

Carden-Loyd Mk VIs at the Elswick Works, Newcastle upon Tyne, c.1930.

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Small but perfect



Carden-Loyd Mk VI B in Panzermuseum Parola, Finland.

PHOTO BY CARSTEN KRÜGER WASSEN, WIKIMEDIA COMMONS

The Carden-Loyd Tankette
was a British design that went worldwide



The concept was for a small fast one-man tank to fill a role in infantry support. Martel's design seemed promising, so the War Office contracted Morris Commercial Motors to build four of Martel's tankettes in 1925. The Morris-Martel tankettes were based on the Morris-Martel treaded agricultural tractor, and looked much like an armoured tracked farm tractor. Crossley also entered the fray and produced a tankette in 1926-27. Carden-Loyd Tractors Ltd (acquired by Vickers-Armstrongs in 1928) likewise caught wind of the proposal and developed a one-man prototype which it demonstrated to the War Office.

Carden-Loyd's one-man prototype led to the Mk I and Mk I* tankettes, with the Mk

'The early Mk VI was open-topped, offering little protection to the crew'

II and III soon following. Across these several models, Carden-Loyd worked at improving the vehicle's speed, suspension, and track system. But the one-man tankette project stalled when it became clear that a one-man crew couldn't effectively drive and man a gun at the same time. This shifted the focus of the project to two-man tankette designs, which led to new prototypes. Carden-Loyd followed its two-man tankette prototype with the Mk IV in 1926.

The Experimental Mechanised Force tested Morris-Martel two-man tankettes against those made by Carden-Loyd in manoeuvres on Salisbury Plain in 1927. Most of the Morris-Martel tankettes

were in a half-track configuration, but with the wheels at the rear, while the

Carden-Loyd models were fully tracked.

The Carden-Loyd tankettes won out, and the firm developed its Mk V which had upgraded suspension and bogie wheels with rubber tyres. The vehicle had track links of malleable cast iron which were 5.25in wide, setting a standard for the time. This tankette became the

etly formed

In the inter-war period, British engineer Major Giffard LeQuesne Martel designed and home-built a miniature one-man tank – or 'tankette' – in his garage, which he presented to the War Office in 1925. Martel had worked in tank development during World War One.



Carden-Loyd-based Italian L3/33 flamethrower tankette at the Bovington

Tank Museum. PHOTO BY HOHUM (CROP BY JANMAD), WIKIMEDIA COMMONS



Carden-Loyd-based Italian L3/35 tankette at the South African Museum of Military History. PHOTO BY NJR ZA, WIKIMEDIA COMMONS



Carden-Loyd Mk VI with one of its pair of angular hatches open, in Försvarsfordonsmuseum, Strängnäs, Sweden. PHOTO BY CARSTEN KRÜGER WASSEN, WIKIMEDIA COMMONS

SPECIFICATIONS

Make **Carden-Loyd, Vickers-Armstrongs**
 Type **Tankette**
 Model **Carden-Loyd Mark VI**
 Nationality **British**
 Year **1928**
 Production Run **1928-35**
 Engine **Ford Model T**
 Type **Four-cylinder**
 Fuel **Petrol**
 Displacement **2.9-litre**
 Power **22.5bhp**
 Torque **n/a**
 Transmission **Model T**
 Type **Epicyclic**
 Gears **Two forward, two reverse, plus two-speed auxiliary gearbox**
 Suspension **Leaf spring**
 Crew/seats **Two**

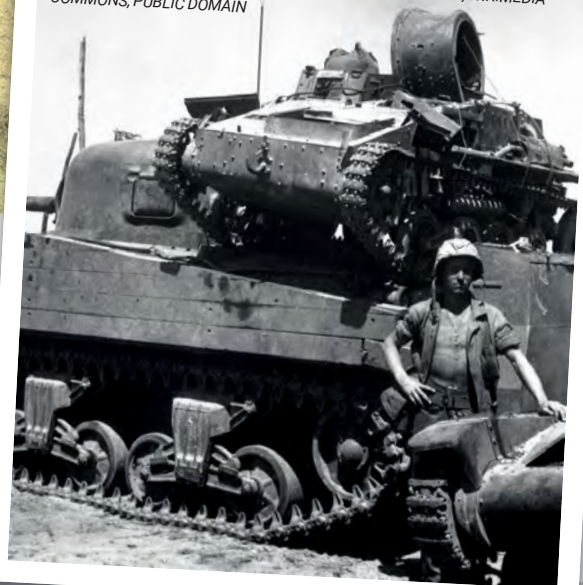
Dimensions(overall)

