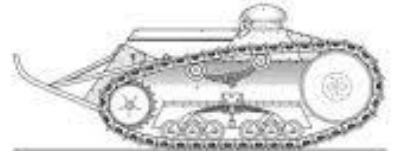
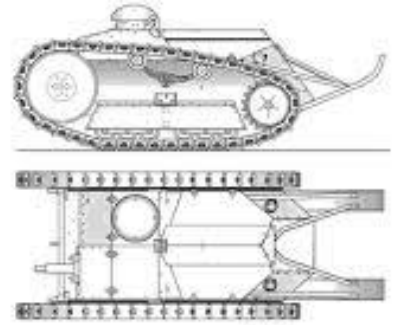
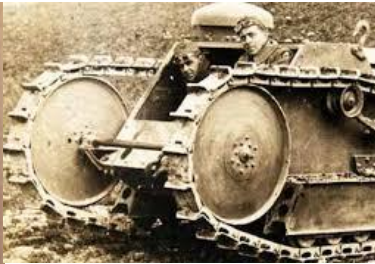
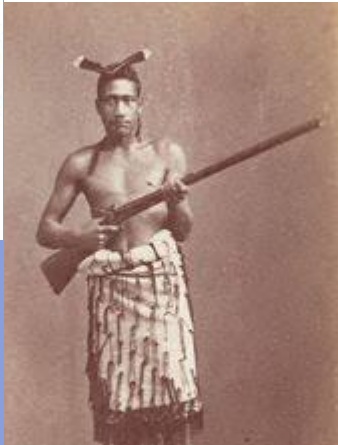


# More Majorum

**2022 PART 3**



Ford 3-Ton M1918 Tankette

Footnote in History ;  
Musket Wars

Something from  
your Collection

Ordnance QF  
2-pounder

Alexander Stewart  
Burton

1st Machine Gun  
Battalion

Tank, Light, Mk VIII  
(A25)

**Above & Right is a Ford  
3-Ton M1918 Tankette  
Left and lower left is a  
Photo and Drawing of  
Māori Warriors  
from the NZ Musket  
Wars**

**Below is 2 pics of the  
Mk VIII Light Tank  
'Harry Hopkins'**



**Below; a Ordnance  
QF 2 pounder Anti-Tank  
gun**



# Guild Business

## N.V.A.C.G. Committee 2021/22

### EXECUTIVE

**President/Treasurer:** John McLean

**Vice Pres/M/ship Sec:** John Miller

**Secretary:** Graham Rogers

**Newsletter:** Brett Maag

**Safety Officer:** Alan Nichols

**Sgt. at Arms:** Simon Baxter

### GENERAL COMMITTEE MEMBERS

John Harrington

Scott Jackson

Carl Webster

Peter Roberts

Rob Keen

Sol Sutherland

### NEED YOUR COLLECTORS LICENSE APPLICATION OR RENEWAL ENDORSED BY THE GUILD?

There are the three members authorised to endorse applications:

**John McLean** Mob: 0402 367 055 Email: majormac@bigpond.com

**Graham Rogers** Mob: 0417 137 232 Email: secretary@nvacg.org.au

**Ricky Seiter** Mob: 0400 567 353 Ricky can be found behind the counter at Trellis's Shepparton, but phone him first to make an appointment, and bring your current membership card.



## Achtung !!

From the Secretary's desk



**Annual Subscriptions.** For those members whose membership expire in 2022, payment is now past due. Reminders have been posted or emailed.

**Next Meeting** will be this Friday July 8th 2022. This meeting will be held at Peppercorn Forge 399 Allan Street, Kyabram VIC. This will be a social and blacksmithing come and try night. Opens 4.00 pm. Roast dinner 7.00 pm, bring warm clothing and a chair. Sit around the fire pit and chat or stand around the forge and try your hand at hammering.

**BENDIGO 37TH MILITARIA & COLLECTABLES SHOW 27th & 28th AUGUST 2022** The Northern Victorian Arms collectors Guild will running a subsidised 11 seater bus on Saturday the 27th only. The bus will leave from Fords Shepparton depot at 7.00am and return approximately 5.00 pm. **\$10.00 non refundable** reservation fee. Contact the organiser John Harrington Ph. 03 5821 3192 Email jobah450.577@hotmail.com or John Miller Ph. 0427 303 357 Email miller.john.j1@gmail.com or Graham Rogers Ph. 0417 137 232 Email secretary@nvacg.org.au

**August Annual General Meeting** and election of office bearers. Friday the August 12th, 2022, at the SSAA club rooms Sporting Shooters Association of Victoria - Shepparton Branch, 1170 Midland Hwy, Pine Lodge VIC 3631 also known as "The Pit". Anyone that has some fresh ideas on the future direction of the Guild please put your hand up for a position on the committee.

**"More Majorum"** Articles for the newsletter. We need more Guild content, like items from your collection. Feel free to take pictures of Guild events and of displays, email them to the secretary or newsletter editor. We will edit out anything that might be considered private or compromises members security.

**Eureka Arms and Militaria Fair** next week end see advertisement page 5 of this issue

### SNIDERS WANTED

Hi all. Several members are looking for a .577 Snider in good working order with good barrel. Most are after Mk 3's, but if a good Mk 2 is available that will be good also. Order of preference is: Military carbines, two band short rifles, three band long rifles, then sporting Sniders.

