HISTORICAL CORNER



MAY 2015

WAR THUNDER

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[WEAPONS OF VICTORY] P-47M Thunderbolt, Major George Bostwick

2. May - Author: War Thunder team



"Ugly Duckling" - George E. Bostwick grew up in Chippewa Falls, Wisconsin, and attended Ripon College from 1937 to 1941 where he received a Bachelor of Science degree. He entered the U.S. Army Infantry in June of 1941 and graduated from flying school on October 1st, 1943.

Arriving at Boxsted, England in early 1944, he joined the 62nd Squadron of the 56th Fighter Group and flew his first mission on May 11th, 1944. By the end of June, Bostwick had flown 37 missions including two on D-Day over the Normandy beachhead.

On June 7th, he destroyed his first aircraft in the air, an Bf.109, over Grandvilliers, France and on July the 4th over Conches Aerodrome, Bostwick destroyed three Bf.109's in

quick succession. He also damaged an Bf.109 in the air on the same mission.

Throughout the most part of the mission, he was on his own and at a great disadvantage because of a malfunctioning aircraft. He was awarded the Silver Star for his accomplishments on this mission. Two days later, on July the 6th, flying LM.Z "Ugly Duckling," Bostwick destroyed a Bf.109 in the air over Beaumont, France, to become an ace. On September the 8th, on his 70th mission, he destroyed three Fw.190's on the ground at Euskirchen Aerodrome.

Reassigned to the 63rd Squadron on his return to the 56th Fighter Group for a second combat tour in January 1945, Bostwick flew his first mission of the tour on January the 10th, a raid on Cologne. On March the 25th, George Bostwick became one of the few allied pilots to shoot down a twin jet Me.262. On April the 7th, he destroyed two Fw.190s in the air Near Bremen. Three days later, Bostwick flew a raid over Berlin and in an attack on Werder Aerodrome destroyed four aircraft on the ground.







M26 Pershing from 73rd Tank Battalion, Korea 1951, camouflage created by Tiger_VI | Download here

[VEHICLE PROFILE] M26 Pershing

6. May - Author: Stephen "Azumazi" Hembree

The M26 Medium Tank, which was also designated as a Heavy Tank for a short period, was an accumulated design that started from Major General Gladeon Marcus Barnes and Colonel Joseph Colby. After May of 1942 in Africa with Germany beginning to field the Panzerkampfwagen IV F2 Variant with the KwK 40 7.5cm gun, they started developing what would start off as the T20 Medium Tank Prototype.

T20 developed and tested with the M1 76mm, followed by the T22 and T23. Initially they settled on the T23 design and in Late October of 1943 the BuOrd (Bureau of Ordnance) accepted the design and produced 250 models by Mid 1944 before it was discontinued. Reports in the field suggested they needed something bigger than just a 76mm gun. So during production they ordered 50 of them to be modeled with a larger gun. The first was designed as the T25, and the later model as the T26.



Pershing and Sherman tanks of the 73rd Heavy Tank Battalion at the Pusan Docks, Korea

The Difference between the two was in the hull's suspension design. The T25 had the newer HVSS designed

