Club Magazine

SPRING EDITION 2022

Luton & District MBC

.... a club NOT just for boats ....

CONTENTS

SECRETARYS MEANDERINGS

As usual, lots going on in the background!!! We have several shows coming up and at very short notice a show in April! At present that is all I know, just a date, but it is in Luton!

The garden fairies have visited us lakeside, plus we had a lake clean where we cleared a lot of debris from the storms a few weeks ago. We managed to pull most of a large fence panel out of various points if the lake, plus a chair! The moorhen nest under the willow is no more now! Big thanks to all gardeners and rubbish pullers!

Going forward, we have 100,000 wild flower and poppy seeds to plant, plus we will be relaying more paving slabs in the step area, then laying turf rolls. For those who do not know, we have now taken responsibility for our end of the lake inside the fence line. To this end we are trying to encourage insects by planting flowers etc and discourage rats and Canada Geese, through planting certain plants!

In the last few weeks, we have seen a variety of new boats, including an Airboat by Bob Vaughan, and an electric skimming boat by Graham Crow. Both had their own problems but have all been overcome. Several refurbs and new builds are starting to appear now as we get underway again. We will be arranging some meetings at the Hemel Lake as well through spring and summer, as well as outings to Stevenage and possibly Hitchin!

On a side note, I would like to thank all the committee for all the feedback and help that is not seen lakeside. Terry especially has more calls and emails from than everyone else!

Going forward, I am going to try and sail more this year! Plus, as from May, we will be reintroducing bacon roll Sunday! Plus having cake Sunday as well!

More club 500 fiascos, and the Chairman's Challenge, see Pete for further details.

Pete Carmen

PHOTO OF THE MONTH

Our roving photographer has been out and about capturing club personalities during their everyday life, here we have David and Carol Seath enjoying an early morning breakfast.

THE CONVERSION OF IRIS

I first saw 'The Tug' on a friend's stall in Hitchin Market. He'd bought it for his collection of model boats: he likes model boats and just can't resist them, whatever the condition, and has a large collection, most of which is never likely to put to sea or, possibly, ever see daylight again. I told him I liked the general jizz of the tug but was very critical of the finish, with blue and orange casings and rather naff detailing. He said that didn't matter as I wasn't likely to get my sticky little hands on it (**Photo 01**).

Photo 01 Original *Joffre* Tug – Some parts removed

That prediction turned out not to be true as, quite a bit later and after dropping it into the conversation from time to time, he agreed to sell it to me: we'd already established that it was a Caldercraft *Joffre* that had fallen on rather hard times. As it turned out, even harder ones than my rose-tinted specs first revealed and, although I think I paid too much in compensation for his having previously sold me a boat at a bargain price, it did cost me a lot less than the original kit might have. I didn't initially realise that it would end up as a kit again! (**Photo 02**)

Photo 02 Fittings Removed

Having made an initial inspection of the removable superstructure prior to what I hoped would be just a thorough tidy up and repaint, I wondered why, when I put it down, it didn't sit upright on my old modelling desk. The bottom edge was chamfered so that it leaned to port (?) Strange thought I, until I found out that was necessary to make it upright when located on the deck which was a couple of mill (at least) lower on the starboard side than the port! (**Photo 03**). At this stage I decided I'd make the rebuild a freelance version as I wasn't quite sure how *Joffre* it would turn out to be!

Photo 03 Lopsided Deck

Out came the deck (a bit easier said than done) (**Photo 04**) having removed all the fittings I levelled it up by adding new supports to the starboard side having decided the port side was correct. I'd already taken off the original planked finish central overlay that had been over painted grey. I removed the paint so as later to restore the deck planking lines with a marker pen (I'm proud that I joggled the ends instead of tapering the 'planks' to a point) after which it was satin varnished,

Photo 04 Deck Being Removed

The hull was then completely resprayed, this time with the boot topping at the same level on each side (how much more wrong could the original builder have got it?)

Next, I salvaged what I could from the superstructure (**Photo 05**), made some new bits to level it up and repainted it brown instead of the original shade of mid-blue. The engine room casing I built again from scratch as it was lopsided all over, and then painted it brown instead of the lovely bright orange it had been. I stripped a lot of paint from the fittings and all the stanchions, straightened or replaced and then repainted them and used new brass wire for the rails. And filled in most of the stanchion holes in the salvaged deck bits as not unexpectedly lots were drilled in the wrong places, The kit's lopsided moulded lifeboats were replaced by a couple of resin ones with scratch made covers and details like bulwark supports and varnished handrails were added.

Photo 05 Old Superstructure

The motor and rudder servo that came with the tug worked satisfactorily – after a bit of fettling to line things up – so I put all the radio gear in and test floated her in the bath. Did I mention that Mr Original Builder had resined-in an awful lot of lead shot ballast? Well, afloat she had less than about half an inch of freeboard with one 6 volt NiMH and the receiver and ESC added. Out with some ballast then, but, err; it's stuck in with resin – oops! The best thing for getting it out turned out to be an old wood chisel but, as the shot was all along the bottom of the hull, including behind a bulkhead in the fore compartment, it wasn't quick or easy and the old knuckles suffered a bit: as did the repainted hull bottom when my hand slipped a couple of times... Unfortunately, that meant I couldn't float test at intervals of un-ballasting because of the holes, so I decided to take out as much as possible of the lead shot I could get at, and re- ballast with lead sheet after patching up my slips.

I'm still picking up the odd lead ball that pinged into the corners of the room.

When completed I decided to call her Iris (**Photo 06**) and she performed pretty well but, after being a tug owner for a while, I really needed more space to store my growing fleet and one of the larger boats had to go to a good new home – which it has, somewhere in Luton.

Photo 06 Completed Model of IRIS

Bill Grigg

SHUTTLEWORTH SCALE MODEL EXHIBITION 2022

Out chief, Pete Carmen put me and Derek Thompson in charge of this year's Shuttleworth Exhibition, a bit risky putting two 80-year doddery old fools in charge of such and prestigious event? Shuttleworth (old warden aerodrome) is located just off the A1 near Biggleswade, Bedfordshire. The event was taking place on Sunday 13th February and access to the site for exhibitors was available from 8.30 – 9.30am of that day, for setting up purposes.

