D39273 turret in service with the 1st Marine Tank Battalion in New Zealand prior to being deployed on Guadalcanal in November 1942. This vehicle has been given an impromptu camouflage finish. The Marine Corps used a separate series of registration numbers completely distinct from the US Army numbers. (USMC)



A M3 light tank with the final D58101 round turret, serving with the Marines on Guadalcanal in November 1942. This vehicle can be distinguished from the later M3A1 light tank in that it is still fitted with the sponson machine guns. (USMC)

A pair of M3 light tanks with the Marine 3rd Tank Battalion on Bougainville in November 1943. Lacking a clear view of the vehicle serial numbers and sponsons, the tanks could be either late production M3 light tanks, or M3A1 light tanks. (USMC)





The first Australian tank unit to see combat was the 2/6th Armoured Regiment which was committed to the fighting on Papua New Guinea in December 1942. Their M3 Stuart light tanks were used to support Australian infantry in the capture of Cape Endaiadere in late December. These are Stuart light tanks with the round D39273 turret. The circle indicates the 3rd Troop, while its yellow color indicates the 2nd Squadron. The insignia of the 1st Australian Armoured Division can barely be seen on the right fender. (US Army)



A rear view of an Australian M3 Stuart light tank disabled when it became stuck on a downed coconut tree during the fighting on Cape Endaiadere in late December 1942 while attacking a series of Japanese bunkers. Several interesting details can be seen on the photo including the use of track grousers to improve traction in the jungle, the open lids of special stowage bins added by the Australians to these tanks, and the 1st Australian Armoured Division insignia on the right corner of the rear engine deck. (US Army)



During the fighting on New Georgia in the Solomons in the summer of 1943, the Marine 9th, 10th and 11th Defense Platoons were equipped with small numbers of M3A1 light tanks to provide fire support. They were mainly used for direct fire against massed Japanese infantry attacks using cannister rounds. This is a pair of M3A1 light tanks of the 9th Marine Defense Platoon during the fighting near Bibilo hill for the Munda airfield on 6 August 1943.



The Marine 2nd Tank Battalion landed with new M3A1 light tanks to support the Marines in the fighting on Betio during the Tarawa battle on 21-23 November 1943. Although not a clear shot, this is one of the few views that show one of the light tanks during the fighting, in this case, towing a 37mm M3 anti-tank gun. (USMC)

The 2nd Marine Tank Battalion took over a stockade area on Betio and established a repair and refueling area, during the final mop up operations on the island. The battalion used a triangle insignia to indicate the companies, pointing up, down and to the side to indicate different companies. This also shows that they were late production M3A1 light tanks with the welded hull and the left sponson without the plugged machine gun hole. (USMC)



While the Marine Corps assaulted Tarawa, the US Army landed on the neighboring Makin atoll in the Gilberts. The 193rd Tank Battalion taking part in the Makin operation was equipped with M3 medium tanks and a company of M3A1 light tanks. Here, one of the M3A1 light tanks is moving forward from Red Beach, with the top portion of its wading trunk already removed. (US Navy)



This M3A1 is moving forward near Red Beach in front of the 165th Infantry to eliminate Japanese snipers on 20 November 1943 shortly after the initial landings on Butaritari. The tank still has its fording trunk on the engine deck. (US Army)



A M3A1 light tank of Co. C, 193rd Tank Battalion became trapped in a waterlogged Japanese anti-tank ditch near Red Beach on Butaritari, Makin Atoll during the 20 November 1943 operation. Here, one of the crewmen is trying to attach a tow cable to help pull the vehicle out. The yellow triangle with red square tactical insignia over his shoulder is the battalion insignia, while the company tactical number is evident on the other side of the engine deck. (US Army)



A M3A1 light tank advances to silence Japanese snipers while infantry take cover behind the wreckage of a Japanese aircraft on Makin atoll on 22 November 1943. (US Army)



Early experience with Japanese bunkers in the Pacific fighting convinced both the Army and the Marine Corps that the 37mm gun on the light tanks was completely inadequate for this task. As a result, experiments began on fitting the light tanks with flame-throwers. This is an early experiment on New Caledonia in October 1943 testing a hull mounted flame-thrower mounted in place of the usual hull machine gun. (US Army)



The crew of another M3A1 of the Marine 3rd Tank Battalion pose beside their tank "Death-Hell and Destruction". This unit was much more colorfully marked than most Marine tanks of the period. (USMC)

"Blood and Guts", a Marine M3A1 light tank of the 3rd Tank Battalion poses for the camera after landing on Bougainville in the Solomons on November 1943. The two large drums beside the turret carry additional fuel. These would usually be dropped before going into combat due to the hazard they posed.



The Italian Theater: 1943-45

A M5A1 light tank of the 601st Tank Destroyer Battalion crosses a treadway bridge over the Volturno River in Italy, on 13 October 1943. The M5A1 light tank had very little internal stowage, so most of the crew's gear had to be tied down on the rear. Late production M5A1 tanks had an additional stowage bin on the rear for this purpose. (MHI)



In 1942, the US Army decided to standardize on the M5 series of light tanks. As a result, most M3A3 light tank production was exported via Lend-lease. This is a M3A3 (Stuart V) of a British unit in Italy in 1944. Curiously enough, the driver and co-driver still employ the US-pattern tankers' helmets. Usually British and Commonwealth crews discarded these in favor of berets. (The Tank Museum)



A M5A1, probably from the 753rd Tank Battalion, during the fighting around Mt. Lungo on 9 January 1944. This tank battalion supported the 6th Armored Infantry during the attacks from Mt. Lungo towards Mt. Porchia in early January 1944. (US Army)



A nice character study of the crew of a M5A1 light tank. The devices above the head of the co-driver are grousers, intended to be added to the track to improve traction. (MHI)



A grim reminder of the vulnerability of the M5A1 light tank to German anti-tank weapons. Nicknamed "Dead-Eye Dick", the turret was blown off by an internal ammunition explosion. (US Army)



A M5 light tank in operation during the Rome campaign in 1944. The Italian theater received much of its equipment from US units that had served in North Africa, and so tended to operate older models like this one which were uncommon in France at the same time. (MHI)

A M8 howitzer motor carriage waits beside a road near Castelforte on 14 May 1944 as *goumiers* of the 2nd Moroccan Division march by. Although the *goumiers* had a rag-tag appearance compared to other troops, they developed a fearsome reputation as mountain fighters during the Italian campaign. (MHI)



The 1st Armored Division finally broke out of the Anzio bridgehead in late May 1944, and on 4 June 1944 entered Rome. Here, an M5A1 light tank moves over rubble in the city. Contrary to the impression given here, Rome was not heavily damaged during the operation. (MHI)



A M5A1 light tank of the 1st Armored Division burns after being knocked out on the approaches to Rome on 4 June 1944 as a column of M8 armored cars pass by. (MHI)

Italy provided a series of obstacles to tank operations including not only extensive mountain ranges, but frequent rivers. Here, an engineer tractor is used to extract a M5A1 light tank that has become bogged down in a river. (MHI)



The Polish 2nd Armored Division was trained and equipped by the British, and so followed British practices. This recce Stuart, based on a M3A3 light tank chassis, was operated by the 1st Krechowicki Lancers during the final phase of the Italian campaign in the Po river valley. It is a standard British REME conversion, with a low metal skirt welded around the turret opening. The regimental insignia, a white horse head inside the squadron tactical sign, is painted on the hull side. (Sikorski Institute)



British units in Italy used the Stuart V (M3A3) in a variety of specialized roles. Some had their turrets removed, usually for conversion into Recce Stuarts, but also for conversion into ammunition carriers for the armored regiments as seen here. (The Tank Museum)

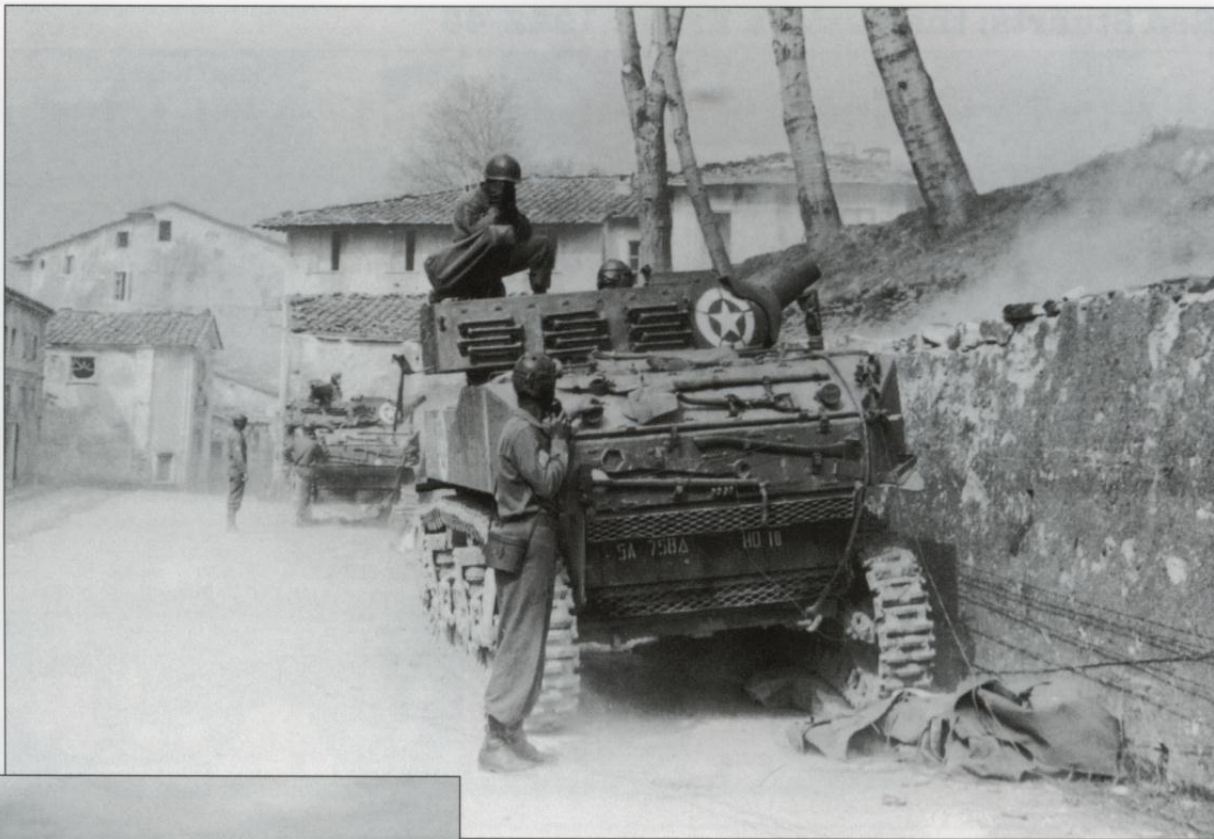


A review of the headquarters squadron from the 2nd Polish Armoured Division at Loreto, Italy at the conclusion of the war. The Recce Stuarts in this regiment had some differences, including the use of sand skirts on the nearest vehicle, "Halniak", and the use of an armored shield on the .30 caliber Browning machine gun. (Sikorski Institute)



Another view of the Recce Stuart named "Kania" taken at the end of the campaign during a review of the regiment. The name has been repainted in larger letters. Other Recce Stuarts in the HQ squadron included "Krogulec", "Kobra", and "Kaguar". (Sikorski Institute)

A M8 75mm howitzer motor carriage (HMC) of the headquarters company, 758th Tank Battalion, provides fire support for the 44th Infantry near Serravezza, Italy on 8 April 1945. The M8 75mm HMC was the light tank equivalent of the M4 105mm howitzer tank, and was used in headquarters companies of light tank battalions to provide fire support. This was a segregated battalion manned by African-American troops. (MHI)



US infantry ride on a M5A1 light tank as a column of German prisoners of war march by, somewhere in Italy in 1945. (MHI)