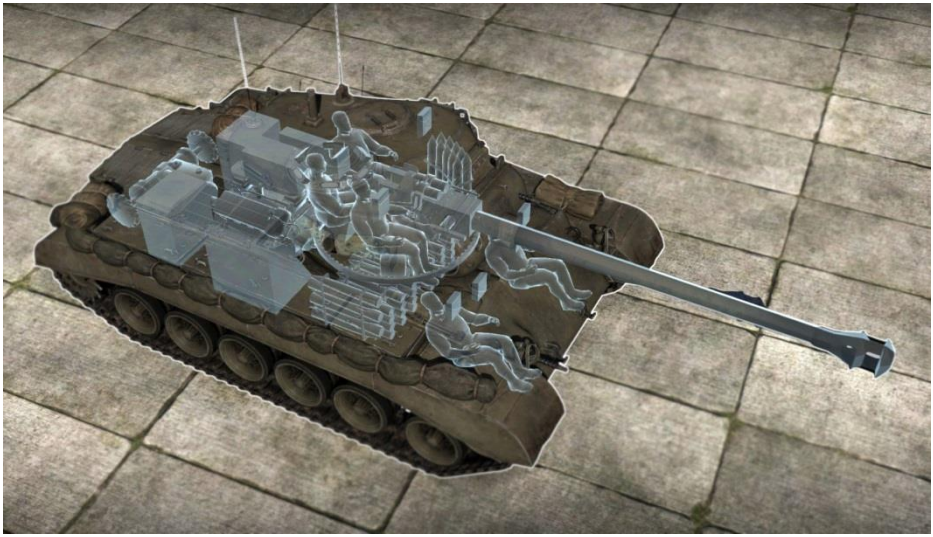
suspension, with the T26 having a new torsion bar suspension. Eventually the T26 won out in trials and was rushed to the field by early 1945. For morale reasons, they designated it a "Heavy Tank" during the war.



The M26 is quite a good vehicle with its 90mm M3 gun. It has a wide selection of ammunition to be used. The M82 APCBC with 200g of explosive filler is extremely deadly. Usually a successful penetration with this shell is a one hit kill on a vehicle. It's a bit lacking in penetration for the tier the vehicle sits, but it's great for flanking shots. It's also only a tier 1 module making it a quick unlock. The M304 HVAP shot gives the vehicle the ability to penetrate thick armor, mind you with the new update APCR/HVAP has poor slope characteristics. This means you need to aim for flat armor. Against a King Tiger Henschel, this means aiming for the turret if he is looking directly at you on the gunner side. At that position you can penetrate out to distances of 1800 meters.

The M26 does have its down sides. The power to weight ratio is poor. It's using the same Ford GAF as the late series M4 Medium tanks, with nearly 8 tons more weight. This gives it a hard time climbing hills. You will need to know the maps and areas you're operating, and use them wisely. You have moderate armor for a medium tank. You have 114.3mm gun shield and 101.6mm hull front at 46 degree slope, but you shouldn't heavily depend on your armor. The gun has great elevation and depression, use this to hide behind terrain and reduce your silhouette. Also remember that your side and rear armor is quite weak.

Attempt to relocate when possible to avoid being focused by larger heavy tanks such as King Tigers and IS-2 1944's, as your armor will only help you if they catch a bad angle, otherwise it will punish you.



X-ray view of the M26 Pershing



In one of the future updates we will introduce Emblem "From Hell" created by Branislav 'InkaL' Mirkov



Fairey Firefly FR. Mk.V in War Thunder using Rolls-Royce Griffon 74 engine

[TECH] Engines of the Air

7. May - Author: Joe "Pony51" Kudrna

One cannot but put any piston engine into an aircraft. It has to be specifically designed for the demanding environment of flight. Engines for aircraft were being built years before the Wright brothers' historic flight and have a development path quite different to that of land based engines.

A piston connected to a crankshaft, oscillating inside a cylinder burning volatile fuel, is common to nearly all Internal Combustion Engines (ICE, also known as the "Otto cycle"), but for aircraft, this similarity diverges somewhat from ground operation designs. Aircraft engines need to be adjusted for higher altitudes, where there is less air for cooling and oxygen to aid in the combustion process. Another major factor is that the output RPM must not be faster than what the propellor can handle, or it may shift into the transonic region, and therefore lose thrust. Keeping all this in mind, historically, a major focus was placed on keeping the engine light, so as to avoid it negatively impacting on flight performance.

Building on the technology of steam engines, early ICE were mechanically sound. The initial challenges lay in the cooling, ignition, and lubrication features that were considered crucial for

ICE. From its early developmental days, both water and air cooling systems were used, with neither having an overwhelming advantage. Ignition came from a modified generator called a magneto, with voltage being boosted by a coil that was timed with "points" and switched by a distributor. Simple and light magnetos are very common today and continue to be seen in new aircraft engines. Smeared grease, oil reservoirs, or even the squirting of oil onto relevant parts, such as were known for steam engines, were considered inadequate for piston engines, so early lubrication methods involved crankcase oil splash, grease cavities, and even the addition of oil into fuel (the scarf WW1 pilots wore was to wipe exhausted oil from their goggles).



