



## SHERMAN TANK

Early in 1941 the United States Army realized the need for a tank capable of defeating the German tanks which in the previous year had been instrumental in the German conquest of the Low Countries and France. They sought a tank powered by proven automotive components, mounting effective armament and having good armour protection.

The potential battlefield performance of the M3 General Lee tank, then in production, was severely limited by a number of factors. Its very high silhouette made it difficult to conceal, its armour was attached with rivets which flew in all directions when struck, and - most importantly - its 75-mm main gun was mounted on the lower right side of the hull where it did not have all-round traverse. This meant that the tank had to be almost completely exposed for the crew to bring the main armament to bear. The good features of the M3 Lee were that the 75-mm gun was accurate and powerful, and the drive train and suspension were proven reliable.

The U.S. Ordnance Committee wanted a design which would use the proven components of the Lee, while eliminating its undesirable features. The Armored Force had submitted a list of detailed characteristics in August 1940, but owing to the demands of M3 production, this list was not approved until February 1941. The design was confirmed that April, and the pre-production tank designated the T6 Medium Tank was completed by September 1941.

Modifications were made to the T6 design prior to it being approved for production. These included: a change of hull construction to a single large rounded casting of homogeneous armour; a larger gun turret with a 69-inch diameter turret ring which enabled the subsequent installation of a larger main weapon; elimination of the hull side access doors and the replacement of the large turret mounted commander's cupola by one having a lower profile. The design, retaining the radial R975 CI Continental gasoline engine, was approved in December 1941 as the Tank Medium M4A1 and went into production in February 1942. It was known in the British Commonwealth Armies as the Sherman II. Concurrent with the development of the M4A1 was the engineering, testing and approval for production of a second design, automotively identical with it but having a welded hull of flat armour plate. This model was designated the Medium Tank M4 (Commonwealth designation "Sherman I"). This welded hull configuration was common to all I Shermans except the M4A1 (Sherman II).



*"Adjunct", a Sherman V of "A" Squadron of the Calgary Regiment, facing Potenza, Italy, September 1943. (NAC PA 144103)*



*A Sherman V of the Ontario Regiment, Sicily, 3 August 1943.  
(NA CPA 140842)*

Development of the M4 Sherman tank series continued during World War II and resulted in an improved fighting capability of the tank and in broadening the industrial base for the production of the vehicle and its components. In addition to the two variants mentioned above, three others were mass produced and saw action: the M4A2 or Sherman III, powered by a 12 cylinder diesel engine, was otherwise similar to the M4 or Sherman I; the M4A3 or Sherman IV, which was not used by the Commonwealth Armies, was powered by a Ford GAA V-8 gasoline engine; and the M4A4 or Sherman V, the hull of which was lengthened 11 inches to hold its engine assembly of five 6-cylinder Chrysler truck engines connected to a central crankshaft, which was very complicated but quite reliable when properly maintained.

The first Canadian-manned Shermans to see action were those of the 1st Canadian Army Tank Brigade in Sicily in July 1943. This formation, later renamed the 1st Canadian Armoured Brigade, saw action in Italy working with units of the 1st Canadian Infantry Division and also when acting in support of the British 5th Infantry Division. Throughout the Italian campaign this Brigade operated as an independent armoured brigade, working not only with the 1st Canadian Infantry Division, but also with British, Indian, New Zealand and other Allied formations.

In the late fall of 1943 the 5th Canadian Armoured Division arrived in Italy. Its Armoured Brigade, the 5th, was mainly equipped with Sherman Vs (M4A4) and some Sherman IIIs (M4A2), all armed with 75-mm guns. Towards the end of 1943, the armoured regiments of the Division received



*A Sherman Ic (hybrid) of the Governor General's Foot Guards, 11 April 1945. Note Canadian designed smoke discharger above the main gun. (NAC PA 159251)*

limited numbers of the Sherman I mounting a 105-mm howitzer and the Shermans I and V mounting the British 17-pounder anti-tank gun.

