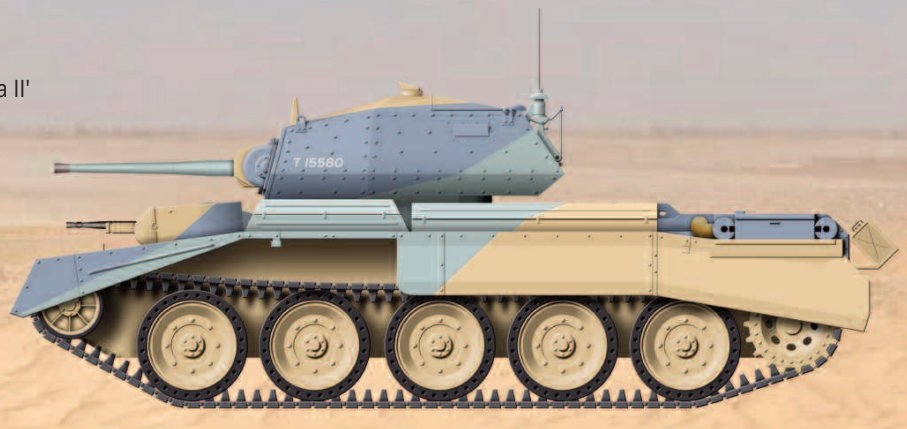
Section 3: Military Tracks

Tanks

CONTENTS



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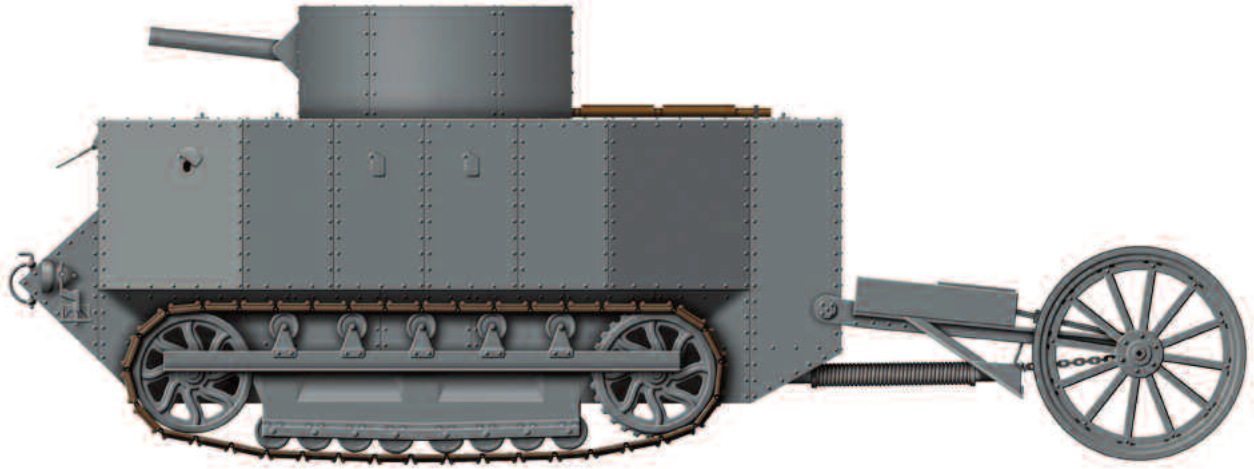
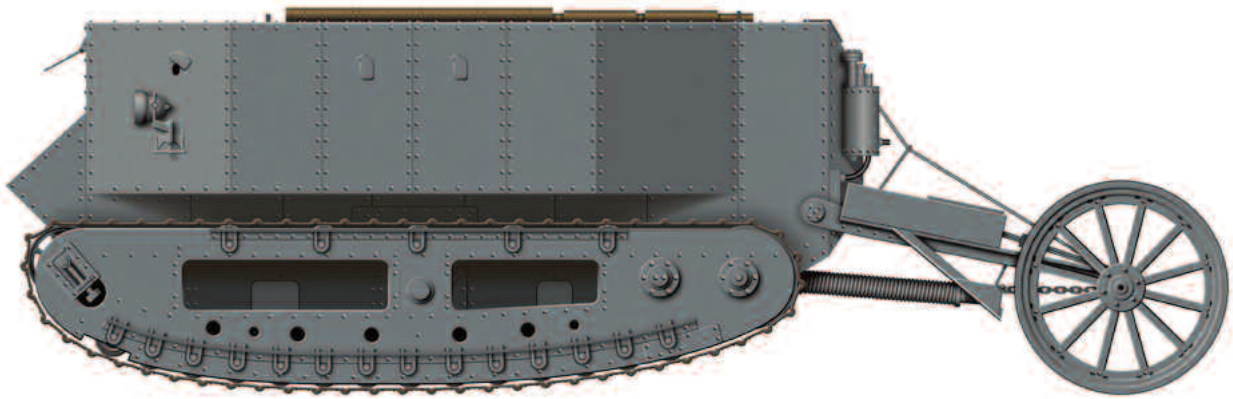


The Lincoln No. 1 Machine

Shortly after the outbreak of the First World War, Major Ernest Swinton was sent to France to report on the war. He observed the early battles and saw how the machine gun dominated the battlefield. This had resulted in the stalemate of trench warfare, so in November 1914 he put forward the idea of an armed armoured tractor which would be capable of advancing over no-man's land and neutralise the enemy's machine guns. The idea was rejected by the War Office, but Winston Churchill, who was the First Lord of the Admiralty at the time. seized upon the idea and approved the formation of a Landship Committee to design and build such a machine. A specification was quickly prepared, and in July 1915 Foster & Company of Lincoln, were given the contract to develop the machine. The design was based on the track and suspension unit of a Bullock Creeping Grip Tractor that had been purchased from America, while a wheeled tail unit was included to assist steering. In September the vehicle, complete with a mock-up turret, was ready for testing, but during trials the tracks produced too much ground resistance when turning which caused an excessive turning circle that was deemed unacceptable for the battlefield.

Country of Origin: UK
Number Built: 1

SPECIFICATION:
Vehicle Weight: 16.5 tons
Dimensions: Length 26 ft 6 ins, Width 9 ft 4 ins, Height 8 ft 3 ins
Powerplant: 1 x 105 hp Foster-Daimler petrol engine
Performance: Maximum speed 2 mph, Range 18 miles
Proposed Armament: 1 x 40 mm gun, 2 x 0.303 inch machine guns
Armour: Maximum thickness 10 mm
Crew: 6

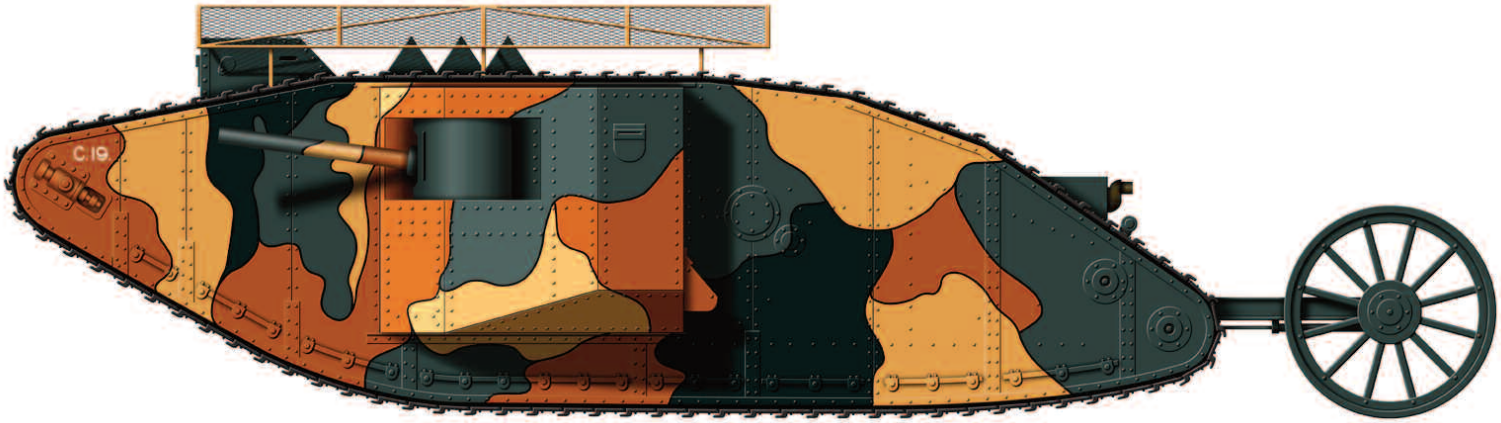


'Little Willie'

To overcome the problems encountered with the Lincoln No 1 machine, the suspension unit was lengthened and modified with a more curved bottom profile and the tracks redesigned. As a cover for its intended use, a rumour was started that the vehicle was a mobile water tank intended for the frontline troops, and it is from this the word 'tank' became synonymous for these types of armoured vehicles, even after their true role on the battlefield had been revealed in 1916. On completion of the modifications the vehicle proved to have better handling and was promptly named 'Little Willie', a paronym of the German Kaiser Wilhelm II. and in the autumn of 1915 was paraded in front of high ranking officials of the War Office. In the meantime work was already underway for a successor to Little Willie, and following a suggestion in the summer design work had commenced for a tank that had tracks that ran all around the vehicle on a rhomboid frame. This was later named 'Mother' and became the prototype for the Mk I infantry tank which were first used during the Battle of the Somme in 1916. Little Willie was preserved for posterity after the war, and is today on display at The Bovington Tank Museum.

Country of Origin: UK
Number Built: 1

SPECIFICATION:
Vehicle Weight: 16.5 tons
Dimensions: Length 26 ft 6 ins, Width 9 ft 4 ins, Height 8 ft 3 ins
Powerplant: 1 x 105 hp Foster-Daimler petrol engine
Performance: Maximum speed 2 mph, Range 18 miles
Proposed Armament: 1 x 40 mm gun, 2 x 0.303 inch machine guns
Armour: Maximum thickness 10 mm
Crew: 6

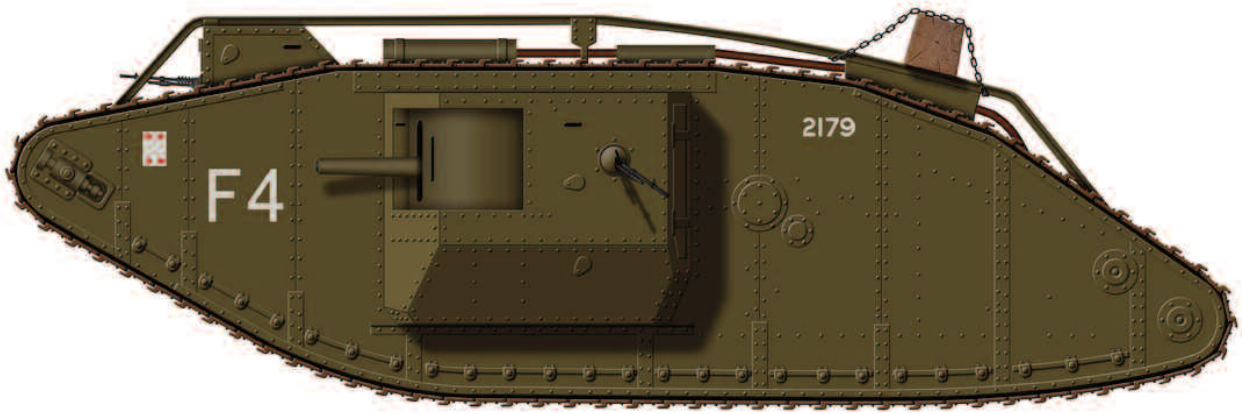


Mk I Infantry Tank

The Mark I was the world's first true tank and was intended to break the stalemate of trench warfare on the Western Front. They were designed to withstand the machine gun and small arms fire in 'No Man's Land', so they could goon and attack enemy positions, and to achieve this a rhomboidal shape with the tracks running round the outside was chosen as the best solution to negotiate the terrain, barbed wire, and trenches, and because of the height necessary for this shape the armament was arranged in sponsons on the tanks' side. Two types were produced, the 'Males' were armed with a 6 pounder cannon and three machine guns, while 'Females' were armed with up to 6 machine guns only. They entered service in July 1916, and first used during the fighting on the Somme at Flers-Courcelette on the 15th September, where 49 set out to attack enemy positions, but only a few reached their objectives, although these did manage to dislodge the terrified German infantry from their trenches. The most successful was tank DI which reached the outskirts of Delville Wood and captured a number of German soldiers, but was then disabled by a shell hit making it the first tank casualty in history.

Country of Origin: UK
Number Built: 150

SPECIFICATION:
Vehicle Weight: 28 tons
Dimensions: Length 32 ft 6 ins, Width 12 ft 10 ins, Height 7 ft 11 ins
Powerplant: 1 x 150 hp Daimler petrol engine
Performance: Maximum speed 3.7 mph, Range 23 miles
Armament: 2 x 57 mm guns, 3 x 0.303 inch machine guns
Armour: Maximum thickness 12 mm
Crew: 8



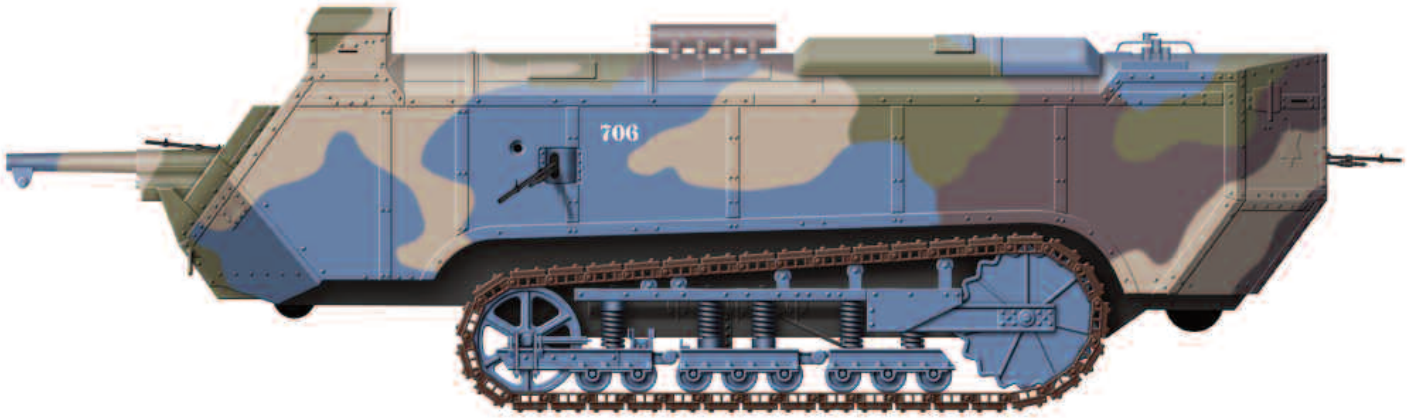
Mk IV Infantry Tank

After the introduction of the Mk I tank in 1916, it was the Mk IV that was next put into quantity production. Improvements to the design were made following the experiences encountred on the battlefield. Escape hatches for the crew were fitted in the roof and sides, while the engine was fitted with a silencer and improved cooling introduced. Even so the interior was still a noisy, hot, cramped and dark environment in which to fight. An 'unditching' beam was carried on the hull roof with rails to carry it clear of the cupol, while the armour was improved to keep out the new German tungsten-cored ant-tank rifle rounds.

Anther modification was the shortening of the barrel length of the 6 pounder guns from the original 40 calibres to 23. The Mk IV began to enter service in June 1917, and achieved one of its most notable engagements when when they were used en masse at Cambrai on the 21st November and quickly broke through the Hindenburg Line. This success however was not followed up by the infantry, and all the ground overrun was soon retaken by the Germans. In total 420 Male and 595 Female Mk IVs were built and were used from the summer of 1917 until the end of the war.

Country of Origin: UK
Number Built: 1,250

SPECIFICATION:
Vehicle Weight: 28.5 tons
Dimensions: Length 26 ft 4 ins, Width 12 ft 10 ins, Height 8 ft 2 ins
Powerplant: 1 x 150 hp Daimler petrol engine
Performance: Maximum speed 3.7 mph, Range 22 miles
Armament: 6 x 0.303 inch Lewis machine guns (female)
Armour: Maximum thickness 12 mm
Crew: 8

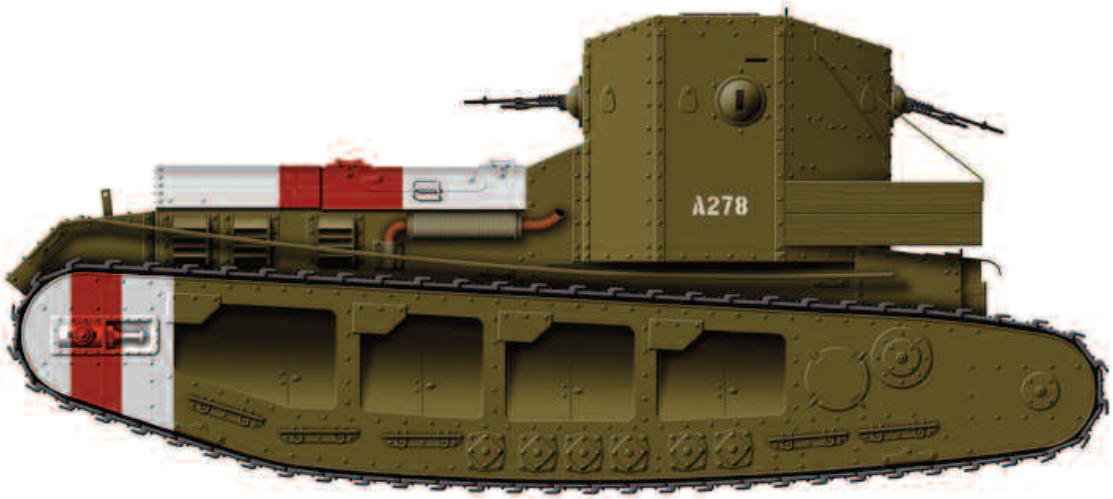


Char d'Assault Saint-Chamond

The Char d'Assault Saint-Chamond was chiefly designed by Colonel Rimailho, and was basically an armoured box that housed a 75 mm gun at the front, all of which was fitted on a lengthened Holt tractor chassis. A 90 hp Panhard petrol engine was fitted centrally within the armoured compartment, which in turn generated power for electric motors that drove each track. Even with the lengthened chassis, the superstructure still overhung by a considerable distance at the nose and tail, a distinct disadvantage which would make the vehicle prone to stranding over the rough terrain of the battlefield. Despite these shortcomings 400 Char d'Assault Saint-Chamond, as they were named, were ordered in early 1917. Production began in March and the Saint-Chamond tank was first used in action at Laffaux Mill on the 5th May 1917. Sixteen were deployed, but most were immobilised when they became stuck crossing the first trenches, only three being destroyed by enemy gunfire. Interest in the tank began to fade by the head of the French tank force, Colonel Estienne, although they would be used in several other actions, but with the arrival of the Renault FT light tank in late 1917 they were withdrawn from the offensive role.

Country of Origin: France
Number Built: 400

SPECIFICATION:
Vehicle Weight: 22.6 tons
Dimensions: Length 28 ft 11 ins, Width 8 ft 9 ins, Height 7 ft 9 ins
Powerplant: 1 x Panhard 90 hp petrol engine
Performance: Maximum speed 7.5 mph, Range 18.5 miles
Armament: 1 x 75 mm mle field gun, 4 x 8 mm machine guns
Armour: Maximum thickness 17 mm
Crew: 9

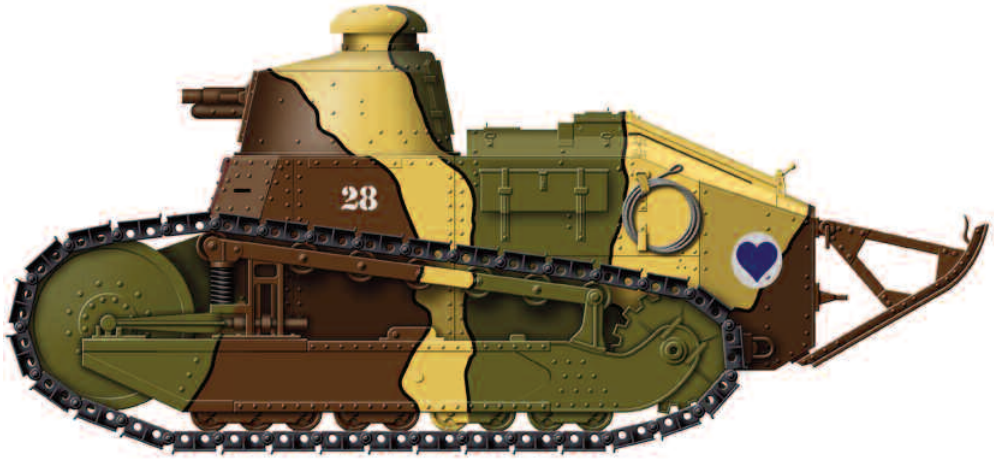


Medium A Tank 'Whippet'

On the 3rd October 1916, William Tritton, who had played a large role in developing the Mark I tank, proposed that he could build a faster and cheaper tank that could be used to exploit any breakthrough that the heavier tanks made. The idea was accepted by the War Office and construction on the prototype started in December. He adopted the layout of an armoured car, with the crew in a separate fighting compartment with an armed rotating turret above, this however was thought to be to complex and would delay production, and as a consequence it was dropped. The design used two Tylor JB4 London bus engines, each driving one set of tracks, a steering wheel being fitted inside the cab that was connected to the throttles which closed one and opened up the other allowing the vehicle to be steered. Named Whippet, 200 were ordered which began to enter service in late 1917. They were first used during the German Spring Offensive in 1918 where they covered the British retreat, but when the allies finally halted the German offensive they were used with great effect during the Allied counter-offensive on the 8th August 1918, which was later described as 'the Black Day of the German Army'.

Country of Origin: UK
Number Built: 200

SPECIFICATION:
Vehicle Weight: 14 tons
Dimensions: Length 20 ft 4 ins, Width 8 ft 7 ins, Height 9 ft
Powerplant: 2 x 50 hp Tylor petrol engines
Performance: Maximum speed 8 mph, Range 40 miles
Armament: 4 x 7.7 mm machine guns
Armour: Maximum thickness 14 mm
Crew: 3

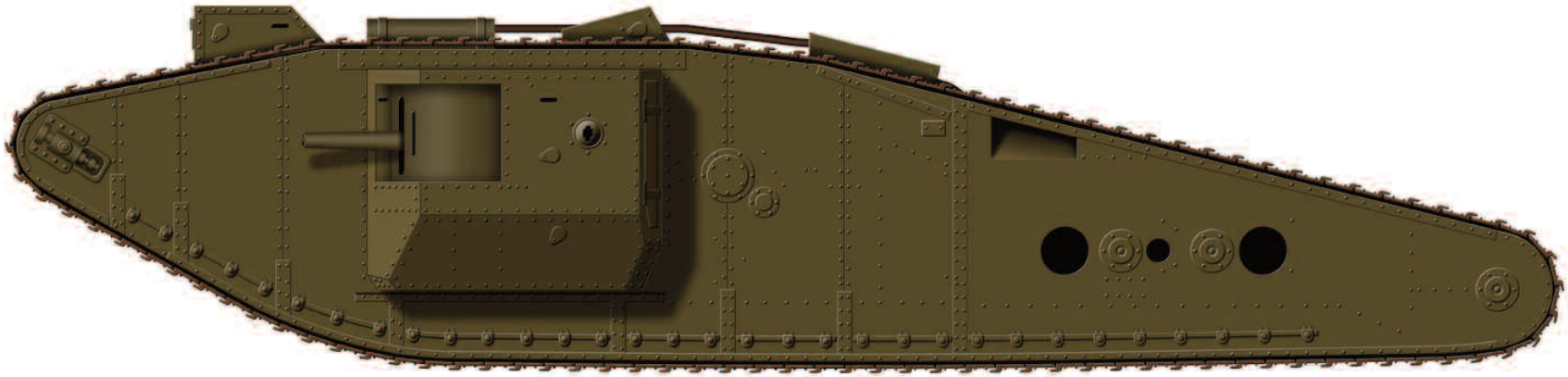


Renault FT17 Light Tank

The Renault FT17 light tank came about mainly through the persistence of the French Army Colonel Jean-Baptiste Estienne, the design of which would influence tanks for nearly a century. It was designed as a lightweight tank that offered better mobility and speed than the lumbering medium and heavy tanks in service with the allies. They were the first use of a fully rotating turret armed with a 37 mm cannon or an 8 mm machine gun which reduced the need to duplicate the armament, while the engine was mounted in the rear of the hull. They required a crew of only two, the driver at the front and the commander behind in the turret who also manned the gun. Despite its advanced design Renault had difficulty in getting approval for the vehicle, but were finally allowed to place the FT17 into production, but by the end of 1917 only 84 had been produced, although a further 2,613 would be delivered in 1918, and in total 3,694 were eventually built in France, with a further 950 under license in the U.S.A. The FT17 was first used in action on the 31st May 1918, the type proving to be highly capable machines, with 550 still listed as being on strength with French forces in 1939.

Country of Origin: France
Number Built: 4.644

SPECIFICATION:
*Vehicle Weight:*7.2 tons
Dimensions: Length 16 ft 5 ins, Width 5 ft 9 ins, Height 7 ft
Powerplant: 1 x Renault 39 hp petrol engine
Performance: Maximum speed 5 mph, Range 37 miles
Armament: 1 x Hotchkiss 8 mm machine gun or 1 x 37mm gun
Armour: Maximum thickness 22 mm
Crew: 2

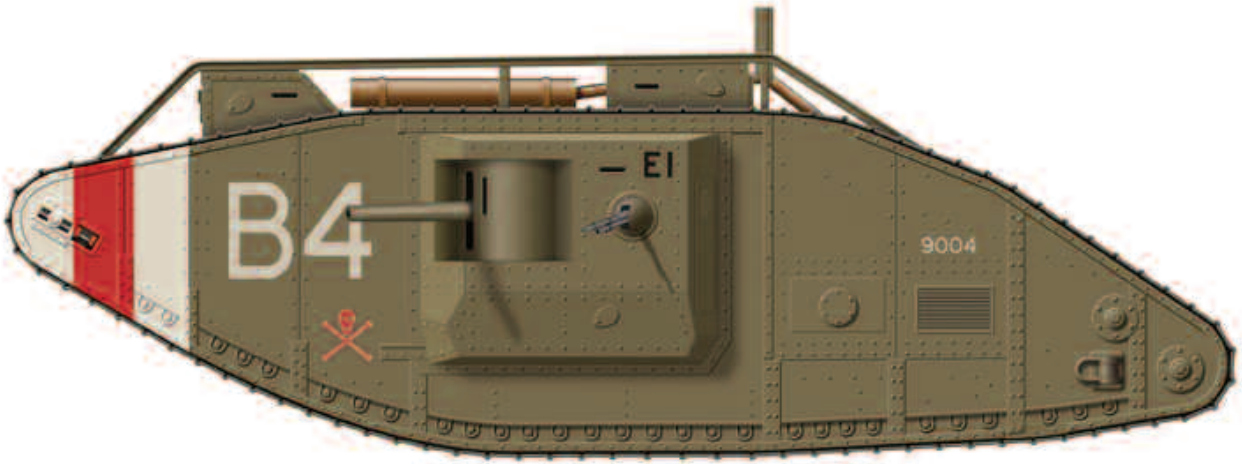


Mk IV 'Tadpole' Infantry Tank

During the winter of 1916/17, the German Army constructed a formidable set of fortifications and strongpoints behind their lines which they withdrew too during Fenbruary and March 1917. Known as the Hindenberg Line they had dug trenches 11 to 12 feet wide, which was greater than the 10 feet trench crossing capability of the British tanks in service. In an attempt to improve trench-crossing capability, Sir William Tritton, one of the intial designers of the Mk I developed the Tadpole Tail. An extension to the rear track horns was ifitted which lengthened the tank by about 9 feet. It was also hoped that the longer tank could carry a squad of ten infantrymen inside, giving them protection as they crossed No-Mans Land and then disembark when they reached their objective and attack the enemy troops. During trials with a prototype the vehicle was capable of crossing the wider trenches, but the track extensions proved insufficiently rigid and the tank's turning circle was excessive. Conditions inside the tank were also too extreme for the uninitiated infantrymen, making them nauseous and ill that they would be incapable of fighting. The idea of the Tadpole tank was soon dropped in favour of the Mk V 'Star'.

Country of Origin: UK
Number Built: 2

SPECIFICATION:
Vehicle Weight: 9 tons
Dimensions: Length 35 ft Width 12 ft 10 ins, Height 8 ft 2 ins
Powerplant: 1 x 150 hp Daimler petrol engine
Performance: Maximum speed 3.7 mph, Range 22 miles
Armament: 6 x 0.303 inch Lewis machine guns (female)
Armour: Maximum thickness 12 mm
Crew: 8

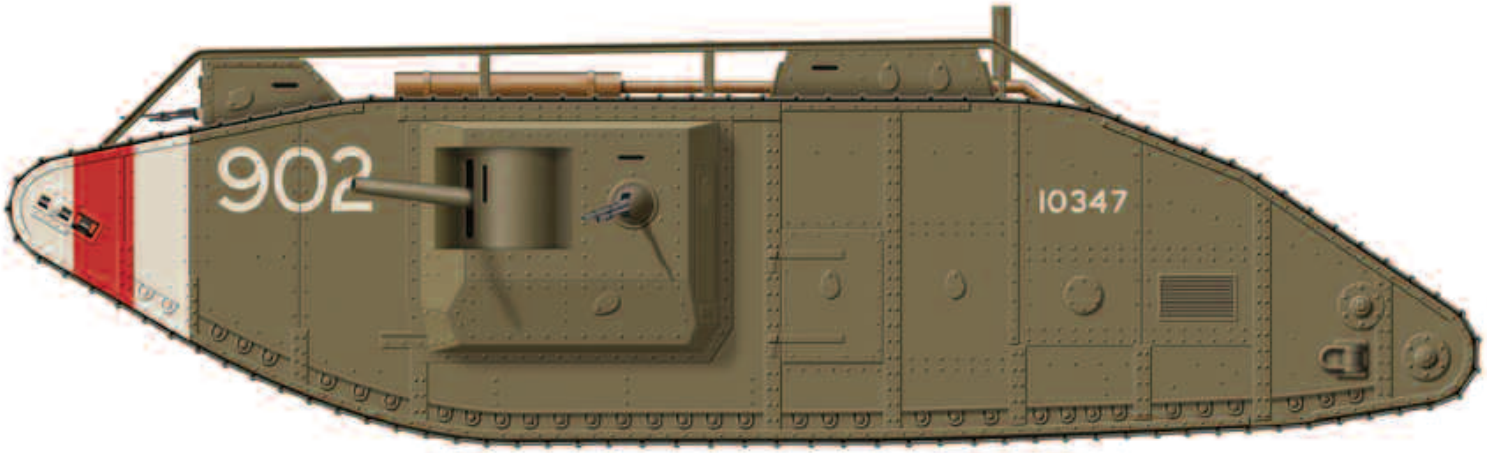


Mk V Infantry Tank

The Mk IV tank of 1917 was a significant better machine than the Mk I of the previous year, but for 1918 a new tank was proposed. Although it looked similar from the outside, the Mk V that emerged was a completely new design and a vast improvement over its predecessors. One major improvement was the use of a new engine designed by the engineer Harry Ricardo for specific use in a tank. The new engine reduced smoke emissions and was 50% more powerful than the Daimler used before, giving the tank a speed of 5 mph. An improved steering mechanism and epicyclical transmission system was also installed that allowed just one man to drive the vehicle rather than four. Frontal armour was increased to 14 mm, while a raised cab was fitted at the rear for a machine gunner to protect an area that had previously proved to be vulnerable. The Mark V became available in numbers during the summer of 1918, and were first used in action on the 4th July at the Battle of Hamel where they acquitted themselves well. The Mark V was to serve in British and American units until the end of World War One, and remained in service with the British Tank Corps until the mid 1920s.

Country of Origin: UK
Number Built: 400

SPECIFICATION:
Vehicle Weight: 29.5 tons
Dimensions: Length 26 ft 6 ins, Width 12 ft 10 ins, Height 8 ft 8 ins
Powerplant: 1 x 150 hp Ricardo petrol engine
Performance: Maximum speed 5 mph, Range 45 miles
Armament: 2 x 6 pounder guns, 4 x 0.303 inch machine guns
Armour: Maximum thickness 14 mm
Crew: 8

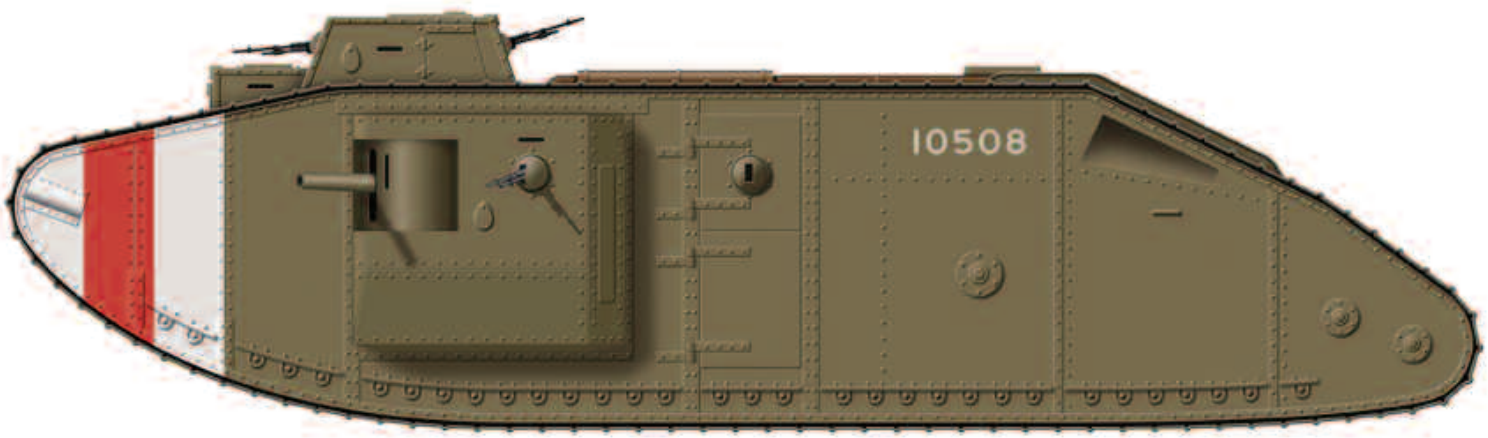


Mk V 'Star' Infantry Tank

In an attempt to defeat the tank threat, the German Army began digging trenches on the Hindenburg Line which were wider than the British tanks' 10 feet trench crossing capability. To counter this, Sir William Tritton developed the Tadpole Tail, an extension of the tracks to be fitted to the back of a tank, this lengthened the tank by about 9 feet. It was hoped that the longer tank could carry a squad of ten infantrymen, but the conditions inside were so extreme that the men became ill, that became unfit to fight. Major Philip Johnson of the Central Tank Corps Workshops then devise a plan of his own. He cut a Mark IV in half and inserted three extra panels, lengthening the hull by six feet. The idea was accepted and adapted for the Mk V, the design becoming the Mark V 'Star'. The new tank had a reshaped rear cupola and two extra machine-gun mounts, a door in each side of the hull with a further machine-gun mount in each. 500 Males and 200 Females were ordered, 579 being built by the time of the Armistice and the order for the rest cancelled. Conditions inside theMk V 'Star' was still intollerable for the uninitiated and they were never used to carry troops, instead being used as standard tanks or as cargo carriers.

Country of Origin: UK
Number Built: 645

SPECIFICATION:
Vehicle Weight: 33 tons
Dimensions: Length 32 ft 4 ins, Width 12 ft 10 ins, Height 8 ft 8 ins
Powerplant: 1 x 225 hp Ricardo petrol engine
Performance: Maximum speed 4.6 mph, Range 45 miles
Armament: 2 x 6 pounder guns, 4 x 0.303 inch machine guns
Armour: Maximum thickness 12 mm, Crew: 8
Payload: 10 troops or 3,000 lbs of stores

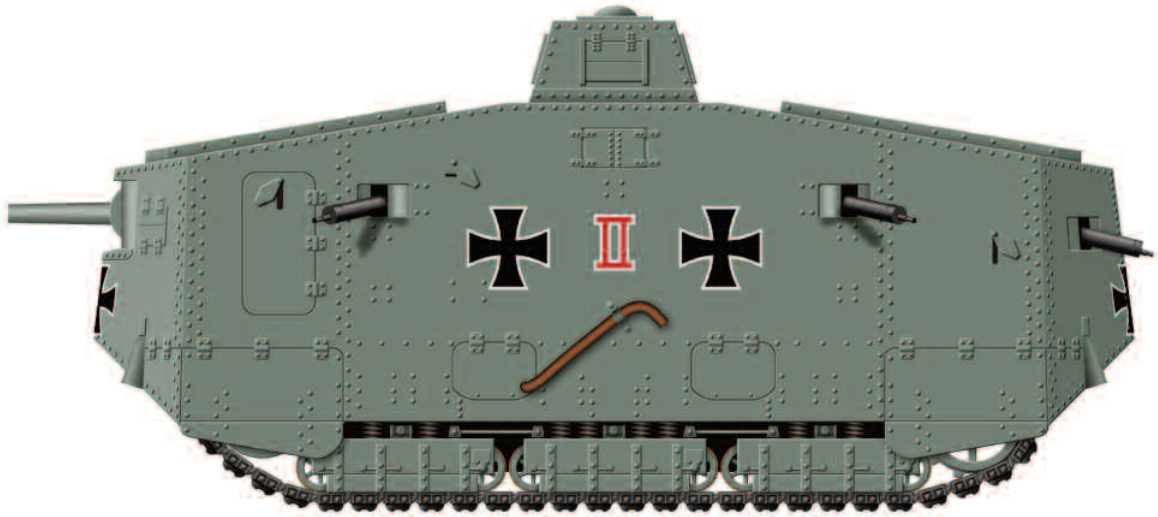


Mk V 'Two Star' Infantry Tank

One of the effects of lengthening the Mark V into the Mk V Star was its original length to width ratio was spoiled, causing tracks to be thrown and a turning circle that was unacceptably high. Never the less the MK V Star was placed in production and over 600 were built. In an attempt to cure this problem Major Wilson redesigned the tracks in the spring of 1918 , giving them a stronger curve which reduced ground contact, but increased ground pressure as a trade-off and widened them to 26 ½ inches. The original 150 hp Ricardo engine of the Mk V was bored out to produce 225 hp, this then being placed further back in the hull. The internal layout was also rearranged, the driver's cabin being combined with the commander's cabin with a separate machine gun position in the back. This version became known as the Mk V Two Star, and an order for 900 was placed in the summer of 1918, this order later being revised to 700 tanks (150 Females and 550 Males). Only 25 had been built by the time of the Armistice in November 1918, with 197 being eventually completed by the time the order was cancelled. The Mk V Two Star was never deployed in action, most going straight from the factory to the scrapheap.

Country of Origin: UK
Number Built: 197

SPECIFICATION:
Vehicle Weight: 33 tons
Dimensions: Length 32 ft 4 ins, Width 12 ft 10 ins, Height 8 ft 8 ins
Powerplant: 1 x 225 hp Ricardo petrol engine
Performance: Maximum speed 4.6 mph, Range 45 miles
Armament: 2 x 6 pounder guns, 4 x 0.303 inch machine guns
Armour: Maximum thickness 12 mm, Crew: 8
Payload: 10 troops or 3,000 lbs of stores

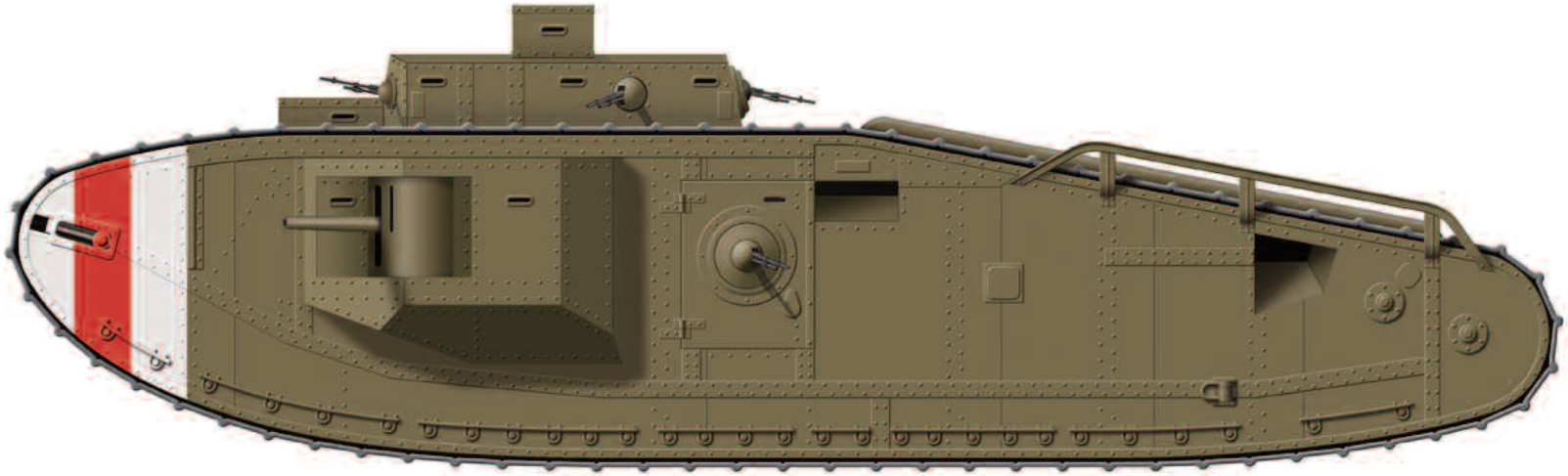


Sturmpanzerwagen A7V

After German troops encountered British tanks for the first time in September 1916, the German High Command set about on a tank of their own which resulted in the A7V. The design was based on the running gear of the American Holt tractor on which a large box compartment was fitted that housed the crew, engine and armament that consisted of a 5.7 cm cannon and six machine guns. Protection was provided by 30 mm steel plates to the front, 20 mm plates to the sides, and 10 mm for the roof, however the steel was not hardened and was only proof against machine gun and rifle fire. Eighteen men were required to man the tank, fourteen of which manned the cannon and six machine guns. The prototype was completed in early 1917 abut during trials it was soon apparent that the design lacked the ability to operate on the western front, easily becoming stuck in any type of heavy ground. The German High Command were aware that they did not have time to produce an improved design, so in late 1917 they placed an order for 100 but only one third built, and only twenty of these were armed. The A7V was first used in action on the 21st March 1918 at the start of Ludendorff's Spring Offensive.

Country of Origin: Germany
Number Built: 20

SPECIFICATION:
Vehicle Weight: 32 tons
Dimensions: Length 24 ft 1 ins, Width 10 ft, Height 10 ft 10 ins
Powerplant: 2 x Daimler-Benz 100 hp petrol engines
Performance: Maximum speed 9 mph, Range 50 miles
Armament: 1 x 5.7 cm cannon, 6 x 7.92 mm machine guns
Armour: Maximum thickness 30 mm
Crew: 18

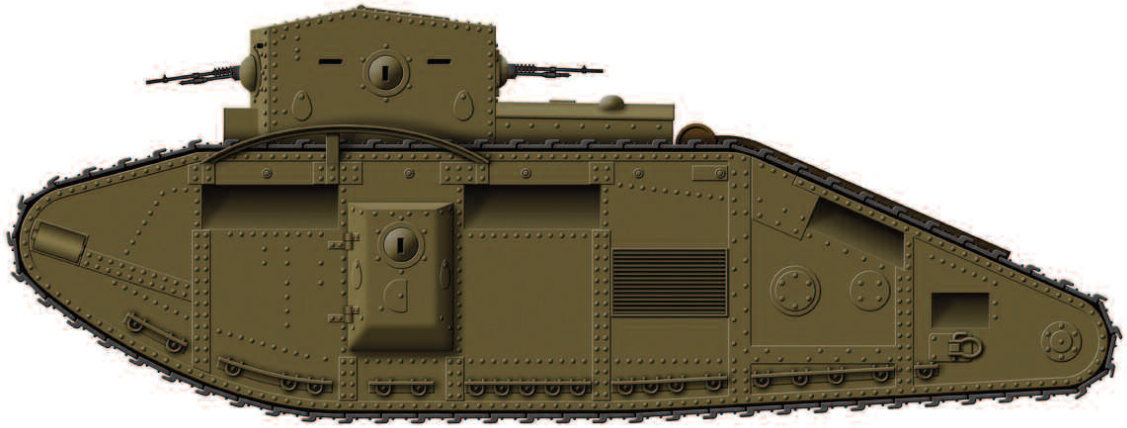


Mk VIII 'International' Tank

When America came into the war on the side of the Allies in April 1917, the industrial powerhouse of that nation became fully available for production of war material. In the U.S. they had already been producing arms for the allies but had few designs of their own. The Mk VIII 'International' tank (named Liberty Tank by the Americans) was an Anglo-American collaboration intended to equip the armies of the U.K., U.S.A. and France for the planned offensives in 1919. Design work began in 1917, and retained many features of the British Mk I-V series, but with wider tracks and an increase in length to give the vehicle better trench crossing capability. The lessons of earlier tanks had been learned, as the interior of the tank was compartmentalised with a separate engine room at the back. The tank was to be powered by a V12 engine, preferably the 300 hp water cooled V12 American Liberty engine. It was planned that 4,500 tanks would be assembled in France from hulls, armament and armour supplied from Britain and American, with manufacture beginning in the Autumn of 1918, but by the time of the Armistice in November only seven had been built in the UK and one in the US.

*Country of Origin:*UK
Number Built: 125

SPECIFICATION:
Vehicle Weight: 37 tons
Dimensions: Length 34 ft 3 ins, Width 12 ft 4 ins, Height 10 ft 3 ins
Powerplant: 1 x Ricardo or Liberty 300 hp petrol engine
Performance: Maximum speed 5 mph, Range 30 miles
Armament: 2 x 6 pounder guns, 7 × 7.7 mm machine guns
Armour: Maximum thickness 16 mm
Crew: 10-12

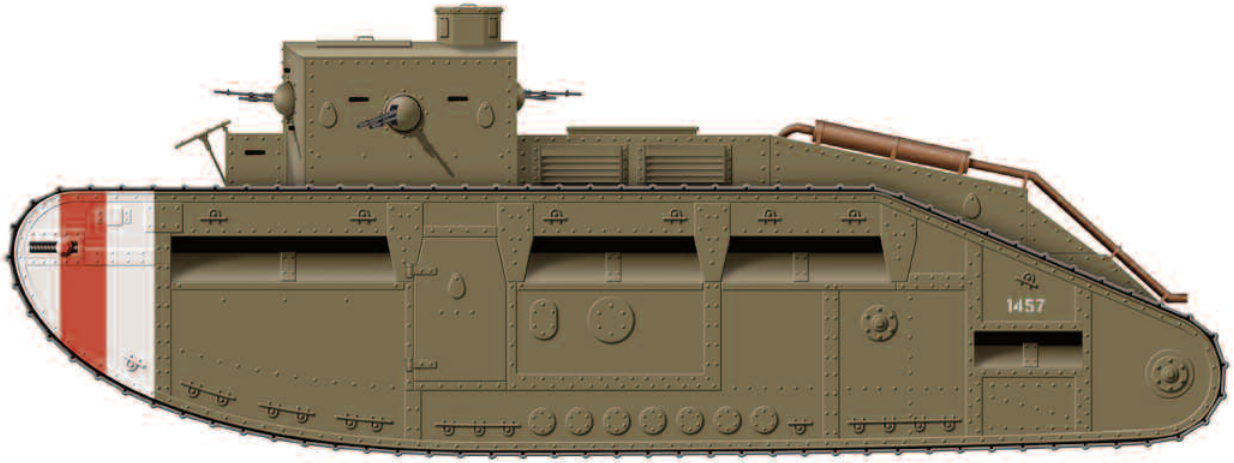


Medium B Tank 'Whippet'

In response to William Trittons' Medium A 'Whippet' tank, Major Walter Wilson, who had been responsible for the development of the early tanks alongside Tritton, decided he would design a similar tank as a replacement. He chose a similar layout to the Mk A, but used the rhomboid shape and all-round tracks of the heavy tanks to overcome the poor cross-country performance of Tritton's machine. The tank would be powered by a cut-down version of the Ricardo engine rated at 100 hp that was housed in a separate compartment at the rear of the tank, along with his epicyclic transmission system. The fighting compartment was at the front with two versions planned, a male armed with a 2 pounder and machine guns, and the female with only a machine gun armament. The original designs were completed in late 1917, but by March 1918 the idea of the male version had been dropped. The War Office placed an order for 450 in mid 1918 before the prototype had even been completed, but by the time of the Armistice only 102 had been completed or were under construction, at which point the remainder of the order was cancelled. 45 tanks were taken over by the army, but the fate of the remainder is unknown.

Country of Origin: UK
Number Built: 102

SPECIFICATION:
Vehicle Weight: 18 tons
Dimensions: Length 22 ft 9 ins, Width 8 ft 10 ins, Height 8 ft 6 ins
Powerplant: 1 x 4 cylinder 100 hp Ricardo petrol engine
Performance: Maximum speed 6 mph, Range 40 miles
Armament: 4 x 7.7 mm machine guns
Armour: Maximum thickness 14 mm
Crew: 4

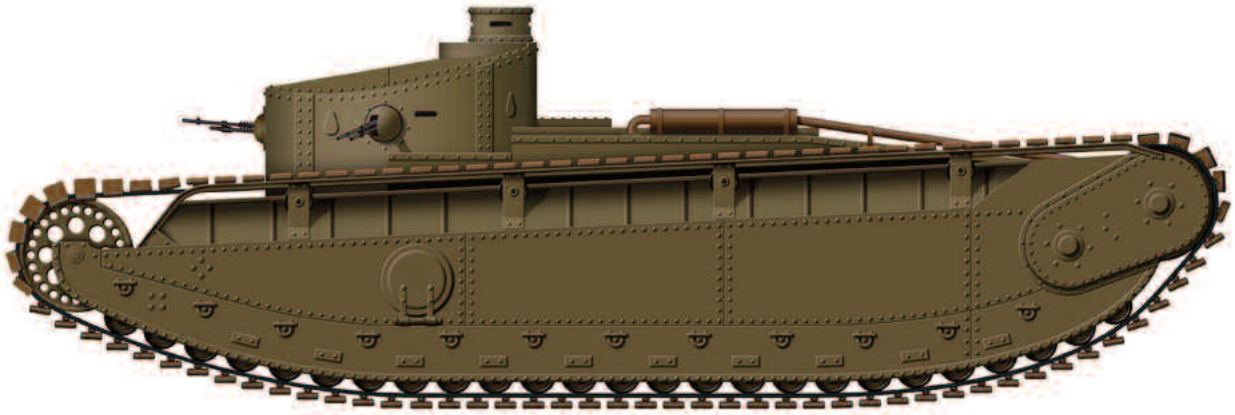


Medium C Tank 'Hornet'

Once it became known that Major Wilson was developing the Medium B tank as a replacement for his Medium A 'Whippet', William Tritton ordered his chief designer to produce a rival, the Medium Mk C. The drawings were approved in April 1918 and the prototype completed in August, a few weeks before the Medium B. The design was great improvement over previous designs, in particular the conditions for the crew who were now grouped in one compartment with voice tubes connecting each position. One man could now control the tank, and the commander was given a small rotating cupola at the back of the turret where he had a good view. The engine was isolated in a compartment at the rear, which reduced the noise level and smoke inside the vehicle. The suspension however was still primitive, the tracks running around the hull over unsprung bogies, and as a result the speed was relatively low with a maximum of 8 mph. Production began in September 1918 with an order for 200, which was increased in October to 6,000, but with the signing of the Armistice in November the order was cancelled and only fifty were built which were used by the 2nd Tank Battalion of the Tank Corps.

