

**RNZAC ASSOCIATION
NEWSLETTER #224 September 2023**

Meetings Happy Hour: Thursday 5 October 2023 at 1700 hrs at the Papanui RSA.

Whose is it?



QAMR

6 September New Zealand Scottish Squadron: Ex Tobruk 2023 - Waiouru.

A number of boxes ticked for NZ SCOTS during Ex Tobruk.

- Trial: RDX Technologies "LAV Simulation Fire Kit"
- NZLAV troop training
- Tactical training (Exercise).
- Prepare soldiers for future courses
- Visit The Army Depot RRF412

Looking forward to the next training period, which will see the squadron conduct NZLAV Live Firing again for 2023.



15 September Recognition and Celebration of QAMR Birthday.

Today the unit recognised the Regiment's 159th Birthday (officially tomorrow 16 Sep 23). The day included a morning parade, rum and coffee, sports events and a function. Congratulations to LCPL's Arps and Wescombe for receiving their NZ Defence Service Medals and to SGT Adams for his RNZALR 10 Year Certificate.



20 September Announcement of New Appointments

QAMR would like to congratulate WO1 Mario Ropitini on his appointment at Veterans' Affairs and WO1 Mark Thompson on his selection as the Staff Officer Ceremonial and Events. Both previous QAMR RSM's with well deserved appointments.



NZLAV Crew Commander Course 2023

Last week the course finished up at the Combat School. The 10 week course aims to develop the knowledge, skills and attitudes of selected soldiers and officers so they can command a NZLAV, its crew and systems.

Well done to all students who qualified. Congratulations to LCPL Gounden who was presented the Top Student Award and LCPL Johnson who was awarded the Top (Live) FMX.



Admin & Log

Spring Lunch – Sunday 10th September – Papanui RSA

What a great lunch. Twenty Members and guests in attendance. A few we hadn't seen for a while made the effort to come along from outside of Christchurch. A great meal and we also managed to sell a few of the fundraising raffle tickets, so a success all round.



Fundraising Raffle for the History Project

To help with fundraising for the History project the Association is running a fundraising raffle with some great prizes. See the full list below. Limited to 1500 \$2.00 tickets the raffle will go on sale in early September and will be drawn at our Cambrai Commemoration in November. Tickets must be purchased face-to-face, with the full details at the point of sale. Tickets will be available at the Papanui RSA at our September, October and November Happy Hours, as well as at the Spring Lunch. We will be canvassing other RSA's in the region and will advise where tickets will be available. If you cannot make one of our Happy Hours, but wish to get some tickets please contact the Association Secretary – Bruce Tweedy on 021 174 7232. Please support the RNZAC Association and the RNZAC Trust in this raffle.

Prizes:

1. Signed 2023 Crusaders Jersey + CAT Cap.
Value: \$2000.00
2. Limited Edition M113 Diorama + CAT Cap.
Value: \$900.00
3. Remote Control Cat Model + CAT Cap.
Value: \$500.00
4. Australian Vietnam Armour Print + CAT Cap.
Value: \$200.00
5. Crusaders Polo shirt + CAT Cap.
Value: \$120.00

Cambrai 2023

Our Cambrai Commemorations will be on Saturday the 25th of November. Church parade at 12 mid-day then afterwards at the Papanui RSA, lunch at 12.45. Fundraising raffle drawn at 1.00pm. Association AGM at 2.30pm.

The Annual General Meeting of the Royal New Zealand Armoured Corps Association will be held on Saturday 25th November 2023 in the Charles Upham Room at the Papanui RSA, (55 Bellvue Avenue, Papanui, Christchurch) at 14:30hours.

Business:

1. Apologies
2. Minutes of the previous AGM held Sunday 20th November 2022
3. Matters arising from the previous AGM minutes
4. Presentation and adoption of the Presidents Report
5. Presentation and adoption of the Annual Accounts Y/E 30/09/2023
6. Setting of the Subscription for the 2023/24 year:
 - a. "The Executive recommends that the full subscription remain the same at \$30.00"
 - b. "The Executive recommends that the Life Member subscription remain the same at \$500.00"
7. Election of the National Executive.
8. Election of the Canterbury Branch Committee.
9. Any items of General Business

If anyone is interested in joining the Committee please contact the Association President, Len Haynes on 027 734 0006.