I had packed my car full of boxed models the day before and departed fairly quickly to collect Derek on the Sunday morning arriving at his house just before 8am. We packed his models into the remaining space and were then ready to depart. Although rain had been forecast it was actually dry (but it had rained overnight) thus we set off at a steady pace and arrived at the Shuttleworth gates just after 8.30 finding a convenient parking space just outside the hanger doors. Kevin Panter, the event organiser was there to greet us and advise us about the location of our two exhibition tables, good organisation. Martin Gazely arrived, as arranged. He had been helping all that required assistance while he awaited our arrival. We took our table coverings and located the tables and spread the covers over the tables, only took a couple of minutes. We then returned to the car and proceeded to unload. After about 15 minutes the models had been unloaded and the car moved to its allotted parking area.

Un-boxing the models and deciding on a suitable layout took a little longer but by about 9.30 we were all ready for the anticipated visitors. It was time for a cuppa, the refreshment stand was very close by so we availed ourselves of a well-deserved cup of hot liquid and a biscuit.

The exhibition opened at 10am bur remained very quiet up until about 11.30am, at this time the hanger began to fill up with visitors. Quite a bit of interest in our stand and of particular interest was that the plastic boats were radio controlled and had all been sailed in Wardown Lake in Luton.

Colin Saville, a past member of our Club stopped by to chat. His current interest is in setting up a garden railway (30mm gauge) quite a project. Bill Grigg came to talk to us and also Tony Martin, Tony was exhibiting on the Chiltern stand, however no other members or friends were around which is not surprising as the entrance fee is £16 even if you just want to go to the restaurant for a cup of coffee.

A number of pictures follow with the names of the clubs exhibiting. There were also a number of traders, selling small tools, paints etc but most were selling plastic aircraft kits (plus a few boats).

I do hope you find the article of interest and the size of the photos large enough to distinguish what is on display.

Tony Dalton

Refreshment Area with Seating

Heavy Tank Brigade – Plastic?