Country of Origin: UK
Number Built: 50

SPECIFICATION:
Vehicle Weight: 20 tons
Dimensions: Length 25 ft 10 ins, Width 8 ft 4 ins, Height 9 ft 6 in
Powerplant: 1 x 150 hp Ricardo petrol engine
Performance: Maximum speed 8 mph, Range 140 miles
Armament: 4 x 7.7 mm machine guns
Armour: Maximum thickness 14 mm
Crew: 4

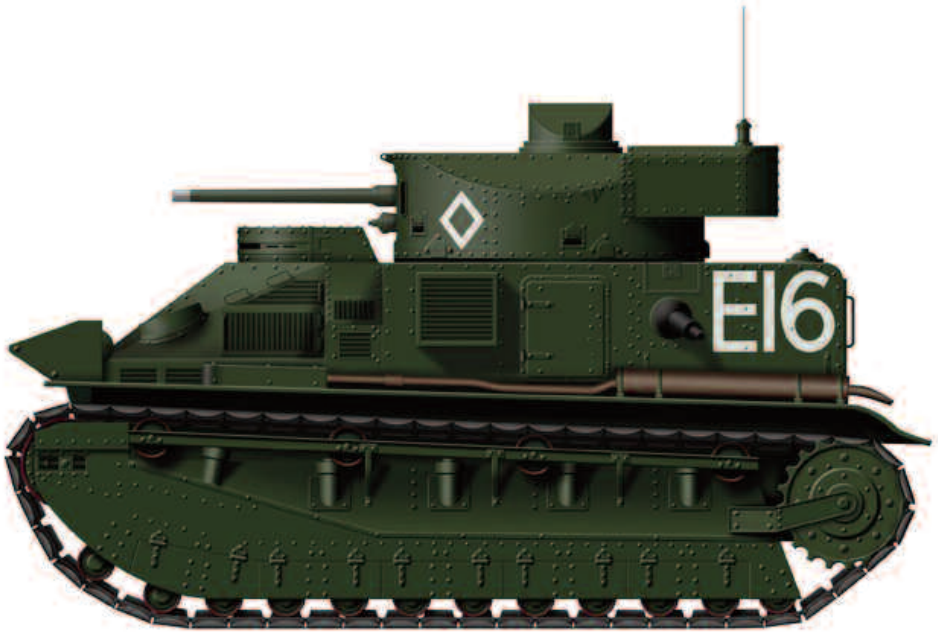


Medium D Tank

By mid 1918, the quest for a faster medium tank begun to dominate the thinking of the Tank Corps staff. In 1917 Major Philip Johnson, suggested the idea of fitting springs to a Medium A Whippet tank in an effort to improve performance. Johnson fitted sprung rollers to a Whippet in place of the original rigid rollers which showed a distinct improvement in running, and in February I918 replaced the two Tylor engines with a Rolls-Royce aero engine and an epicyclic transmission unit. The Medium At was considerably modified to achieve this, but when trialled gave an impressive performance and reached speeds of 20-30 m.p.h. Design and development work on the Medium D commenced in mid-1918, but by the time of the Armistice had only reached the mock-up stage. The design of the tank had the fighting compartment at the front, the track outline being lower here to provide better forward vision and fields of fire. The project was allowed to continue at a slow pace, but in mid 1919 the prototype was ready ready, and powered by a 240 hp siddeley Puma engine achieved a speed of 25 mph, although when running at speed the new 'snake' tracks had a tendency to throw off individual shoes.

Country of Origin: UK
Number Built: 4

SPECIFICATION:
Vehicle Weight: 20 tons
Dimensions: Length 30 ft, Width 9 ft 2 ins, Height 10 ft
Powerplant: 1 x 240 hp Siddeley Puma engine
Performance: Maximum speed 25 mph, Range 200 miles
Armament: 3 x 7.7 mm Hotchkiss machine guns
Armour: Maximum thickness 14 mm
Crew: 4



Vickers Medium Tank

Vickers had long been associated with the armaments industry but had never built a tank, but as a private venture opened a design office in Sheffield and recruited their own experts. Their first design closely followed the machines of World War One but with a revolving turret, and from this they developed the Vickers Light Tank Mk I. The Mk I had a revolving turret for the main gun and a high speed for the time of 15 mph, the only shortfall was the thin armour, but as they were only expected to be used in a policing role around the empire it was considered adequate. Armament consisted of a Vickers 3 pounder gun and three 0.303 inch Vickers machine guns. Under trials the vehicle performed well, and with very few modifications was accepted for service with the British Army with the first deliveries to the Royal Tank Corps commencing in 1924 with whm they were reclassified as medium Tanks. Minor improvements resulted in the Mk II which appeared in 1925. These included thicker armour and an armoured skirt for the suspension. They remained the mainstay of the British Army for nearly fifteen years, and were not phased out of front line service until 1939, a few being used as static pillboxes in 1940.

Country of Origin: UK
Number Built: 200

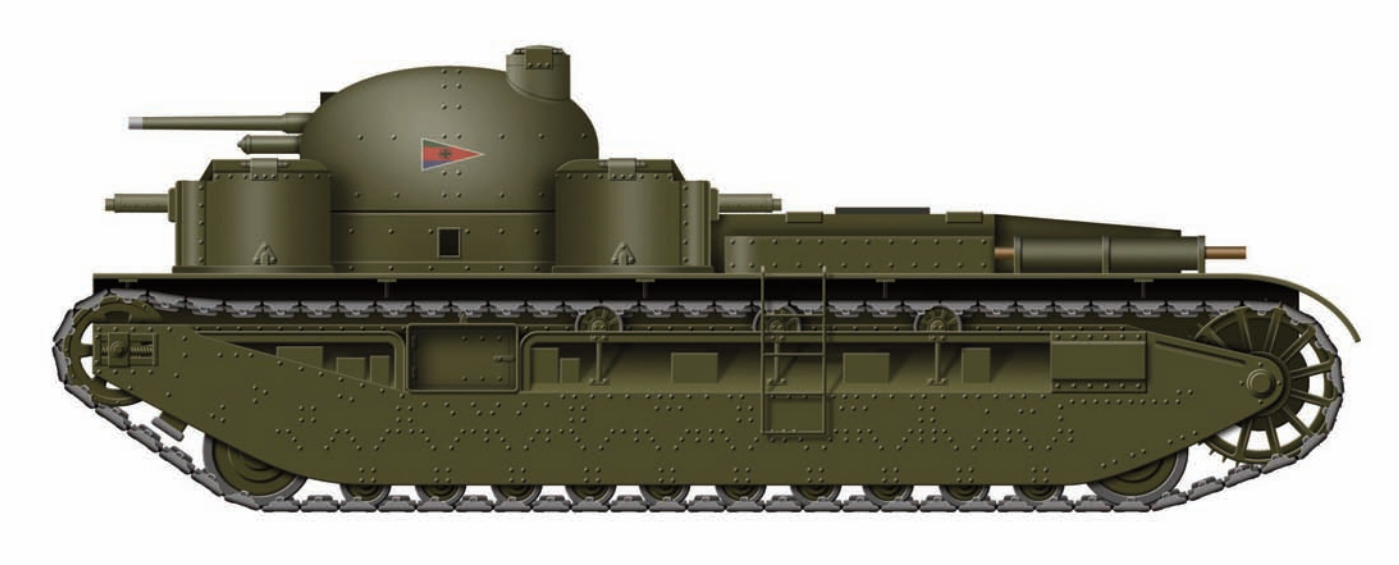
SPECIFICATION:
Vehicle Weight: 14 tons
Dimensions: Length 17 ft 6 ins, Width 9 ft 2 ins, Height 8 ft 10 ins
Powerplant: 1 x Armstrong-Siddeley 90 hp petrol engine
Performance: Maximum speed 16 mph, Range 120 miles
Armament: 1 x 3 pounder gun, 3 x 0.303 inch machine guns
Armour: Maximum thickness 14 mm
Crew: 5

Vickers Medium II Box Tank

Several Vickers Medium tanks were modified during the 1920/30s for other purposes. Between 1926 and 1929 three prototypes were produced for experiments conducted in the field of mechanised warfare of a self-propelled gun. Known as the Birch Gun, the Mk I was armed with an Ordnance quick-firing 18 pounder, while the Mk II had the chassis lengthened and was armed with a 75 mm gun on a high angle mounting. Two other vehicles are of note. The Medium II Box Tank was a single vehicle converted from a Medium II in 1928 into a Command Tank which was achieved by removing the turret from the fighting compartment and fitting a large rectangular superstructure, and its only armament was a single machine gun in a ball mount in the front of that armoured box. Two radio sets were carried, a short range set for tactical communications and a long range one to contact higher levels. The Box tank was first used by a battalion commander and from 1931 by the Brigade Commander. In 1931 another command tank was converted by replacing the main armament with a dummy gun and fixing the turret in place, allowing an additional wireless set to be fitted in the space gained.

Country of Origin: UK
Number Built: 1

SPECIFICATION:
Vehicle Weight: 14 tons
Dimensions: Length 17 ft 6 ins, Width 9 ft 2 ins, Height 8 ft 10 ins
Powerplant: 1 x Armstrong-Siddeley 90 hp petrol engine
Performance: Maximum speed 16 mph, Range 120 miles
Armament: 1 x 0.303 inch machine gun
Armour: Maximum thickness 14 mm
Crew: 5



A1 'Independent' Tank

In 1924 the General Staff of the British Army ordered a prototype of a heavy tank which would be free-ranging and have multiple turrets similar to a warship. Vickers were approached to design and build the tank who incorporated a number of new features which would later become standard for a tank, while the layout would become standard with a central fighting compartment, the engine at the rear and the driver at the front. The independent was powered by new Armstrong Siddeley 398 hp V12 air-cooled engine which gave the tank a speed of 20 mph, while a new hydraulic braking system was developed due to the weight and speed of the tank. The main armament was a 3 pounder (47 mm) gun, which was housed in a centrally located turret, around which were four subsidiary turrets armed with a 0.303 inch machine gun, two to the front and two to the rear. The prototype was delivered to the War Office in 1926 for trials, and although the idea of the 'Independent' was good in theory, the practical problems of weight, command and control did not make it viable. The cost being a distinct disadvantage, as you could build five Vickers mediums for the price of one 'Independent'.

Country of Origin: UK
Number Built: 1

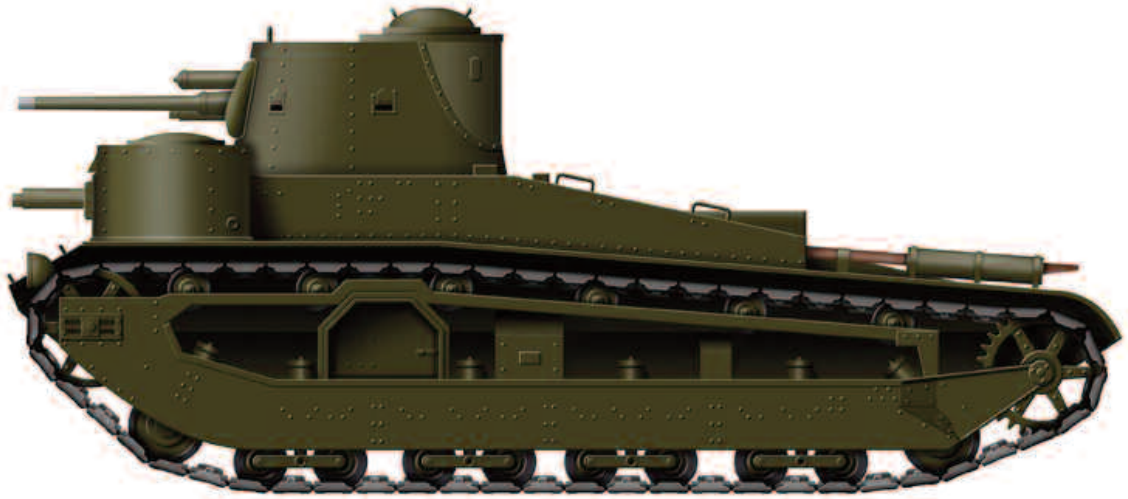
SPECIFICATION:
Vehicle Weight: 31.5 tons
Dimensions: Length 26 ft 6 ins, Width 10 ft 6 ins, Height 8 ft 10 ins
Powerplant: 1 x Armstrong-Siddeley 398 hp petrol engine
Performance: Maximum speed 20 mph, Range 93 miles
Armament: 1 x 3 pounder gun, 4 x 0.303 inch machine guns
Armour: Maximum thickness 30 mm
Crew: 8

Vickers Medium E Tank

The Vickers Medium Mk E was a speculative design that first appeared in 1928, and by British standards was a light tank. The suspension was through double bogies with leaf springs and the track had four return rollers. It was an excellent design, having a low profile, mechanically simple, and well armed and armoured for its size. Other innovations included a firewall between the engine and the crew compartment, and an inter-communication system for the crew. The tank was powered by an 87 hp Armstrong Siddeley Puma engine, which gave it a speed of 22 mph on roads. They were first offered to the British Army, who after trials failed to place an order, feeling the suspension was too weak, although financial reasons must have been a major problem as the tank was superior to the Vickers Medium then currently in service. As a result they were placed on the open market and proved to be a commercial success for Vickers, being sold to many countries that including China, Bulgaria, Finland, Portugal, Thailand, Bolivia and Greece during the 1930s. Other customers who also bought the tank were Russia and Poland who based their T26 and 7TP tanks respectively on the design.

Country of Origin: UK
Number Built: 153

SPECIFICATION:
Vehicle Weight: 7.3 tons
Dimensions: Length 15 ft, Width 7 ft 11 ins, Height 6 ft 10 ins
Powerplant: 1 x Armstrong-Siddeley 87 hp petrol engine
Performance: Maximum speed 20 mph, Range 125 miles
Armament: 1 x 3 pounder gun, 1 x 0.303 inch machine gun
Armour: Maximum thickness 13 mm
Crew: 3

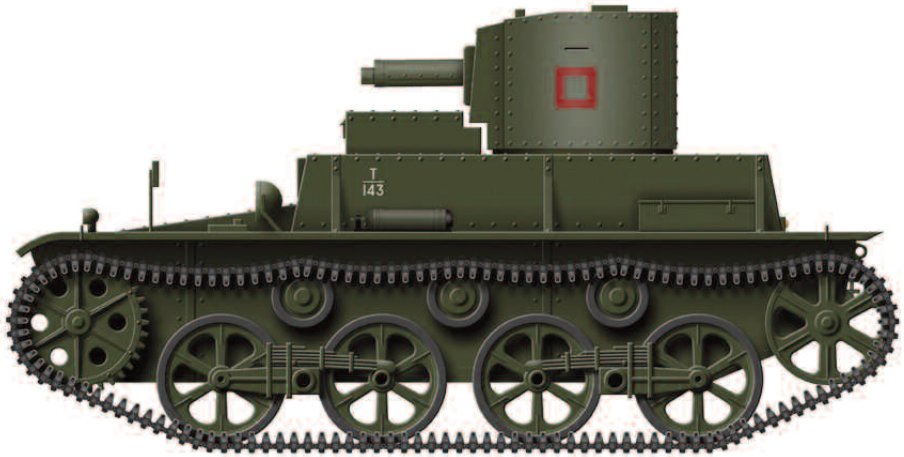


Vickers Medium Tank '16 Tonner'

In 1926 the British War Office issued a requirement for a tank that would replace the Vickers Medium that had recently entered service. The specification called for the tank to be armed with a gun capable of defeating enemy armour at 1,000 yds, increased armour protection, and the capability of being transported by rail. The engine was to be in a separate compartment and a radio was to be incorporated. A weight limit of 15½ tons was specified which led to the unofficial nickname of '16 tonner'. A further requirement was that the machine should be as silent as possible. In September Vickers were chosen to design and build a prototype which was given the designation A6. In 1927 approval was given to build two prototypes with different transmission systems, while a third was ordered the folowing year. When they underwent trials major problems of the design soon appeared, mainly with the suspension which was prone to breaking over rough terrain, while the gunnery arrangements were inferior to the Vickers Mark II. As a result development work was transferred to the Vickers Medium Mk III, and the three prototypes ended their careers as test beds for automotive parts.

Country of Origin: UK
Number Built: 3

SPECIFICATION:
Vehicle Weight: 16 tons
Dimensions: Length 21 ft 6 ins, Width 8 ft 9 ins, Height 9 ft 2 ins
Powerplant: 1 x Armstrong-Siddeley 180 hp petrol engine
Performance: Maximum speed 20 mph, Range 120 miles
Armament: 1 x 3 pounder gun, 3 or 4 0.303 inch machine guns
Armour: Maximum thickness 14 mm
Crew: 7



Vickers Light Tank Mk I

After Vickers-Armstrong acquired Carden-Loyd in 1928, they continued the development of the light tank as a commercial venture. The Vickers Light Tank Mk I was similar in design to the Carden-Loyd Mk VII tankette and differed in only a few ways. The external suspension girder was dropped by strengthening the suspension at the hull supports. The bevelled turret was replaced by a cylindrical design but still carried a single 0.303 Vickers machine gun. The vehicle was powered by the same 58 hp Meadows engine which drove the tracks though a four-speed gearbox to the front drive wheels. Armour was increased to 14 mm, although the increased weight lowered the top speed to 32 mph. The Mk IA introduced a larger superstructure and turret and the leaf spring suspension was replaced by a Horstmann horizontal coil springs system which gave the vehicle a better ride, but under certain conditions was prone to cause an uncontrollable bounce. Five Mk I and five Mk IA tanks were built, four Mk IAs being sent to India in 1931 for service trials. In India they received several modifications to improve engine cooling in the hotter climate, along with various other ideas to reduce the heat for the crew inside the vehicle.

Country of Origin: UK
Number Built: 10

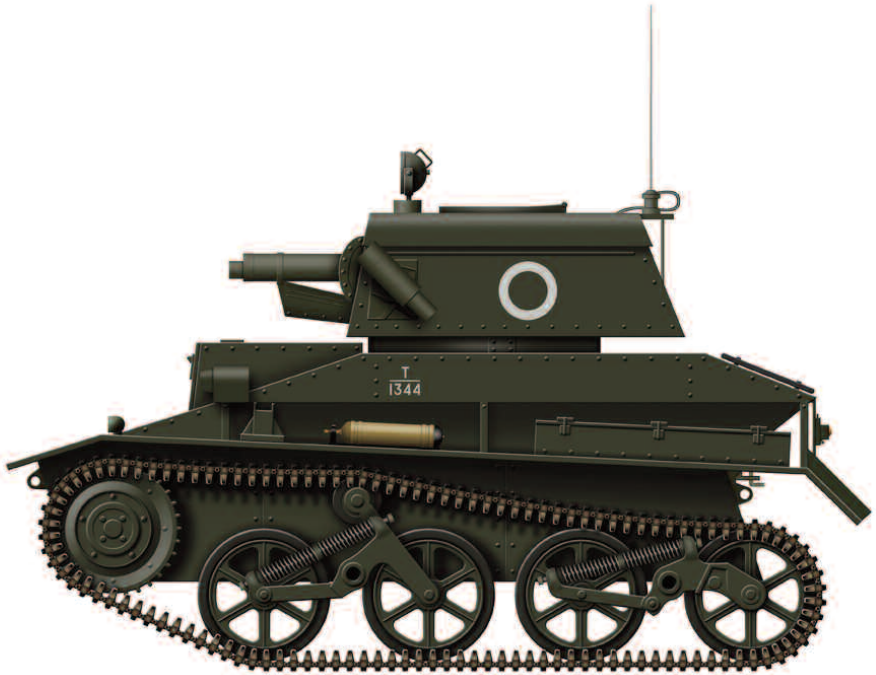
SPECIFICATION:
Vehicle Weight: 4.8 tons
Dimensions: Length 13 ft 2 ins, Width 6 ft 1 in, Height 5 ft 7 ins
Powerplant: 1 x Meadows 58 hp petrol engine
Performance: Maximum speed 32 mph, Range 160 miles
Armament: 1 x 0.303 inch Vickers machine gun
Armour: Maximum thickness 14 mm
Crew: 2

Vickers Light Tank Mk II/III

The Mk.II was closely based on the Mk.IA, but had a larger hull and a roomier fighting compartment. They were powered by a 66 hp, Rolls-Royce engine which were positioned on the right hand side of the tank, the driver and turret being on the left. The turret was rectangular in shape and could accommodate a radio at the rear. In total 16 Mk II, 29 Mk IIA and 21 Mk IIBs were built, the latter versions being modified for service in India and introduced an improved cooling system and a more powerful 85 hp Meadows engine. Further improvements led to the Mk III which had a revised turret and suspension in an attempt to cure stability problems. 42 were built for the British army and were all sent to India where they were used to police the troublesome tribal areas, especially on the North-West frontier. By 1941 many of the Mk II and Mk III light tanks had been shipped to East Africa where they took part in operations against Italian forces in Abyssinia and Eritrea, a few also being used in Egypt. After Japan entered the war in December 1941, Mk II and Mk III tanks were sent back to India where they were used by Indian troops to guard the border with Burma, but in late 1943 they were declared obsolete and withdrawn.

Country of Origin: UK
Number Built: 66 Mk IIs, 42 Mk IIIs

SPECIFICATION:
Vehicle Weight: 4 tons
Dimensions: Length 11 ft 9 ins, Width 6 ft 3 in, Height 6 ft 7 ins
Powerplant: 1 x Meadows 85 hp petrol engine
Performance: Maximum speed 30 mph, Range 130 miles
Armament: 1 x 0.303 inch Vickers machine gun
Armour: Maximum thickness 12 mm
Crew: 2



Vickers Light Tank Mk IV

The first major change to the Vickers series of light tanks was the Mk IV which appeared in 1934. This was based on an experimental design, the main changes being to the suspension which incorporated a single return roller fitted to the top of the leading bogie. This produced a distinctive triangular shape for the track path which would be followed throughout the rest of the series. The Mk IV suffered from a series of problems. Its centre of gravity was too high for its length, making it unstable. Its cross country performance was poor which was partly due to the lack of a rear idler. By the time the Mk IV had appeared the General Staff of the Army had realised that the armament of a single 0.303 inch machine gun was inadequate and the two man tank convept was of no real use, the commander being overwhelmed with duties having to command, use the radio and operate the machine gun by himself. The two man tank concept however would persist in the French army for far longer. Total production of the Mk IV was only 34 machines, with a few still being in service at the start of the Second World War in 1939, although they were soon declared obsolete and were then used for training.

Country of Origin: UK
Number Built: 34

SPECIFICATION:
Vehicle Weight: 4.3 tons
Dimensions: Length 11 ft 6 ins, Width 6 ft 10 ins, Height 7 ft 1 in
Powerplant: 1 x Meadows 88 hp petrol engine
Performance: Maximum speed 36 mph, Range 125 miles
Armament: 1 x 0.303 inch machine gun
Armour: Maximum thickness 12 mm
Crew: 4

Vickers Light Tank Mk V

The biggest change in the Vickers light tank series came with the Mk V. This introduced a larger turret and a three man crew, the extra crewman acting as the gunner and radio operator, leaving the tank commander to concentrate on his duties which improved the effectiveness of the tank, especially if he was the troop commander. To achieve the space the hull was lengthened which increased the tanks weight by half a ton, this in turn caused a drop in performance which reduced the top speed to 32 mph. The armament was also improved with a 0.5 inch Vickers machine gun being added co-axially alongside the existing 0.303 inch weapon, giving the Mk V a reasonable capability against other light tanks and soft vehicles. A total of twenty-two were built in 1936, with the first twelve vehicles being issued to the 1st Battalion of the Royal Tank Corps (R.T.C.) for service trials. A team from Vickers were also present for the trials where the high level of co-operation between the Army and the manufacturers soon identified several problems with the tank. A number of improvements were introduced to the remaining production vehicles that made them acceptable for the R.T.C. which would lead to the Mk VI.

Country of Origin: UK
Number Built: 22

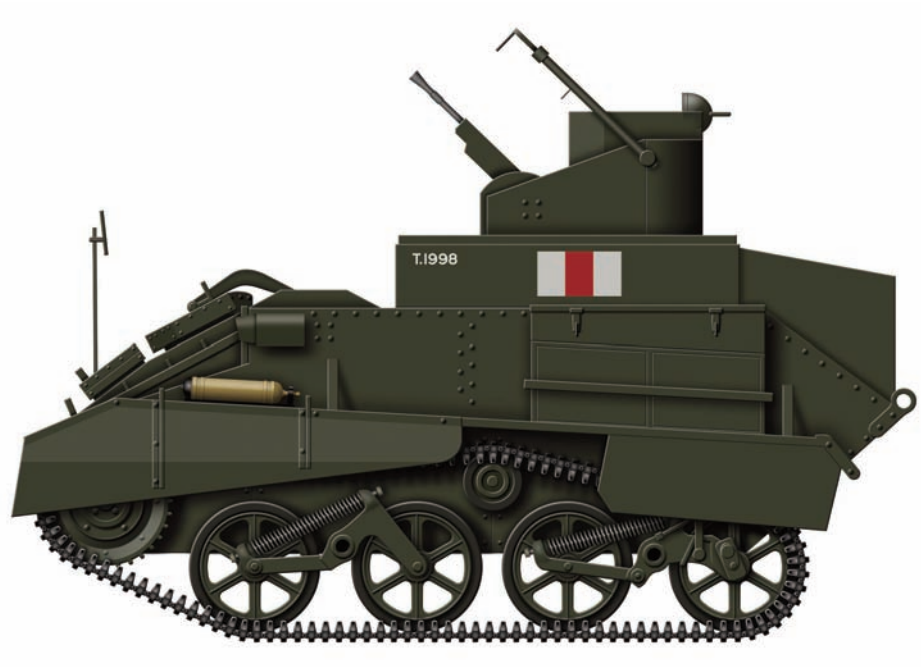
SPECIFICATION:
Vehicle Weight: 4.8 tons
Dimensions: Length 13 ft, Width 6 ft 10 ins, Height 7 ft 4 ins
Powerplant: 1 x Meadows 88 hp petrol engine
Performance: Maximum speed 32 mph, Range 125 miles
Armament: 1 x 0.303 inch and 1 x 0.5 inch Vickers machine guns
Armour: Maximum thickness 12 mm
Crew: 3

Vickers Light Tank Mk VI

Experience gained with the Mk V led to the rapid introduction of improvements which resulted in the Mk VI which was the main production version, and final development of the series. The Mk VI incorporated a modified turret and had a more powerful engine which gave the vehicle a speed of 35 mph. Production began in 1936 and over 1,650 were built before production ceased in 1940. The main version was the Mark VIB which incorporated minor alterations to simplify production, while in late 1939 the new 15 mm Besa heavy machine gun was chosen as the main weapon for late production vehicles which were designated the Mk VIC. The coaxial gun was also upgraded to the Besa 7.92 mm weapon and armour increased to a maximum of 16 mm. In 1939 the Mk VI was the most numerous tank in the British Army, and when the 1st armoured Division went to France in 1939, a third of its tanks were Mk VIs. After the Germans invaded France in May 1940, the Mark VI proved inadequate against the better armed German tanks, and of the 500 taken to France, only six returned to the U.K. After Italy entered the war in June 1940 the Mk VI was used in North Africa before being withdrawn from font line service.

Country of Origin: UK
Number Built: 1,682 of all types

SPECIFICATION:
Vehicle Weight: 5 tons
Dimensions: Length 13 ft 2 ins, Width 6 ft 10 ins, Height 7 ft 5 ins
Powerplant: 1 x Meadows 88 hp petrol engine
Performance: Maximum speed 35 mph, Range 125 miles
Armament: 1 x 15 mm and 1 x 7.92 mm Besa machine guns
Armour: Maximum thickness 16 mm
Crew: 3

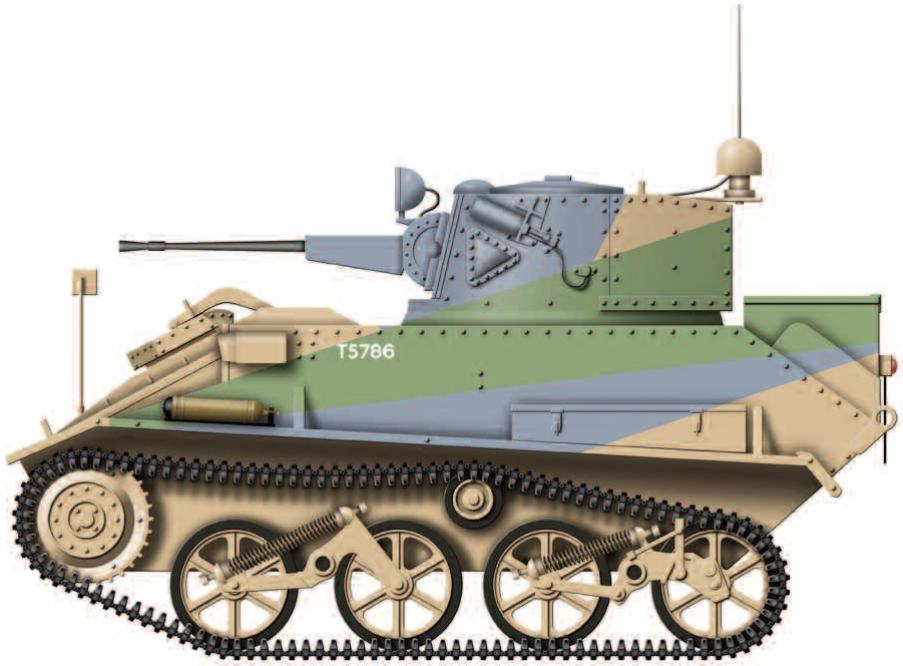


Light Tank AA Mk I/II

The effect of German air power in France and the Low Countries during May 1940 led to the hasty development of AA tanks to counter this threat. In late 1949 a number of Mk VIA and VIB light tanks were soon modified to mount a small turret fitted with four 7.92 mm Besa machine guns in tandem. Four of these tanks would then be attached to the regimental HQ squadron of each British armored regiment for air defence. The early model was designated Light Tank AA Mk I which was based on the chassis of a Vickers Light Tank Mk VIA chassis. This was soon superceded by the Light Tank Mk II which was based on the VIB Chassis. The vehicles had a crew of two and were fitted with a redesigned turret that had a mount for four 7.92 mm Besa machine guns or two 15 mm Besa heavy machine-guns. The early vehicles had manual traverse for the turret which limited the speed and effectiveness of the system, but with the Mk II power traverse for the turret was installed, while improvements to the turret included a better sighting arrangement and extra stowage space in the rear. They were first used operationally in North Africa. Production numbers of these vehicles is unknown and ended in early 1941.

Country of Origin: UK
Number Built: Unknown

SPECIFICATION:
Vehicle Weight: 4.8 tons
Dimensions: Length 13 ft, Width 6 ft 10 ins, Height 7 ft 4 ins
Powerplant: 1 x Meadows 88 hp petrol engine
Performance: Maximum speed 32 mph, Range 125 miles
Armament: 4 x 7.92 mm Besa machine guns
Armour: Maximum thickness 12 mm
Crew: 2

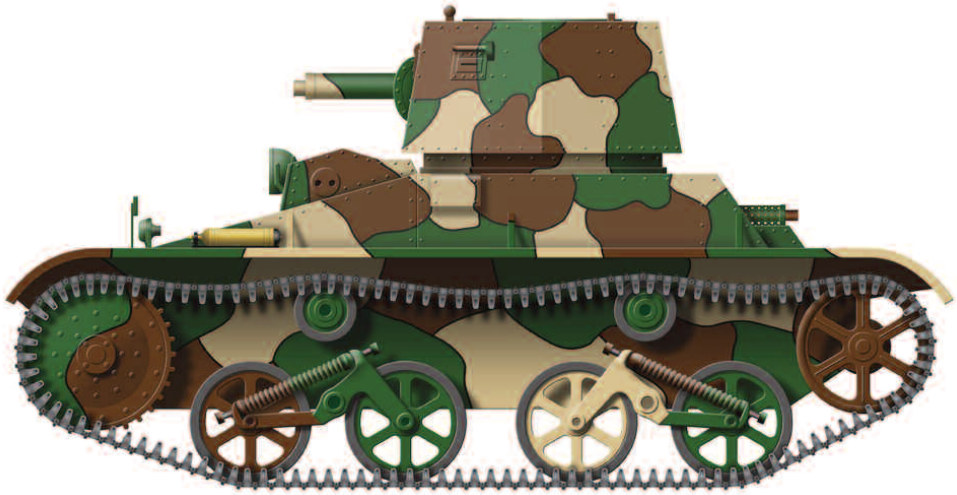


Vickers Light Tank Mk VIC

Experience gained with the Mk V led to the rapid introduction of improvements which resulted in the Mk VI which was the main production version, and final development of the series. The Mk VI incorporated a modified turret and had a more powerful engine which gave the vehicle a speed of 35 mph. Production began in 1936 and over 1,650 were built before production ceased in 1940. The main version was the Mark VIB which incorporated minor alterations to simplify production, while in late 1939 the new 15 mm Besa heavy machine gun was chosen as the main weapon for late production vehicles which were designated the Mk VIC. The coaxial gun was also upgraded to the Besa 7.92 mm weapon and armour increased to a maximum of 16 mm. In 1939 the Mk VI was the most numerous tank in the British Army, and when the 1st armoured Division went to France in 1939, a third of its tanks were Mk VIs. After the Germans invaded France in May 1940, the Mark VI proved inadequate against the better armed German tanks, and of the 500 taken to France, only six returned to the U.K. After Italy entered the war in June 1940 the Mk VI was used in North Africa before being withdrawn from font line service.

Country of Origin: UK
Number Built: 1,682 of all types

SPECIFICATION:
Vehicle Weight: 5 tons
Dimensions: Length 13 ft 2 ins, Width 6 ft 10 ins, Height 7 ft 5 ins
Powerplant: 1 x Meadows 88 hp petrol engine
Performance: Maximum speed 35 mph, Range 125 miles
Armament: 1 x 15 mm and 1 x 7.92 mm Besa machine guns
Armour: Maximum thickness 16 mm
Crew: 3



Vickers Commercial Light Tank

The Vickers light tank series were successfully sold abroad during the 1930s, being sold to countries that included Finland, Lithuania, Latvia, Argentina, Switzerland, and China, although the two main purchasers were Belgium and the Netherlands. In 1935 Belgium ordered forty-two based on the Mk III which differed in having a conical turret and armed with a 13.2 mm Hotchkiss machine gun. In Belgium they were designated the T15 light tank and were used during the Battle of Belgium in May 1940, where surviving vehicles were taken over by the Germans on their capture. In 1937 the Nertherlands had purchased two Mk IIIs for trials, which was followed by an order for 73 more. These differed again by having a hexagonal turret armed with a Vickers 0.303 inch machine gun. Both tanks were powered by a Meadows six cylinder 88 hp engine which gave them a speed of 40 mph. The Netherlands had ordered them for service in the Dutch East Indies, but only twenty had been delivered on the outbreak of World War Two, the remainder being taken over by the British government and issued to the British Army. They were designated the Light Tank Mk IIIB and used for training, but were always refered to as 'Dutchmen'.

Country of Origin: UK
Number Built: 117

SPECIFICATION:
Vehicle Weight: 13.8 tons
Dimensions: Length 11 ft 11 ins, Width 6 ft 2 ins, Height 6 ft 8 ins
Powerplant: 1 x Meadows 88 hp petrol engine
Performance: Maximum speed 40 mph, Range 130 miles
Armament: 1 x 0.303 inch machine gun
Armour: Maximum thickness 10 mm
Crew: 2

T-26 Model 1931

In the late 1920s the Soviet Union began a major expansion of its armoured forces, and in 1929 they purchased a number of Vickers E (6 ton) light tank. These were thoroughly trialled against two home grown designs (the TMM-1 and TMM-2) in 1930, the British design proving to be far superior and was selected for production. An agreement with Vickers was then reached to build the tank under licence which the Soviets designated the T-26. They were first seen in public during late 1931and became the main light tank for the Soviet Army during the 1930s. They were notable for the diversity of weapons installed in them and the initial use of twin turrets, these being positioned side-by-side with the support tanks being armed with a 7.62 mm machine guns in each turret, the commander's version having a 37 mm gun replacing the machine gun in the right turret. In 1933 a new version appeared with a single purpose designed turret which was armed with a 37 mm gun, but was capable of having the larger 45 mm Model 1932 gun which became the standard weapon for the T-26. This was the T-26 Model 1933 and became the most numerous production model of the type with over 5,000 being built.

Country of Origin: USSR
Number Built: 12,600+ all Mks

SPECIFICATION: *(T26 Model 1933)*
Weight: 9.6 tons
Dimensions: Length 15 ft 3 ins, Width 8 ft, Height 7 ft 4 ins
Powerplant: 1 x 90 hp GAZ petrol engine
Performance: Maximum speed 18 mph, Range 124 miles
Armament: 1 x 45 mm gun, 1 x 7.62 mm machine guns
Armour: Maximum thickness 15 mm
Crew: 3

T-26 Command Tank Model 1931

In the late 1920s the Soviet Union began a major expansion of its armoured forces, and in 1929 they purchased a number of Vickers E (6 ton) light tank. These were thoroughly trialled against two home grown designs (the TMM-1 and TMM-2) in 1930, the British design proving to be far superior and was selected for production. An agreement with Vickers was then reached to build the tank under licence which the Soviets designated the T-26. They were first seen in public during late 1931and became the main light tank for the Soviet Army during the 1930s. They were notable for the diversity of weapons installed in them and the initial use of twin turrets, these being positioned side-by-side with the support tanks being armed with a 7.62 mm machine guns in each turret, the commander's version having a 37 mm gun replacing the machine gun in the right turret. In 1933 a new version appeared with a single purpose designed turret which was armed with a 37 mm gun, but was capable of having the larger 45 mm Model 1932 gun which became the standard weapon for the T-26. This was the T-26 Model 1933 and became the most numerous production model of the type with over 5,000 being built.

Country of Origin: USSR
Number Built: 12,600+ all Mks

SPECIFICATION: *(T26 Model 1933)*
Weight: 9.6 tons
Dimensions: Length 15 ft 3 ins, Width 8 ft, Height 7 ft 4 ins
Powerplant: 1 x 90 hp GAZ petrol engine
Performance: Maximum speed 18 mph, Range 124 miles
Armament: 1 x 45 mm gun, 1 x 7.62 mm machine guns
Armour: Maximum thickness 15 mm
Crew: 3

T-26 Model 1933

In the late 1920s the Soviet Union began a major expansion of its armoured forces, and in 1929 they purchased a number of Vickers E (6 ton) light tank. These were thoroughly trialled against two home grown designs (the TMM-1 and TMM-2) in 1930, the British design proving to be far superior and was selected for production. An agreement with Vickers was then reached to build the tank under licence which the Soviets designated the T-26. They were first seen in public during late 1931and became the main light tank for the Soviet Army during the 1930s. They were notable for the diversity of weapons installed in them and the initial use of twin turrets, these being positioned side-by-side with the support tanks being armed with a 7.62 mm machine guns in each turret, the commander's version having a 37 mm gun replacing the machine gun in the right turret. In 1933 a new version appeared with a single purpose designed turret which was armed with a 37 mm gun, but was capable of having the larger 45 mm Model 1932 gun which became the standard weapon for the T-26. This was the T-26 Model 1933 and became the most numerous production model of the type with over 5,000 being built.

Country of Origin: USSR
Number Built: 12,600+ all Mks

SPECIFICATION:
Weight: 9.6 tons
Dimensions: Length 15 ft 3 ins, Width 8 ft, Height 7 ft 4 ins
Powerplant: 1 x 90 hp GAZ petrol engine
Performance: Maximum speed 18 mph, Range 124 miles
Armament: 1 x 45 mm gun, 1 x 7.62 mm machine guns
Armour: Maximum thickness 15 mm
Crew: 3

T-26S Model 1937

The T-26 was first used in action during the border clashes with Japanese forces in Manchuria during 1934 and 1935. Here they were not universally liked, having thin armour and being under powered. Another handicap was that the armour was fitted by riveting, and during the fighting it was found that machine-gun fire hitting the tank could split rivets, sending the inner part flying around inside with potentially deadly results. After this experience welding became the standard practice of attaching armour to all Soviet tank designs. Modest modifications were also made to the engine but the tank itself was always under-powered. In an attempt to extend the service life of the T-26 a new version emerged in 1937 with a redesigned turret and improved armour, this being designated the T-26S. The first major test for the T-26 was the Spanish Civil War, where they performed well against the light tanks of the Nationalists. Further clashes against Japanese forces in Manchuria occurred in 1938-39 where they were also used to good effect. During the Winter War against the Finns in 1939-40 The T-26 suffered badly at the hands of determined defenders, but in 1941 they were still the most numerous tank in the Soviet Army.

Country of Origin: USSR
Number Built: 12,600+ all Mks

SPECIFICATION:
Weight: 10.3 tons
Dimensions: Length 15 ft 9 ins, Width 7 ft 10 ins, Height 7 ft 8 ins
Powerplant: 1 x 97 hp GAZ petrol engine
Performance: Maximum speed 18 mph, Range 124 miles
Armament: 1 x 45 mm gun, 2 x 7.62 mm machine guns
Armour: Maximum thickness 25 mm
Crew: 3

OT-130 Flamethrower Tank

.The first T-26 flamethrower tank was designated the OT-26 and based on the T-26 Model 1931, the flame gun being fitted in the right hand turret with the left hand turret being omitted in order to carry more fuel. The OT-130 was the second flame-thrower tank based on the T-26 light tank, this time using the single turreted T-26 Model 1933. They were produced from 1939 by rebuilding existing T-26s, at first with the same Model 1933 flame thrower as the OT-26, but later with the Model 1938 flame thrower. The OT-130 carried 360 litres of fuel for the flame thrower which gave the Model 1939 the ability to fire forty six second bursts up to a range of 45 to 50 metres, or a 10 to 25 second burst up to a range of 100 metres using a special compressor. The Model 1938 had a shortened armour flame projector and was mounted in a redesigned mantlet. The OT-130 was produced from 1938 to 1939 and were first used in action by the Russians against the Japanese during the border conflict of Manchuria in the Khalkhin Gol river area. They were also used during the Winter war of 1939/40 against the Finns, where their weak armour protection was exploited and many were lost.

Country of Origin: USSR
Number Built: 1,218

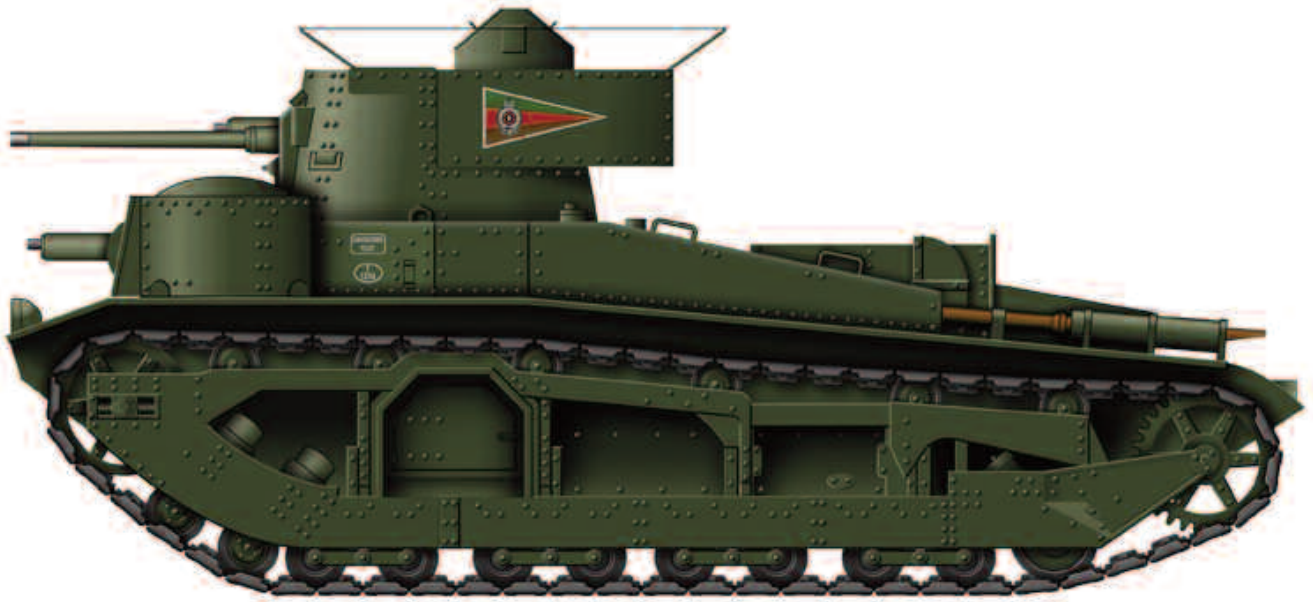
SPECIFICATION:
Vehicle Weight: 10.3 tons
Dimensions: Length 15 ft 9 ins, Width 7 ft 10 ins, Height 7 ft 8 ins
Powerplant: 1 x 97 hp GAZ petrol engine
Performance: Maximum speed 18 mph, Range 124 miles
Armament: 1 x model 38 flamethrower, 1 x 7.62 mm machine gun
Armour: Maximum thickness 15 mm
Crew: 3

T-26-4 Artillery Tank

The T-26-4 artillery tank was armed with the 76.2 mm KT tank gun model 1927/32 which was mounted in a turret similar to thee main turret of the T-28 medium tank which was mounted on a T-26 chassis. The prototype was successfully trialled and five vehicles were built in 1933–1934 as a pilot run. Initially it was planned to arm three with the 76.2 mm KT tank gun and the other two with the 76.2 mm PS-3 tank gun. The PS-3 had better specifications and several technical innovations, but during trials it was found that the PS-3 was too powerful for the T-26 light tank, causing damage to the turret ring, hull roof and the suspension springs. It was decided to arm the T-26-4 with the 76.2 mm KT tank gun only. The vehicles were used during military exercises in September 1934, but later a misfire of a shell in one of the tanks during firing halted proceedings, and despite the fact that this defect was unrelated to the tank, the military cancelled the order to produce the T-26-4, although work progressed on the design of the turretless AT-1 artillery tank armed with the 76.2 mm PS-3 tank gun. The design of the T-26-4's turret lived on and was used in the series produced BT-7A artillery tank.

Country of Origin: USSR
Number Built: 5

SPECIFICATION:
Vehicle Weight: 11 tons
Dimensions: Length 15 ft 9 ins, Width 7 ft 10 ins, Height 7 ft 8 ins
Powerplant: 1 x 97 hp GAZ petrol engine
Performance: Maximum speed 18 mph, Range 124 miles
Armament: 1 x 76.2 mm KT tank gun, 1 x 7.62 mm machine gun
Armour: Maximum thickness 15 mm
Crew: 3



Vickers Medium Mk III

In 1926 the British War Office issued a specification for a replacement for the Vickers Mk II medium tank for the British army. The initial design from Vickers was the A6 (nicknamed the '16 tonner') which appeared in 1928, but during trials major problems, primarily with the suspension, became evident. The failure of the A6 led to a new order being placed in 1928 for a new design. With the revised design complete, construction of two prototypes commenced in 1930, the design itself not being given a General Staff number, but was simply known as the Vickers Medium Mk III. The revised design was similar in layout to the A6, but featured a new turret and improved armour. The vehicle was powered by the same 180 hp Armstrong-Siddeley V8 engine used for the A6, but this time the top speed was raised to 30 mph. Three prototypes were built, the first two being ready for trials in 1933. The revised tank proved to be reliable and a good gun platform, but suspension problems over rough ground still remained. As the third prototype was still under construction the opportunity was taken to install a modified system, although the problems were never fully resolved and no orders for the tank were forthcoming.

Country of Origin: UK
Number Built: 3

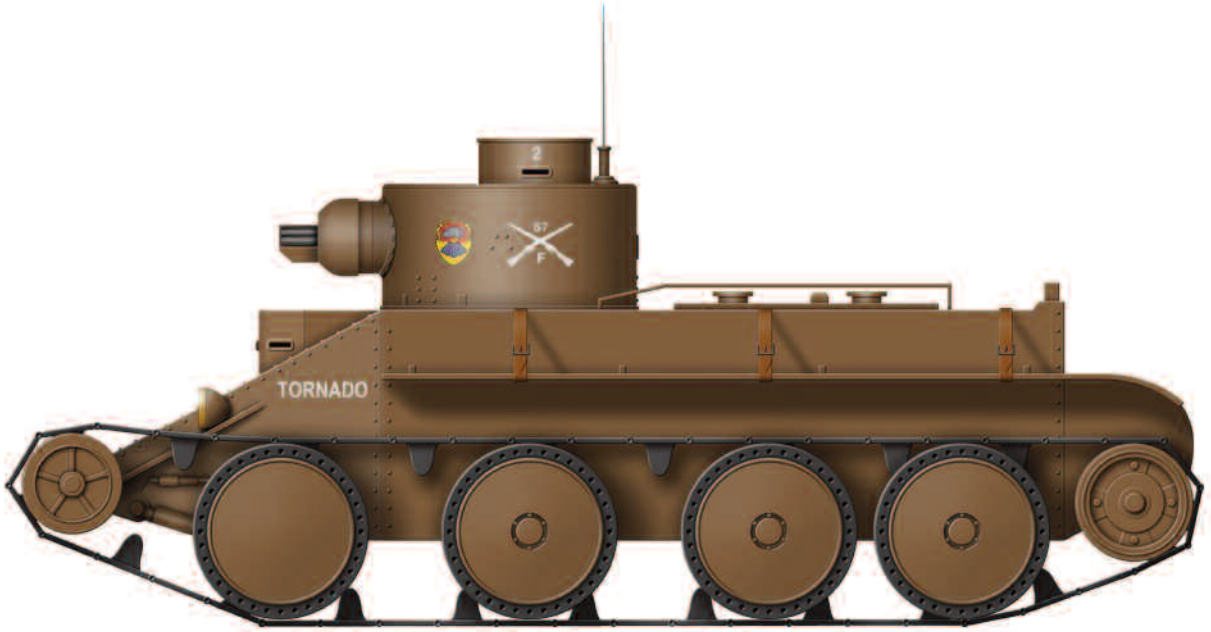
SPECIFICATION:
Vehicle Weight: 16 tons
Dimensions: Length 21 ft 6 ins, Width 8 ft 9 ins, Height 9 ft 2 ins
Powerplant: 1 x 180 hp Armstrong-Siddeley petrol engine
Performance: Maximum speed 30 mph, Range 120 miles
Armament: 1 x 3 pounder gun, 3 x 0.303 inch machine guns
Armour: Maximum thickness 14 mm
Crew: 7

A7 Medium Tank

The A7 was developed in parallel with the Vickers A6 and Medium Mk III, as part of a new generation of tanks to equip the Royal Tank Corps in the future. The A7 was designed by the military, and had a flat topped hull with a rectangular turret with sloped sides. The main armament was the Vickers 3 pounder gun with a co-axial Vickers machine gun mounted in an armoured jacket. A similar machine gun was also fitted in the front of the hull instead of the two auxiliary machine gun turrets. After the design had been approved authority was given to construct two prototypes which were both built at the Royal Ordnance Factory at Woolwich in 1931. Although the design was good, trials carried out during 1931-32 revealed the prototypes to be mechanically unreliable, and as a result it was decided to build a third prototype in an attempt to solve the problems. The A7E3 had the same basic layout, but was heavier, better armoured, and powered by two 252 hp A.E.C. diesel engines, giving it nearly three times the power, although the tank's top speed remained the same. When the A7E3 was trialled the revised design still proved to be mechanically unreliable and it was decided to terminate the project.

Country of Origin: UK
Number Built: 3

SPECIFICATION: *(A7E3)*
Vehicle Weight: 18.2 tons
Dimensions: Length 22 ft 6 ins, Width 8 ft 11½ ins, Height 9 ft 1 ins
Powerplant: 2 x 252 hp A.E.C. diesel engines
Performance: Maximum speed 25 mph, Range 120 miles
Armament: 1 x 3 pounder gun, 2 x 0.303 inch machine guns
Armour: Maximum thickness 14 mm
Crew: 5



Christie T3 Combat Car

In 1928 Christie produced the M1928 as a demonstration vehicle for his new suspension system. This consisted of four large road wheels on each side, each carried on a pivoting arm that was supported by a large coil spring. The vehicle had an impressive performance and could reach speeds of 40 mph on tracks. The tracks could be removed, and when running on road wheels alone the vehicle could reach 70 mph on metalled roads. The U.S. Army decided to order a tank from Christie based on the M1928, being armed with a 37 mm gun in a fully traversing turret. The first of seven was delivered in early 1931 for trials, these being known as the Convertible Tank T3 by the infantry, and the Combat Car T1 by the cavalry. The T3 came to the attention of a Soviet purchasing commission while they were in America, who approached Christie and managed to obtain the plans, specifications and two prototypes. To get round the strict export regulations of the U.S.A. the prototypes were broken down and describes as agricultual tractors, and they found their way to the Soviet Union where they would be the direct ancestor of th BT and T-34 series tanks, while no further interest in the T3 came from the U.S. military.

Country of Origin: USA
Number Built: 10+

SPECIFICATION:
Vehicle Weight: 11.5 tons
Dimensions: Length 18 ft, Width 7 ft 4 ins, Height 7 ft 6 ins
Powerplant: 1 x 338 hp Liberty engine
Performance: Maximum speed 40 mph, Range 150 miles
Armament: 1 x 37 mm gun, 2 x 0.3 inch machine guns
Armour: Maximum thickness 12 mm
Crew: 2

BT-1 Fast Tank

The Soviets were impressed by Christie's design and began to build a simplified copy at the Komintem Factory in Kharkov in 1931. Designated the BT-1 (Bystrochodya Tank (fast tank)), they kept the ability to run on both tracks or wheels and powered the tank with a copy of the original Liberty V-12 aero-engine, which gave the tank the extraordinary performance of 70 mph on wheels and 40 mph on tracks over good surfaces. The BT-1 used the Christie suspension system of four large road wheels which were fitted on pivoting lever arms sprung by large coil springs, these wheels being in touch with the tracks both top and bottom which removed the need for return rollers. This system could absorb large movements which allowed the tank to easily take the stress of travelling over rough terrain at speed and gave the tank a superb cross-country performance. The BT-1 had a crew of three and was armed with two machine guns in a small round turret, while maximum armour protection was a modest 13 mm. Only a small number of the BT-1 were produced as trials vehicles, but the design was soon modified to mount a 37 mm gun with a coaxial 7.62 mm machine gun in the turret which became BT-2.