Wright R-790, USAF

Over time, engines became a maze of internal pressurized oil channels. The higher RPM of ICE posed challenges in balance too. The famous Le Rhône 9J solution was to spin the entire engine! Referred to as a "rotary", dynamic balance issues were negated as the engine focused on the entire rotation of a central mass, but the drawbacks included enormous gyroscopic forces which would impact turning performance (the Dr. 1 tri-plane used by the Red Baron could make seemingly impossible tight left turns, but right turns took comparatively longer).

The lifespan of early engines was measured in hours before they had to be replaced. The 1920's saw improvements in lubrication, cooling, weight, and most of all longevity; the last of these being critical in the prized intention to cross the Atlantic Ocean. When Charles Lindbergh made his famous flight on May 20, 1927, he was pushing the limits of engine longevity. The Wright Whirlwind R-790 J-5C 223-hp engine on the "Spirit of St. Louis" required manual greasing of the rocker arms every 40 hours of run time; his record flight was almost 34 hours of continuous operation! Almost 2 years later, a group of USAAC pilots attempted a flight endurance record also using the Wright J-5 engine, modified with the Fokker F.VII Trimotor. It was called "Question Mark" because it was unknown what would happen. 150 hours later, after setting a new record, the non stop flight had

to end because the engines had been worn to breaking point.

Another major factor that was continually considered was air density. Normally aspirated engines (either carburetor or fuel injected) lose power as altitude increases due to less air (thus oxygen) aiding in the combustion process. Adjustments to fuel flow had to be made, and to begin with, were done manually. Turbochargers and Superchargers used impellers to pump more air into the engine so that it would not be as starved for oxygen at higher altitudes. These were seen to also force more air into the engine at lower altitudes, which would increase their power output (but risk premature engine failure). Over time, sophisticated automatic systems where introduced to do this automatically, but complexity and reliability meant that manual control whilst piloting continued, with "flight engineers" adjusting the throttle, mixture, propeller, oil (and water) cooling, turbo and/or supercharger control, and ignition. Still, future engines were eventually equipped with fully automatic systems such as BMW 801 powered aircraft.

As speed began to be more important than maneuverability, the demand for power output increased. Sleek aerodynamic bodies and wings designed for speed were introduced into the equation, but there was no avoiding the fact that to go faster, more power was needed. Drag increased exponentially with speed, so simply 'doubling' horsepower, for example, did not necessarily result in twice the airspeed. Attempts at faster I-153s with more power were fruitless. However, impressive gains in the interwar years reached an accelerated pace in the early 1940's as power also increased exponentially from an average of 500 hp (see War Thunder's reserve aircraft) in the mid 30's to over 2000 hp by the mid 40's (for example, the Fw-190D, Spitfire Mk 24, and F8F), all in the effort to overcome drag and go faster. In comparison, late WW2 mainline battle tanks used less than 800 hp engines. What ended the reign of piston aircraft engines was the jet engine and the simple fact it was not limited by the propellers' tip transonic speed penalty. Pistons became relegated to transport purposes and smaller aircraft where piston engines were cheaper to operate.



Le Rhône 9J rotary aero engine on display at the Shuttleworth Collection, Old Warden, England

In the end, the enormous resources dedicated to more efficient and powerful aircraft engines pushed piston related technology to its apex, not exceeded until recently with computer engineering and new, stronger materials. The technological gains of piston engines, however, did continue to trickle down to generations of more powerful land vehicles, where piston-ICE still reigned supreme.

In 1958, the small Cessna 172 “Hacienda” flew a refueled non-stop flight of 1558 hours (65 days!), an amount of time considered unfathomable just a couple of decades earlier.