British Model Soldier Society

L&DMBC – Derek's Percival Aircraft

L&DMBC – Tony's Tanks & Boats

L&DMBC – Tony's Boats

Luton and District Model Boat Club Display

West Norfolk IPMS

West Norfolk IPMS – King George V in Dry Dock

Wisbech IPMS – Interesting Figures

Wisbech IPMS – More Figures

Wisbech IPMS – Aircraft & Boats

South Atlantic Special Interest Group

South Atlantic SIG

Early Risers Model Club

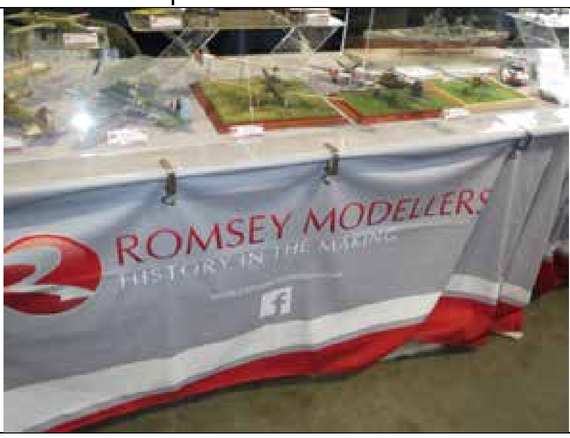
The Early Risers Model Club - IPMS

Mildenhall Scale Model Club

Japanese Aviation – Special Interest Group

Japanese Aviation - SIG

Romsey Modellers



Romsey Modellers – History in the Making

Romsey Modellers

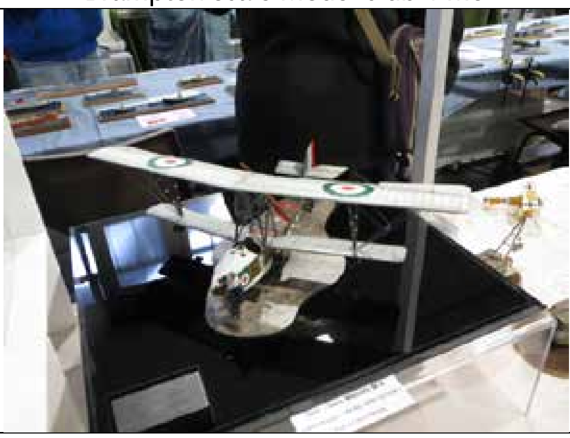
Milton Keynes Scale Model Club

Milton Keynes Scale Model Club

Brampton Scale Model Club IPMS

Brampton Scale Model Club IPMS

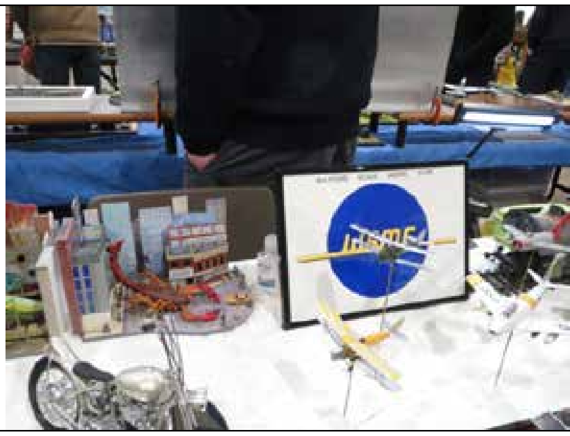
The Great War SIG



The Great War Special Interest Group

Civil Aviation Special Interest Group


Watford Scale Model Club

Watford Scale Model Club


Watford Scale Model Club

Letchworth Scale Model Club

Letchworth Scale Model Club

Terry Scratchit - Scratch Built Models

Terry Scratchit – Scratch Built Models

Terry Scatchit – Scratch Built Models

North East Modellers Colchester

North East Modellers Club Colchester

New City Scale Model Club

New City Scale Model Club

Thurrock Scale Model Club

Thurrock Scale Model Club


IPMS Mid Sussex


Chiltern Scale Model Club


Bedford & District Scale Model Club

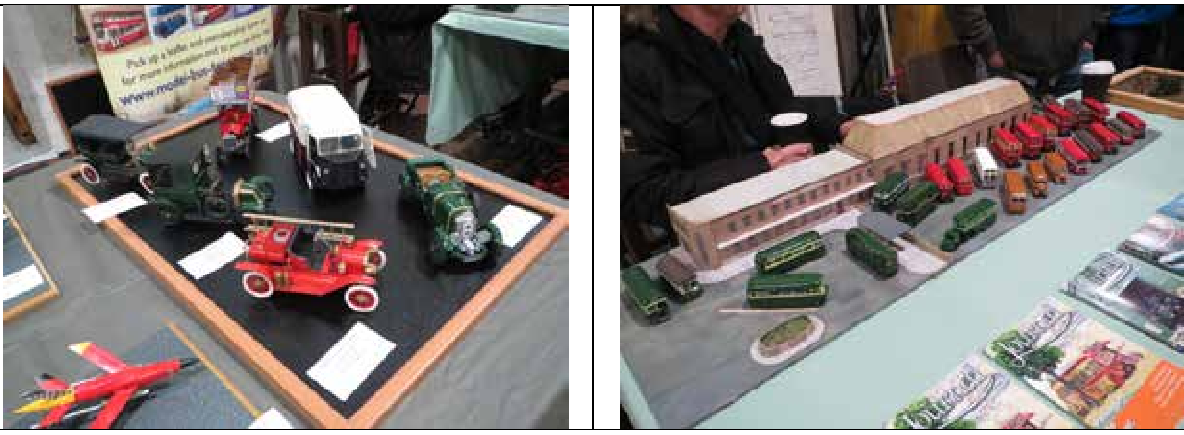
Bedford & District Scale Model Club

Airfix Modelling SIG

Airfix Modelling SIG

Doughnut Models - Giving away Doughnuts, Derek and I had one each

IPMS Gloucester



Model Bus Federation.org

MATILDA 1/35 SCALE RC TANK

Having completed the Chinese Attack helicopter (featured in the December 2021 edition of the Club Magazine) I was looking to find another project and whilst scanning E-bay I discovered an old motorised plastic kit of a Matilda Tank. I decided to put in a bid and to my amazement I was successful. A few days later the parcel arrived containing the anticipated kit which was duly unpacked (**Photo 01**). The bag of parts was fully sealed which was a good start thus I opened the bag and inspected the kit. I must confess that I was somewhat disappointed, as the construction only used a single motor with the shaft protruding out at each end for driving the tracks. The result of this is that the tank can only be driven in a straight direction, which is not what I intended and in order to correct this I would need to provide two motors in order to be able to steer the Tank.

Photo 01 Kit Contents and Downloaded Instructions

Before I continue with this story on the tank’s construction let me enlighten you regarding the history of the British Matilda Tank.

History

The Mk 1, Matilda (A11) was a British infantry tank of the Second World War. Despite being slow, cramped and armed with only a single machine gun, the Matilda 1 had some success in the Battle of France in 1940, owing to its heavy armour which was proof against the standard German anti-tank guns. However, it was essentially useless in an attacking sense, as its weak armament made it toothless in combat against enemy armour, and the tank was obsolete before it even came into service. The Battle of France was the only time the Matilda 1 saw combat. The tank was cheaply built as the British government wanted each of the tanks to be built on a very restricted budget in the build up to the Second World War. It is not to be confused with the later and more successful “Matilda II”, which took over the “Matilda” name after the Matilda 1 was withdrawn from combat service in 1940. They were completely separate designs.

The Infantry Tank Mark II, also known as the Matilda, was a British infantry tank of the Second World War. The design began as the A12 specification in 1936, as a gun-armed counterpart to the first British infantry tank, the machine gun armed, two-man A11 Infantry Tank Mark I. The Mark I was also known as Matilda, and the larger A12 was initially known as the Matilda II or Matilda Senior. The Mark I was abandoned in 1940, and from then on the A12 was almost always known simply as “The Matilda”.

With its heavy armour, the Matilda II was an excellent infantry support tank but with somewhat limited speed and armament. It was the only British tank to serve from the start of the war to its end, although it is particularly associated with the North Africa Campaign. Only two were available for service by the outbreak of the Second World War in 1939. It was replaced in front-line service by the lighter and less costly Infantry Tank Mk III Valentine beginning in late 1941.

Development

The split between the infantry tank and cruisers had its origins in the World War I division between the first British heavy tanks and the faster Whippet Medium Mark A and its successors the Medium Mark B and Medium Mark C. During the interbellum, British tank experiments generally followed these basic classifications, which were made part of the overall doctrine with the work of Major-General Percy Hobart and the influence of Captain B.H. Liddell Hart.

In 1934 Hobart, the then “Inspector, Royal Tank Corps”, postulated in a paper two alternatives for a tank to support the infantry. One was a very small, heavily armoured, machine gun-armed model that would be fielded in large numbers to overwhelm the enemy defences. The other was a larger vehicle with a cannon as well as machine guns and heavier armour proof against enemy field artillery. Vickers designed a tank to a General Staff specification based on the first option as the A11 Matilda. Within the limitations of military finances, the Master-General of the Ordnance, Hugh Elles, went for the smaller machine gun tank and the larger cannon-armed version did not proceed. This requirement was passed to Vickers-Armstrong which had a prototype (A11E1) but with armour proof against current anti-tanks guns ready by September 1936.

The first suggestion for a larger Infantry Tank was made in 1936, with specification A12. The design was produced by the Royal Arsenal, Woolwich, and Vulcan Foundry was selected as the manufacturer. A12 used a number of design elements of the A7, a medium tank that was built in limited numbers in the early 1930s whose mechanical layout was used for many following designs. With its greatly increased armour, a lack of power was seen as a problem. The solution was to use two AEC straight-six water-cooled diesel engines, used in London buses, providing up to 87 hp each. These were linked along a common shaft. Suspension was to use the 'Japanese Type' bell crank suspension used on the A7.

