HISTORICAL CORNER

APRIL 2015

WAR THUNDER

[CONTENT]

**Two 'Object 104' (later called ST-1) participating in field training exercises.
Picture taken shortly after the first prototype trials**

[APRIL] A new type of ground vehicle

1. April - Author: War Thunder team

Development of the ST-1 started even before the start of World War II. The first world war, which was also called “the trench war”, showed an inefficiency in the usual infantry breakthrough and required the creation of an absolutely new type of ground vehicle - something that could cross destroyed roads and ground torn apart from explosions. This is what the ST-1 was about - the first and the only model of a walking tank.

In April 1937, Armour Command of the Red Army sent the military operational requirements to Factory #184, these were the requirements for the development of “an armoured machine of a new type” with a maximum mass of 50 tons, protected by at least 60mm of armour and the option to install different weapon types. Depending on the task of the battle machine, a 107mm cannon, a 122mm howitzer or 152mm howitzer could be mounted. Additional weapons were a

45mm cannon, a high-calibre AA machine gun and a 20mm tank cannon.

In spite of the complexity of the task the construction bureau of the factory managed to cope with the new design and the new battle machine (object 104 in the factory numeration) reached the factory testing stage which lasted for a year. During this period a considerable number of flaws were detected, these issues were eliminated as the tests proceeded.

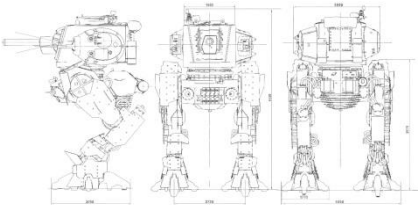
Central Archive of the Ministry of Defense of Russian Federation "Head armour command of the Red army Military representative's report on the execution of order for object 104":

"6 machines tested on the run. The following defects found:

a) Replacement of the diesel engine and the electrical generator due to overheating and low oil pressure.
b) Overheating of the main clutch mechanism.
c) Unstable operation in the power drives of the side turrets.
d) High temperature in the battle compartment.
e) Unsatisfactory performance of gyro stabilization mechanisms."

Soviet troops on the offensive, 1941

In September 1939 after most of the defects had been eliminated, the development prototype obj. 104, (newly designated ST-1) was delivered to Moscow to be shown to members of the Soviet government and Red Army command. The demonstration of the new battle machine highly impressed the Soviet political and military leadership, and therefore it was decided to build a series of machines for operational trials. The new vehicles went through a baptism of fire during the Soviet-Finnish war. ST-1, along with new trial tanks the SMK and the T-100 had been sent to the front. Later, the ST-1 was changed to KV in the documents for disinformation purposes.



Blueprint of the Object 104 (ST-1)

Not only did it have an extremely high cross-country ability, the ST-1 also was almost immune to anti-tank hedgehogs and mines. Even more so, thanks to it unique looks, it would spread fear and panic in enemy infantry ranks. 152mm howitzer allowed to destroy concrete pill-boxes with a minimal ammo expenditure. Finnish 37mm cannons could not penetrate the battle compartment's armour and Molotov cocktails were also useless due the high profile of the machine. The large "dead zone" of the main armament and limited range of vision were the main weaknesses. A successful combat deployment convinced even the most pessimistic military officials of the necessity to put ST-1 into mass production.

According to different sources by June of 1941 from 20 to 30 ST-1's were built. All of the aforementioned vehicles were deployed in the western military districts but by the beginning of the war, the machines were not fully mastered by the crews - also there was a lack of spare parts for repairs that resulted from a large amount of electrical failures In the course of the near-border battle in summer of 1941, all completed ST-1's were lost. But some of them were mentioned in German battle reports.

From the report of Wehrmacht's 14th tank division:

"... For the first time in the Eastern campaign we faced a new type of battle machine, it was hard to miss the complete superiority of a 55 ton walking tank…"
"... Our 5cm KwK. tank cannon could penetrate the armour only in vulnerable spots and at very close distances (below 200m)."
"… Our tanks' armour cannot stop the 15cm armour piercing shells, and even close detonation of an HE shell often led to penetration of the armour by its fragmentation effect"

"... The existing facts and besides that, the impression felt that Russians know about their armoured walkers' technical superiority, should be taken into account and thoroughly investigated to avoid the damage that is being done to our armoured troops"
"… Fight against Russian armoured walkers and tanks with 8.8cm flak cannons and 10cm tank guns cannot be enough on their own. Both weapon types are cumbersome and in most cases they are already discovered, under fire and destroyed while trying to reach an optimum firing position."

"... In order to counter Russian heavy tanks and armoured walkers the following detailed recommendations are presented for consideration:

I) To develop assault weapons to fight heavily armoured targets:
II) Besides other modernizations we should progress with the building of the 26 ton tank and use captured and undamaged 55 ton Russian armoured walkers. 1 company of which is required for each tank regiment.
III) We should design a 10 cm self-propelled anti-tank gun. At least 6 of these SPG's are required for each tank regiment.
IV) Create new shell type with considerably higher armour-piercing capacity.
V) Create a more powerful mine, that can render a 55 ton armoured walker unserviceable. For example, simply our existing mines are not enough…"

Forced river crossing, ST-1 in action

The Germans managed to capture several trial prototypes that were abandoned without fuel and ammunition. Despite the fact that the crews followed the instructions and tried to destroy their machines with hand grenades, the Germans managed to restore several machines in a few years and they took part in incidental skirmishes.

Due to the difficult situation at the front and the military factories' relocation to the East, a decision had been made not to continue the production of walking tanks and concentrate on less spectacular but more efficient, easy to master and repair vehicles with traditional running gear. 3 pre-production ST-1's were given to the US due to its technology exchange program. In Autumn of 1941 they were delivered to Aberdeen proving ground and were tested for 1.5 months.

What follows are the excerpts from the reports on the testing of the armoured battle machine of the new ST-1 type:

“1. Armored Chassis:

A choice of the armor angling for hull plates and turret points to an excellent shell damage withstanding capacity...

2. Armament:

Firepower much higher than any of our own tanks, makes it possible to destroy almost any target on the battlefield, including permanent concrete fortifications. In addition, the additional armament of a 45mm cannon grants a high rate of fire whilst engaging lightly-armored targets. Additional machine guns are reliable, of a very simple design and easy to produce and to instal, there are possibilities of replacing machine guns with equivalent ordinance of our design.

3. Vision and aiming devices:

The aiming devices installed are perfect though the vision devices are not fully sighted, but passable. Overall visibility ranges are good.

4. Powerplant:

The engine is very light for its size, since most of its parts are made from aluminium. Persistence for portability is shown. High fuel and oil consumption rates. Engine cooling is not up to our (US) standards and if it won’t be compensated by the engine design itself, then the engine lifetime would be dramatically reduced. An air startup system could prove additionally effective… This needs to be researched as a reliable additional and alternative method of startup.

German armoured train with captured ST-1

OVERALL EVALUATION OF THE ST-1 TANK

The Russian walking tank, a vehicle of new design, difficult for mass production by semiskilled labor. The tank has good operating speeds, slight tractive resistance, insufficient ease of maintenance. Poor engine cooling limits its ability to operate in wide temperature ranges. High fuel and oil consumption. Good startup, reliable engine. Bad air filtration equipment and cooling make the tank maintenance more difficult."

German troops on the march, captured ST-1 in the background

The developers of War Thunder have been collecting information from archives around the world to create the walking tank in the game. Different parts of the ST-1 - some turret details, for example, were discovered in later projects of some Soviet tanks: the KV-2, the T-26 and also the T-60.

Hawker Hurricane Mk. IIB

[ACE PILOT] Squadron Leader Marmaduke 'Pat' Pattle

2. April - Author: Mark Barber

This year, on April 1st, Britain's Royal Air Force celebrates its 97th birthday. Formed in the closing months of the First World War, the top scoring British and Commonwealth fighter aces were all army and naval pilots who had achieved the majority of their successes before the new air force was formed; as a result, the RAF's own top scoring aces actually flew in the Second World War. For many years it was Spitfire legend 'Johnnie' Johnson who was considered the highest scoring RAF fighter ace of the Second World War. However, there was a relatively small group of pilots who fought in a nearly forgotten theatre of war, braving incredible odds to cover retreating ground forces day after day with limited support. With most of their records destroyed during the retreat across the Aegean theatre, it would be many years until historians could piece together a better idea of what truly happened to the Hurricanes under the command of South African fighter leader 'Pat' Pattle.