Country of Origin: USSR
Number Built: 15

SPECIFICATION:
Vehicle Weight: 10.2 tons
Dimensions: Length 18 ft 4 ins, Width 7 ft 4 ins, Height 7 ft 3 ins
Powerplant: 1 x 400 hp KhPZ M5 petrol engine
Performance: Maximum speed 40 mph, Range 120 miles
Armament: 1 x 0.3 inch machine gun
Armour: Maximum thickness 12 mm
Crew: 3

BT-2 Fast Tank

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Country of Origin: USSR
Number Built: 650

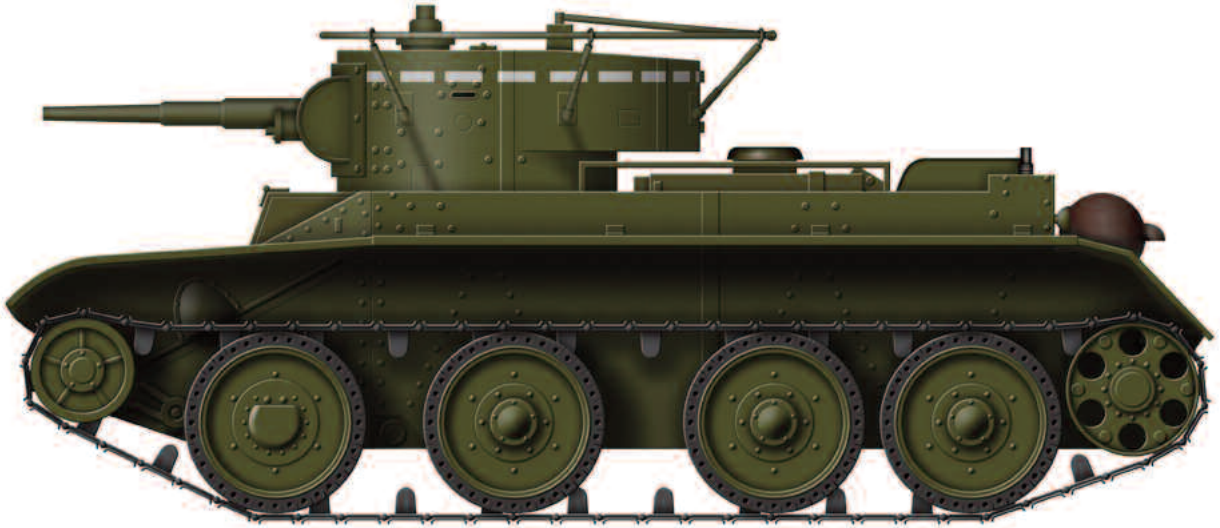
SPECIFICATION:
Vehicle Weight: 10.2 tons
Dimensions: Length 18 ft 4 ins, Width 7 ft 4 ins, Height 7 ft 3 ins
Powerplant: 1 x 400 hp KhPZ M5 petrol engine
Performance: Maximum speed 40 mph, Range 120 miles
Armament: 1 x 37 mm gun, 1 x 0.3 inch machine gun
Armour: Maximum thickness 12 mm
Crew: 3

BT-5 Fast Tank

The BT-2 was a considerable leap forward in Soviet tank design, but in service proved to be unreliable and inadequately armed. Development of the design continued which resulted in the BT-3 and BT-4, these being prototype machines only to overcome the mechanical reliability and armament of the BT-2. The next version to be put into production was the BT-5 at the end of 1932 and incorporated all the lessons learned so far in the programme. The BT-5 was fitted with a larger turret that was armed with a 45 mm gun and coaxial machine gun, the same turret used for the T-26B. The BT-5 was powered by the Soviet 12 cylinder M-5 petrol aero-engine and a strenghened version of the Christie suspension system was introduced, while the tank itself retained the ability to run on both tracks and wheels, although this was rarely used in practice. About 50 BT-5s were to see combat with the Republican forces during the Spanish Civil War where they proved far superior to the German and Italian tanks fighting on the side of the Nationalists. They were also used against Japanese forces during several skirmishes along the Manchurian-Chinese border where they outclassed anything the Japanese possessed.

Country of Origin: USSR
Number Built: 1,884

SPECIFICATION:
Vehicle Weight: 10.2 tons
Dimensions: Length 18 ft 4 ins, Width 7 ft 4 ins, Height 7 ft 3 ins
Powerplant: 1 x 400 hp KhPZ M5 petrol engine
Performance: Maximum speed 40 mph, Range 120 miles
Armament: 1 x 45 mm gun, 1 x 0.3 inch machine gun
Armour: Maximum thickness 13 mm
Crew: 3



BT-5 Command Tank

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Country of Origin: USSR
Number Built: 1,884

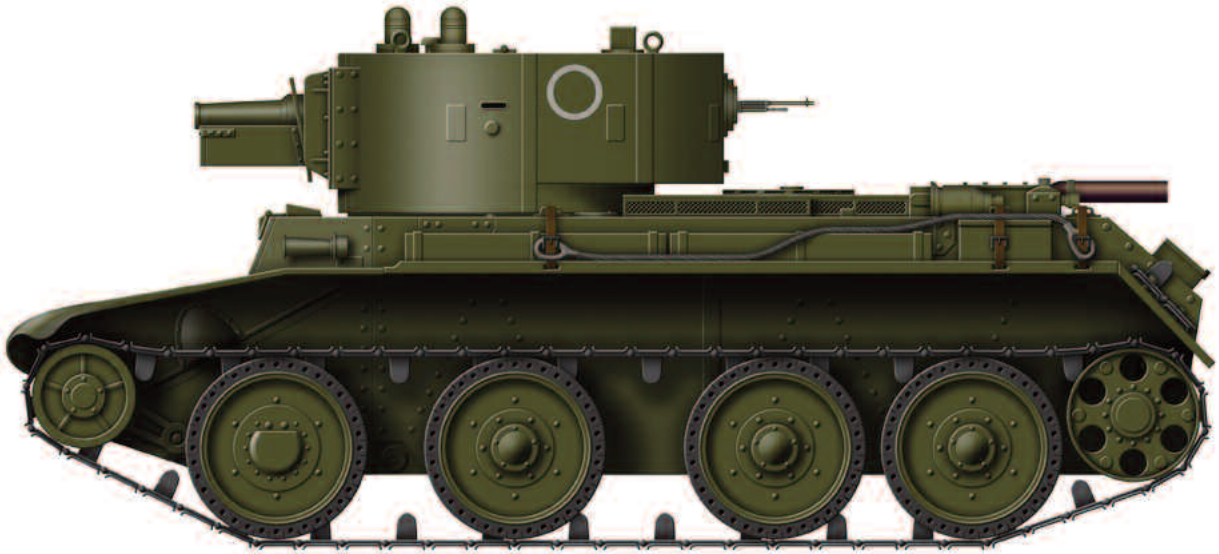
SPECIFICATION:
Vehicle Weight: 10.2 tons
Dimensions: Length 18 ft 4 ins, Width 7 ft 4 ins, Height 7 ft 3 ins
Powerplant: 1 x 400 hp KhPZ M5 petrol engine
Performance: Maximum speed 40 mph, Range 120 miles
Armament: 1 x 45 mm gun, 1 x 0.3 inch machine gun
Armour: Maximum thickness 13 mm
Crew: 3

BT-7 Fast Tank

Experience in action had showed the vulnerability of riveted tank construction, and the decision was taken to produce the BT tank with welded armour. This became the BT-7 which was also fitted with a new conical turret, while armour protection was increased to a maximum of 22 mm. More fuel and ammunition was carried and a machine gun added in the turret rear. The weight of the tank had now risen to 13.7 tons, so a new 500 hp petrol engine was installed along with a stronger transmission system. The new tank had a cross-country speed of 31 mph and a maximum range of 265 miles. Other versions of the BT-7 included the BT-7U command tank fitted with radio equipment and the BT-7A which was armed with a 76.2 mm howitzer in a larger turret. This version had additional bracing because of the heavier gun and an escape hatch underneath the tank for the crew. Around 150 were produced to provide close support for the cavalry tanks. About 5,500 BT-7s were built, and in 1939 they were the major Soviet tank along with many B-T5s that were still in service. Both types were used during the Soviet invasion of eastern Poland in Septmber 1939 and the 1939/40 Winter War against the Finns.

Country of Origin: USSR
Number Built: 5,500

SPECIFICATION:
Vehicle Weight: 13.7 tons
Dimensions: Length 18 ft 7 ins, Width 7 ft 6 ins, Height 7 ft 11 ins
Powerplant: 1 x 500 hp petrol engine
Performance: Maximum speed 53 mph, Range 155 miles
Armament: 1 x 45 mm gun, 2 x 7.62 mm machine guns
Armour: Maximum thickness 22 mm
Crew: 3



BT-7A Support Tank

Experience in action had showed the vulnerability of riveted tank construction, and the decision was taken to produce the BT tank with welded armour. This became the BT-7 which was also fitted with a new conical turret, while armour protection was increased to a maximum of 22 mm. More fuel and ammunition was carried and a machine gun added in the turret rear. The weight of the tank had now risen to 13.7 tons, so a new 500 hp petrol engine was installed along with a stronger transmission system. The new tank had a cross-country speed of 31 mph and a maximum range of 265 miles. Other versions of the BT-7 included the BT-7U command tank fitted with radio equipment and the BT-7A which was armed with a 76.2 mm howitzer in a larger turret. This version had additional bracing because of the heavier gun and an escape hatch underneath the tank for the crew. Around 150 were produced to provide close support for the cavalry tanks. About 5,500 BT-7s were built, and in 1939 they were the major Soviet tank along with many B-T5s that were still in service. Both types were used during the Soviet invasion of eastern Poland in Septmber 1939 and the 1939/40 Winter War against the Finns.

Country of Origin: USSR
Number Built: 5,500

SPECIFICATION:
Vehicle Weight: 13.7 tons
Dimensions: Length 18 ft 7 ins, Width 7 ft 6 ins, Height 7 ft 11 ins
Powerplant: 1 x 500 hp petrol engine
Performance: Maximum speed 53 mph, Range 155 miles
Armament: 1 x 76.2 mm gun, 1 x 7.62 mm machine guns
Armour: Maximum thickness 22 mm
Crew: 3

Panzer I Ausf A

The Panzer I was originally designed as a light training tank and to give German industry experience in producing tanks while development work on the real combat tanks was underway. They were the first German tanks to be mass production, and in total 1,190 Panze I Ausf A were built along with 25 command tanks before production was halted in 1936 in favour of a revised design which became the Panzer I Ausf B. In 1936 several were sent to Spain where they were used in action during Spanish Civil War (1936-38), with about 100 Ausf A and Ausf Bs being used by the Condor Legion alongside General Franco's Nationalists. In action the Panzer I was always under armoured, the thin armour offered only token protection against small arms fire, while the main armament of two 7.92 mm machine guns were no match for anything other than soft targets. During the conflict several were up-gunned with an Italian 20mm Breda lanti-aircraft gun mounted in a modified turret, but these were unpopular with their crews. By 1939 the Panzer I was obsolete but available in large numbers, and for the want of anything better were used in large numbers during the invasions of Poland and France.

Country of Origin: Germany
Number Built: 1,215

SPECIFICATION:
Vehicle Weight: 5.4 tons
Dimensions: Length 13 ft 2 ins, Width 6 ft 8 ins, Height 5 ft 6 ins
Powerplant: 1 x Krupp M 305 59 hp petrol engine
Performance: Maximum speed 40 mph, Range 185 miles
Armament: 2 x 7.92 mm machine guns
Armour: Maximum thickness 13 mm
Crew: 2

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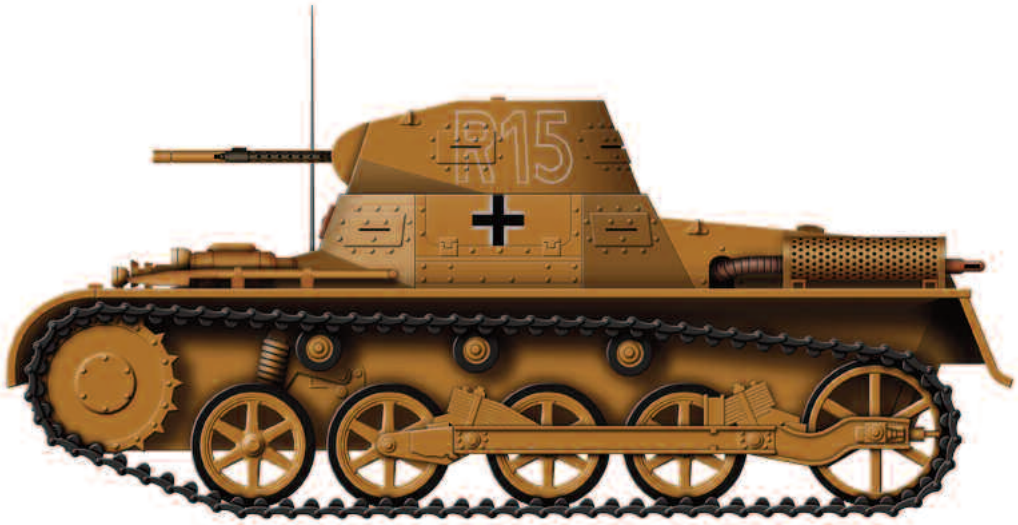
Armour: Maximum thickness 13 mm
Crew: 2

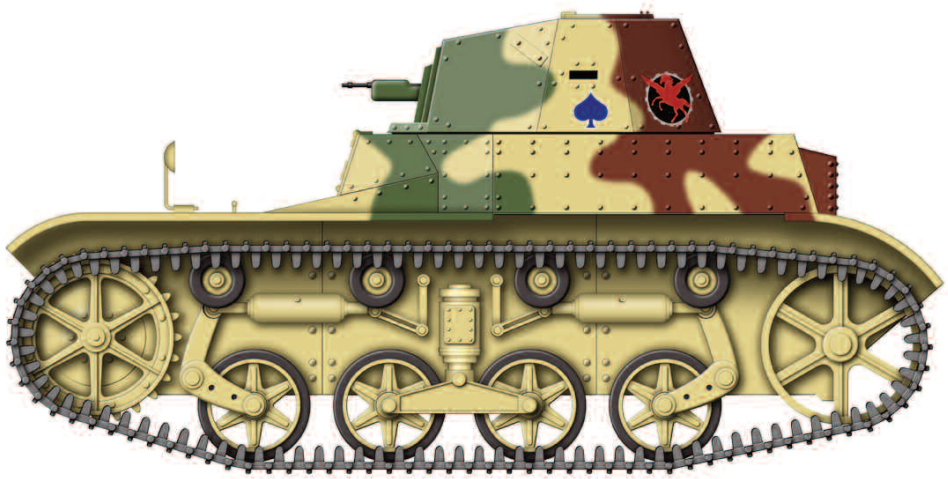


Flammenwerfer auf Panzer I Ausf A

In 1941 the Panzer I Ausf A was still in active service and many were sent to North Africa with the Afrika Korps where they were mainly used as a reconnaissance vehicle. During the siege of Tobruk several were temporarily modified into a flamethower tank which were known as the Flammenwerfer auf Panzer-kampfwagen I Ausf A. These were fitted with a portable flame-thrower that had a range of up to 80 ft (25 metres). These replaced the right hand machine gun, while enough fuel was carried for about 10 seconds of firing. By the end of 1941 the Panzer I Ausf A had been withdrawn from service and converted for other uses. One of the many conversions carried out was the Panzer I Munitions-schlepper (ammunition tractor). These had the turret removed and the aperture fitted with a two piece armoured cover plate, ammunition being carried inside the vehicle. These served with regular Panzer formations during the Polish and French campaigns, while later an armoured box was fitted on top of the vehicle which allowed for easier and quicker transfer of shells, while later examples were produced by converting several Ausf B vehicles which served in North Africa and Russia.

Country of Origin: Germany
Number Built: 1,215

SPECIFICATION:
Vehicle Weight: 5.4 tons
Dimensions: Length 13 ft 2 ins, Width 6 ft 8 ins, Height 5 ft 6 ins
Powerplant: 1 x Krupp M 305 59 hp petrol engine
Performance: Maximum speed 40 mph, Range 185 miles
Armament: 1 x 7.92 mm machine guns, 1 x flamethrower
Armour: Maximum thickness 13 mm
Crew: 2

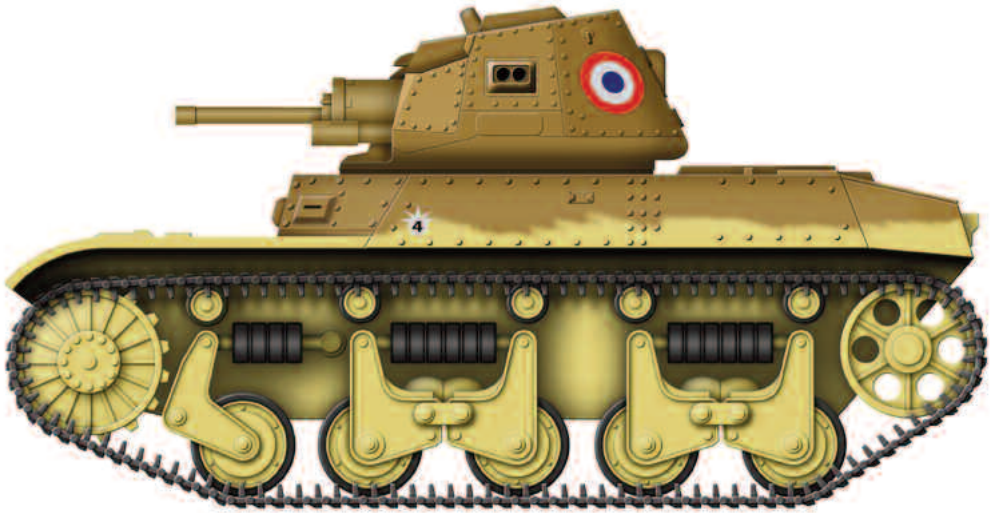


Renault AMR 33

In early 1931 the French Army defined three types of vehicles they required for their armoured forces, one of which was the Auto-Mitrailleuse de Reconnaissance (AMR) that would be used with the motorised dragoon formations as a fast cross-country reconnaissance and support vehicle, having a crew of two and armed with a 7.5 mm machine gun. To meet this specification Renault design their VM in 1932 which was accepted by the military. Production began the following year with the vehicle being designated the Auto-Mitrailleuse de Reconnaissance Renault Modèle 1933, or AMR 33. The AMR 33 was a small, lightly armoured vehicle that weighed just under 5.5 tons, and in service suffered from a fragile suspension system that could throw the tracks at high speeds, and after 123 had been built production was switched to a revised design (the AMR 35). When World War Two began in September 1939 the French had over 90 AMR 33s still on strength, and were first used in action on the 10th May 1940 in the Ardennes sector. They proved to be easy prey for anything armed with a 20 mm cannon or above, and as a consequence the first French tank to be destroyed in combat was an AMR 33.

Country of Origin: France
Number Built: 123

SPECIFICATION:
Vehicle Weight: 5.5 tons
Dimensions: Length 11 ft 6 ins, Width 5 ft 3 ins, Height 5 ft 8 ins
Powerplant: 1 x 84 hp Reinastella petrol engine
Performance: Maximum speed 37 mph, Range 120 miles
Armament: 2 x 7.5 mm Mitrailleuse machine guns
Armour: Maximum thickness 13 mm
Crew: 2

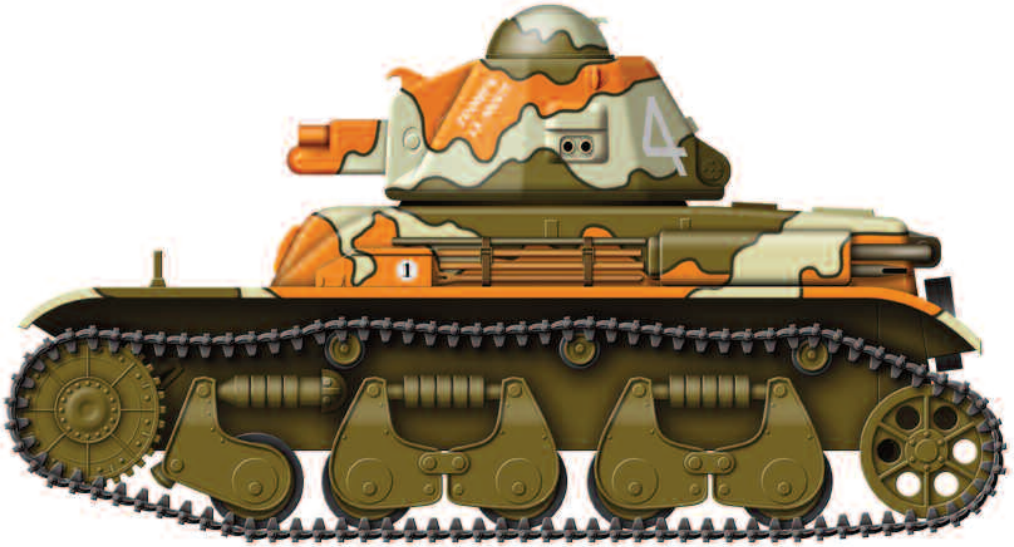


Renault AMC 35

The Renault AMC 35 (Auto-Mitrailleuse de Combat) was similar in layout to the AMC 34, but had a more powerful 180hp engine, a short barrelled 47 mm gun, and a new suspension that used a bell crank scissors system with horizontal rubber springs. Fifty AMC 35s were ordered, but production was slow and only 47 had been delivered in early 1940. At first they were not issued to any units, but after the German break-through at Sedan in mid May, the French High Command decided to send the entire tank reserve to the confront the threat. Several ad-hoc units were hastily formed to fight rearguard actions, but the crews using the AMC 35 were bitterly disappointed with the type due to their unreliability and short range. In 1935 Belgium had placed an order for ten AMC 35s, but when they finally arrived they discovered they were in poor condition. The Belgians armed their tanks with a 47 mm anti-tank gun and a heavy machine gun, but in January 1940 the two in the worst condition were selected to be cannibalised for spare parts. The remainder were formed into one unit, and after the Germans invaded on the 10th May they were used to delay their advance, four being destroyed during the fighting.

Country of Origin: France
Number Built: 57

SPECIFICATION:
Vehicle Weight: 14.5 tons
Dimensions: Length 15 ft, Width 7 ft 4 ins, Height 7 ft 6 ins
Powerplant: 1 x 180 hp petrol engine
Performance: Maximum speed 26 mph, Range 100 miles
Armament: 1 x 47mm gun, 1 x 7.5 mm machine gun
Armour: Maximum thickness 25 mm
Crew: 3



Renault R35 Light Infantry Tank

The design of the R35 was produced in 1934 as a replacement for the ageing Renault FT17 which had its origins in the First World War I. A prototype was produced and ready for trials in early 1935, but the design was ordered into production before their completion after Germany began to re-arm in violation of the Treaty of Versailles. By 1940 over 1,600 of the tanks had been built and was the most numerous tank in the French Army. The machine itself was similar to the FT17, being small with a two man crew, and typical of contemporary French tank designs of the time. By the time the Germans invaded in May 1940 over 1,500 had been built, but during the fighting the short barrelled 37 mm gun proved to be a disappointment, the tank being capable against the Panzer Is, and IIs, but no match for the Panzer IIIs and IVs, although the armour was effective against most of the lighter anti-tank guns. After the fall of France large numbers of the R35 fell into German hands who used them for internal security, but after Germany invaded Russia in June 1941, many were stripped of their turrets and used as an artillery tractor or munitions carrier, while others were converted for use as self-propelled artillery.

Country of Origin: France
Number Built: 1,540

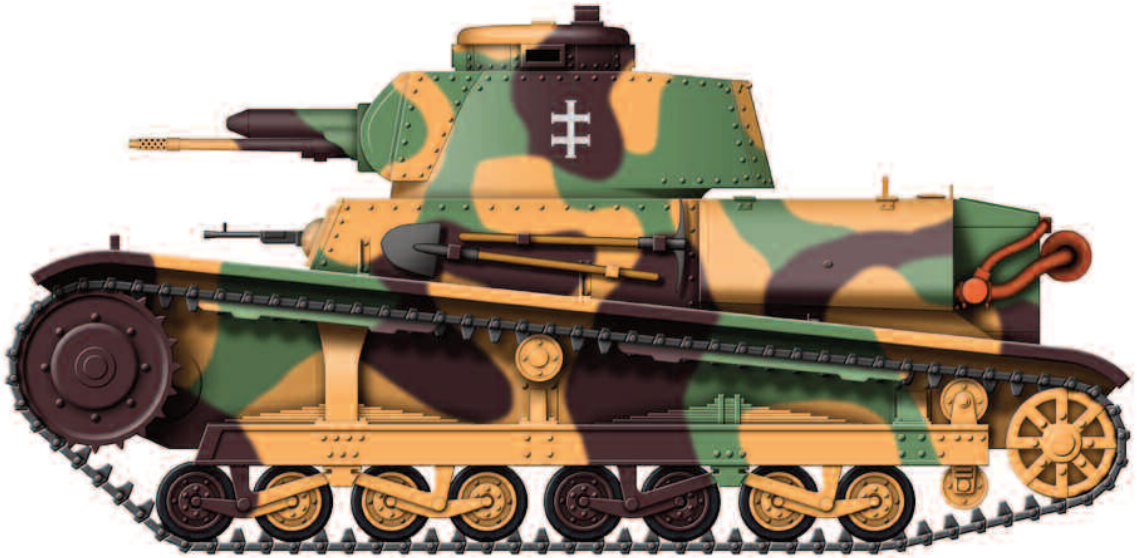
SPECIFICATION:
Vehicle Weight: 10.5 tons
Dimensions: Length 13 ft 2 ins, Width 6 ft 2 ins, Height 7 ft
Powerplant: 1 x 82 hp petrol engine
Performance: Maximum speed 12½ mph, Range 80 miles
Armament: 1 x 37 mm gun, 1 x 7.5 mm machine gun
Armour: Maximum thickness 40 mm
Crew: 2

Hotchkiss H35 Cavalry Tank

Another design that emerged in the early 1930s for the French cavalry arm was the Hotchkiss H-35. Trials proved the tank to be under-powered, being slow and difficult to steer, but production still went ahead for the want of a better machine. The H-35 began to enter service in 1936 with the cavalry, while a proportion were assigned to the infantry in the support role. Meanwhile a prototype had been produced in 1937 with a more powerful 120 hp engine and a better gun. This required the hull and suspension to be modified which raised the weight to 12.1 tons, but gave the tank a speed of 22.5 mph which proved to be easier to drive. The design was accepted and placed in production which commenced from the 401st machine as the Hotchkiss H-35/39. By the time production ceased in 1940 around 1,200 had been built out of a projected total of 4,000, but in action the H-35 proved to be a mediocre tank. A substantial number of the H-35 were captured by the Germans, and after they invaded Russia in June 1941 many were stripped of their turrets and used as an artillery tractor or munitions carrier, while others were later converted for use as self-propelled artillery.

Country of Origin: France
Number Built: 1,200

SPECIFICATION:
Vehicle Weight: 10.5 tons
Dimensions: Length 13 ft 10 ins, Width 6 ft 4¾ ins, Height 7 ft
Powerplant: 1 x 75 hp Hotchkiss petrol engine
Performance: Maximum speed 17 mph, Range 93 miles
Armament: 1 x 37 mm L21 SA18 gun, 1 x 7.5 mm machine gun
Armour: Maximum thickness 40 mm
Crew: 2

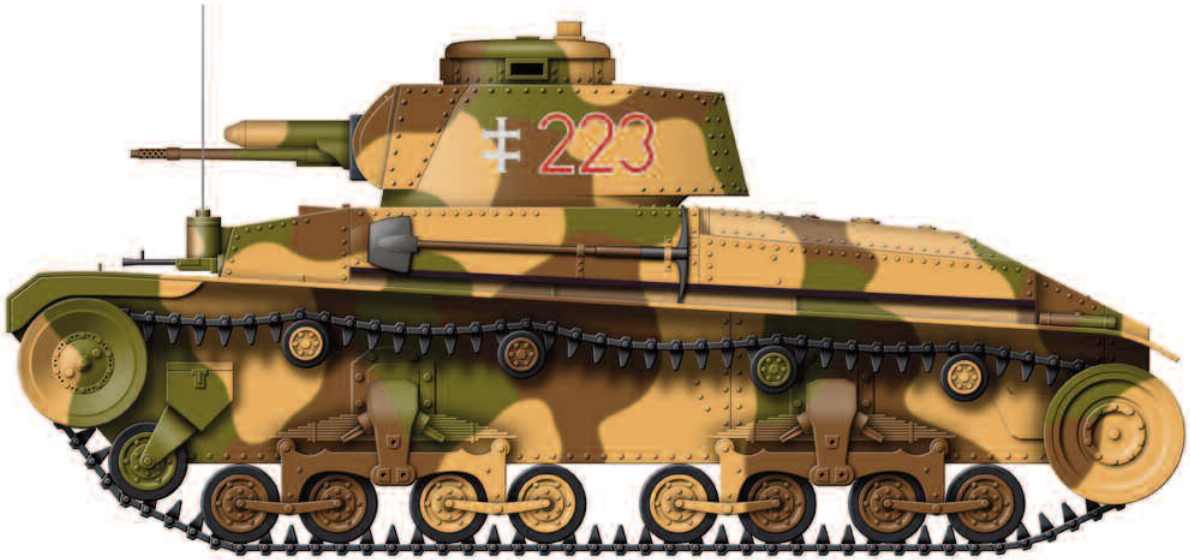


LT vz 34 Light Tank

Known as the Lehký Tank vzor 34 (Light Tank Model 34), this was the first true tank built by Czechoslovakia. In 1931 an order was placed with Ceskomoravská Kolben-Danek to design and build a prototype tank for the Czech army. The vehicle was completed in November 1932, and after successful tests by the military an order for 50 machines was placed in April 1933. The first six were pre-production models which were delivered in September 1933. 24 were to follow in 1934 (hence the name), and the final 20 in mid 1935. Delays occurred, mainly due to the quality of the armour plate and the Army's rejection of the proposed armament of a 4.7 cm Vickers 44/60 gun and two machine-guns. The pre-production models were eventually delivered in April 1934, while the last tank was delivered in January 1936, by which time they were already obsolete. When the Germans occupied Bohemia-Moravia in March 1939 they captured twenty-two of the tanks along with the prototype, who promptly scrapped them. The remaining twenty-seven were seized by the Slovaks when they declared independence from Czechoslovakia at the same time. In Slovak service they only saw action during the National Uprising in 1944.

Country of Origin: Czechoslovakia
Number Built: 50

SPECIFICATION:
Vehicle Weight: 7.4 tons
Dimensions: Length 15 ft, Width 6 ft 9 ins, Height 7 ft 3 ins
Powerplant: 1 x Praga 62 hp petrol engine
Performance: Maximum speed 19 mph, Range 100 miles
Armament: 1 x 37 mm gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 15 mm
Crew: 3

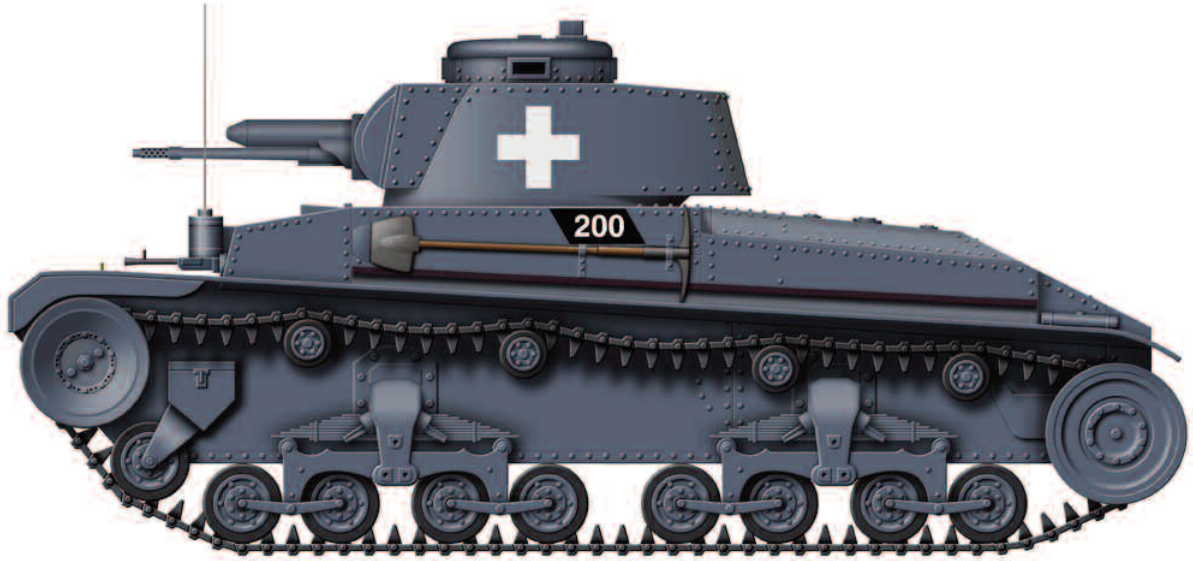


LT vz 35 Light Tank (Panzerkampfwagen 35(T))

The LT-35 was the result of a contest between the two main Czechoslovak arms firms, Skoda and CKD. CKD had won the first round of this contest and in 1933 received an order for fifty LT vz.34 light tanks. After receiving the LT-34 the Czech army issued another specification for a medium tank which both companies put forward a design, and after trials in 1935 the Skoda design was judged to be the winner, and in October an initial order was placed for 160 tanks with the designation LT vz 35. The LT-35 was a good but over-complex tank, with a powerful main gun and better than average armour, but suffered from a number of reliability problems when it first entered service. When these were overcome the tank became popular with its crews, but the design had limited potential for further development, and only 434 were built. Following the German occupation of Czechoslovakia in March 1939, 244 LT-35s were seized and used by their forces. They were used alongside the Panzer III medium tank and used during the invasion of Poland in September 1939 and France in May 1940. Romania had ordered 126 of the tanks who used their vehicles during the German invasion of Russia where most were lost.

Country of Origin: Czechoslovakia
Number Built: 434

SPECIFICATION:
Vehicle Weight: 10.5 tons
Dimensions: Length 16 ft 1 in, Width 6 ft 9 ins, Height 7 ft 9 ins
Powerplant: 1 x Škoda 120 hp petrol engine
Performance: Maximum speed 21 mph, Range 120 miles
Armament: 1 x 37 mm gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 25 mm
Crew: 4



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Number Built: 434

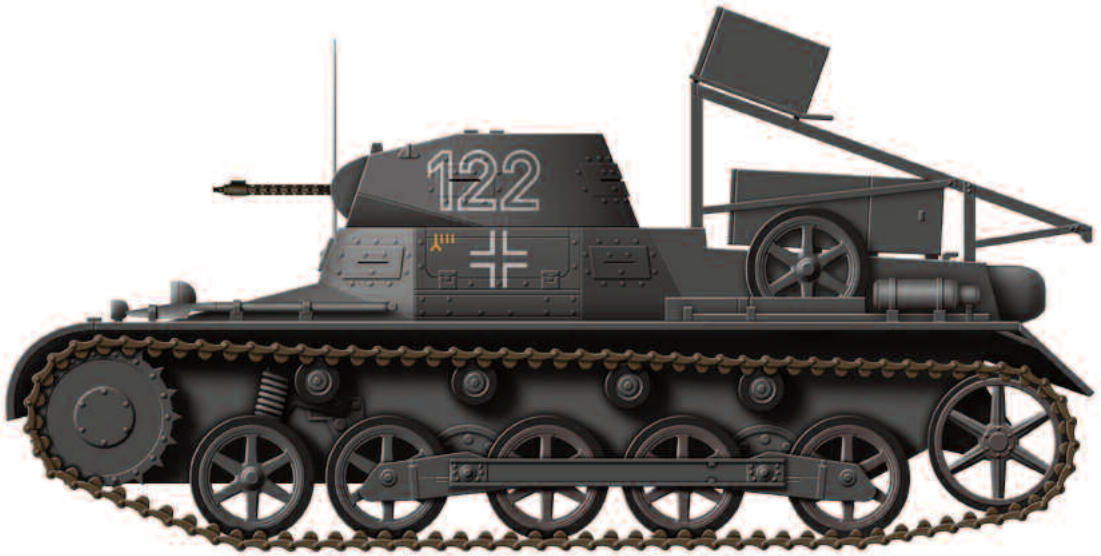
SPECIFICATION:
Vehicle Weight: 10.5 tons
Dimensions: Length 16 ft 1 in, Width 6 ft 9 ins, Height 7 ft 9 ins
Powerplant: 1 x Škoda 120 hp petrol engine
Performance: Maximum speed 21 mph, Range 120 miles
Armament: 1 x 37 mm gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 25 mm
Crew: 4

Panzer I Ausf B

To overcome the problems of the Panzerkampfwagen I Ausf A, the vehicle was redesigned with a longer chassis and two more bogie wheels. This was needed to accommodate a 100 hp Maybech petrol engine instead of the original Krupp 59 hp engine, while modifications to the suspension greatly improved the performance and reliability of the tank. Designated the Panzerkampfwagen I Ausf B, the revised design was placed in production during 1936 ,with around 675 being built by the time production was ended in 1938. Still designed as a training tank they retained the same armour and armament as the Ausf A. Like the Ausf A, several served with the Condor Legion during the Spanish Civil War, and on the outbreak of the World War Two were deployed in the reconnaissance and infantry support roles during the invasion of Poland and France, and in the early days of the North Africa campaign. 400 took part in the invasion of Russia in July 1941, but by the end of the year the useful life of the tank was at an end after they had several encounters with Russian T34s, KV1s and the Russian winter. They were then phased out of service, surviving vehicles being converted for support, policing or training duties.

Country of Origin: Germany
Number Built: 675

SPECIFICATION:
Vehicle Weight: 5.8 tons
Dimensions: Length 13 ft 9 ins, Width 6 ft 4 ins, Height 6 ft 5 ins
Powerplant: 1 x Maybech 100 hp petrol engine
Performance: Maximum speed 25 mph, Range 1105 miles
Armament: 2 x 7.92 mm machine guns
Armour: Maximum thickness 13 mm
Crew: 2

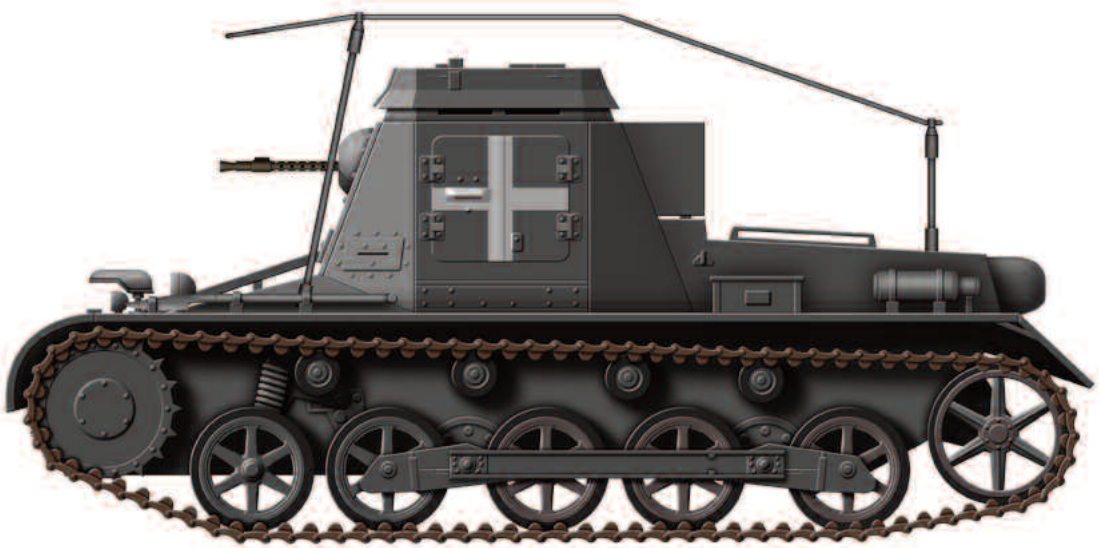


Ladungsleger auf Panzerkampfwagen I Ausf B

On the outbreak of the World War Two the Panzer I Ausf Bs were deployed alongside the Ausf A during the invasion of Poland and France, and although they were never a match for French tanks, they were used successfully due to their speed and tactical use. In North Africa they were used to support the Italians in February 1941, although they were soon replaced by the Panzer II. 400 took part in the invasion of Russia in July, where a small number were allocated to the Pioneer Batallions and modified into the Ladungsleger auf Panzerkampfwagen I Ausf B. These were used to destroy fortified positions or major obstacles, and were fitted with laying gear mounted on the rear deck of the tank which would place a large explosive charge behind the vehicle that was detonated after the tank retired. Another family member was the Panzer-befehlswagen I, the German Army's first purpose designed command tank, and the main command tank in service with Panzer units in 1939. This was built on the Ausf B chassis and had the superstructure built up in place of the turret, allowing more space inside the vehicle for command and radio equipment. A single MG13 or MG34 machine gun in a ball mount being fitted for defence.

Country of Origin: Germany
Number Produced: Unknown

SPECIFICATION:
Vehicle Weight: 5.8 tons
Dimensions: Length 13 ft 9 ins, Width 6 ft 4 ins, Height 6 ft 5 ins
Powerplant: 1 x Maybech 100 hp petrol engine
Performance: Maximum speed 25 mph, Range 1105 miles
Armament: 2 x 7.92 mm machine guns, 50 Kg demolition charge
Armour: Maximum thickness 13 mm
Crew: 2

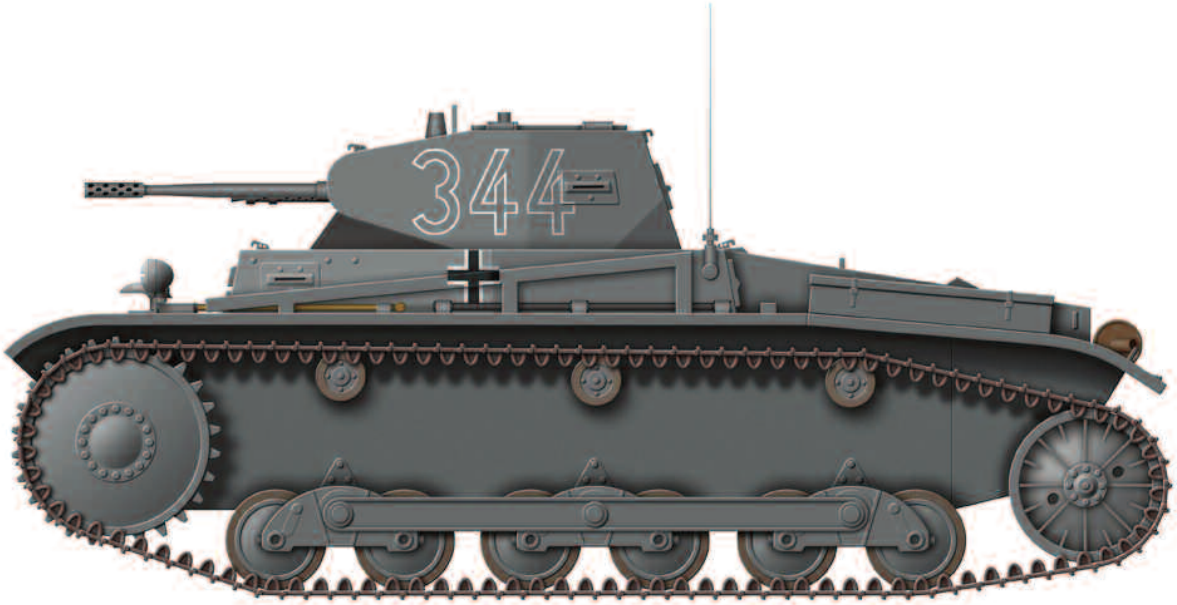


Panzerbefehlswagen I

On the outbreak of the World War Two the Panzer I Ausf Bs were deployed alongside the Ausf A during the invasion of Poland and France, and although they were never a match for French tanks, they were used successfully due to their speed and tactical use. In North Africa they were used to support the Italians in February 1941, although they were soon replaced by the Panzer II. 400 took part in the invasion of Russia in July, where a small number were allocated to the Pioneer Batallions and modified into the Ladungsleger auf Panzerkampfwagen I Ausf B. These were used to destroy fortified positions or major obstacles, and were fitted with laying gear mounted on the rear deck of the tank which would place a large explosive charge behind the vehicle that was detonated after the tank retired. Another family member was the Panzerbefehlswagen I, the German Army's first purpose designed command tank, and the main command tank in service with Panzer units in 1939. This was built on the Ausf B chassis and had the superstructure built up in place of the turret, allowing more space inside the vehicle for command and radio equipment. A single MG13 or MG34 machine gun in a ball mount being fitted for defence.

Country of Origin: Germany
Number Built: 184

SPECIFICATION:
Vehicle Weight: 5.9 tons
Dimensions: Length 13 ft 9 ins, Width 6 ft 4 ins, Height 6 ft 5 ins
Powerplant: 1 x Maybech 100 hp petrol engine
Performance: Maximum speed 25 mph, Range 105 miles
Armament: 1 x 7.92 mm MG34 machine gun
Armour: Maximum thickness 13 mm
Crew: 3

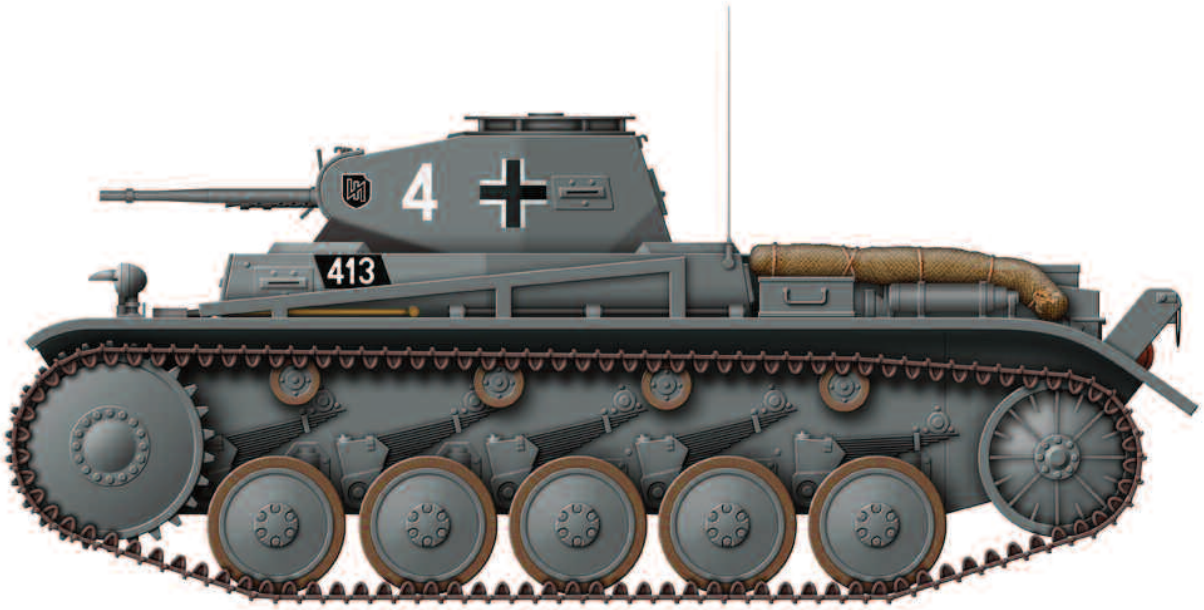


Panzerkampfwagen II Ausf 'a'

In 1934, delays in the design and production of the Panzer III and Panzer IV medium tanks would lead to the need for a stop-gap tank to take their place until they became available in numbers. In July the Waffenamt (Ordnance Department) issued an order for a vehicle that would be based on the Panzer I, but larger and having a turret armed a 20 mm cannon capable of firing both high explosive and armour piercing rounds. Armour was also to be increased to 14.5 mm making it better protected against shell splinters than the Panzer I. The prototype was ready for trials in October 1935, but with the rapid expansion of the German army the Panzer II was immediately put into production before all the vehicles teething problems had been resolved, causing the early examples to be unreliable in service. 75 Panzer Ausf 'a' were built between May 1936 and February 1937, followed by a further 25 of the similar Ausf 'b' which tried to resolve many of the issues associated with the Ausf 'a'. The Ausf 'a' and Ausf 'b' were used during the annexation of Czechoslovakia in 1938 and the invasion of Poland in 1939 before being withdrawn from front line service and then being used as training vehicles.

Country of Origin: Germany
Number Built: 75

SPECIFICATION:
Vehicle Weight: 7.6 tons
Dimensions: Length 14 ft 9 ins, Width 7 ft 3 ins, Height 6 ft 5 ins
Powerplant: 1 x Maybach 130 hp petrol engine
Performance: Maximum speed 25 mph, Range 120 miles
Armament: 1 x 2 cm cannon, 1 x 7.92mm MG34 machine gun
Armour: Maximum thickness 14.5 mm
Crew: 3

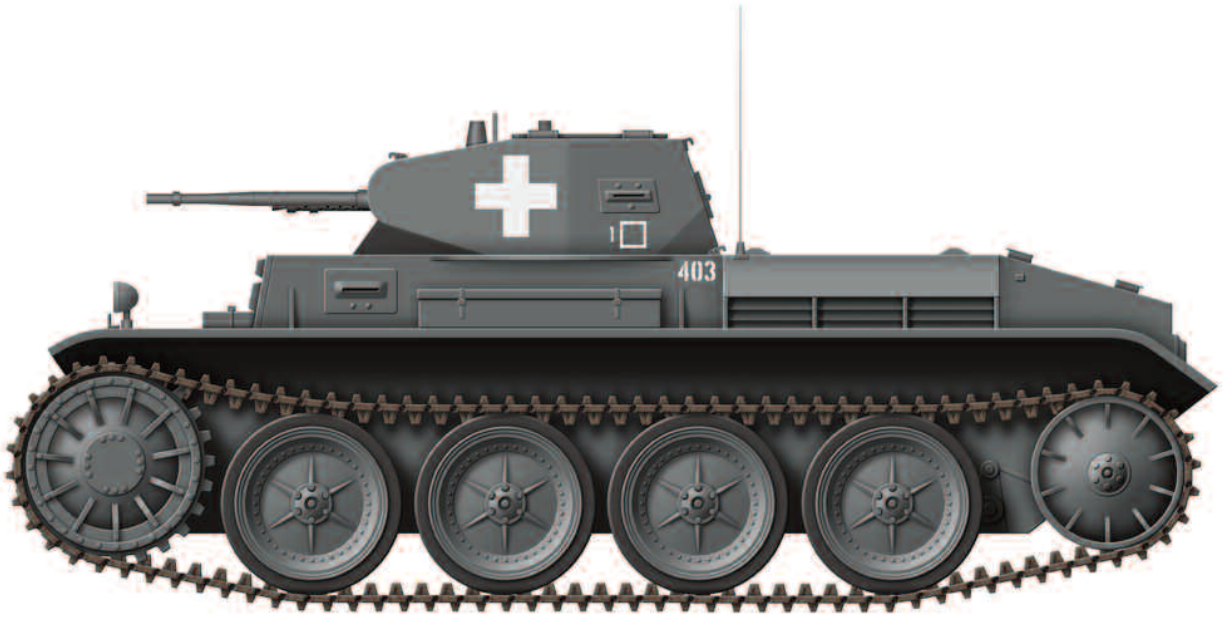


Panzerkampfwagen II Ausf 'C'

The next model of the Panzer II to be produced was the Ausf 'c' which took on the external features that became standard for the tank. major changes were to the suspension, this being changed from six small road wheels to five independently sprung larger diameter wheels. A fourth return roller was also introduced along with a new track design. The engine was better ventilated and fitted with a new transmission system, while other minor improvements included redesigned vision ports. The Ausf 'c' was placed in production in June 1938 and ran through three models which became the Panzer II Ausf A, B and C, with a total of 1,113 being built before production ceased in April 1940. They were first used during the Polish campaign where their light armour was easily penetrated by Polish anti-tank rifle fire. By the time they invaded France in May 1940 20 mm armour plates had been fitted to the superstructure and the front of the turret and hull for extra protection. After the fall of France the Ausf C served in North Africa and Russia in the reconnaissance role before being withdrawn in 1943 from frontline duties, many then being used for secondary duties until the end of the war.