Vulcan received a contract for two wooden mock-ups and two mild-steel prototypes in November 1936. The first mock-up was delivered in April 1937 and the A12E1 prototype in April 1938. The prototypes proved excellent in a 1,000 miles (1,600 km) test, resulting in only a few changes to improve the gearbox, suspension and cooling. When war was recognised as imminent, production of the Matilda II was ordered and that of the Matilda I curtailed. The first order was placed shortly after trials were completed, with 140 ordered from Vulcan in June 1938. **Photo 02**

Photo 02 Matilda II A12E1 prototype

Design

The Matilda Senior weighed around 27 long tons (27 t; 30 short tons), more than twice as much as its predecessor, and was armed with an Ordnance QF 2-pounder (40 mm) tank gun in a three-man turret. The turret traversed by hydraulic motor or by hand through 360 degrees; the gun could be elevated through an arc from −15 to +20 degrees. One of the most serious weaknesses of the Matilda II was the lack of a high-explosive round for its main gun. A high-explosive shell was designed for the 2-pounder but was rarely issued, as the bursting charge was so small. The main weapon against un-armoured targets was its machine gun.

The Matilda II had a conventional layout, with the driver's compartment located at the front of the tank's hull, the fighting compartment with the turret in the centre and the engine and transmission housed in the rear. The driver's position was normally accessed by a single hatch in the roof of the hull, and protected by a rotating armoured cover which could be held locked in either fully open or closed positions; emergency egress was made possible by a large escape hatch under the driver's seating position. The driver also had a direct vision viewing port with manually operated armoured shield and a single Mk IV periscope to use when buttoned up.

Like many other British infantry tanks, it was heavily armoured. The front glacis was up to 78 mm (3.1 in) thick; the nose plates top and bottom were thinner but angled. The sides of the hull were 65 to 70 millimetres (2.6 to 2.8 in) and the rear armour, protecting the engine to sides and rear, was 55 millimetres (2.2 in).

The cast, cylindrical three-man turret was seated on ball-bearing ring mount and its armour was 75 mm (2.95 in) all round. The turret was laid out such that the gunner and commander were seated in a laddered arrangement on the left side of the gun, and the loader – on the right. The commander was given a rotating cupola with a two-piece hatch and a single panoramic Mk IV periscope installed in the forward-facing hatch door. The same device was also mounted in a fixed position in the turret roof, forward of the commander's cupola, and giving the gunner some situational awareness and target finding capabilities. The loader used a single, rectangular hatch in the turret's roof on the right side. The turret was equipped with a basket around which much of the ammunition stowage was contained. The turret had a power traverse system used under normal conditions, and a manually-operated mechanical emergency assist. The turret roof, hull roof and engine deck were 20 millimetres (0.79 in) thick. The armour varied in strength.

The armour of the Matilda was the heaviest of its era. Contemporary German Panzer III and Panzer IV tanks had 30 to 50 millimetres (1.2 to 2.0 in) hull armour, while the T-34 had 40 to 47 millimetres (1.6 to 1.9 in) (angled at 60 degrees). Matilda's side and rear armour was relatively heavy even at the end of the war when tanks like the M4 Sherman carried about 40 mm, and late models of the Panther carried 50 mm. The shape of the nose armour was based on Christie's designs and came to a narrow point with storage lockers added on either side. The heavy armour of the Matilda's cast turret became legendary; for a time in 1940–1941, the Matilda earned the nickname "Queen of the Desert".

While the Matilda possessed a degree of protection that was unmatched in the North African theatre, the sheer weight of the armour on the vehicle contributed to a very low average speed of about 6 mph (9.7 km/h) on desert terrain and 16 miles per hour (26 km/h) on roads. At the time, this was not thought to be a problem, since British infantry tank doctrine valued heavy armour and trench-crossing ability over speed and cross-country mobility (which was considered to be characteristic of cruiser tanks such as the Crusader). The slow speed of the Matilda was further exacerbated by a troublesome suspension and a comparatively weak power unit, which was created from two AEC 6-cylinder bus engines linked to a single shaft. This arrangement was complicated and time-consuming to maintain, as it required mechanics to work on each engine separately and subjected automotive components to uneven wear-and-tear. It did provide some mechanical redundancy, since failure in one engine would not prevent the Matilda from using the other. The combined power of the engines went through a six-speed Wilson epicyclic gearbox, operated by compressed air.

The tank's suspension system was that which had been developed by Vickers for their Medium C prototype in the mid-1920s. The tank was carried by five double wheels bogies on each side. Four of the bogies were on bell cranks in pairs, with a common horizontal coil spring. The fifth bogie at the rear was sprung against a hull bracket. Between the first bogie and the idler wheel, was a larger diameter vertically sprung “jockey wheel”. The first Matilda’s had return rollers; these were replaced in later models by track skids, which were far easier to manufacture and to service in the field.

The turret carried the main armament, with the machine gun to the right in a rotating internal mantlet. Traverse was by a hydraulic system. As the gun was balanced for ease of movement by the gunner, much of the breech end was behind the trunnions. Two smoke grenade launchers were carried on the right side of the turret. The grenade launcher mechanisms were cut down Lee–Enfield rifles each loaded with a smoke grenade. Its camouflage scheme was designed by Major Denys Pavitt of the Camouflage Development and Training Centre based on the dazzle patterns of First World War ships. The design incorporated block colours, visually breaking the tank in half.