Marmaduke Thomas St. John Pattle was born in Butterworth, a town near the southeastern part of the South African coastline, in July 1914. A second generation South African, Pattle's father and grandfather were both military men who then moved into the legal profession. As a youth, Pattle was considered by his teachers to be a bright boy but lacking drive and not naturally a hard worker. However, he

was a keen sportsman and also in possession of a mechanical mind – an early interest in Mecanno models then led onto tinkering with engines and learning to drive a car at a relatively early age. Pattle applied to join the South African Air Force in 1932 and whilst waiting for his application to be processed he worked at a petrol station and then a gold mine. His first flight in an aircraft took place whilst working at the mine, in the company's supply aircraft.

Marmaduke 'Pat' Pattle

Pattle was interviewed for a place in the SAAF in March 1933, but was rejected. Undeterred, he continued to work and funded his own flying lessons with a view to re-applying. Pattle joined the newly formed Special Service Battalion, a military organization formed to give youths a chance at a profession in the wake of the Great Depression. After seeing an advertisement which described Britain's RAF actively recruiting from Commonwealth countries, Pattle travelled to London and was successful in the selection process – he began training in June 1936.

Progressing well through training – particularly in the mechanical aspects – Pattle was streamed onto fighters after being graded as an 'exceptional' student pilot. He joined No. 80 Squadron, flying Gloster Gladiators at RAF Kenley before moving to RAF Debden in Essex. Childhood accusations of idleness were quickly dispelled – Pattle had found his calling with the RAF and was commended as both a pilot and an officer. His commission as Pilot Officer was confirmed in July 1937 and his staff work skills led to his appointment as squadron adjutant. In April 1938, Pattle was involved in his first offensive sorties when the squadron deployed to Egypt, where ground attack sorties were conducted against rebel militants opposed to British Colonial rule.

By the time of the outbreak of war in September 1939, Pattle had progressed to the status of Flight Commander.

However, with RAF Fighter Command being actively involved in campaigns in France, Norway and then the Battle of Britain, No.80 Squadron remained in Egypt and far away from the action,

only able to watch from afar as nearly a year of air warfare passed them by.

A crashed Fiat CR.42, North Africa circa 1940/41. Pattle claimed 14 of these aircraft — more than any other type

With the Italian entry into the Second World War in June 1940, British forces in the North African desert were propelled into action against Mussolini's military. However, No.80 Squadron did not enter the fray until August when orders came to move to the front line to relieve No.33 Squadron. 'B' Flight, under the command of Pattle, was moved to Sidi Barrani near the Libyan border. In his first combat on August 4th, Pattle claimed a Breda Ba 65 and a Fiat CR.42, but was in turn shot down by an Italian fighter – probably piloted by none other than Franco Lucchini – and was forced to bail out. Pattle shot down another two Fiat CR.42s only four days later – in early September he was promoted to Flight Lieutenant.

After a brief respite from combat to re-equip with the newer Gladiator Mk.II, No. 80 Squadron were deployed to Athens, Greece to counter Italian forces in November. The Gladiators saw regular combat against their Italian foes, and now began to encounter in increasing numbers more modern opponents such as the tri-engined SM.79 bomber and the Fiat G.50 fighter. However, the majority of No. 80 Squadron's opponents were biplanes, and the Aegean theatre was one of the last arena in history to see regular biplane versus biplane air combat. By the end of the year, Pattle had claimed 14 kills, as well as a number of shared, probables and damaged.

At the end of the month, Squadron Leader Willian Hickey, the CO of No.80 Squadron, was killed in action when he bailed out of his Gladiator in a parachute which had tragically already caught fire; the event was witnessed by both Pattle and fellow ace William Vale. Pattle was now forced to take on an even greater burden of leadership and responsibility within his fatigued and battered squadron. He was awarded the Distinguished Flying Cross in February 1941. Just over a week later, the squadron was re-equipped with Hawker Hurricanes – Pattle shot down a G.50 on his first day in combat with the new fighter. On the last day of the month Pattle claimed four kills and a probable in a single day.

March saw Pattle awarded a bar to his DFC and promoted to Squadron Leader, taking command of No. 33 Squadron who were also active in the

Aegean theatre. His arrival was not popular with the battered and tired fliers, many of whom believed one of their own number should have taken command rather than an external promotion. Nonetheless, Pattle was vocal immediately upon his arrival in his expectation of high standards in the air and on the ground. The squadron moved to Larissa later in the month.

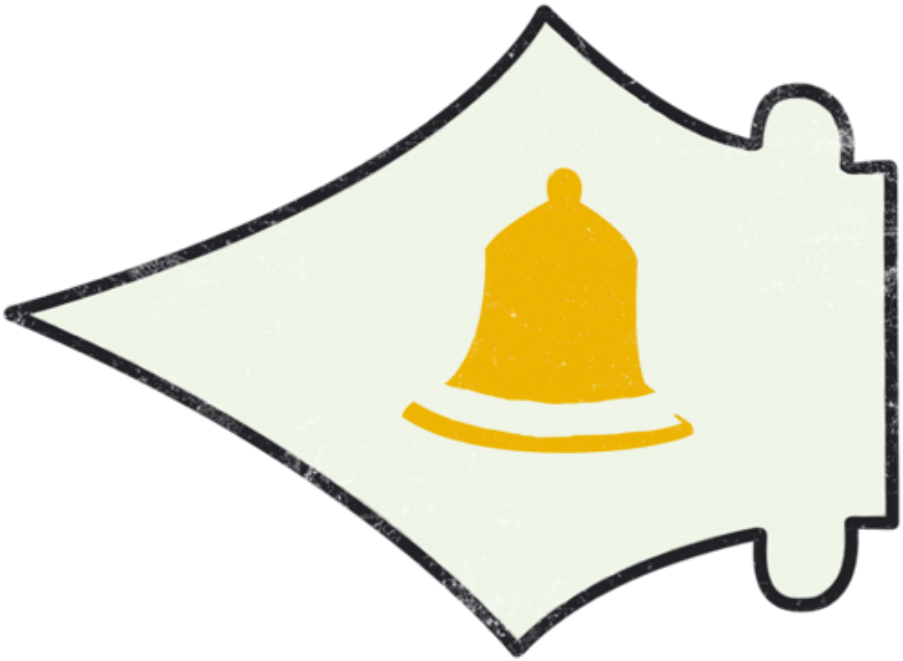
In April the Luftwaffe entered the theatre. With dwindling numbers of pilots, aircraft and supplies, the RAF Hurricanes continued to fly up and meet the fresh opposition – on April 6th Pattle's Hurricanes engaged eight Bf109s and shot down five without loss, two of which were credited to Pattle. Exhausted, the veteran Hurricane pilots continued to battle against overwhelming odds throughout the month. On April 19th, Pattle shot down six aircraft in a single day. The next day, with an allied withdrawal from theatre underway, Pattle led the only remaining RAF fighters in the region into battle over Piraeus harbour. Feverish from illness, he shot down three aircraft over the course of the day. With a evening raid inbound, Pattle reportedly dragged himself to his feet from where he was shivering under a blanket and staggered out to his Hurricane, ignoring shouts from fellow pilots to remain on the ground. Whilst Bf110s strafed his airfield, Pattle took to the skies and led the final remnants of Nos.33 and 80 Squadrons into battle. The last fifteen Hurricanes – including one flown by newcomer and later internationally renowned childrens' author Roald Dahl – met the raid of some 90 aircraft. Pattle most probably shot down a Bf109 and a Bf110, but was never seen again. Five Hurricanes were lost on that day, along with four pilots killed or missing. Various historians have tried to piece together the evidence from this last battle, and it is now considered likely that Pattle was shot down by a pair of Bf110s which latched into his tail whilst he was attempting to provide assistance to another Hurricane.

Pattle (sixth from the right, resting on his left elbow), with 33 Squadron c. 1941

Scant recorded evidence remains from the RAF's exploits in the last few months in the Aegean theatre; however, it is now widely acknowledged that Marmaduke Pattle shot down 50 enemy aircraft, plus two shared, and seven probable victories with a further shared.

The final total will never be known, but it is most likely that the heroic South African who still lies at the

controls of his Hurricane at the bottom of Eleusis Bay is the greatest air ace of the Western Allies of the entire war.



In one of the future updates we will introduce emblem of the 80 Squadron RAF made by Jej 'CharlieFoxtrot' Ortiz

[WEAPONS OF VICTORY] Golovachev's Yak-9M

3. April - Author: War Thunder team

A native of the Buda-Kašaliova district in the Gomel Region, Pavel Yakovlevich Golovachev was born on December 15th, 1917. Walking the path of many Soviet youths of that time – via a factory apprenticeship school and joining a flying club – he was sent to the P.D. Osipenko 8th Odessa Military Piloting School on a Komsomol program in 1938. He completed training at the end of 1940.