BMW 801 D2 at Aviaticum museum, Austria



[VEHICLE PROFILE] B-57B Canberra

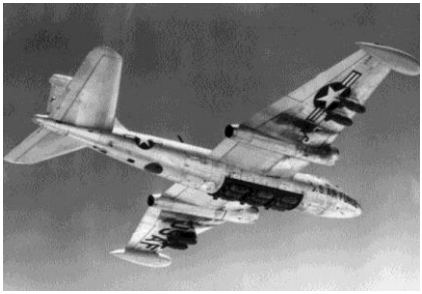
12. May - Author: Scott "Smin1080p" Maynard

The Martin B-57B was a development of the licence built version of the British Canberra B2, the B-57A. After its impressive performances at the Farnborough airshows in the early 1950s, the United States of America were keen to acquire the record setting jet bomber to fulfill the role of fast attacker similar to their current A-26 model. America had no suitable replacements for the Invader's position and experiences in Korea had proven the value of a Interdictor attacker.

As such, licence production of the Canberra was given by English Electric to Martin for the B-57A. Whilst the A model was essentially the same as the British variant, the B model had numerous improvements and changes over the A model that distinguishes it from the original Canberra design. Features such as a redesigned canopy that required 2 crew rather than 3, newer engines, improved wing strength coupled with pylons for large external stores, more effective airbrakes and the Martin's reduced drag rotary bomb bay from previous test aircraft were all included into the B model. As well as this, the B-57B also had offensive armament in the form of 8 Browning M3 machine guns with 4 in each wing, however this was later updated to 4 x 20mm M39 cannon.

All of this combined lead to the emergence of a highly effective interdictor aircraft that now differed greatly from

its British counterpart to which it was based upon. Even with the rapid pace of jet aircraft development, the B-57B continued on in service thanks to its flexibility and versatility of combat roles. Numerous loadouts and configurations existed that allowed for a multitude of possible tasks including interdiction, reconnaissance or high altitude bombing. Whilst the primary models would retire in the late 1970s towards the early 1980s, highly modified variants still continue to serve in research and development roles for NASA even today.



B-57B showing off its rotary bomb bay feature, designed to reduce drag

Concluding the legendary US Bomber line within War Thunder, the Martin B-57B jet bomber is the US modification of the famous British aircraft that leads away from the standard gameplay found on most US heavy bombers before it. Placed well within Era V after its predecessor, the B-57A, with a BR of 7.7 in Arcade Battles and 8.0 in Realistic and Simulator Battles respectively, The B-57B focuses more on low level ground attack by comparison to its predecessors and can carry large amounts of offensive external weaponry.

Unlike the B-57A model before it, the B-57B included numerous improvements and modifications to the airframe and armament that allow it to play a much more aggressive and offensive role in Battle. Able to mount up to 16 x 127mm HVAR rockets on its external pylons in conjunction with heavy bomb loads, the B-57B is best suited to taking out armoured targets or naval targets such as Destroyers and Cruisers.

As well as its ability to deliver massive offensive potential to targets at high speeds, it is also equipped with 8 wing mounted 12.7mm Browning M3 machine guns that hold a healthy 2800 rounds of ammunition, allowing it to attack light targets with ease, but also provides air-to-air combat potential for pilots. Another novel feature of the B model, is its rotating bomb bay that can hold large stores of a variety of bombs to complement its wing mounted payloads. With a maximum potential load out of 8 x 1000lb bombs coupled with 8 x 127mm HVAR rockets, the B-57B is one of the most versatile aircraft in game at Era V.

Whilst a lone B-57B out in the open is an easy target for intercepting aircraft and is no match for the likes of the MiG-15 or CL-13 in combat, communication and coordination with teammates will allow pilots of this aircraft to effectively strike targets of

strategic importance with precision and to devastating effect. Equally organising squads paired with escorting fighters who can work in conjunction with B-57s or even a whole wing of attack aircraft can have a massive impact on top tier games.

By comparison to its contemporary jet attack-bombers of other nations, the IL-28, Arado C-3, Canberra B (I) 6 and R2Y2 series, the B-57B can carry the largest payload thanks to its external stores, making this the ideal choice for players who prefer more aggressive and direct attack roles in the skies.