Production

The first Matilda was produced in 1937, but only two were in service when war broke out in September 1939. Following the initial order from Vulcan Foundry, a second order was placed shortly after with Ruston & Hornsby. Some 2,987 tanks were produced by the Vulcan Foundry, John Fowler & Co. Of Leeds, Ruston & Hornsby, and later by the London, Midland and Scottish Railway at Horwich Works; Harland and Wolff, and the North British Locomotive Company Glasgow. The last were delivered in August 1943. Peak production was 1,330 in 1942, the most common model being the Mark IV
The Matilda was difficult to manufacture. For example, the pointed nose was a single casting that, upon initial release from the mould, was thicker than required in some areas. To avoid a needless addition to the tank’s weight, the thick areas were ground away. This process required highly skilled workers and additional time. The complex suspension and multi-piece hull side coverings also added time to manufacturing.

Combat history

Battle of France 1940

The Matilda was first used in combat by the 7th Royal Tank Regiment in France in 1940. Only 23 of the unit’s tanks were Matilda I; the rest of the British infantry tanks in France were the smaller machine-gun armed A11 Matilda. Its 2-pounder gun was comparable to other tank guns in the 37 to 45 mm range. Due to the thickness of its armour, it was largely immune, but not impervious, to the guns of the German tanks and anti-tank guns in France. The Germans found the 88 mm anti-aircraft guns were the only effective counter-measure. In the counter-attack at Arras of 21 May 1940, 18 British Matilda I (and Matilda Is) were able to briefly disrupt German progress, but, being unsupported, they sustained heavy losses (30 tanks lost) after breaking through to the rear area of 7th Panzer Division. A gun line of artillery and later 88mm flak guns, personally organised by General Rommel was needed to repel the attack All vehicles surviving the battles around Dunkirk were abandoned when the BEF evacuated.

North Africa 1940 to 1942

Photo 03 A Matilda advancing through Egypt as part of Operation Compass

Up to early 1942, in the war in North Africa, the Matilda proved highly effective against Italian and German tanks, although vulnerable to the larger calibre and medium calibre anti-tank guns. In late 1940, during Operation Compass, Matilda's of the British 7th Armoured Division wreaked havoc among the Italian forces in Egypt **Photo 03.** The Italians were equipped with L3 tankettes and M11/39 medium tanks, neither of which had any chance against the Matilda's. Italian gunners were to discover that the Matilda's were impervious to a wide assortment of artillery. Matilda's continued to confound the Italians as the British pushed them out of Egypt and entered Libya to take Bardia and Tobruk. Even as late as November 1941, German infantry combat reports show the impotence of ill-equipped infantry against the Matilda.

Ultimately, in the rapid manoeuvre warfare often practised in the open desert of North Africa, the Matilda's low speed and unreliable steering mechanism became major problems. Another snag was the lack of a high-explosive shell (the appropriate shell existed but was not issued). When the German Afrika Korps arrived in North Africa, the 88 mm anti-aircraft gun was again pressed into service against the Matilda, causing heavy losses during Operation Battleaxe, when sixty-four Matilda's were lost. The arrival of the more powerful 5 cm Pak 38 and 7.5 cm Pak 40 anti-tank guns also provided a means for the German infantry to engage Matilda tanks at combat ranges. Nevertheless, during Operation Crusader Matilda tanks of 1st and 32nd Army Tank Brigades were instrumental in the break-out from Tobruk and the capture of the Axis fortress of Bardia. The operation was decided by the infantry tanks, after the failure of the cruiser tanks of the 7th Armoured Division to overcome the Axis tank forces in the open desert **Photo 04**.

Photo 05 Captured Matilda put to use by the German forces is recaptured and its crew taken prisoner by New Zealand troops, 3 December 1941 during the battle to open the corridor to Tobruk.

As the German army received new tanks with more powerful guns, as well as more powerful anti-tank guns and ammunition, the Matilda proved less and less effective. Firing tests conducted by the Afrika korps showed that the Matilda had become vulnerable to a number of German weapons at ordinary combat ranges. Due to the small size of the turret and the need to balance the gun in it, up-gunning the Matilda, without developing a larger turret, was impractical. There was at least one instance of the turret from the A24/A27 cruiser tank series being fitted to a Matilda, complete with 6-pounder gun. As the size of the Matilda's turret ring was 54 inches (1.37 m) vs. The 57 inches of the A27, it was possible that a larger turret ring had been superimposed on the hull. The Churchill Mark III also had a 54-inch turret ring but was armed with a 6-pounder and that might have offered an alternative route. It was also somewhat expensive to produce. Vickers proposed an alternative, the Valentine tank, which had the same gun and a similar level of armour protection but on a faster and cheaper chassis derived from that of their "heavy cruiser" Cruiser Mk II. With the arrival of the Valentine in autumn 1941, the Matilda was phased out by the British Army through attrition, with lost vehicles no longer being replaced. By the time of the Second Battle of El Alamein (October 1942), few Matilda's were in service, with many having been lost during Operation Crusader and then the Gaza battles in early summer of 1942. Around twenty-five took part in the battle as mine-clearing Matilda Scorpion mine flail tanks.

Minor Campaigns

In early 1941, a small number of Matilda's were used during the East Africa Campaign at the Battle of Keren. However, the mountainous terrain of East Africa did not allow the tanks of B Squadron 4th Royal Tank Regiment to be as effective as the tanks of the 7th Royal Tank Regiment had been in Egypt and Libya.

A few Matilda's of the 7th RTR were present during the Battle of Crete and all of them were lost.

Australian Use in the Pacific

Photo 06 An Australian, howitzer-equipped Matilda of the 2/9th Armoured Regiment in combat at the Battle of Tarakan (May 1945)

A total of 409 Matilda I were supplied by Britain to the Australian army between 1942 and 1944, and a further 33 close-support Matilda's were transferred from New Zealand to the Australian army in 1944, as New Zealand made the decision to use only close-support Valentine tanks in the Pacific theatre, to minimise supply problems. The Australian 4th Armoured Brigade used them against Japanese forces in the South West Pacific Area, first in the Huon Peninsula campaign in October 1943. Matilda II tanks remained in action until the last day of the war in the Wewak, Bougainville and Borneo campaigns, which made the Matilda the only British tank to remain in service throughout the war **Photo 06**.