Pavel Yakovlevich entered World War 2 at last, as a pilot of the 168th fighter squadron. Flying an I-16 fighter, he shot down his first Messerschmitt on his second day in the war, but he also sustained an injury. In the autumn of 1941, Golovachev was transferred to the the 69th fighter squadron, which later became the 9th Guard fighter squadron.

As part of this squadron, Pavel Yakovlevich fought in LaGG-3, Yak-1 and P-

39 fighters, protecting the skies above Stalingrad, Rostov-on-Don, Donbass, Crimea and Melitopol. In 92 air battles, As a 1st Lieutenant of the Guards Golovachev shot down 18 enemy aircraft, for which he was honoured with the title of “Hero of the Soviet Union” on November 1st, 1943. Flying a La-7 fighter from autumn 1944 and as a Captain in the Guards, Golovachev improved his personal score to 26 destroyed enemy aircraft over 385 combat flights.

In February 1945, Pavel Yakovlevich was transferred to the 900th fighter squadron, in which he flew a Yak-9 fighter. During his combat activities in the skies above Berlin, Pavel Yakovlevich piloted a Yak-9M fighter, shooting down two FW-190 fighters over the western part of the city on April 24th, 1945.

Throughout the war, he completed 457 combat flights and shot down 30 enemy aircraft in 125 aerial battles (according to data from M.Y. Bykov). On June 29th, 1945 Golovachev was again awarded with the title of “Hero of the Soviet Union”.

RCAF Canadair Sabre CL-13 Mk.5/6, aircraft 23445 of the 444 “Cobra” Squadron, camouflage created by MightyArrow | Download here!

[AIR FORCES] Canadian Air Force

7. April - Author: Jan "Raypall" Kozák

During the First World War, around 22,800 Canadians joined the British flying services, as a national Canadian air force was nonexistent. Some of them, like William Bishop, William Barker and Raymond Collishaw, scored among the famous fighter aces of the First World War, however any attempts to establish a national air force failed due to a lack of support from the Canadian government. It was not until 1920 that an independent Canadian Air Force was created as a part-time organization, and then in 1924, reorganized as a full department of the armed forces, named the ‘Royal Canadian Air Force’ (RCAF).

Initially, it was largely considered a ‘peace’ and ‘defence operations’ force, with war training being scarce and done so in accordance with First World War tactics. Aviators were trained in short range reconnaissance and artillery spotting, but otherwise, only a small part of the RCAF programme was of military nature, as Canada had little to no interest in armed forces following its involvement in the First World War. The main tasks of the RCAF were thus connected to the "Civil Government Air Operations" programme, responsible for anti-smuggling patrols, protection of forests, and experimental development of engines and lubricants able to withstand the harsh Canadian winters. The RCAF also served as a postal service, with Canadian pilots pioneering mail transport by air. In regards to equipment, most aircraft used by the RCAF in the 1920s were

Avro 504 trainers, followed by Curtiss HS-2L patrol flying boats.

Aircrew and groundcrew of a No. 428 Squadron RCAF Lancaster bomber

In the 1930s, the world was struck with the Great Depression, and Canada was not an exception. Large budget cutbacks caused great reduction in RCAF activities. In the years to follow, when funds were at least partially restored, the RCAF placed a larger emphasis on its military capabilities, as a war with the aggressive Axis forces seemed more and more imminent. Even though efforts were made to prepare the RCAF for war, in 1939, following the outbreak of the Second World War, the Canadian air force consisted of only 4000 personnel and roughly 195 aircraft, most of them obsolete and unsuited for combat operations. Preparing this small force for modern war was an enormous task, but the Canadians accepted the challenge.

Using the nation's vast coastlines, bases were constructed, housing over 300 maritime bombers and fighters, such as Lockheed Hudsons, annakad Hawker Hurricanes. The main task of this force was to protect the Canadian coastline and Allied shipping lines against the threat of German submarines. Eventually, after the fall of France in the spring of 1940, No.1 Fighter Squadron, being the only moder Canadian fighter squadron, was sent to assist the British during the Battle of Britain, along with individual Canadian pilots joining RAF ranks. Canadian men also partook in Commonwealth Air Training, along with pilots from other Allied nations. Training was held on a vast network of training airfields and in over a hundred flying schools across Canada. More than 131,000 pilots were trained on Canadian soil, 70,000 of them being Canadian. The majority of these pilots were then deployed overseas, including in Africa, Burma, Ceylon, India, the Mediterranean Sea, and Malta.

RCAF personnel were trained for all types of aircraft – from transport to heavy bombers.The largest Canadian formation overseas was No.6 (RCAF) Group under Royal Air Force Bomber Command – this group consisted of 14 RCAF bomber squadrons, initially consisting of Vickers Wellington and Handley-Page Halifax bombers and eventually transferring to Avro Lancasters. Twelve RCAF squadrons were serving under the RAF Fighter Command, eventually exchanging their Hurricanes for P-40 Kittyhawks/Tomahawks/Warhawks and Spitfires.

RCAF Lancaster of the 419 Squadron VR-R "Ropey", camouflage created by MightyArrow | Download Here!

During the Second World War, many pilots were able to distinguish themselves. Flight Lieutenant George Beurling was one of the top scoring Commonwealth fighter aces with 31 confirmed kills. Flight Lieutenant Richard Audet also managed to destroy five German aircraft in a single sortie with his Spitfire. As for non-fighter pilots, Flying Officer Kenneth Moore, piloting the B-24 Liberator bomber in anti-submarine roles, sunk two German U-boats in the space of 22 minutes – a feat unmatched by any other pilot.

Two Canadian aviators also received the Victoria Cross, the highest Commonwealth decoration, albeit both were awarded posthumously. The first was awarded to Flight Lieutenant David Hornell, who was able to sink a German submarine despite being heavily damaged by anti-aircraft fire. Hornell sacrificed himself, staying in the cockpit, so that the rest of his crew could bail out. The second Victoria Cross was awarded to Pilot Officer Andrew Mynarski, whose bomber was hit and set ablaze. Without any hesitation, Mynarski threw himself at the flames in an attempt to rescue a trapped tail gunner, while the rest of the crew bailed out. With his clothes burning, and the bomber rapidly diving towards the ground, Mynarski was unsuccessful in rescuing the tail gunner, and bailed out at the last possible moment. Unfortunately, his injuries were too severe, and he died a few hours later.

After the end of the Second World War, the RCAF demobilized most of its personnel, with many military airfields being converted for civilian use. After transferring to the jet-era (with Gloster Meteors being the first RCAF jet fighters), the RCAF then assisted United Nations forces during

the Korean War by providing logistical support, and eventually by sending its own aerial vehicles. Canada also became a valuable member of NATO in 1951, with No.1 Air Division being deployed in Europe and initially equipped with Canadair Sabres and CF-100 fighters. This formation assisted Coalition forces during the Gulf War (flying CF-18 Hornets at that time), and then remained in Europe until 1992. Since then, the RCAF has participated in many operations, such as the bombing of Yugoslavia, the war in Afghanistan, and Operation 'Unified Protector' in Libya. Today, the RCAF is one of the most modern air forces in existence, and is rightfully proud for its rich and long heritage.

With an upcoming update, we will add emblem of the 416th Lynx Squadron by Jej 'CharlieFoxtrot' Ortiz and Colin 'Fenris' Muir

M4 Sherman "Columbia lou" D-Day, 70th Tank Battalion, Utah Beach, 6 June 1944 camouflage created by -313- Paegas | Download here

[VEHICLE PROFILE] M4 Sherman

8. April - Author: Adam "BONKERS" Lisiewicz

In 1939 it was becoming apparent that most of America's tank arsenal was quickly becoming obsolete. The advance of the Wehrmacht in Europe concerned American top brass, prompting them to campaign for the modernization of US armor. The main problem was the armament - many tanks were armed either with only .50 cal. machine guns or 37 mm guns, which were deemed as unsatisfactory. There was, however, a saviour - the 75 mm M3 tank gun. However, at the time no turret was available to mount this cannon. The stopgap measure of mounting this weapon on a mobile platform was the M3 Lee - a medium tank based on the M2 Medium, armed with the 37 mm gun based in a rotatable turret and the 75 mm gun mounted in the side sponson on the starboard side of the vehicle. In August 1940 drawings of a new vehicle armed with the 75 mm gun were submitted by the Ordnance Department. In April 1941 the T6 prototype was chosen to be mass produced. It would then become the M4 Medium Tank, also known as the "Sherman" by the British (named after General William Tecumseh Sherman).