The Italian theater did not have priority for equipment, so very few of the new M24 light tank arrived prior to the end of the war. One of the units that did receive them was the 81st Reconnaissance Squadron of the 1st Armored Division, seen here near Salvaro, Italy on 17 April 1945. (US Army)

Red Stuarts: the Eastern Front: 1942-43



The Red Army was amongst the first recipients of M3 light tanks in the early winter of 1941-42. This is a M3 light tank with the D58101 turret from the March 1942 production run. The inscription on the hull side is "Kuibyshev", probably named after the city. This particular example was captured by the Wehrmacht. (USNA)



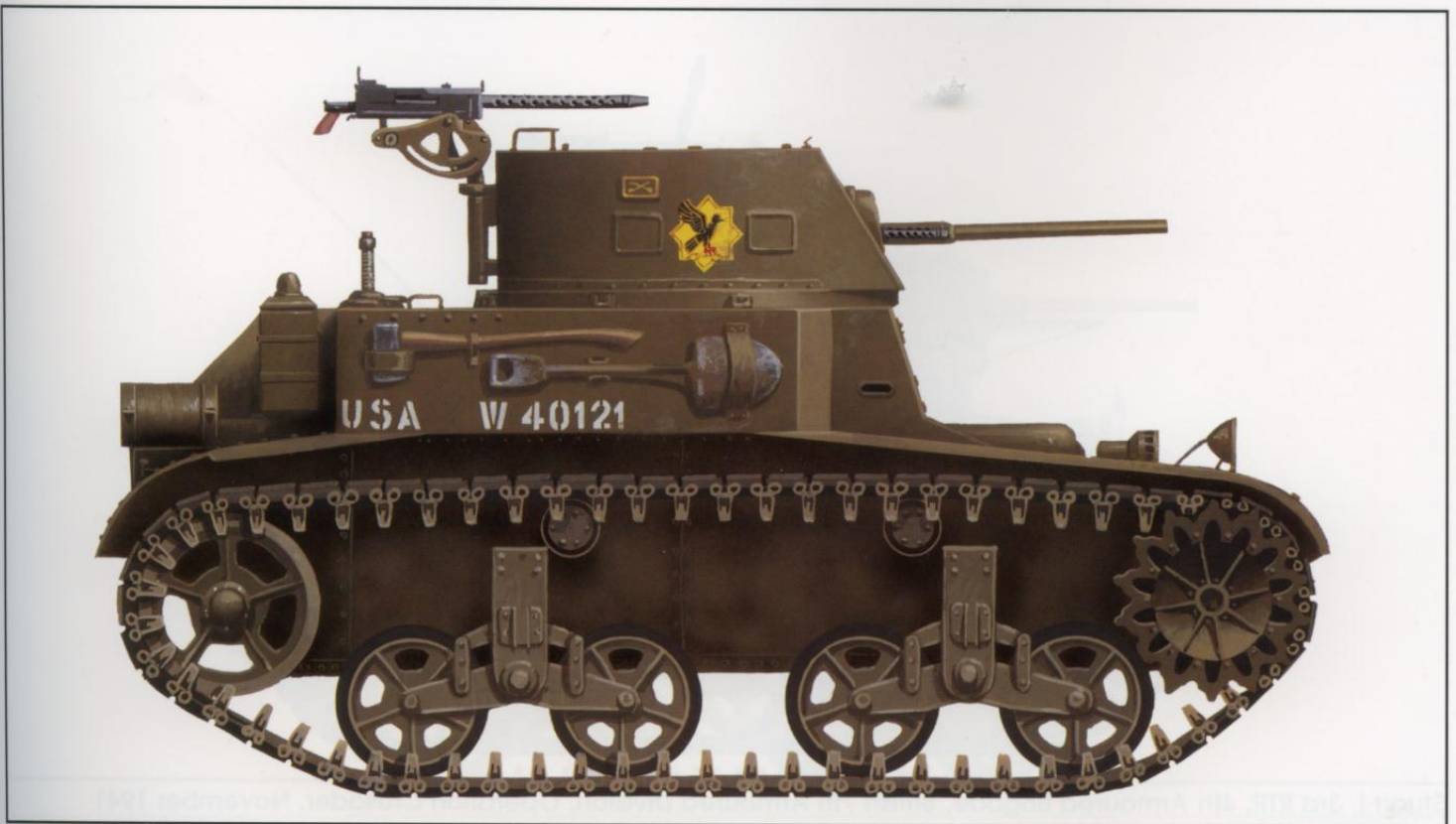
Yet another Soviet M3 light tank, also with the D58101 turret, but in service after capture with Hungarian Army. The Hungarians captured a number of Stuarts at various times, and sometimes put them back into service. (Ivan Bajtos)



A Red Army tank regiment in action, in operations north-west of Stalingrad in the summer of 1942. In the background are M3 medium tanks. The inscription on the turret reads "Annihilate the Fascists", while the hull inscription honors the Napoleonic war hero General Suvorov.

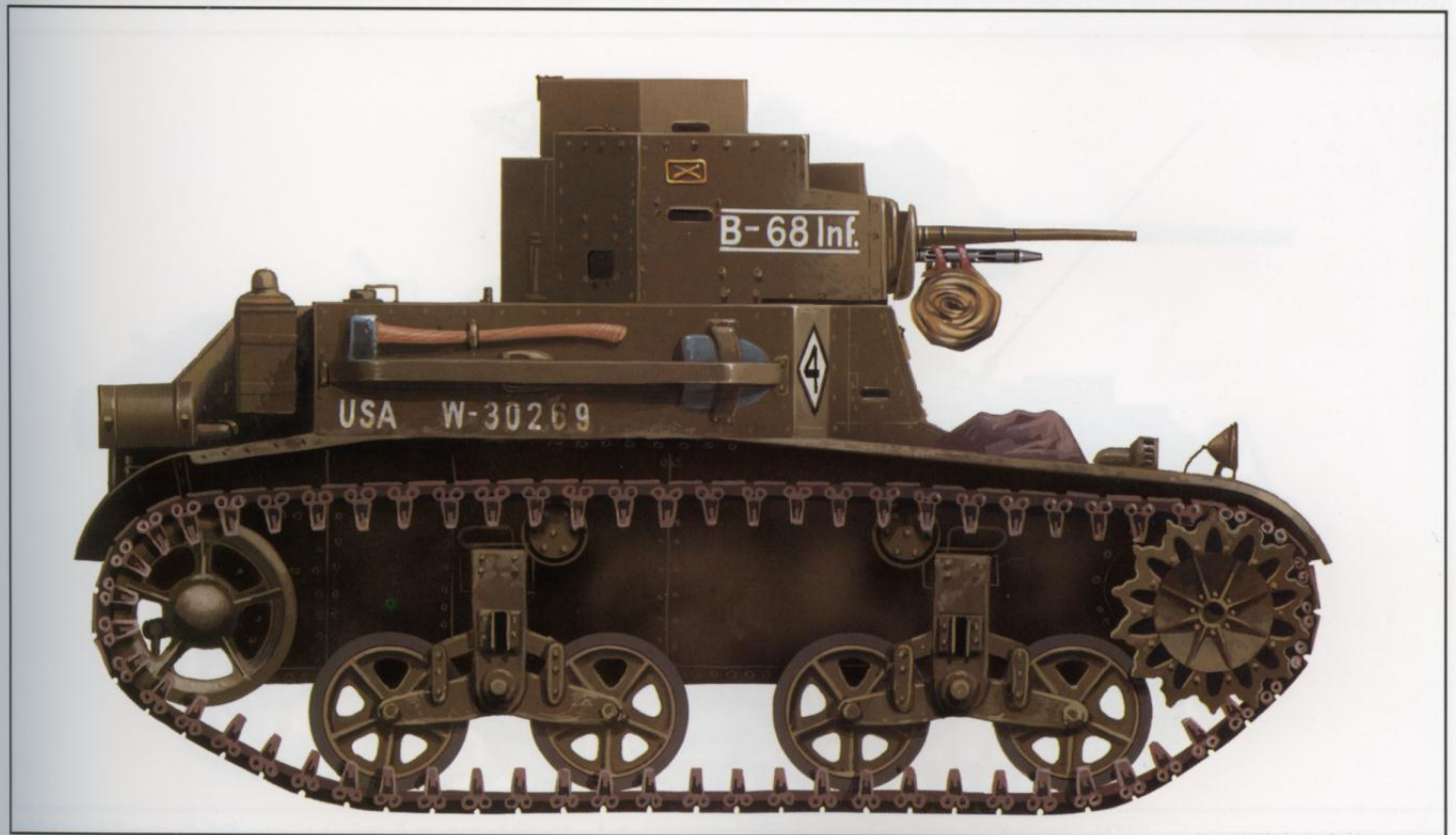


Soviet troops in the city of Byelgorod in February 1943 shortly after its recapture. In the foreground is a M3 or M3A1 light tank, while in the background is a T-34 Model 1943. The city was liberated by the Voronezh Front on 9 February during the Kharkov operation, and these tanks belong to Lt. Col. Pyotr Shevchenko's special tank group. The city fell to the Germans again on 18 March 1943.



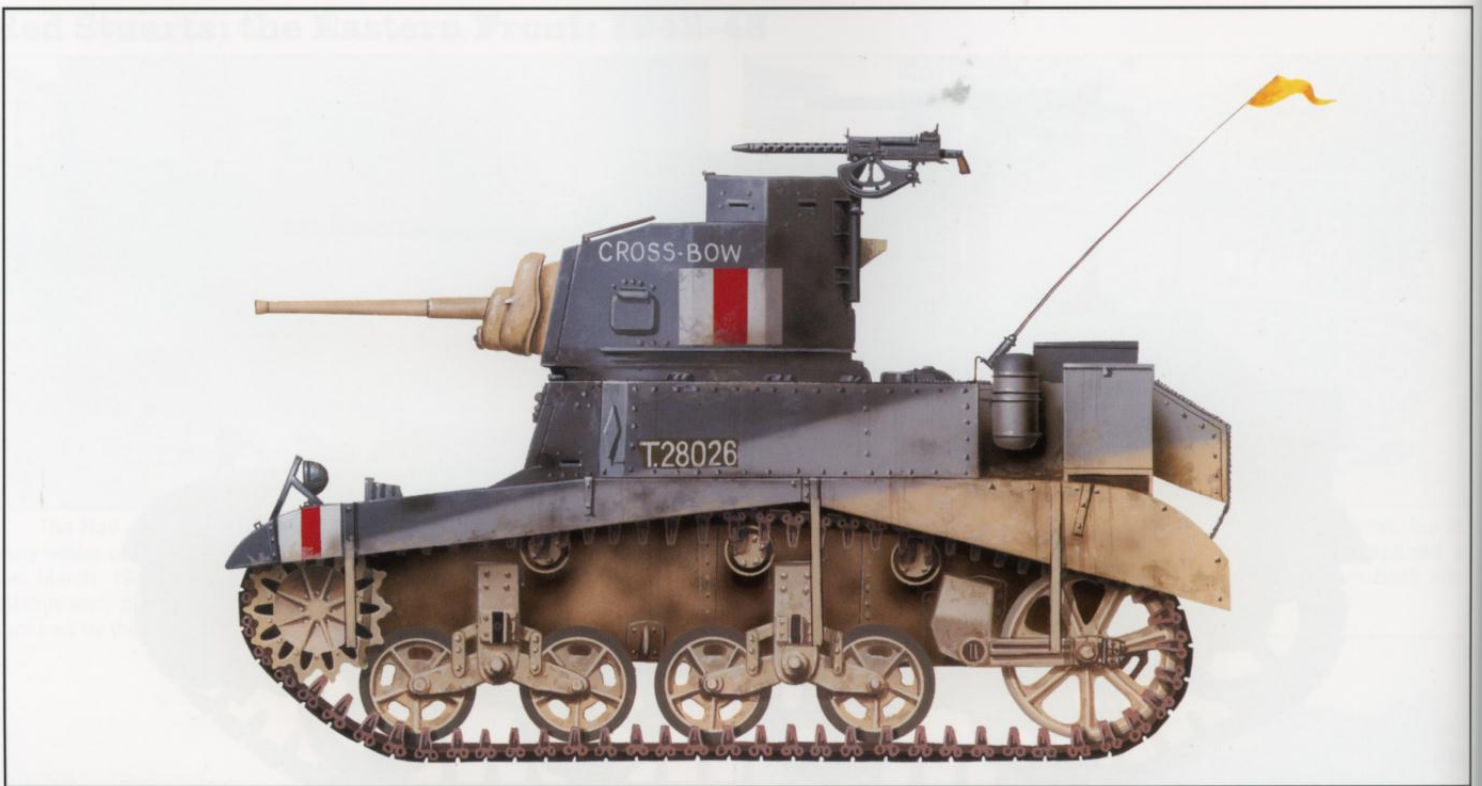
M1 Combat Car, 1st Cavalry Regiment, Ft. Riley, Kansas, 1940

All US armored vehicles were finished in gloss olive drab before the war, whether attached to the cavalry or infantry. The vehicle registration number is in the standard gloss white. The turret marking identifies this combat car as belonging to the 1st Cavalry, a crest which symbolizes the 1st Cavalry's role in the Black Hawk Wars.