The tanks were often employed in dense jungle with limited visibility, and could be subject to point-blank fire from hidden Japanese heavy artillery pieces. The Matilda's heavy armour (enhanced by the crews with spare track links) proved to be reasonably effective protection against this. In this fighting, the close-support version of the Matilda, armed with an Ordnance QF 3-inch howitzer, was preferred by the Australians as it was more effective against Japanese bunkers. Local modifications to the tanks included improving the waterproofing, and adding an outside infantry telephone so supporting troops could more easily communicate with the tank crew. Guards were fitted to the suspension to stop it from being tangled with jungle undergrowth, and metal panels fitted to make it harder for Japanese soldiers to attach adhesive demolition charges to the hull.

The Matilda Frog, an Australian-modified version of the tank that replaced the gun with a flamethrower saw some successful use against the Japanese on Borneo. Another Australian version, the Matilda Hedgehog, which could fire seven 65-pound (29 kg) mortar shells, was successfully tested but was developed too late to see combat service. Matilda I remained in service with the Australian Citizen Military Forces until about 1955.

Soviet Use

The Red Army received 918 of the 1,084 Matilda's sent to the USSR. The Soviet Matilda's saw action as early as the Battle of Moscow and became fairly common during 1942. Unsurprisingly, the tank was found to be too slow and unreliable. Crews often complained that snow and dirt were accumulating behind the "skirt" panels, clogging the suspension. The slowness and heavy armour made them comparable to the Red Army's KV-1 heavy tanks, but the Matilda had nowhere near the firepower of the KV. Most Soviet Matilda's were expended during 1942 but a few served on as late as 1944. The Soviets modified the tanks with the addition of sections of steel welded to the tracks to give better grip.

Captured Use

Photo 07 Captured Matilda tank, summer 1942

Following Operation Battleaxe a dozen Matilda's left behind the Axis lines were repaired and put into service by the Germans **Photo 07**. Several vehicles were transported to Kummersdorf where they were evaluated, including trials by live fire. The German designation was Infanterie Panzerkampfwagen Mk.II 748(e) translating roughly as "Infantry Tank Mk.II Number 748 (English)". The Matilda's were well-regarded by their German users although their use in battle caused confusion to both sides, despite extra-prominent German markings. Czech historian Ivo Pejčoch writes that the Romanians had also captured some Soviet Matilda's, but no other source mentions this, so it may be some confusion.

Model Construction

My first task was to find a motor suitable for powering the tank. Searching the internet for a small motor/gearbox I discovered a company by the name of **PIMORONI** from Sheffield. They supply all sorts of modelling parts including motors and gearboxes. The particular item I selected was a 6-volt motor/gearbox assembly whose output drive was at right angles to the motor **Photo 08.**

Photo 08 Motor Gear Boxes

On receipt of the motors both were tested and proved to function correctly. They were then trial fitted into the tank chassis and found to fit nicely into their required positions. I then machined the inside base of the chassis flat in order to provide a level base for the installation of the control electronics **Photo 09**.

Photo 09 Machined Chassis

The six suspension assemblies were then assembled and glued together ensuring that the 36 pairs of wheels rotated freely within the frames. The two halves of the sprocket drive wheels were glued together ensuring their correct alignment as were the two sets of jockey wheels **Photo 10**.

Photo 10 Wheels and Suspension

In order to ensure a secure fit of the sprocket wheels to the new motor drive shafts the sprocket wheels were drilled out and brass inserts fitted the bore of which fitted the motor drive shafts. After bonding those into the sprocket wheels the bushes were drilled through their sides to accept M1.6 grub screws to aid securing them to the drive shafts **Photo 11**. The brass bushes may be seen protruding from the centre of the sprocket wheel.

Photo 11 Modified Sprocket Wheel

Next task was to align and fit both of the motors. To do this I planned to use one screw that secures the gearbox side plate and another long screw to pass through the rived spacer also securing the gearbox side plate. First, I created a drawing of the side plate showing the centres of these fixing points and offered it up to the side of the lower hull, marking the centres of the two fixing points for each motor-gearbox. The holes were drilled out and the two gearbox assemblies secured into position as shown in **Photo 12**.

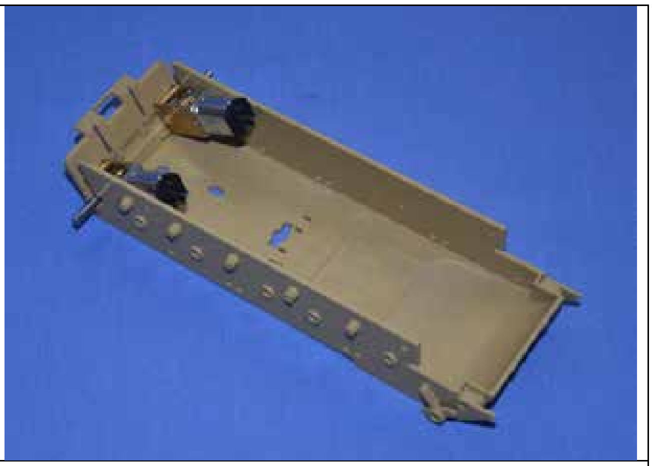


Photo 12 Motor Gear box's Fitted

Next the pre assembled suspension parts were fitted and glued into place followed by the drive wheels, jockey wheels and tracks **Photo 13.** With all these parts assembled each motor was powered up to test the driving function of each track. Both functioned correctly.

Photo 13 Suspension and Tracks Fitted

With this particular small model, I had planned to try and radio control the gun elevation and turret rotation. Firstly, I Assembled the gun into the turret ensuring that it remained free in its plastic bearing to move up and down. I then added a pivot block to the rear of the gun base and then fitted a small linear servo into the turret, securing it to the inside of the roof **Photo 14**.