The new tank featured many already proven features, such as a radial petrol engine in the rear of the vehicle, a Vertical Volute Spring Suspension system and sloped frontal armor. The turret was made out of cast homogenous steel, while the hull was composed from welded homogenous armor plates. The armor profile and the armament of the Sherman made it

superior to the Panzer III as well as Panzer IV tanks equipped with short barreled 75 mm guns. However, the 75 mm armed Shermans later proved to be inferior to newer German tank designs such as the Tiger and the Panther, as well as modernised Panzer IV models equipped with long barreled 75 mm guns. Still, they were liked by the crew that used them for their reliability and internal comfort, while the 75 mm High Explosive ammo proved to be very successful in destroying enemy strong points, AT gun nests and bunkers. Overall, over 6700 models of the M4 were produced, not counting modifications and modernised versions. The Sherman tanks saw combat on all fronts of World War II, and the modernised variants of this rugged design were also used in the Korean War and the Six-Day War.

M4 Sherman wading tank, D day

In War Thunder, the M4 is situated in the US Ground Forces tech tree. It is an Era II vehicle, with a Battle Rating of 3.7 in all game modes. The tank, as in reality, is armed with the 75 mm M3 tank gun as used on the M3 Lee and the M8A1 Gun Motor Carriage. At first the player has access to two types of ammunition - the M72 AP shell, which can penetrate 84 mm of armor @ 100 meters range, and the M48 HE shell - useful when dealing with lightly armored targets. The player can unlock a third ammo type - the M61 AP shell. The M61 has better armor penetration (89 mm @ 100 m), and is also equipped with a HE warhead, which increases post-penetration damage dealt to the crew and modules. It is advised to use this over the stock AP ammo. The armor of the Sherman is solid - the front of the turret is protected by 76 mm of rounded amor while the frontal hull plate, while only 51 mm in thickness, is heavily sloped which increases the effective thickness to around 80 mm of armor. The side of the hull is significantly thinner at only 38 mm of armor. The tank is powered by a 400 horsepower engine which translates to a maximum speed of 38 km/h.

In battle the M4 performs well as an all-rounder; the thick turret front and 10 degrees of gun depression make the tank ideal for taking hull-down positions which protect the thinner hull armor from being penetrated by enemy fire. The sloped front upper glacis, when angled, also provides good protection against enemy fire. The reasonable mobility of the Sherman makes flanking a viable tactic. The main weakness of the M4 is the side armor - not only is it unangled and thin, but behind it most of the

ammunition is stowed. The tall silhouette of the tank also makes finding suitable cover difficult. Overall, the M4 Sherman can be considered as an armored jack-of-all trades - it will serve a tanker well, however it will not excel in any particular role. The M4 will be your gateway to the American medium tanks and through your progression you will be able to play many variants of this legendary machine.

In one of the future updates we will introduce "Major Jim" inscription, 1st Armored Division, February 1943

X-ray view of the M4 Sherman

IS-2 1944 ""Месть за брата героя" ("Revenge for the Hero brother"). 1st Belorussian Front, February 1945

[WEAPONS OF VICTORY] IS-2 "Revenge for the Hero brother"

10. April - Author: War Thunder team

The "Revenge for the Hero brother" inscription is dedicated to Nikolay Krasikov, recipient of the 'Hero of the Soviet Union' honorary title. It was inscribed on the turret of his tank by his older brother, Mikhail, following his death.

Nikolay Krasikov was only 17 when the war began, and it was at this young age that he decided to follow in the footsteps of his brother and become a tanker. After graduating from the Armour School in 1943, Nikolay fought in the battle of Voronezh and the First Ukrainian front. He was able to distinguish himself during the Kiev Offensive for his actions.

Along with his crew, Nikolay was one of the first tankers to enter Lutezhy village, where he immobilised one tank, destroyed 2 cannons, and neutralised up to 40 enemy infantry. During this battle, 1 enemy tank and about 20 enemy infantry were immobilised on the right bank of the Dnieper River, which was done so whilst

covering allied soldiers. Two days later, Krasikov's tank was the first to break into Vyshgorod, where he neutralised 3 cannons and 25 enemy soldiers. He also lead 2 tank companies out of danger, and saved the commander of an allied company.

Nikolay Krasikov was killed near Vinnitsa on November the 11th, 1943, whilst in battle. He was awarded the title 'Hero of the Soviet Union' posthumously. After his brother's death, Mikhail Krasikov inscribed "Revenge for the Hero brother" on his tank, later using it in Pomerania.

Decal made by Branislav "InkaL" Mirkov

KV-1E, available in the game via the starter pack & Kolobanov's authentic camouflage, made by Joker

[ACE TANKER] Zinoviy Kolobanov

13. April - Author: Sergej "NuclearFoot" Hrustić

Zinoviy Grigorevich Kolobanov (Зиновий Григорьевич Колобанов) was born on 25th December, 1910, in the village of Arefino. After graduating from college in 1933, he was drafted into the Red Army. He graduated from an armoured forces institute in 1936 as a straight-A student with the rank of Lieutenant, and requested to be stationed in Leningrad. In 1938, he would become commander of his own tank company, situated at the Karelian strait, just 5 days before the Winter War. For his participation in the Winter War, especially at the breakthrough of the Mannerheim Line, Kolobanov received the award 'Hero of the Soviet Union', and was promoted to the rank of captain. However, it was during the war on the Eastern Front that he would be immortalized as one of the USSR's most recognized tank aces.

His real claim to fame would occur during the battle at Krasnogvardeysk, near Leningrad (now Gatchina and St Petersburg, respectively). There were three roads leading to the village, each converging at a choke point encompassed by a swamp. Kolobanov knew that three German medium Panzer III divisions were advancing on the area, and he decided to set up an ambush in the swamp choke point. Including him, there were 5 KV-1 tanks, each one carrying nearly double the normal ammunition than it usually would.

As the German tank column approached their positions, Kolobanov's

gunner, Andrei Usov, shot the leading tank, which exploded immediately. Thinking that it had stepped on a landmine, the entire column stopped. Usov quickly destroyed another tank in the same manner, and the other KV-1 followed suit, each firing in slight intervals so as not to give away their true number. Though by now the Germans realized they were under attack, they could only see the front plate of Kolobanov's tank. In an attempt to retreat, the Germans moved into soft mud, which their tracks couldn't handle, and many became stuck. This made them easy targets for the KV-1s. By the end of the half-hour battle, there were a total of 43 smoking wrecks, which used to be Panzer III's. It is worth noting that after the battle, 156 hits were counted on Kolobanov's tank, none of which had penetrated through the thick armour. This was due to the German tanks being equipped with only a 37mm cannon, which proved inferior to the KV-1's frontal armour.

Even though he was already awarded with being a 'Hero of the Soviet Union', he was also granted the 'Order of the Red Banner'. His gunner, Usov, received the honour of the 'Order of Lenin'. He was convicted twice for mild treason. Once, during the Winter War, when he was caught "fraternizing with the enemy", and another when he let one of his subordinates escape to the British zone of occupied Germany. He retired from the army in Minsk, the capital of Belarus, where he worked in the Minsk Auto Works. Two monuments were built in dedication to him, one in the village where his ambush was stationed, and one in Minsk.

With an upcoming update, we will add Zinoviy's Kolobanov's tank number made by *Branislav 'InkaL' Mirkov*

IS-2 mod. 1944 from 1st Polish Armoured Corps, April 1945
camouflage created by RazNaRok | Download here

[GROUND FORCES] 4th Heavy Tank Regiment of the People's Army of Poland

14. April - Author: Adam "BONKERS" Lisiewicz

The 4th Heavy Tank Regiment of the People's Army of Poland was formed in the vicinity of Berdichiv, a town situated in today's Ukraine in August 1944. The creation of this unit was not coincidental - the presence of German Tiger and Panther tanks prompted the Polish commanders to create a unit equipped with tanks that were capable of fighting those German vehicles on even terms. After completing basic training near Berdichiv, the unit was transferred to the town of Chełm, where after the official creation ceremony it was finally equipped with the main equipment - 21 IS-2 Heavy Tanks. After a short training period the unit was then transferred to the town of Izabelin near Warsaw, where it was attached to the 1st Army of the People's Army of Poland. Since November 1944 it was considered a frontline unit, although it didn't see any combat in 1944.