Country of Origin: Germany
Number Built: 1,113

SPECIFICATION:
Vehicle Weight: 8.9 tons
Dimensions: Length 15 ft 9 ins, Width 7 ft 3 ins, Height 6 ft 6 ins
Powerplant: 1 x Maybach 140 hp petrol engine
Performance: Maximum speed 25 mph, Range 120 miles
Armament: 1 x 2 cm cannon, 1 x 7.92mm MG34 machine gun
Armour: Maximum thickness 14.5 mm
Crew: 3



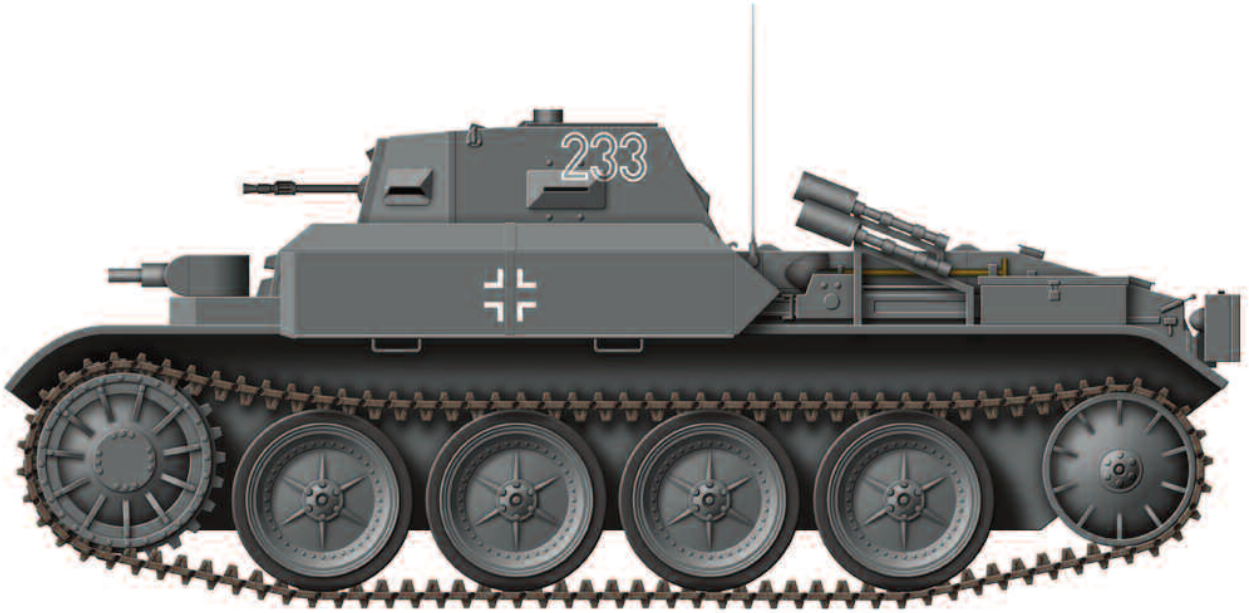
Panzerkampfwagen II Ausf D

The Panzer II Ausf D and E were designed as pursuit and reconnaissance vehicles, their hull, superstructure and suspension being completely redesigned from the rest of the Panzer II series, the only common part being the turret. They introduced a torsion bar suspension system with four large road wheels which dispensed with the need for return rollers. The same Maybach engine was used, but the revised design allowed the speed to be increased to 34 mph. They were used during the Polish campaign in 1939 but proved to have poor cross country performance and were withdrawn in early 1940.

However, by late 1939 the need for an armoured flame thrower had become apparent to defeat fortified positions. Based on the Ausf D and Ausf E, the Panzer II Flamm Ausf A and B used a new turret armed with a single MG34 machine gun and two remotely controlled flame throwers fitted in small turrets at the front corners of the tank. Each flame thrower had an 180° arc at the front, and were supplied with 320 litres of fuel. 155 were built or converted from January 1940, and were used in Russia where they had limited success due to their thin armour. In early 1942 all the surviving vehicles were withdrawn.

Country of Origin: Germany
Number Built: 43

SPECIFICATION:
Vehicle Weight: 10 tons
Dimensions: Length 15 ft 3 ins, Width 7 ft 8 ins, Height 6 ft 9 ins
Powerplant: 1 x Maybach 140 hp petrol engine
Performance: Maximum speed 34 mph, Range 120 miles
Armament: 1 x 2 cm cannon, 1 x 7.92mm MG34 machine gun
Armour: Maximum thickness 14.5 mm
Crew: 3



FlammPanzer II Ausf A

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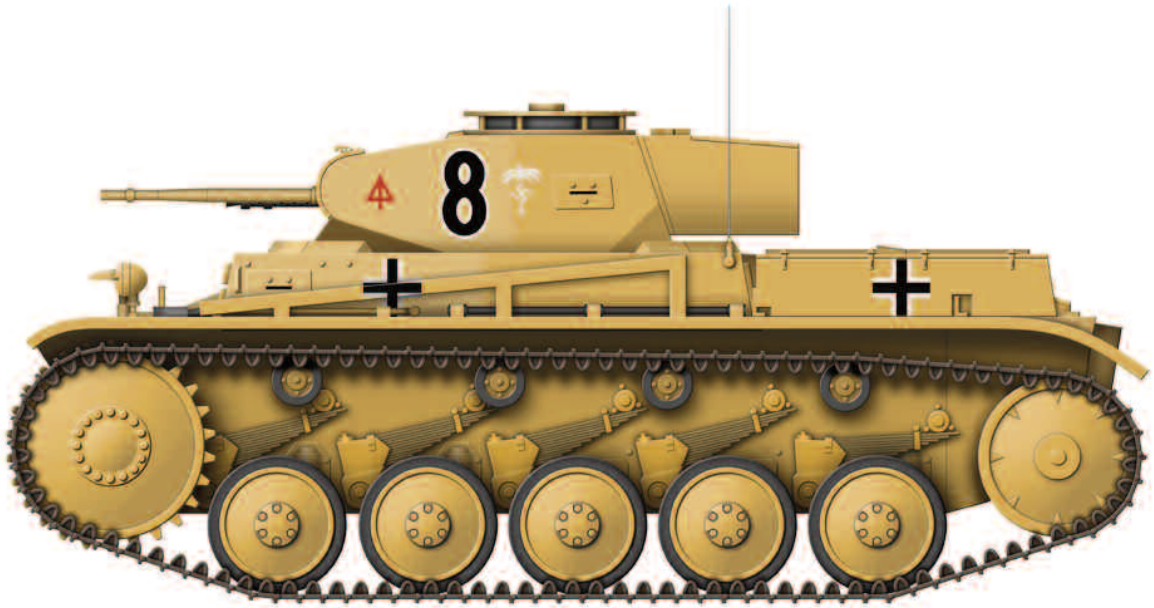
Country of Origin: Germany
Number Built: 155

SPECIFICATION:
Vehicle Weight: 12 tons
Dimensions: Length 15 ft 3 ins, Width 7 ft 8 ins, Height 6 ft 9 ins
Powerplant: 1 x Maybach 140 hp petrol engine
Performance: Maximum speed 34 mph, Range 120 miles
Armament: 2 x Flame throwers, 1 x 7.92mm MG34 machine gun
Armour: Maximum thickness 30 mm
Crew: 3

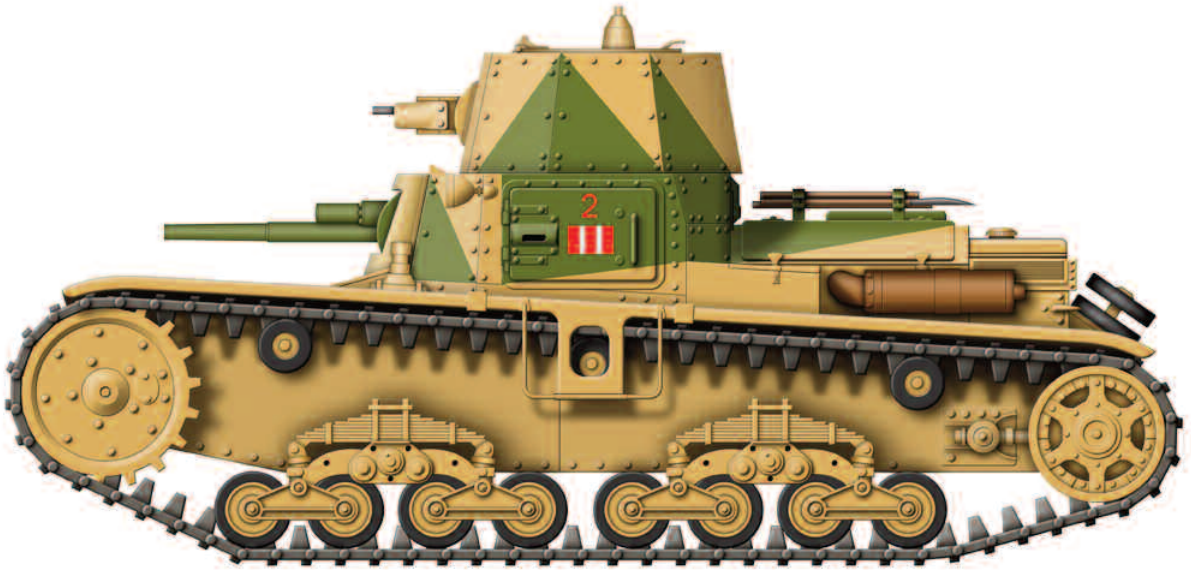


Panzerkampfwagen II Ausf F

The Panzer II Ausf F was the last major version of the Panzer II to be produced. The main visual change was the replacement of the rounded front hull with a 35 mm vertical front plate that joined the sloping armour plate retro-fitted to earlier models, giving the Ausf F an angled nose. Other alterations included minor alterations to the suspension and a new commander's cupola. The Ausf F was meant to go into production by mid 1940, but modifications carried out to the design during 1940 delayed the start of production until March 1941, nearly a year after the last major versions had ceased to be built. In early 1942 the need for a mobile anti-tank gun in Russia would lead to the decision to mount the 7.5 cm PaK 40 anti-tank gun on the Panzer II chassis. 50% of production was then used for this purpose which became the Marder II tank destroyer. The Panzer II Ausf F however served with the reconnaissance units in Russia and North Africa, but by 1943 they were no longer a viable tank and were withdrawn from frontline service in, many then being converted or deployed for secondary duties until the end of the war. Production of the Panzer II chassis did continue which were then used for self-propelled artillery.

Country of Origin: Germany
Number Built: 1,004

SPECIFICATION:
Vehicle Weight: 9.5 tons
Dimensions: Length 15 ft 9 ins, Width 7 ft 7 ins, Height 7 ft 1 ins
Powerplant: 1 x Maybech 140 hp petrol engine
Performance: Maximum speed 25 mph, Range 125 miles
Armament: 1 x 2 cm cannon, 1 x 7.92 mm MG34 machine gun
Armour: Maximum thickness 30 mm
Crew: 3



Carro Armato M11/39

The design of the M11/39 was influenced by the British Vickers E tank, particularly in the track and suspension design. The main armament was located in a sposon mounted in the hull front, while a one man turret was armed with twin 8 mm machine guns. Further development resulted in a model with eight road wheels and this basic chassis was used for all subsequent Italian medium tanks. Only 100 M 11/39s were built as the design was already considered obsolete, medium tank production then being concentrated on the M13/40 which was a superior design. Seventy-two M11/39 tanks were sent to North Africa after Italy entered World War Two on the side of Germany. During the Italian advance into Egypt the type was totally outclassed by the British A9 and A10 cruisers and a small number of Matilda tanks, many being captured or destroyed during the British counter-offensive. Twenty-four were also sent to support Italian forces in East Africa where they were also destroyed or captured. During the siege of Tobruk captured M11s were used by the Australians (who painted a large white kangaroo on the turrets) and used them against their former owners until they ran out of diesel fuel.

Country of Origin: Italy
Number Built: 100

SPECIFICATION:

Weight: 11 tons
Dimensions: Length 15 ft 5 ins, Width 7 ft 2 ins, Height 7 ft 6 ins
Powerplant: 1 x 105 hp SPA diesel engine
Performance: Maximum speed 20 mph, Range 125 miles
Armament: 1 x 37 mm gun, 2 x 8 mm Breda machine guns
Armour: Maximum thickness 30 mm
Crew: 3

Panzerkampfwagen II Ausf L (Lynx)

The final member of the Panzer II family was the Ausf L, which was developed as a fully tracked armoured reconnaissance vehicle. Design work began in 1939 and was largely based on previous models, although the vehicle was up-armoured and fitted with interleaved wheels and new tracks. A more powerful 180 hp Maybach engine and new gearbox were fitted which gave the tank a good performance, while larger fuel tanks gave the vehicle a greater range. Other changes included a new cupola, a longer range radio and an internal intercom system. The main armament remained the same KwK 38 L55 20 mm. gun, but carried more rounds, while the secondary MG 34 was relocated in the hull. The first trial vehicles were ready in April 1942 which was followed by an order for 800, the first 100 to have the standard armament and designated Lynx, and the rest to be armed with a 5 cm KwK 39/1 L/60 to be known as Leopard. In the end production was stopped after the first 100 Lynx had been built, while the Leopard was never put into production. The Lynx remained in service with the armoured reconnaissance units of the Panzer divisions and fought on both the Eastern and Western Front until the end of the war.

Country of Origin: Germany
Number Built: 100

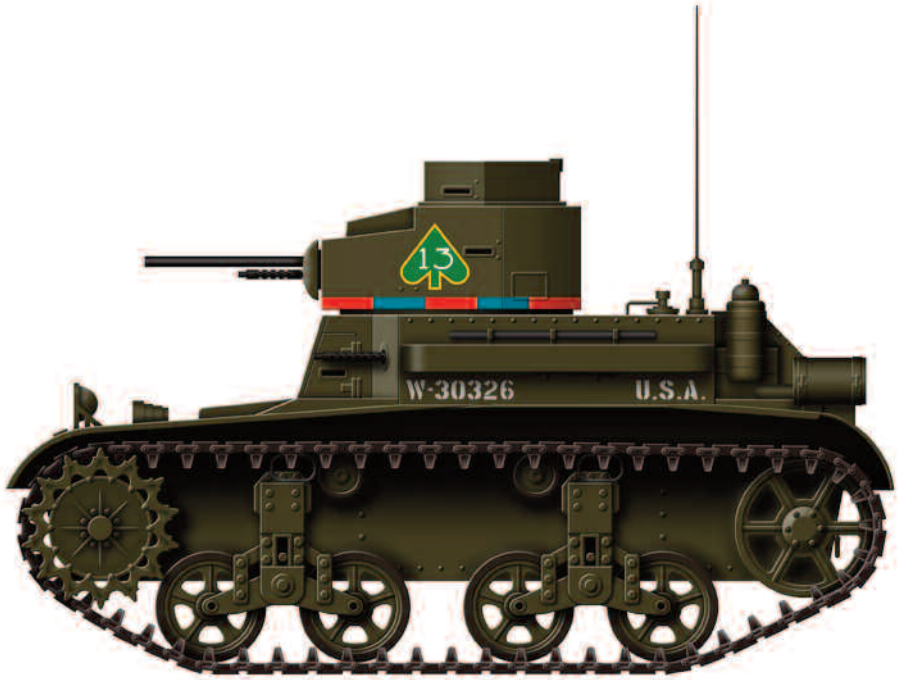
SPECIFICATION:
Vehicle Weight: 13 tons
Dimensions: Length 15 ft 2 ins, Width 8 ft 1 ins, Height 7 ft 3 ins
Powerplant: 1 x Maybach 180 hp petrol engine
Performance: Maximum speed 37 mph, Range 180 miles
Armament: 1 x 2 cm cannon, 1 x 7.92mm MG34 machine gun
Armour: Maximum thickness 30 mm
Crew: 4

M1 Combat Car

The M1 was a development of the T5 Combat Car produced by the Rock Island Arsenal in the mid 1930's for the U.S. Military. The M1 was intended for the cavalry, but initially tanks were not deemed acceptable for the higher command of this branch of the army, so were known as combat cars to disguise the fact they were tracked vehicles. Eighty-nine M1's were built which began to enter service in 1937, the first fifty-eight having a 'D' shaped turret fitted with two machine guns, the later ones having an octagonal turret and a third machine gun fitted on a pintail mount for air defence. These were followed by thirty-four M2 Combat Cars which were powered by a new Guiberson diesel radial in place of the original Continental petrol engine. Larger trailing idler wheels were also fitted which gave more ground contact for the tracks. In 1940 the infantry and cavalry tank units were combined into one force, and the 'combat car' name was dropped, the M1 combat car becoming the ,Light Tank M1A1, and the M2 combat car the 'Light Tank M1A2'. They were both mainly used as training vehicles, although a small number were in the Phillipines when the Japanese invaded and were used against the enemy until they were overcome.

Country of Origin: USA
Number Built: 89

SPECIFICATION:
Weight: 5.89 tons
Dimensions: Length 13 ft 7 ins, Width 7 ft 10 ins, Height 7 ft 9 ins
Powerplant: 1 x 250 hp Continental petrol engine
Performance: Maximum speed 45 mph, Range 100 miles
Armament: 1 x 0.5 inch mm gun, 1 x 0.3 inch machine gun
Armour: Maximum thickness 16 mm
Crew: 4

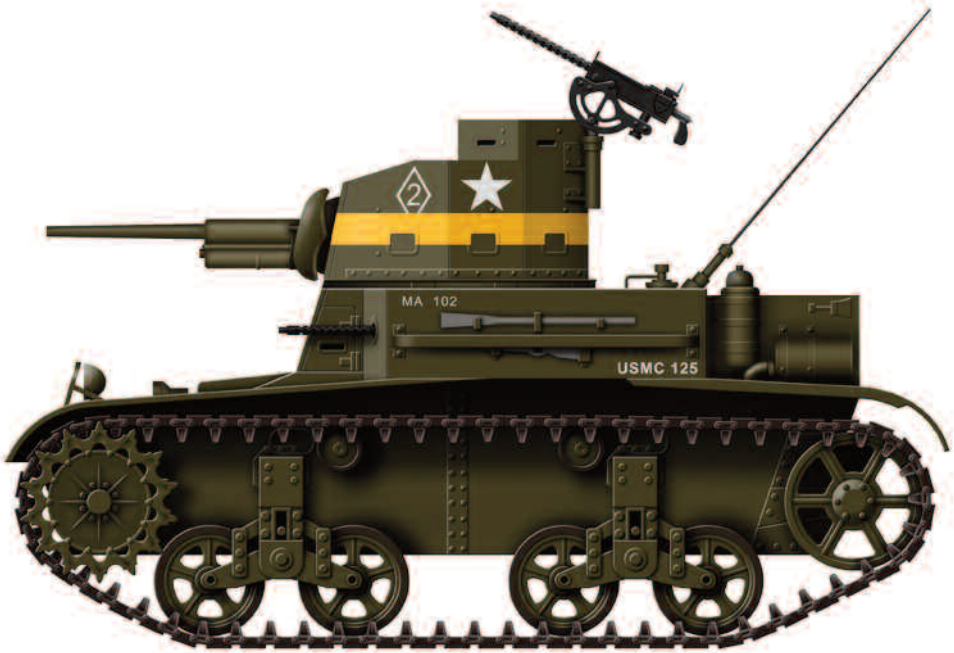


M2A2 Light Tank

The M2 series of light tanks first appeared in 1935 which were intended for use by the infantry. The first to appear was the M2A1 which was armed with a heavy 0.50 calibre machine gun in a fixed turret. This was followed by the M2A2 with two small turrets situated side by side and armed with a similar weapon. The M2A3 incorporated general improvements in armour, engine and transmission, but by 1938 the Spanish Civil War had shown the ineffectiveness of having just a machine gun armament. In 1939 the revised M2A4 appeared which was armed with a 37 mm gun as the main weapon and had heavier armour which was the main version of the tank. The M2 had the distinction of being the first U.S. tank to go into mass production with 375 being built. Thirty-six were to briefly see action in World War Two when they were used during the fighting on Guadalcanal before the M3 light tank became available in numbers. A British purchasing Commission had ordered 100 M2s in early 1941, but this order was cancelled after 36 had been delivered in preference for the superior M3. In total just over 700 M2s were built, and were mainly used as a training vehicle in the U.S.A. until 1943.

Country of Origin: USA
Number Built: 700+

SPECIFICATION: *(M2A4)*
Vehicle Weight: 11.6 tons
Dimensions: Length 14 ft 6 ins, Width 8 ft 1 in, Height 8 ft 8 ins
Powerplant: 1 x Continental 250 hp radial petrol engine
Performance: Maximum speed 36 mph, Range 200 miles
Armament: 1 x 37 mm gun, 1 x 0.5, 5 x 0.3 inch machine guns
Armour: Maximum thickness 25 mm
Crew: 4



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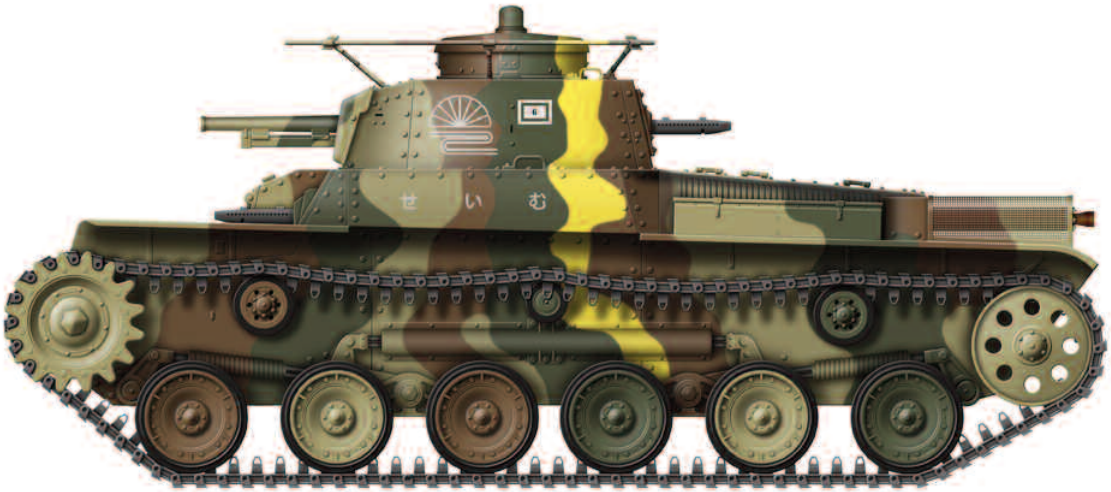
Dimensions: Length 14 ft 6 ins, Width 8 ft 1 in, Height 8 ft 8 ins
Powerplant: 1 x Continental 250 hp radial petrol engine
Performance: Maximum speed 36 mph, Range 200 miles
Armament: 1 x 37 mm gun, 1 x 0.5, 5 x 0.3 inch machine guns
Armour: Maximum thickness 25 mm
Crew: 4

Panzerkampfwagen 38(t)

In service with the Czech, the LT vz 35 medium tank suffered reliability problems on its introduction, so in October 1937 the Czechoslovak ministry of defence issued a specification for a replacement light tank. CKD were already working on a new line of armoured vehicles using a Christie style suspension system with four large road wheels on each side. This had been used on the TNH series of light tanks for the export market, and the design was modified to meet the new Czech requirement which became the LT vz 38. The turret was mounted centrally on the superstructure, and was armed with a 37 mm cannon and a co-axial 7.92 mm machine gun, a further machine gun being located in the hull front. After Germany the country in the spring of 1939 they took over the production of the tank which was they designated The Panzer-kampfwagen 38(t). The Panzer 38(t) became an important member of the German armoured forces, being involved in the invasion of Poland, France, and the initial stages of the invasion of Russia. In 1942 production of the tank ended when it was clear they were no longer viable on the battlefield, although the chassis continued to be built for a wide range of vehicles until the end of the war.

Country of Origin: Czechoslovakia
Number Built: 1,400+

SPECIFICATION:
Vehicle Weight: 9.25 tons
Dimensions: Length 15 ft 1 in, Width 6 ft 11 ins, Height 7 ft 10 ins
Powerplant: 1 x 125 hp Praga petrol engine
Performance: Maximum speed 26 mph, Range 155 miles
Armament: 1 x 37 mm gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 25 mm
Crew: 4

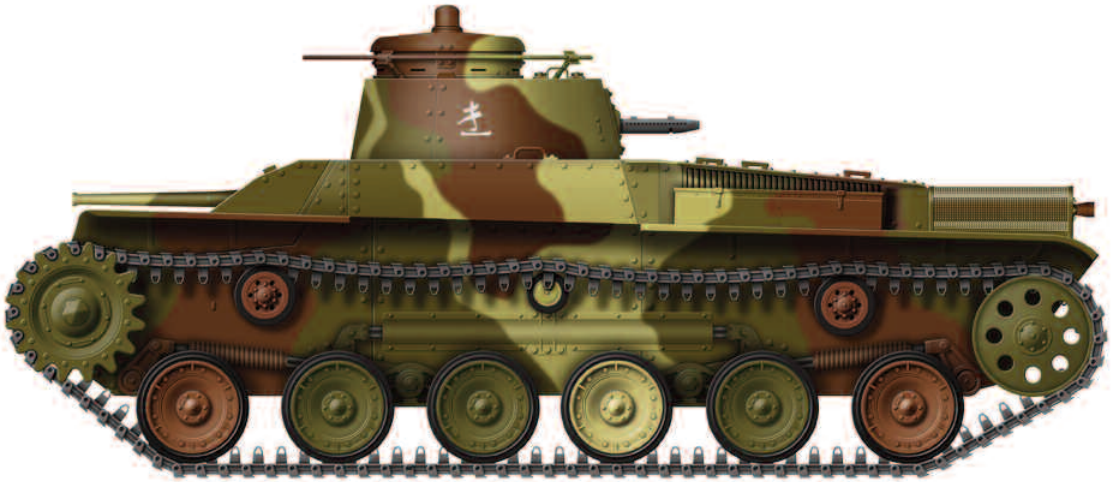


Type 97 Chi-Ha Medium Tank

By 1935 the Japanese began to look for a replacement for the type 89B medium tank which was rapidly becoming obsolete. The design by the military Engineering Department was chosen for production which was built by Mitsubishi as the Type 97 Chi-Ha medium tank. The tank had a two man turret which was manually traversed and situated in the centre of the hull, offset to the right. The main armament was a 57 mm gun, a 7.7 mm machine gun also being located in the turret rear, and a similar weapon located in the hull front. An advanced design for the time, they began to enter service in 1938, although the main gun was only a low velocity weapon. The Type 97 was first used in China where they saw considerable success against weak Chinese opposition. Their first real test was the Japanese incursion of Mongolia at Khalkhyn Gol in July 1939. Here they came up against Russian forces where they lost out to better tactics under the leadership of Zhukov. They were used extensively during the capture of the Phillipines, Hong Kong, Singapore and during the Burma campaign, and by the time production was switched to the Type 97 Shinhoto Chi-Ha in 1942, over 2,000 had been built .

Country of Origin: Japan
Number Built: 2,092

SPECIFICATION:
Vehicle Weight: 14.8 tons
Dimensions: Length 18 ft 1 ins, Width 7 ft 8 ins, Height 7 ft 8 ins
Powerplant: 1 x Mitsubishi 170 hp diesel engine
Performance: Maximum speed 24 mph, Range 130 miles
Armament: 1 x 57 mm gun, 2 x 7.7 mm machine guns
Armour: Maximum thickness 28 mm
Crew: 4

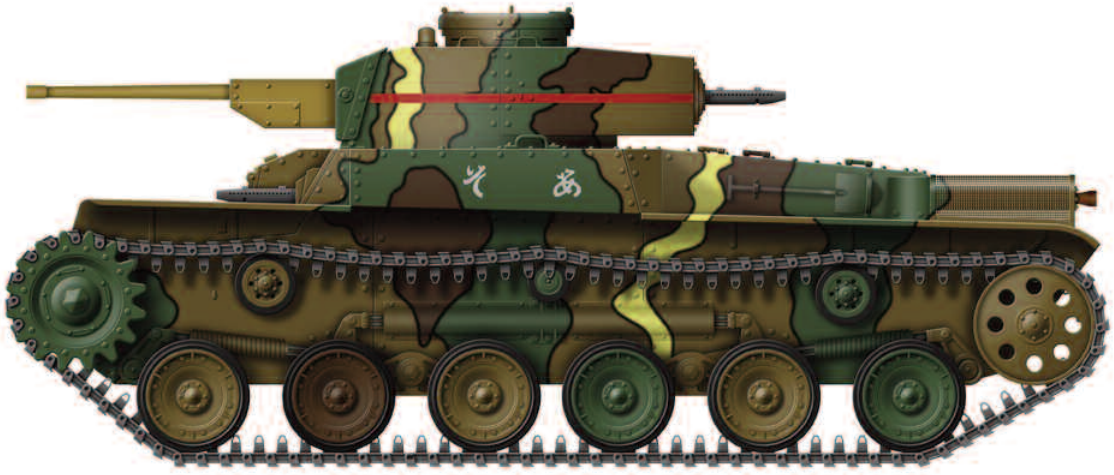


Type 97 Shi-Ki Command Tank

By 1935 the Japanese began to look for a replacement for the type 89B medium tank which was rapidly becoming obsolete. The design by the military Engineering Department was chosen for production which was built by Mitsubishi as the Type 97 Chi-Ha medium tank. The tank had a two man turret which was manually traversed and situated in the centre of the hull, offset to the right. The main armament was a 57 mm gun, a 7.7 mm machine gun also being located in the turret rear, and a similar weapon located in the hull front. An advanced design for the time, they began to enter service in 1938, although the main gun was only a low velocity weapon.. The Type 97 chassis was used for a number of self propelled guns and other vehicles. One such vehicle was the Type 97 Shi-Ki command tank which could be recognised by its smaller turret with a rail antenna. These were armed with a machine gun in the rear of the turret and a 37 mm gun in the hull, and were fitted with long range radio sets and superior optics for the commander, and were mainly used at the tank training schools. The Type 1 Chi-He Command tank that replaced the Type 97 Shi-Ki. It was fitted with additional radios and a dummy main gun on the turret.

Country of Origin: Japan
Number Built: Unknown

SPECIFICATION:
Vehicle Weight: 14.8 tons
Dimensions: Length 18 ft 1 ins, Width 7 ft 8 ins, Height 7 ft 8 ins
Powerplant: 1 x Mitsubishi 170 hp diesel engine
Performance: Maximum speed 24 mph, Range 130 miles
Armament: 1 x 37 mm gun, 1 x 7.7 mm machine gun
Armour: Maximum thickness 28 mm
Crew: 4

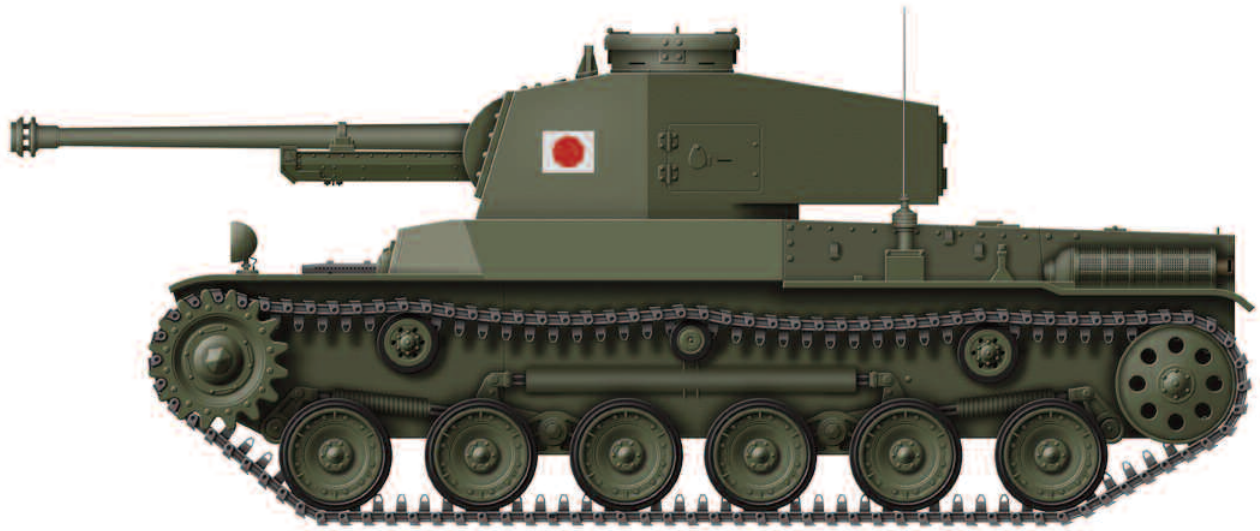


Type 97 Shinhoto Chi-Ha

When the Type 97 Chi-Ha was confronted by western medium tanks such as the M4 Sherman or M3 Grant, they were always at a disadvantage, being under-gunned and under-armoured, and was only on equal terms with light tanks such as the M3 Stuart. In order to improve the anti-tank capability of the Type 97 Chi-Ha, a larger three-man turret was fitted that was armed with a high velocity 47 mm gun. In 1942 the Type 97 Chi-Ha was replaced in production by the Shinhoto Chi-Ha, while about 300 of the original Type 97 tanks with the older turret and 57 mm main gun were also converted. The Type 97 Shinhoto was still under armoured and vulnerable to Allied tanks, but the 47 mm high velocity gun give it a fighting chance, the gun being effective against light tanks and the sides and rear of the Sherman tank. The Type 97 Shinhoto was first used iin the Philippines during the Battle of Corregidor in 1942. Later in the war in the Pacific the Type 97 Shinhoto were often dug in concealed positions to act as strong points during the battles for Luzon and Iwo Jima in 1945. In total around 900 Type 97 Shinhoto were built, and were considered to be the best Japanese tank to see service during the Pacific War.

Country of Origin: Japan
Number Built: 900

SPECIFICATION:
Vehicle Weight: 16 tons
Dimensions: Length 18 ft 1 ins, Width 7 ft 8 ins, Height 7 ft 10 ins
Powerplant: 1 x Mitsubishi 170 hp diesel engine
Performance: Maximum speed 24 mph, Range 130 miles
Armament: 1 x 47 mm gun, 1 x 7.7 mm machine gun
Armour: Maximum thickness 33 mm
Crew: 5

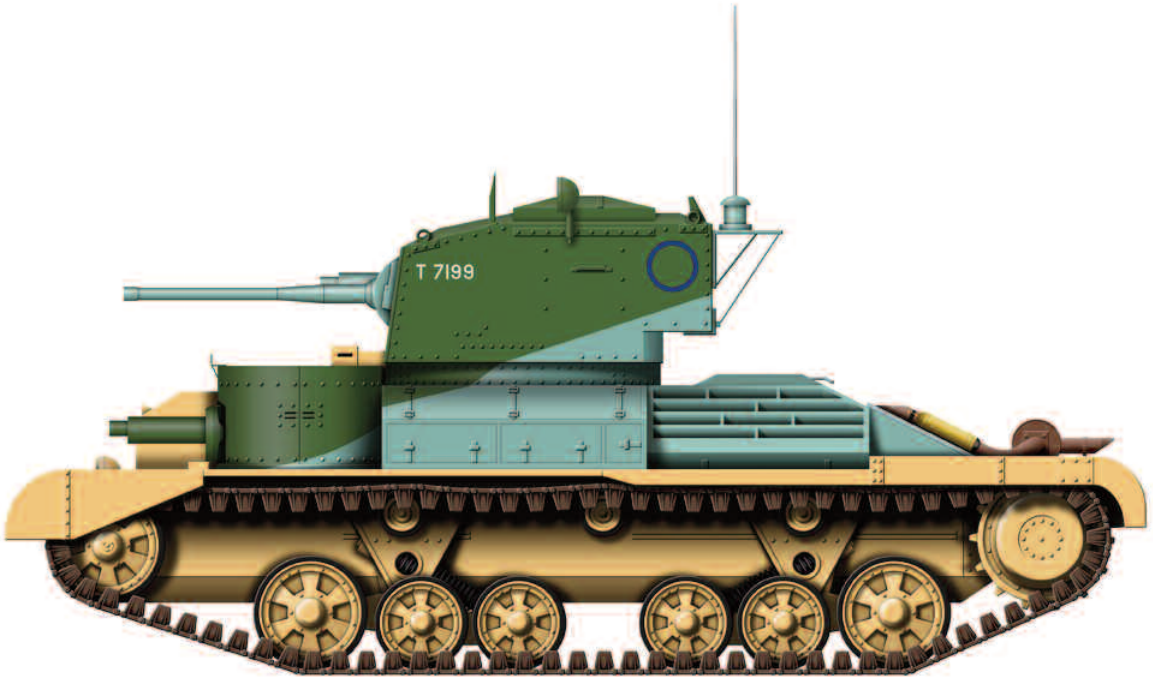


Type 3 Chi-Nu Medium Tank

The Japanese Army had realised too late the need for a heavily armed and armoured tank, and in 1943 development work commenced on the Type 4 Chi-To medium tank, the last Japanese medium tank design to be completed during the war, and considered by many to be the equivalent to the German Panther tank. In the meantime the need for a stopgap tank resulted in the Type 3 Chi-Nu. The Chi-Nu retained the same chassis and suspension of the Type 97, but had a larger gun turret and a commander's cupola. The main armament was a 75 mm gun with a muzzle velocity of 2,200 ft/s, and was capable of penetrating 90 mm of armour at close range and 65 mm at 1,000 yds. Armour was increased to a maximum of 50 mm, and to compensate the increase in weight a 240 hp diesel engine was fitted. Design work started in May 1943 and was completed by the end of the year, but the low priority given to tanks meant that the Type 3 did not enter production until 1944, by which time raw materials were in short supply and Japan's industrial infrastructure had been severely damaged by bombing. By the end of the war only 166 had been completed, while only two prototypes of the Type 4 Chi-To were built.

Country of Origin: Japan
Number Built: 166

SPECIFICATION:
Vehicle Weight: 21 tons
Dimensions: Length 18 ft 6 ins, Width 7 ft 11 ins, Height 8 ft 10 ins
Powerplant: 1 x 240 hp Mitsubishi petrol engine
Performance: Maximum speed 24 mph, Range 130 miles
Armament: 1 x 75 mm gun, 1 x 7.7 mm machine gun
Armour: Maximum thickness 50 mm
Crew: 5

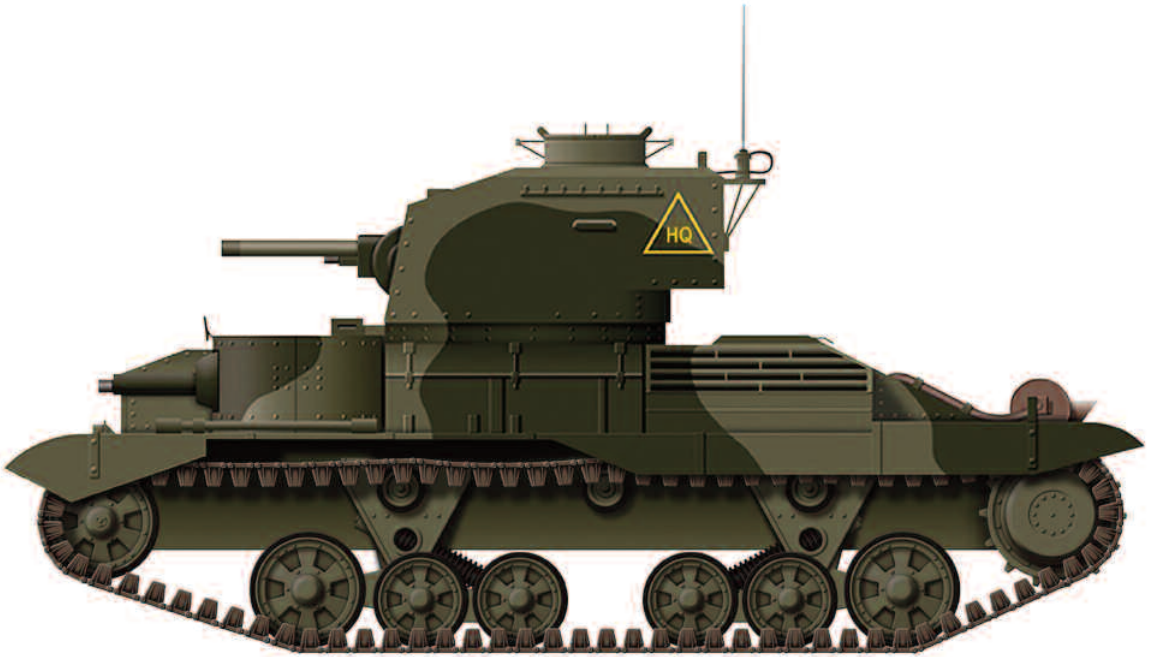


Cruiser Tank Mk I (A9)

The cruiser tank was a British idea of the inter-war period, and were designed to operate independently of the infantry and exploit any gaps made in the enemy lines and attack his lines of supply and communications. Speed was a crucial factor, so the early designs were lightly armed and armoured. Work on the A9 commenced in 1934 which incorporated many elements of the experimental A6 and A7. The A9 was the first British tank to have a hydraulically powered turret traverse system, and was armed with the new 2 pounder anti-tank gun, which was highly effective at that time. Three machine guns were carried, one in a co-axial mount with the main gun, and one each in two small turrets either side of the driver's compartment. 125 were ordered which began to enter service in early 1939, with a few seeing service with the B.E.F. in France with the 1st Armoured Division. In action the tank was too slow for its intended role and under armoured for tank versus tank engagements. The A9 next saw action in North Africa where they were effective against the lightly armoured Italian machines in the opening battles of the campaign before the better armed and armoured German machines arrived on the scene in 1941.

Country of Origin: UK
Number Built: 125

SPECIFICATION:
Vehicle Weight: 12.8 tons
Dimensions: Length 19 ft, width 8 ft 2 ins, height 8 ft 3 ins
Powerplant: 1 x AEC 150 hp petrol engine
Performance: Maximum speed 25 mph, Range 150 miles
Armament: 1 x 2 pounder gun, 3 x 0.303 inch machine guns
Armour: Maximum thickness 14 mm
Crew: 6



Cruiser Tank Mk I CS (A9)

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Number Built: 125

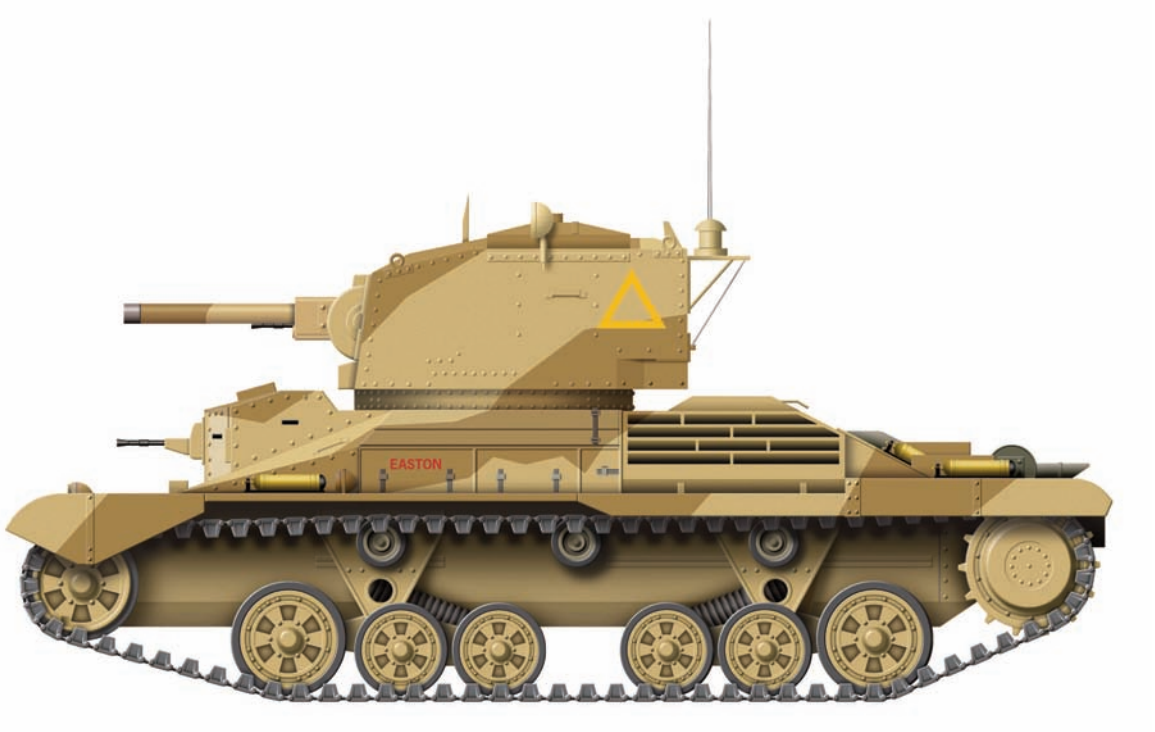
SPECIFICATION:
Vehicle Weight: 12.8 tons
Dimensions: Length 19 ft, width 8 ft 2 ins, height 8 ft 3 ins
Powerplant: 1 x AEC 150 hp petrol engine
Performance: Maximum speed 25 mph, Range 150 miles
Armament: 1 x 2 pounder gun, 3 x 0.303 inch machine guns
Armour: Maximum thickness 14 mm
Crew: 6

Cruiser Tank Mk II (A10)

The A10 Cruiser Mk II was developed alongside the A9 as the infantry support version. The two machine gun turrets were omitted and replaced by a raised barbette fitted with a single Vickers machine gun, while armour thickness was increased to a maximum of 30 mm. The same 150 hp A.E.C. engine powered the tank which gave the tank a speed of 16 mph. The tank was armed with the same 2 pounder anti-tank gun as the A9 which lacked a high explosive capability, so similar to the A9, a small proportion were built as close support (CS) versions armed with a 3.7 inch howitzer. During trials the tank was soon found to be under armoured for its intended role, and instead was ordered into production as a 'heavy cruiser'. The A10 made its combat during the Battle for France in the spring of 1940, seeing further action in North Africa where they were used with good effect against the Italians. In 1941 sixty worn out examples were taken from North Africa to Greece where they performed well against the invading Germans, most being lost through mechanical breakdowns. In service they were more popular than the A9, but were soon withdrawn when better machines became available towards the end of 1941.

Country of Origin: UK
Number Built: 175

SPECIFICATION:
Vehicle Weight: 13.75 tons
Dimensions: Length 18 ft 1 ins, Width 8 ft 4 ins, Height 8 ft 6 ins
Powerplant: 1 x AEC 150 hp petrol engine
Performance: Maximum speed 16 mph, Range 100 miles
Armament: 1 x 2 pounder gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 30 mm
Crew: 5



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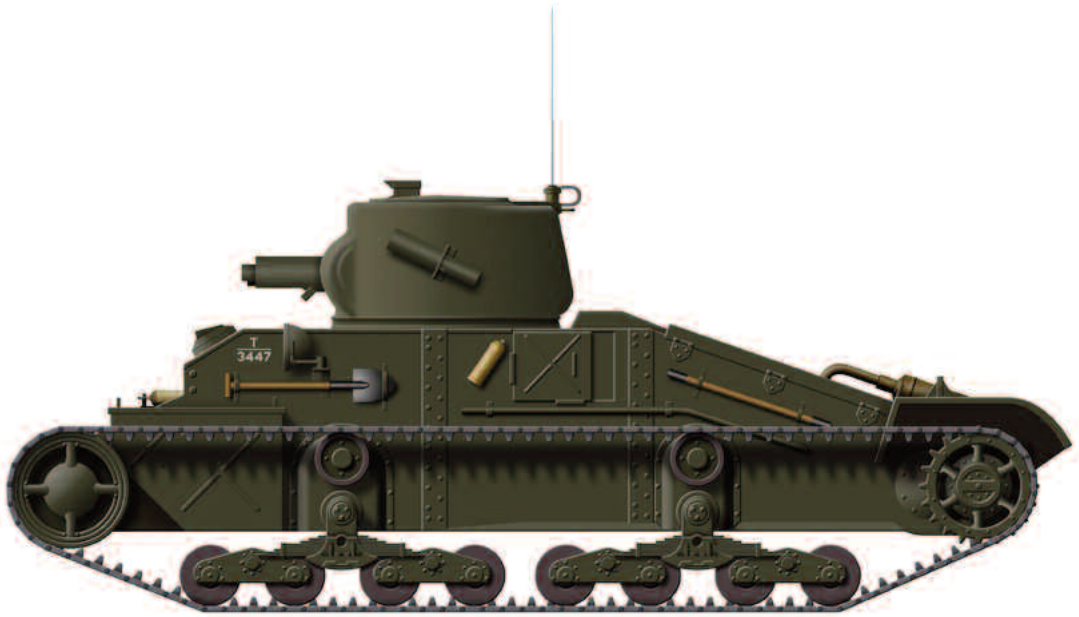
Vehicle Weight: 13.75 tons
Dimensions: Length 18 ft 1 ins, Width 8 ft 4 ins, Height 8 ft 6 ins
Powerplant: 1 x AEC 150 hp petrol engine
Performance: Maximum speed 16 mph, Range 100 miles
Armament: 1 x 2 pounder gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 30 mm
Crew: 5

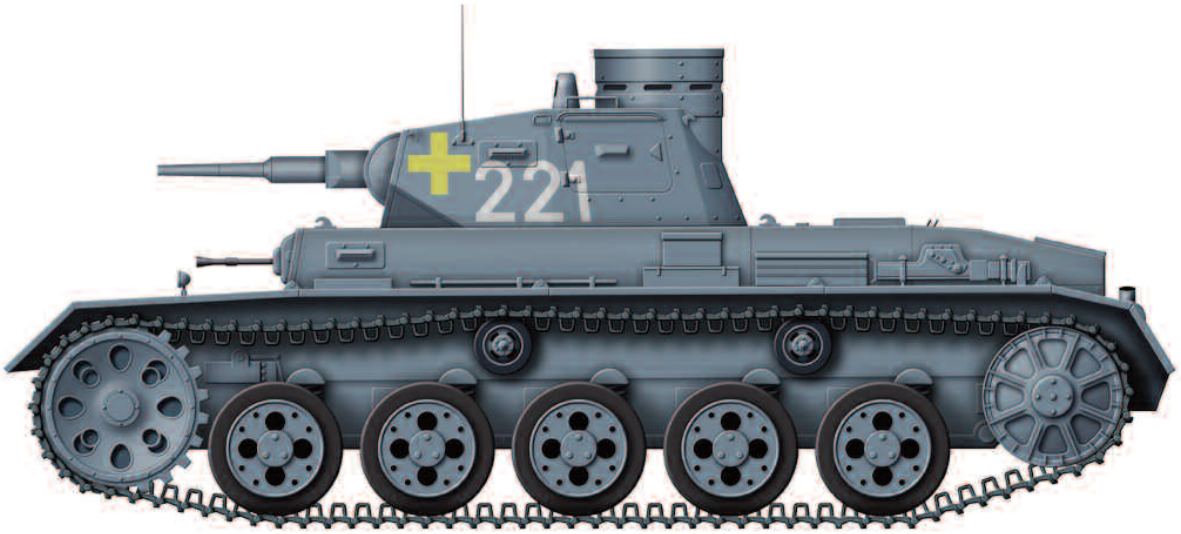


Infantry Tank Mk I 'Matilda I' (A11)

In 1935 the General Staff of the British Army issued a specification for a cheap tank that would use commercially available components. The prototype of the A11 appeared from Vickers in 1936, and was a small two man tank, with a low hull and a small turret which was armed with a single 0.303 or 0.50 inch machine gun. Of simple construction the tank was heavily armoured for the time, although the tracks and running gear were vulnerable. As they were designed as an infantry tank, speed was of secondary importance, and were powered by a 70 hp Ford engine which gave them a speed of 8 mph. In 1937 orders for the A11 were placed with the type entering service in 1938, but by then the concept of a tank armed only with machine guns was obsolete. In service they were difficult to operate, the cramped conditions inside the vehicle making conditions difficult for the commander and driver. Many of the tanks were sent to France with the B.E.F. where they proved to be resistant to the standard German 37 mm anti tank guns, although all were lost during the fighting which led to the British being evacuated from Dunkirk in 1940. The Matilda Is still in the U.K. were soon withdrawn and used for training.