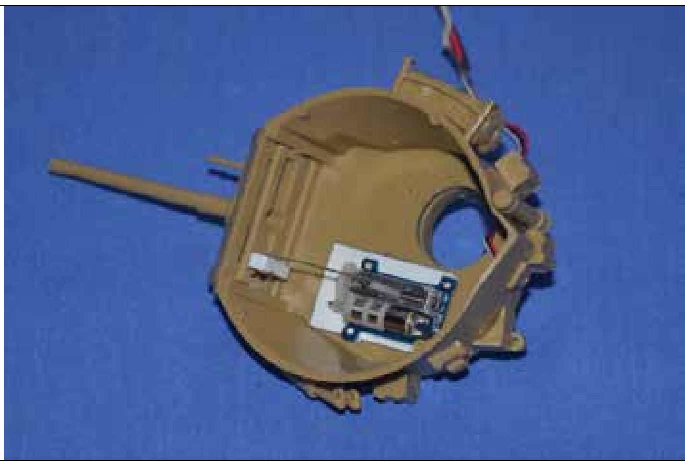


Photo 14 Turret Assembly with Servo Fitted

The actuator of the servo was then linked to the pivot block of the gun using a small length of brass wire. Connecting the servo to the receiver and powering up, the action of the servo to operate the gun elevation was then tested. After adjusting the servo travel within the transmitter programming all worked correctly.

Photo 15 Upper Hull Assembly Complete

Photo 15 shows the turret mounted on the upper hull of the tank, after a number of additional parts had been assembled and glued into position on both the Hull and the Turret

Many small parts were fitted and glued together to form sub-assemblies prior to being finally fitted to the main model, a few of which are shown in **Photo 16.**

Photo 16 Tank Sub Assemblies Completed

My attention now turned to fitting the radio control items into the lower tank hull and wiring them together, the proposed wiring schematic is shown in **Photo 17**. First the two (10 Amp Mtronics type) electronic speed controllers had their small plastic on/off switches removed leaving very short wires which were soldered together and insulated. The ESCs were then secured to the sides of the lower hull using double sided foam backed tape. The ESC motor connectors were cut off and the wires soldered directly to the motor connections. The ESC power wires of each ESC were combined together and connected to a pair of LiPo (AA Size) batteries via an ON/OFF switch mounted in the base of the tank.

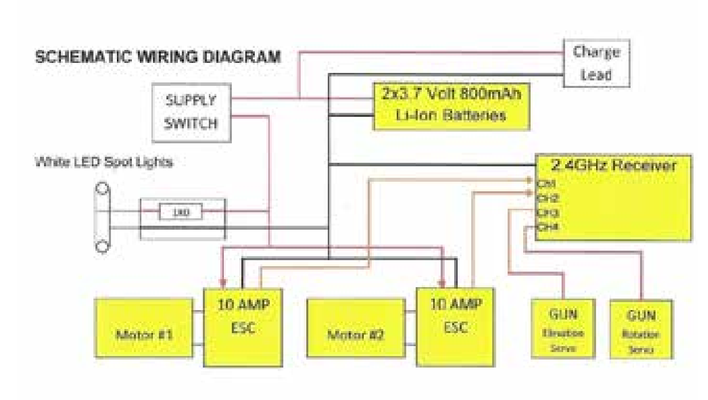


Photo 17 Schematic Wiring Diagram

The receiver was mounted between the two motors on some double-sided foam tape and the ESC control leads inserted into two of the channels (One of the ESC control leads had the BEC power supply lead removed) The fully assembled and wired control system may be seen in **Photo 18**.

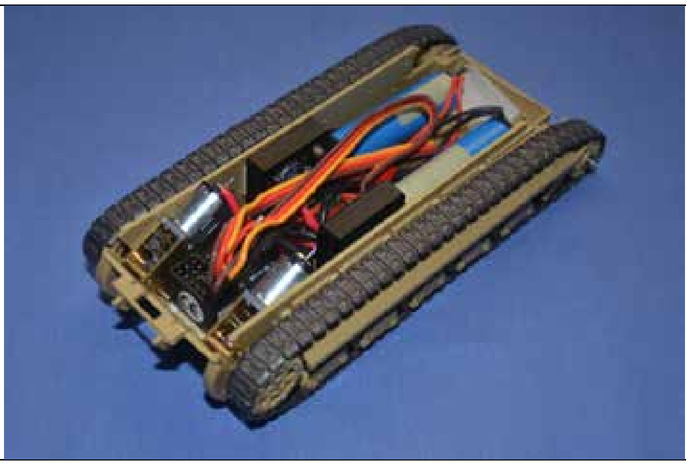


Photo 18 Radio Control System Installed

With the control system fully wired it was time to test the function of the radio control of the model. First switch on the transmitter and then the receiver and operate the controls. All seemed to be working and at this stage of build I was using one channel to control one track and another channel to control the other.

The basic system was working however I did discover that both the tracks were catching on the edge of their suspension covers, this was easily rectified by cutting away the offending part, however this only partly cured the problem as the rear idler wheels were not running smoothly and on removal and inspection the plastic shafts were found to be pitted and rough. The solution was to remove the plastic shafts and replace them by making some nice new shiny brass ones as shown in **Photo 19**.

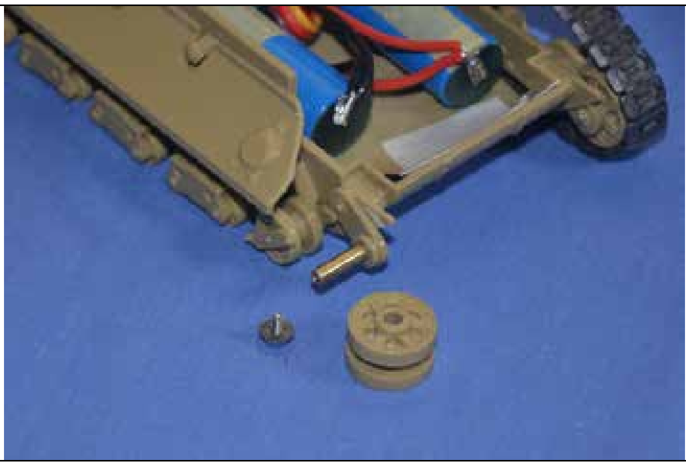


Photo 19 New Idler Shafts Fitted

Having now completed the construction and radio control installation of the basic tank my attention was now focused on designing a method of rotating the turret. Having already installed a linear servo inside the turret to operate the gun elevation there was not a lot of room left, thus the servo for rotating the turret would have to be positioned on the outside.