Answer: Japan Type 10 Hitomaru

Japan (2012)

Main Battle Tank – 80 Built

Japan's Type 10 Hitomaru Main Battle Tank (10式戦車 Hitomaru-shiki sensha) is one of the world's most technologically advanced armoured vehicles to date. This fourth generation vehicle is embedded with numerous top-of-the-line communicative and combative features, most notably the incorporation of the C4I system.

Designed to replace the aging second generation Type 74 and supplement the third generation Type 90 of the Japanese Ground Self-Defense Force (JGSDF), the Type 10's technological prowess comes at a hefty price, however. The Japanese Ministry of Defence paid 954 million Japanese Yen per vehicle. (US\$8.4 million)

The Name

"HITO" comes from "HITO-tsu" (meaning "one" in English) and "MARU" means "zero". (The primary meaning of the word "MARU" is "circle" and it often substitutes for zero.)

Design and Development

Under project name of TK-X/MBT-X, development of the vehicle began in the 1990s, while the Type 90 was still fresh off the production line, with production expected to begin by 2010-2011. The Japanese military considered that their armed forces were in need of a tank more suited and prepared for 21st-century warfare.

The first prototype of the vehicle, built by Mitsubishi Heavy Industries, debuted on February 13, 2008, at the Technology Research and Development Institute (TRDI) in Sagami-hara.

The Japanese Ministry of Defence liked what they saw, formally signing off on the project in late 2009. In 2010, ten of the vehicles were ordered from Mitsubishi.

Arms and Armour

The Type 10's main armament consists of a purpose built 120 mm smoothbore auto-loading gun with optional barrels of L/50 or L/55 calibre. This gun was designed and developed by Japan Steel Works (JSW), who up until this point had been manufacturing the Rheinmetall L/44 under license, for use on the Type 90.

Though the weapon can use all compatible NATO 120 mm rounds, as well as the standard 120 mm rounds used by the JGSDF, the Hitomaru gun can also fire the Type 10 APFSDS (Armor-Piercing Fin-Stabilised Discarding-Sabot) round. This round is unique to the tank and can only be fired by this specific gun.

As mentioned, the 120 mm is equipped with an auto-loading mechanism which negates the need for a dedicated crew member. As such, the Type 10 only has a crew of 3 with the commander and the gunner in the turret, and with the driver in the hull. The auto-loading mechanism is positioned in the rear section of the turret, giving it that rather large appearance. The gun is aimed with the assistance of various day and night compatible 360-degree view range sighting arrays. The barrel is also tipped with a muzzle reference sensor. Mounted on the right of the muzzle, this sensor is designed to detect any amount of warp in the barrel.

Secondary armament consists of a coaxial Type 74 7.62 mm machine gun and a .50 cal Browning M2HB mounted on the roof in front of the commander's position. This .50 cal can either be directly controlled by the commander or remotely from inside his position. Smoke grenade launchers are also integrated into the cheeks of the turret.

Armour

Protection against RPG (Rocket-Propelled Grenades) and shaped-charge munitions was a heavy influence in the development of the Hitomaru's armour. The main armour plates on the tank are made from steel, with the option of using modular appliqué armour.

Some of the additional plates are sometimes mentioned to be a type of ceramic composite which can be added or removed depending on the mission and weight parameters. These plates can either be added to the sides of the hull, front of the hull, or all over the turret. Being new the exact nature of the armour is still classified.

Another part of the protective systems are the mud-flaps on the flanks of the vehicle, aiding in noise reduction, infra-red (IR) signature reduction, catch-fragmentation from explosives and reducing mud throw.

Mobility

The Hitomaru is powered by a water-cooled, four-cycle, eight cylinder diesel engine producing 1,200 hp through a Continuously Variable Transmission (CVT) gearbox, propelling the 40-ton tank to a respectable 70 km/h (43.3 mph). The CVT gearbox allows the tank to go just as fast backward, as it does forwards, allowing for rapid changes in position. The baseline weight of the tank is 40 tons, with full armour and weapons loadout this can climb to 48 tons.

A feature carried over from both the Type 74 and Type 90 is the Hydropneumatic Active Suspension. This is seen as a 'must-have' feature by Japanese strategic heads, given the Japanese countryside's mountainous terrain. The suspension allows the tank to ride higher

or lower depending on the terrain type, tilt left or right, or raise and lower the front or rear of the tank. This increases the elevation or depression angle of the gun, giving the ability to fire over a ridge line without presenting a target for an enemy vehicle.