Armament **.303in or .50in Vickers MG**
 Armour **6-9mm**
 Length **2460mm**
 Width **1680-1944mm**
 Weight **1.5 tonnes**
 Vertical obstacle **Approx 300mm**
 Trench **Approx 4ft**

Additional Notes

Total production number is approximately 450

Pfc NE Carling stands beside the medium tank "Killer" on which is mounted a disabled Japanese Type 94 Te-Ke tankette. PHOTO TAKEN ON FEBRUARY 2, 1944 ON KWAJALEIN ATOLL. NARA FILE #: 127-N-72208 WAR & CONFLICT BOOK #: 859, TENNELLY, USMC, WIKIMEDIA COMMONS, PUBLIC DOMAIN



basis for the successful Carden-Loyd Mk VI, which went into full production in 1928.

The early Mk VI was open-topped, offering little protection to the crew, while the primary production model was capped by two angularly-domed hatches. A later version, built by the Royal Ordnance Factory, was shorter, lighter, and the cheapest to produce. The crew comprised a driver and gunner. The driver sat front-left, and the gunner front-right. The petrol tanks were at the front, and a rear compartment carried spares and ammunition. The top

road speed was 28mph. Some sources list the Mk VI as the first armoured vehicle to go into mass production which had the gearbox situated in the front of the hull.

The Mk VI was cheap to manufacture, easy to maintain, and was fast and versatile. It functioned not only as a machine gun carrier, but as a scout, light gun tractor, smoke-screen launcher, and mortar carrier. It could also operate as a moveable

FOREIGN CARDEN-LOYD-BASED TANKETTES

- The Polish tankettes, depending on type, weighed up to 2.6 tonnes, had a Ford A or Polski Fiat-122 40 or 46hp petrol engine, armour up to 10mm thick, and carried a Hotchkiss 7.92mm km wz.25 machine gun or an Nkm wz.38 FK 20mm machine gun.
- The Czech Tančík vz.33 weighed 2.3 tonnes, had armour of 4-12mm, a 30hp Praga engine, and armament of two 7.92mm ZB vz. 26 machine guns.
- The Soviet T-27 tankette weighed 2.7 tonnes, had a 40hp GAZ-AA motor, armour of 6-10mm, and carried a 7.62mm DT machine gun.
- The Japanese Type 94 tankette had a weight of 3.4 tonnes, armour of 8-12mm, a 32hp Mitsubishi Franklin air-cooled engine, and carried a 6.5mm

Type 91 machine gun.

- The Renault UE weighed 2.39 tonnes, had a 38hp Renault 85 motor, and later models carried a 7.5mm MAC gun. After the Fall of France, German variants of the vehicle included rocket launchers and the self-propelled gun tank hunter PaK 36, known as the 'Door-knocker'.
- The Italian L3/35 (developed from the CV-29, a licensed copy of the Carden-Loyd Mk VI, and an upgrade of the L3/33) weighed 3.2 tonnes, had a Fiat-SPA CV3 43hp motor, 6-14mm armour, and two 8mm machine guns or one Fiat-OCI flame-thrower.



Carden-Loyd reconnaissance tankette with added turret-like structure, at the Royal Danish Arsenal Museum, Copenhagen. PHOTO BY ALF VAN BEEM, WIKIMEDIA COMMONS, PUBLIC DOMAIN



Carden-Loyd Mk V in Axvall Panzermuseum, Sweden. PHOTO BY CARSTEN KRÜGER WASSEN, WIKIMEDIA COMMONS



Back end of Carden-Loyd reconnaissance tankette at the Royal Danish Arsenal Museum, Copenhagen. PHOTO BY ALF VAN BEEM, WIKIMEDIA COMMONS

VI-based tankettes. These included the Czech Tančík vz.33, French Renault UE Chenillette, Italian L3/33 and L3/35, Japanese Te-Ke, German Panzer I, Polish TK and TKS, and Russian T-27. It was the cheapest 'tank' in the world to produce, and was the most widely used by 1939. Many foreign-built Mk VIs saw action in World War Two. The Carden-Loyd Mk VI was also the basis for the ever-abundant Universal Carrier/Bren Gun Carrier.

