

RAM TANK



Ram II's of the 5th Cdn. Armd. Div. cross a small box girder bridge in England, May 1943. (NAC PA 192267)

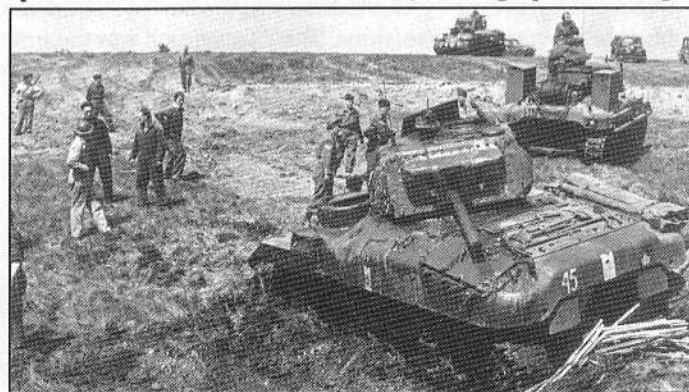
After the British evacuation of Dunkirk and the fall of France in June 1940, Britain found herself with virtually no effective, modern, armoured vehicles, particularly tanks. With the spectre of a German invasion of the British Isles looming, it was realized that British heavy industry was unable to make good these losses. The interim solution was to turn to other sources of supply, and within the Commonwealth, Canadian industry was considered to possess the greatest potential for mass production.

By the late summer of 1940 the United States had started work on the M3 General Lee medium tank and the British Tank Mission initially proposed ordering this type with modifications to meet British requirements to be carried out at the Canadian Tank Arsenal. In the late autumn, however, the British realized that the M3 Lee possessed serious liabilities such as the limited traverse of the 75-mm main armament, poor armoured protection and a high silhouette. Therefore in January 1941 the British Inter-Departmental Tank Committee decided on a compromise. The proven suspension and automotive components of the Lee would be used, but a new, lower profile hull and a turret with a 360-degree traverse would comprise the rest of the design, which was approved on 9 January, 1941. The Montreal Locomotive Works was given the task of design and production. As little was then known in Canada about heavy armour casting, help was enlisted from the American Locomotive Works. A prototype was completed by June 1941 and loaned to the U.S. Army for tests at the Aberdeen Proving Ground in Maryland. The Ram was given the U.S. designation M4A5 in early 1942.

The new tank met most of the expectations of the British Tank Mission, but one glaring oversight soon became apparent. At this early stage of the war the British considered their 2-pounder (pdr) gun to be effective against most types of armour it

would encounter, but in ensuing tank battles it proved virtually useless against the more heavily armoured tanks it would meet in North Africa. This requirement for only mounting a 2-pdr gun resulted in a 60-inch diameter turret ring, within which it would prove to be very difficult to mount anything larger than a 6-pdr anti-tank gun. The Canadians, most notably then Col. F.F. Worthington, the father of the [Royal] Canadian Armoured Corps, objected to the small diameter turret ring, contending that nothing smaller than a 75-mm anti-tank gun would be acceptable. A compromise was found when the design was altered to incorporate a flat screw-on plate for the turret front. In this way, the 6-pdr gun, which had just come into production in February 1941, could be simply bolted into position in place of the 2-pdr. Unfortunately an opportunity had been lost to make the Ram a gun tank viable for the duration of World War II and it never saw action as a gun tank.

Bureaucratic indecision had delayed the production of the 6-pdr gun even after Rommel's early 1941 successes had revealed the inadequacy of the 2-pdr gun. As a result the first fifty Rams off the production line were fitted with the 2-pdr and were designated Ram Mk.I. Of the remaining 1899 Rams, 1815 were armed with the 6-pdr gun, and were designated Ram Mk.II, while 84 were produced without any armament, and were designated Ram Mk.II Observation Post (O.P.) tanks. The first Ram Mk.I came off the assembly line in November 1941 and production of the Mk.II began in January 1942. By early autumn the 5th and 4th Canadian Armoured Divisions had been formed and despatched to England. There the two Armoured Divisions, and the 2nd Army Tank Brigade, were equipped with a mixture of tanks with Lees and Grants (a variant of the Lee with a lower profile turret and space made for a No.19 wireless set) making up for shortages



A Ram ARV Mk.I retrieves a mired Ram II of the 5th Cdn. Armd. Div. in England, May 1943. (NAC PA 192268)



A Kangaroo, 79th Armoured Div., 11 April 1945. (NAC PA 159250)

of Rams on practically a week to week basis. By the end of 1942 the 5th Armoured Division had 219 Rams on strength and the 4th had 128.

Prior to the invasion of Sicily in July 1943, the Western Allies had decided that the M4 Sherman series of tanks, which was then coming off the U.S. production lines in large numbers, was to be the standard medium tank. Production of the Ram continued in Montreal until July 1943 when the facilities were converted to the production of an M4A1 Sherman variant known as the Grizzly. All operational armoured units of the Canadian Army Overseas were equipped with Shermans by mid 1944, but the Ram continued in use for training purposes. The Ram became the basis of a number of experimental vehicles.