This situation was about to change in 1945. The Soviet command was drawing up plans for a major offensive, with the aim of crossing the Vistula river and recapturing Western Poland. The 1st Army's task was to attack through the Pomerania region, with the main targets of capturing Gdańsk and Kołobrzeg - two vital port cities on the Baltic Sea coast. To achieve those goals the Poles needed to break through the Pomerania Wall - a

network of defensive lines designed to defend the Pomerania region from the attackers. Throughout January, the unit moved from Warsaw towards it's staging area for the offensive near Bydgoszcz. During the march the number of available IS-2 tanks shrank from 21 to 14 because of breakdowns. However, most of the broken down tanks later rejoined the unit after repairs.

The 4th Regiment would finally see action on the 10th of February. A day earlier it was tasked with assaulting and capturing the town of Mirosławiec, heavily defended by the German troops manning the Pomerania Wall. The town itself was captured in the evening, after heavy street fights. The Regiment then supported friendly forces in the area by consolidating against German counterattacks, and the next day it participated in the further push to the West. The German defense was strong, but the Poles managed to break through after 3 days. The next three days were then spent on reinforcing the already captured positions. On the 18th of February, the Regiment took part in heavy fighting near the villages of Wierzchowo and Złocieniec, where the IS-2s supported the infantry with their main gun fire. The heavy tanks managed to knock out 5 German assault guns during an enemy counterattack, however the unit was then forced to fall back. It then stayed on the defence up until March, when, after being reinforced, it was ordered to move towards a staging area near the town of Gryfice, to prepare for the assault on Kołobrzeg. The tanks reached the designated positions on the 11th of March.

Just two days later, the Regiment was back in action. The town was very heavily defended by seasoned Wehrmacht soldiers, who could also count on the artillery support of the pocket battleships Admiral Scheer and Lützow. Regardless, the Poles pushed on, and the support of the IS-2s helped in destroying enemy positions and machine gun nests. Five days after the regiment entered the fight, the town was liberated. The Regiment then returned to Gryfice and prepared itself for the next offensive. This time, it would take part in the operations in northeast Germany, as a part of the force shielding the flanks of the 1st Belarussian Front during the final push on Berlin. In April, the main objective of the Regiment and the Polish forces was to cross through the Oder river towards the village of Neukarlshof. On the 16th of April, the Regiment helped the 3rd Infantry Division during the crossing of the Oder river, successfully pushing back

the German defenders. Chasing after the Germans, the unit reached the Hohenzollern Canal, whose defenders were defeated on the 25th of April. In May, the Regiment still moved on westwards towards the river Elbe. The war trail of the Regiment ended in the town of Zuhlsdorf, captured on the 8th of May.

Even though the 4th Heavy Tank Regiment took part in the fighting for only 4 months, it proved to be very valuable for the 1st Army. The unit was credited with the destruction of 12 tanks, 16 self-propelled guns, 76 towed guns and howitzers, 3 APCs, 60 cars and 58 machine gun nests, for the loss of 160 dead, wounded and missing, as well as 14 knocked out tanks and 4 tanks damaged.

In one of the future updates we will introduce "Tadeusz" and "5100" decals used on one of the armour from Polish Regiment

Fury Mk.I Trainer, 5th Flying Training School, RAF Sealand, 1938.
camouflage created by Spogooter | Download here

[AIR FORCES] The Dawn of the Royal Air Force

15. April - Author: War Thunder Team

The more mechanical becomes the weapons with which we fight,
the less mechanical must be the spirit which controls them.

- Field Marshal Archibald P. Wavell

The Royal Flying Corps (RFC) was created by Royal Warrant over 100 years ago on the 13th of April, 1912 and established the following month in May.

The RFC can trace its origins back to the Royal Engineers and the early flying experiments undertaken by the Army from the 1870s, and by the Royal Navy from the 1900s.

These early pioneering days, demonstrated the potential for using balloons, kites, airships and finally aeroplanes for military purposes. This realisation, combined with the arguments put forward by civilian fans of flying at the time and the supposedly superior air forces of other European countries, persuaded the British Government that a flying corps was a necessity. As a result the RFC was established in 1912.

Photo of the first Royal Air Force Vultee-Stinson Reliant Mk.1

It consisted of a Military Wing, a Naval Wing and a Central Flying School. This small Corps, formed just nine years after the famous Wright Brothers' flight of 1903 would find itself at war in just two years. The First World War would see the first extensive and decisive use of air power.

In 1914 the primary role of the aircraft and balloon was that of observation and reconnaissance but soon included artillery spotting to direct gunfire. Their function was to see "over hills" and provide ground based commanders with information on enemy troop and ship movements and deployments etc which could affect the fate of armies and fleets. The early aircraft were not armed although pilots and observers would carry pistols or rifles. Soon however, aircraft began to field machine guns mounted on the fuselage in operated by the crew. These “armed” aircraft attacked balloons, slow moving reconnaissance aircraft or those spotting for the artillery. To protect these vulnerable assets, escort aircraft accompanied them whose job it was to beat off attackers.

On the 1st of April, 1918 the Royal Air Force was born from the union of the Royal Naval Air Service and the Royal Flying Corps. Military aviation that had been forged in the fires of the First World War, was finally starting to demonstrate its value. What, at the time, were great leaps forward in technology, had shaped the war in the air.

Trenchard, the then Chief of the Air Staff (CAS), wrote in 1919:

"The whole Service was practically a war creation on a temporary basis, without any possibility of taking into account that it was going to remain on a permanent basis."

During World War 2, the Royal Air Force was ””at its finest” in the truest sense of the words, they had little manpower to keep the Germans at bay, day after day, hour after hour they climbed into their cockpits and flew against all the odds, turning the tide with a selfless valour that kept Britain from being defeated. At the start of the war, Germany fielded over 4000 aircraft compared to Britain's frontline strength of 1660. By the time of the fall of France, the Luftwaffe had 3000 aircraft based in north-western Europe alone including 1400 bombers, 300 dive bombers, 800 single engine fighter planes and 240 twin engine attackers.

Airco D.H.2

At the start of the battle of Britain, the Luftwaffe had 2500 aircraft that were serviceable and daily, the Luftwaffe could put up over 1600 planes. The RAF had 1200 aircraft on the eve of the battle of Britain which included 800 Spitfires and Hurricanes - but only 660 of these were serviceable. British aircraft production was good but the weakness the RAF experienced was the fact that they lacked trained and experienced pilots.

Now, the Royal Air Force is the oldest Independent Air Force in existence and a force respected and loved by many. Since the early days of the Royal Air Force, the service has welcomed and valued warriors from many different nations, flown thousands of different aircraft from balloon to Jetfighter, been active in many different campaigns, participated in humanitarian missions, all with the motto from 1912:

Per ardua ad astra "Through adversity to the stars"

Gladiator II F and Tuck's Gladiator

M41 Walker Bulldog - US Army camouflage created by JoKeR_BvB09 | Download here!

[VEHICLE PROFILE] M41 Walker Bulldog

20. April - Author: Stephen "Azumazi" Hembree

The M41 started from a program that was initiated near the end of World War 2 by General Joseph Stilwell. It called for a 25 ton light tank to replace the M26 Light tank. It called for a vehicle that was mobile armed with a 3 inch gun(76mm) capable of piercing 5 inches of armor (127mm) at a 30 degree angle from 1000 yards.

By 1949 the new pilot, the T37 was produced. It was ran in 3 stages to evaluate 3 different guns, one of which was an autoloader. A few issues were found in the design that were not problematic, but the design board wanted a bit more. In comes the T41 with some improvements over the initial T37. There was a problem however with the requirements for the T41, those being the Vickers gun system and coincidence rangefinder. The Rangefinder worked fine, but failures in the gun system and problematic upkeep forced them to omit it from the design.

By 1951 the M41 was a combination of concepts from the T37 and T41 program into a more stable platform. Those including a rear drive system with automatic transmission for ease of use with drivers as well as a stereoscopic range finder to replace the coincidence rangefinder.

In game the Vehicle should be used as a rapid deployment support vehicle. In conjunction with a heavier vehicle, like a T32, you run rapid insertion and flanking operations while letting the heavier tanks absorb the brunt of the attack. They work well with M26 Medium tanks as the M26 has a harder hitting gun to support your advance, but you maintain a much better climb rate for hills and a much faster acceleration. Your top speed does cap off road which can leave a bit to be desired, but this requires you to play with the terrain to your advantage.