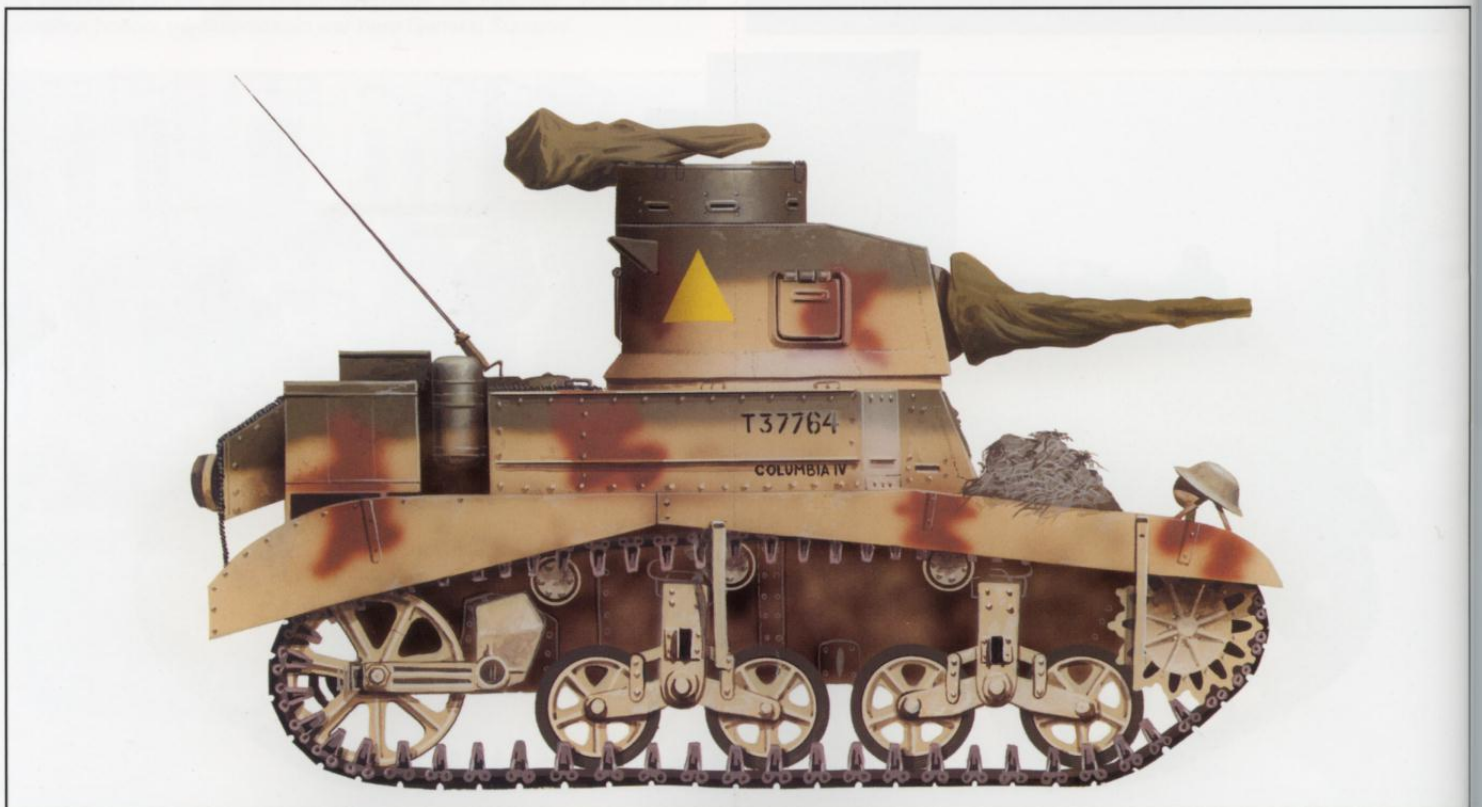
M2A2 Light Tank, Company B, 68th Infantry (Tanks), Ft. Benning, Georgia, 1940

This US Army light tank is painted in overall gloss olive drab. This is one of the standard patterns of infantry tank marking, which indicates Company B, 68th Infantry (Tanks). All the markings are in gloss white. The tactical marking on the hull front is a white diamond with the edging and number in black. A number 4 in the white diamond indicate fourth tank, 1st platoon. The second platoon carried its platoon markings in a circle, the 3rd platoon in a square and the HQ platoon in a diamond. The Infantry branch plaque on the turret side shows crossed rifles and was left in natural brass color.



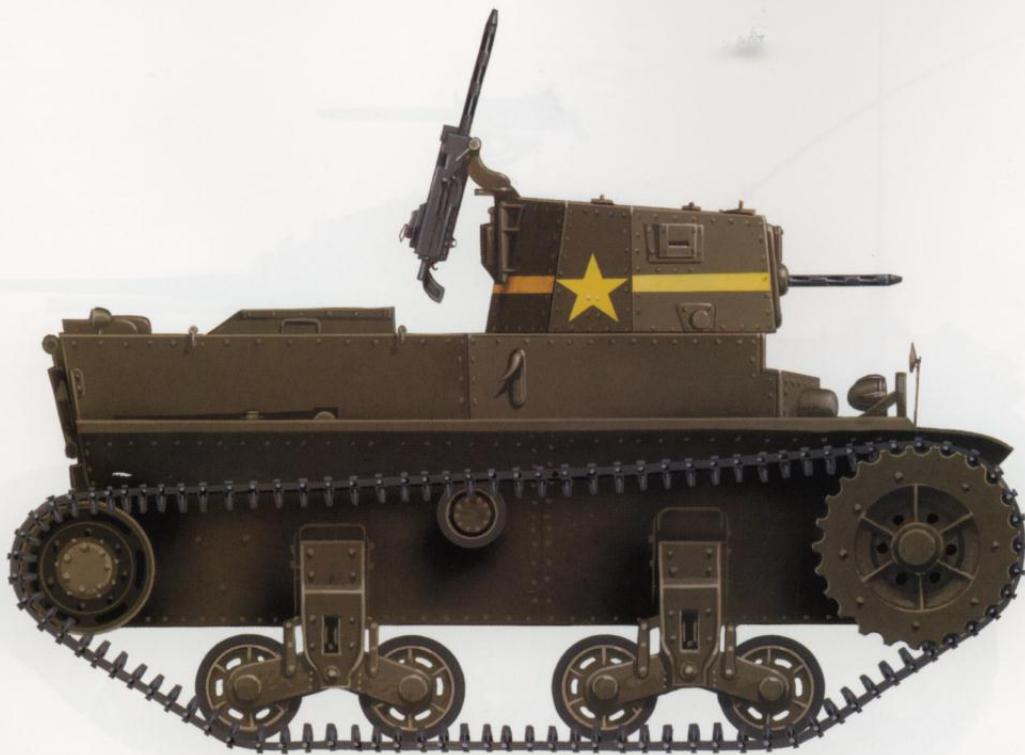
Stuart I, 3rd RTR, 4th Armoured Brigade, British 7th Armoured Division, Operation Crusader, November 1941

Stuarts at the time of Operation Crusader were finished in the Caunter scheme, inspired by the dazzle painting of World War I warships. The base color of the pattern was BSC No. 64 Portland Stone and the two other colors were BSC No. 28 Silver Grey and BSC No. 34 Slate. Prior to Operation Crusader, a white/red/white identity marking, inspired by the World War I tank marking, was adopted for British tanks. Colored pennants were also used on the aerials or special poles for the same purpose. This battalion traditionally used tank names starting in C as in "Cross-Bow" seen here. The vehicle registration number was white on a rectangle of the original vehicle color, American olive drab, and was generally in the T.27950 to T.28120 range. The famous divisional insignia, the Desert Rat, was carried on the front and rear.



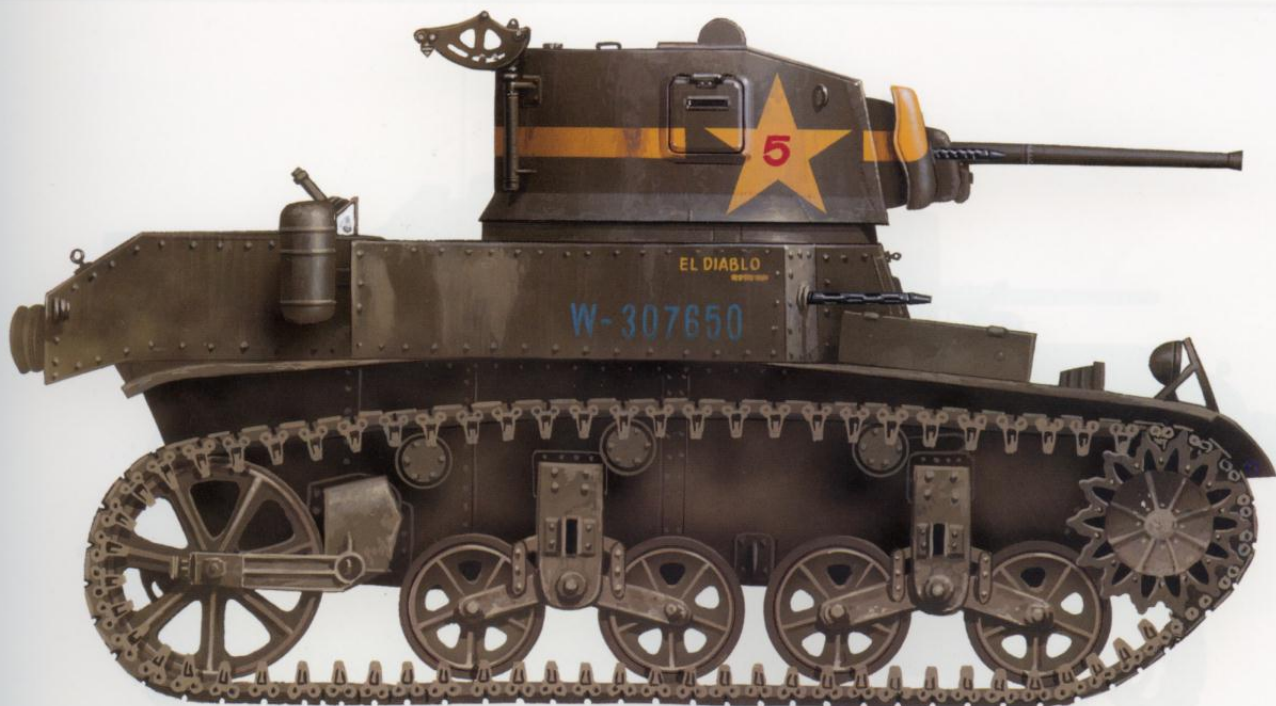
Stuart, 3rd Troop, A Squadron, 3rd RTR, 4th Armoured Brigade, British 7th Armoured Division, 1942

By 1942, the Caunter scheme was no longer in use, and other patterns of camouflage appeared. The basic color was Light Stone Standard Colour No. 61 (ME Standard Colour No. 23), painted over the faded olive drab base finish, with the olive drab left covering the top and the upper edges of the turret and hull. Patches of Terra Cotta, a dark red brown, were sprayed on irregularly over this. The vehicle registration number and name "Columbia IV", are in black, while the A Squadron tactical marking is in pale yellow. In this battalion, the tank names traditionally started in C.