B-57B Canberra in X-Ray view

With one of the upcoming Updates, we will include two new decals to War Thunder:



Emblem of the 499th BS, 345 BW, 'Bats Outa Hell'



"Green Dragon", Fuel Tank Art, 405th BS, USAF



RNZAF PBY-5 Catalina NZ 4020 XX-W "The Wandering Witch" of 6 Squadron circa 1944. Camouflage created by Aotea | Download here

[AIR FORCES] New Zealand Air Force

13. May - Author: Adam "BONKERS" Lisiewicz

The history of aviation in New Zealand can be dated as far back as 1913. It was then that New Zealand received two Bleriot XI monoplanes supplied by Great Britain. During the First World War, New Zealand did not officially have an air force. New Zealand pilots found themselves flying for both the Royal Flying Corps and the Royal Naval Air Service. Nearly 400 pilots fought against the Central Powers – 70 of them were killed in action. The most successful of them all was Keith Caldwell, credited with up to 25 aerial victories. Even though the First World War was fought a long way from New Zealand its geographical position meant that pilots could be trained without the risk of getting attacked by the enemy. The main breakthrough came in 1916 when Sir Henry Wigram, an owner of an aircraft company in Christchurch, donated an aerodrome to the government. This way, the cornerstone for the creation of the RNZAF was laid down.

In 1923 the government of New Zealand created the New Zealand Permanent Air Force (NZPAF) which, along with the volunteer New Zealand Air Force, became the official aviation wing of the Army. At first it was mainly equipped with World War I vintage aircraft, such as the Bristol F.2 and the Avro 504K. Due to the lack of funding and the Great Depression the procurement of new aircraft in the early 1930s was difficult. Only in 1935 did the force seriously start to modernise itself to become fit for combat. In 1937 the RNZAF was officially deta-

ched from the Army, becoming a separate entity equal in status to both the Navy and the Army.



Aircrew serving with the RAF in No. 485 Squadron RNZAF in front of Supermarine Spitfire MkIX

In September 1939 World War II broke out. The RNZAF was still in the process of modernization and was underprepared for conflict. It was then, however, that the Empire Air Training Scheme was launched. This training program for pilots, gunners and navigators quickly enabled the RNZAF to increase its manning. Meanwhile in the UK No.75 Squadron, operating Vickers Wellington bombers and composed of New Zealanders, was preparing for duty. Many New Zealanders found themselves serving in the RAF, both as aircrew and in executive roles. Two of the most renowned RAF officers of the war – Air Chief Marshal Sir Keith Park and Air Marshal Sir Arthur Coningham – originated from New Zealand. Pilots from New Zealand took part in RAF operations in Europe and Africa – at least 70 pilots became aces, while three (Sergeant James Allen Ward, Wing Commander Leonard Trent and Flying Officer Lloyd Trigg) were awarded with the Victoria's Cross – the highest Commonwealth military commendation. As the Fleet Air Arm had a recruiting station in New Zealand and the RAF did not, many New Zealanders chose to fly with the navy - by 1945 a full 25% of Royal Navy aircrew were from New Zealand.

Of course, not all New Zealand pilots were stationed in Europe and Africa. The threat of Japanese expansionism revealed itself in December 1941, with the grand offensive against US, Dutch and British colonies in the Pacific. At first, New Zealanders were forced to arm many of their trainer aircraft such as the North American Harvard to at least have a shred of hope against the Japanese – however, in 1942 a lend-lease agreement was signed between New Zealand and the USA which resulted in the delivery of P-40 Kittyhawk fighters. With the return of experienced pilots from the Malays, the RNZAF quickly began combat operations in the Pacific Theater. The New Zealand pilots and aircrew took part in the fights over Guadalcanal, Rabaul and the Bismarck Sea in 1943. Throughout the conflict the Kittyhawks were replaced with more modern F4U and P-51 fighters. Strike sorties were carried out with the reliable Grumman Avenger.