You lack any real armor and should remember such, try to abuse terrain to hide yourself and relocate after shots. Generally attempt to engage targets already engaging other foes. Your 76mm gun has great penetration, but due to the solid shot AP rounds you need to make your shots count by hitting either ammo racks or fuel tanks/engines to disable and or destroy an enemy vehicle. HVAP later on makes this job easier for vehicles with better side armor such as the IS-3 which has an amazing side profile and nothing to be taken lightly.

The M41A1 can be a very fun and rewarding vehicle, especially for experienced players. It requires precision, situational awareness, and constant vigilance to continue to support and flank your enemy.

X-ray view of M41 in War Thunder

[LOCATIONS] Kent, Malta and Midway

22. April - Henry 'DigitalDigging' Rothwell

In this series of articles, we're taking a break from the hustle and bustle of close engagements, and instead taking a tour of some of the locations featured in the game of War Thunder, that also have a very real existence in their own right.

Manston Airfield in War Thunder and through Google Maps

The small corner of Kent that appears in the Dover location, for instance, has seen more than its fair share of action over the years. The history of Manston Airfield alone could fill many pages: it was home to the first Meteor Squadron, as well as acting as the base for the Lancasters and Wellingtons used in the testing of Barnes Wallace's Bouncing Bomb experiments.

In 1943 the trials themselves took place to the North of Manston Airfield, off the coast near Reculver. The tests took place there because of the seclusion of the site, and the shallow waters, which allowed what was left of the bombs to be recovered and studied. This stretch of the coast also appears in the game.

In 1940 Manston also played a vital role during the Battle of Britain, being one of the closest mainland airfields to the continent. While the RAF and Luftwaffe were heavily engaged on this front, the Italian dictator Benito Mussolini decided to press his advantage and called for an offensive on Allied forces throughout the Mediterranean, ordering bombing runs on Malta within hours of making the announcement.

In the game Gaijin have not only recreated the main islands of Malta itself, but also paid close attention to the crucially important port of Valletta. It was here that the main action of the Siege of Malta took place, and also where the legend of Faith Hope and Charity was born – these were the names of three Gloster Sea Gladiators which fought off all comers for 10 days.

Valletta Port on Malta in War Thunder and through Google Maps

In actual fact there were more like six Gladiators protecting the whole of Malta, though not all of them were airworthy at the same time. These were eventually joined by four Hurricanes which, together with the remaining Gladiators, continued to resist the efforts of the Regia Aeronautica and Luftwaffe to unseat them.

Malta was of crucial strategic importance to anyone attempting to control the Med, and therefore of crucial importance to the outcome of the war as a whole. In the game, key sites from Valletta have been faithfully modelled, as has the wider countryside around it, including RAF Luqa, the airfield above the capital.

Another small island that was of great strategic importance was that of Midway Island, the scene of the Battle of Midway, during which the American Forces inflicted upon the Japanese navy a devastating defeat – its first since the Battle of Shimonoseki Straits in 1863.

The Japanese plan was to lure the American forces into a battle which would clear the way for them to establish the Greater East Asia Co-Prosperity Sphere without further interference from the US, and allow them to be the dominant force in the increasingly ironically named Pacific. The Japanese were unaware however that their encryption had been broken, and that the Americans were busy setting a trap.

Aware of the Japanese plan to mount an operation at a location known only as 'AF', American cryptanalysts, strongly suspecting 'AF' to be code for

Midway Island, arranged for an unencrypted message to be sent stating that the water purification at Midway Island had broken down. Shortly afterwards they intercepted a Japanese communication stating that 'AF was low on water', confirming their suspicions.

Shortly after this stroke of good fortune, the new code books that were to be distributed to the Japanese navy, the introduction of which would mean an end to decryption until the new cipher was broken, were delayed, giving America a crucial few days in which to glean even more information about the deployment and number of enemy units.

When the battle came, the Americans were extremely well informed about their opposition, while the Japanese had virtually no sound information about theirs at all. Regardless of the advantage, all plans of battle disintegrate into nothing as soon as the first shot is fired, victory is never a cut and dried affair, and a great deal of brave men on both sides died over the course of the battle.

Both islands that make up Midway Island are included in the game maps – Eastern Island, which contained the airstrip that made it of such strategic importance at the time, and the smaller Sand Island, which now also has an airstrip.

Midway Island in War Thunder and through Google Maps >>>

The game features a great many real world locations, rendered in a surprising and impressive amount of detail. Over the coming months we'll be taking a closer look at a number of these, both in history, and the game of War Thunder.

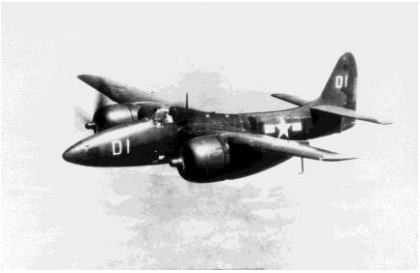
F7F-1 Tigercat VC-80 "What If",
camouflage created by PROx_GAMING | Download here

[AIRCRAFT PROFILE] Grumman F7F-1 Tigercat

23. April - Author: Jan “RayPall“ Kozák

In 1942, after an unsuccessful XF5F Skyrocket (and XP-50, its land-based modified variant) project, Grumman Aircraft Engineering Corporation began work on an improved aircraft using the same twin-engine concept as the Skyrocket, which they named the XP-65. It was only a year later, however, that this project was cancelled, and Grumman began work on an entirely new plane based on the XF5F concept.

This plane was intended to be operated from new, large Midway-class carriers (the first vessel being the USS Midway, which was commissioned in 1945) and Grumman had two main goals in sight – the plane would have ground attack capabilities, and it would be able to outperform and outgun any other fighter of that time. The maiden flight of the prototype, titled XF7F-1, occurred in December 1943, and was rushed into production in 1944 under the name F7F-1 Tigercat, continuing the Grumman’s tradition of giving planes “cat“ names.



The Tigercat was designed for two things – speed and firepower. The first of these was achieved by the combination of its sleek hull and two massive 18-cylinder Pratt & Whitney R-2800-22W Double Wasp radial engines, producing 2100 horsepower each. With these power plants, the Tigercat was able to achieve a maximum speed of 700 kph (435 mph) at an altitude of 6706 meters (22 000 feet), and had climb rate of more than 1372 meters (4500 feet) per minute. It was nearly 114 kph (71 mph) faster than the F6F Hellcat, and Captain Fred M. Trapnell, one of the US Navy's best test pilots, was quoted saying: "It's the best damn fighter I've ever flown!" The Tigercat's firepower was no less impressing. The Tigercat was armed with four 20 mm M2 cannons in the wing roots, and four .50 M2 nose-mounted machine guns. Additionally, it could carry up to two 454 kg (1000 lb) bombs on underwing racks, or one torpedo under the fuselage. It was also the first US Navy twin-engine fighter ever accepted into service, and the first US Navy fighter ever to use a tricycle landing gear configuration.

However, air tests and trials proved that the Tigercat was simply too overpowered for Midway-class carriers. Its landing speed was too high and it suffered instability in single-engine flight. The arrestor hook design was also proven to be unreliable. As a result of these multiple issues, the Tigercat was then assigned to be used as a land-based fighter in the US Marine Corps service. Deliveries started in April 1944, but problems with carrier operations clearance and changes in its operational requirements caused significant delays. As a result, the Tigercat was too late to participate in World War 2, and only 34 aircraft of initial F7F-1 versions were made. Tigercats eventually saw combat at last, but no sooner than during the initial stages of the Korean War, where F7F's managed to shoot down two North Korean Polikarpov Po-2 biplanes. Subsequently, due to the developement of jet fighters, Tigercats were phased out of service, with the last of them retiring in 1954.

In War Thunder, the F7F-1 Tigercat is an American rank IV heavy fighter, with a Battle Rating of 6.3. Just like its real-life counterpart, it is armed with four 20 mm AN/M2 cannons with 200 rounds per gun, and four .50 M2 machine guns, carrying 800 rounds per gun. Additionally, it is possible to research bomb racks, allowing you to carry either a single 1000 lb bomb, or two 500 lb bombs. You can also equip

a combination of both. Performance-wise, the Tigercat has a maximum speed of 668 kph (415 mph) at an altitude of 5190 meters (17 028 feet), or 695 kph (431 mph) at the same altitude with WEP. At sea level, the maximum speed is 619 kph (384.6 mph), or 638 kph (396.4 mph) with WEP. The Tigercat can climb to an altitude of 3000 meters (9843 feet) in 155 seconds (135 seconds with WEP), giving it an average climb rate of 19.3 meters (63.3 feet) per second (22.2 meters or 72.8 feet per second with WEP). It can perform a full horizontal turn at 3000 meters in 24 seconds at a speed of 500 kph (310.6 mph), as well as perform a full vertical turn at the same altitude and speed, which it completes in 27 seconds.