Country of Origin: UK
Number Built: 140

SPECIFICATION:
Vehicle Weight: 11 tons
Dimensions: Length 15 ft 11 ins, Width 7 ft 6 ins, Height 6 ft 1 in
Powerplant: 1 x Ford 70 hp petrol engine
Performance: Maximum speed 8 mph, Range 80 miles
Armament: 1 x Vickers 0.303 inch machine gun
Armour: Maximum thickness 60 mm
Crew: 2

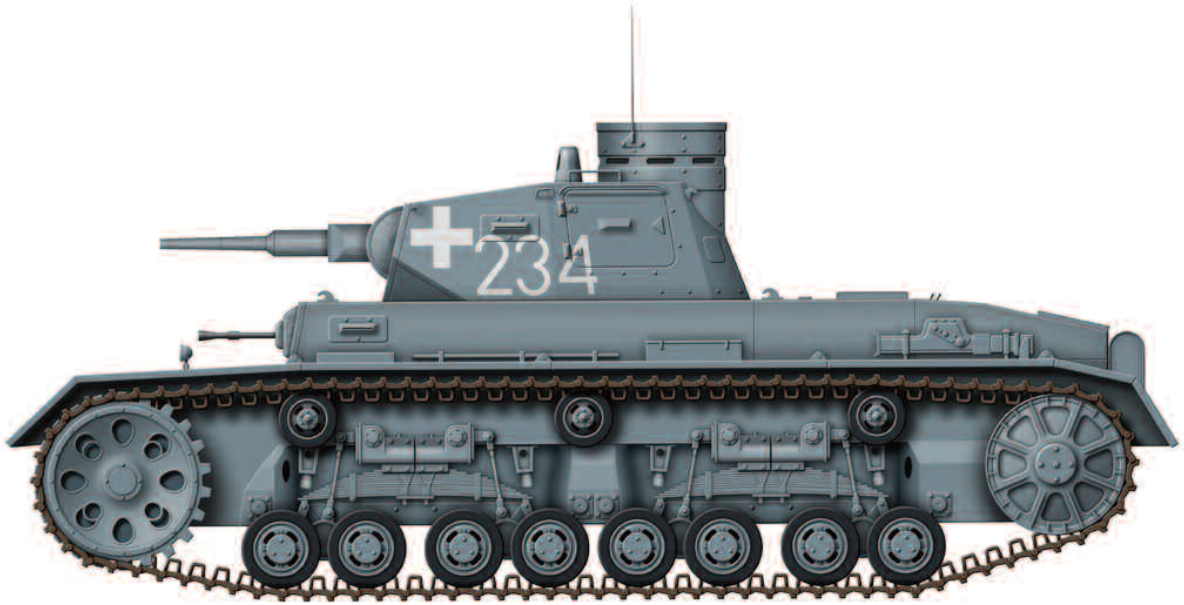


Panzerkampfwagen III Ausf A

The Panzerkampfwagen III medium tank was developed in the 1930s to engage other armoured and serve alongside the Panzer IV which was designed to support the infantry. The Panzer III Ausf A and Ausf B were prototype vehicles, ten of each being produced, many being used during the Polish campaign, but they were withdrawn in 1940. The first to see large scale production were the Ausf E (96) and Ausf F (435) from 1939, these being better armoured and improvements to the suspension. The Panzer III Ausf J was the most common variant of the tank with over 1,500 being produced during 1941/42. The Hull and turret front armour was increased to 50 mm and spaced armour placed around the gun mantlet. A further 1,470 were armed with the 5 cm KwK 39 L/60 gun which became the Ausf L. Both types served in North Africa and Russia, but when they were confronted by the Russian T-34 and KV tanks they were outclassed. The Panzer IV had better development potential so they swapped roles. The Panzer III Ausf N was the last in the line and mounted the short barrelled 7.5 cm KwK 37 L/24 which was better suited for infantry support. Production of the Panzer III ceased in 1943.

Country of Origin: Germany
Number Built: 10

SPECIFICATION:
Vehicle Weight: 15.4 tons
Dimensions: Length 18 ft 8 ins, Width 9 ft 3 ins, Height 7 ft 8 ins
Powerplant: 1 x 250 hp Maybach petrol engine
Performance: Maximum speed 22 mph, Range 102 miles
Armament: 1 x 3.7 cm gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 15 mm
Crew: 5



Panzerkampfwagen III Ausf B

The Panzerkampfwagen III medium tank was developed in the 1930s to engage other armoured and serve alongside the Panzer IV which was designed to support the infantry. The Panzer III Ausf A and Ausf B were prototype vehicles, ten of each being produced, many being used during the Polish campaign, but they were withdrawn in 1940. The first to see large scale production were the Ausf E (96) and Ausf F (435) from 1939, these being better armoured and improvements to the suspension. The Panzer III Ausf J was the most common variant of the tank with over 1,500 being produced during 1941/42. The Hull and turret front armour was increased to 50 mm and spaced armour placed around the gun mantlet. A further 1,470 were armed with the 5 cm KwK 39 L/60 gun which became the Ausf L. Both types served in North Africa and Russia, but when they were confronted by the Russian T-34 and KV tanks they were outclassed. The Panzer IV had better development potential so they swapped roles. The Panzer III Ausf N was the last in the line and mounted the short barrelled 7.5 cm KwK 37 L/24 which was better suited for infantry support. Production of the Panzer III ceased in 1943.

Country of Origin: Germany
Number Built: 10

SPECIFICATION:
Vehicle Weight: 15.9 tons
Dimensions: Length 18 ft 8 ins, Width 9 ft 3 ins, Height 7 ft 6 ins
Powerplant: 1 x 250 hp Maybach petrol engine
Performance: Maximum speed 22 mph, Range 102 miles
Armament: 1 x 3.7 cm gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 15 mm
Crew: 5

Panzerkampfwagen III Ausf F

The Panzerkampfwagen III medium tank was developed in the 1930s to engage other armoured and serve alongside the Panzer IV which was designed to support the infantry. The Panzer III Ausf A and Ausf B were prototype vehicles, ten of each being produced, many being used during the Polish campaign, but they were withdrawn in 1940. The first to see large scale production were the Ausf E (96) and Ausf F (435) from 1939, these being better armoured and improvements to the suspension. The Panzer III Ausf J was the most common variant of the tank with over 1,500 being produced during 1941/42. The Hull and turret front armour was increased to 50 mm and spaced armour placed around the gun mantlet. A further 1,470 were armed with the 5 cm KwK 39 L/60 gun which became the Ausf L. Both types served in North Africa and Russia, but when they were confronted by the Russian T-34 and KV tanks they were outclassed. The Panzer IV had better development potential so they swapped roles. The Panzer III Ausf N was the last in the line and mounted the short barrelled 7.5 cm KwK 37 L/24 which was better suited for infantry support. Production of the Panzer III ceased in 1943.

Country of Origin: Germany
Number Built: 435

SPECIFICATION:
Vehicle Weight: 19.8 tons
Dimensions: Length 17 ft 8 ins, Width 9 ft 7 ins, Height 8 ft
Powerplant: 1 x 300 hp Maybach petrol engine
Performance: Maximum speed 25 mph, Range 102 miles
Armament: 1 x 3.7 cm gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 30 mm
Crew: 5

Panzerkampfwagen III Ausf J

The Panzerkampfwagen III medium tank was developed in the 1930s to engage other armoured and serve alongside the Panzer IV which was designed to support the infantry. The Panzer III Ausf A and Ausf B were prototype vehicles, ten of each being produced, many being used during the Polish campaign, but they were withdrawn in 1940. The first to see large scale production were the Ausf E (96) and Ausf F (435) from 1939, these being better armoured and improvements to the suspension. The Panzer III Ausf J was the most common variant of the tank with over 1,500 being produced during 1941/42. The Hull and turret front armour was increased to 50 mm and spaced armour placed around the gun mantlet. A further 1,470 were armed with the 5 cm KwK 39 L/60 gun which became the Ausf L. Both types served in North Africa and Russia, but when they were confronted by the Russian T-34 and KV tanks they were outclassed. The Panzer IV had better development potential so they swapped roles. The Panzer III Ausf N was the last in the line and mounted the short barrelled 7.5 cm KwK 37 L/24 which was better suited for infantry support. Production of the Panzer III ceased in 1943.

Country of Origin: Germany
Number Built: 2,600+

SPECIFICATION:
Vehicle Weight: 21.5 tons
Dimensions: Length 18 ft 1 ins, Width 9 ft 8 ins, Height 8 ft
Powerplant: 1 x 300 hp Maybach petrol engine
Performance: Maximum speed 25 mph, Range 102 miles
Armament: 1 x 3.7 cm gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 50 mm
Crew: 5

Panzerkampfwagen III Ausf L

The Panzerkampfwagen III medium tank was developed in the 1930s to engage other armoured and serve alongside the Panzer IV which was designed to support the infantry. The Panzer III Ausf A and Ausf B were prototype vehicles, ten of each being produced, many being used during the Polish campaign, but they were withdrawn in 1940. The first to see large scale production were the Ausf E (96) and Ausf F (435) from 1939, these being better armoured and improvements to the suspension. The Panzer III Ausf J was the most common variant of the tank with over 1,500 being produced during 1941/42. The Hull and turret front armour was increased to 50 mm and spaced armour placed around the gun mantlet. A further 1,470 were armed with the 5 cm KwK 39 L/60 gun which became the Ausf L. Both types served in North Africa and Russia, but when they were confronted by the Russian T-34 and KV tanks they were outclassed. The Panzer IV had better development potential so they swapped roles. The Panzer III Ausf N was the last in the line and mounted the short barrelled 7.5 cm KwK 37 L/24 which was better suited for infantry support. Production of the Panzer III ceased in 1943.

Country of Origin: Germany
Number Built: 653

SPECIFICATION:
Vehicle Weight: 22.7 tons
Dimensions: Length 18 ft 1 ins, Width 9 ft 8 ins, Height 8 ft
Powerplant: 1 x 300 hp Maybach petrol engine
Performance: Maximum speed 25 mph, Range 102 miles
Armament: 1 x 5 cm gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 50 mm
Crew: 5

Panzerkampfwagen III Ausf N

The Panzerkampfwagen III medium tank was developed in the 1930s to engage other armoured and serve alongside the Panzer IV which was designed to support the infantry. The Panzer III Ausf A and Ausf B were prototype vehicles, ten of each being produced, many being used during the Polish campaign, but they were withdrawn in 1940. The first to see large scale production were the Ausf E (96) and Ausf F (450) from 1939, these being better armoured and improvements to the suspension. The Panzer III Ausf J was the most common variant of the tank with over 1,500 being produced during 1941/42. The Hull and turret front armour was increased to 50 mm and spaced armour placed around the gun mantlet. A further 1,470 were armed with the 5 cm KwK 39 L/60 gun which became the Ausf L. Both types served in North Africa and Russia, but when they were confronted by the Russian T-34 and KV tanks they were outclassed. The Panzer IV had better development potential so they swapped roles. The Panzer III Ausf N was the last in the line and mounted the short barrelled 7.5 cm KwK 37 L/24 which was better suited for infantry support. Production of the Panzer III ceased in 1943.

Country of Origin: Germany
Number Built: 663

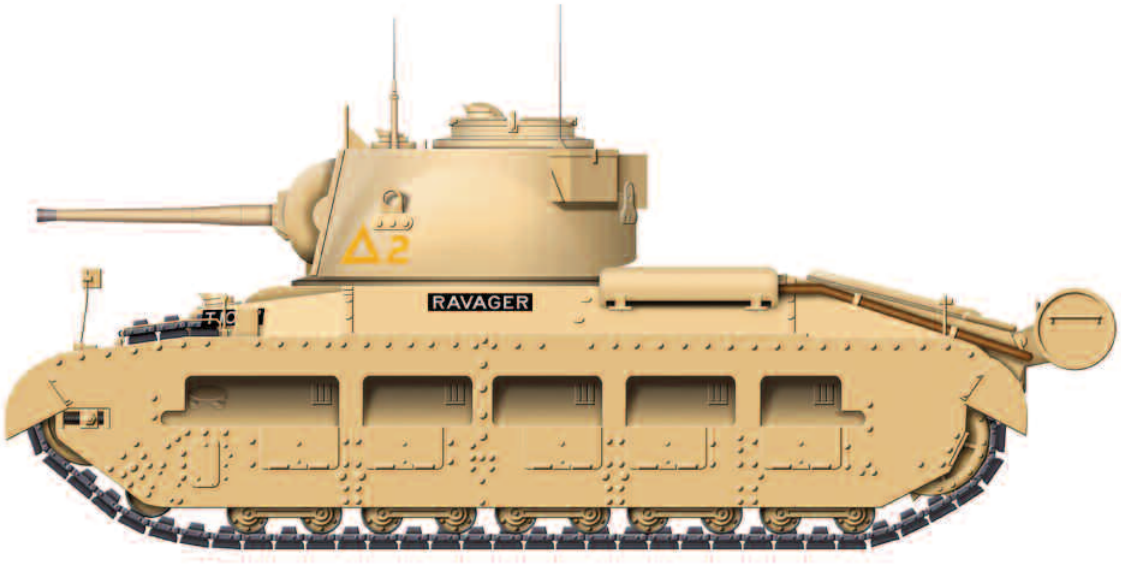
SPECIFICATION:
Vehicle Weight: 23 tons
Dimensions: Length 18 ft 10 ins, Width 9 ft 3 ins, Height 7 ft 8 ins
Powerplant: 1 x 300 hp Maybach petrol engine
Performance: Maximum speed 25 mph, Range 102 miles
Armament: 1 x 7.5 cm gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 57 mm
Crew: 5

Infantry Tank Mk II 'Matilda II' (A12)

Design work began on a successor to the Matilda I began in 1936 which was designated the A12 Infantry Tank Mk II. They would be armed with a 2 pounder gun with a coaxial machine gun that were housed in a cast turret with a power traverse system. The hull was also cast and fitted with armoured side skirts that protected the tracks, mud chutes being provided to keep the tracks clear. Production of the Aa12 began in 1938, but because the turret and hull were cast they were difficult to produce, with only two being in service in September 1939. They were first used in France during the German Blitzkrieg in May 1940, at which time the 2 pounder gun was an effective weapon, while the Matilda IIs armour made it virtually immune to most German tank and anti-tank guns. The Matilda II played an important role during the early campaigns in North Africa. Here again they were virtually immune to Italian gunfire, and it was only when the Germans used their 8.8 cm flak guns in the anti-tank role that its armour was defeated. The Matilda II could not be upgunned with the new 6 pounder gun due to the size of its turret ring, which resulted in the importance of the tank dwindling on the battlefield, production ending in 1943.

Country of Origin: UK
Number Built: 2,987

SPECIFICATION:
Vehicle Weight: 26.5 tons
Dimensions: Length 18 ft 5 ins, Width 8 ft 6 ins, Height 8 ft 3 ins
Powerplant: 2 x AEC 87 hp diesel engines
Performance: Maximum speed 8 mph, Range 160 miles
Armament: 1 x 2 pounder gun,1 x 7.92 mm machine gun
Armour: Maximum thickness 78 mm
Crew: 4



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Number Built: 2,987

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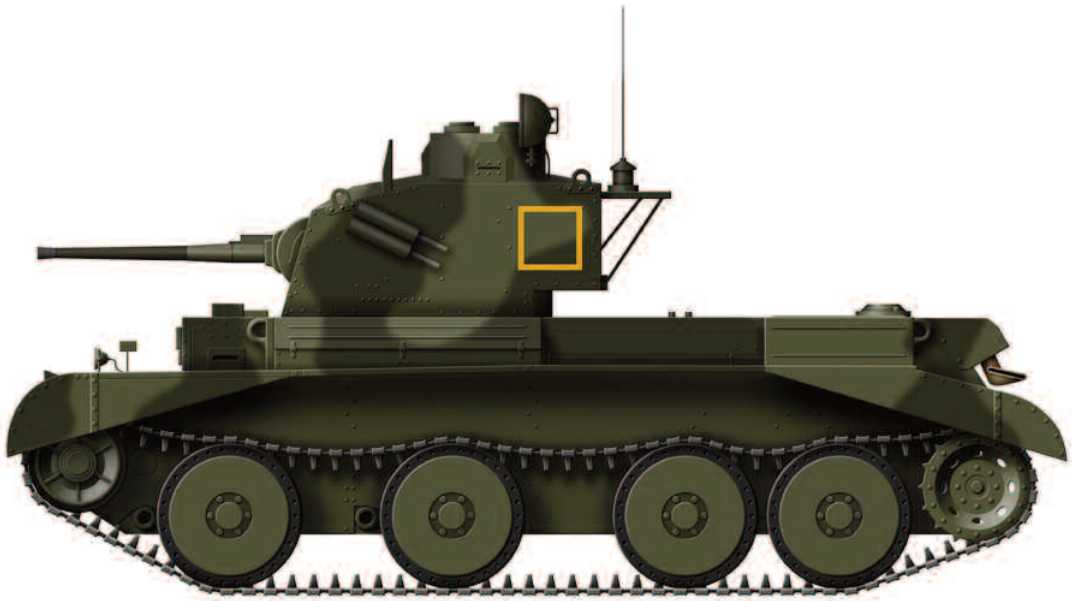
Powerplant: 2 x AEC 87 hp diesel engines
Performance: Maximum speed 8 mph, Range 160 miles
Armament: 1 x 2 pounder gun,1 x 7.92 mm machine gun
Armour: Maximum thickness 78 mm
Crew: 4

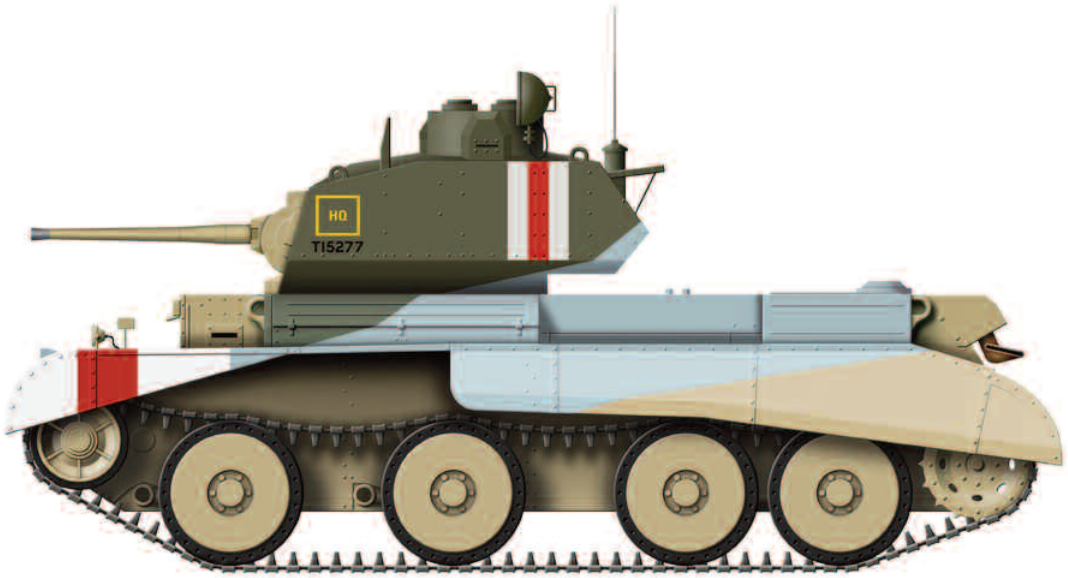


Cruiser Tank Mk III (A13 Mk I)

In 1936 the British government agreed to the purchase of a Christie design by the Nuffield Organisation in order to develop a new tank. The General Staff drew up a specification for the design which was designated the A13. Successful trials of a prototype in 1937 led to an order for 65 tanks, with production beginning in early 1939. Modifications to the design led to the A13 Mk II Cruiser Tank Mk IV which had extra armour, this being mainly on the nose, glacis and turret front, and despite the extra 1,200 lbs there was only a small drop in performance. The Mk IVA differed in having a 7.92 mm Besa instead of the 0.303 Vickers machine gun, and a new gun mantlet. The A13 was sent to France with units of the 1st Armoured Division of the B.E.F., where most were lost, but in the desert they faired better against the Italians, although reliability was a problem. With the arrival of the Panzer III and Panzer IV in the desert in late 1941 they proved to be under-gunned and under-armoured, the surviving tanks being withdrawn in early 1942 and used as training vehicles. Similar to the A9 and A10, the A13 had a close support version armed with a 3.7 inch howitzer due to the deficiencies of the 2 pounder gun.

Country of Origin: UK
Number Built: 65

SPECIFICATION:
Vehicle Weight: 14 tons
Dimensions: Length 19 ft 9 ins, Width; 8 ft 4 ins, Height; 8 ft 6 ins
Powerplant: 1 x 340 hp V12 Liberty engine
Performance: Maximum speed 32 mph, Range 90 miles
Armament: 1 x 2 pounder gun, 1 x 0.303 inch machine gun
Armour: Maximum thickness 14 mm
Crew: 4



Cruiser Tank Mk IVA (A13 Mk IIA)

In 1936 the British government agreed to the purchase of a Christie design by the Nuffield Organisation in order to develop a new tank. The General Staff drew up a specification for the design which was designated the A13. Successful trials of a prototype in 1937 led to an order for 65 tanks, with production beginning in early 1939. Modifications to the design led to the A13 Mk II Cruiser Tank Mk IV which had extra armour, this being mainly on the nose, glacis and turret front, and despite the extra 1,200 lbs there was only a small drop in performance. The Mk IVA differed in having a 7.92 mm Besa instead of the 0.303 Vickers machine gun, and a new gun mantlet. The A13 was sent to France with units of the 1st Armoured Division of the B.E.F., where most were lost, but in the desert they faired better against the Italians, although reliability was a problem. With the arrival of the Panzer III and Panzer IV in the desert in late 1941 they proved to be under-gunned and under-armoured, the surviving tanks being withdrawn in early 1942 and used as training vehicles. Similar to the A9 and A10, the A13 had a close support version armed with a 3.7 inch howitzer due to the deficiencies of the 2 pounder gun.

Country of Origin: UK
Number Built: 665

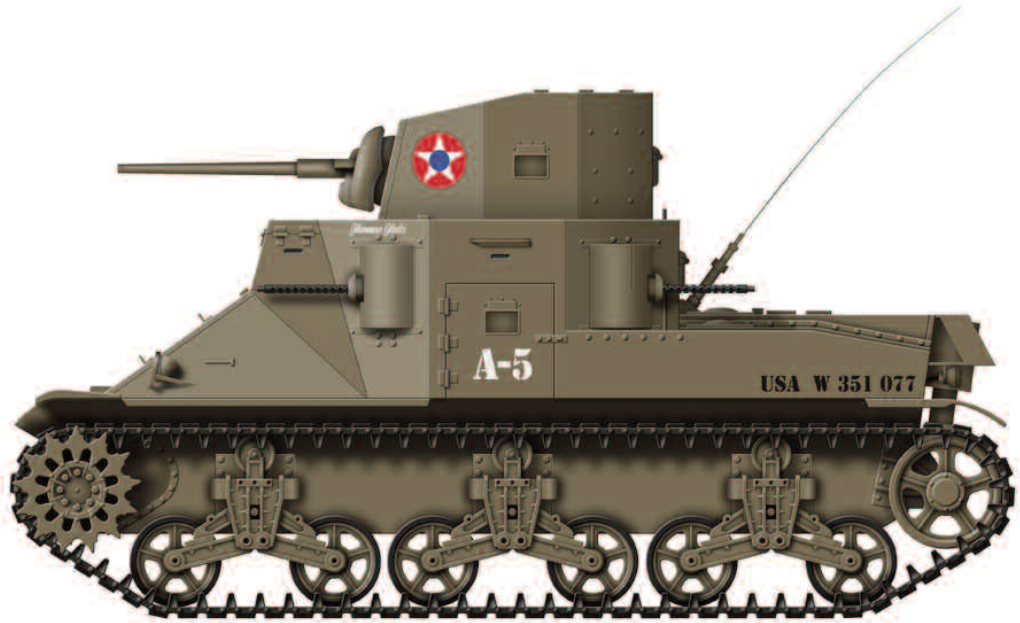
SPECIFICATION:
Vehicle Weight: 14.8 tons
Dimensions: Length 19 ft 9 ins, Width; 8 ft 4 ins, Height; 8 ft 6 ins
Powerplant: 1 x 340 hp V12 Liberty engine
Performance: Maximum speed 30 mph, Range 90 miles
Armament: 1 x 2 pounder gun, 1 x 7.92 Besa machine gun
Armour: Maximum thickness 30 mm
Crew: 4

Cruiser Tank Mk V (A13 Mk III)

The A13 'Covenanter' was designed by the London, Midland and Scottish Railway Company as a replacement for the A13 Mk II. The design looked purposeful with most surfaces sloped giving it a sleek appearance, while the three man turret was a new design with V shaped sides giving it a diamond profile from the front. The Covenanter was placed in production before a prototype had been built, and problems with the design soon emerged, mainly the Meadows Flat 12 engine chosen to power the vehicle. The engine was good in its own right, but because it was flat it was also wide, which meant the cooling radiators would not fit at the rear of the tank, and were installed at the front instead. This resulted in the driver being positioned at the front right and the radiators to his left, and resulted in cooling issues and reliability which were to plague the design. The tank was kept in production after the loss of most of the B.E.F.'s equipment in France as it was deemed better than nothing. A few vehicles did find their way to Egypt for service trials but they were mainly used in the U.K. for training before being declared obsolete in late 1943, with most of the 1,771 tanks that were built going straight to the scrapyard.

Country of Origin: UK
Number Built: 1,771

SPECIFICATION:
Vehicle Weight: 18 tons
Dimensions: Length, 19 ft, Width 8 ft 7 ins, Height 7 ft 4 ins
Powerplant: 1 x 340 hp Meadows petrol engine
Performance: Maximum speed 30 mph, Range 100 miles
Armament: 1 x 2 pounder gun, 1 x 7.62 mm Besa machine gun
Armour: Maximum thickness 40 mm
Crew: 4

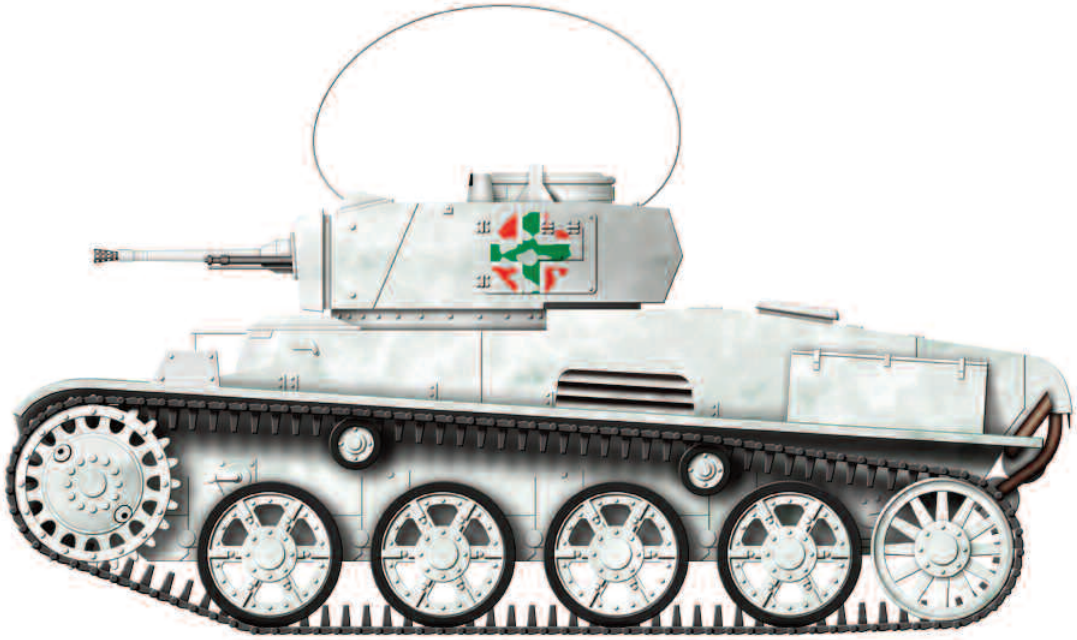


M2 Medium Tank

In 1937 Rock Island Arsenal started design work on a medium tank which was an enlarged version of the M2 Light Tank. Designated the T5, the tank had a high superstructure with a sponson mounted machine gun in each corner, with a further two fixed in the glacis plate that could be fired by the driver. The main armament was a 37 mm gun that was mounted in a small turret which was supplemented by a coaxial machine gun. After trials with the prototype an order for a limited production run was placed. these being redesignated the M2 Medium Tank in 1939, with eighteen being supplied to the army for evaluation. From their experience a revised design emerged which was designated the M2A1 which was placed in production after the U.S. Government issued a contract in August 1940 for 1,000 vehicles. By then it was clear that the 37 mm gun was obsolete for a medium tank, and the contract was modified before production began, with a new contract for 1,000 M3 Grant tanks based on the M2 instead, once a design with a 75 mm gun had been worked out. Production of the M2 was given then given to the Rock Island Arsenal who had built 94 M2A1s by August 1941 when production was halted.

Country of Origin: USA
Number Built: 112

SPECIFICATION:
Vehicle Weight: 21 tons
Dimensions: Length 17 ft 6 ins, Width 8 ft 6 ins, Height 9 ft 3 ins
Powerplant: 1 x Wright 400 hp radial petrol engine
Performance: Maximum speed 26 mph, Range 130 miles
Armament: 1 x 37 mm gun, 9 x 0.30 inch machine guns
Armour: Maximum thickness 32 mm
Crew: 6

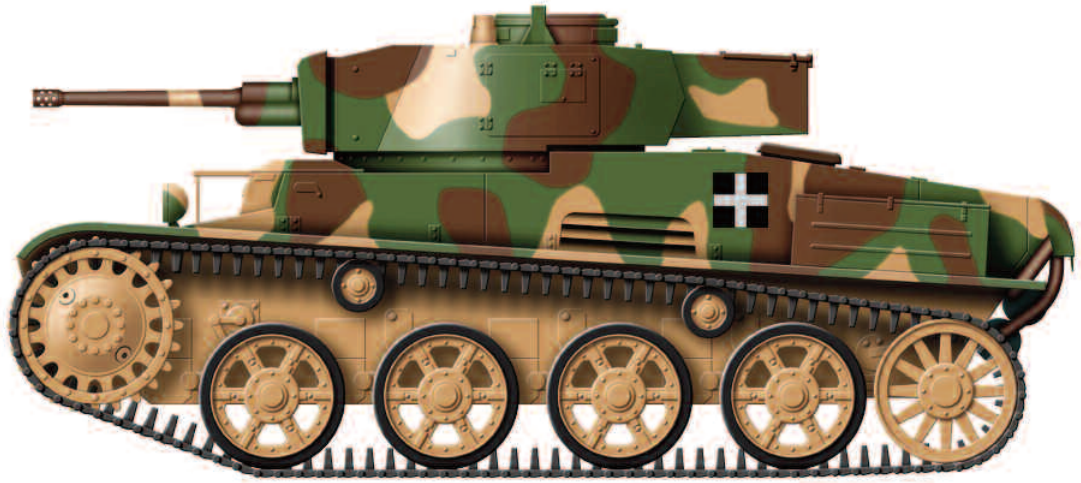


38M 'Toldi I' Light Tank

In 1937 the Swedish L60 Landsverk light tank was trialled against the Hungarian V4 amphibious light tank built by Mann. The L60 was the winner, but before it would be accepted for service a number of design changes were issued before being put into production under licence. It was originally planned they would be armed with a 25 mm Bofors gun, but this had to be abandoned and was replaced with a standard 36M 20 mm infantry gun which required the turret to be redesigned. The tank was named the 38M Toldi I, and in early 1939 an order for 80 was placed with the first vehicles being delivered in April 1940. During the early phase of the summer campaign against the Soviet Union, the Toldi showed good qualities, but when it later came up against the Russian T34 and KV1 tanks they were hopelessly under-gunned and under-armoured. This resulted in the Toldi II with increased frontal armour and a 40 mm anti-tank gun, but even then they were outclassed. The inability to up-gun the Toldi with a meaningful gun led to many being modified in a similar way to German practice by removing the turret and mounting a more powerful gun on the hull, the gun crew being protected by light armoured shields.

Country of Origin: Hungary
Number Built: 202

SPECIFICATION:
Vehicle Weight: 8.5 tons
Dimensions: Length 15 ft 7 ins, Width 7 ft, Height 6 ft 2 ins
Powerplant: 1 x Bussing-Nag 155 hp petrol engine
Performance: Maximum speed 29 mph, Range 120 miles
Armament: 1 x 20 mm cannon, 1 x 8 mm machine gun
Armour: Maximum thickness 20 mm
Crew: 3



38M 'Toldi II' Light Tank

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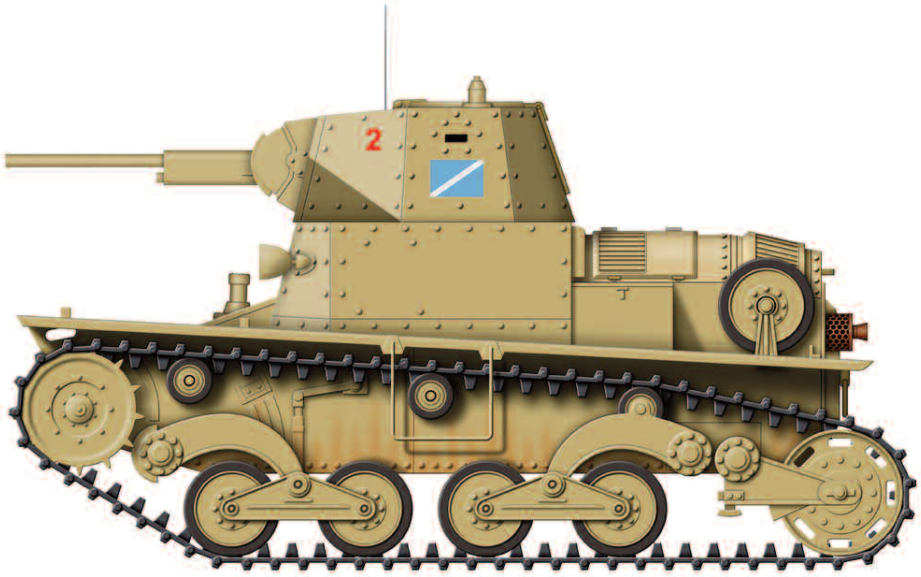
Country of Origin: Hungary
Number Built: 110

SPECIFICATION:
Vehicle Weight: 8.5 tons
Dimensions: Length 15 ft 7 ins, Width 7 ft, Height 6 ft 2 ins
Powerplant: 1 x Bussing-Nag 155 hp petrol engine
Performance: Maximum speed 29 mph, Range 120 miles
Armament: 1 x 40 mm cannon, 1 x 8 mm machine gun
Armour: Maximum thickness 35 mm
Crew: 3



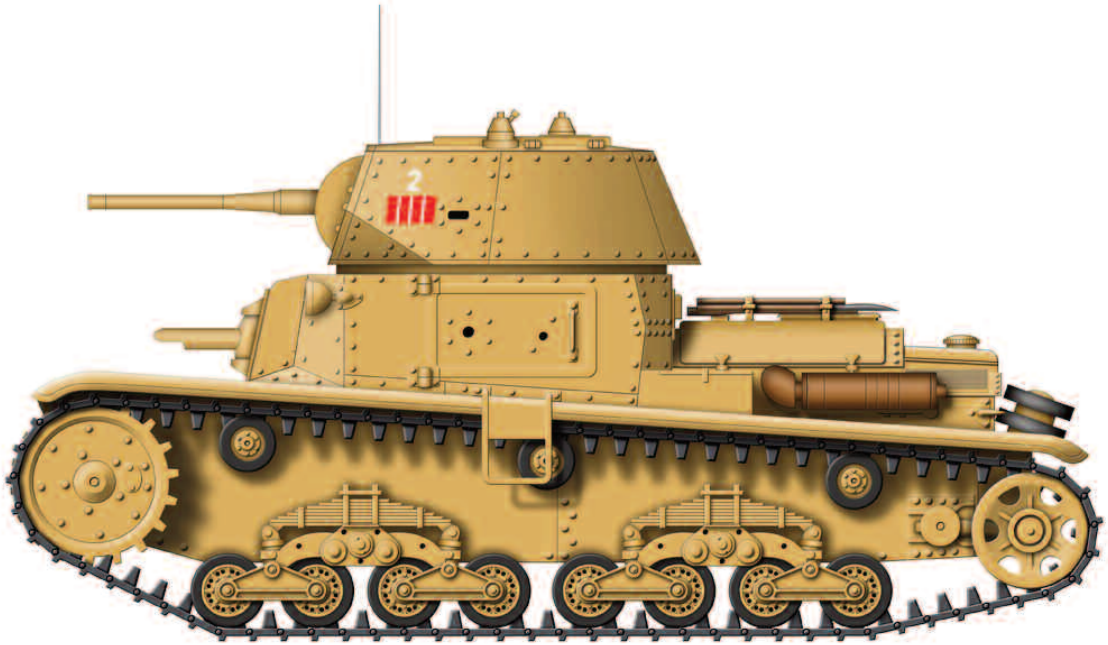
Carro Armato L6/40 Light Tank

The Carro Armato L6/40 light tank was developed from the Fiat-Ansoldo Canone and based on the chassis of the L3 tankette. The first prototype was armed with twin machine guns or a 37 mm gun in the turret, with a further machine gun mounted in a sponson in the hull. The tank was operated by a two man crew, the driver being seated at the front right and the commander behind in the manually operated turret, who was also responsible for operating the gun and radio. Originally designed for the export market, the L6/40 came to the attention of the Italian military who placed orders for the machine in 1939. The production version was armed with a 20 mm Breda cannon in the turret and an 8 mm machine gun in the hull, and when they were introduced the L6/40 was roughly equivalent to the German Panzer II. A total of 283 vehicles were built, and used by reconnaissance units and cavalry divisions. They were first used in combat in North Africa against the British where their armament was mainly ineffective against most armoured vehicles, and even less so on the Russian front. The L6/40 continued in service with the military in post-war Italy, finally being phased out of service in the early 1950s.

Country of Origin: Italy
Number Built: 285

SPECIFICATION:
Vehicle Weight: 6.8 tons
Dimensions: Length 12 ft 5 ins, Width 6 ft 4 ins, Height 6 ft 8 ins
Powerplant: 1 x SPA 70 hp petrol engine
Performance: Maximum speed 26 mph, Range 125 miles
Armament: 1 x 20 mm cannon, 1 x 8 mm machine gun
Armour: Maximum thickness 30 mm
Crew: 2

TANK

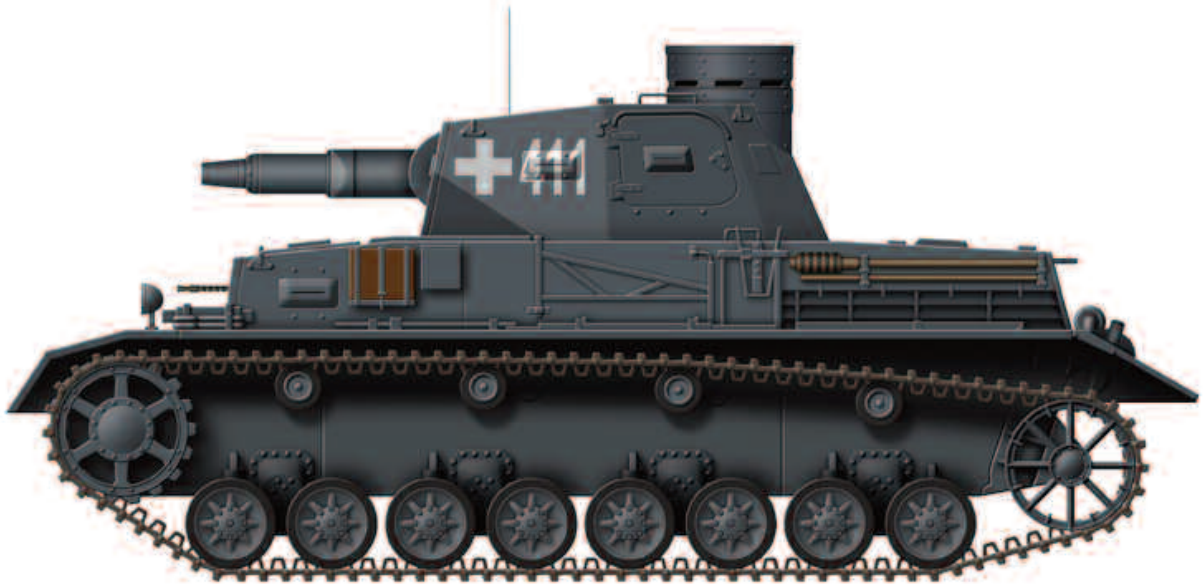


Carro Armato M13/40

The M13/40 Medium Tank was the most important Italian tank of the Second World War, and due to the slow development of better designs had to bear the brunt of the fighting in North Africa, despite being under-gunned and under-armoured by early 1942. The M13/40 used the basic hull, suspension and engine as the M11/13, but the superstructure was modified to carry a large centrally mounted turret armed with a more powerful 47mm gun, the twin turret machine guns being moved to the front of the superstructure. Armour protection was also improved, the extra weight being reflected in the change of designation from the eleven ton M11 to the thirteen ton M 13/40. The M13/40 was rushed into service during the summer of 1940, with three battalions being sent to Libya in October, but were all lost during Operation Compass, the first British offensive in the desert. The M13/40 was a good tank on its introduction, having a decent gun and armour protection, but was underpowered which gave it a poor performance over rough terrain. The M13/40 became the main Italian tank in North Africa throughout the campaign, but by the time of the Second Battle of El Alamein in 1942 they were obsolete.

Country of Origin: Italy
Number Built: 2,000+

SPECIFICATION:
Weight: 13 tons
Dimensions: Length 16 ft 2 ins, Width 7 ft 6 ins, Height 7 ft 11 ins
Powerplant: 1 x SPA 140 hp diesel engine
Performance: Maximum speed 20 mph, Range 120 miles
Armament: 1 x 47 mm gun, 4 x 8 mm machine guns
Armour: Maximum thickness 42 mm
Crew: 4

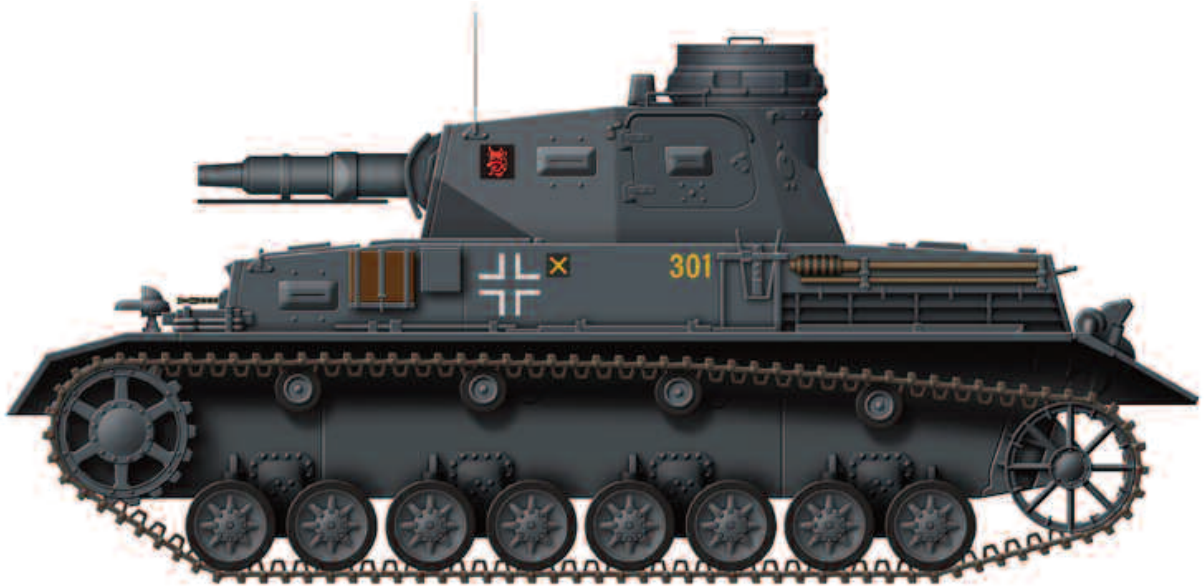


Panzerkampfwagen IV Ausf A

On the outbreak of World War Two the Panzer III was the main battle tank of the German army, while the Panzer IV was built in fewer numbers as a close support vehicle armed with a short barrelled 7.5 cm howitzer firing high explosives to destroy soft skinned targets and anti-tank guns. Work on the Panzer IV began in 1934, the resulting Panzer IV Ausf A closely resembled the Panzer III, but had a larger turret ring that would later allow it to be upgraded to carry a larger gun than the Panzer III. The greatest change to the Panzer IV came in late in 1941 after the German invasion of Russia. None of the German tank guns could easily penetrate the armour of the new Soviet KV-1 and T-34 tanks, and a desperate programme of upgrades was undertaken. The most successful was the development of a long-barrelled 75 mm tank gun. The Panzer IV Ausf F2 was the first to be armed with this weapon which entered service in mid 1942, the Panzer IV finally becoming a powerful main battle tank, the roles of Panzer III and Panzer IV then being reversed. The Panzer IV also had the distinction of being the only German tank to remain in production throughout World War Two, with over 8,500 of all marks being produced.

Country of Origin: Germany
Number Built: 35

SPECIFICATION:
Vehicle Weight: 18.4 tons
Dimensions: Length 18 ft 5 ins, Width 9 ft 6 ins, Height 8 ft 8 ins
Powerplant: 1 x Maybach 250 hp petrol engine
Performance: Maximum speed 19 mph, Range 93 miles
Armament: 1 x 7.5 cm howitzer, 2 x 7.92 mm machine guns
Armour: Maximum thickness 15 mm
Crew: 5



Panzerkampfwagen IV Ausf D

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Country of Origin: Germany
Number Built: 229

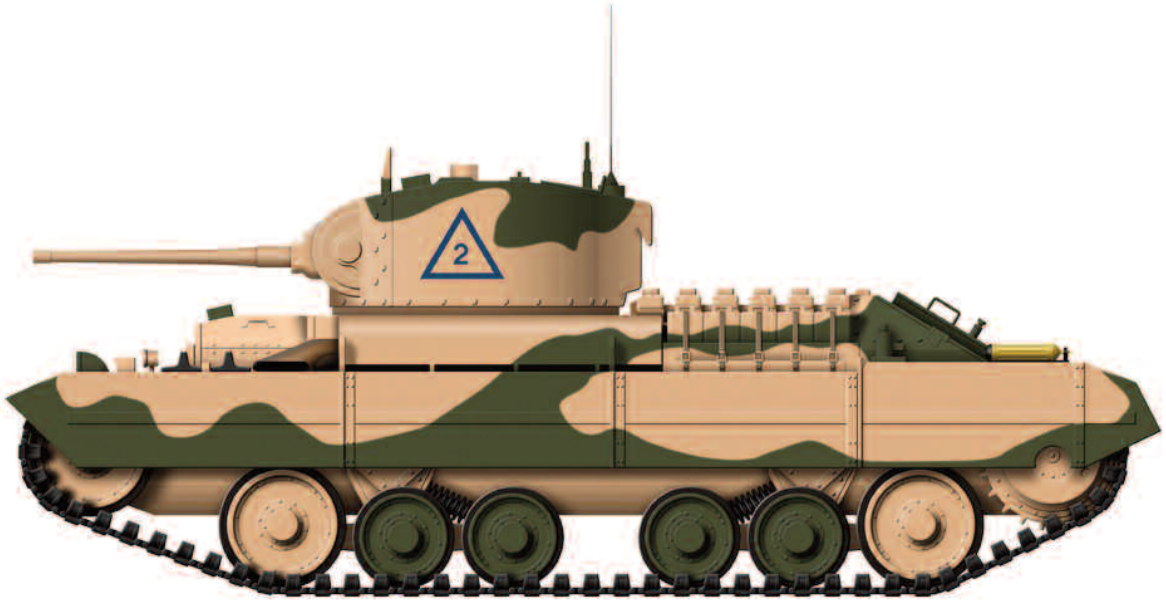
SPECIFICATION:
Weight: 20 tons
Dimensions: Length 19 ft 5 ins, Width 9 ft 4 ins, Height 8 ft 11 ins
Powerplant: 1 x Maybach 300 hp petrol engine
Performance: Maximum speed 24 mph, Range 124 miles
Armament: 1 x 7.5 cm howitzer, 2 x 7.92 mm MG34 machine guns
Armour: Maximum thickness 35 mm
Crew: 5

Panzerkampfwagen IV Ausf G

On the outbreak of World War Two the Panzer III was the main battle tank of the German army, while the Panzer IV was built in fewer numbers as a close support vehicle armed with a short barrelled 7.5 cm howitzer firing high explosives to destroy soft skinned targets and anti-tank guns. Work on the Panzer IV began in 1934, the resulting Panzer IV Ausf A closely resembled the Panzer III, but had a larger turret ring that would later allow it to be upgraded to carry a larger gun than the Panzer III. The greatest change to the Panzer IV came in late in 1941 after the German invasion of Russia. None of the German tank guns could easily penetrate the armour of the new Soviet KV-1 and T-34 tanks, and a desperate programme of upgrades was undertaken. The most successful was the development of a long-barrelled 75 mm tank gun. The Panzer IV Ausf F2 was the first to be armed with this weapon which entered service in mid 1942, the Panzer IV finally becoming a powerful main battle tank, the roles of Panzer III and Panzer IV then being reversed. The Panzer IV also had the distinction of being the only German tank to remain in production throughout World War Two, with over 8,500 of all marks being produced.

Country of Origin: Germany
Number Built: 1,687

SPECIFICATION:
Vehicle Weight: 23.5 tons
Dimensions: Length 21 ft 9 ins, Width 9 ft 5 ins, Height 8 ft 10 ins
Powerplant: 1 x Maybach 300 hp petrol engine
Performance: Maximum speed 24 mph, Range 125 miles
Armament: 1 x 7.5 cm L/43 gun, 2 x 7.92 mm machine guns
Armour: Maximum thickness 50 mm
Crew: 5



Infantry Tank Mk III 'Valentine' Mk II

In 1938 Vickers were asked to design a new infantry tank based on the A10, and in early 1939 produced a prototype for trials. There were doubts over the tank, mainly over the small two man turret, but in mid 1939 they were urgently required, and the type was placed in production. Known as the Valentine Infantry Tank Mk III, they drew heavily on the design of the A10 but with better protection. By then most of the A10's problems had been resolved and the Valentine proved to be relatively trouble free machines. The Valentine Mk II differed from the Mk I by being powered by a 131 hp diesel engine, as opposed to the petrol engine of the Mk I. Around 700 Mk IIs were built in 1940-41, and were first used in action during Operation Crusader in North Africa against Axis forces in November 1941. The Valentine tanks used in the desert were given sand shields and jettisonable external fuel tanks to increase their range. The Valentine was never a great tank, but it was one of the most important, being available in quantity for the British at a time when they were most needed. In total 8,275 were built through 11 marks in the UK and Canada, and of this total the Soviet Union received 3,784 through Lend-Lease.

Country of Origin: UK
Number Built: 700

SPECIFICATION:
Vehicle Weight: 16.2 tons
Dimensions: Length 17 ft 9 ins, Width 8 ft 7 ins, height 7 ft 5 ins
Powerplant: 1 x AEC 131 hp diesel engine
Performance: Maximum speed 15 mph, Range 109 miles
Armament: 1 x 2 pounder gun, 1 x 7.62 mm machine gun
Armour: Maximum thickness 65 mm
Crew: 3

Infantry Tank Mk III 'Valentine' Mk IX

Criticism of the Valentine's two man turret led to a new design that could accommodate a third crew member which became the Mk V. The original Mk V retained the 2 pounder gun, but the new turret had enough space to fit the more potent 6 pounder (57 mm) anti-tank gun and was also capable of firing HE rounds. This came at the cost of losing the coaxial machine gun and the third crewman, while there was only enough space to carry 53 rounds. The Mk IX was first used by the 6th Armoured Division during Operation Torch, the invasion of French North Africa in November 1942. The Valentine XI was the last production version of the tank, and was armed with the new British 75mm tank gun. It was similar to the Mk X, which was the first version to be built from new with the 6 pounder anti-tank gun. The Mk XI entered service in early 1944 and were only used as a command tank. The Valentine was never a great tank, but it was one of the most important, being available in quantity for the British at a time when they were most needed. In total 6,855 were built in the UK and 1,420 in Canada, the Soviet Union receiving 3,784 through Lend-Lease who used them until the end of the World War Two.