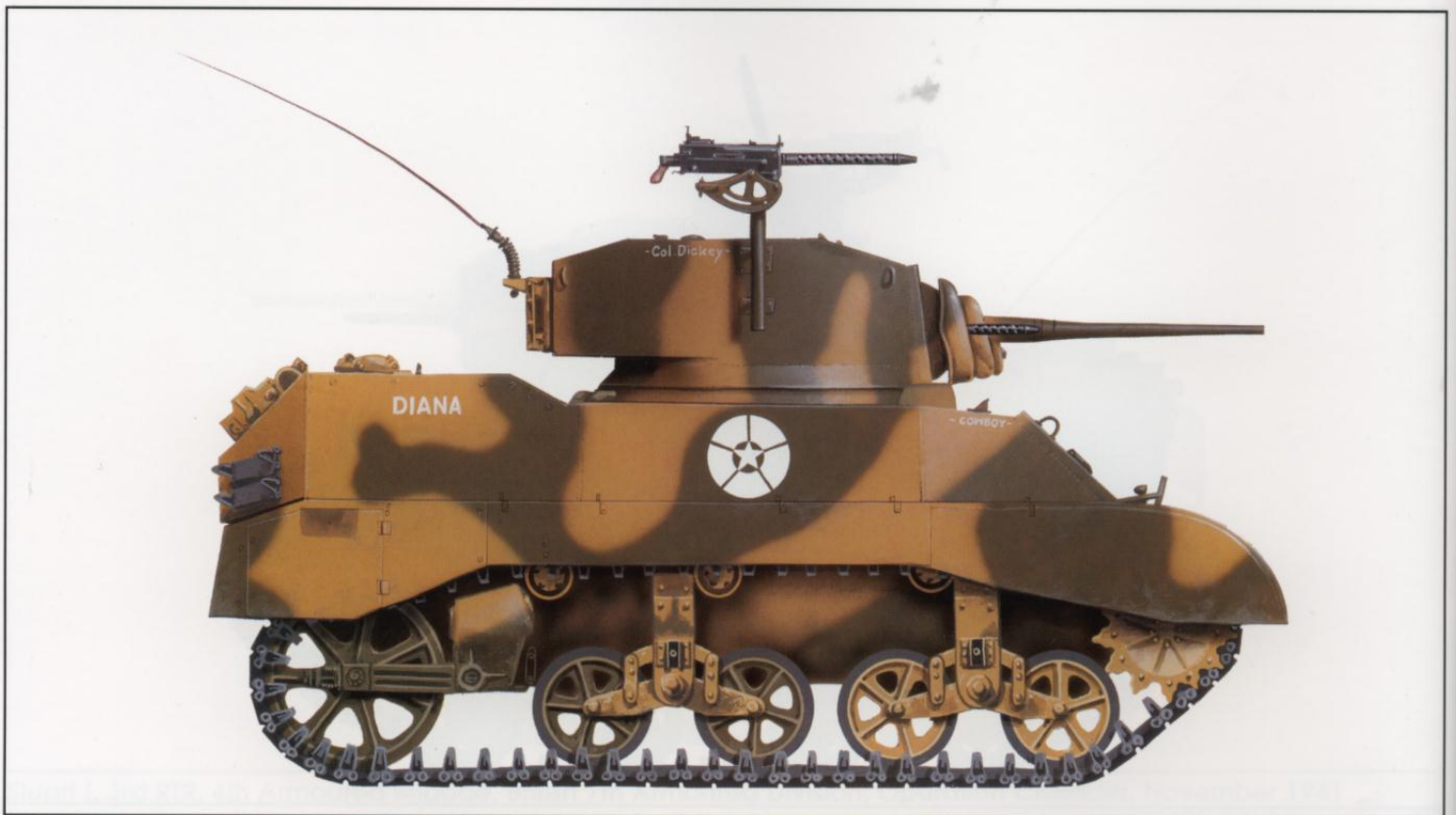
T16 Light Tank, 602nd Independent Tank Company, 135th Infantry Regiment, Umnak Island, Aleutians, 1942

The Marmon Herrington T14 and T16 light tanks delivered to the US Army in 1942 were finished in the standard lusterless olive drab No. 9. They also carried stateside Armored Force style markings, a star with a band surrounding the turret. In some cases this was white, but in the case here, it is yellow.



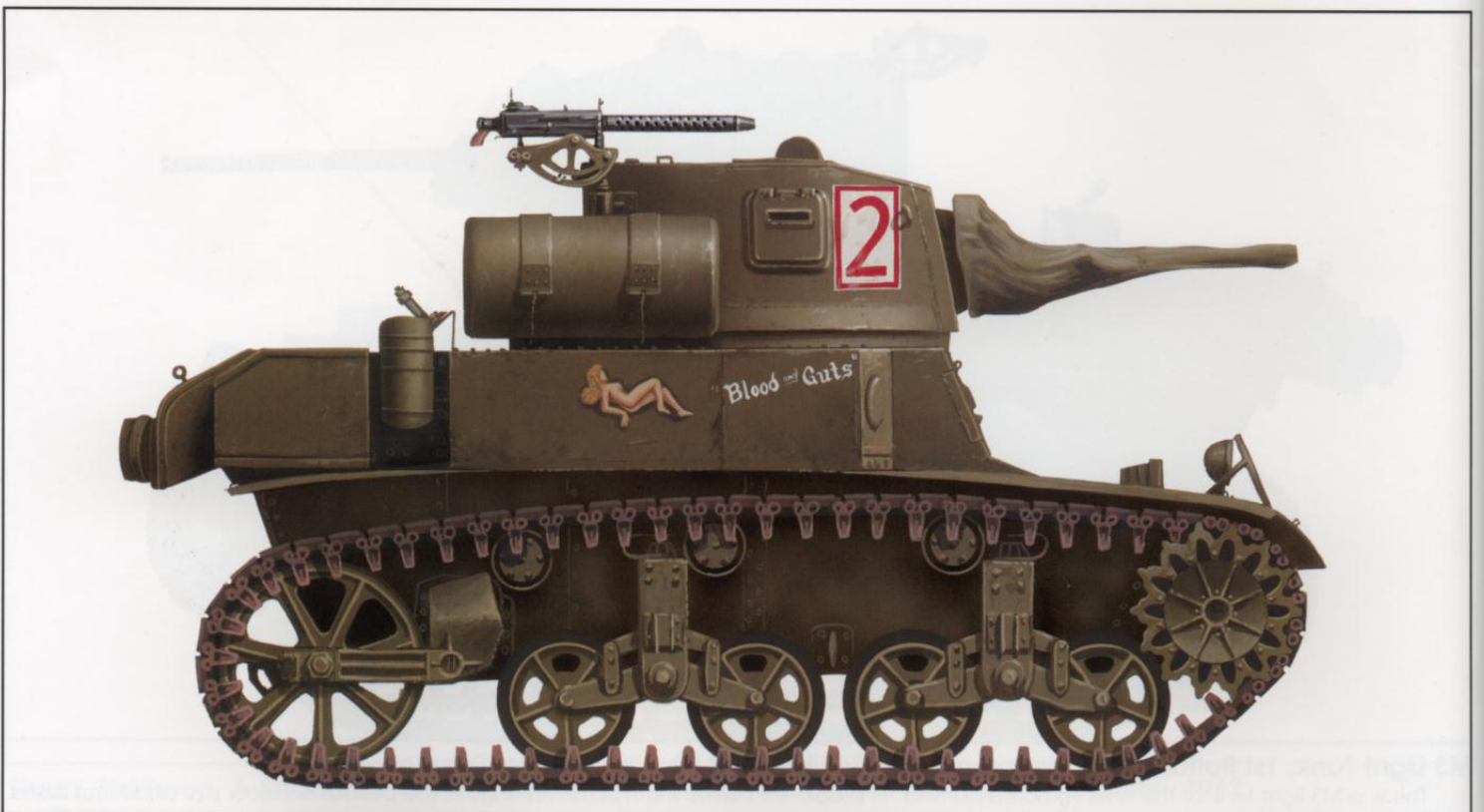
M3 Light Tank, 1st Battalion, 1st Armored Regt., 1st Armored Division, Tunisia, February 1943

This is a M3 light tank of the 1/1st Armored named "El Diablo". It carries the typical markings of the period, a yellow star and turret band. Although usually the Armored Force followed the practice of naming tanks after the company letter, this was not the case here as the D and E companies of the regiment were medium tank companies. The 1st Battalion used a yellow horizontal bar as its insignia, with small dots above to indicate the companies. This can be seen on the hull side below the name "El Diablo". The dot on this one is missing. The vehicle registration number W-307650 is in lusterless blue drab. The division often carried an American flag insignia on the rear sponson side, but in this case it is missing or painted over.



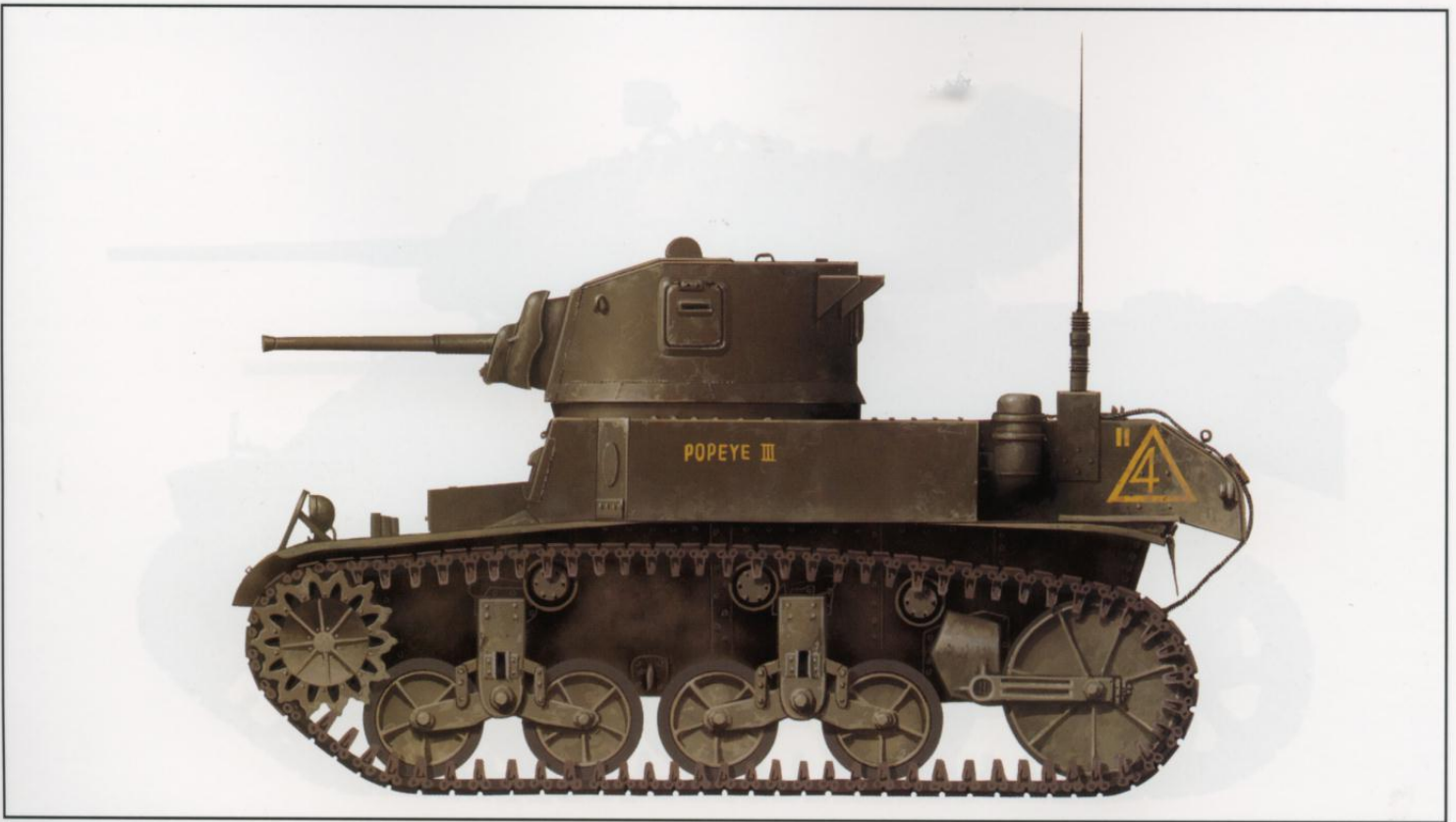
M5A1 Light Tank, Rabat, Morocco, July 1943

This M5A1 light tank on parade in Rabat in 1943 shows the official markings adopted prior to Operation Husky, the invasion of Sicily. A new camouflage scheme was authorized consisting of Earth Yellow over the normal lusterless olive drab No. 9. During operations in Tunisia, it was found that the yellow star insignia became too faint when covered with dust, so the Army switched back to a white star. In addition, a broken white circle was authorized to prevent the star from being mistaken for a German cross at long ranges. Prior to Operation Husky, units were instructed to double the thickness of the circle, which in this case, seems to have gone a bit extreme. This particular tank is named "Diana", and the crew names are painted alongside their stations.