In terms of gameplay, the Tigercat, put simply, is a brute of an aircraft. It goes fast – both at high altitudes and at sea level, allowing it to easily escape from most other propeller fighters that may attmept to follow. Also, with an altitude advantage, it can even catch up to first-generation jet fighters. It also has a high climb rate – there are only a few aircraft on any given battle rating that can match it, and most of the time, you will have a comfortable altitude advantage. This is crucial if you want to use the Tigercat as a boom-and-zoom and energy fighter, as it excels in these roles due to its impressive energy retention, firepower and climb rate.

Regarding firepower, the Tigercat truly is a beast of the skies. Four 20 mm cannons and four .50 machine guns, clustered around the center axis, coupled with generous ammunition supply and high fire rate (it can fire 7.68 kilograms, or 16.9 lbs, of lead per second) mean that it is bad news for bombers and any fighter foolish enough to go head-on against it. The Tigercat's speed and bomb load also makes it a useful attacker against ground forces in tank battles, as you can approach your target, drop your bombs, and escape before enemy anti-air units can detect you effectively.

Combining speed, climb rate and heavy firepower, the Tigercat is an extremely potent heavy fighter, and with a skilled pilot, can prove to be a match for any fighter on any given rank. Research further down its line also leads to the first US Navy jet fighter in the game, the F2H Banshee.

With an upcoming update, we will add Emblem of the VMF(AW)-542 Squadron to War Thunder made by *Jej 'CharlieFoxtrot' Ortiz*

X-ray view of F7F-1 Tigercat in War Thunder

Ray S. Wetmore P-51D "Daddy's Girl"

[WEAPONS OF VICTORY] P-51D Daddy's Girl

24. April - Author: War Thunder team

Born on September 30th, 1923 in the small town of Kerman, California, Ray S. Wetmore was the eighth best US fighter pilot in World War II's European Theater. At the age of 21, he held the rank of Major.

In November 1941, an 18-year-old Ray Wetmore was called into military service and entered flight school, which he finished eight months after the training started. In March 1943, he entered active service in the newly-created 359th Fighter Group which was based at East Wretham, Norfolk in Great Britain. As part of the 370th Fighter Squadron, Ray achieved his first 4.25 personal victories between February and March of 1944, flying a Republic P-47 Thunderbolt.

After retraining to fly a North American P-51 Mustang, a 20-year-old Wetmore achieved the title of ace, shooting down two Bf.109s on May

19th, 1944. The young lieutenant flew an aircraft bearing the legend “Daddy's Girl”. There were several planes with this title in the 359th Fighter Group at that time. All of Wetmore's fighters – a P-47D, a P-51B and a P-51D – bore this name. By the end of May 1944, the number of Ray Wetmore's victories had reached 8.25. In a little over a year of military activities, Ray had shot down 15 enemy aircraft and been promoted to the rank of Captain.

The two tours of duty that Wetmore served made him a witness to the downfall of the Luftwaffe. Nonetheless, Germany's air force was still showing its teeth. On November 27th, 1944, Captain R. Wetmore and Lieutenant ?. York engaged in a skirmish with almost a hundred Bf.109 fighters to the north of Munster. As Wetmore himself said later: "To defend ourselves, we had to attack." Three Messerschmitts were shot down in the conflict. The Americans escaped the battle without loss.

Captain Wetmore's next success was on February 14th, 1945, when he shot down three Fw.190s in one day not far from the Dümmer Lake airfield. His wingman took down a fourth enemy plane. In total on that day, the entire 359th Fighter Group recorded 4.5 victories. Ray S. Wetmore achieved his last victory on March 15th, 1945 near Wittenberg, destroying an ??.163 rocket fighter. While he was chasing the Me.163, the air speed indicator on Westmore's P-51D 44-14733/CS-L showed 600 miles per hour. In total, Major Wetmore completed around 142 combat flights throughout World War II, achieving 21.25 air victories and 2.33 ground victories.

Major Wetmore died on February 14th, 1951 when the Republic F-84 Thunderjet he was flying crashed.

FW 190 A-4 with 2x MG FF/M - improved MG FF 20mm cannons

[ARMS] Minengeschoß shells

27. April - Author: Jan "RayPall" Kozák

In the middle of 1930's, German Luftwaffe started to receive a new type of auto cannon – 20 mm cannon MG FF, based on Swiss Oerlikon FF. It was significant leap forward in effectiveness of aircraft armament compared to rifle-caliber machine guns, since larger shells could carry explosive filling, increasing the damage. Regular high-explosive cannon shells achieved destructive effect by exploding upon impact, where casing of the shell disintegrated, sending fragments into target. These fragments were lethal for old airplanes, constructed from wood covered by fabric, but fragmentation was less effective against all-metal aircraft. Technical Office of Reichsluftministerium (RLM), German aviation ministry, subjected explosive 20 mm ammunition to a thorough series of tests regarding their destructive potential, and results were unstatisfactory – standard explosive shells were deemed not effective enough, as fragments usually pierced outer sheet metal skin of aircraft, but had insufficent effect on construction integrity or control surfaces. In 1937, as a result of these trials, RLM ordered a development of new 20 mm cannon shell with increased explosive force at the expense of fragmentation effect. Deutsche Waffen und Munitionfabrik (DWM) was issued with the task.

The result of this development was a new type of shell, called Minengeschoß (aka „mine shell"). Regular shells were cast and cavity for HE filler was then drilled into the shell. Minengeschoß was instead drawn from high quality steel and had much thinner

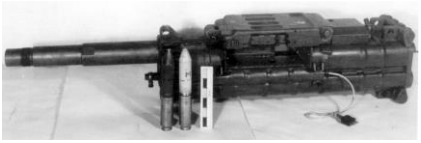
walls of casings without compromising structural integrity. This reduced fragmentation effect considerably, but also allowed much more explosive filler to be added. Regular 20 mm Minengeschoß had filling of 18-20 g of PETN, while typical contemporary 20 mm shells of other nations had merely 6-10 g of explosives. Increased explosive effect also required different fuse to be mounted. If regular impact detonator would be used, force of explosion would be largely dissipated in surrounding air, thus reducing damage significantly. Minengeschoß had slightly delayed detonators, allowing the shell to pass through target's outer cover without explosion, then triggering the explosive in a moment, when two-thirds of shell were already past the outer skin. Subsequent explosion of large HE filler then caused pieces of target's construction to be literally torn away, making a large gaping holes and seriously affecting aerodynamics and controls of the target. Additionally, when rate of fire was high enough, another Minengeschoß would be able to enter the hole made by previous shell, and explode deeper in the target aircraft construction, further increasing damage effect and compromising target's structural integrity. This was especially the case of MG 151/20 autocannon, which had rate of fire 750 rounds per minute and was able to fire up to 12 rounds per second – this weapon was thus able to tear wings off or severely damage control surfaces and wires by only a handful of hits. Minengeschoß was particularly effective against fuel tanks, tearing them open and often setting the highly flammable aviation fuel on fire.

Hs 129 with 30mm Mk 103 cannon

Minengeschoß was quickly issued as a standard high explosive ammunition to all existing German 20 mm cannons. To be able to fire these new mine shells, MG FF cannon required changes to recoil mechanism, as Minengeschoß was lighter than standard shells. Modified MG FF weapons were designated MG FF/M, and were mounted on Bf 109 E-4 and BF 110 C-4 fighters from summer 1940 onwards. Subsequently, when MG 151/20 cannons started to replace MG FF, Minengeschoß was developed for these new weapons as well. High destructive power of the ammunition, combined with relatively high rate of fire resulted in very effective fighter weapon – during clashes with American B-17 heavy bomber, it was calculated by Germans, that 15-20 direct hits (eg. a little more than one-second burst from a single cannon) were usually sufficient to destroy a B-17 when shooting from astern, and only

4-5 shells when performing a frontal attack. Lethal effect of MG 151/20 mine shells was further increased by mounting multiple cannons. For example dedicated bomber-hunter versions of Fw 190 fighter could carry up to six MG 151/20 cannons (in War Thunder, there is one of such versions - Fw 190 A-5/U2 with option to install gunpods with four MG 151/20 cannons).