Country of Origin: UK
Number Built: 8,275 of all Mks

SPECIFICATION:
Vehicle Weight: 17.7 tons
Dimensions: Length 17 ft 9 ins, Width 8 ft 7 ins, height 7 ft 5 ins
Powerplant: 1 x AEC 165 hp diesel engine
Performance: Maximum speed 15 mph, Range 140 miles
Armament: 1 x 6 pounder gun, 1 x 7.62 mm machine gun
Armour: Maximum thickness 65 mm
Crew: 3

Infantry Tank Mk III 'Valentine' Mk XI

Criticism of the Valentine's two man turret led to a new design that could accommodate a third crew member which became the Mk V. The original Mk V retained the 2 pounder gun, but the new turret had enough space to fit the more potent 6 pounder (57 mm) anti-tank gun and was also capable of firing HE rounds. This came at the cost of losing the coaxial machine gun and the third crewman, while there was only enough space to carry 53 rounds. The Mk IX was first used by the 6th Armoured Division during Operation Torch, the invasion of French North Africa in November 1942. The Valentine XI was the last production version of the tank, and was armed with the new British 75mm tank gun. It was similar to the Mk X, which was the first version to be built from new with the 6 pounder anti-tank gun. The Mk XI entered service in early 1944 and were only used as a command tank. The Valentine was never a great tank, but it was one of the most important, being available in quantity for the British at a time when they were most needed. In total 6,855 were built in the UK and 1,420 in Canada, the Soviet Union receiving 3,784 through Lend-Lease who used them until the end of the World War Two.

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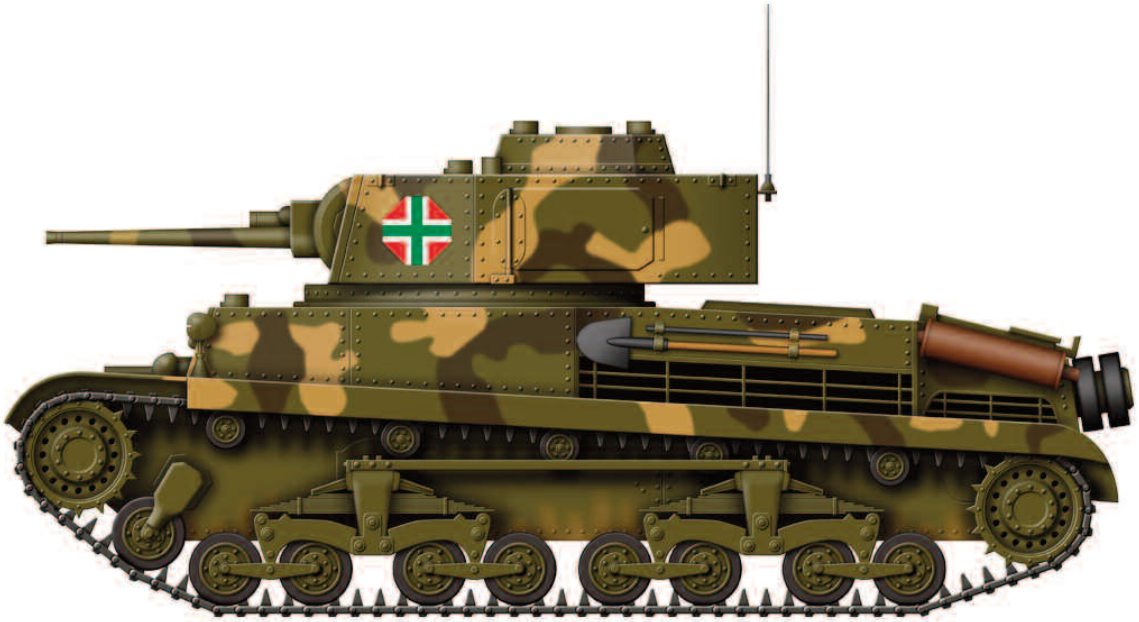
Number Built: 8,275 of all Mks

SPECIFICATION:
Vehicle Weight: 17.7 tons
Dimensions: Length 17 ft 9 ins, Width 8 ft 7 ins, height 7 ft 5 ins
Powerplant: 1 x AEC 165 hp diesel engine
Performance: Maximum speed 15 mph, Range 140 miles
Armament: 1 x 75 mm gun, 1 x 7.62 mm machine gun
Armour: Maximum thickness 65 mm
Crew: 3

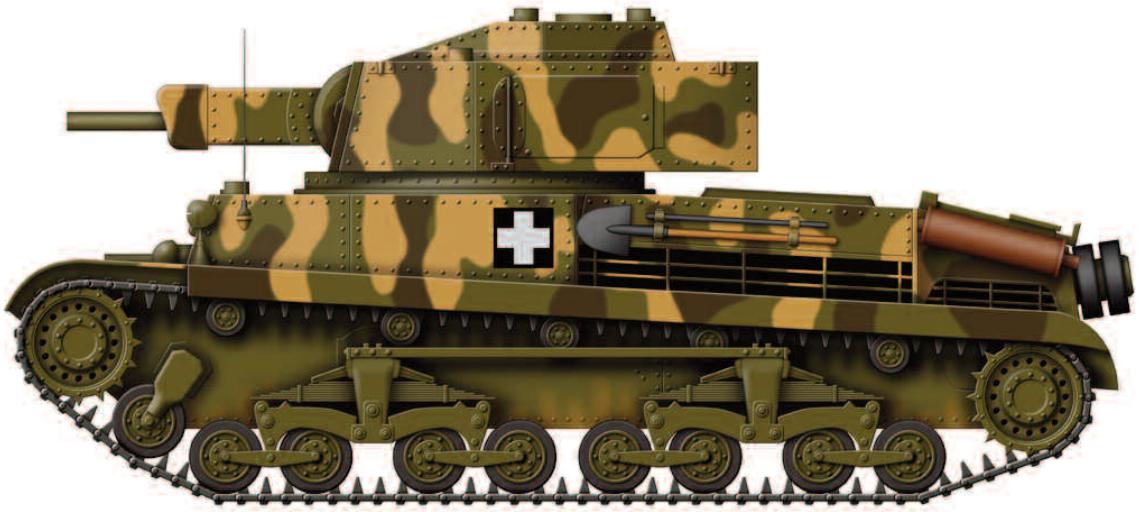


40M Turan I Medium Tank

In December 1937 Škoda prepared a design of a medium tank based on the LT vz 35. The construction of two prototypes were started but they were incomplete by the time Germany annexed Czechoslovakia. Work on the prototypes was resumed under the new designation of T-21 and T-22, two of the latter being given to Hungary in 1941. The Hungarians decided to replace the 47 mm gun with their own 40 mm gun, the modifications being carried out by the Škoda factory. The frontal armour was also also increased by the addition of 20 mm thick plates. Experience on the Eastern Front soon showed the ineffectiveness of the 40 mm gun, and a prototype was prepared armed with a 75 mm gun in early 1942. This version became the 41M Turán II, and were deployed by the 1st and 2nd Hungarian Armoured Divisions, as well as the 1st Cavalry Division on the Eastern Front in 1943 and 1944. It is believed 424 Turan I and Turan IIs were built, most of which were destroyed on the Eastern Front, while work on a replacement, the Turan III, never managed to get underway due to the lack of raw materials. The chassis of the Turan was also used as the basis of the 105 mm Zrínyi II assault gun.

Country of Origin: Hungary
Number Built: 200+

SPECIFICATION:
Vehicle Weight: 18.2 tons
Dimensions: Length 18 ft 2 ins, Width 8 ft, Height 7 ft 10 ins
Powerplant: 1 x Manfréd Weiss 260 hp petrol engine
Performance: Maximum speed 29 mph, Range 102 miles
Armament: 1 x 40 mm gun, 2 x 8 mm machine guns
Armour: Maximum thickness 50 mm
Crew: 5



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Number Built: 200+

SPECIFICATION:
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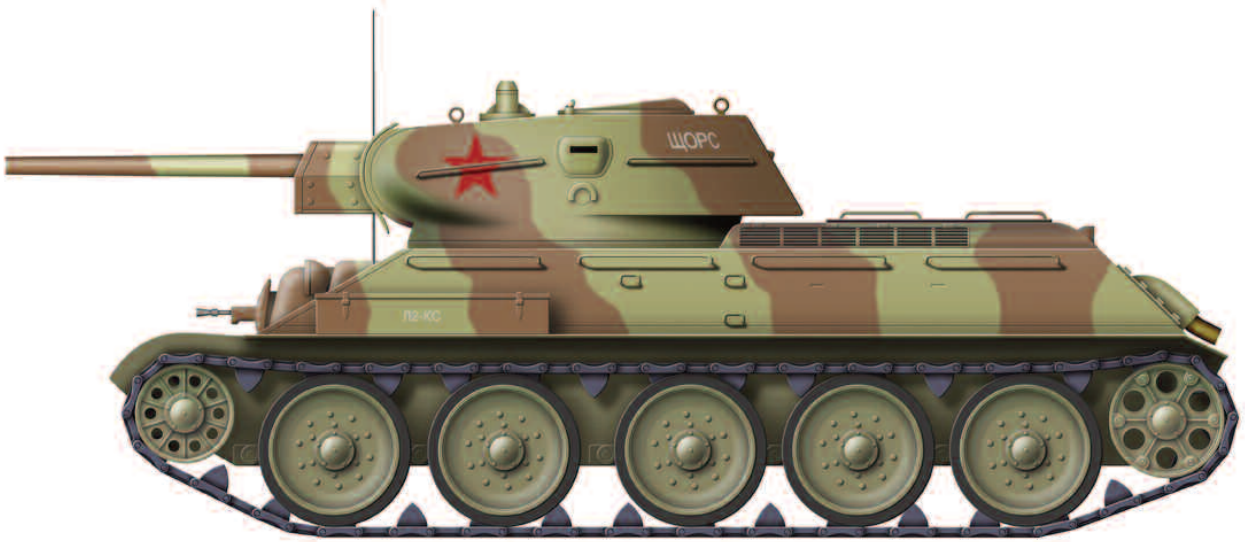
Dimensions: Length 18 ft 2 ins, Width 8 ft, Height 7 ft 10 ins
Powerplant: 1 x Manfréd Weiss 260 hp petrol engine
Performance: Maximum speed 29 mph, Range 102 miles
Armament: 1 x 75 mm gun, 2 x 8 mm machine guns
Armour: Maximum thickness 50 mm
Crew: 5

T34/76 Medium Tank (model 1940)

Design of the T34 tank started in 1938 as a replacement for the BT7 which was the standard Soviet battle tank at the time. For its day the BT-7 was a good machine, but it was realised that its thin armour and main 45 mm gun would become ineffective. Like the BT series, the T34 used the Christie suspension system developed by the Soviets, but had five main road wheels instead of four. The hull armour was increased to a maximum of 47 mm, which was further enhanced by sloping the sides of the vehicle which had the effect of either deflecting any armour piercing shells, or increasing the effectiveness of the armour. A powerful 500 hp V12 diesel engine was fitted which avoided bursting into flames too easily when hit, while wide tracks were fitted which could cope with the mud and snow so often encountered in the Soviet Union. The simple design of the T34 made it easy to manufacture by unskilled hands and easy to repair, and would become the most numerous tank ever built, with over 84,000 being produced through several different types by six different factories deep inside the U.S.S.R. They were first used in action by the Russians in the Autumn of 1941 and came as a nasty shock to the advancing German army.

Country of Origin: USSR
Number Built: 29,000+ of all Mks

SPECIFICATION : (Model 1941)
Vehicle Weight: 26.5 tons
Dimensions: Length 21 ft 11 ins, Width 9 ft 10 ins, Height 8 ft
Powerplant: 1 x 500 hp V12 diesel engine
Performance: Maximum speed 33 mph, Range 250 miles
Armament: 1 x 76.2 mm gun + 2 x 7.62 mm machine guns
Armour: Maximum thickness 60 mm
Crew: 4



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Country of Origin: USSR
Number Built: 29,000+ of all Mks

SPECIFICATION : (Model 1941)
Vehicle Weight: 26.5 tons
Dimensions: Length 21 ft 11 ins, Width 9 ft 10 ins, Height 8 ft
Powerplant: 1 x 500 hp V12 diesel engine
Performance: Maximum speed 33 mph, Range 250 miles
Armament: 1 x 76.2 mm gun + 2 x 7.62 mm machine guns
Armour: Maximum thickness 60 mm
Crew: 4

T34/76 Medium Tank (model 1942)

Design of the T34 tank started in 1938 as a replacement for the BT7 which was the standard Soviet battle tank at the time. For its day the BT-7 was a good machine, but it was realised that its thin armour and main 45 mm gun would become ineffective. Like the BT series, the T34 used the Christie suspension system developed by the Soviets, but had five main road wheels instead of four. The hull armour was increased to a maximum of 47 mm, which was further enhanced by sloping the sides of the vehicle which had the effect of either deflecting any armour piercing shells, or increasing the effectiveness of the armour. A powerful 500 hp V12 diesel engine was fitted which avoided bursting into flames too easily when hit, while wide tracks were fitted which could cope with the mud and snow so often encountered in the Soviet Union. The simple design of the T34 made it easy to manufacture by unskilled hands and easy to repair, and would become the most numerous tank ever built, with over 84,000 being produced through several different types by six different factories deep inside the U.S.S.R. They were first used in action by the Russians in the Autumn of 1941 and came as a nasty shock to the advancing German army.

Country of Origin: USSR
Number Built: 29,000+ of all Mks

SPECIFICATION : (Model 1941)
Vehicle Weight: 26.5 tons
Dimensions: Length 21 ft 11 ins, Width 9 ft 10 ins, Height 8 ft
Powerplant: 1 x 500 hp V12 diesel engine
Performance: Maximum speed 33 mph, Range 250 miles
Armament: 1 x 76.2 mm gun + 2 x 7.62 mm machine guns
Armour: Maximum thickness 60 mm
Crew: 4

T34/76 Medium Tank (model 1943

Design of the T34 tank started in 1938 as a replacement for the BT7 which was the standard Soviet battle tank at the time. For its day the BT-7 was a good machine, but it was realised that its thin armour and main 45 mm gun would become ineffective. Like the BT series, the T34 used the Christie suspension system developed by the Soviets, but had five main road wheels instead of four. The hull armour was increased to a maximum of 47 mm, which was further enhanced by sloping the sides of the vehicle which had the effect of either deflecting any armour piercing shells, or increasing the effectiveness of the armour. A powerful 500 hp V12 diesel engine was fitted which avoided bursting into flames too easily when hit, while wide tracks were fitted which could cope with the mud and snow so often encountered in the Soviet Union. The simple design of the T34 made it easy to manufacture by unskilled hands and easy to repair, and would become the most numerous tank ever built, with over 84,000 being produced through several different types by six different factories deep inside the U.S.S.R. They were first used in action by the Russians in the Autumn of 1941 and came as a nasty shock to the advancing German army.

Country of Origin: USSR
Number Built: 29,000+ of all Mks

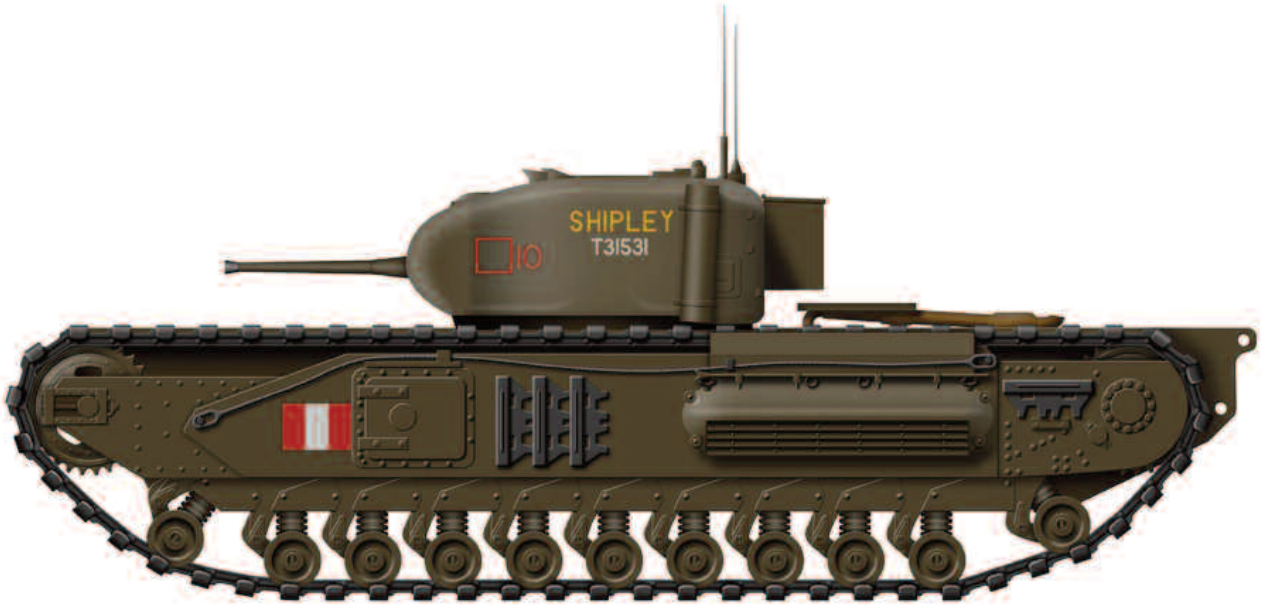
SPECIFICATION : (Model 1941)
Vehicle Weight: 26.5 tons
Dimensions: Length 21 ft 11 ins, Width 9 ft 10 ins, Height 8 ft
Powerplant: 1 x 500 hp V12 diesel engine
Performance: Maximum speed 33 mph, Range 250 miles
Armament: 1 x 76.2 mm gun + 2 x 7.62 mm machine guns
Armour: Maximum thickness 60 mm
Crew: 4

T34/85 Medium Tank

After the Battle of Kursk in the Summer of 1943, the limitations of the 76.2 mm gun became apparent, so a way of making the tank more potent were urgently sought. A new weapon was found in the form of the ZiS 85 mm anti-aircraft gun which was fitted into a new turret originally designed for the KV85 tank. The turret was more spacious and allowed a fifth crew member to be carried, freeing the commander of any other tasks apart from command. In service the T34 was considered to be a noisy tank, and could easily be heard from a distance of 500 yards, giving early warning as to their whereabouts, but with the new gun the T34/85 could take on the latest German tanks, and remained the backbone of Soviet armoured forces until the end of the war. Apart from the most numerous, the T-34 was also one of the longest serving tanks ever built, T34/85s equipping the armies of many Eastern European countries under the Russian sphere of influence. During the Korean War, T34/85s spearheaded the North Korean invasion of the South in June 1950. Development of the T34 produced the T44 in 1944, before a major revision of the design resulted in the T54 armed with a 100 mm gun in 1947.

Country of Origin: USSR
Number Built: 55,000+

SPECIFICATION:
Vehicle Weight: 32 tons
Dimensions: Length 26 ft 10 ins, Width 9 ft 10 ins, Height 8 ft 6 ins
Powerplant: 1 x 500 hp V12 diesel engine
Performance: Maximum speed 26 mph, Range 200 miles
Armament: 1 x 85 mm gun + 2 x 7.62 mm machine guns
Armour: Maximum thickness 80 mm
Crew: 5



Infantry Tank Mk IV 'Churchill Mk I'

Derived from a specification issued in September 1939 for a heavily armoured infantry support tank, the Churchill was designed with the prospect of a return to trench warfare as experienced in the First World War. The prototype was ready within five months, and had a crew of seven and armed with two 2 pounder guns and two machine guns. Trials soon revealed the machine was excessive in weight and the design was scaled down with the armament being halved along with many other detail changes. After the B.E.F. had been evacuated from France in May/June 1940, the Churchill was rushed into production with many problems still to be resolved. These early tanks were unreliable and frequently broke down, an bad start for what would be one of the British Army's most important tanks of World War Two. After the initial mechanical problems had been resolved the Churchill became a reliable machine, and were first used in action during the raid on Dieppe in 1942. The Churchill was progressively upgraded during its career, the Mark VII of 1944 being protected by a maximum of 152 mm of armour and armed with a 75 mm gun. The Churchill was the last infantry tank in the British army and finally retired in 1952.

Country of Origin: UK
Number Built: 303

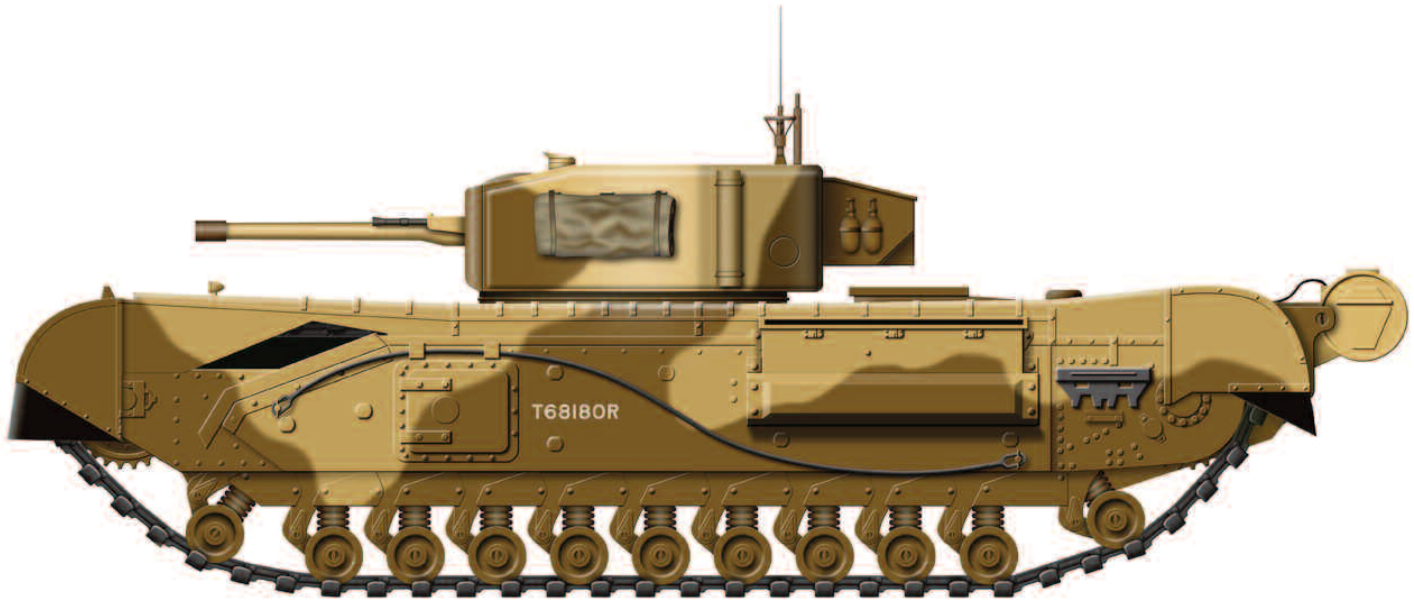
SPECIFICATION:
Vehicle Weight: 40 tons
Dimensions: Length 24 ft 5 ins, Width 8 ft 2 ins, Height 10 ft 8 ins
Powerplant: 1 x Bedford 350 hp petrol engine
Performance: Maximum speed 15½ mph, Range 90 miles
Armament: 1 x 2 pdr gun, 1 x 3 in howitzer, 1 x 7.62 mm mg
Armour: Maximum thickness 102 mm
Crew: 5

Infantry Tank Mk IV 'Churchill Mk II'

Derived from a specification issued in September 1939 for a heavily armoured infantry support tank, the Churchill was designed with the prospect of a return to trench warfare as experienced in the First World War. The prototype was ready within five months, and had a crew of seven and armed with two 2 pounder guns and two machine guns. Trials soon revealed the machine was excessive in weight and the design was scaled down with the armament being halved along with many other detail changes. After the B.E.F. had been evacuated from France in May/June 1940, the Churchill was rushed into production with many problems still to be resolved. These early tanks were unreliable and frequently broke down, an bad start for what would be one of the British Army's most important tanks of World War Two. After the initial mechanical problems had been resolved the Churchill became a reliable machine, and were first used in action during the raid on Dieppe in 1942. The Churchill was progressively upgraded during its career, the Mark VII of 1944 being protected by a maximum of 152 mm of armour and armed with a 75 mm gun. The Churchill was the last infantry tank in the British army and finally retired in 1952.

Country of Origin: UK
Number Built: 1,127

SPECIFICATION:
Vehicle Weight: 40 tons
Dimensions: Length 24 ft 5 ins, Width 8 ft 2 ins, Height 10 ft 8 ins
Powerplant: 1 x Bedford 350 hp petrol engine
Performance: Maximum speed 15½ mph, Range 90 miles
Armament: 1 x 2 pounder gun, 2 x 7.62 mm Besa machine guns
Armour: Maximum thickness 102 mm
Crew: 5

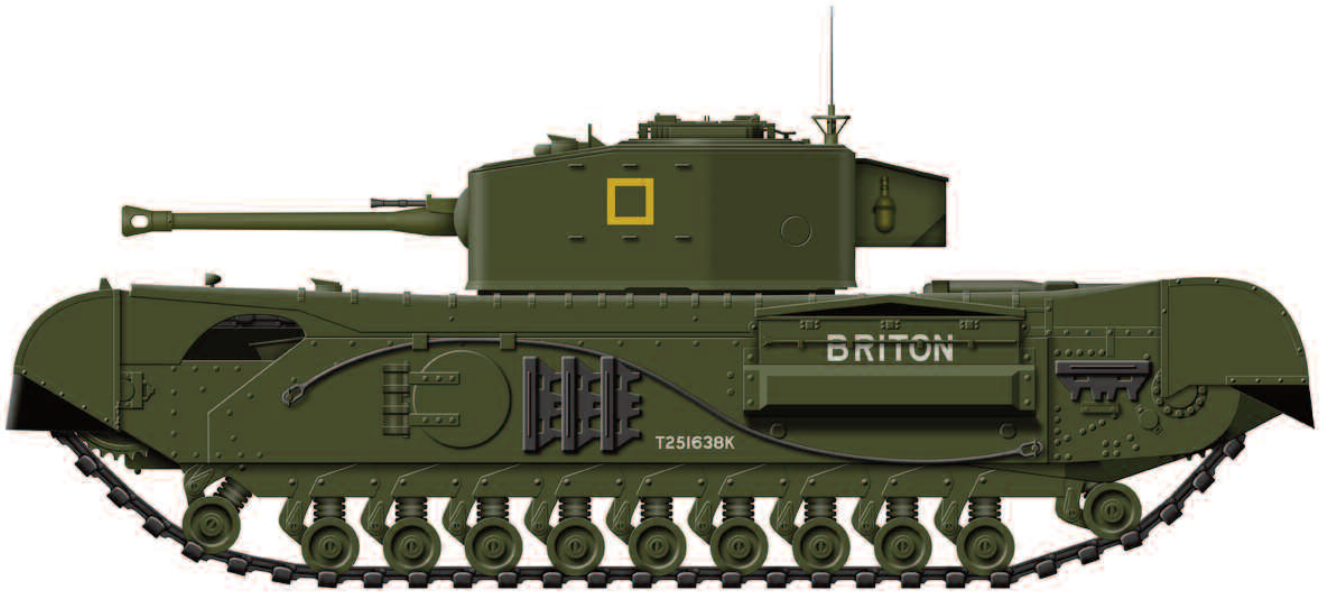


Infantry Tank Mk IV 'Churchill Mk III'

Derived from a specification issued in September 1939 for a heavily armoured infantry support tank, the Churchill was designed with the prospect of a return to trench warfare as experienced in the First World War. The prototype was ready within five months, and had a crew of seven and armed with two 2 pounder guns and two machine guns. Trials soon revealed the machine was excessive in weight and the design was scaled down with the armament being halved along with many other detail changes. After the B.E.F. had been evacuated from France in May/June 1940, the Churchill was rushed into production with many problems still to be resolved. These early tanks were unreliable and frequently broke down, an bad start for what would be one of the British Army's most important tanks of World War Two. After the initial mechanical problems had been resolved the Churchill became a reliable machine, and were first used in action during the raid on Dieppe in 1942. The Churchill was progressively upgraded during its career, the Mark VII of 1944 being protected by a maximum of 152 mm of armour and armed with a 75 mm gun. The Churchill was the last infantry tank in the British army and finally retired in 1952.

Country of Origin: UK
Number Built: 675

SPECIFICATION:
Vehicle Weight: 40 tons
Dimensions: Length 24 ft 5 ins, Width 9 ft, Height 10 ft 8 ins
Powerplant: 1 x Bedford 350 hp petrol engine
Performance: Maximum speed 15½ mph, Range 90 miles
Armament: 1 x 6 pounder gun, 2 x 7.62 mm Besa machine guns
Armour: Maximum thickness 102 mm
Crew: 5



Infantry Tank Mk IV 'Churchill Mk VII'

Derived from a specification issued in September 1939 for a heavily armoured infantry support tank, the Churchill was designed with the prospect of a return to trench warfare as experienced in the First World War. The prototype was ready within five months, and had a crew of seven and armed with two 2 pounder guns and two machine guns. Trials soon revealed the machine was excessive in weight and the design was scaled down with the armament being halved along with many other detail changes. After the B.E.F. had been evacuated from France in May/June 1940, the Churchill was rushed into production with many problems still to be resolved. These early tanks were unreliable and frequently broke down, an bad start for what would be one of the British Army's most important tanks of World War Two. After the initial mechanical problems had been resolved the Churchill became a reliable machine, and were first used in action during the raid on Dieppe in 1942. The Churchill was progressively upgraded during its career, the Mark VII of 1944 being protected by a maximum of 152 mm of armour and armed with a 75 mm gun. The Churchill was the last infantry tank in the British army and finally retired in 1952.

Country of Origin: UK
Number Built: 1,600

SPECIFICATION:
Vehicle Weight: 40 tons
Dimensions: Length 24 ft 5 ins, Width 8 ft, Height 8 ft 2 ins
Powerplant: 1 x Bedford 350 hp petrol engine
Performance: Maximum speed 12½ mph, max range 90 miles
Armament: 1 x 75 mm gun, 1 x 7.62 mm Besa machine gun
Armour: Maximum thickness 152 mm
Crew: 5

Panzerkampfwagen I Ausf C

The limitations of the Panzer I Ausf A and B, with their thin armour and machine gun armament, led to design work on a replacement in 1939. This resulted in the Panzer I Ausf C, and had little in common with the Ausf A and B except in name. The Ausf C was designed as a light reconnaissance tank, and had a completely new chassis and turret, and a torsion bar suspension system and inter-leaved road wheels. Armour was increased to a maximum 30 mm, and the original armament consisted of two 7.92 mm machine guns, one being a Mauser EW141 semi-autocannon firing 7.92 mm anti-tank rounds. The Ausf C weighed an extra 2 tons compared to the Ausf B and were powered by a more powerful 150 hp Maybach engine. Production of the Ausf C began in early 1942, and despite the obvious improvements and creditable top speed of 49 mph, it was outclassed by the latest Allied tanks. In the end only 40 were produced, two being deployed with the 1st Tank Division on the Russian front for trials, while the other 38 vehicles were deployed with the 58th Reserve Tank Corps in the summer of 1944 where they were used during the Normandy Campaign, most being destroyed during the fighting there.

Country of Origin: Germany
Number Built: 40

SPECIFICATION:
Vehicle Weight: 8 tons
Dimensions: Length 16 ft 10 ins, Width; 6 ft 6 ins, Height; 6 ft 4 ins
Powerplant: 1 x 105 hp Maybach petrol engine
Performance: Maximum speed 49 mph, Range 186 miles
Armament: 1 x EW141, 1 x 7.92 mmMG34 machine gun
Armour: Maximum thickness 30 mm
Crew: 2

Panzerkampfwagen I Ausf F

Developed alongside the Ausf C, the Ausf F was intended as an infantry support tank and were heavily protected for the time, the frontal armour being 80 mm and the sides 50 mm thick. As with the Ausf C a torsion bar suspension system with interleaved road wheels was incorporated, but the tracks were noticeably wider. The turret was fitted centrally on a taller hull, but the armament remained the same as the Ausf A and B of two 7.92 mm MG34 machine guns. The same Maybach 150 hp engine as the Ausf C powered the vehicle which gave the 21 ton tank a top speed of 15 mph. Production was undertaken by Krauss-Maffei from the middle of 1940, but only 30 were built before it was decided that they were of limited military value on the battlefield, and as a result further orders for the tank were cancelled. Of the 30 built, five were earmarked for the proposed invasion of Malta, and at least eight served with the 1st Panzer Division on the Eastern Front where they saw combat at the Battle of Kursk in 1943, where most were lost. A few others were sent to the Balkans and used against the partisans, the remaining tanks being supplied to army schools where they were used for training and evaluation purposes.

Country of Origin: Germany
Number Built: 30

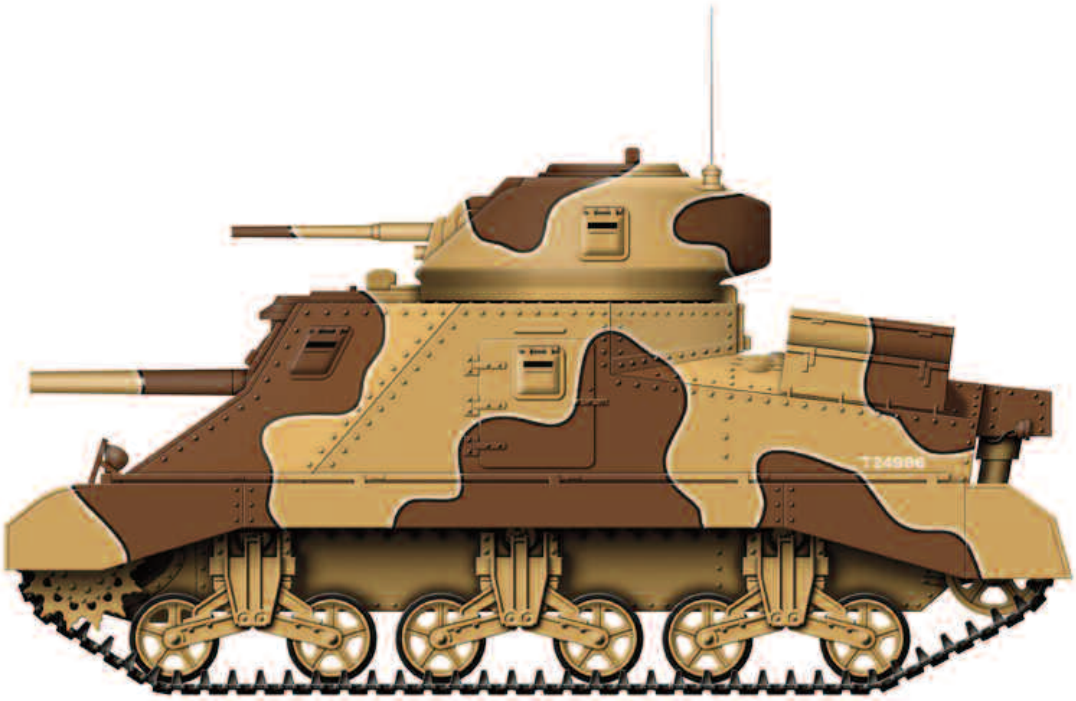
SPECIFICATION:
Vehicle Weight: 21 tons
Dimensions: Length 14 ft 4 ins, Width 8 ft 8 ins, Height 6 ft 9 ins
Powerplant: 1 x Maybech 150 hp petrol engine
Performance: Maximum speed 15 mph, Range 93 miles
Armament: 2 x 7.92 mm MG34 machine guns
Armour: Maximum thickness 80 mm
Crew: 2

M3 Lee Medium Tank

When the Germans invaded France in May 1940, the U.S. military closely followed the consequent tank actions, and from their observations came to the conclusion that the next generation of medium tanks had to have at least a 75 mm gun as the main weapon. At the time they were developing the M2 medium tank which was only armed with a 37 mm gun, but the American answer was swift and expedient. The turret of the M2 was not large enough to take the 75 mm gun, so instead the weapon was fitted in a sponson situated in the front of the hull to the right of the driver, the tank still retaining the 37 mm gun turret as well. The new layout became the M3 Medium Tank, which was rushed into production as an interim design while design work progressed on its eventual successor, the M4 Sherman. The British received over 2,800 M3s with a modified turret design under Lend-Lease. With the British these were called the M3 Grant, the original design becoming the M3 Lee, the type first being used in action during May 1942. With American forces the M3 was first used in action during the landings of French North Africa in November 1942, but were soon replaced when the M4 Sherman became available.

Country of Origin: USA
Number Built: 4,250

SPECIFICATION:
Vehicle Weight: 27.2 tons
Dimensions: Length 18 ft 6 ins, Width 8 ft 11 ins, Height 10 ft 3 ins
Powerplant: 1 x Continental 340 hp radial petrol engine
Performance: Maximum speed 26 mph, Range 120 miles
Armament: 1 x 75 mm , 1 x 37 mm gun, 2 x 0.30 in machine guns
Armour: Maximum thickness 51 mm
Crew: 7

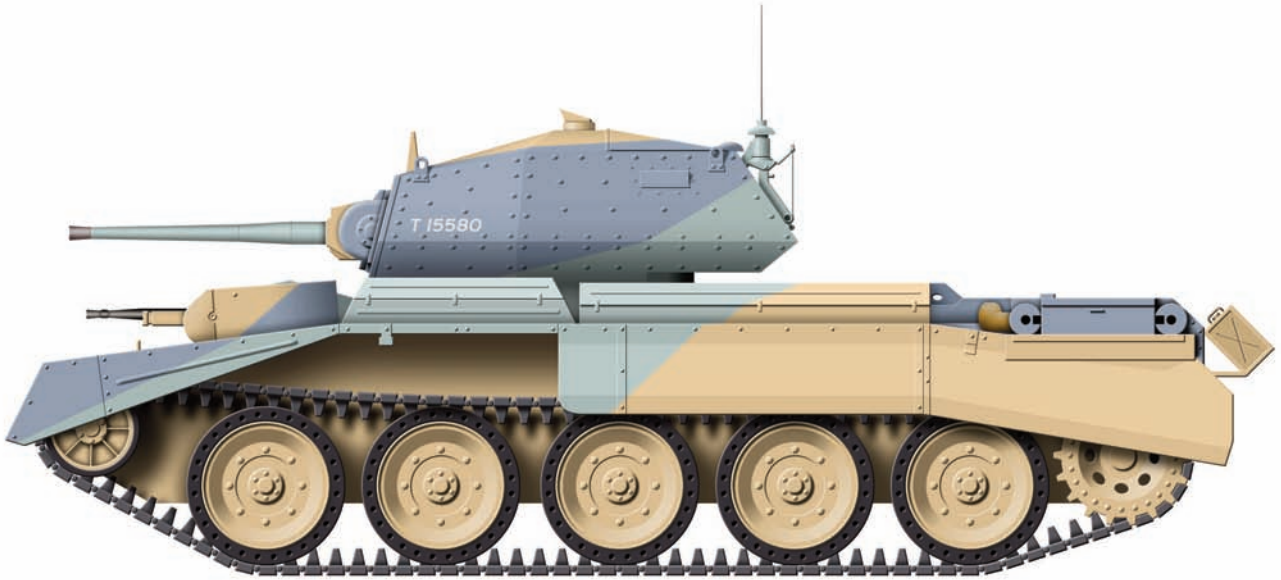


M3 Grant Medium Tank

Almost as soon as production of the M3 had started, a British mission arrived on a purchasing trip to obtain tanks. Although the M3 had many flaws, in particular its high silhouette and riveted construction, they were high on the British shopping list. A few changes were required to suit their needs, the most obvious being a revised turret with a rear bustle for radio equipment, and the omission of the commanders cupola. This model was produced specifically for the British who named it Grant, while the unmodified M3 was named Lee. After the battles in North Africa during the second half of 1941, the British Eighth Army needed to be urgently reinforced. Among the tanks sent to North Africa was the M3 Grant, which were first used in action during the battle of Gazala where the Grant came as a nasty surprise to the Germans. Production ended in December 1942, and from mid-1943 they were gradually replaced by more capable types. Withdrawn British M3s were then sent to India, where around 1,700 were transferred to the 14th Army and used against the Japanese during the Burma campaign. With the British forces in the Far East they gave excellent service until the end of the war in August 1945.

Country of Origin: USA
Number Built: 2,000+

SPECIFICATION:
Vehicle Weight: 27.2 tons
Dimensions: Length 18 ft 6 ins, Width 8 ft 11 ins, Height 10 ft 3 ins
Powerplant: 1 x Continental 340 hp radial petrol engine
Performance: Maximum speed 26 mph, Range 120 miles
Armament: 1 x 75 mm , 1 x 37 mm gun, 2 x 0.30 in machine guns
Armour: Maximum thickness 51 mm
Crew: 6

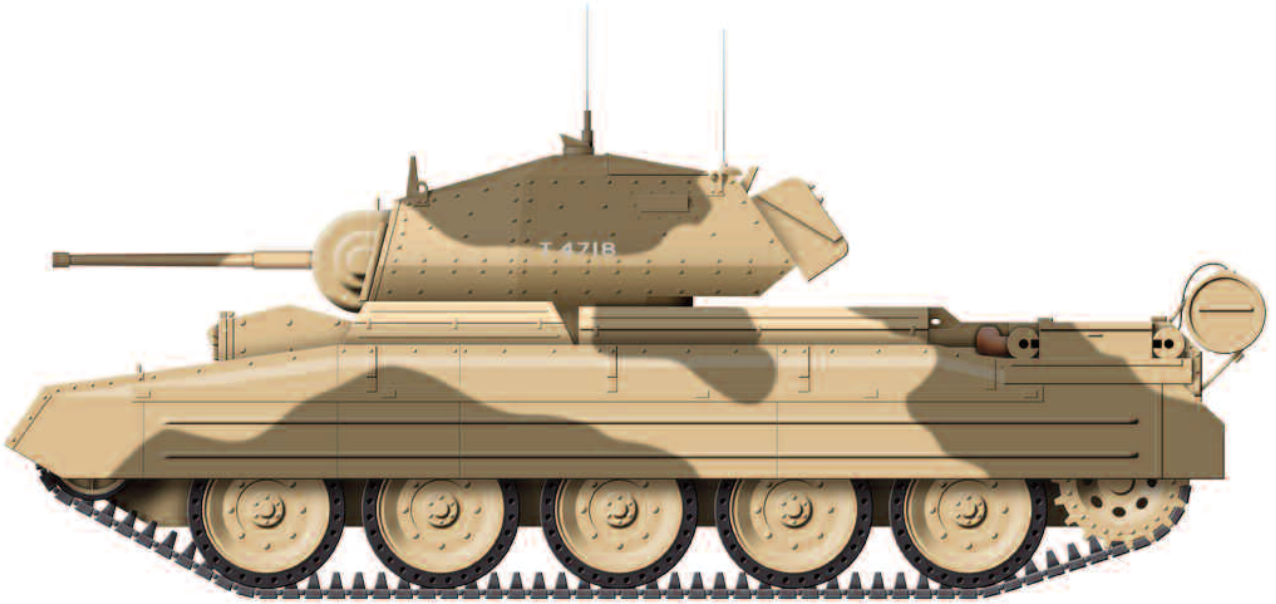


Cruiser Tank Mk VI 'Crusader Mk I'

The A15 Crusader evolved from a 1938 specification for a successor to the A13 Cruiser Tank which was just entering production. The favoured design was from Nuffield, and was in essence an enlarged version of the A13 Mk III 'Covenanter' powered by a Liberty engine. The Crusader was a little longer than the Covenanter and had a fifth set of wheels to carry the load, which would allow the tank greater potential in being up-gunned and up-armoured. The turret was of a similar design to the Covenanter, but the main armament remained the 2 pounder anti-tank gun, which was the only anti-tank gun available in quantity at the time. The prototype was ready for trials in March 1940, but after the fall of France the type was rushed into production to replace lost equipment. The first machines were sent to North Africa where they were used for the first time during Operation Battleaxe in June 1941, and by November they equipped the 22nd and most of 7th Armoured Brigade for Operation Crusader. During the fighting many tanks were lost to mechanical breakdowns, the main reasons being the failure of the radiator fan drive and the seals on the water pump, both being easily damaged in desert conditions.

Country of Origin: UK
Number Built: 5,300 of all Mks

SPECIFICATION:
Vehicle Weight: 19 tons
Dimensions: Length 19 ft 7 ins, Width 9 ft 1 ins, Height 7 ft 4 ins
Powerplant: 1 x Nuffield 340 hp V12 Liberty engine
Performance: Maximum speed 27 mph, Range 125 miles
Armament: 1 x 2 pounder gun, 2 x 7.62 mm Besa machine gun
Armour: Maximum thickness 40 mm
Crew: 5



Cruiser Tank Mk VI 'Crusader Mk II'

The Crusader Mk II appeared in late 1941 and was fitted with improved armour after the initial battle experiences in the desert. Both the Mk I and Mk II were designed with an auxiliary machine gun turret situated next to the driver and manned by a gunner, although these were often removed by their crews who were unimpressed with them, relying instead on the co-axial machine gun in the turret for close defence. Early in 1941 the new 6 pounder anti-tank gun became available and was soon adapted for use in a tank, the new gun being a good step forward in hitting power and had the ability to fire HE rounds..

The turret was redesigned to take the new gun, while at the same time the mechanical issues resolved. One problem with the bigger gun was the lack of space inside the turret, there being only room for two men, and as a result the loader was eliminated and the commander had to perform this task along with his other duties. The first Crusader IIIs were delivered in May 1942, with around 100 being available to take part in the battle of El Alamein in October. By mid 1943 the Crusader was becoming obsolescent and production ceased, and the type had been withdrawn from front line service by early 1944.

Country of Origin: UK
Number Built: 5,300 of all Mks

SPECIFICATION:
Vehicle Weight: 19.5 tons
Dimensions: Length 19 ft 7 ins, Width 9 ft 1 ins, Height 7 ft 4 ins
Powerplant: 1 x Nuffield 340 hp V12 Liberty engine
Performance: Maximum speed 27 mph, Range 125 miles
Armament: 1 x 2 pounder gun, 1 x 7.62 mm Besa machine gun
Armour: Maximum thickness 49 mm
Crew: 4

Cruiser Tank Mk VI 'Crusader Mk III'

The Crusader Mk II appeared in late 1941 and was fitted with improved armour after the initial battle experiences in the desert. Both the Mk I and Mk II were designed with an auxiliary machine gun turret situated next to the driver and manned by a gunner, although these were often removed by their crews who were unimpressed with them, relying instead on the co-axial machine gun in the turret for close defence. Early in 1941 the new 6 pounder anti-tank gun became available and was soon adapted for use in a tank, the new gun being a good step forward in hitting power and had the ability to fire HE rounds..

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Country of Origin: UK
Number Built: 5,300 of all Mks

SPECIFICATION:
Vehicle Weight: 20 tons
Dimensions: Length 19 ft 7 ins, Width 9 ft 1 ins, Height 7 ft 4 ins
Powerplant: 1 x Nuffield 340 hp V12 Liberty engine
Performance: Maximum speed 27 mph, Range 125 miles
Armament: 1 x 6 pounder gun, 1 x 7.62 mm Besa machine gun
Armour: Maximum thickness 51 mm
Crew: 4

M3 Light Tank

Following events in Europe during 1940, the US Army quickly realised that thicker armour would be required for its light tanks. This resulted in the M3 light tank which was similar in design to the M2A4, but with a stronger suspension system to carry the extra weight. By the end of 1940 the M3 light tank was in production, with the early tanks being of riveted construction, but later welding was introduced, along with many small design changes. The basic armament of the M3A1 was a 37 mm gun and five 7.62 mm machine guns, one co-axially fitted with the main gun, one on a pintail mount on the turret for AA defence, another in the hull front, and two fixed in the side sponsons which were operated by the driver, these later being omitted. In service the M3 proved to be a reliable vehicle and generally liked by its crews. Large numbers were supplied to the Allies under Lend-Lease, the largest recipient being the U.K., where they were known as the Stuart who widely used during the North African campaign. They first saw action with American forces in December 1941 when around 100 fought a rearguard action against invading Japanese forces during the retreat to Bataan in the Phillipines.

Country of Origin: USA
Number Built: 5,811

SPECIFICATION:
Vehicle Weight: 13 tons
Dimensions: Length 14 ft 10¾ ins, Width 7 ft 4 ins, Height 7 ft 8 ins
Powerplant: 1 x Continental 250 hp radial petrol engine
Performance: Maximum speed 36 mph, Range 70 miles
Armament: 1 x 37 mm gun, 5 x 7.62 mm machine guns
Armour: Maximum thickness 43 mm
Crew: 4

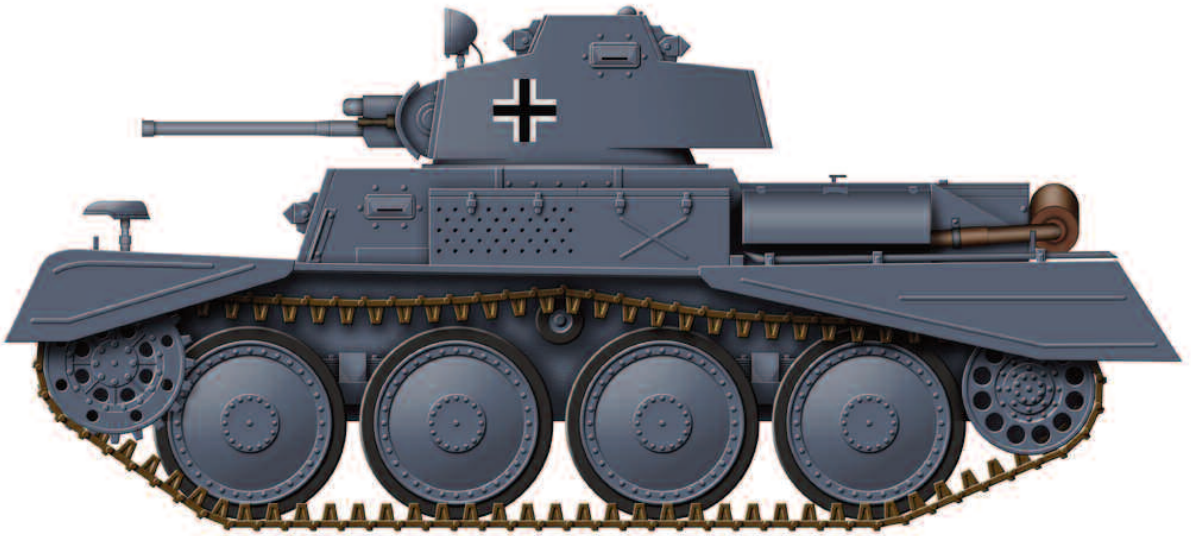
M5 Light Tank

The M5 light tank arose from a private proposal to install twin Cadillac car engines into an M3 which produced the M3E2 test vehicle in late 1941. After trials the idea was accepted for production, particularly with the shortage of radial engines which were urgently needed for the aircraft industry at the time. In February 1942 the modified tank became the M5 light tank, the most noticeable difference being the raised rear engine decking and the turret bustle which housed the radio and increased internal space in the turret itself. Production began in July 1942 and ran parallel with the M3 at the time.

The M5 became the main U.S. light tank and were first used in North Africa after the Torch landings in November 1942, being followed by the Italian campaign and the D-Day landings. Like the M3, by late 1944 their battle effectiveness in Europe was negligible, but those serving in the Pacific were used as a battle tank for much longer where it could fight on better or near equal terms against Japanese tanks such as the Type 95 Ha-go and Type 97 Chi-ha. The T8 Reconnaissance Vehicle was a variant of the M5 which had the turret removed and a 0.50 inch Browning heavy machine gun mounted on an open position.