M3A1 Light Tank, Marine 3rd Tank Battalion, Bouganville, Solomon Islands, November 1943

The Marine 3rd Tank Battalion was colorfully marked during the opening phases of the Solomons fighting. This particular tank is nicknamed "Blood and Guts". The tactical marking is a red 2 in a red rectangle on a white rectangle. Marine tanks were finished in the same lusterless olive drab No. 9 as US Army tanks.



M3A1 Light Tank, 754th Tank Battalion, Bougainville, Solomon Islands, March 1944

As the war in the Pacific dragged on, the use of national insignia became less pronounced since it tended to make good aiming points. This tank is named "Popeye III", which is painted on the hull side in yellow to reduce its visibility. The 754th Tank Battalion used a system of geometric shapes with small Roman numerals above to signify the platoons and companies of the unit, in this case the number 4 in a triangle with two vertical bars in the upper left. This tank is finished in the usual lusterless olive drab No. 9.



M3A3 Light Tank, 3rd Tank Battalion, Chinese 1st Provisional Tank Group, Ramgargh Training Center, India, 1944

The Chinese Provisional Tank Group was formed in India from British Lend-Lease stocks, but trained by US Army personnel. So the tank has a mixture of British and American markings. The base finish is the usual US Olive Drab, which was almost the same as British Shade 19 which was also in use at the time. The Chinese units used geometric shapes to indicate the battalion and company, in this case a hollow yellow rectangle and a solid rectangle. The vehicle number was painted in white. This tank has both US Army registration numbers in blue drab and British registration numbers in white on the hull side.



M5A1 Light Tank, Co. C, 33rd Armored Regt., 3rd Armored Division, St. Fromond, France, July 1944

The 3rd Armored Division used prominent tactical numbers on the hull side, like this light tank named "Carol". The tactical number C-34, was painted in yellow while the rest of the side hull markings including the registration number U.S.A. 3051254-S, and the name "Carol" are in white. On the front side of the hull are shipping markings which cover the vehicles' length, width, height, net weight in pounds and weight in British measure. This tank is finished in the usual lusterless olive drab No. 9.



M8 75mm Howitzer Motor Carriage, 3rd Armored Division, Barenton, France, August 1944

The 3rd Armored Division painted their tactical numbers on the hull side in large yellow numerals as seen here on a M8 HMC named "Laxative". By this stage of the war, the practice of painting the registration number on the tank in blue drab had been discontinued in the field, as it was too difficult to read the number when taking down numbers on repair records. So the registration numbers is painted in white. This unit did not widely use the white US star after its initial fighting in Normandy's *bocage* country in June 1944.

The M5A1 Light Tank was developed by the Ordnance Department in 1942. It was designed to be a light tank for reconnaissance and anti-aircraft duties. The US Army was the first to use it in combat during the Battle of Iwo Jima in February 1945. It was also used in the Battle of Okinawa in June 1945.



M5A1 Light Tank, 92nd Cavalry Reconnaissance Squadron, 12th Armored Division, Germany, January 1945

The 12th Armored Division used a system of geometric signs to identify its units, as seen on the hull front of this vehicle. The tank is named "Sloppy Joe" after the popular American sandwich. This tank is finished in the usual lusterless olive drab No. 9. The vehicle registration number U.S.A. 3082803-S is in white.



M22 Locust, 6th Airborne Armoured Recce Regiment, 6th Airborne Brigade, Germany, March 1945

The only combat use of the M22 took place in March 1945 during the Rhine crossing operation when a small number of Locusts were delivered by Hamilcar glider. They were presumably finished in Shade No. 19 which was the British equivalent of US Army lusterless olive drab. The markings on the turret side consisted of the unit tactical marking, a white square on a black background. The registration number on the hull side appears to be on a darker color, possibly black. The unit insignia on the bow when viewed from the front from left to right consisted of the arm-of-service rectangle in green over black with the white numeral 41, the yellow bridging circle with the weight of 7 tons in black, and the airborne emblem. The arms of service rectangle was repeated on the hull rear to the right, and the airborne insignia on the left.



M24 Light Tank, 81st Reconnaissance Squadron, 1st Armored Division, northern Italy, March 1945

The 1st Armored Division used a set of geometric symbols to distinguish the tank units, but this did not extend to the new M24 light tanks with the divisional recon squadron. This unit used very simple tactical insignia, a hollow white numeral identifying each vehicle. The M24 tended to carry large national identity markings, as its appearance was very different from other American tanks of the period, and there was concern it would be mistaken for a German tank. This tank is finished in the usual lusterless olive drab No.9.



M3A3/PaK 40, Yugoslav 1st Tank Brigade, Yugoslavia, March 1945

The Yugoslav 1st Tank Brigade was raised by the British on Bari in the Adriatic in the summer of 1944. The M3A3 light tanks of the unit were finished in their original olive drab, or in the British equivalent, Shade No. 19. Some were painted with bands of camouflage color, probably a mid-brown. After being landed on the Yugoslav coast in the autumn of 1944, the 1st Tank Brigade fought in support of Tito's Partisans. In November 1944, a German arsenal was captured, and the brigade mounted a few 7.5cm PaK 40 anti-tank guns and 2cm FlaK 38 anti-aircraft guns on M3A3 light tanks in the lieu of the turret. A small armor plate was added on either side of the anti-tank gun for protection. The Yugoslav national flag of blue/white/red was carried as an insignia, with the Communist red star in the center.

Fighting in the Pacific 1944-45

US Marine tank battalions began to be reequipped in late 1943 from a light tank organization to a mixed medium tank organization similar to the US Army with one company of light tanks and three of medium tanks. The new M5A1 light tank was first introduced into Marine service at this time. The M5A1 received its baptism of fire in the Pacific theater during the fighting at Cape Gloucester in December 1943 with the Marine 1st Tank Battalion. This tank is painted in a two-tone camouflage pattern, probably field drab or brown over olive drab. (USMC)



Here, "Popeye III", a M3A1 light tank of the 754th Tank Battalion moves forward in support of infantry of Co. F, 129th Infantry, 37th Division on Bougainville on 16 March 1944 during the Solomons campaign. The 754th Tank Battalion used a system of geometric shapes with small Roman numerals above to signify the platoons and companies of the unit, in this case the number 4 in a triangle with two vertical bars in the upper left. (US Army)



The landings at the Kwajalein Atoll were supported by the Marine 4th Tank Battalion. "Hothead", a M5A1 light tank of Co. A, moves up in support of Marines on Namur on 1 February 1944. The 4th Tank Battalion camouflage painted their tanks as seen here. (USMC)



One of the 4th Tank Battalion M5A1 light tanks, "Hunter", was knocked out by Japanese fire during the fighting on Namur in February 1944. A close inspection of the track will reveal grousers attached, a common practice in the sandy soil of the Pacific atolls where the grousers could help improve traction. (USMC)



A pair of M3A1 light tanks of the 767th Tank Battalion during operations on Enubuj, Kwajelin atoll on 4 February 1944. The Japanese force there had been overcome by this time, but there were still pockets of Japanese resistance. The ferocity of the pre-invasion bombardment is evident from the damage to the coconut palm trees. (US Army)

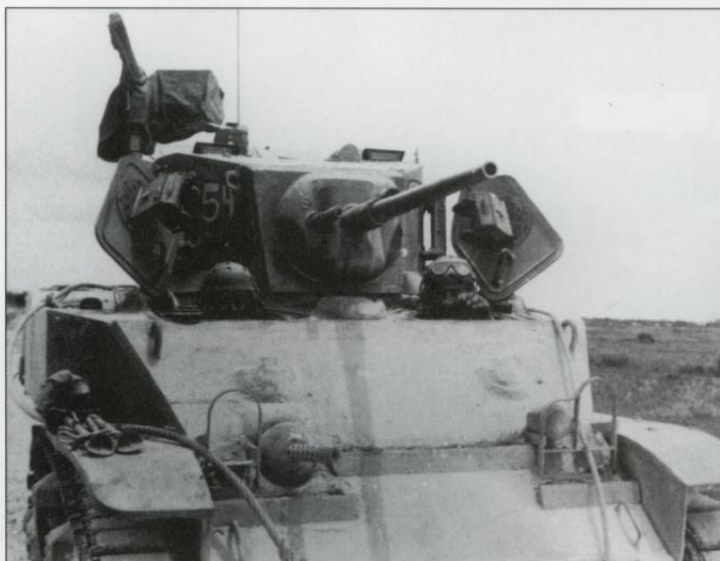


A M3A1 light tank of the 767th Tank Battalion supports infantry from the 7th Infantry Division during fighting on Carlson Island in the Kwajelin Atoll on 31 January 1944. The tanks are fitted with grousers for better traction in the soft soil. (US Army)



A M3A1 light tank of the Marine 3rd Tank Battalion comes ashore at Emirau Island in the Bismarck Archipelago in early 1944. This tank has obviously seen some previous action, probably on Bougainville, as its front fenders are missing. Notice that by the time of this campaign, the 3rd Tank Battalion had dropped the practice of painting its tactical numbers on prominent white backgrounds; here the markings are a subdued yellow outline of a diamond with the number 1 inside. (USMC)

The Army's 762nd Tank Battalion was credited with the most tank kills during the fighting along the Saipan beaches against the Japanese 9th Tank Regiment. This is a M5A1 light tank of Co. D, 762nd Tank Battalion, with the beaches evident behind. The 37mm gun on the M5A1 was more than adequate to deal with the thin armor of the best Japanese tank on Saipan—the Type 97 Chi-ha. (US Army)



The Marine Corps also operated M5A1 light tanks on Saipan. They were most often attached to the M3A1 Satan flame-tank companies to provide them with gunfire support. (USMC)



The Japanese defense included some large anti-tank mines that consisted of buried aircraft bombs or large caches of high explosive. Their effect on the light M5A1 is very evident in this view of a destroyed M5A1 light tank of the 762nd Tank Battalion. (USMC)



A M5A1 light tank of the Army's 762nd Tank Battalion waits along with accompanying infantry prior to being ordered to attack Japanese positions at Tanapag harbor in the distance. To the left is a towed 37mm M3 anti-tank gun. (US Army)