After the war's end the RNZAF faced demobilization and scrapping of many of its aircraft because of budget cutbacks. The post-war period also

pushed New Zealand into the jet age with the acquisition of de Havilland Vampire and de Havilland Venom fighters, as well as English Electric Canberra Bombers. In the 1970s the ageing designs were replaced with A-4 Skyhawk fighters and BAC Strikemaster attacker/trainer aircraft. After the end of the Cold War funding for the RNZAF diminished further, which caused a closure of many airbases. The final blow to the combat capability of the RNZAF was struck in 2001 when the Labour government cancelled the plan to procure 28 F-16 multirole aircraft, while at the same time retiring all remaining A-4 Skyhawks and Aermacchi MB-339 light attackers. Because of this, the RNZAF's inventory today consists mainly of AugustaWestland A109 and NH Industries NH90 helicopters, as well as Lockheed P-3 Orion patrol aircraft and Lockheed C-130 transport aircraft.



Group portrait of an Air Crew of 578 Squadron, RAF, in front of a Halifax bomber aircraft

With an upcoming update, we will add the following decals to War Thunder, "Tiki Symbol", No. 135 Squadron RAF, flown by Pilot Officer WH "Hugh" Dean of the RNZAF, "Flying Kiwi", No. 30 Squadron of the RNZAF and Roundel of the New Zealand Air Force 1943-1945 made by *Jej 'CharlieFoxtrot' Ortiz and Colin 'Fenris' Mui:*









Wallpaper 1900x1080 | 1080x1024

[HISTORY] Operation "Chastise"

15. May - Author: War Thunder team

On the 5th of March, 1943, the Battle of Ruhr was begun; a campaign of strategic bombing that took place during the Second World War. This campaign was planned as an assault on the German industrial area of Ruhr, and both British and American forces took part. The area was considered of high importance, due to its steelworks, fuel-coke plants, and synthetic oil plant. In this campaign, twenty six major offensive targets were bombed, including the Krupp armament works in Essen, the Nordsten synthetic oil plant in Gelsenkirchen, and the Rheinmetall-Borsig plant in Düsseldorf. It was in this campaign that the famous 'Dambusters raid', a.k.a. "Operation Chastise" was carried out on May 17th, 1943.



For the British, Twin-engined Vickers Wellington medium bombers, and quad-engined Avro Lancaster heavy bombers took part in the offensive, as well as the Short Stirling and Handley Page Halifax.

British raids took place during the night, as daylight raids were considered too dangerous due to heavy losses. RAF Bomber Command were using Pathfinder squadrons and made use of the bomber stream tactic. The pathfinder group was mostly made up of Mosquitos from 109 squadron.

Despite cloud cover, and industrial generated pollution, an electronic navigation aid known as “Oboe”, using transponder radio technology, allowed Pathfinders to mark targets with flares during the dark hours of the night. Bombers would fly over the target areas outlined via guidance markers, and drop their bomb loads.



The bomber stream concentrated the force of bombers into a small tight time slot, which was so effective that it overwhelmed fighter defences in the air and fire fighting attempts on the ground.

Unlike the British, the USAAF, with B-17 Flying Fortress and the B-24 Liberator bombers available to them, carried out raids during daylight hours. The closely massed wings of the bombers provided good overall cover, allowing effective return fire against enemy fighters. With bombing raids from both British and American forces, during daylight and at night, there was little time to recover effectively. In addition to this, USAAF forces in the UK continued to increase during 1943. The majority of the bombings that took place were done by the RAF.

Despite their continued raids over the area, German defences continued to fight against their enemy, protecting their resources. AA cover was so fierce that the British nicknamed the Ruhr as “The valley of no return!”. The Campaign seriously disrupted German war production and led to great shortages of steel and armaments, which helped bring the end of the war closer.