Please contact John H. on 03 58213192 or email

[jobah450.577@bigpond.com](mailto:jobah450.577@bigpond.com)

Or John M. on 0427 303 357 or

Brett M. at [bnmaag@gmail.com](mailto:bnmaag@gmail.com)

### LOOKING TO BUY

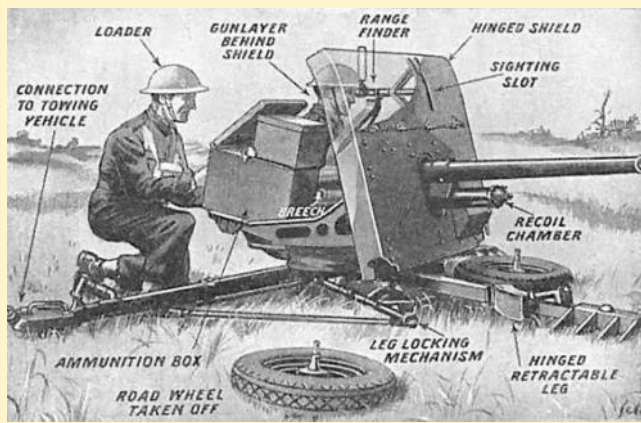
Several items namely:

- (A). .577/450 Martini Henry rifle Yataghan Bayonet and Scabbard in very good order.
- (B). .577/450 Martini Henry rifle Cutlass Bayonet and Scabbard in very good order.
- (C). .577/450 Martini Henry rifle Elcho Bayonet and Scabbard in very good order.

If you can help with any or all of these Bayonets contact

John Harrington on 03 58213192 or email

[jobah450.577@bigpond.com](mailto:jobah450.577@bigpond.com)



**Ordnance QF 2-pounder** (QF denoting "quick firing"), or simply "2 pounder gun", was a 40 mm (1.575 in) British anti-tank and vehicle-mounted gun employed in the Second World War. It was used in the Battle of France and during the North African Campaign. In its vehicle-mounted variant the 2-pounder was a common main gun on British tanks early in World War II, as well as being a typical main armament of armoured cars, such as the Daimler, throughout the war. As Axis tanks' armoured protection improved, the 2-pounder lost effectiveness and it was gradually replaced by the 6-pounder starting in 1942, though some remained in service until the end of the war. This QF 2-pounder was not the same gun as the QF 2 pounder "pom-pom" gun extensively used by the Royal Navy as an anti-aircraft gun although they both fired 2 pounds (0.9 kg), 40 millimetres (1.6 in) projectiles.

<b>In service</b>	1936–1945
	<b>United Kingdom</b>
<b>Used by</b>	<b>Australia</b> <b>Ireland</b> <b>Germany</b> <b>Egypt</b> <b>Malaysia</b>
<b>Wars</b>	<b>Spanish Civil War</b> <b>World War II</b> <b>1948 Arab–Israeli War</b>
<b>Designed</b>	1936
<b>Manufacturer</b>	Vickers
<b>Produced</b>	1936–1944
<b>No. built</b>	12,000
<b>Mass</b>	814 kg (1,795 lb)
<b>Barrel length</b>	overall: 2.08 m (6 ft 10 in) L/52 bore: 2 m (6 ft 7 in) L/50
<b>Crew</b>	3–5
<b>Shell</b>	40×304 mm. R
<b>Calibre</b>	40 mm (1.575 in)
<b>Breech</b>	Semi-automatic vertical sliding-block
<b>Recoil</b>	Hydro-spring
<b>Carriage</b>	three-leg platform
<b>Elevation</b>	−13° to +15°
<b>Traverse</b>	360°
<b>Rate of fire</b>	22 rounds per minute
<b>Muzzle velocity</b>	792 m/s (2,600 ft/s) with AP shot
<b>Effective firing range</b>	914 m (1,000 yd)
<b>Maximum firing range</b>	1000 m (1093.6 yd)
<b>Feed system</b>	Breech-loaded
<b>Sights</b>	No.24b

**History;** The gun was developed as both a tank weapon and an anti-tank gun. For reasons of economy and standardization, it was accepted - as the 2-pdr Mark IX - for both purposes in October 1935. Carriages for the gun were designed by Vickers and the Design Department at the Woolwich Arsenal. Vickers was the first to submit a design, which was accepted as the *Ordnance QF 2-pounder Mark IX on Carriage Mark I*. A limited number of pieces were built in 1936. The carriage had an innovative three-legged construction. In the travelling position, one of the legs was used as a towing trail, and the other two were folded. When the gun was positioned for combat, the legs were emplaced on the ground and the wheels were lifted up. Woolwich Arsenal had continued to develop their carriage and when re-examined was seen to be superior to Vickers design, and with this carriage the gun was adopted as *Ordnance QF 2-pounder Mark IX on Carriage Mark II*. It was conceptually similar, although when the gun was emplaced for combat the wheels had to be removed. This carriage was also manufactured by Vickers. The unusual construction gave the gun good stability and a traverse of 360 degrees, allowing it to quickly engage moving vehicles from any approach. With the Vickers carriage, the gun could also be fired from its wheels, at the expense of limited traverse. The 40 mm 2-pounder could outperform a typical 37 mm piece, such as the German 3.7 cm PaK 36 or the Bofors 37 mm, and significantly outclassed 25mm and 20mm weapons of that era. A drawback of the 2-pounder was that it was nearly twice as heavy as the PaK 36 and had a higher profile. The gun was first put into use on a tank as the main armament of the Vickers-designed Cruiser Tank Mk I. A late-war project was the Canadian David High Velocity to allow 2-pdr ammunition to be fired from the larger-calibre 6-pdr. This was intended to improve the muzzle velocity of the shot. The system was still being developed when the war ended, the program ending along with it. Another development was the 2-pdr HV 'Pipsqueak', a postwar gun using a 40x438R cartridge originally intended as the main armament for the Saladin armoured car that was to replace the AEC Armoured Car. This was designed to fire Armour-piercing discarding sabot (APDS) rounds, which would match the penetration of the 'Littlejohn' shot while still allowing high-explosive (HE) shells to be fired. In fact, the claimed performance was better, the 1,295 m/s shot penetrating 85mm of armour at 60 degrees at 900m. Development of this gun was also abandoned when the role of the Saladin shifted towards infantry fire support, and a low-velocity 76 mm gun was selected for it instead. Initially one of the most serious shortcomings of the 2-pdr was the lack of a high-explosive shell, especially when the 2-pdr was the main gun of a tank; this was very important when a tank was being used for infantry support, leaving it with only its machine gun for anti-personnel use. A high-explosive shell was not produced until late 1942.