This suspension also has another use. A bulldozer blade can be mounted on the bow of the vehicle. When the front of the tank is fully depressed, this blade serves as a way to clear out debris from a firing position or help to carve out a new one. A similar system was incorporated on the Swedish Strv. 103, or S-Tank.

Communications

A highlight of this vehicle's abilities is its compatibility with the C4I (Command, Control, Communication, Computer & Intelligence) system. Tests were made with the Type 74 and Type 90, but it was surmised that there was not enough room for the system in these vehicles.

The C4I system gives the tank the ability for direct communication within the JGSDF network, allowing the tank to share digital information with command positions as well as the infantry's outdoor computer system, the Regiment Command Control System (ReCS). This allows both armour and infantry to work with the utmost cohesion. The Japanese Government is understandably, very secretive about the system. As such, exact details of how it operates, or images of the system are not available as of this time.

Service

The Type 10 officially entered service with the JGSDF in January 2012, and production of the vehicle now stands at 80 units, though some sources suggest this could rise to 600 as Japan's older vehicles reach the end of their lifetimes.

On January 4, 2014 the Turkish military expressed an interest in purchasing the Type 10's powerful engine for their own indigenous Main Battle Tank, the Altay. By March 2014 however, the deal had fallen through, with Japan's strict arms trading laws a major factor. Whether the tank was worth the astronomical price is, of course, debatable as, like its predecessors, it has not been tested on the field of battle. With a growing threat from North Korea, however, it is considered a worthwhile investment to the Japanese Government.

Deployment Capabilities

One of the issues with the Type 90 Kyū-maru Main Battle Tank was its weight of 50.2 tons. Due to weight limits of many roads and bridges in some of the more rural areas of Japan, the Type 90 was only deployed in Hokkaido.

A requirement of the Type 10 was that it was much lighter, and it achieved that. Unloaded, which is how it would be transported, it only weighs 40 tons, as previously mentioned. This means that 84% of Japan's 17,920 bridges are now passable with the Type 10, compared to only 65% of the Type 90, and a meagre 40% for the average western tank.

Type 11 ARV

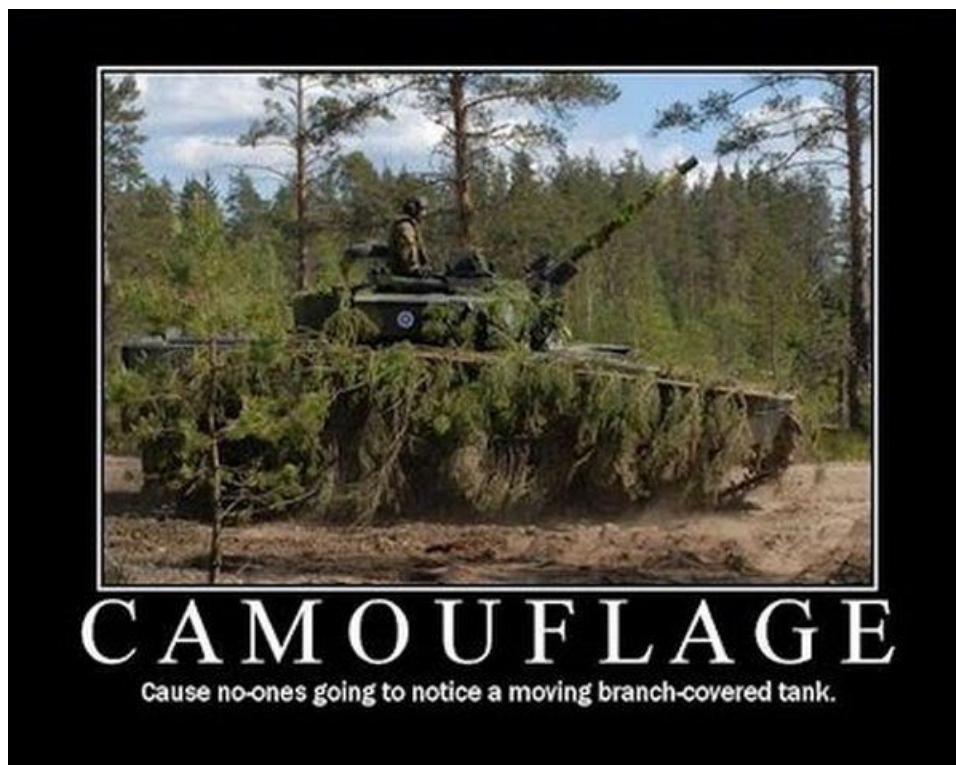
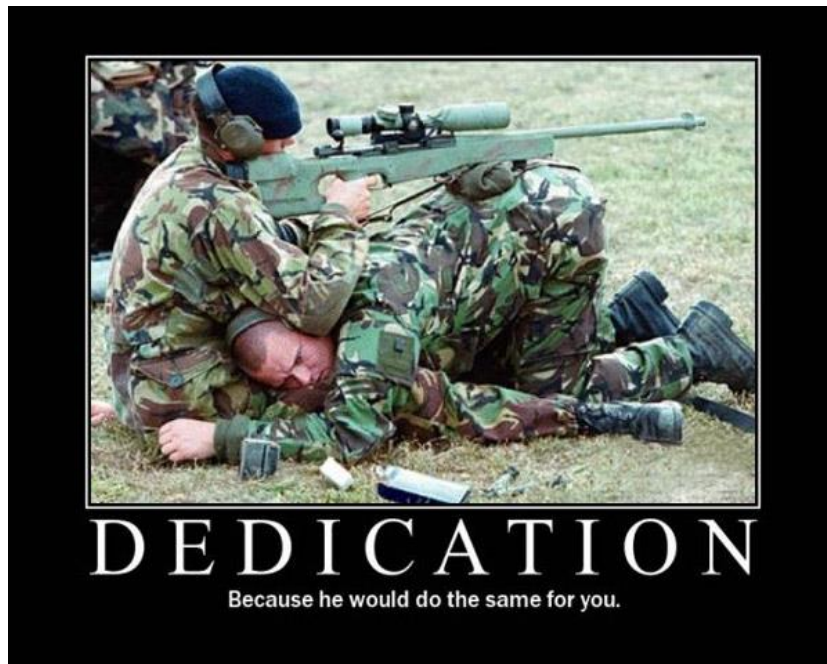
The Type 11 Armoured Recovery Vehicle (ARV), is currently the only variant of the Type 10 Hitomaru. The driver and commander share a single compartment on the left front of the vehicle. On the right is a large heavy-lift boom. The vehicle retains the hydropneumatic suspension, allowing it to be lowered if necessary for ease of vehicle recovery. The vehicle also carries a Browning M2HB .50 cal for personal defence.