Country of Origin: USA
Number Built: 8,884

SPECIFICATION:
Vehicle Weight: 16.5 tons
Dimensions: Length 15 ft 2 ins, Width 7 ft 10 ins, Height 7 ft 8 ins
Powerplant: Twin Cadillac V8 petrol engine rated at 296 hp
Performance: Maximum speed 26 mph, Range 130 miles
Armament: 1 x 37 mm gun, 3 x 0.30 inch machine guns
Armour: Maximum thickness 51 mm
Crew: 6

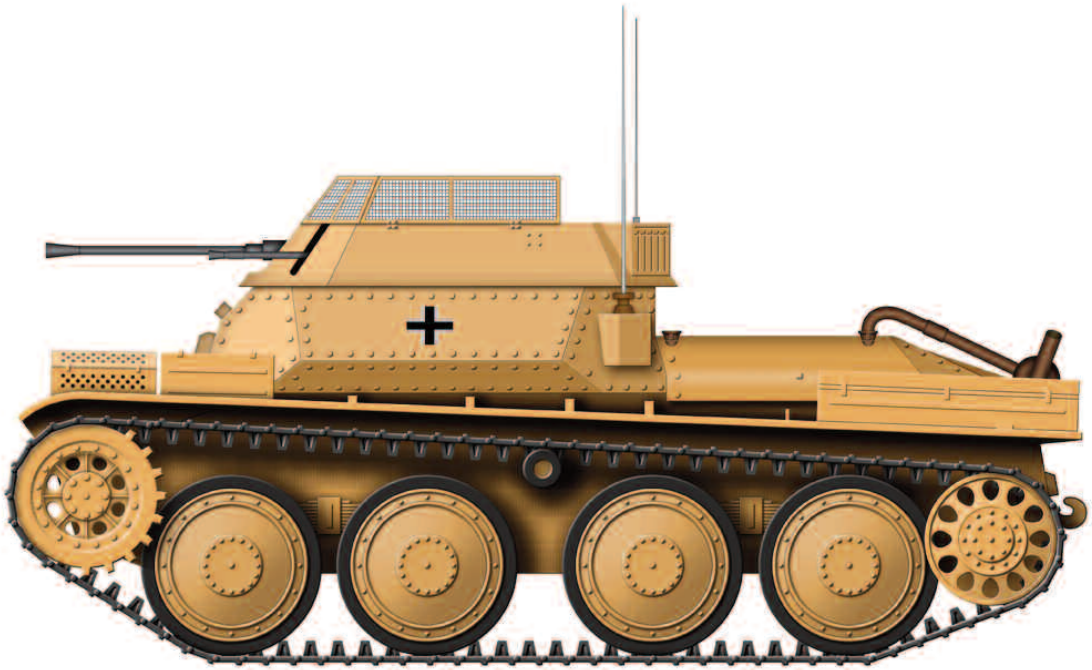


Panzerkamfwagen 38(t) TNH nA

The TNH nA or Panzerkampfwagen 38(t) neuer Art (new model) was offered to the German military as a light reconnaissance tank as a rival to the Panzerkampfwagen II Ausf L Lynx and Panzerkampfwagen Ausf C. The design was based on the PzKpfw 38(t) and had the same basic hull and suspension, while the armour protection was increased by 5 - 10 mm compared to the PzKpfw 38(t) Ausf S. The latest techniques in welded armour were incorporated instead of the riveting on the standard tank ,while the road wheels were mounted closer together. The major change to the design was the use of a 240 hp Praga V8 engine which gave the tank a top speed of 38 mph compared to the 26 mph on the standard tank. They also had a redesigned turret which used better German visors, although they were still armed with the same 3.7 cm gun. It is believed that fifteen were produced in early 1942, and during trials the prototypes performed well, but the type was never put into production, although many of the features were used for later vehicles based on the Pz.38(t) chassis. The fate of the fifteen tanks is unknown and there is no record of them being used in combat during World War Two.

Country of Origin: Germany
Number Built: 15

SPECIFICATION:
Vehicle Weight: 14.8 tons
Dimensions: Length 16 ft 5 ins, Width 8 ft 2 ins, Height 7 ft 10 ins
Powerplant: 1 x Praga 240 hp petrol engine
Performance: Maximum speed 38 mph, Range 124 miles
Armament: 1 x 3.7 cm gun, 1 x 7.92 mm machine gun
Armour: Maximum thickness 35 mm
Crew: 4

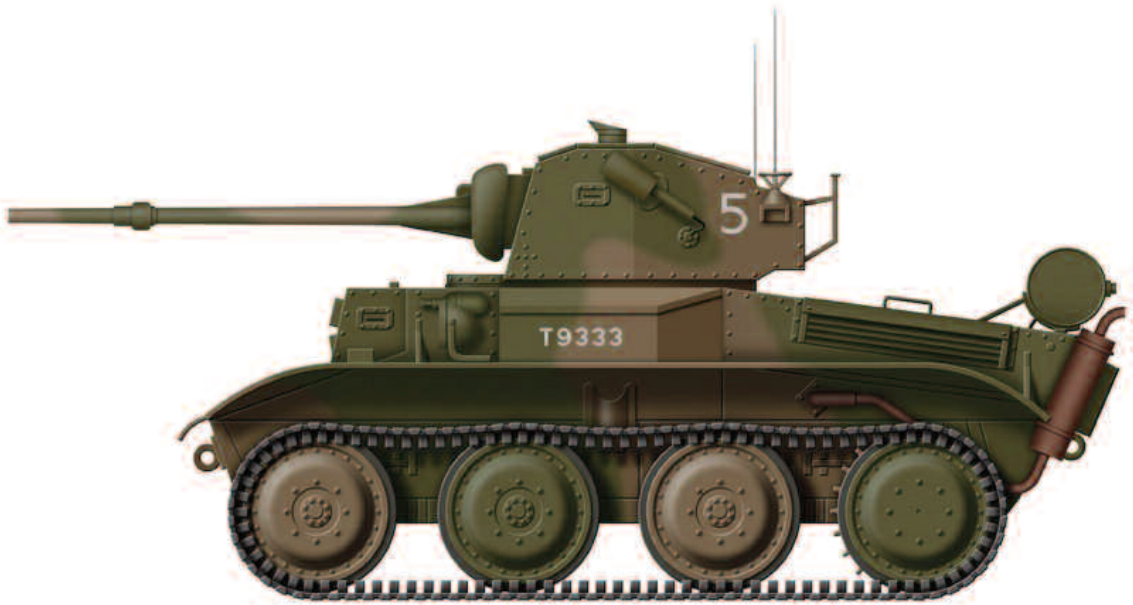


Aufklarer Auf Fahrgestell Panzerkamfwagen 38(t)

Originally the production of the Panzerkampfwagen II Ausf L Lynx light reconnaissance tank was to have been 1,000 units, but in early 1944 production was curtailed after only 100 had been produced. Plans were quickly prepared to provide an alternative fully tracked reconnaissance vehicle based on the Panzer 38(t) that had been returned for repair. The turret was removed and a new superstructure fitted to the chassis which was fitted with a standard open topped turret armed with a 2 cm cannon, a similar type as used for several types of wheeled and semi-tracked armoured vehicles. BMM were to have converted 118 tanks by April 1944, but due to delays only 70 were delivered which were issued to armoured reconnaissance units on both the Eastern and Western fronts, where they worked alongside Jagdpanzer 38(t) units. BMM had also proposed two designs based on the vehicle armed with a 7.5 cm gun. Two prototypes were produced in late 1944, the mounting for the 7.5 cm gun being achieved by extending the sides of the superstructure upwards. The new vehicles were tested, but by early 1945 the war in Europe was virtually over and they were never put into production.

Country of Origin: Germany
Number Built: 70

SPECIFICATION:
Vehicle Weight: 9.75 tons
Dimensions: Length 14 ft 9 ins, Width 7 ft, Height 7 ft 1 ins
Powerplant: 1 x 1 x 125 hp Praga petrol engine
Performance: Maximum speed 26 mph, Range 130 miles
Armament: 1 x 2 cm cannon, 1 x 7.92 mm machine gun
Armour: Maximum thickness 50 mm
Crew: 4

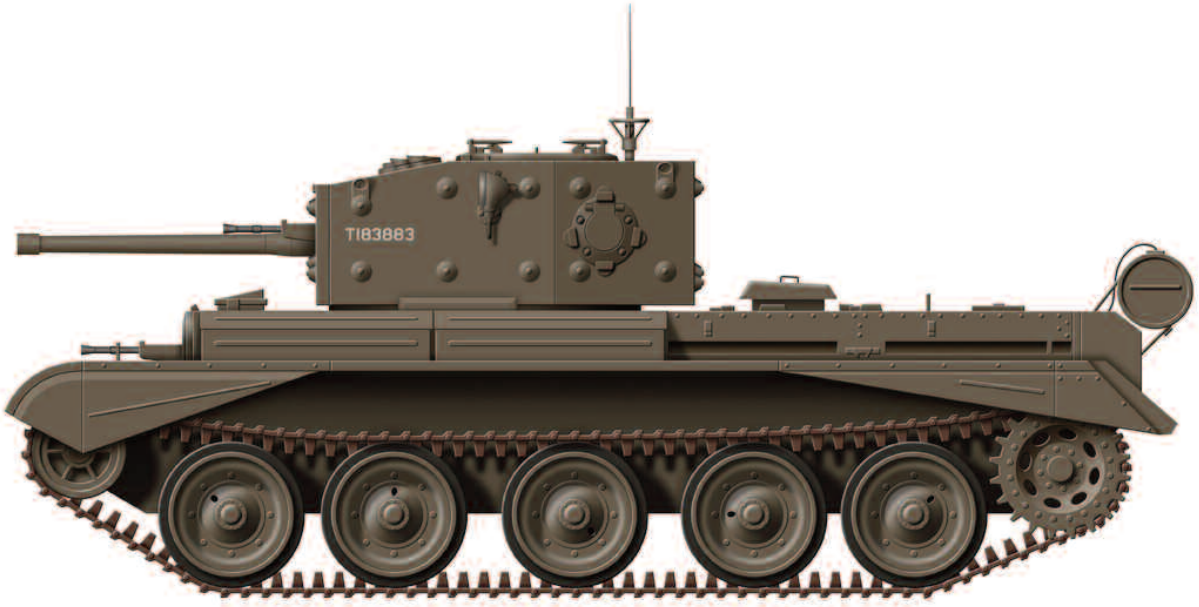


'Tetrarch' Light Tank (A17)

The Tetrarch was a further development by Vickers of its range of light tanks and originally known as the Mk VII. It differed from its predecessors by abandoning the Horstmann suspension system and having four large road wheels on each side. A prototype was trialled in 1938, but was rejected by the army, although an order was placed for a limited run of 70 after a number of changes had been made, which included the replacement of the Besa 15 mm for a 2 pounder anti-tank gun. Given the name Tetrarch, production started in July 1940 when the British Army was in dire need to rearm, but by then the usefulness of the light tank was realised, and in the end only between 100-170 were built which were placed in storage. The fortune of the tank changed after the formation of the British Airborne Force. They needed the ability to take their own heavy weapons into battle by glider, and once the heavy lift Hamilcar glider had been designed the Tetrarch was the natural light tank of choice. The Tetrarch was re-designated an airborne tank and were first used in combat during the D-Day landings on the 6th June 1944, and again in small numbers during the airborne assault of the Rhine crossing in March 1945.

Country of Origin: UK
Number Built: 100+

SPECIFICATION:
Weight: 7.5 tons
Dimensions: Length 13 ft 6 ins, Width 7 ft 7 ins, Height 6 ft 11 ins
Powerplant: 1 x Meadows 165 hp petrol engine
Performance: Maximum speed 40 mph, Range 140 miles
Armament: 1 x 2 pounder gun, 1 x 7.92 mm Besa machine gun
Armour: Maximum thickness 16 mm
Crew: 2

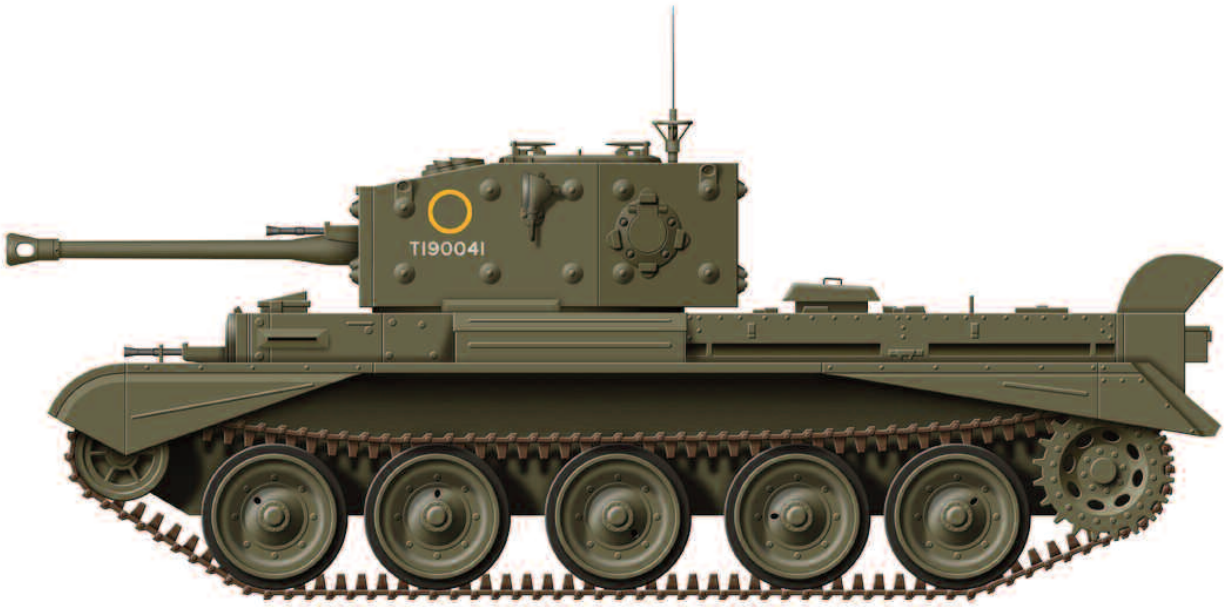


Cruiser Tank Mk VII 'Cavalier' (A24)

In mid-1940 a specification was issued for a new cruiser tank which would replace the A15 Crusader in the British army. They were to be armed with the new 6 pounder gun, have up to 75 mm of frontal armour, a 60 inch turret ring, a speed of at least 24 mph, and weigh no more than 24 tons. Nuffield put forward a design that was based on the A15 Crusader tank modified to carry the 6 pounder gun and powered by an up-rated Liberty engine. Five road wheels were fitted each side with the Christie suspension mounted between inner and outer panels, while the turret was of a very angular nature that was constructed from vertical flat panels. Given the designation A24 and named Cavalier, 500 were ordered straight off the drawing board, but trials with the prototypes were a disaster. The main problem was that the Liberty engine was not powerful enough for the weight of the tank, causing excessive strain on the engine which gave it an even shorter lifespan and made the tank even less reliable than the A15 Crusader. The Cavalier was used for training in the UK, and later around 200 were converted for use as Observation Posts and a few others as Armoured Recovery Vehicles, both seeing action in North West Europe in 1944-45.

Country of Origin: UK
Number Built: 500

SPECIFICATION:
Vehicle Weight: 27 tons
Dimensions: Length 20 ft 10 ins, Width 9 ft 6 ins, Height 8 ft
Powerplant: 1 x Nuffield 350 hp Liberty petrol engine
Performance: Maximum speed 24 mph, Range 164 miles
Armament: 1 x 6 pounder gun, 4 x 7.92 mm machine guns
Armour: Maximum thickness 76 mm
Crew: 5

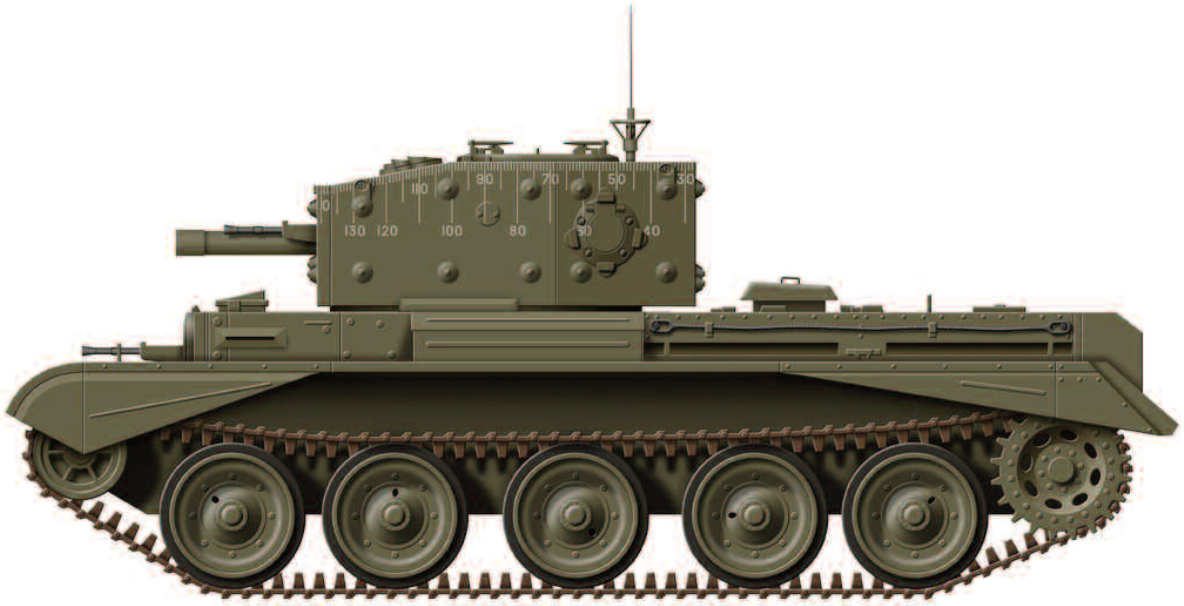


Cruiser Tank Mk VIII 'Cromwell' (A27M)

A further submission as a replacement for A15 Crusader tank was designated the A27 and had come from the Birmingham Railway Carriage & Wagon Company, and was also based on the Crusader and of similar design to the A24. The A27 had a low rectangular hull with a stepped front for a hull machine gun, while the sides were vertical with no sloped armour. The turret was also slab sided, having a welded substructure with the armour bolted on from inside. The main difference between the A24 ans A27 was the use of the Rolls-Royce Meteor engine which was a development of the Merlin areo engine. The prototype A27 totally eclipsed the performance of the A24 which resulted in the tank being immediately placed in production in mid 1943. When the 7th Armoured Division returned to the UK in preparation for D-Day they re-equipped with the type, the crews receiving them with mixed feelings. In the immediate fighting after D-Day, Cromwells suffered badly in the Normandy Bocage where its speed could not be used to advantage. The Cromwell was the equal to the Panzer III or IV, but no match for the Tiger or Panther heavy tank, but after the breakout in August the Cromwell came into its own.

Country of Origin: UK
Number Built: 4,000+

SPECIFICATION:
Vehicle Weight: 27.5 tons
Dimensions: Length 20 ft 10 ins, Width 9 ft, Height 9 ft 4 ins
Powerplant: 1 x Rolls-Royce 600 hp Meteor petrol engine
Performance: Maximum speed 32 mph, Range 164 miles
Armament: 1 x 75 mm gun, 2 x 7.92 mm Besa machine guns
Armour: Maximum thickness 76 mm
Crew: 5

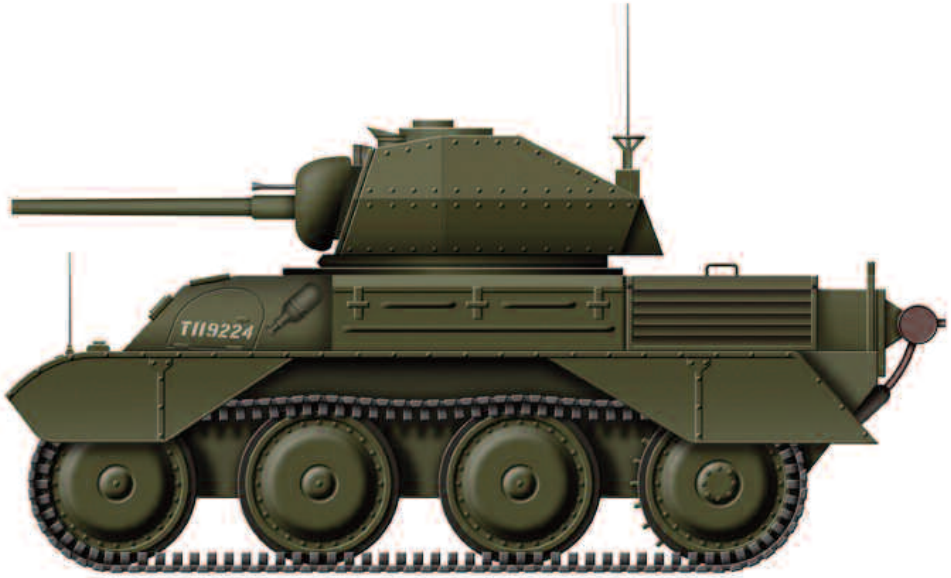


Cruiser Tank Mk VIII 'Centaur' (A27L)

With the success of the Meteor powered A27, the tank was placed into production, but belief that there would be an initial shortage of the Meteor engine, led to Leyland producing the same tank powered by the uprated Liberty engine. As a consequence the Meteor powered tanks were known as the A27(M) Cromwell, and Liberty engined vehicles the A27(L) Centaur. The first Centaur was competed in July 1942, but the problems of the Liberty engine reared up once again. This was proved in 1943 when a couple of long distance runs were undertaken to test reliability. Despite this production of the Centaur went ahead, with an estimated 1,000 being built, although many Centaurs were later re-engined with the Meteor, and as such became Cromwells. The Centaur however did go to war after about eighty were modified and armed with a short barrelled 95 mm howitzer. Designated the Centaur IV close support tank, these were first used on D-Day by the Royal Marines to provide fire support for the Commandos. The unit remained in combat until late June when they were withdrawn. Other specialised conversions included an armoured bulldozer, an armoured recovery vehicle and an observation post.

Country of Origin: UK
Number Built: 1,000

SPECIFICATION:
Vehicle Weight: 27.5 tons
Dimensions: Length 20 ft 10 ins, Width 9 ft, Height 9 ft 4 ins
Powerplant: 1 x Nuffield 395 hp Liberty petrol engine
Performance: Maximum speed 26 mph, Range 164 miles
Armament: 1 x 95 mm howitzer, 2 x 7.92 mm Besa machine guns
Armour: Maximum thickness 76 mm
Crew: 5

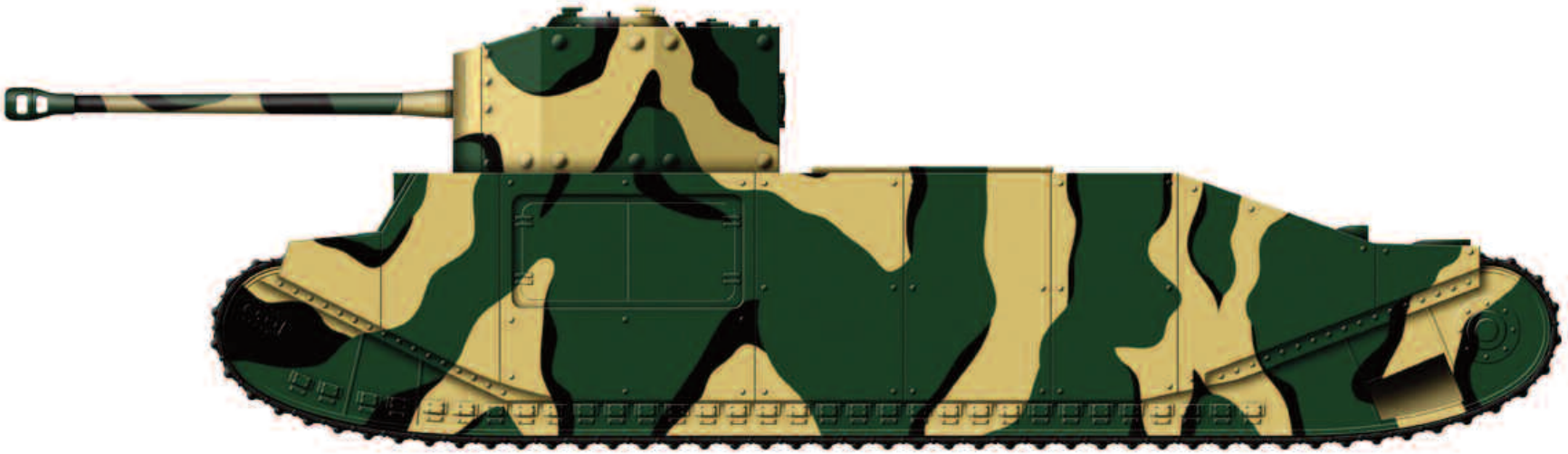


'Harry Hopkins' Light Tank (A25)

Further development of the Tetrarch led to the final light tank design from Vickers, the A25 Light Tank Mk VIII, which was named 'Harry Hopkins' after President Roosevelt's chief advisor who was visiting the country at the time, the only tank to be named after a civilian. The A25 was similar in appearance to the Tetrarch but had several major improvements, which included a better turret design and an increase in armour protection. The tank was accepted for production in late 1941 with an initial order for 1,000, this later being increased to over 2,400, but by then tank development had raced ahead and the British army had decided there was no further need for a light tank on the battlefield. The order was cancelled after 99 had been completed, with most being placed in storage while various ideas for their use were put forward. It was decided to hand them over to the Royal Air Force who used them for airfield defence. After World War Two they were briefly used for training, but in 1949 they were declared obsolete and surplus to requirements and scrapped. The A25 did form the basis for Alecto, an air portable self-propelled 95 mm howitzer for the airborne forces but was never put into production.

Country of Origin: UK
Number Built: 99

SPECIFICATION:
Vehicle Weight: 8.5 tons
Dimensions: Length 14 ft 3 ins, Width 8 ft 10 ins, Height 6 ft 11 ins
Powerplant: 1 x Meadows 148 hp petrol engine
Performance: Maximum speed 30 mph, Range 140 miles
Armament: 1 x 2 pounder gun, 1 x 7.92 mm machine gun
Armour: Maximum thickness 38 mm
Crew: 3



T.O.G. II Heavy Infantry Tank

In the early summer of 1939, the prospect of war grew ever nearer. Most people believed it would be similar to the First World War, with trench warfare becoming a certainty, so to investigate a new design for a heavy infantry tank with trench warfare in mind, the 'Special Vehicle Development Committee' was formed. This was headed by Sir Albert Stern, and included Walter Wilson, William Tritton, Harry Ricardo, Eustace Tennyson D'eyncourt and Ernest Swinton, all of whom had played major parts in tank development during World War One, and were soon nickname 'The Old Gang', the initials T.O.G. being applied to their designs. During trials with the prototype unresolvable problems were encountered which resulted in a revised design which emerged as T.O.G. II, which was similar in appearance to the T.O.G. 1 and kept many of its features. A prototype was ready for trials in May 1943, by which time the weight of the tank had risen to 80 tons. The trials were disappointing, the tank being difficult to control, and combined with the eventual success of the A22 Churchill, the idea of this monster waned. Work still proceeded at a reduced level, but as a project was outdated and a total waste of time, money and effort.

Country of Origin: UK
Number Built: 1

SPECIFICATION:
Vehicle Weight: 80 tons
Dimensions: Length 33 ft 3 ins, Width 10 ft 3 ins, Height 10 ft
Powerplant: 1 x Paxman-Ricardo 600 hp diesel engine
Performance: Maximum speed 8½ mph, Range 70 miles
Armament: 1 x 17 pounder gun, 3 x 0.303 inch machine guns
Armour: Maximum thickness 76 mm
Crew: 8

M4 Sherman Medium Tank

While the M3 was being rushed into production, a new design for a medium tank with a turret mounted 75 mm gun was drawn up and approved in April 1941. To save time this would use the hull and suspension of the M3, but the upper hull was revised to accommodate the gun turret. The prototype was rolled out in September 1941 and proved to be a good design, the cast upper hull not only provided better protection but would speed up production. The 75 mm gun was capable of defeating any armoured vehicle then in use by the Axis forces. The new tank was rushed into production as the M4 medium tank, and proved to be a good fighting platform. The British took possession of a large number of M4's as part of the Lend-Lease programme, naming them the Sherman tank after the American Civil War general. They were first used in action by the British in October 1942 at the Second Battle of El Alamein, while the first U.S. Army Shermans were used the following month after the 'Torch' landings in North Africa. M4s soon began to replace the older M3, and was superior to most of the German tanks it faced in North Africa, and remained the equivalent of the Panzer IV throughout the World War Two.

Country of Origin: USA
Number Built: 40,000+

SPECIFICATION:
Vehicle Weight: 32.3 tons
Dimensions: Length 24 ft 8 ins, Width 8 ft 9½ ins, Height 11 ft 3 ins
Powerplant: 1 x Ford 450 hp V8 petrol engine
Performance: Maximum speed 29mph, Range 100 miles
Armament: 1 x 75 mm gun, 2 x 0.3 inch, 1 x 0.5 inch machine guns
Armour: Maximum thickness 62 mm
Crew: 5

M4 Sherman 'Firefly'

In Normandy after the D-Day landings the Sherman began to receive a bad name, being nicknamed 'Ronsons' by the British (the Ronson lighter had the slogan 'Lights first time, every time') as they had an unpleasant habit of easily catching fire when hit. Many field improvisations were made to improve their armour, and different Mks were put into production to try and address the problem. The best Sherman tank of the war was the Firefly, which was a British adaptation that replaced the main gun with a 17 pounder anti-tank gun. This made it a potent tank killer, but unfortunately there were never enough of them in service.

The definitive Sherman M4E8 began to enter service in early 1945 and was armed with a high velocity 76 mm gun and a new horizontal volute suspension system (HVSS). The Sherman was never the best tank of the war, but it was a war winner, and like the Russian T34, so many were produced that sheer numbers would defeat a determined enemy. After World War Two many of the later Shermans were retained by the U.S. Army until the early 1950s, while others were exported to friendly countries where many remained on strength into the 1970s, especially by the Israelis who upgraded their vehicles several times.

Country of Origin: USA
Number Produced: 2,000+

SPECIFICATION:
Vehicle Weight: 32.3 tons
Dimensions: Length 24 ft 8 ins, Width 8 ft 9½ ins, Height 11 ft 3 ins
Powerplant: 1 x Ford 450 hp V8 petrol engine
Performance: Maximum speed 29mph, Range 100 miles
Armament: 1 x 76 mm gun, 2 x 0.3 inch, 1 x 0.5 inch machine guns
Armour: Maximum thickness 62 mm
Crew: 5

M4E8 Sherman Medium Tank

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Country of Origin: USA
Number Built: 4,542

SPECIFICATION:
Vehicle Weight: 33 tons
Dimensions: Length 24 ft 7 ins, Width 9 ft 6 ins, Height 9 ft
Powerplant: 1 x Ford 500 hp petrol engine
Performance: Maximum speed 29 mph, Range 109 miles
Armament: 1 x 76 mm gun, 2 x 0.3 inch, 1 x 0.5 inch machine guns
Armour: Maximum thickness 88 mm
Crew: 5

Ram I Cruiser Tank

Shortly after the outbreak of World War Two in 1939, the Canadian government realised that they could not rely on being supplied with all its equipment from the United Kingdom. The decision was taken to produce a tank in Canada for its own armoured divisions. They were interested in the production of the M3 Lee medium tank, but this was only an interim design, so they decided to develop a design of their own based on the M3 chassis. A new turret was designed that could take a 6 pounder gun, while the upper hull was modified to take the turret the lower hull of the M3 was retained complete with running gear. The Canadians ran into many challenges, having never produced a tank before, but a prototype was ready in June 1941, with production beginning in November. The Ram I was armed with a 2 pounder gun, and had side doors in the hull and an auxiliary machine gun turret at the front, both of which were deleted shortly after the introduction of the Ram II which was armed with the 6 pounder gun. Production ceased in July 1943 in favour of the Grizzly I, by which time over 2,000 vehicles had been built. The Ram was never used in combat, instead being deployed in the U.K. as training vehicles.

Country of Origin: Canada
Number Built: 2,000+

SPECIFICATION:
Vehicle Weight: 29 tons
Dimensions: Length 9 ft, Width 9 ft 10 ins, Height 8 ft 9 ins
Powerplant: 1 x Continental 400 hp petrol engine
Performance: Maximum speed 25 mph, Range 145 miles
Armament: 1 x 2 pounder gun, 3 x 7.92 mm machine guns
Armour: Maximum thickness 87 mm
Crew: 5

Ram II Cruiser Tank

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Country of Origin: Canada
Number Built: 2,000+

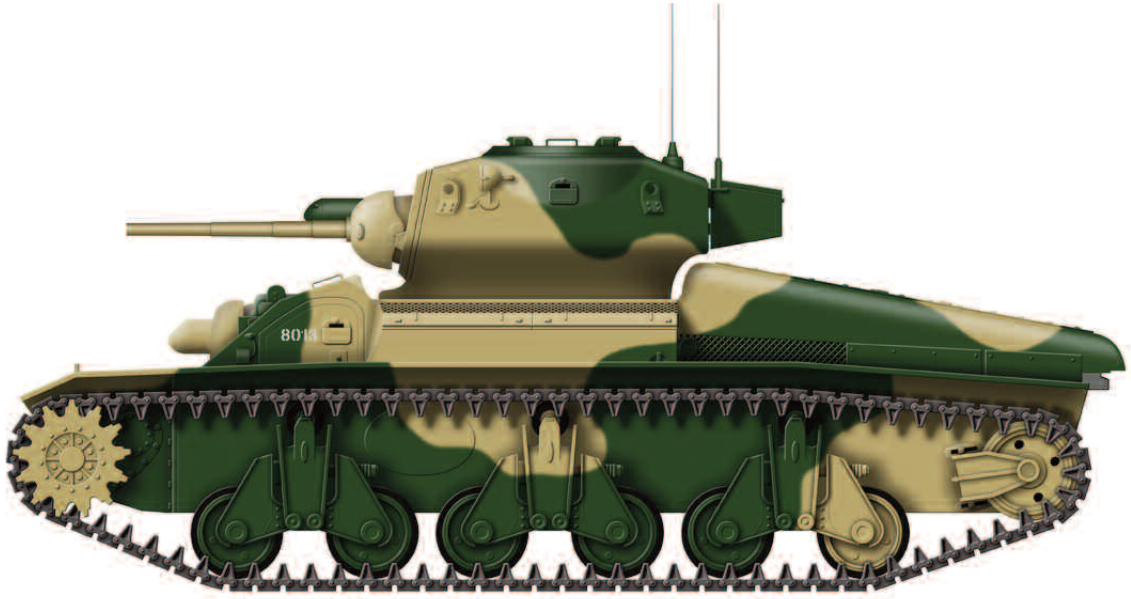
SPECIFICATION:
Vehicle Weight: 29 tons
Dimensions: Length 9 ft, Width 9 ft 10 ins, Height 8 ft 9 ins
Powerplant: 1 x Continental 400 hp petrol engine
Performance: Maximum speed 25 mph, Range 145 miles
Armament: 1 x 6 pounder gun, 3 x 7.92 mm machine guns
Armour: Maximum thickness 87 mm
Crew: 5

'Grizzly' I Medium Tank

he Grizzly was produced in Canada and based on the M4A1 Sherman medium tank. The design was modified to meet Canadian requirements, which included the use of the Canadian Dry Pin (C.D.P.) tracks which were lighter and simpler than the standard U.S. tracks and did not require rubber. Production began in August 1943, but was halted after 188 had been built when it became clear that U.S. production of the M4 was sufficient to supply the needs of the Allied forces. Instead production was switched to the Sexton self-propelled gun Mk II. The Sexton Mk II used the Grizzly chassis, with the upper hull modified to carry the British 25 pounder gun which was in common use with Commonwealth forces. A small batch of Grizzly medium tanks were armed with a 17 pounder anti-tank gun but were only used for training. A small number were produced as an anti-aircraft platform. Known as the Skink, they were armed with four 20 mm cannons in an armoured turret, but by the time they were trialled the Allies had complete mastery of the air and they were no longer needed. It is believed a few were used in France before the end of the war where they had a devastating effect on ground targets.

Country of Origin: Canada
Number Built: 188

SPECIFICATION:
Vehicle Weight: 30 tons
Dimensions: Length 24 ft 8 ins, Width 8 ft 9½ ins, Height 11 ft 3 ins
Powerplant: 1 x Continental 400 hp petrol engine
Performance: Maximum speed 24 mph, Range 100 miles
Armament: 1 x 75 mm gun, 2 x 0.3 inch machine guns
Armour: Maximum thickness 75 mm
Crew: 5

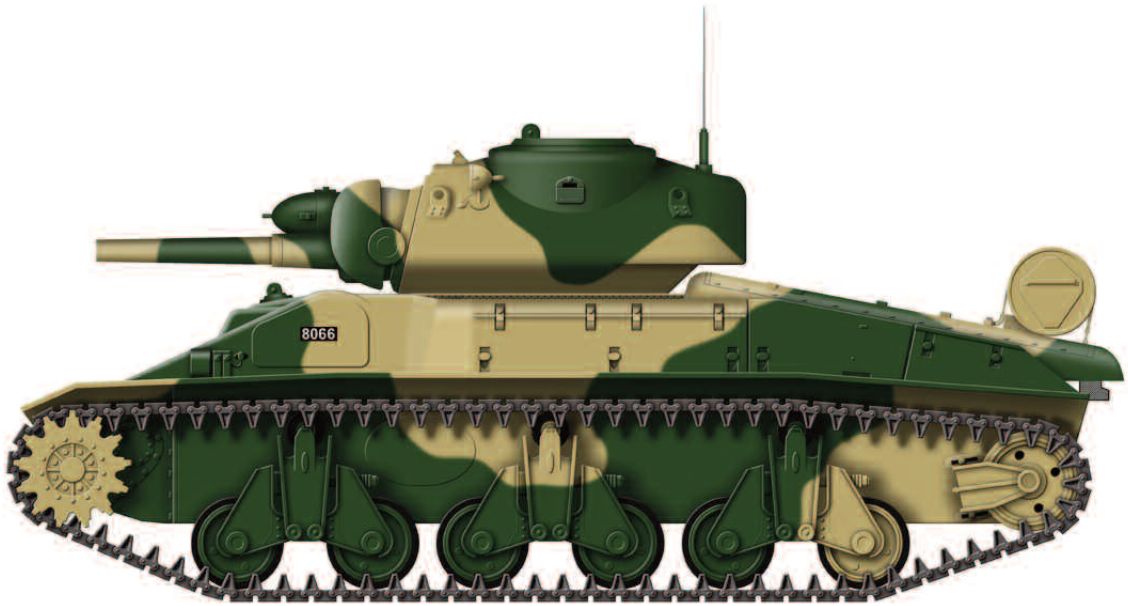


AC1 'Sentinal' Cruiser Tank

In mid 1940 it was clear in Australia that it could not depend on its traditional source of military equipment from the U.K., and with the increasing likelihood of war in the Pacific they decided they needed to produce an indigenous design for a tank. The first outline drafts were produced in late 1940, and to save time used several components from the American M3 Lee medium tank and a British style low profile turret and hull. The radial Pratt & Whitney Wasp and the Guiberson diesel engines, which were both used in the M3 Grant medium tank, were not available in Australia, instead three standard Cadillac V8 engines rated at 117 hp each were arranged in a cloverleaf formation that were connected to a crankshaft. Development however took time, the prototype only being ready for trials in August 1942. These were followed by an order for 65 vehicle, with the first being delivered in November 1942. Given the title AC1 (Australian Cruiser No 1) the desidn had potential for development which resulted in the AC1A which was armed with the harder hitting 6 pounder (57 mm) anti-tank gun. By then American production was meeting the needs of arming the allied nations and production of the AC1 ceased.

Country of Origin: Australia
Number Built: 68

SPECIFICATION:
Vehicle Weight: 28 tons
Dimensions: Length 20 ft 9 ins, Width 9 ft 1 ins, Height 8 ft 5 ins
Powerplant: 3 x Cadillac 117 hp petrol engines
Performance: Maximum speed 30 mph, Range 198 miles
Armament: 1 x 2 pounder gun, 2 x 0.303 inch machine guns
Armour: Maximum thickness 65 mm
Crew: 5



AC3 'Thunderbolt' Cruiser Tank

Even before the AC1 Sentinel began rolling off the assembly line in August 1942 it was known that the 2 pounder gun was becoming ineffective as armour increased in thickness on new and improved enemy tanks. To address this situation a 25 pounder (3.45 inch) gun was fitted to a turret on the second AC1 prototype and successfully test fired in June 1942. It was decided to use the 25 pounder as a tank gun which was redesigned for this purpose. Given the name Thunderbolt, the AC3 mounted the 25 pounder in a larger turret that was fully traversable turret, and although it was cramped for the turret crew it gave the AC3 both an armour piercing capability and an effective high explosive round, which was sadly lacking with the 2 pounder which only fired solid shot. The new turret was also large enough to mount a 17 pounder anti-tank gun when they became available, this version becoming the AC4, but in June 1943 the programme was cancelled when large numbers of American tanks became available to the allied forces. Both the AC3 and AC4 were only produced as prototypes, while the AC1 was used for training until the end of the war in 1945, at which point the Australians kept three and dispose of the remainder.

Country of Origin: Australia
Number Built: 3

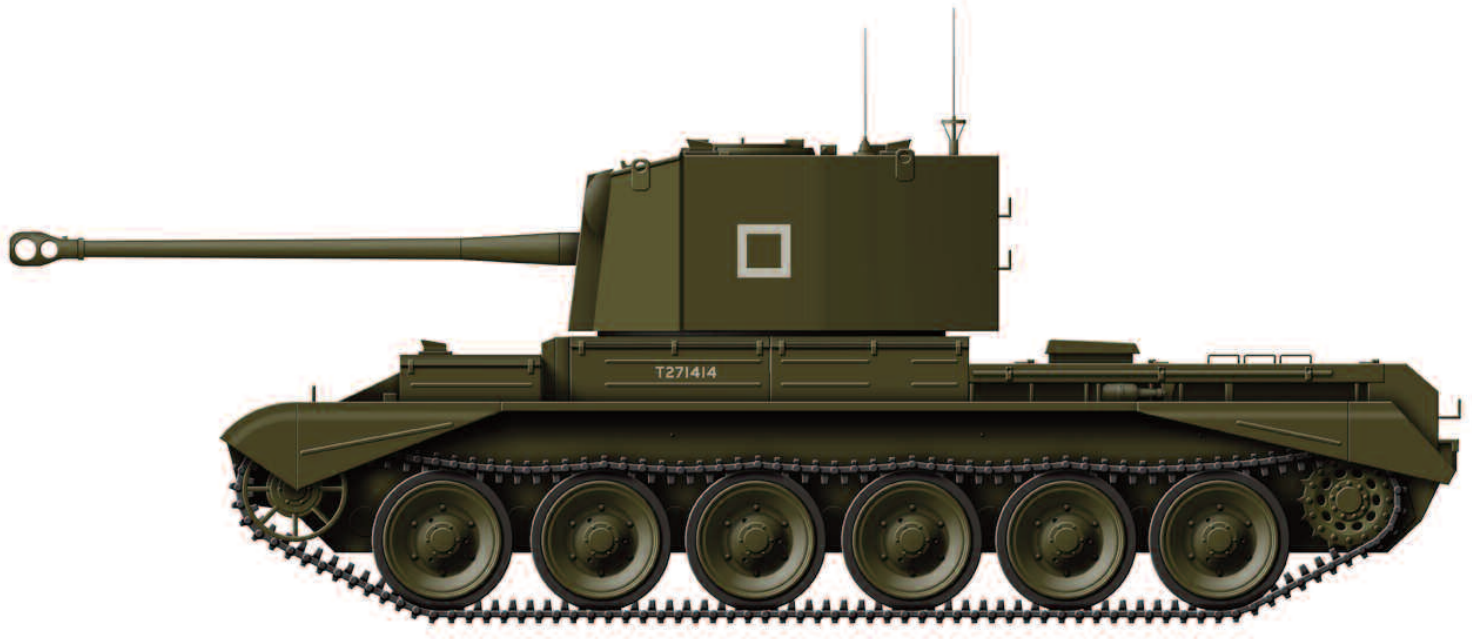
SPECIFICATION:
Vehicle Weight: 29 tons
Dimensions: Length 20 ft 9 ins, Width 9 ft 1 ins, Height 8 ft 5 ins
Powerplant: 3 x Cadillac 117 hp petrol engines
Performance: Maximum speed 30 mph, Range 200 miles
Armament: 1 x 25 pounder gun, 1 x 0.303 inch machine gun
Armour: Maximum thickness 65 mm
Crew: 4

Carro Armato P26/40 Heavy Tank

The design of the P26 was for a heavy tank fo the Italian army with good armour protection and a 75 mm gun. Development work proceeded quickly except for the engine; the Italian military wanting a diesel engine, while the builders favoured a petrol engine. However, in Italy at the time there were no engines available capable of developing the 300 hp required, while the Italian tank industry did not easily turn to the use of aero engines as U.S. and British tank manufacturers had done. The design of a new engine was slow, with the prototype tank only being ready in 1942. Only 21 P40s had been finished by the time Italy signed an armistice. The Germans ordered took control of most of Italy and ordered production to continue and took control of all completed tanks. The small number were issued to the 10th Police Panzer Company which served in Russia before being redeployed to northern Italy in late 1944. Formed in summer of 1944 the 24th Waffen Mountain Division also used the type in Italy. In total around 100 were used by German units, of which about 40 were without engines and used as static emplacements along defensive positions such as the Gustav and Gothic Lines.

Country of Origin: Italy
Number Built: 103

SPECIFICATION:
Vehicle Weight: 26 tons
Dimensions: Length 19 ft, Width 9 ft 2 ins, Height 8 ft 2 ins
Powerplant: 1 x SPA 330 hp diesel engine
Performance: Maximum speed 25 mph, Range 170 miles
Armament: 1 x 75 mm gun + 2 x 8 mm machine guns
Armour: Maximum thickness 60 mm
Crew: 4

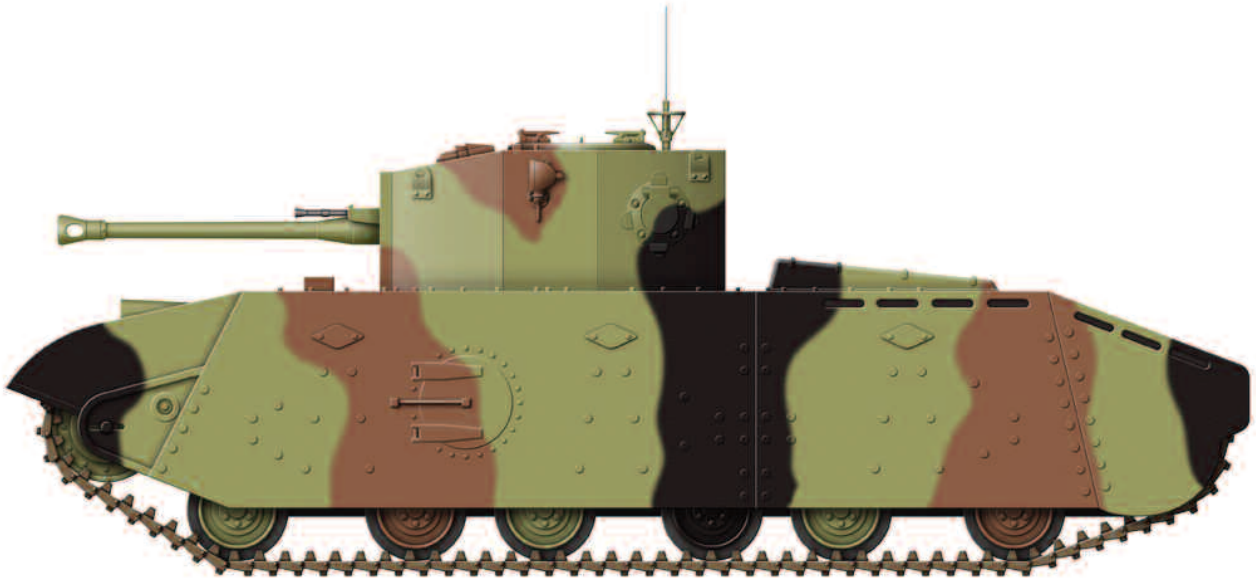


Cruiser Tank 'Challenger' (A30)

In 1941 a specification was issued by the War Office for a tank that could take on the latest German heavy tanks, and would be armed with the new 17 pounder anti-tank gun which was in the final stages of development. The A27 Cromwell was chosen to mount the gun, although a larger chassis would be required to accommodate the weight of the gun and a larger turret. This was achieved by lengthening the chassis and adding another road wheel so the turret ring section could be widened. The first test vehicles were ready for trials in the spring of 1942 but proved unsuccessful. The weight of the turret was not balanced by the suspension, while the turret was so slow to traverse that a new system had to be designed. Despite its many problems the A30 Challenger, as it was named, was placed in production on the strength of its gun, but it was not until the spring of 1944 that the first examples were issued, by which time the more capable Sherman Firefly, armed with a slightly modified 17 pdr gun gun was available, and in the end only 200 were built. Only a few were to see service from late 1944 when they were issued to armoured units to provide fire support, but as soon as the war was over they were withdrawn from service.

Country of Origin: UK
Number Built: 200

SPECIFICATION:
Vehicle Weight: 31.5 tons
Dimensions: Length 26 ft 9 ins, Width 9 ft 6½ ins, Height 9 ft 1 ins
Powerplant: 1 x Rolls-Royce 600 hp Meteor petrol engine
Performance: Maximum speed 32 mph, Range 120 miles
Armament: 1 x 17 pounder gun, 1 x 7.92 mm Besa machine gun
Armour: Maximum 102 mm
Crew: 5

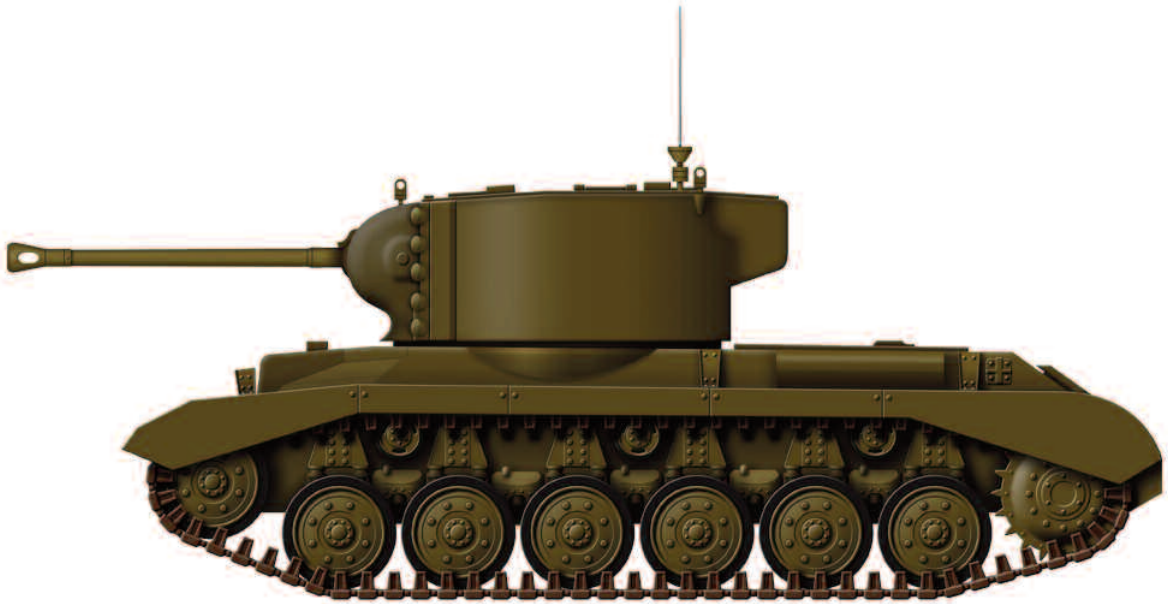


A33 Assault Tank 'Excelsior'

After the disastrous Dieppe Raid in August 1942, there was real concern over the performance of the Churchill infantry tank, and it was even suggested that production of the tank should stopped in order to manufacture more of the A27 Cromwell which was performing well in trials. As a replacement for the Churchill Rolls-Royce put forward a proposal for a modified Cromwell with stronger suspension and armour protection equivalent to the Churchill. English Electric suggested using the A27 hull and turret with extra armour and the track and suspension of the M6 Heavy Tank which had recently been developed in the U.S.A. Two Rolls-Royce projects, the A31 and A32, never got beyond the drawing board stage, but the English Electric proposal, the A33, went ahead. Two prototypes were built on a Cromwell tank hull, the first with the suspension of the M6 tank and was armed with a 6 pounder gun, while the second had extra armour, widened tracks and a different armoured skirt and armed with a 75 mm gun. The A33 Excelsior appeared in 1943, but by then the reliability problems of the Churchill tank had been resolved which meant the A33 Excelsior was no longer required and the project dropped.