**Service history;** The 2-pdr gun became a part of the Royal Artillery in 1938, when five field brigades were converted to anti-tank regiments. In the early western

campaigns, the 2-pdr was employed by two types of Royal Artillery formations: anti-tank regiments of infantry divisions (four batteries with 12 pieces each), and light anti-aircraft/anti-tank regiments of armoured divisions (two 12-gun AT batteries). From October 1940, separate 48-gun anti-tank regiments were introduced in armoured divisions too. Infantry brigade structure initially included an anti-tank company, though it was typically equipped with 25 mm Hotchkiss anti-tank guns; these companies were disbanded later in the war. From 1942, infantry battalions received their own six-gun anti-tank platoons. The organization was different in the Far East theatres. The exact internal structure of AT units was also subject to changes and variations. The gun first saw combat with the British Expeditionary Force (World War II) during the German invasion of the Low Countries and the subsequent rear-guard actions at Dunkirk. Most of the British Army's 2-pdrs were left behind in France during the retreat, stripping most of the army's infantry anti-tank capability. Those guns captured at Dunkirk entered German service under the designation 4.0 cm Pak 192 (e) or 4.0 cm Pak 154 (b), the "e" and "b" referring to the origin (English or mistakenly attributed to the Belgian Army). Although the Woolwich Arsenal had already designed a successor to the 2-pdr, the 6 pounder gun, it was decided in the face of a likely German invasion to re-equip the army with the 2-pdr, avoiding the period of adaptation to production, and also of re-training and acclimatization with the new weapon. This had



**Crew inside a Valentine tank loading the gun.**

the effect of delaying production of the 6 pounder until November 1941, and availability to frontline units to spring 1942. Consequently, for most of the North African Campaign, the army had to rely on the 2-pdr, aided by the 25 pounder gun-howitzer functioning as an anti-tank gun—a role for which it was capable, though at the expense of taking it away from its main artillery role. As German tank design evolved, anti-armour performance of the 2-pdr gradually became insufficient; however, the gun owes a large part of the bad reputation it gained during the campaign to the open terrain, which made the high-silhouette piece hard to conceal, and to poor tactics. In North Africa, it was found that the 2-pdr was damaged by being towed long distances across rough, stony deserts. Starting in 1941, the British developed the "en portee" method of mounting the 2-pdr, and later the 6-pounder, on a truck. Though only intended for transport, with the gun carried unloaded, crews tended to fire from their vehicles for more mobility, with consequent casualties. Hence the vehicles tended to reverse into action so that the gunshield of the 2-pdr would provide a measure of protection against enemy fire. From mid-1942, the 2-pdr was increasingly displaced to infantry anti-tank platoons, to Home Guard units in Great Britain, and to the Far East, where it was still

effective against the smaller and more lightly armoured Japanese tanks. It was finally removed from service entirely in December 1945. As a vehicle weapon, it remained in use throughout the war. Although most tanks equipped with it were withdrawn or upgraded to the 6-pdr, it remained in use with armoured cars. Its performance as an anti-armour weapon was improved later in the war with the development of more sophisticated ammunition and got an additional boost with the introduction of the Littlejohn adaptor, which converted it to a squeeze-bore design firing specially-designed shells at much higher velocities. (However, the Littlejohn adaptor prevented the use of High Explosive rounds.) These improvements, however, were constantly outpaced by improvements in tank design.

**Gun variants:**

- Mk IX - main pre-war production version, with barrel of autofrettage construction.
- Mk IX-A - Mk IX simplified for mass production.
- Mk X - later production version, with forged barrel.
- Mk X-A - Mk X with dimension tolerances reduced.
- Mk X-B - main late-war vehicle version, fitted with the Littlejohn adaptor.

**Carriage variants:**

- Mk I - Carriage designed by Vickers.
- Mk II - Carriage designed by the Royal Arsenal.

**Self-propelled mounts**

Light Tank Mk VII, Tetrarch, Light Tank Mk VIII, Harry Hopkins, Cruiser Tank Mk I to Cruiser Tank Mk VI, Crusader, Infantry Tank Mk II, Matilda, Infantry Tank Mk III, Valentine, Infantry Tank Mk IV, Churchill (early marks), Ram I (Canada), AC1 Sentinel (Australia)

**Armoured cars**

AEC Armoured Car, Coventry Armoured Car, Daimler Armoured Car  
 Marmon-Herrington Armoured Car (South Africa), Rhino Heavy Armoured Car (Australia, prototype only)

**Other vehicles**

2 Pounder Anti-tank Gun Carrier (Australia, used for training)  
 Loyd Carrier (experimental)

**Surviving examples**

There is an Irish Army QF 2 pdr in the museum in Collins Barracks in Dublin City. Another QF 2 pdr is on display at the Canadian Military Heritage Museum in Brantford Ontario Canada. Two guns, one of them on an improvised carriage, are on display in the IDF History Museum (Batey HaOsef) in Tel Aviv, Israel. An Australian-made QF 2 pdr is on display at the Australian War Memorial.