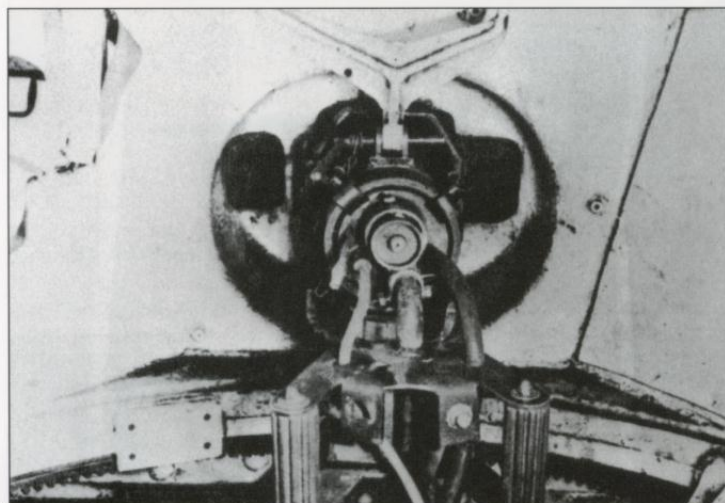
As the Marine Corps tank battalions began to shift over to M4A2 medium tanks in late 1943, it was decided to convert the M3A1 light tanks into Satan flame-thrower tanks. After early attempts to mount the gun in place of the hull machine gun, it was later decided to mount it in place of the 37mm gun. Here, a Satan flame-thrower tank attacks a Japanese bunker. (USMC)



A M8 75mm howitzer motor carriage, probably of the 762nd Tank Battalion, in operation on Saipan in June 1944. These were used to provide fire support to the light tank companies. Besides their use in some tank battalions, there were six of these assigned to each armored cavalry squadron, providing fire support to other vehicles in the unit with their short-barreled 75mm howitzer. (US Army)



"Dusty", a M3A1 flame-thrower tank of Co. D, 2nd Marine Tank Battalion during the Saipan fighting in June 1944. Company D had 12 Satan flame-thrower tanks. The general consensus was that the Satan flame throwers didn't have enough range, and their capacity of 2-minutes of fuel was also deemed inadequate. Two of the Marines display war trophies including a Japanese machine gun and rifle. (USMC)



This is a view of the turret interior of a Satan flame-thrower tank. The flame-gun was aimed using a pair of hand-grips, much like a .50 cal machine gun. (Patton Museum)



"Nobby", another M3A1 Satan flame-thrower tank on Saipan, from the Marine 4th Tank Battalion. The 4th Tank Battalion's D Company tank names all started with N, while the Satan flame-tanks of the 2nd Tank Battalion started with D. (USMC)



A M5A1 light tank and M4A2 medium tank of the 4th Marine Tank Battalion move forward on Saipan on 24 June 1944. (USMC)

D-33, a Satan flame-thrower tank from the 2nd Marine Tank Battalion escorts an LVT-4 near Tanapag on Saipan on 7 July 1944.



"Nannie", a M5A1 light tank of Co. D, 4th Marine Tank Battalion, escorts a M3A1 Satan flame-thrower tank during the fighting against Japanese infantry holed up in caves in the cliffs at Marpi Point, Saipan. Flame-thrower tanks were usually accompanied by normal gun tanks to provide protection. By this stage in the war, the anti-personnel canister round had become one of the M5A1s main weapons, due to the lack of Japanese tanks. (USMC)



Following the fighting on Saipan, parts of the 2nd Tank Battalion were transferred to neighboring Tinian to provide support. Here, a M3A1 Satan flame-thrower tank of D Company comes ashore, towing a jeep behind it. This tank was named "Ding-Dong", but the name is partly worn off. (USMC)



A battery of M8 75mm howitzer motor carriages provide fire support for Army operation on Biak on 11 July 1944. (USMC)



The Indian 7th Cavalry was equipped with the Stuart (M3A1) light tank during its operations in Burma in 1944-45. These tanks remained in Indian service into the 1950s. (The Tank Museum)



In 1944, a new Chinese tank force was assembled and trained at the Ramgarh Training Center in India for eventual commitment into Burma and southern China. These are a formation of M3A3 Stuart light tanks of the 3rd Tank Battalion. (US Army)

The Chinese 1st Provisional Tank Group was committed to action near Kabani, Burma in January 1945. Here, infantry from the 5332nd Brigade climb on board M3A3 Stuart tanks. The M3A3 Stuarts are heavily covered in chicken wire to attach foliage for camouflage. (US Army)





A few of the Stuarts in the 1st Provisional Tank Group were converted into turreless command vehicles as seen here in Burma in 1945. (USNA)



Here a M5A1 light tank named "Ginny" of the US Army 44th Tank Battalion moves forward on Leyte Island in the Philippines on 20 October 1944 in support of the US Army 1st Cavalry Division. (US Army)



A pair of M8 75mm howitzer motor carriages support the 1st Cavalry Division on Leyte shortly after the landings on 20 October 1944. The M8 HMCs still have their deep wading stacks attached. (US Army)



More armor from the 18th Armored Group comes ashore at Lingayen Gulf on Luzon on 11 January 1945, including this M5A1 light tank of the 44th Tank Battalion. The deep wading stacks were necessary even when the LSTs brought the tanks close to shore as seen here, as tank engines could become easily flooded. (US Army)



A small number of M3 light tanks captured by the Japanese from the Provisional Tank Group on Bataan in 1942 were still in service with Japanese occupation forces in the Philippines in 1944-45. This one was captured during the fighting, and is seen afterwards in a tank park with a number of M5A1 light tanks and M8 HMCs behind.

The European Theater of Operations: 1944-45

Known as the Stuart VI in British service, the M5A1 was used by a number of British and Commonwealth formations during the fighting in north-west Europe. This is a British Stuart VI in action in Normandy in July 1944. (The Tank Museum)



The standard recon tank in the British armored divisions in Normandy was the Stuart V (M3A3), seen in action on 15 June near Bayeux-Tilly with the 7th Armoured Division. The division's legendary Desert Rat insignia can be barely seen on the upper right corner of the glacis plate in front of the co-driver position. (The Tank Museum)



This view shows a heavily stowed M5A1 light tank of Co. C, named "Carol" as it passes along a road crammed with other vehicles of the 33rd Armored Regt., 3rd Armored Division in the eastern outskirts of St. Fromond on 8 July 1944. This action took place shortly after the combat debut of the 3rd Armored on the night of 7 July against 2.SS-Pz.Div. Das Reich near Pont Hebert. This photo was taken prior to a push across the Vire river, intended to head-off a German tank thrust towards Haut Vents. (US Army)



Another view of St. Fromond during the Vire river fighting shows a M5A1 light tank moving past a 90mm anti-aircraft gun on 9 July. The US Army did not regularly use its anti-aircraft guns for anti-tank defense (like the Germans with their 88mm gun), but here it appears that a 90mm is being used to guard a road junction, probably due to the presence of Panther tanks from the 2.SS-Pz.Div. during the fighting that day. (US Army)



A M5A1 from Co. C, 33rd Armored Regiment, 3rd Armored Division, passes a shell-pocked building in the town of Airl on 11 July, as US armor moved up to stop a German attack from Le Desert against the 9th Infantry Div. One of the curious details on this M5A1 is a device located below the hull machine gun. This was apparently added to prevent wire obstructions or communications wire across roads from catching on the hull machine gun and slamming the receiver into the co-driver's legs. (US Army)



An MP directs traffic as a M5A1 light tank of 33rd Armored Regiment, 3rd Armored Division, passes through a town north of St. Lo on 17 July. The fighting in the first two weeks of July pushed the US Army across the base of the Contentin peninsula, and made possible the breakout operation planned for the third week of July. (US Army)



While the British and Canadian forces were enlocked with the German panzer divisions south of Caen, the US Army took steps to break out past St. Lo. Here, a M5A1 light tank moves through the devastated streets of St. Lo on 20 July after the city was finally captured. The first encounters with German panzerfaust anti-tank rockets prompted American tankers to begin mounting sandbags on the front of their tanks as an improvised method of bolstering their protection. (US Army)



A M5A1 light tank named "Mickey Georgiana" waits in a column as a stream of German prisoners pass by in the background. From the registration number, this is from the April 1943 production batch. M5A1 light tanks produced in the summer of 1943 began to introduce a series of new features including a modified turret machine gun mounting, and an additional stowage bin on the hull rear. (US Army)

Prior to Operation Cobra, the break-out from St. Lo, a young ordnance sergeant, Curtis Culin, developed a set of prongs made from scrap German beach obstacles to help tanks cut through the dense bocage hedge-grows in the Normandy countryside. As a result, they were named after him as Culin devices, although they were also called Rhinos, prongs, and other names. A set is seen fitted here on a M5A1 light tank after being attached by the 705th Ordnance Company. (US Army)





A M5A1 light tank of the 3rd Armored Division passes through the ruins of a Normandy town on 27 July 1944. The prominent yellow tactical markings on the hull side have been painted over. This tank is also fitted with the machine gun guard on the hull front. (US Army)



The Polish 1st Armored Division served with the 21st Army Group, and was raised and equipped in Britain. Here a column of its Stuart VI (M5A1) light tanks await orders to move forward during the August 1944 fighting near Caen. (Sikorski Institute)

A M5A1 light tank passes through a French village. It is fitted with the Culin hedge-grow cutters on the bow. (The Tank Museum)



Troops from the Polish 1st Armored Division reconnaissance patrol consult with French resistance fighters during the fighting in Normandy in August 1944. To the right is a Stuart VI, and to the left is a Humber armored car. (Sikorski Institute)



The crew of a Stuart VI of the 24th Lancers, Polish 1st Armored Division take a breather during the fighting in Normandy in August 1944. This unit was at the lead of the combined British-Canadian drive which sealed up German forces in the Falaise pocket. (Sikorski Institute)



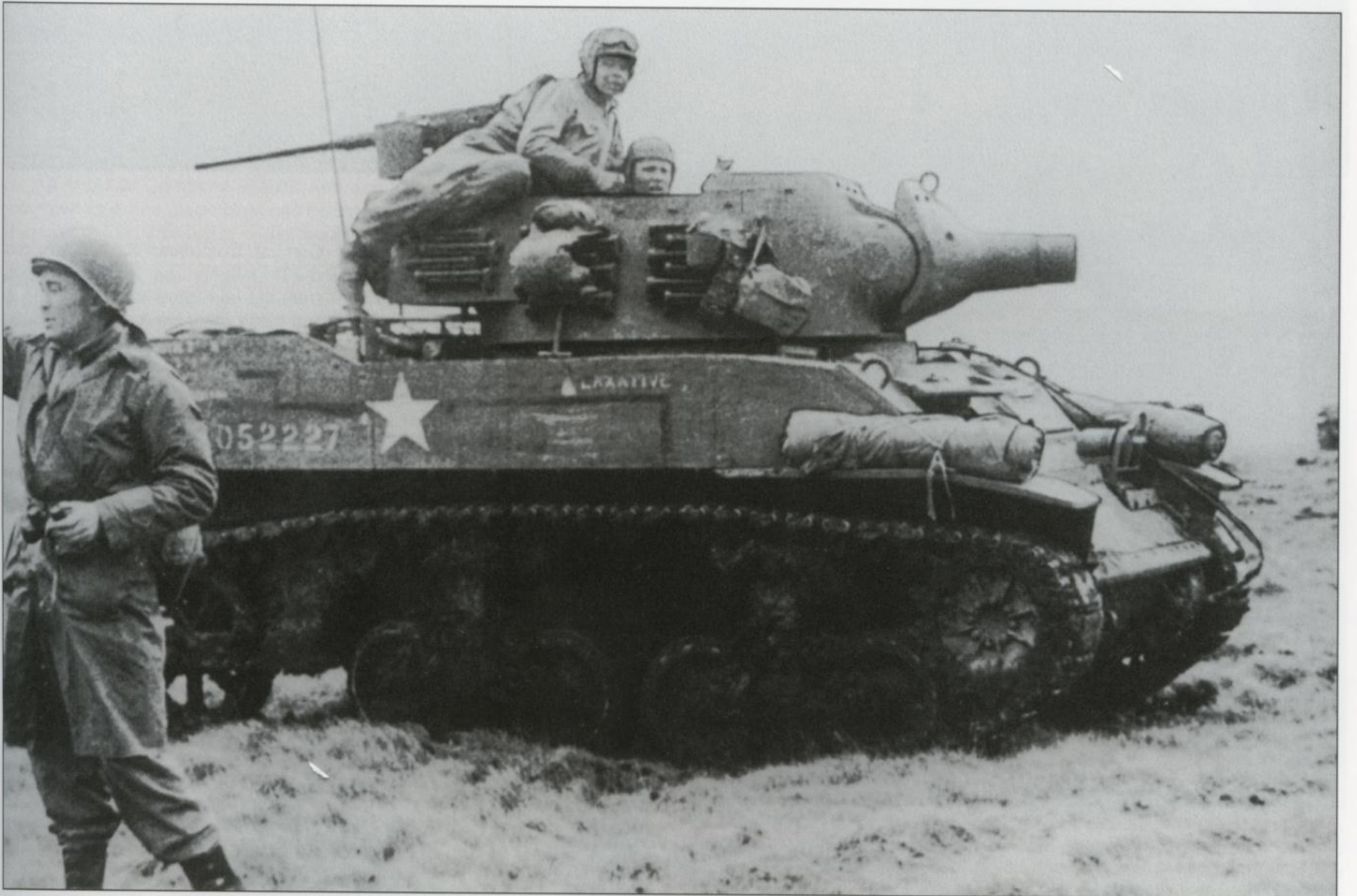
Although of poor quality, this is an interesting view of a Polish Stuart VI during the Normandy operation passing a destroyed German 7.5cm PaK 97/38 anti-tank gun. This anti-tank gun consisted of the carriage of the 5.0cm PaK 38 anti-tank gun modernized by the addition of surplus French 75mm Model 1897 gun tubes with a new muzzle brake. (Sikorski Institute)