The Belgian Commission permanente de Motorisation bought six Mark VI tankettes in 1929 with an eye toward turning them into tank hunters. The Miesse company converted these into self-propelled guns, creating two prototypes: one with the standard 47mm Model 1931 antitank gun, and one with a 76mm infantry support gun. The recoil of the 76mm weapon proved to be too much for the machine, so Miesse remade the vehicle into the 47mm variant. ▶

Two captured Italian Carro Veloce L3/33 tankettes on the road overlooking Bardia Harbour, Libya, July 1941, with Bardia visible on the far hill. NEGATIVE BY B.M.I., PUBLIC DOMAIN

'The Mk VI was cheap to manufacture, easy to maintain, and was fast and versatile'

machine gun nest. It sometimes carried the Stokes mortar system, a 20mm Oerlikon antitank gun, or a 37mm howitzer. The vehicle could pull a trailer, designated 'GS', for hauling ammunition.

Sixteen foreign armies adopted the Mk VI, and many were built under licence abroad. Belgium, Bolivia, Chile, China, Finland, Greece, The Netherlands, and Siam all ordered the tankette. Its influential design led to a number of Mk



This model was designated the SA FRC 47mm tank destroyer.

The Belgian Chasseurs Ardennais mountain division tested the tank destroyers and found them unsuitable for mountainous terrain, so they were assigned to the border guard regiment, Cyclistes Frontière/Grenswielrijders. The vehicles saw action during the German invasion in May 1940.

(These six experimental models further led to the development of the Belgian T13 tank destroyer, which went into production in 1935 and was based on the Vickers-Carden-Loyd 1934 artillery tractor. The T13 B1 was configured as a self-propelled gun, with the 47mm weapon mounted behind a shield. The T13 B2 had a turret with the 47mm gun fitted, and the T13 B3, made by the Familleheureux factory, was as the B2 but with an improved suspension.)

The Carden-Loyd Mk VI saw action in the Chaco War (1932-35) between Bolivia and Paraguay. About 200 British Army tankettes served in the defence of the Dyle-Namur Line in Belgium in 1940. Some Dutch Mk VIs saw ser-

'Sixteen foreign armies adopted the Mk VI, and many were built under licence abroad'



Soldiers of the Polish 9th Armoured Battalion, with Carden-Loyd tankette, 1938.
PHOTO FROM ALBUM RODZINNY, PHOTOGRAPHER UNKNOWN, WIKIMEDIA COMMONS, PUBLIC DOMAIN



ABOVE: Carden-Loyd Mk VI in Bovington Tank Museum. PHOTO BY DAVID HIGHBURY, WIKIMEDIA COMMONS
LEFT: Another view of the Carden-Loyd Mk VI at the Bovington Tank Museum. Some have built replicas based on this example. PHOTO BY DAVID HOLT, WIKIMEDIA COMMONS, WIKIMEDIA COMMONS

vice in Dunkirk, where most were abandoned. The British mobilised their remaining Mk VI tankettes in anticipation of a July-August 1940 German invasion.

In 1940-41, Siam deployed its Mk VIs in the Franco-Thai War; the French forces destroyed many of these tankettes. Greek and Yugoslav Mk VIs saw action in the 1941 Balkan Campaign.

A Mk VI reconstruction, built in 2010, auctioned for £15,000 in 2014 through Cheffins. This example was listed as one of a handful of replicas based on the one in the Bovington Tank Museum, two others having been sold to the Guernsey Armoury and the King of Jordan. Tanked Up Military, a company in Norfolk, has advertised that it will produce Carden-Loyd tankette replicas on demand. ◀