**Matilda II**



**Armour penetration table (in millimeters)**

Distance	100 yd (91 m)	500 yd (457 m)	1,000 yd (914 m)	1,499 yd (1,371 m)
AP (meet angle 60°)	49	37	27	17
APHV (meet angle 60°)	62	57	38	28
APCBC (meet angle 60°)	73	65	57	49

Type	Model	Shot/shell	Round weight	Projectile weight	Filler	Muzzle velocity
Armour-piercing, tracer	AP/T Mk I	Shot	2.04 kg (4.5 lb)	1.08 kg (2.4 lb)		792 m/s (2,600 ft/s)
Armour-piercing, tracer, increased charge	APHV/T	Shot	2.04 kg (4.5 lb)	1.08 kg (2.4 lb)	-	853 m/s (2,800 ft/s)
Armour-piercing, capped, ballistic cap, tracer	APCBC/T Mk I	Shot	2.22 kg (4.9 lb)	1.22 kg (2.7 lb)	-	792 m/s (2,600 ft/s)
Armour-piercing, composite non-rigid (used with the Littlejohn adaptor)	AP/CNR (APSV) Mk I	Shot	?	0.57 kg (1.3 lb)	-	1,280 m/s (4,200 ft/s)
Armour-piercing, composite non-rigid (used with the Littlejohn adaptor)	AP/CNR (APSV) Mk II	Shot	?	0.45 kg (0.99 lb)	-	1,189 m/s (3,900 ft/s)
High-explosive, tracer	HE/T Mk II	Shell	1.86 kg (4.1 lb)	0.86 kg (1.9 lb)	Lyddite	792 m/s (2,600 ft/s)

**Something from your Collection** With each newsletter we would like to feature something special from a members collection, it doesn't have to be valuable or rare, just something you don't see every day. Members who would like to have an item featured can contact Brett Maag or Graham Rogers. If you can supply a digital photo and a short spiel it would be good if not, bring it along to a meeting and we will photograph it there and take notes.



Member Carl collects items from the American Civil War. These are my swords I purchased several years ago from Pennsylvania USA. The top sword is a Model 1906 Calvary Sabre. It was made by Ames Manufacturing Company and was described as a Barn Find. It has NOT been cleaned or touched. Only different between this sword and the M1860 is that hand guard of iron instead of brass. The leather wrapping around the wooden handle was also turned to brown leather instead of black. These are very rare today as the Patton sabre was developed after these specimens. This sword is marked; 1906 & A.S. CO over "flaming bomb symbol". opposite side is marked; "US over J.C." blade is clean with good patina, very good used condition, overall, 41", no scabbard but still has leather grip grommet, all original. The second sword is a Model 1840 Heavy Cavalry Saber also known as a "Wrist Breaker" It has the makers mark "C & J" within a rectangular box on the ricasso. The maker was Clemen & Jung of Prussia. The company was founded in 1860 and imported the U.S Caleb House, buyer for the Confederate Government, who was in Europe in 1861 buying vast supplies of arms. The leather and wire no longer exist, the blade had some minor edge damage from being used and is fair condition. As the Confederates lost the war, many of their arms were destroyed or lost to time.



**Saturday 9th & Sunday 10th July 2022, Ballarat**

## **Eureka Arms and Militaria Fair**

200+ trading tables. Antique and modern arms, Medals, Knives, Swords, Badges, Uniforms, Hunting & Shooting supplies and clothing, Collectable ammo, Security Equipment, Accessories and Optics, Books, Bayonets, Memorabilia and much more

Saturday 9.00am to 4.30pm / Sunday 9.00am to 3.00pm  
 Entry cost - Adults - \$10  
 Family (2 A + kids) - \$15  
 Pensioner/Seniors - \$8  
 Free entry to :-  
 Accompanied Children under 16 and,  
 Adults wearing a full Military Uniform



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**Alexander Stewart Burton**, VC (20 January 1893 – 9 August 1915) was an Australian recipient of the Victoria Cross, the highest award for gallantry in the face of the enemy that can be awarded to British and Commonwealth forces.

Burton was born at Kyneton, in the state of Victoria, on 20 January 1893. His father, a grocer, moved his family to Euroa where he commenced working for a department store. After completing his schooling, Alexander joined his father at the store, working in the ironmongers section. Shortly after the outbreak of the First World War, Burton enlisted in the Australian Imperial Force on 18 August 1914 and posted to the 7th Battalion. He embarked with the battalion for the Middle East on 19 October 1914. On 25 April 1915, 7th Battalion landed at Gallipoli but Burton was sick and did not reach the frontlines until a week later. He was promoted to the rank of lance corporal<sup>[1]</sup> on 10 July 1915 for "having volunteered and taken part in the forcing of Saphead D21 in the face of the enemy". On 9 August 1915, Burton fought in the Battle of Lone Pine when his company reinforced newly captured Turkish trenches. Burton was one of a party of men that manned a barricade against attacking Turkish soldiers. Killed in this action, he was recommended by his battalion commander, Lieutenant Colonel Pompey Elliott, for the award of the Victoria Cross (VC). Two other members of the party, Lieutenant Frederick Tubb and Corporal William Dunstan, were also awarded VCs. Burton's VC was gazetted on 15 October 1915; the citation read as follows:

*For most conspicuous bravery at Lone Pine Trenches on the 9th August, 1915. In the early morning the enemy made a determined counter-attack on the centre of the newly captured*

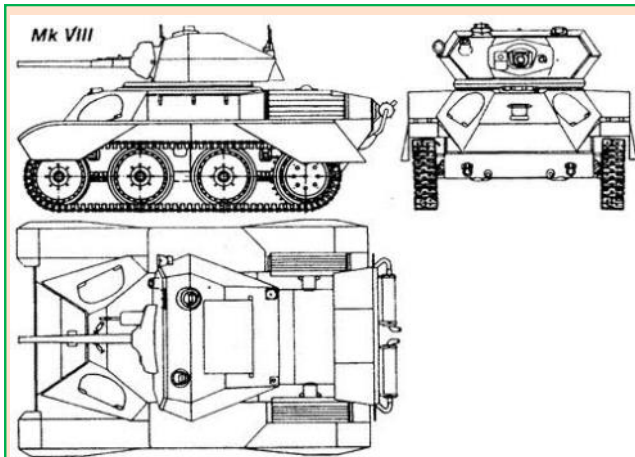
*trench held by Lieutenant Tubb, Corporals Burton and Dunstan and a few men. They [the enemy] advanced up a sap and blew in a sandbag barricade, leaving only one foot of it standing, but Lieutenant Tubb with the two Corporals repulsed the enemy and rebuilt the barricade. Supported by strong bombing parties the enemy twice again succeeded in blowing the barricade, but on each occasion they were repulsed and the barricade rebuilt, although Lieutenant Tubb was wounded in the head and arm and Corporal Burton was killed by a bomb while most gallantly building up the parapet under a hail of bombs.*