After the disaster of Dieppe on 19 August 1942, Canadian engineer officers had recognized the need for a specialized armoured vehicle capable of bridging obstacles. Accordingly in 1943 a standard Mk.II was fitted to carry a Small Box Girder Bridge capable of spanning a 30-foot gap. The bridge was attached to two lugs on the front transmission cover and was held out in front at a shallow angle by cables running from the front of the bridge over the tank turret to the tank's rear towing lugs. On reaching a gap the cables were released, letting the bridge fall across the gap. Trials of the Ram as a basis of an Armoured Engineer Vehicle were conducted, but these proved that its interior was too confined to hold the crew and carry all the engineering equipment required. That role was assumed by the British Churchill tank, a number of which saw action in North West Europe.

After D Day in June 1944, the Ram was the basis of a number of highly successful conversions. The "Kangaroo" was the first practical armoured personnel carrier to be used by the Commonwealth Armies. Other vehicles, such as the Universal Carrier, had been tried in this role, but none had the combination of armour and mobility necessary to keep up with supporting tanks and to transport infantry onto an objective under heavy fire. The "Kangaroo" was a Ram tank with its turret and gun removed. It was crewed by a vehicle commander/machine gunner and a driver, both in the front of the hull, leaving enough room in the now empty fighting compartment for 8 to 11 fully equipped infantrymen. Within the 21st Army Group, the 1st Canadian Armoured Personnel Carrier Regiment and the 49th Royal Tank Regiment served as part of the famed 79th Armoured Division with approximately one hundred Kangaroos each.

The "Wallaby" was a Ram with its turret removed and used as an ammunition carrier. It was fitted with a circular plate in place of the turret, with an armoured hatch in it for access and

ammunition loading. Another similar variant was a towing vehicle for the 17-pdr. gun with which anti-tank artillery units were equipped.

An Armoured Recovery Vehicle (ARV) was converted from standard Ram gun tanks. The Ram ARV Mk.I was equipped only for towing disabled tanks having a dummy gun and extra tool stowage boxes on the rear deck. A very small number of Ram ARV Mk.II's was produced and equipped with a 25 ton recovery winch, a rear earth spade and a dummy turret.

One Ram that retained its turret, though not its main armament, was the Ram Observation Post (O.P.) tank. This vehicle, which served with self-propelled artillery regiments for the duration of the campaign in North West Europe, was equipped with map tables, an extra wireless set and operator.

The impressive performance of Kangaroos in Normandy led to the decision by Headquarters, First Canadian Army, to have some Kangaroos converted to flame-throwing tanks. Combat experience with the Wasp Mk.2c, which was a flame thrower-equipped Universal Carrier, showed that it was too lightly armoured and its mobility across soft ground was poor. The performance of the Badger, as it was now known, with the weight of turret and main armament removed, was described as "sprightly" and the conversion was authorized. Badgers began arriving on the continent in November 1944, and were issued to the Lake Superior (Motor) Regiment of the 4th Armoured Division and to the 2nd Armoured Brigade. There were minor problems and delays which hampered training but the Badgers were used to good effect by the Lake Superiors in March and April 1945. In April the 5th Armoured Brigade of the 5th Armoured Division used Badgers successfully during and after the crossing of the Ijssel River.

As the war progressed, trials were held to attempt to mount a 75- mm main armament in the Ram. Some 40 Rams were so fitted and the trials were quite successful but the modification was never put into service.

The superficial similarity of the Ram tank and the American M4 Sherman series, combined with the almost identical running gear, has led to much speculation about the influence either design might have had on the other. It is almost unbelievable that there were no meetings and discussions amongst the designers and engineers involved on the parallel developments. It seems unprofitable to pursue the argument as both vehicles, in their separate ways, were valuable to the Allied war effort and industrially to their respective countries.



Kangaroos transporting personnel of the Royal Hamilton Light Infantry south of Groningen, Holland, 13 April 1945. (NAC PA 130937)



A Badger of the 5th Cdn. Armd. Div., Putten, Holland, 18 April 1945. (NAC PA 131031)

SPECIFICATIONS

CREW: 5 (Commander, Gunner, Loader/Radio Operator, Driver, Co-driver)

COMMUNICATIONS:	One No.19 Wireless Set One 1" Signal Pistol	DIMENSIONS: Length	19' 0"
		Width	Ram I - 9' 5" Ram II - 9' 10" (early model) 9' 1" (late model)
MAXIMUM SPEED:	25 M.P.H.	Height	8' 9"
CRUISING RANGE:	144 miles at 18 M.P.H.	ARMOUR: Turret	Front - 3" Rear - 2.5" Sides - 2.5" to 3"
ENGINE:	Ram I Continental R975-EC2 400 H.P. at 2400 R.P.M.	Hull	Front - 2" to 3" Rear - 1.5" Sides - 1.25" to 2.5"
	Ram II Continental R975-EC2 (early model) 400 H.P. at 2400 R.P.M.	ARMAMENT: Ram I	One Q.F. 2-pounder Mk.IX or X (171 rounds) Three Browning .30-calibre machine guns (4275 rounds) One Thompson .45-calibre sub-machine guns
	(late model) Continental R975-C1 400 H.P. at 2400 R.P.M.	Ram II	One Q.F. 6-pounder Mk. III or IV (92 rounds) Three .30 calibre Browning machine guns (4000 rounds) One Thompson .45-calibre sub-machine gun
	Fuel Consumption 0.9 M.P.G.		