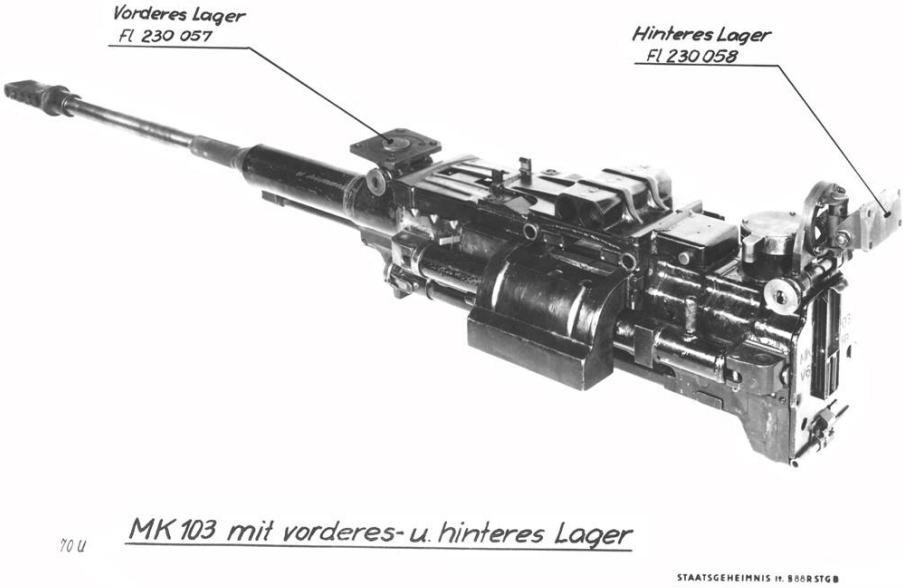
When 30 mm autocannons MK 108 or MK 103 were introduced, Minengeschoß for these large weapons were made too. These shells had truly enormous explosive loads – original blunt-nosed 30 mm Ausf.A shell carried 85 grams of PETN explosive with hexagon explosive base for increased shattering effect. Streamlined Ausf.C 30 mm Minengeschoß carried a smaller filler of 72 grams, but it was still extreme amount. In comparison – PGU-13/B high explosive incendiary round, used in a modern GAU-8 rotary cannon found on A-10 Thunderbolt carries „only" a 58 grams of filler. Naturally, sheer amount of HE filling resulted in devastative effects on target. Only 3-4 hits were usually needed to down a heavy bomber, with a single shell being sufficient to destroy a fighter.



30mm Mk 108 cannon

Even bigger Minengeschoß rounds were eventually developed. BK 3,7 gun of 37 mm caliber, found on Ju 87 G-series and Hs 129 attackers, could utilize mine shell, containing nearly 220 grams of PETN, while 50x420R mm ammunition for BK 5 cannon (used on for example Me 410 A-1/U4 , which is also available in War Thunder) carried as much as 350 grams of PETN explosive, making a single shell more than enough to down a heavy bomber.

Postwar, many countries were inspired in German Minengeschoß ammunition, and utilized its concept in future weapon development. Very similar shells could be then found as an ammunition for British ADEN 30 mm autocannons or French DEFA cannons of the same caliber. You can also test Minengeschoß for yourself in War Thunder, as they are very frequent in German fighter ammunition belts, accompanied by wide array of incendiary, armour piercing or high explosive tracer shells.



Mk 103 cannon scheme

MiG-15Bis number 15 of the Soviet Air Force,
camouflage created by Audrey_McKnight | Download here

[VEHICLE PROFILE] MiG-15

28. April - Author: Scott "Smin1080p" Maynard

Top of the Soviet aviation line, the MiG-15 is one of the most iconic jet fighter aircraft designs from after the Second World War. Earning its reputation on fame over the skies of Korea against its US contemporary, the F-86 Sabre.

Representing the pinnacle of Soviet Aviation within War Thunder, the MiG-15 and MiG-15Bis are located at the very top of the Polikarpov and MiG fighter line at Rank V. The MiG-15 can be researched from its predecessor, the MiG-9/L and has a BR of 8.3 in Arcade and Simulator Battles, with a BR of 8.0 in Realistic Battles. The MiG-15 features a powerful cannon arrangement of 2 x 23mm and 1x 37mm, excellent high altitude performance and is highly effective in vertical maneuvers. Unlike the MiG-9, the MiG-15 is also the first soviet jet aircraft to feature an airbrake which is extremely useful in combat situations. The aircraft does however have its downsides.

The lack of an "All-flying tailplane" (such as that featured on the Sabre) leads to less control over the aircraft at higher speeds approaching 1000 kph. Whilst the MiG is initially faster in acceleration by comparison to the Sabre, this does mean that when higher speeds are achieved, the Sabre will hold some advantages over the MiG-15. As well as this, the combination of 37mm and 23mm cannons creates aiming issues for pilots not familiar with their ballistic properties or velocity. Due to the size of these

cannons, ammo is also restricted by comparison to other top tier jet aircraft.

Once pilots have learned to use the MiG-15s excellent rate of climb, acceleration and high altitude capabilities to their advantage, the downsides of the aircraft are far less significant than the positives. In the right hands the MiG-15 can be a devastating combatant, capable of dealing with any aircraft in game swiftly. Teamwork, Squads and communication will also be beneficial when flying the MiG-15 as effective coordination between multiple pilots allows you to use this aircraft to its maximum potential. After mastering the MiG-15, you can research its improved variant, the MiG-15Bis.

A North Korean MiG-15Bis in the hands USAF

Featuring a BR of 9.0 in Arcade Battles and 8.7 in Realistic and Simulator Battles, the MiG-15Bis is commonly regarded as one of the best aircraft in game. As well as being available to USSR pilots, German pilots can also take to the controls of the MiG-15Bis after researching the He-162.

First taking to the air in December of 1947, the Mikoyan-Gurevich MiG-15 jet fighter aircraft came as a massive shock to the west when it appeared in the skies over Korea in the early 1950s. The swept wing fighter quickly proved itself as a capable and effective combat aircraft and forged a fearsome reputation.

The prototype I-310 was designed around the British Rolls Royce Nene engine which was purchased under licence from Great Britain as the RD-45. Featuring sleek swept back wings, tricycle undercarriage and the same armament as its predecessor, the MiG-9, in the form of 2 x 23mm NS-23 cannons (Later replaced by NR-23 cannons in the MiG-15Bis model) and a single 37mm N-37D cannon all mounted centrally under the nose intake. The new aircraft was designed as an interceptor with heavy armament capable of quickly taking out bomber formations and was one of the most advanced aircraft in the world at the time.

Entering service between 1949-50, the MiG-15 made its operational combat debut in the Korean War, completely outclassing the first generation jet fighter aircraft of the UN forces such as the F-80 and F-84. The MiG's excellent rate of climb, high speed performance and deadly weaponry proved superior to the early

jets and was only challenged by the arrival of the North American F-86 Sabre. At the time, the Sabre was the only aircraft capable of effectively combating the MiG in aerial combat and the pair became synonymous with the conflict.

From 1950, the MiG-15 was later developed into the Bis model, featuring a new engine, armament changes and minor overall improvements, however the aircraft would ultimately lead to the development of the MiG-17. The MiG-15 was also a hugely successful export aircraft, operated by countless nations such as Poland, Czechoslovakia, East Germany, China, North Korea and Vietnam to name but a few. Licence built versions of the MiG-15 also existed such as the Chinese J-2, Czech S-102/3 and Polish Lim-1.

The MiG-15 is a true icon of aviation and will provide experienced pilots with an impressive top tier jet fighter when employed to its strengths, being more than a match to any other aircraft in game.

X-ray view of the MiG-15 in War Thunder

[WEAPONS OF VICTORY] T-34-85 E

28. April - Author: War Thunder Team

Field modernization of the T-34-85, 1945 with mesh screens. A victory-tank, preserved by photos and footage of military chronicles. We wanted to recreate this tank in game.

As Soviet troops moved deeper into the Germany, a growing share of losses in armoured vehicles was due to hand launched antitank weapons. Even though the effectiveness of these weapons was not very high in reality, they were widely used by the enemy forces so caused problems with sheer numbers, it prompted the development of field modifications to enhance the protection of the crews' vehicle.

One way to increase the safety of the tank was shielding with a thin sheet or mesh screens. However, tests of the newest types of hand grenade on shielded tanks showed the low efficiency with such screens (armour could still be penetrated), and as a result this shielding was not widespread. But a number of tanks,

were still equipped with this kind of protection and became widely known thanks to photographs from the streets of a defeated Berlin.

The tank will appear in the game just like it was in the photos. The most interesting thing was not even the mesh screens, but the missing frontal mud guards. We had a lot of heated discussions with our colleagues about this - were they removed intentionally or were they lost while moving through city barricades?