— *The London Gazette*, 15 October 1915

Burton has no known grave and is commemorated on the Lone Pine Memorial. He was subsequently mentioned in despatches by General Sir Ian Hamilton on 28 January 1916. In early 1916, the VC, along with a cover letter from King George V, was presented to Burton's father who later wore it for the homecoming of Frederick Tubb, who was a friend of Burton's, and had returned to Australia to convalesce from the wounds received at Lone Pine. Burton's VC remained in his family for many years but in 1967, it was donated to the Australian War Memorial in Canberra, where it is on display.

**Honours and awards**

- Victoria Cross (VC) 9 August 1915**
- 1914–15 Star**
- British War Medal**
- Victory Medal**
- Mentioned in Despatches** **28 January 1916**



**Tank, Light, Mk VIII (A25)**, also known as the Harry Hopkins, after American President Roosevelt's chief diplomatic advisor, was a British light tank produced by Vickers-Armstrong during the Second World War. The Mk VIII was the last in the line of light tanks the company had built for the British Army, and was intended to be the successor of the previous light tank designed by Vickers-Armstrong, the Mk VII Tetrarch. A number of changes were made to the Mk VIII, most notably increasing its width, length and weight and also increasing the thickness of the armour. The design of the tank was submitted to the War Office in late 1941, with an initial order for 1,000 models being made by the Tank Board of the War Office in the same month, a number that increased to 2,410 in November. Production began in June 1942 but immediately began encountering problems with the tank, and a number of modifications had to be made to the design after complaints were

made by the War Office and the Fighting Vehicle Proving Establishment. These problems were so acute that only 6 tanks had been produced by mid-1943, and only 100 when production ended in February 1945.

**PARTS WANTED**

**Westley Richards "Monkeytail" gun parts namely lock and hammer etc.**

**Also a complete firearm with good barrel and in good working order.**

**contact John Harrington on 03 58213192 or email [jobah450.577@bigpond.com](mailto:jobah450.577@bigpond.com)**



**SOME OF YOU MAY NOT KNOW BUT THE N.V.A.C.G. HAS IT'S OWN WEBSITE**

Here you will find all the news and details for coming guild events and information for prospective members.

<http://www.nvacg.org.au/>

You can find past & current newsletters here

<http://www.nvacg.org.au/news/>

We are also on Facebook



<b>Produced</b>	1943–1945
<b>No. built</b>	100
<b>Variants</b>	Alecto (SPG)
<b>Mass</b>	19,040 pounds (8.64 t)
<b>Length</b>	4.34 m (14 ft 3 in)
<b>Width</b>	2.69 m (8 ft 10 in)
<b>Height</b>	2.11 m (6 ft 11 in)
<b>Crew</b>	3 (commander, driver, gunner)
<b>Armour</b>	17–38 mm (0.67–1.50 in)
<b>Main armament</b>	Ordnance QF 2 pounder 50 rounds
<b>Secondary armament</b>	7.92 mm Besa machine gun 2,025 rounds
<b>Engine</b>	149-hp Meadows 12 cyl. petrol engine 148 hp (110 kW)
<b>Power/weight</b>	17.4 hp/tonne
<b>Suspension</b>	Steerable road wheels
<b>Operational range</b>	125 miles (201 km)
<b>Maximum speed</b>	30 miles per hour (48 km/h)

**Development history;** The Mk VIII was the light tank designed by Vickers-Armstrong to be the successor to the Mk VII Tetrarch for the British Army. The company intended that the Mk VIII would improve on the design of the Tetrarch in a number of areas, particularly that of armour protection. It had thicker armour than the Tetrarch, with the frontal hull and turret armour being increased to a thickness of 38 millimetres (1.5 in) and the side armour to 17 millimetres (0.67 in), and the turret and hull were given more sloping surfaces than the Tetrarch to help deflect shells. The dimensions of the Tetrarch design were also changed, with the Mk VIII being longer by 6 inches (0.15 m), wider by 1 foot 3 inches (0.38 m) and its weight being increased; these alterations meant that the tank could no longer be air-portable, as it was too heavy to be carried by the General Aircraft Hamilcar glider. The same 12-cylinder engine as in the Tetrarch was fitted to the Mk VIII, although the increased weight meant that its maximum speed decreased to 30 miles per hour (48 km/h). The armament remained the same as the Tetrarch's: one machine-gun and a 2 pounder 40-millimetre (1.6 in) main gun. The tank also kept the unusual steering system used in the Tetrarch design; this steering and mechanical system accomplished turns by the lateral movement of road wheels, which bowed the tracks. When the driver turned the steering wheel all eight road wheels not only turned but also tilted in order to bend the tracks and make the tank turn; the idea was to reduce the mechanical strain and waste of power caused by the traditional system used to turn tanks by braking one track. Unlike the Tetrarch, the steering system of the Mk VIII was power-assisted. Vickers-Armstrong submitted the Mk VIII design to the War Office in September 1941, and in that same month the Tank Board of the War Office ordered 1,000 tanks, increased in November to 2,410. The Board hoped that production could commence in June