Destroyed Pzkpfw V Panther Ausf. D in a town ruins, created by one of the Screenshot contest competitors

[ACE TANKER] Wilfred Harris

19. May - Author: Sergey "NuclearFoot" Hrustic

At this time, War Thunder does not have a British ground vehicle tree in the game, but we thought you might be interested in this little anecdote in regards to British armour. The "Brit tankers" of World War Two, especially their commanders, belonged to a breed of men with stiff upper lips and demanded that their tea or "tiffen" time wasn't interrupted. Regular large supplies of the leafy brew had to be provided so that they could perform their "cavalry" duties to good effect. Hard wearing, and generally unaffected by the bad times, these chaps pushed on through thick and thin.

Wilfred Harris was born in 1911 in Walsall, Great Britain. During the inter-war years, he was part of the 4th/7th Dragoon Guards, a tank regiment. He left the army in 1935, but re-enlisted at the outbreak of war in 1939. He served in France, and even survived the battle of Dunkirk without injury. His most prominent feat would be recorded in Normandy, in 1944, where he served as a tank commander of a Sherman Firefly.

After launching a successful attack on the Germans at the village of Lingevres, Harris and three other Sherman tanks were tasked with esta-

blishing defensive positions in the village. While surveying the area through his binoculars, out of his open cupola, he spotted two Panthers approaching the village at around a kilometer to the East. He told his gunner to fire at the first one, promptly destroying it with one shot. He then gave the order to fire at the second one, rendering it completely useless, again with one shot. Having decided that this area was clear of enemies, he relocated to a new position on the other side of the village and established a firing position behind several oak trees. Just like before, he saw enemy Panthers closing in - three this time. However, they had not seen him yet, and he had the element of surprise. He ordered the gunner to fire at them the same way he did with the others - and the three Panthers were destroyed in three shots.

It is especially impressive considering that the Sherman Firefly was, overall, inferior to the Panther tanks. However, Harris's skill as a tank commander, and the accuracy of his gunner, ensured that Harris would be marked down as one of the British aces of World War II.



Sherman Firefly & the British Army in North-west Europe 1944-45

With an upcoming update, we will add the Emblem of the 4th/7th Dragoon Guards made by Branislav "InkaL" Mirkov



Tricolor Camouflage scheme of Spanish Air Force, Morocco, 1942-1943
Available in game for 200 GE or 70 players defeated

[VEHICLE PROFILE] Heinkel He 112 B-0

22. May - Author: Jan „RayPall“ Kozák

In 1934, Heinkel Flugzeugwerke company started work on a fighter to participate in the competition created by German Reichsluftministerium (RLM) in order to find a modern fighter aircraft for future needs. Largest portion of inspiration was drawn from the Heinkel He-70 “Blitz”, a passenger and postal plane. This plane designed by the Günther brothers and introduced in 1933 was quite modern for its time, as it featured an all-metal monocoque fuselage, retractable landing gear and elliptical wings with a reversed gull wing shape.

The He-70 Blitz could reach speeds up to 360 kph (224 mph) and indeed the name meas “Lightning” in German, so it was close to the minimum speed demanded by RLM on it’s own. This made the He 70 a great basis for a new fighter, and designers thus proceeded with modifying the He 70. The resulting design, called the He 112, was basically a downscaled He 70, as it shared the all-metal construction, inverted gull wings and retractable landing gear.



Test flight of an early He 112

The first prototype, fitted with a British Rolls-Royce Kestrel Mk.IIS inline engine and designated He 112 V1,

was completed in September 1935, followed by the He 112 V-2 powered by a Jumo 210C engine and incorporating some structural changes such as clipped wings and a three-bladed propeller, and finally by the He 112 V3, featuring a fully enclosed cockpit.

After the aircraft of Arado and Focke-Wulf were disqualified from the contest due to unsatisfactory performance, the competition had to be settled between the He 112 and Messerschmitt's Bf 109, designed by Willy Messerschmitt. Unfortunately for Heinkel, the Bf 109 emerged victorious. The He 112 was more agile, but the Bf 109 was faster, had a better roll rate, and was cheaper and easier to manufacture. However, the development of the He 112 continued despite this defeat, and the plane was offered for export. Prototypes and small-scale production models were further developed up until its final and most advanced variant, the He 112 B.