Crowds of people had a demonstration of its capabilities at one of the displays at Fuji during

which a Type 10 slipped a track during a rapid change of direction and required a Type 11 to rescue it.

Type 10 Hitomaru Main Battle Tank - Tank Encyclopedia (tanks-encyclopedia.com)

Humour





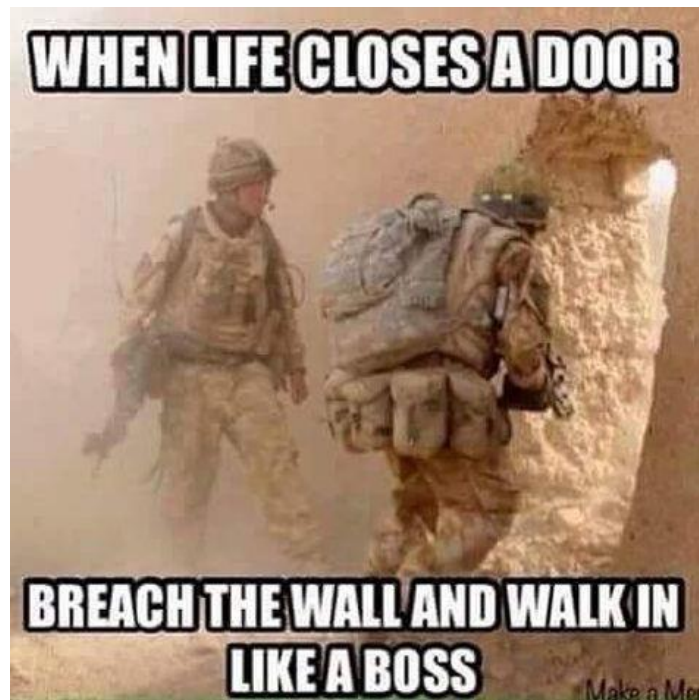
CAMOUFLAGE

You're doing it right. Nobody will ever see that tank.



TEAMWORK

Because bullets can only go through so many bodies.



Reminders

RNZAC Association Web site: www.rnzac.co.nz
Contributions to this newsletter are gratefully accepted.
Email: smithmd@xtra.co.nz Phone 02108049178.

Mike Smith, Editor