While the 1st Canadian Armoured Brigade was fighting in Italy, the Canadian armoured units of the 4th Canadian Armoured Division and the 2nd Armoured Brigade were still training in England, phasing out the Canadian-made Ram tanks in favour of Shermans. In addition to the standard Shermans, the regiments of the 2nd Armoured Brigade were equipped with "DD" tanks for the purpose of supporting the initial infantry landings in Normandy. The DD tank was a standard Sherman fitted with flotation gear consisting of a thick, collapsible canvas screen around the tank which could be raised by inflating a system of vertical air columns. When raised, the screen displaced enough water to allow the tank to float, but not to fire its weapons. The tank was propelled by two propellers at the rear, hence the "DD" or Duplex Drive nomenclature. On reaching shallow water the screen was deflated and the tank assumed its normal role of supporting the infantry.

The 6th Armoured Regiment (1st Hussars) and the 10th Armoured Regiment (The Fort Garry Horse) each had one squadron of DD Shermans. Due to high waves, navigational problems and hostile fire, a number of the swimming tanks and their crews became casualties, but the firepower of those that did reach the beach was extremely effective.

As the fighting in Normandy grew in intensity, it became obvious that the Shermans still suffered from several inadequacies: poor armour protection; the tendency of the tank to burn fiercely when hit; and the ineffectiveness of the 75-mm main armament against the heavier German tanks. The latter deficiency had been recognized and had led to the mounting in late 1943 of the very effective 17-pounder British anti-tank gun in some Sherman I and V tanks. These 17-pounder Shermans, which were known as Fireflies, were issued to armoured units on a scale of about 25 percent of their tank strength in the spring of 1944. By April 1945, the scale in Canadian armoured units had increased to about 50 percent.

The lack of adequate armour protection was never really overcome. As an expedient most Canadian Shermans had lengths of steel track welded to the front and sides of the turret and hull. No remedy for reducing the flammability of Canadian Shermans was discovered before the end of the war.

Sherman medium tanks were the basis for specialized conversions to such equipment as the Armoured Bulldozer and Armoured Recovery Vehicle. In the latter vehicle the turret was removed and replaced with heavy winches and other recovery equipment.

The post-war Canadian army was equipped with Sherman tanks. "C" Squadron of the Lord Strathcona's Horse (Royal Canadians), a composite unit formerly composed of personnel from the Royal Canadian Dragoons and the Strathconas, was formed for service in Korea. Because its expected role was anti-tank defence, it was equipped with Achilles 17-pounder self-propelled anti-tank guns. On arrival in Korea in May 1951, however, it was issued gas-engined M4A3E8 Shermans for its actual role of infantry support.

The Sherman tank standing in the forecourt of the Canadian War Museum is the diesel engined M4A2 model or Sherman III. This model was standard with Reserve units from the late 1940's until the 1960's.



*A Sherman "Crab" tank of the 8th Princess Louise's (New Brunswick) Hussars, Putten, Holland, 18 April 1945. (NAC PA 131030)*

#### **SPECIFICATIONS: Sherman V or M4A4**

**Crew:** five: (commander,gunner,loader-operator, driver and co-driver)

**Weight:** 69,700 lbs.

**Length:** 238.5 in.

**Height:** 108 in.

**Width:** 103 in.

**Armament:** One 75-mm gun M3  
Two .30-Browning machine guns, one mounted in lower front hull, and one mounted co-axially with main armament.

**Ammunition:** 75-mm, 97 rounds  
.30 calibre, 4750 rounds

**Armour:** Hull, front: 2 in.  
sides: 1.5 in.  
rear: 1.5 in.  
Turret, front: 3 in.  
sides: 2 in.  
rear : 2 in.

**Engine:** type; Chrysler A57 Multi-bank,30-cylinder horsepower; 425 at 2850 RPM.

**Fuel:** gasoline,80 octane,160 gal.(U.S.)

**Cruising Range:** 100 miles

**Maximum Speed:** 25 MPH.



*A "Catherine ", an M4A3E8 of "C" Squadron, Lord Strathcona's Horse (Royal Canadians) crosses the Imjin River, Korea on the way to the Front, 16 July 1952. (PAC 115496)*