1942 at a rate of approximately 100 per month, to be produced by Metro-Cammell, a subsidiary of Vickers-Armstrong. It was also at this time that the tank was given the specification number A25 and given the name of Harry Hopkins Production began in June 1942 as expected, but immediately began to experience problems; these are not specified, but it appears that testing of the prototypes of the Mk VIII provided by Vickers-Armstrong raised a number of issues. A minute sent to the Prime Minister, Winston Churchill, in September from the Ministry of Supply stated that there would be delays in delivery of the tank due to developmental problems, and a report issued by the War Office in December stated that a number of modifications would be required before production could be continued; the front suspension system was singled out as requiring extensive modification. Problems were still being encountered in July 1943, with a report from the Fighting Vehicle Proving Establishment indicating that serious defects were still being found in the models being tested; the problems became so acute that trials of the Mk VIII were abandoned earlier than scheduled. By 31 August 1943 only six Mk VIII tanks had been produced, compared to a War Office requirement of 100 by the beginning of the year. Although the War Office persisted in retaining the design and issued an official requirement in November 1943 for 750 tanks to be built, only around 100 had been built when production officially ended in February 1945.

**Operational history;** By mid-1941 officials at the War Office and in the Army had finally decided that light tanks as a concept were a liability, and too vulnerable to be used by the British Army. This was due to the poor performance of British light tanks during the Battle of France, caused when a shortage of tanks designed to engage enemy tanks had led to light tanks being deployed against German armour; the resulting high casualties led to the War Office rethinking the suitability of the light tank design. The pre-war role of the light tank, that of reconnaissance, had also been found to be better carried out by scout cars which had smaller crews and better cross-country abilities. Consequently, by the time that significant numbers of the Mk VIII were being produced by Metro-Cammell, they had already become obsolete and did not see combat. There was a requirement for a limited number of light tanks within the organization of British armoured divisions, but this had already been met by the American-produced M5 Stuart light tank. A policy report issued in December 1942 suggested that the tank could be issued to reconnaissance regiments or special light tank regiments raised for specialized operations. These suggestions were discussed and discarded, and instead it was decided that those tanks built should be handed over to the Royal Air Force for use in defending airfields and airbases. The Mk VIII was also discussed in terms of another plan known as the Carrier Wing; in this plan flying surfaces, such as wings, would be fitted to the Mk VIII so that it could be towed by a transport aircraft and then glide into battle in support of airborne forces. The plan was dropped, however, after the prototype crashed after it had taken off. A single variant of the Mk VIII was designed, the Alecto self-propelled gun. Originally known as the Harry Hopkins 1 CS (for "Close Support"), the Alecto was eventually given the General Staff specification number A25 E2. The Alecto mounted a 95-millimetre (3.7 in) howitzer on a lightweight version of the Mk VIII chassis which had the turret removed so that the howitzer could be placed low down in the hull, and the armour was reduced to a thickness of 10 to 4 mm (0.39 to 0.16 in) to reduce its weight, resulting in a maximum speed of 31 miles per hour (50 km/h). The Alecto was designed to replace the half-tracks carrying



support weapons, such as howitzers, which British airborne formations used during the conflict, and was first developed in late 1942. It could also have been used in place of 75mm gun equipped armoured cars. The War Office had ordered 2,200 Alectos but only a small number were ever produced, none of which saw service; many were converted into bulldozers for use by Royal Engineer units.



Unit colour patch

**1st Machine Gun Battalion** was an infantry support unit of the Australian Army that was raised for service during World War I as part of the all volunteer Australian Imperial Force. It was one of five such units raised as part of the AIF during the war. Formed in March 1918, the battalion consisted of four machine gun companies, which had previously existed as independent companies assigned mainly at brigade level. The battalion consisted of 64 medium machine guns, and took part in the final stages of the war, seeing action during the Allied defensive operations during the German Spring Offensive and then the Allied Hundred Days Offensive, which finally brought an end to the war. The battalion was disbanded in mid-1919 during the demobilisation of the AIF.



**History;** Assigned to the 1st Division, the unit was formed in France on 2 March 1918 from Australian Machine Gun Corps personnel, following a re-organisation of the AIF, which saw the previously independent machine gun companies that were assigned to each division being grouped together under a battalion structure. Each machine gun battalion had an authorized strength of 46 officers and 890 other ranks. The 1st Machine Gun Battalion consisted of four such companies, each equipped with 16 Vickers medium machine guns. Its constituent companies were the 1st, 2nd, 3rd and 21st Machine Gun Companies. The first three of these had been formed in Egypt in March 1916, and had been assigned to the 1st, 2nd and 3rd Brigades respectively, fighting with them through the early battles of Australia's involvement on the Western Front including Pozieres, Mouquet Farm and the Third Battle of Ypres. The 21st Machine Gun Company, however, had been formed in England in February 1917, initially as the 16th Machine Gun Company, with the intention that it would be assigned to the newly formed 16th Brigade, but it was redesignated in March 1917 and assigned to the 1st Division to supplement the brigade machine gun companies. The battalion's first commanding officer was Lieutenant Colonel Iven Mackay, and he led them through their first battle at Hazebrouck during the German Spring Offensive. After the German offensive was turned back, the battalion took part in the Allied Hundred Days Offensive, which finally brought an end to the war. The battalion was disbanded in mid-1919 during the demobilisation of the AIF. The battalion's unit colour patch was a black and gold horizontal rectangle, which was usually worn above the crossed guns badge of the Machine Gun Corps. While the battalion's constituent companies had previously been issued distinctive UCPs, upon the formation of the battalion these were replaced by the single battalion style. The black and gold colours were