The crew of a M8 75mm HMC named "Laxative" of the 3rd Armored Div. prepare their vehicle for combat on 9 August 1944 during the fighting with the 2.Pz.Div and 1.SS-Pz.Div around Barenton. Notice that the vehicle is fitted with a Culin hedgerow cutter on the bow.

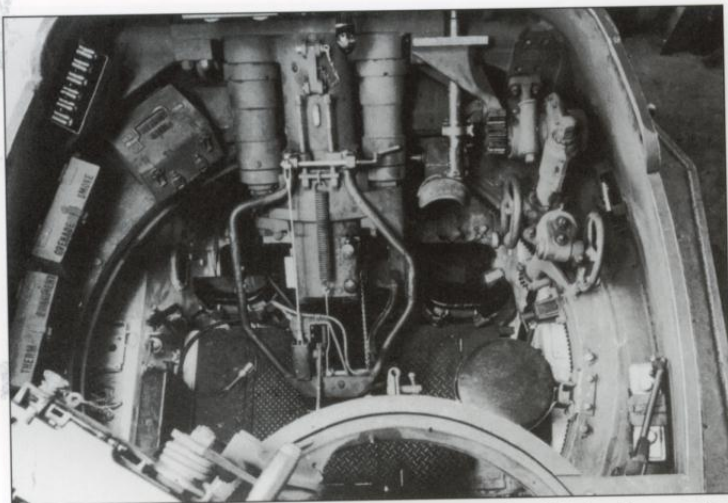




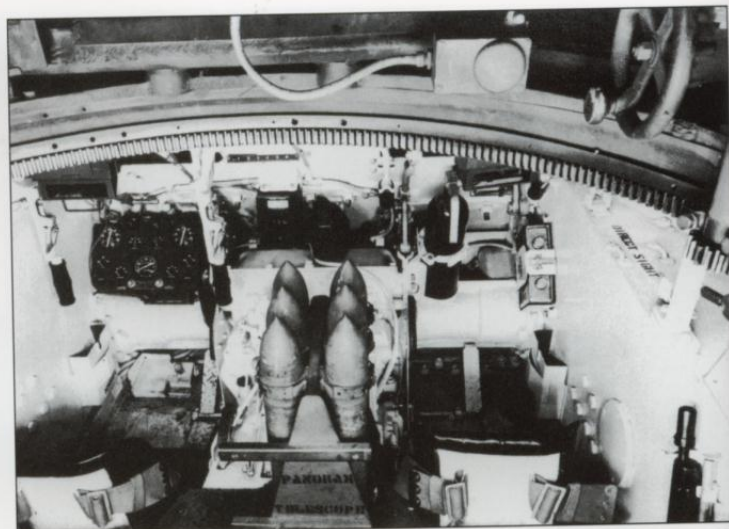
Another view of "Laxative" from the other side with a M4A1 (76mm) and another M8 75mm HMC in the background during a fire support mission. (US Army)



Yet another view of "Laxative" some time afterwards, with the Culin device removed and the tactical numbers painted out. (Patton Museum)

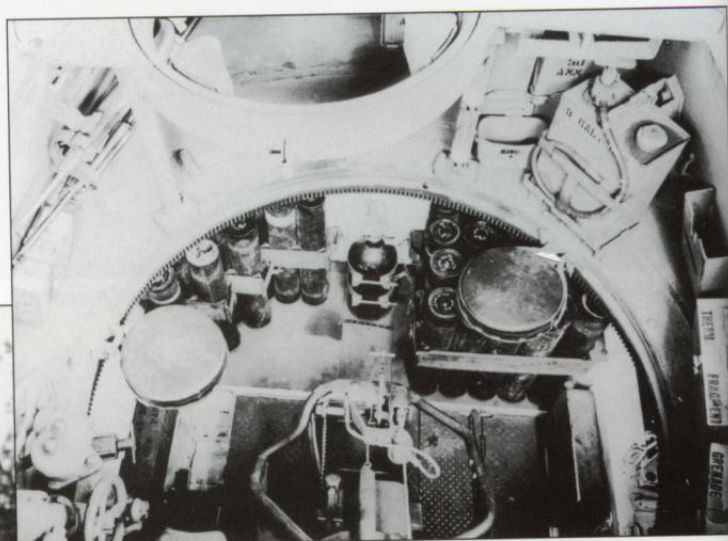


A view looking down into the open turret of a M8 howitzer motor carriage with a view of the M2 75mm howitzer in the M7 mount. This also shows the guard around the howitzer to prevent injury to the turret crew during firing. (Patton Museum)



A view into the front of the hull compartment in a M8 75mm HMC showing the driver and co-driver position as well as the ready ammunition rack. (Patton Museum)

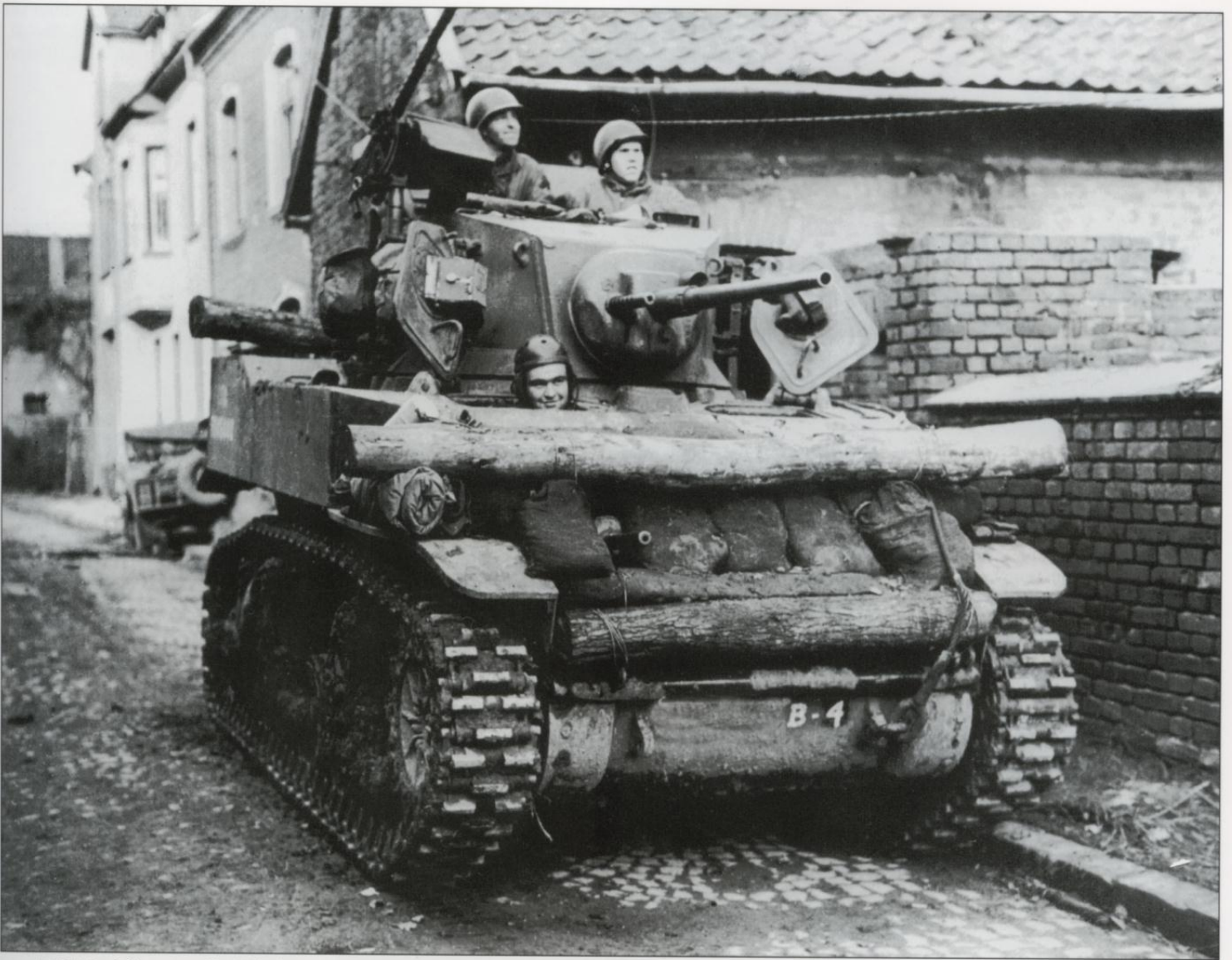
A view into the rear of the M8 75mm HMC turret showing the ammunition stowage in the rear of the hull compartment. The ammunition was usually left in its packing tubes until ready for use. (Patton Museum)



A M5A1 light tank of Combat Command B, 7th Armored Division while in support of the 23rd Infantry near Epernay, France in early August 1944. This is from the later production run with the prominent guard over the folding pintle machine gun mount on the right side of the turret. On this vehicle, a board has been attached at the bottom of the glacis plate to allow stowage. (Patton Museum)

A M3A3 named "Limagne" (L2) of the Protection Platoon of Groupe Tactiques Langlade, of the French 2nd Armored Division following the liberation of Paris on 20 August 1944. The other Stuarts of the platoon were L3 "Lauragais", L4 "Limousin", and L5 "M. de Verdelon". The GTL was the French equivalent of an American armored division's Combat Commands. (MHI)