Country of Origin: UK
Number Built: 2

SPECIFICATION:
Vehicle Weight: 40 tons
Dimensions: 22 ft 6 ins, Width 11 ft 2 ins, Height 7 ft
Powerplant: 1 x Rolls-Royce 600 hp Meteor Petrol engine
Performance: Maximum speed 25 mph, Range 100 miles
Armament: 1 x 75 mm gun, 2 x 7.92 mm Besa machine guns
Armour: Maximum thickness 112 mm
Crew: 5

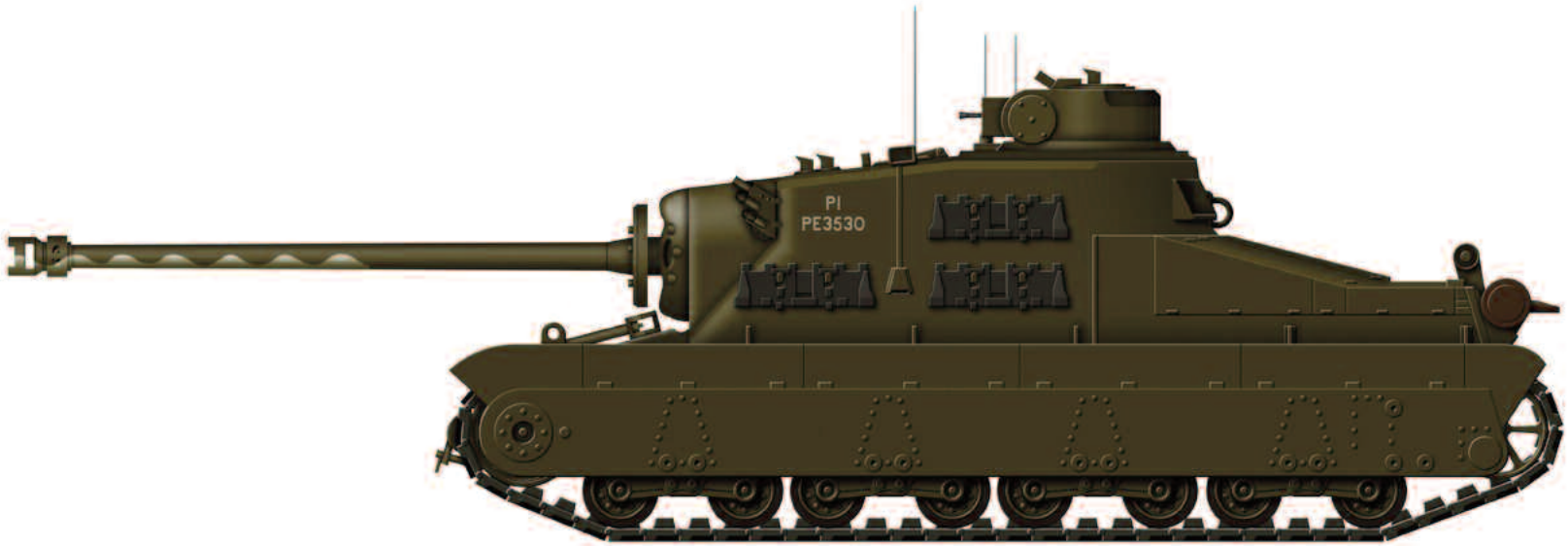


A38 Assault Tank 'Valiant'

Designed at the same time as the A33 Excelsior for the same reason, the A38 Valiant was Vickers design for an assault tank that had the thickest frontal armour on the lowest possible weight. The A38 weighed only 27 tons compared to 40 tons of the A33, but still had the same 114 mm of frontal armour. In essence it was an improved version of the Valentine tank, and was to be armed with a 6 pounder or 75 mm gun in a larger three man turret. As many parts as possible from the Valentine would be used, while it would be powered by an uprated GMC diesel engine, later being replaced by a Rolls-Royce Meteorite engine, an eight cylinder version of the meteor. Various design features were incorporated to speed up production, such as the road wheels being the same size and were independently sprung. Ruston & Hornby produced a prototype which was ready for trials in late 1944, these however being delayed with the Valiant starting trials in May 1945. Problems with the suspension soon caused the trials to be abandoned, while driving the tank proved to be physically exhausting. By then World War Two was very nearly at an end and the need for the tank no longer existed, so the project was terminated.

Country of Origin: UK
Number Built: 1

SPECIFICATION:
Vehicle Weight: 27 tons
Dimensions: Length 18 ft 4 ins, Width 9 ft 3 ins, Height 7 ft
Powerplant: 1 x GMC 210 hp petrol engine
Performance: Maximum speed 12 mph, Range 80 miles
Armament: 1 x75 mm gun, 1 x 7.62 mm Besa machine guns
Armour: Maximum thickness 112 mm
Crew: 4

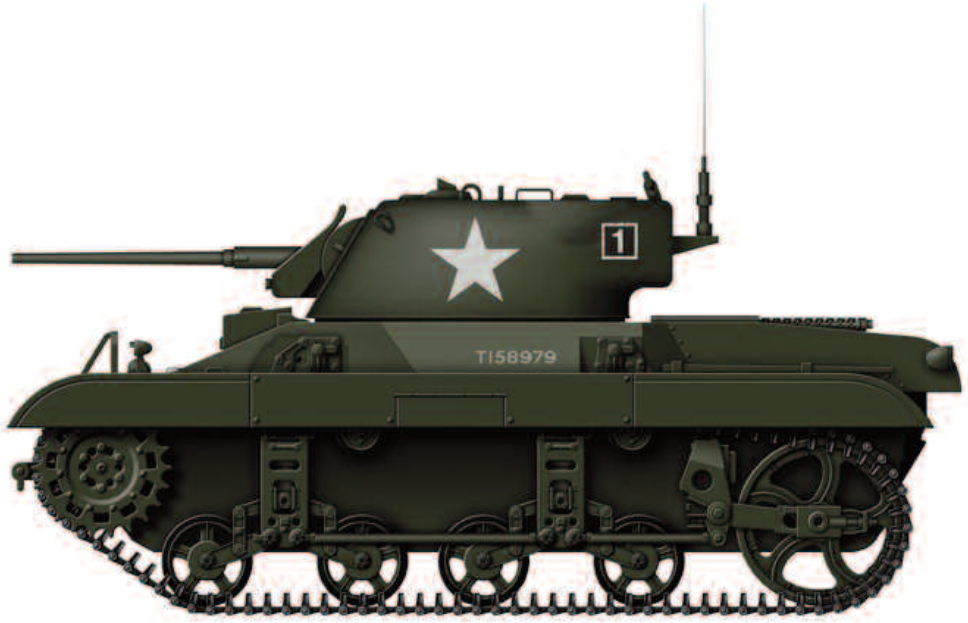


A39 Assault Tank 'Tortoise'

In 1943 the Allies anticipated that any invasion of mainland Europe would involve having to overcome the enemy from prepared heavily fortified positions. As a consequence a new class of vehicle was proposed in the shape of the assault tank, which would have maximum armour protection at the price of mobility. Work on the A33 and A38 Assault tanks was already progressing when Duncan Sandys, the Secretary of State for War Winston Churchill's son-in-law, proposed the development of a super heavy tank. The idea was soon approved with design work commencing in mid 1943. Several design ideas were put forward before they chose the Nuffield proposal which was submitted in early 1944. Known as the A39 Tortoise, it was the ultimate manifestation of the heavily armoured infantry tank, although it should really been referred to as an assault gun. It was armed with a 32 pounder gun that could penetrating the armour of any late war German tank. The superstructure had a maximum armour thickness of 225 mm, while the tank itself weighed a massive 78 tons. Development of the tank was slow, and with the end of the war interest in the project waned, only six being built which were delivered in 1946-7.

Country of Origin: UK
Number Built: 6

SPECIFICATION:
Vehicle Weight: 78 tons
Dimensions: Length 33 ft, Width 12 ft 10 ins, Height 10 ft
Powerplant: 1 x Rolls-Royce 650 hp Meteor petrol engine
Performance: Maximum speed 12 mph, Range 87 miles
Armament: 1 x 32 pounder gun, 3 x 7.92 mm Besa machine guns
Armour: Maximum thickness 225 mm
Crew: 7



M22 'Locust' Light Tank

In 1941 the British War Office made a request to the American government to design a light tank that could be transported by glider to support British airborne forces. The Light Tank Mk VII Tetrarch had already been selected for the airborne forces, but it had not been designed with that purpose in mind, and it was believed a purpose built tank would be needed to replace it. Marmon-Herrington were selected to design and build a prototype which was designated the Light Tank T9 (Airborne), and looked like a scaled down M4 Sherman. It was designed to be airlifted underneath a Douglas C-54 Skymaster transport aircraft, although its small dimensions would also allow it to fit inside a General Aircraft Hamilcar glider. Production of the T9 began in April 1943. 260 were supplied under Lend-Lease to the British who named the tank 'Locust', but mechanical problems hampered their introduction into service. The Locust was not used during the D-Day landings by the British airborne forces in June 1944, although eight were finally used during Operation Varsity and the crossing of the Rhine in March 1945. In action they did not perform particularly well, several being damaged during the landings.

Country of Origin: USA
Number Built: 830

SPECIFICATION:
Vehicle Weight: 7.3 tons
Dimensions: Length 12 ft 11 ins, Width 7 ft 4 ins, Height 5 ft 5 ins
Powerplant: 1 x Lycoming 162 hp petrol engine
Performance: Maximum speed 40 mph, Range 135 miles
Armament: 1 x 37 mm M6 gun, 1 x 7.62 mm machine gun
Armour: Maximum thickness 25 mm
Crew: 3

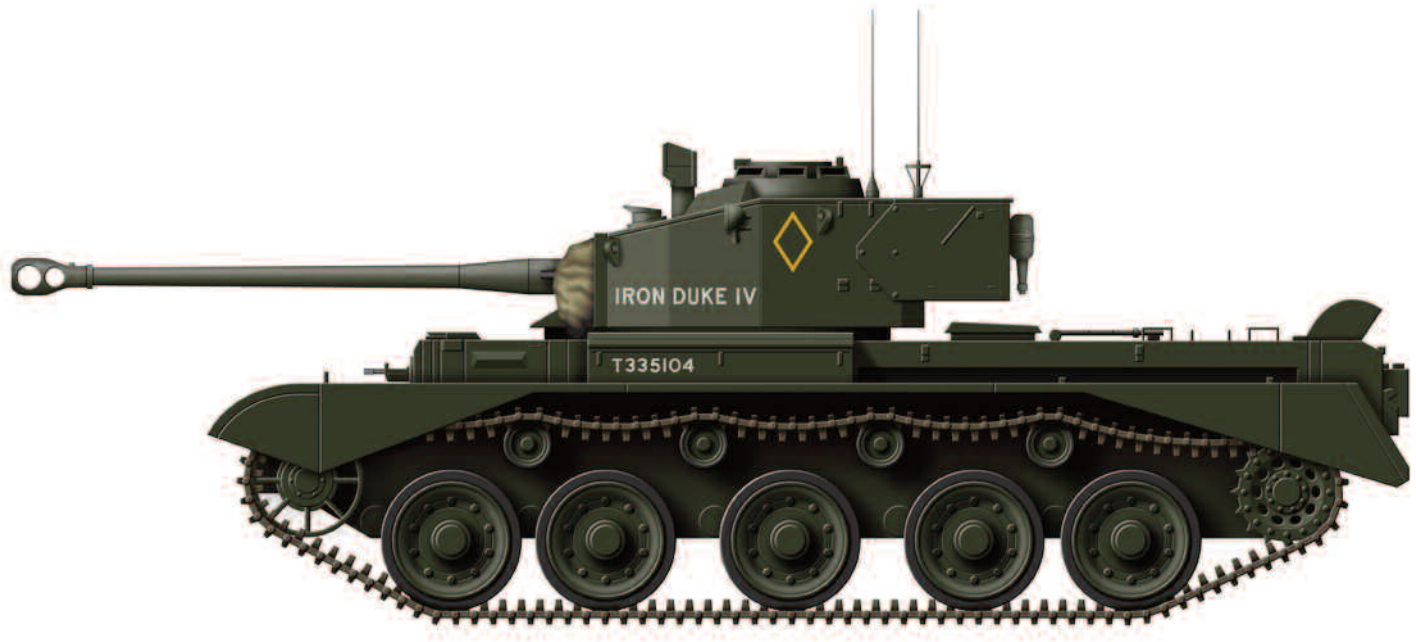
M24 'Chaffee' Light Tank

By 1942 the U.S. 37 mm gun was no longer adequate as a main weapon for a tank, and after attempts to fit a 75 mm gun into an M5 failed, work commenced on a new design for a light tank as a replacement. The prototype was completed in October 1943 and production commenced in April 1944. The main armament was a lightweight high velocity 75 mm gun and the design incorporated a new torsion bar suspension system, the vehicle being powered by the same twin Cadillac engines as used in the M5. They began to enter service in late 1944 with U.S. forces but saw only limited use before the end of the war.

The only significant overseas user of the M24 during the Second World War was the U.K. who received just over 300 who operated the type during the last few months of World War Two. Production ended in June 1945 with just over 4,700 being built. Field reports from the armoured divisions that received the M24 prior to the end of the war were generally good. Crews liked the improved off-road performance and the tank's reliability, and although the M24 was lightly armoured and inferior to German battle tanks of the day, the 75 mm gun at least gave them the chance to fight back.

Country of Origin: USA
Number Built: 4,731

SPECIFICATION:
Vehicle Weight: 18.4 tons
Dimensions: Length 18 ft 4 ins, Width 9 ft 10 ins, Height 9 ft 1 in
Powerplant: 2 x Cadillac 110 hp petrol engines
Performance: Maximum speed 35 mph, Range 100 miles
Armament: 1 x 75 mm gun, 2 x 7.62 mm, 1 x 12.7 machine guns
Armour: Maximum thickness 38 mm
Crew: 4/5



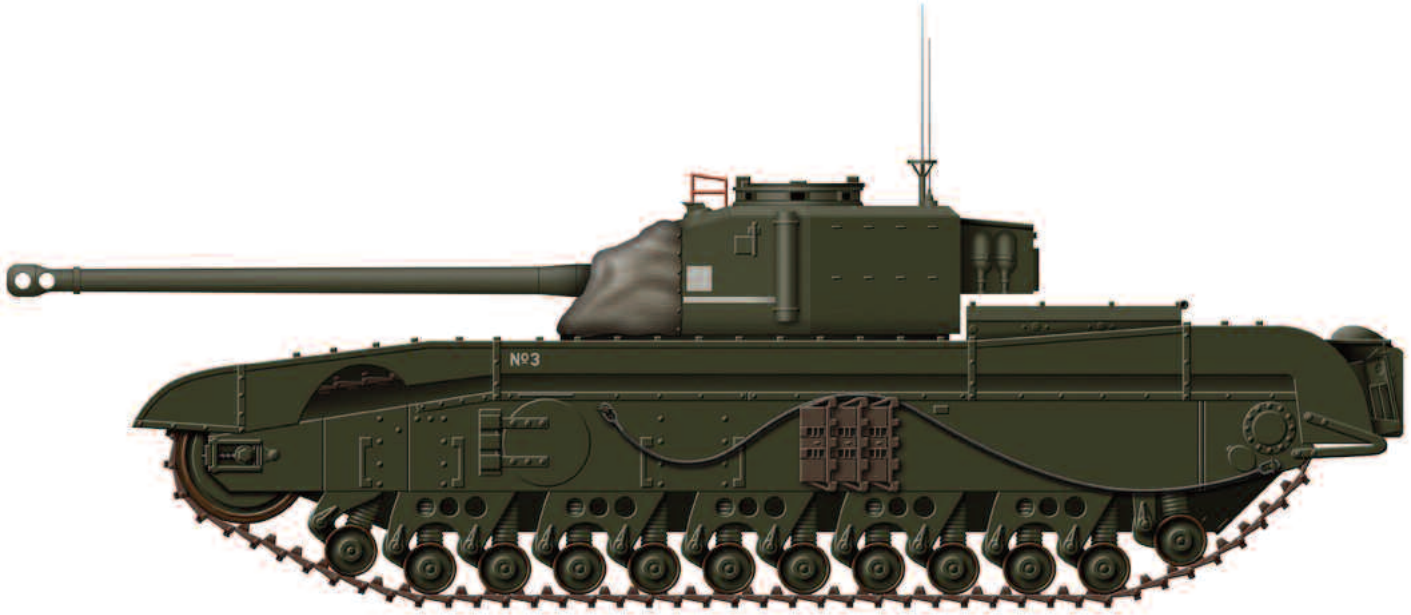
Cruiser Tank 'Comet' (A34)

In early 1943 Leyland was given the brief to develop a tank that would be armed with the new 17 pounder tank gun and use as many Cromwell components as possible. The prototypes were delivered in early 1944 for trials which revealed a good deal of redesign was required, and what was initially an up-gunned Cromwell reached the point where over 50% was redesigned. The revised tank was still mechanically similar to the Cromwell, having the same transmission and engine, and a similar suspension system, although it did use return rollers which slightly reduced the range of movement for each road wheel.

The gun was carried in a well-designed welded turret, with a cast front that included the mantlet, while An all-round vision cupola was fitted as standard for the commander. The Comet began to enter service in early 1945 with the 29th Armoured Brigade, and were first used in action by the British after the crossing of the Rhine. In its short combat service the Comet proved to be popular with its crews who finally had a fast, manoeuvrable and well armed and armoured tank that could take on the Panther and Tiger at reasonable ranges, and indeed was the best British tank design of World War Two.

Country of Origin: UK
Number Built: 1,186

SPECIFICATION:
Vehicle Weight: 35.2 tons
Dimensions: Length 25 ft 1½ ins, Width 10 ft, Height 8 ft 9½ ins
Powerplant: 1 x Rolls-Royce 600 hp Meteor petrol engine
Performance: Maximum speed 32 mph, Range 123 miles
Armament: 1 x 77 mm gun, 2 x 7.7 mm Besa machine guns
Armour: Maximum thickness 102 mm
Crew: 5



A43 Infantry Tank 'Black Prince

In 1942 work began on a new heavy tank which would have the ability to take on the latest German designs. The design was called the A43 'Super Churchill', but the project was shelved in preference for the A41 Universal tank (Centurion) which was under development at the same time. As a back up in case the A41 proved a failure, the project was reinstated in 1943 and the name changed to 'Black Prince'. The main criteria for the design was to use as many parts as possible from the Churchill, be heavily armoured, and armed the new 17 pounder tank gun. Compared to the Churchill the 17 pounder gun required a larger turret and turret ring, so to accommodate this the hull was widened. The new design weighed around ten tons more which required the suspension to be modified and the tracks widened to carry the extra load. The same 350 hp engine was retained, but as the tank was heavier there was a drop in performance. Six prototypes were built which began trials in May 1945, but by then the war was nearly over and the Comet and Centurion were entering service, both of which were armed with the same gun and had better mobility, if not the armour protection, and the project was finally abandoned.

Country of Origin: UK
Number Built: 6

SPECIFICATION:
Vehicle Weight: 49 tons
Dimensions: Length 25 ft 6 ins, Width 11 ft 3 ins, Height 9 ft
Powerplant: 1 x Bedford 350 hp petrol engine
Performance: Maximum speed 11 mph, Range 100 miles
Armament: 1 x 17 pounder gun, 2 x 7.92 mm Besa machine guns
Armour: Maximum thickness 152 mm
Crew: 5

Centurion Mk 1 Main Battle Tank

In 1943 the British War Office issued a specification for a heavy cruiser tank which would eliminate the faults of previous designs. The main features to be incorporated were better reliability, protection, mobility and fire power, with the main armament being the 17 pounder which was the best Allied anti-tank gun of World War Two. The tank was to have frontal armour capable of resisting a direct hit from an 88 mm shell, while maximum weight was not to exceed 40 tons. The new tank was given the General Staff number A41, and by May 1944 a mockup was ready for inspection. 20 pilot models were ordered with various armament combinations, ten having a 17 pounder gun and a 20 mm Polsten cannon in an independent mounting, while ten were fitted with a Besa machine gun in the rear of the turret and the rest an escape door instead. The front glacis armour was only 76 mm, which was thinner than the Churchill tank, but the glacis plate was highly sloped and the effective thickness was higher. The war in Europe ended before the A41, now called Centurion, entered service, but six were sent to Belgium less than a month after VE day in May 1945 where they were trialled by British Army units.

Country of Origin: UK
Number Built: 100

SPECIFICATION:
Vehicle Weight: 42.3 tons
Dimensions: Length 25 ft, Width 11 ft 1 ins, Height 9 ft 10 ins
Powerplant: 1 x 600 hp Rolls-Royce Meteor petrol engine
Performance: Maximum speed 23 mph, Range 120 miles
Armament: 1 x 17 pounder gun, 1 x 20 mm Polsten cannon
Armour: Maximum thickness 127 mm
Crew: 4

Centurion Mk 3 Main Battle Tank

The Centurion Mk 3 introduced a brand new gun in the form of the Ordnance QF 20 pounder (84 mm), which was provided with an automatic stabilisation system for better accuracy which allowed the gunner to fire on the move. The rounds were also heavier and able to cope with the frontal armour of the Russian T-34/85 and the IS-2 and IS-3 heavy tanks. The second modification was the replacement of the Polsten 20 mm cannon by a standard 7.62 mm Besa machine gun, the Polsten being an unnecessarily large calibre for local defence against troops. The Mk 3 entered production in 1948 and replaced the Mk 1 and 2s in service, these then being converted into armoured recovery vehicles or upgraded to Mk 3 standard. In service Centurion Mk 3 tanks were successfully used by British forces during the Korean War, winning lasting fame during the Battle of the Imjin River when tanks of the 8th King's Royal Irish Hussars covered the withdrawal of the 29th Brigade during a massive assault by communist forces in the spring of 1951. While serving in Korea the Centurion Mk 3 proved to be more effective than the American 90 mm armed M26 Pershing and M46 Patton tanks on the battlefield.

Country of Origin: UK
Number Built: 2,833

SPECIFICATION:
Vehicle Weight: 50 tons
Dimensions: Length 25 ft, Width 11 ft 1 ins, Height 9 ft 10 ins
Powerplant: 1 x 650 hp Rolls-Royce Meteor petrol engine
Performance: Maximum speed 22 mph, Range 120 miles
Armament: 1 x 20 pounder gun, 1 x 7.92 mm Besa machine gun
Armour: Maximum thickness 152 mm
Crew: 4

Centurion Mk 7 Main Battle Tank

After the Mk 3, the next major version put into production was the Mk 5. The Mk 5 included various upgrades including a ranging machine gun for the 20 pounder, but by then the Royal Ordnance Factory had developed an even better weapon. This was the L7 105 mm gun which would become one of the finest tank guns in the world, and was first introduced on the Mk 5/2, the L7 gun itself would be steadily improved and remain the standard British tank gun for decades to come. The Centurion Mk 6 was an improved Mk 5 with the 105 mm main gun and infra-red night vision equipment. The next major upgrade of the tank was the Mk 7 which was developed by Leyland Motors, the design work being completed in 1953 and production beginning shortly afterwards. The revised design featured an expanded hull, improved cabin interior, larger fuel tanks, a revised turret with a contra-rotating cupola for the commander and better armour. The Mk 7 was armed with the 20 pounder gun fitted with a fume extractor, but the Mk 7/2 introduced an improved version of the L7 105 mm gun which could fire a wide range of ammunition, and with this tank the British Army had the capability of taking on any other in service at the time.

Country of Origin: UK
Number Built: 229

SPECIFICATION:
Vehicle Weight: 50 tons
Dimensions: Length 25 ft, Width 11 ft 1 ins, Height 9 ft 10 ins
Powerplant: 1 x 650 hp Rolls-Royce Meteor petrol engine
Performance: Maximum speed 22 mph, Range 120 miles
Armament: 1 x 105 mm L7 gun, 1 x 7.92 mm Besa machine gun
Armour: Maximum thickness 152 mm
Crew: 4

Centurion Mk 10 Main Battle Tank

Development of the Centurion led to the Mk 8, this having a new gun mantlet and a contra rotating commanders cupola. The Mk 8/1 was up-armoured and the Mk 8/2 was armed with the L7 105 mm gun. The Mk 9 was a Mk 7 up-armoured and up-gunned with the 105 mm gun. The Mk 9/1 was a Mk 9 with infra-red night vision equipment and stowage basket on the rear of the turret. The Mk 9/2 was a Mk 9 with a 12.7 mm ranging machine gun. The Mk 10 was an up-armoured Mk 8 which was also up-gunned with the 105 mm L7 gun and had increased ammunition capacity. The Mk 10/1 was fitted with infra-red night vision equipment and the Mk 10/2 had a 12.7 mm ranging machine gun. The Mk 11, 12 and 13 were a Mk 6, 9 and 10 fitted with a 12.7 mm ranging machine gun and infra-red night vision equipment. By the time production ended in 1962, 4,423 Centurion tanks had been built, with around 1,300 serving with the British Army and the rest sold abroad. In the mid 1960s the Centurion began to be replaced by the Chieftain in the British Army, although many remained in service with the Royal Engineers in various forms until the early 1990's, while others are still in service around the world.

Country of Origin: UK
Number Built: 325

SPECIFICATION:
Vehicle Weight: 50 tons
Dimensions: Length 25 ft, Width 11 ft 1 ins, Height 9 ft 10 ins
Powerplant: 1 x 650 hp Rolls-Royce Meteor petrol engine
Performance: Maximum speed 22 mph, Range 120 miles
Armament: 1 x 105 mm L7 gun, 1 x 7.92 mm Besa machine gun
Armour: Maximum thickness 152 mm
Crew: 4

FV4004 Conway

With the appearance in large numbers of the Russian JS-3 tank shortly after World War Two, the British did not have a mobile weapons system to counter their heavy armour (a maximum of 200 mm). In the late 1940s it was decided to try and up gun the Centurion tank as an interim design while development work progressed on the Conqueror heavy tank which was being designed to counter Russian heavy tanks. This interim design consisted of an American 120 mm L1 gun which was fitted in large turret on top of a Centurion hull. The turret itself was only lightly armoured so not to dramatically increase the weight of the tank reduce the performance of the vehicle. Trials with the FV4004 Conway proved to be disappointing, the tank having too high a profile and a high centre of gravity which would have been a serious handicap in action. After that idea had been shelved it was decided to use the Conway prototype as a trials vehicle for an auto-loading 183 mm gun. This was the FV4005 Conway which dispensed with the turret and used a limited traverse mounting. Only one prototype was built before the project was cancelled in 1951, the Conqueror heavy tank finally entering service with the British army in 1955.

Country of Origin: UK
Number Built: 1

SPECIFICATION:
Vehicle Weight: Vehicle Weight: 50 tons
Dimensions: Length 25 ft, Width 11 ft 1 ins, Height 9 ft 10 ins
Powerplant: 1 x 650 hp Rolls-Royce Meteor petrol engine
Performance: Maximum speed 22 mph, Range 120 miles
Armament: 1 x 120 mm L1 gun, 1 x 7.92 mm Besa machine gun
Armour: Maximum thickness 152 mm
Crew: 4

TANK

FV4101 Charioteer

In the early 1950s, NATO perceived that there was a strong threat of a potential invasion from Soviet forces during the Cold War. At the time the number of Centurion tanks in service with the British army was low, and as a stopgap many obsolete Cromwell tanks were taken out of storage and up-gunned with the 20 pounder gun used in the Centurion Mk 3. The turret ring was increased to take a new two man turret, but this came at the cost of giving the tank a high profile. Extra armour was welded to the hull, but the turret only had a maximum of 30 mm. The upgraded vehicle was given the designation FV4101 and named Charioteer before entering service and were supplied to Territorial Army units. The first vehicles were entered service in the spring of 1953 with over 600 being earmarked for conversion, this being curtailed to around 440 when the production of the Centurion tank armed with the L7 105 mm gun began to enter service. The Charioteer was only used for a short time by British forces, withdrawn machines then being sold in the late 1950s to Austria, Finland, Jordan and Lebanon, and were used in combat by a number of forces in the Middle East during the 1960s.

Country of Origin: UK
Number Built: 442

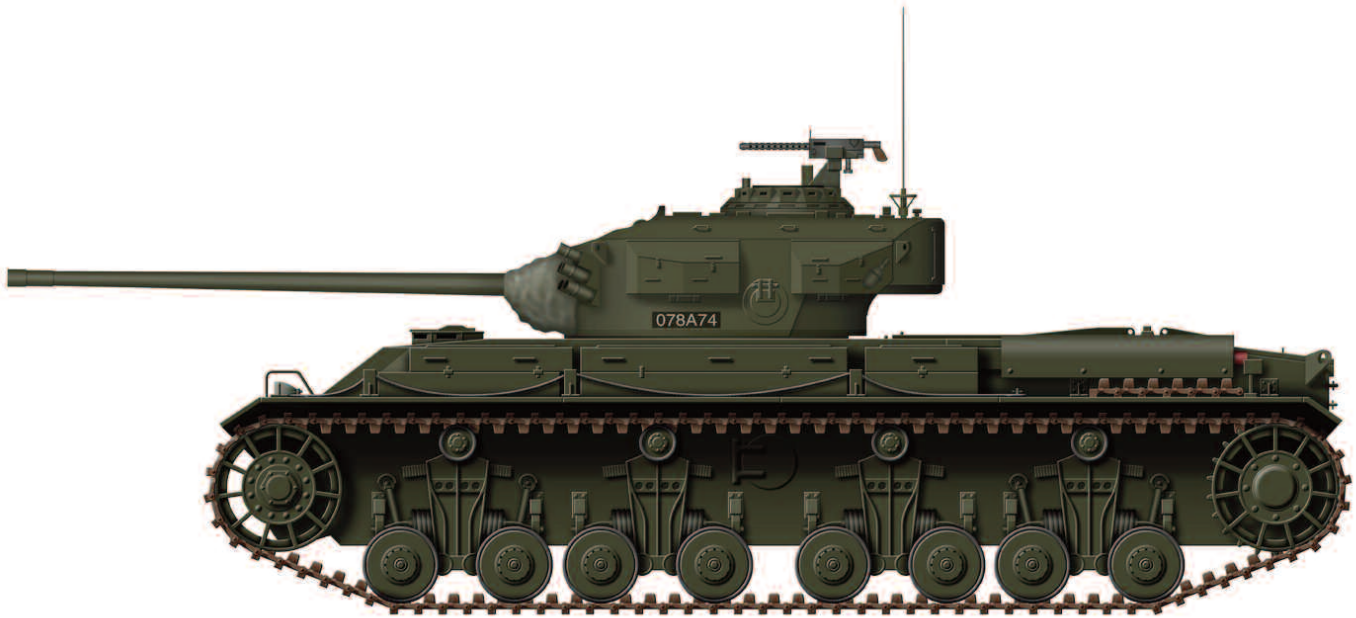
SPECIFICATION:
Vehicle Weight: 28.5 tons
Dimensions: Length 28ft 11 ins, Width 10 ft 2 ins, Height 8 ft 3 ins
Powerplant: 1 x Rolls-Royce 600 hp Meteor petrol engine
Performance: Maximum speed 32 mph, Range 110 miles
Armament: 1 x 20 pounder gun, 1 x 7.92 mm machine gun
Armour: Maximum thickness 64 mm
Crew: 3/4

FV214 'Conqueror' Main Battle Tank

In 1944 design work commenced for an infantry support tank which would become the basis for a universal tank which used a common hull that could be adapted for a variety of roles to produce a range of vehicles which became the FV200 series. The FV201 was the first to appear in 1948, but by 1949 it was decided that the Centurion was a better choice of being developed into the Universal tank, and as a consequence the FV200 series was cancelled except for the FV214 which was designed to counter the threat posed by the Soviet IS-3 heavy tank. Named Conqueror, they were initially to be armed with a 20 pounder gun, but this was soon changed to an American 120 mm weapon. The Conqueror was issued to armoured formations in Germany, normally nine per regiment, and were intended to provide long range anti-tank support, but the success of the L7 105 mm gun, which would soon become the standard armament of the Centurion, the Conqueror became superfluous to requirements. The Conqueror was unpopular due to reliability problems and frequent breakdowns which were never fully resolved, and from the mid 1960's they were withdrawn from service and replaced by the Chieftain tank.

Country of Origin: UK
Number Built: 185

SPECIFICATION:
Vehicle Weight: 65 tons
Dimensions: Length 38 ft, Width 13 ft 1 in, Height 10 ft 5 ins
Powerplant: 1 x Rolls-Royce 810 hp Meteor M120 petrol engine
Performance: Maximum speed 21 mph, Range 100 miles
Armament: 1 x 120 mm L1 gun, 2 x 7.62 mm machine guns
Armour: Maximum thickness 178 mm
Crew: 4



FV221 'Caernarvon' Main Battle Tank

In 1944 design work commenced for an infantry support tank which would become the basis for a universal tank which used a common hull that could be adapted for a variety of roles to produce a range of vehicles which became the FV200 series. The FV201 was the first to appear in 1948, but by 1949 it was decided that the Centurion was a better choice of being developed into the Universal tank, and as a consequence the FV200 series was cancelled except for the FV214 which was designed to counter the threat posed by the Soviet IS-3 heavy tank. Named Conqueror, they were initially to be armed with a 20 pounder gun, but this was soon changed to an American 120 mm weapon. This decision delayed the project, so in 1952 the hull was combined with a 17 pounder armed Centurion Mk II turret to produce the FV221 Caernarvon Mk I, while further hulls were combined with a Centurion Mk III 20 pounder turret which became the Caernarvon Mk II. The Caernarvon I was only intended for development work and only one was produced, while a short experimental series of 21 Mark IIs were built and trialled, but their performance was inferior to the Centurion and the project was not pursued.

Country of Origin: UK
Number Built: 21

SPECIFICATION:
Weight: Vehicle Weight: 58 tons
Dimensions: Length 32 ft, Width 13 ft 1 in, Height 10 ft 5 ins
Powerplant: 1 x Rolls-Royce 810 hp Meteor M120 petrol engine
Performance: Maximum speed 22 mph, Range 100 miles
Armament: 1 x 20 pounder gun, 2 x 7.62 mm machine guns
Armour: Maximum thickness 152 mm
Crew: 4

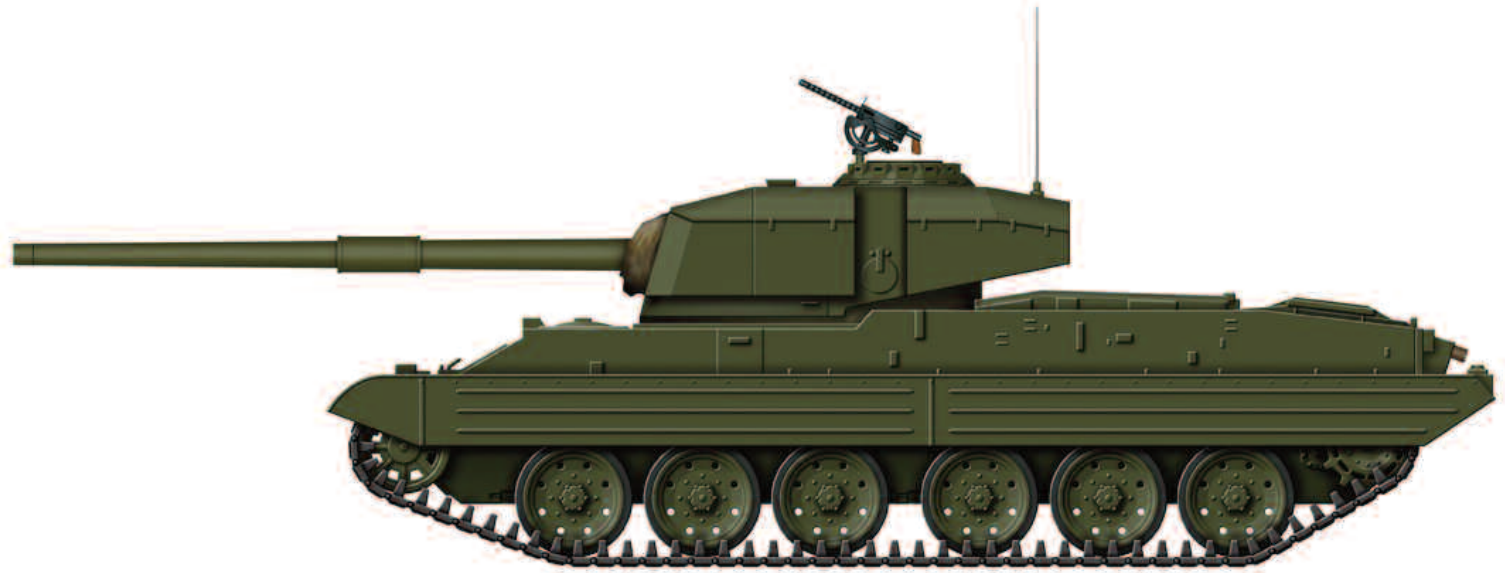
FV4201 Chieftain Main Battle Tank

in 1958 the General Staff issued a specification for a tank that would replace the Centurion and Conqueror in the British army. The specification drew on experience gained during the Korean War and included details of a prototype tank developed by Leyland. The tank was expected to be capable of engaging the enemy at long range and be proof against medium artillery, while the main armament was to be the Royal Ordnance L11 120 mm rifled gun which was under development. The first prototype was built in 1959, followed by six more and a pre-production order for forty which were delivered in 1961-63.

The tank was accepted for service and named Chieftain, this being followed by an order for a further 770 which entered full service in 1966. At the time the Chieftain had the largest gun fitted to any NATO tank and could fire a range of ammunition. Around 900 were supplied to the British Army, and in the late 1960s and early 1970s around a further 1,000 were sold to Iran, and after the fall of the Shah in 1979 they were used by the revolutionary forces during the Iran-Iraq War of 1980-88. In the early 1990s the Chieftain was withdrawn from service in the British army and replaced by the Challenger I MBT.

Country of Origin: UK
Number Built: 2,200+

SPECIFICATION:
Weight: 55 tons
Dimensions: Length 35 ft 4 ins, Width 12 ft, Height 9 ft 6 ins
Powerplant: 1 x Leyland L60 750 hp multi-fuel engine
Performance: Maximum speed 30 mph, Range 310 miles
Armament: 1 x L11A5 120 mm gun, 2 x 7.62 mm machine guns
Armour: Maximum thickness 195 mm
Crew: 4



Vickers Mk 1 Main Battle Tank

During the late 1950's and early 1960's Vickers Defence Systems designed a simple, low-cost, but effective main battle tank as a private venture for the export market. The design utilised many proven components such as the L7 105 mm tank gun, a Leyland L60 multi-fuel engine, and the transmission and fire control system of the Chieftain. The first prototype was completed in 1963, and the following year one was sent to India for trials as part of an agreement reached between Vickers and the Indian government. The tank was adopted for the Indian Army and designated the Vickers Mk 1 Vijayanta (Victory), with the first 90 being built in the UK while facilities for their construction in India were being built. Production was completed in the mid 1980s, by which time around 2,200 had been built. The Vijayanta was to see action in 1971 during the Bangladesh Liberation War, when Indian armoured divisions intervened to support the Bangladesh liberation movement and their claim on Kashmir, and again during the Indo-Pakistani War of 1999. In the 1990s it was proposed that the tanks should be upgraded, but were eventually withdraw from service in favour of the Russian T72M.

Country of Origin: UK
Number Built: 2,200

SPECIFICATION:
Vehicle Weight: 43 tons
Dimensions: Length 24 ft 10 ins, Width 10 ft 5 ins, Height 8 ft 9 ins
Powerplant: 1 x Leyland L60 535 hp multi-fuel engine
Performance: Maximum speed 31 mph, Range 330 miles
Armament: 1 x 105 mm gun, 1 x 7.62 and 2 x 12.7 mm mgs
Armour: Maximum thickness 80 mm
Crew: 4

Vickers Mk 3 Main Battle Tank

In the UK Vickers Defence Systems continued to develop the design of their Mk I MBT they had successfully sold to India as another private venture. The layout was very similar to the Mk 1, but with a redesigned turret and better protection. The turret is well shaped with a cast front welded to a fabricated armour plate body, and incorporated a cast gun mantlet which is a better shape to resist armour piercing projectiles than the flat mantlet of the Mark. 1. Another distinctive feature of the Mk 3 turret is the fitting of a commander's contra-rotating cupola. The main gun was still the same British L7A1 fully stabilised 105 mm gun with the capability to fire a full range of NATO ammunition. Given the designation of the Vickers Mk 3 MBT, a prototype was completed in 1975 and offered for sale. During the mid 1970s Kenya purchased 80 Mk 3s which were delivered between 1977 and 1981. Nigeria also purchased 70 which with deliveries being completed in 1995. One final variant was the Mk 3(M) which was developed for the Malaysia army in the 1980's. The tank had a number of improvements over the standard Mk 3, but a production order from Malaysia failed to materialise.

Country of Origin: UK
Number Built: 151

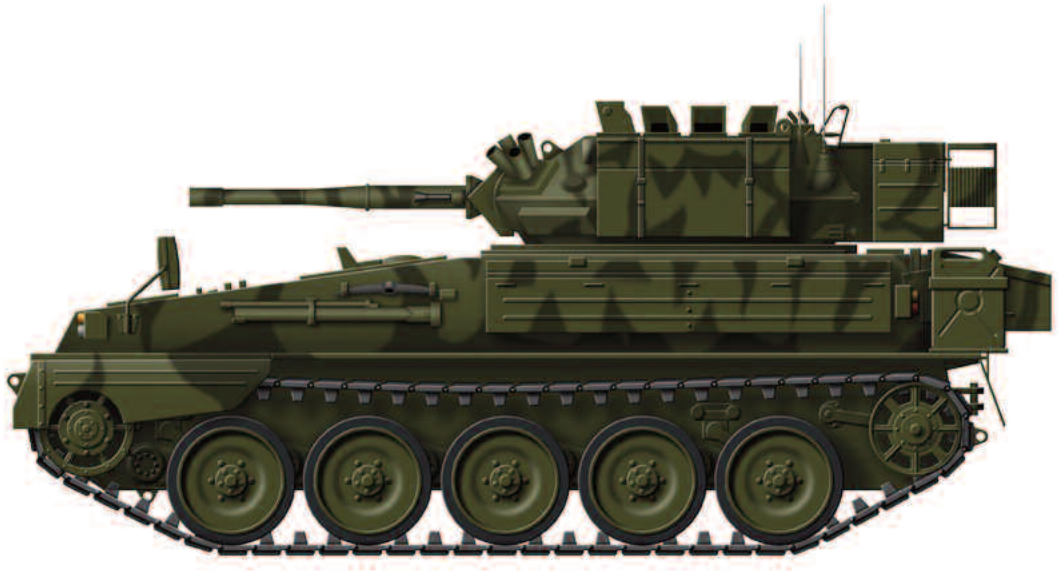
SPECIFICATION:
Vehicle Weight: 38 tons
Dimensions: Length 24 ft 10 ins, Width 10 ft 4 ins, Height 8 ft 1 ins
Powerplant: 1 x Rolls-Royce 800 hp hp multi-fuel engine
Performance: Maximum speed 31 mph, Range 320 miles
Armament: 1 x 105 mm gun, 2 x 7.62 and 1 x 12.7 mm mgs
Armour: Maximum thickness 80 mm
Crew: 4

Vickers Mk 3(M) Main Battle Tank

In the UK Vickers Defence Systems continued to develop the design of their Mk I MBT they had successfully sold to India as another private venture. The layout was very similar to the Mk 1, but with a redesigned turret and better protection. The turret is well shaped with a cast front welded to a fabricated armour plate body, and incorporated a cast gun mantlet which is a better shape to resist armour piercing projectiles than the flat mantlet of the Mark. 1. Another distinctive feature of the Mk 3 turret is the fitting of a commander's contra-rotating cupola. The main gun was still the same British L7A1 fully stabilised 105 mm gun with the capability to fire a full range of NATO ammunition. Given the designation of the Vickers Mk 3 MBT, a prototype was completed in 1975 and offered for sale. During the mid 1970s Kenya purchased 80 Mk 3s which were delivered between 1977 and 1981. Nigeria also purchased 70 which with deliveries being completed in 1995. One final variant was the Mk 3(M) which was developed for the Malaysia army in the 1980's. The tank had a number of improvements over the standard Mk 3, but a production order from Malaysia failed to materialise.

Country of Origin: UK
Number Built: 1

SPECIFICATION:
Vehicle Weight: 36.9 tons
Dimensions: Length 24 ft 10 ins, Width 10 ft 6 ins, Height 8 ft 2 ins
Powerplant: 1 x Detroit 720 hp hp diesel engine
Performance: Maximum speed 31 mph, Range 330 miles
Armament: 1 x 105 mm gun, 2 x 7.62 and 1 x 12.7 mm mgs
Armour: Maximum thickness 80 mm
Crew: 4



FV101 'Scorpion' CVR(T)

In the early 1960s design work began on a replacement vehicle for the Saladin armoured car in the reconnaissance role. The main criteria was that it should have at least the same 76 mm main gun, be as quiet as possible, capable of travelling over soft ground, and be of a size and weight that allowed it to be air transportable. The first design weighed around 13 tons and was too heavy for the aircraft of the time, but the solution was found in the use of aluminium armour which the Americans had pioneered on the M113 armoured personnel carrier. In 1967, Alvis was awarded the development contract to build 17 FV101 Scorpion CVR(T) (Combat Vehicle Reconnaissance, Tracked), which would be used for extensive trials around the world to test their performance in various climates. Successful trials led to Alvis being awarded an initial contract for 275 vehicles with production commencing in 1971. The first were completed in 1972 and issued to the Blues and Royals the following year. The Scorpion was phased out of British service in the early 1990s, although many others are still on strength with foreign powers, and with the upgrades that are available could remain in service for the foreseeable future.

Country of Origin: UK
Number Built: 3,000+

SPECIFICATION:
Vehicle Weight: 8 tons
Dimensions: Length 14 ft 5 ins, Width 7 ft 2 ins, Height 6 ft 10 ins
Powerplant: 1 x Jaguar 190 hp petrol engine
Performance: Maximum speed 50 mph, Range 400 miles
Armament: 1 x 75 mm gun, 1 x 7.62 mm machine
Armour: Maximum thickness 12.5 mm
Crew: 3

FV107 'Scimitar' CVR(T)

The FV107 Scimitar was developed alongside the Scorpion and differs only in its main armament. The Scimitar is armed with a 30 mm Rarden cannon which can fire single rounds or in auto mode with a maximum rate of fire of 80 rounds per minute. Like the Scorpion the armour is proof against small arms fire and shell splinters and powered by the same 190 hp Jaguar engine. They also entered service with the British Army in 1973 and were usually deployed in a reconnaissance troop alongside the Scorpion. In service with the British Army two troops from B Squadron of the Blues and Royals served in the Falklands War, one being equipped with four Scorpions and the other with four Scimitars. They were only armoured vehicles used by the British Army during the conflict where their low track pressure allowed them to cross ground impassable on foot. Scimitars were again deployed during the First and second Gulf Wars in 1991 and 2003 as part of the coalition forces against the Iraqi forces of Saddam Hussein. They have served in Afghanistan, and on several occasions with United Nations Peace Keeping forces. They are expected to be withdrawn in 2017 and replaced by the Scout SV reconnaissance vehicle.

Country of Origin: UK
Number Built: 486

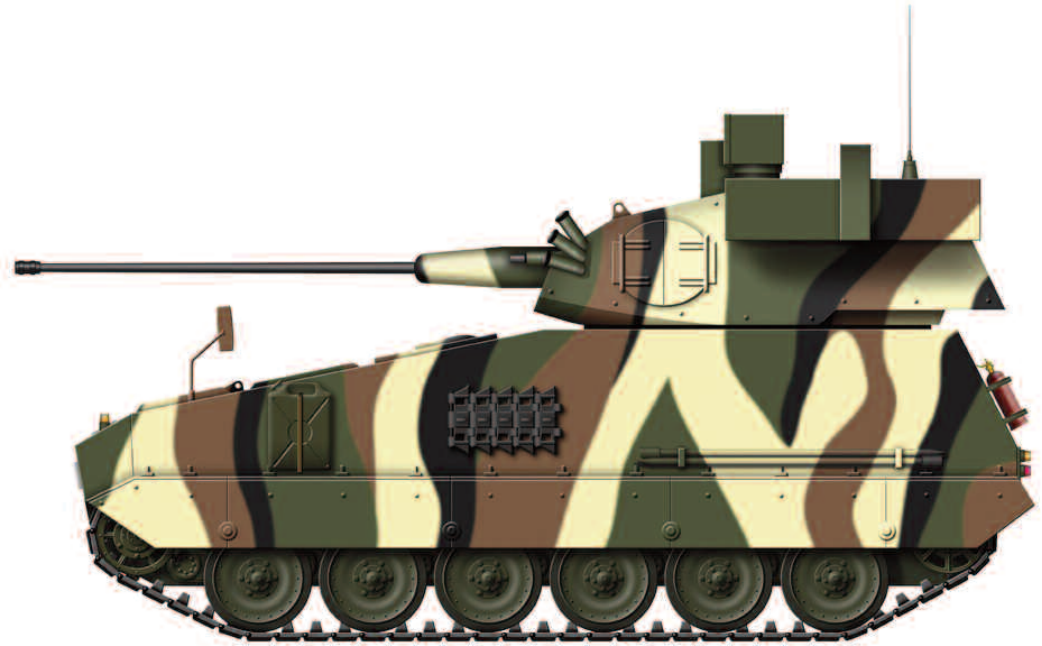
SPECIFICATION:
Vehicle Weight: 7.67 toms
Dimensions: Length 14 ft 5 ins, Width 7 ft 2 ins, Height 6 ft 10 ins
Powerplant: 1 x Jaguar 190 hp petrol engine
Performance: Maximum speed 50 mph, Range 400 miles
Armament: 1 x 30 mm Rardon cannon, 1 x 7.62 mm machine
Armour: Maximum thickness 12.5 mm
Crew: 3

Alvis Sabre

To complete the line-up of the CVR(T) family, the Alvis Sabre was a hybrid machine introduced in 1995 as a less expensive way of producing a similar vehicle to the FV107 Scimitar. In the early 1990s the FV101 Scorpion and Fox armoured car were withdrawn from British service. The Fox had the same 30 mm Rarden cannon as the Scimitar in a slightly lower profile turret, so it was decided to create a new vehicle by adapting the turret to fit the Scorpion hull. The Sabre was brought into service in 1995, but during exercises several flaws were identified, in particular in its defensive capabilities. This resulted in several modifications to the turret which included redesigned smoke grenade launchers and a Hughes L94 7.62 mm chain gun instead of the standard 7.62 mm co-axial machine gun. Around 135 vehicles were eventually converted to Sabres which were used as Reconnaissance vehicles for the Armoured and Mechanised Infantry Battalions. Sabres were deployed in Yugoslavia during the civil war in the late 1990s, and again in the Second Gulf War, however the marriage of the Fox turret to the Scorpion chassis was not successful and the Sabre was withdrawn from British Army service in 2004.

Country of Origin: UK
Number Built: 350

SPECIFICATION:
Vehicle Weight: 7.67 toms
Dimensions: Length 14 ft 5 ins, Width 7 ft 2 ins, Height 7 ft 1 ins
Powerplant: 1 x Cummins 190 hp diesel engine
Performance: Maximum speed 50 mph, Range 472 miles
Armament: 1 x 30 mm Rardon cannon, 1 x 7.62 mm chain gun
Armour: Maximum thickness 12.5 mm
Crew: 3



Stormer 30

The Stormer 30 was produced as a private venture by Alvis/BAe as a development of the basic FV4333 design to produce a highly mobile tracked Reconnaissance vehicle. Design work began in 1995, and wherever possible proven components were utilised from the CVR(T) family. The Stormer 30 was designed to fulfil a variety of military and peacekeeping roles, providing reconnaissance, fire support, escort duties, and internal security roles, and was capable of being airlifted by a C-130 Hercules or a CH-53 heavy lift helicopter. The prototype appeared in 1997 and was armed with a 30 mm Bushmaster II automatic cannon in a fully stabilised turret. The cannon's rate of fire is a single shot to 200 rounds per minute, and has a double selection ammunition feed system with 180 rounds of ammunition ready to fire. The gun was capable of defeating lightly armoured vehicles, while two TOW missile launchers could be fitted to the turret giving the vehicle an anti-tank capability. Armour protection was proof against 14.5 mm heavy machine gun fire and artillery shell splinters. The vehicle was demonstrated in both the United Kingdom and the Middle East, but to date there have not been any production orders.

Country of Origin: UK
Number Built: Unknown

SPECIFICATION:
Vehicle Weight: 12.79 tons
Dimensions: Length 17 ft 2 ins, Width 8 ft 10 ins, Height 8 ft 3 ins
Powerplant: 1 x Cummins 260 hp diesel engine
Performance: Maximum speed 50 mph, Range 250 miles
Armament: 1 x 30 mm Bushmaster cannon, 1 x 7.62 mm mg
Armour: Maximum thickness 12.5 mm
Crew: 3

Challenger 2 Main Battle Tank

In 1986 Vickers Defence Systems began to design a successor for the Challenger I as a private venture. In June 1991, after competition with other tank designs which included the US M1A2 Abrams and the German Leopard II, the MOD selected the Challenger 2 for production and placed an order for 127 Challenger 2 MBTs and 13 Driver Training Tanks to replace the Challenger 1. Production commenced in 1993, and the first vehicles were completed a year later. The Challenger 2 was accepted for service with the British Army in May 1994, and was followed in July by a second contract for a further 259 Challenger 2s and 9 training tanks. Superficially Challenger 2 looks similar to the Challenger 1, as it uses the same hull and running gear. The turret however has been redesigned and incorporates a range of sophisticated fire-control computers and thermal imaging equipment. The Challenger 2 is widely considered to be one of the best protected tanks in the world and has seen service with United Nations forces in Bosnia and Kosovo, and with coalition forces in Iraq during the Second Gulf War. Challenger 2 is expected to remain in service with the British army until at least 2035.

Country of Origin: UK
Number Built: 446

SPECIFICATION:
Vehicle Weight: 61.5 tons
Dimensions: Length 44 ft 3 ins, Width 11 ft 6 ins, Height 8 ft 2 ins
Powerplant: 1 x Perkins CV12 1,200 hp diesel engine
Performance: Maximum speed 37 mph, Range 340 miles
Armament: 1 x 120 mm L30 gun, 2 x 7.62 mm machine guns
Armour: Classified
Crew: 4