chosen to signify that the unit as a machine gun unit, while the horizontal rectangle showed that the 1st Machine Gun Battalion was part of the 1st Division, which used the same shape UCP for the majority of its units. A total of five such units would be raised by the AIF during the war: the 1st, 2nd, 3rd, 4th and 5th. The establishment of machine gun battalions within the AIF was the final step in the evolution of the organisation of direct fire support during the war. At the start of the war, Maxim machine guns had been assigned within line infantry battalions on a limited scale of two per battalion. As it was realised that there was a need for increased fire support, this was later increased to four guns per battalion, operated by a section of one officer and 32 other ranks. At the end of the Gallipoli Campaign, the AIF was reorganised, and the machine gun sections within each infantry battalion had been consolidated into companies assigned at brigade level. These companies had consisted of four sections, each equipped with four Vickers guns, operated by 10 officers and 142 other ranks. This had given each division a total of three such companies. In early 1917, this had been increased to four companies, with a total establishment of 50 officers and 870 other ranks. In addition, infantry battalions were provided with Lewis machine guns, on a scale of first eight and then up to 20 in 1918. During the final stages of the war, the machine gun battalions proved highly effective, providing both direct and indirect fire support during attacks. In the indirect role, they were used to fire barrages of machine gun fire into the rear areas behind the German defences over a prolonged period.



**Legacy;** After the war, the concept of machine gun battalions was discontinued in the Australian Army and in the 1920s medium machine gun platoons were added to the organization of standard infantry battalions. However, the machine gun battalion was revived again in 1937 as fears of war in Europe surfaced again, and four Australian Light Horse regiments – the 1st, 16th, 17th and 18th were converted into machine gun regiments. Following the outbreak of World War II, four machine gun battalions were eventually raised as part of the Second Australian Imperial Force, each assigned at divisional level. Several more units were raised within the Militia including the 6th and 7th Machine Gun Battalions, which served in New Guinea, while several more light horse regiments were also converted for home defence, including: the 14th, 19th, 25th and 26th. The 5th Machine Gun Battalion was also re-raised and undertook garrison duties as part of Torres Strait Force. At the end of that war, though, the decision was made to return machine guns to the establishment of individual infantry battalions and consequently since then no further machine gun battalions have been raised as part of the Australian Army. According to Alexander Rodger, as a result of the decision not to re-raise machine gun battalions in the early interwar years, no battle honours were subsequently awarded to the 1st Machine Gun Battalion or any other First World War machine gun battalion as there was no equivalent unit to perpetuate the honours when they were promulgated by the Australian Army in 1927.

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## Footnote in History **Musket Wars**



**Musket Wars** were a series of as many as 3,000 battles and raids fought throughout New Zealand (including the Chatham Islands) among Māori between 1807 and 1837, after Māori first obtained muskets and then engaged in an intertribal arms race in order to gain territory or seek revenge for past defeats. The battles resulted in the deaths of between 20,000 and 40,000 people and the enslavement of tens of thousands of Māori and significantly altered the *rohe*, or tribal territorial boundaries, before the signing of the Treaty of Waitangi in 1840. The wars are seen as an example of the "fatal impact" of indigenous contact with Europeans. The increased use of muskets in intertribal warfare led to changes in the design of pā fortifications, which later benefited Māori when engaged in battles with colonial forces during the New Zealand Wars. Ngāpuhi chief Hongi Hika in 1818 used newly acquired muskets to launch devastating raids from his Northland base into the Bay of Plenty, where local Māori were still relying on traditional weapons of wood and stone. In the following years he launched equally successful raids on *iwi* in Auckland, Thames, Waikato and Lake Rotorua, taking large numbers of his enemies as slaves, who were put to work cultivating and dressing flax to trade with Europeans for more muskets. His success prompted other *iwi* to procure firearms in order to mount effective methods of defence and deterrence and the spiral of violence peaked in 1832 and 1833, by which time it had spread to all parts of the country except the inland area of the North Island later known as the King Country and remote bays and valleys of Fiordland in the South Island. In 1835 the fighting went offshore as Ngāti Mutunga and Ngāti Tama launched devastating raids on the pacifist Moriori in the Chatham Islands.



**Origin and escalation of warfare;** Māori began acquiring European muskets in the early 19th century from Sydney-based flax and timber merchants. Because they had never had projectile weapons, they initially sought guns for hunting. Their first known use in intertribal fighting was in the 1807 battle of Moremonui between Ngāpuhi and Ngāti Whātua in Northland near present-day Dargaville. Although they had some muskets, Ngāpuhi warriors struggled to load and reload them and were defeated by an enemy armed only with traditional weapons—the clubs and blades known as *patu* and *taiaha*. However, soon after, members of the Ngāti Korokoro hapū of Ngāpuhi suffered severe losses in a raid on the Kai Tutae *hapu* despite outnumbering their foe ten to one, because the Kai Tutae were equipped with muskets. Under Hongi Hika's command, Ngāpuhi began amassing muskets and from about 1818 began launching effective raids on *hapu* throughout the North Island against whom they had grievances. Rather than occupy territory in areas they defeated their enemy, they seized *taonga* (treasures) and slaves, who they put to work to grow and prepare more crops chiefly flax and potatoes as well as pigs to trade for even more weapons. A flourishing trade in the smoked heads of slain enemies and slaves also developed. The custom of *utu*, or reciprocation, led to a growing series of reprisals as other *iwi* realised the benefits of muskets for warfare, prompting an arms race among warring groups. In 1821 Hongi Hika travelled to England with missionary Thomas Kendall and in Sydney on his return voyage traded the gifts he had obtained in England for between 300 and 500 muskets, which he then used to launch even more devastating raids, with even bigger armies, against *iwi* from the Auckland region to Rotorua.