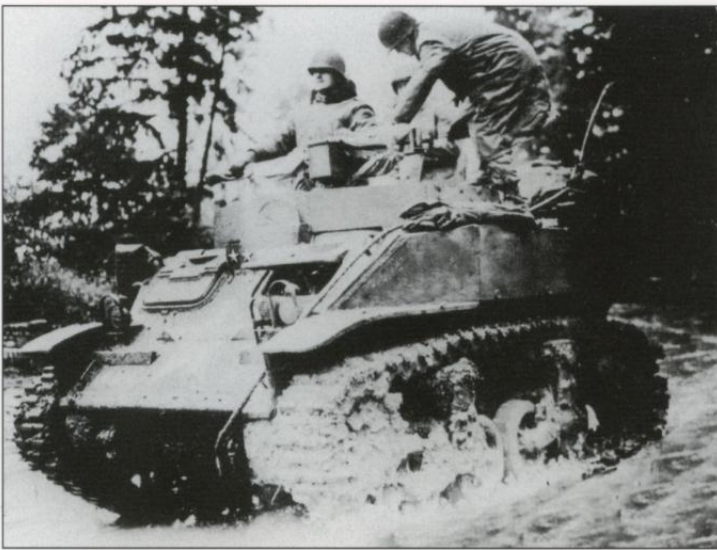
A M5A1 of Company B, 67th Armored Regiment, 2nd Armored Division in Beggendorf, Germany on 16 November 1944 during the fighting for the Siegfried Line. The glacis plate has been heavily reinforced with sand-bags and log as a form of added protection. This tank is from the early 1943 production run prior to the introduction of the modified turret machine gun pintle mount. This tank is fitted with the T36E7 Burgess-Norton steel track. (MHI)



A pair of M5A1 tanks fight their way into a town in Alsace-Lorraine on 20 November 1944. The lead tank has one of the variations of the Culin devices with two triangular cutting blades on either side. This is from the later production batches of M5A1 with the folding pintle mount machine gun on the right turret side. (MHI)



Col. Groves, who commanded the ordnance battalion in the 6th Armored Division had his troops convert a number of M8 75mm HMC to armored command vehicles in the autumn of 1944. This is one of the vehicles in service with one of the division's brigadier generals. (The Tank Museum)



Although not of the best quality, this photo shows the converted M8 75mm HMC used by the 6th Armored Division's commander, Maj. Gen. R. W. Grow during the Lorraine campaign in the autumn of 1944. (Patton Museum)



The limited stowage inside the M5A1 light tank led some crews to modify their tanks with fixed racks for additional stowage. On this tank, racks have been added to the turret rear and hull rear. (The Tank Museum)



A GI moves forward under the cover of a M5A1 light tank. As the rainy autumn months settled in along the French-German frontier, the muddy conditions forced changes on the tanks. In early November, the Ninth Army and First Army ordered their maintenance units to equip as many tanks as possible with duck-bill end connectors to provide better tank floatation in the mud. More than half of the tanks taking part in the late November attack towards the Roer river were so equipped. (US Army)



British and Commonwealth forces moved into the Low Countries in the autumn of 1944. This is a column from the Polish 1st Armored Division. The Stuart VI (M5A1) light tank has a style of camouflage netting added commonly found in the British equipped units. To the left is an Achilles, a conversion of the M10 tank destroyer, up-armed with a 17 pdr. anti-tank gun. (Sikorski Institute)

A pair of Stuart III from the British 2nd Army, pass by a group of GIs from the US 9th Army near Geilenkirchen in Germany on 19 November 1944. By this stage of the war, the Stuarts were used almost exclusively in British reconnaissance units. (MHI)



A M5A1 light tank from the 2nd Armored Division is recovered by a M31 armored recovery vehicle after having its front bogie blown off by a mine near Loverich, Germany in late November 1944. The fighting for the Roer area took place in very muddy conditions which made it difficult to employ armor. (MHI)



A M24 light tank is examined by curious troops of the 82nd Airborne Division in the town of Nonceveux, Belgium. This particular M24 was attached to the 740th Tank Battalion which was supporting the 82nd Airborne at the time. (US Army)



Paratroopers of the 509th Parachute Infantry Battalion pass a roadblock held by a M5A1 light tank of the 7th Armored Division near St. Vith, Belgium on 24 January 1945. St. Vith was the scene of some of the most intense fighting of the Battle of the Bulge a month before, with the 7th Armored Division playing a critical role in holding this sector. (US Army)



The M5A1 light tank proved less and less suitable for heavy combat as the war progressed, and so commanders tried to save it for less intense missions. One role in which it was used was to recover and transport wounded tankers from the medium tank companies. This M5A1 from Company D, 8th Tank Battalion, 4th Armored Division, was used as an improvised ambulance during the fighting along the Saar river on 1 December 1944 due to the heavy use of artillery and the muddy conditions near the front. (US Army)



In December 1944, the Germans launched their last major counteroffensive in the Ardennes, starting the Battle of the Bulge. Here an M5A1 light tank from Task Force Kane uses a hayrick and fencing camouflage to set up a roadblock near the key road junction to Manhay, Belgium on 23 December 1944 during the assaults by the 2.SS-Panzer Division. (US Army)



On 18 December 1944, 9th Armored Division's Task Force Harper, located at Fetsch on the road between Bastogne and St. Vith, was overrun by the 2.Panzer Division and these M5A1 light tanks were lost. The 2.Panzer Division used the wrecks for static defense in January before being forced to retreat. (US Army)



Paratroopers from the 101st Airborne Division pass by a M8 HMC camouflaged with sheets at one of the outposts ringed by Bastogne on 26 December 1944. A number of armored units were in Bastogne during the famous siege, and were used to reinforce the 101st Airborne. (US Army)

The siege of Bastogne was finally broken by a thrust by Patton's Third Army, spearheaded by the 4th Armored Division. This is a column from the 4th Armored Division moving towards Bastogne on 27 December 1944, and led by a M5A1 light tank. (US Army)





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Three M5A1 light tanks of the 92nd Cavalry Reconnaissance Squadron, 12th Armored Division moves through a damaged town in early 1945. The lead tank is named "Sloppy Joe". (The Tank Museum)



A M8 75mm howitzer motor carriage of Troop E, 106th Cavalry Reconnaissance Squadron provides fire support during the fighting at Geislautern near Karlsbrunn on 8 February 1945. This vehicle is fitted with the Kelsey-Hayes road-wheels, and the standard T16 block track with grousers attached for better traction in mud. (MHI)



A new M24 with the 18th Cavalry Reconnaissance Squadron, 14th Cavalry Group, takes a break in Petit Tiers, Belgium in early February 1945 prior to moving into Germany. The tank has been given a hasty coat of whitewash for winter camouflage. (US Army)



A M24 light tank of the 117th Cavalry Reconnaissance Squadron, attached to VI Corps, undergoes gunnery practice on its new tanks prior to being committed to action in March 1945. The use of the circled "invasion star" insignia this late in the war is unusual on a newly issued vehicle. (MHI)

The British raised the 1st Yugoslav Tank Brigade on the island of Bari in the Adriatic before landing it on the Dalmatian coast in November 1944 to support Tito's partisans. It was equipped primarily with Stuart V (M3A3) light tanks, which carry the Yugoslav flag on the side. (J. Desautels)



Following the capture of a German arsenal in Sibenik in November 1944, the workshop of the 1st Yugoslav Tank Brigade re-equipped several M3A3 with 2cm FlaK 38 anti-aircraft guns, and at least one with a 7.5cm PaK 40 anti-tank gun to provide fire support. (J. Desautels)



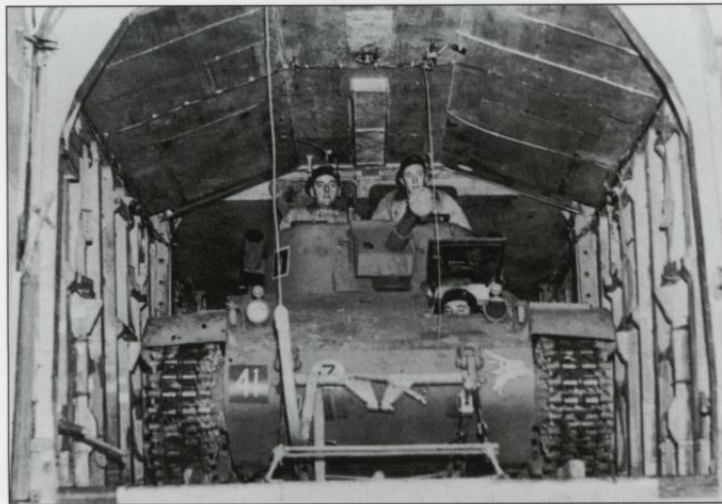
During 1944, the British re-equipped the 1st Czechoslovak Independent Armored Brigade. This is one of the unit's Stuart VI (M5A1) light tanks, named "Kozina". It has British pattern mods including smoke mortars on the turret sides. (Ivan Bajtos)



Cleaning up a Stuart VI named "Kondor" of the 1st Czechoslovak Independent Armored Brigade during operations in Germany in 1945. (Ivan Bajtos)



A Czechoslovak Stuart VI (M5A1) light tank is recovered from a ditch by a Cromwell ARV, a turretless version of the Cromwell tank. (Ivan Bajtos)



A total of 260 of the small M22 light airborne tanks were provided to Britain during the war, where they were called Locusts. The only occasion during which the Locust light tank was used in combat was in March 1945. The British 6th Airborne Recce Regiment landed a small number of Locusts using Hamilcar gliders during the Rhine river crossings. Here, a M22 is loaded in the cargo compartment of a Hamilcar. (The Tank Museum)

In the end, the planned amphibious operation across the Rhine in late March was partly obviated by the capture of the bridge at Remagen by the 9th Armored Division. Nevertheless, amphibious equipment assisted the Allies in pushing heavy equipment across the river faster, as seen here with a pair of M24 light tanks being landed in Germany from some LCM. (The Tank Museum)



M5A1 light tanks of the 11th Armored Division approach the ring road around Frankfurt on 31 March during the concluding month of the war. The tanks have large timbers on the side which may be for protection against panzerfaust anti-tank rockets. These M5A1 are from the late production series built in the summer of 1943 and after which have the folding pintle mount turret machine gun and the rear hull stowage bins. (US Army)



A 5th Armored Division M5A1 has been modified with a loudspeaker to encourage German towns to surrender. It is operating in Peine, Germany on 10 April 1945. (The Tank Museum)



A pair of M5A1 light tanks of Company D, 43rd Tank Battalion, 12th Armored Division waiting for orders to move forward in a field outside Næssig, Germany on 2 April 1945. The tank to the right has the T36E7 Burgess-Norton steel track with end connectors while the tank on the left has the normal rubber block tracks. Both are late production M5A1 with the folding pintle machine gun mount. (US Army)

A frequent sign in German towns in April 1945 as white bed sheets are put out as a sign of surrender. This is a M5A1 light tank of Company D, 43rd Tank Battalion, 12th Armored Division in Neustadt, Germany on 16 April 1945. (The Tank Museum)



A M24 moves through a German town in April 1945, with a ruined German PaK 36 3.7cm anti-tank gun in the foreground. (MHI)

A M5A1 light tank named "Africa" from the 3rd Armored Division engages German snipers in a woods outside Dessau, Germany on 17 April 1945. This tank is from the mid production series and has the early style M20 machine gun mount, but the later Kelsey-Hayes stamped wheel covers. It appears to be a survivor since June 1944 as it still carries the stenciled loading markings on the hull front, first applied in the summer of 1944 for the D-Day invasion. (US Army)



David and Goliath: a M5A1 light tank of 3rd Tank Battalion, 10th Armored Division drives past a massive Jagdtiger 12.8cm tank destroyer of s.Pz.Jg. Abt. 653 abandoned in the town of Neustadt an der Weinstrasse on 21 March 1945. The Germans abandoned both these vehicles due to transmission failures, but would have been forced to abandon them anyway as they were caught in a pocket west of the Rhine with no way to get these massive vehicles over the river. (MHI)



A M24 light tank of the 20th Armored Division with infantry aboard rolls past the smoking wrecks of a pair of Bergepanther armored recovery vehicles in the outskirts of Salzburg, Austria on 4 May 1945 in the Seventh Army sector. (US Army)



A pair of M24 light tanks from the 9th Armored Division form a roadblock in Patton's Third Army sector near Karlsbad, Czechoslovakia, to prevent German troops from escaping westward to avoid capture by the First Army. Local Czech citizens look on with curiosity. (US Army)

Swiss border guards look on with interest after a pair of US Army light tanks have rolled up to the border near Munster on 6 May 1945. Judging from the mantlet cover, the near vehicle is a M5 light tank while the vehicle behind it is the more common M5A1 light tank. (MHI)