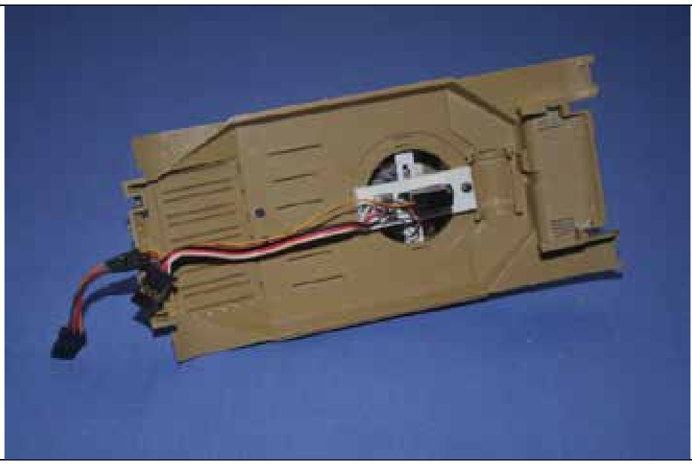


Photo 20 Gun Rotational Servo Assembly

The turret is fitted to the upper hull using a form of bayonet fitting. This ensures that the turret will not fall off when being rotated (I intended to use a servo to rotate the turret). Firstly, a plasticard plate was mounted across the base of the turret into which two slots had been cut. Another plasticard plate together with two mounting blocks was made for mounting the servo beneath the turret. The servo's actuator had two 12BA screws fitted into its ends, these being inserted into the slots in the turret base when the Servo assembly was fitted to the Tank upper hull **Photo 20**. Both the servo wires were then extended to allow them to be plugged into the receiver located in the lower hull of the Tank.

There are two spot/head lights at the front of the tank and I thought it would be a good idea to fit some small LEDs into them. To do this I carved out the centre of the body of the lights using a bull nose cutter. Slow job doing this by hand but it was the only way I could think of doing it as the light moulding was very flimsy. I then drilled two small holes through the back of the lamps to take the very fine supply wires. I selected two white LEDs and as these were just 'chips' I carefully soldered two fine wires to the edges of each chip **Photo 21**.

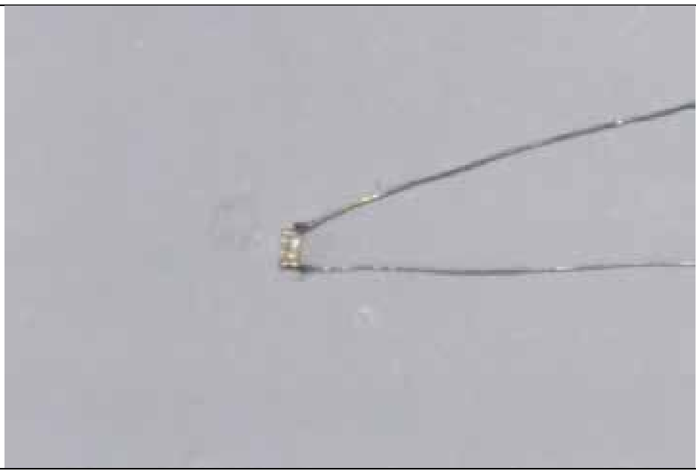


Photo 21 0805 LED measures 0.080" x 0.050"
with 0.007" supply wires attached

Each wired LED was tested prior to being mounted and glued into position in the reflector of each lamp. The pairs of LED wires were then passed through the body of the tank to a junction board, where they were terminated together with a series ballast resistor.

Photo 22 Suspension Covers

The LED head lights were then fitted and glued into position allowing the tank side suspension covers to be fitted and glued into place **Photo 22.**

The next job was to paint the model, but prior to that a decision needed to be made as to what colour scheme to use. Scanning through many photos of Matilda tanks on the internet (some of which were black and white which did not help) I decided on a paint scheme as displayed on the kit box.

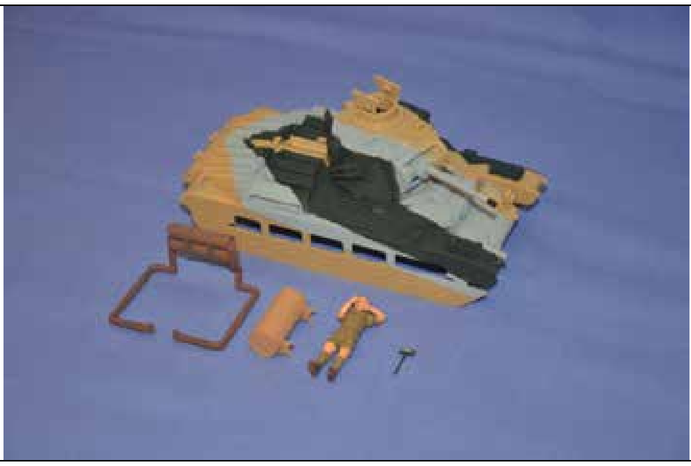


Photo 23 Painted Upper Hull etc.

With some added assistance from photos on the internet I was able to get an idea on how to paint the camouflage across the whole body of the tank. The exhaust assembly, auxiliary fuel tank and tank commander were also painted which may all be seen in **Photo 23.**

With all these parts now painted they were assembled and glued together, including connecting the wiring between the upper and lower assemblies. The decals were then applied to complete the assembly of the model as shown in **Photo 24.**

Photo 24 Completed Model

Photo 25 Model with Lights

Photo 25 shows the model with its Head/Spot Lights switched on, and finally **Photo 26** shows the model in its storage/protection box

Photo 26 Storage Box

Do hope you have found this article of interest. Maybe it will encourage you to build a similar model yourself, together with an article for the magazine.

Tony Dalton