**Use of the musket by Māori;** The last of the non-musket wars, the 1807 Battle of Hingakaka, was fought between two opposing Māori alliances near modern Te Awamutu, with an estimated 16,000 warriors involved, although



as late as about 1815 some conflicts were still being fought with traditional weapons. The musket slowly put an end to the traditional combat of Māori warfare using mainly hand weapons and increased the importance of coordinated group manoeuvre. One-on-one fights such as Potatau Te Wherowhero's at the battle of Okoki in 1821 became rare. Initially, the musket was used as a shock weapon, enabling traditional and iron weapons to be used to great effect against a demoralised foe. But by the 1830s equally well-armed *taua* engaged each other with varying degrees of success. Māori learnt most of their musket technology from the various Pākehā Māori who lived in the Bay of Islands and Hokianga area. Some of these men were skilled sailors well experienced in the use of muskets in battles at sea. Māori customised their muskets; for example, some enlarged the touch holes which, while reducing muzzle velocity, increased rate of fire. Māori found it very hard to obtain muskets as the missionaries refused to trade them or sell powder or shot. The Ngāpuhi put missionaries under intense pressure to repair muskets even at times threatening them with violence. Most muskets were initially obtained while in Australia. Pakeha-Māori such as Jacky Marmon were instrumental in obtaining muskets from trading ships in return for flax, timber and smoked heads. Most muskets sold were low quality, short barrel trade muskets, made cheaply in Birmingham with inferior steel and less precision in the action. Māori often favoured the *tupara* (two barrel), shotguns loaded with musket balls, as they could fire twice before reloading. In some battles, women were used to reload muskets while the men kept on fighting. Later this presented a problem for the British and colonial forces during the New Zealand Wars when *iwi* would keep women in the pā.



**Conflicts and consequences;** The violence brought devastation for many tribes, with some wiped out as the vanquished were killed or enslaved, and tribal boundaries were completely redrawn as large swathes of territory were conquered and evacuated. Those changes greatly complicated later dealings with European settlers wishing to gain land. Between 1821 and 1823 Hongi Hika attacked Ngāti Pāoa in Auckland, Ngāti Maru in Thames, Waikato tribes at Matakītaki, and Te Arawa at Lake Rotorua, heavily defeating them all. In 1825 he gained a major military victory over Ngāti Whātua at Kaipara north of Auckland, then pursued survivors into Waikato territory to gain revenge for Ngāpuhi's 1807 defeat. Ngāpuhi chiefs Pōmare and Te Wera Hauraki also led attacks on the East Coast, and in Hawke's Bay and the Bay of Plenty. Ngāpuhi's involvement in the musket wars began to recede in the early 1830s. Waikato tribes expelled Ngāti Toa chief Te Rauparaha from Kāwhia in 1821, defeated Ngāti Kahungunu at Napier in 1824 and invaded Taranaki in 1826, forcing a number of tribal groups to migrate south. Waikato launched another major incursion into Taranaki in 1831-32. Te Rauparaha, meanwhile, had moved first to Taranaki and then to the Kapiti coast and Kapiti Island, which Ngāti Toa chief Te Pehi Kupe captured from the Muaupoko people. About 1827 Te Rauparaha began leading raids into the north of the South Island; by 1830 he had expanded his territory to include Kaikoura and Akaroa and much of the rest of the South Island. In 1835 Ngāti Mutunga, Ngāti Tama and Ngāti Toa warriors hijacked a ship to take them to the Chatham Islands where they slaughtered about 10 percent of the Mōriori people and enslaved the survivors, before sparking war among themselves. The final South Island battles took place in Southland in 1836-37 between forces of Ngāi Tahu leader Tūhawaiki and those of Ngāti Tama chief Te Puoho, who had followed a route from Golden Bay down the West Coast and across the Southern Alps.

<b>Mass</b>	<b>3 tons</b>
<b>Length</b>	<b>14 ft (4.3 m)</b>
<b>Width</b>	<b>6 ft (1.8 m)</b>
<b>Height</b>	<b>6 ft (1.8 m)</b>
<b>Crew</b>	<b>2 (Driver and gunner)</b>
<b>Main armament</b>	<b>.30 calibre (7.62 mm) Browning M1917 Marlin machine gun or M1919 Browning machine gun</b>
<b>Secondary armament</b>	<b>none</b>
<b>Engine</b>	<b>Two Ford Model T engines 45 hp (34 kW)</b>
<b>Power/weight</b>	<b>10.4 hp/t</b>
<b>range</b>	<b>55 km (34 mi)</b>
<b>Maximum speed</b>	<b>12.8 km/h (8 mph)</b>

### Ford 3-Ton M1918

was one of the first tank designs by the U.S. It was a small two-man, one-gun tank. It was armed with a M1919 Browning machine gun and could reach a maximum speed of 8 mph (13 km/h). The 3-Ton had a 17-US-gallon (64 l) tank that gave it a maximum range of 34 miles (55 km).

**History;** Design on the 3-ton tank started in mid-1917, before which American tank forces had been largely equipped with British or French examples. The 3-Ton was a two-man tank designed so that American forces could use another tank besides the Renault FT in battle, and was designed around the FT but as a cheaper alternative. Its two Ford Model T engines were controlled by the driver, seated at the front with a gunner beside him who had control of a .30-06 (7.62x63mm) machine gun (either a M1917 Marlin machine gun or M1919 Browning machine gun) on a limited-traverse mount with approximately 550 rounds of ammunition. The initial production run of the 3-ton was of fifteen vehicles; one of these was sent to France for testing. A contract for 15,000 of these vehicles was awarded; however, the U.S tank corps felt it did not meet the requirements they wanted. The contract for the 15,000 tanks was ended by the Armistice, leaving only the fifteen original vehicles produced. The French Army evaluated the Ford 3-Ton tank and thought it inferior to the native Renault FT. However, the 3-Ton Tank was seen to have potential as a cheap, light, all-terrain artillery tractor especially for batteries of the Canon de 75 modèle 1897. One thousand five hundred 3-Ton tanks were ordered from Ford but the Armistice intervened before any were delivered and the order was cancelled. There are two known survivors; one is at the U.S. Army Armor & Cavalry Collection at Fort Benning, Georgia; the second is with the Ordnance Collection at Fort Lee, Virginia.