The first version of the B-series and topic of this article, was designated He 112 B-0. It featured a reworked fuselage, a new design of rudder and vertical stabilizer, and a bubble canopy, which was a very modern solution for its time. It offered superb visibility compared to „greenhouse“ framed designs common in that time. The engine used was a Jumo 210C, producing 631 horsepower. Regarding armament, the He 112 B-0 was armed by two 7.92 mm MG 17 machine guns, mounted on the sides of engine cowling, and two 20 mm drum-fed MG FF cannons, housed in the wings.



A Romanian Air Force He 112

First customer was the Empire of Japan, ordering of 30 He 112 B in 1938. The aircraft were however not used in combat due to their insufficient agility (compared to Japanese fighters) and ended their short career as trainers. Twelve He 112 B's were sent to Spain, where they were used operationally in small numbers during the last weeks of the Spanish Civil War, and remained in service after the war ended. Notable usage past the Civil War in Span was from the 3rd of March 1943, when a single He 112 B managed to damage an American Lockheed P-38 Lightning fighter. Spain eventually used its He 112's up until the 1950s. The two largest operators of He 112 were Hungary and Romania – He 112 B-1/U-2's s in markings of these two countries are available in War Thunder as premium planes. Hungarian He 112's saw limited service and probably all of them were destroyed during the Allied bombing raid in 1944, while Romanian Heinkels saw some limited air combat in the opening stages of Operation Barbarossa, where they were used for

ground attack missions and ended their career as training planes.

The He 112 B-0 is a German rank I fighter with a Battle Rating of 2.3, representing the most advanced He 112 variant in game (after He 112 V1 and cannon-armed He 112 A-0). Its armament consists of two 7.92 mm MG 17 machine guns on the sides of the engine with 500 rounds per gun, and two 20 mm MG FF cannons in the wings with a capacity of 60 rounds per gun. Performance-wise, the maximum speed at an altitude of 3000 meters (9843 feet) is 500 kph (310,6 mph), while at sea level, the top speed is 465 kph (288,9 mph). The time needed to reach 3000 meters (9843 feet) is 4 minutes 22 seconds, giving the plane a climb rate of 11,45 m/s (2160 ft/min). Both horizontal and vertical turns are completed in 13 seconds, and break up speed is 690 kph (428,7 mph) TAS.

Regarding gameplay, the He 112 B-0 can be described as jack of all trades. It is reasonably fast for a BR 2.3 aircraft, while not faster than the Russian LaGG and Yak fighters, or the American Buffalos and Hawks – all of them common adversaries of the B-0. It is also quite agile for a monoplane, but will always be outturned by biplanes or light Japanese fighters such as the A5M4 or Ki-27. Its climbrate is not exactly stellar, but He 112 B-0 can handle surprisingly high speeds – a red line of 690 kph is not bad for rank I fighter. While mediocre in maneuverability and performance, the strongest trait of this plane is clearly the armament, which is the same as on the Bf 109 E-3 fighter.

The twin 20 mm cannons, supported by two machine guns, with a high rate of fire pack a punch on BR 2.3, and even despite limited ammo supply and worse ballistics of MG FF cannons, you can cause catastrophic damage quickly to the light constructions of rank I fighters. This armament also makes it a good bomber hunter from Heinkel, as none of rank I bombers can withstand focused fire of two cannons.

Given all advantages and disadvantages, He 112 B-0 is best played as a universal fighter. If you encounter highly agile biplanes, use your speed to outrun them. If you encounter fast, but less agile monoplanes, use your agility to out turn them. And if you are faced with bombers, nothing shall hold you back, as your firepower allows you to finish any bomber quickly. That said, He 112 B-0 can be a quite enjoyable fighter to play, and will serve you as a training for its successor in the German research tree – the Bf 109 B-1/L, the first version of the legendary Bf 109 fighter.



An He 112 B-0 in X-Ray view

With one of the upcoming Updates, we will add the following decals to War Thunder:



'Greyhound' emblem of the 1a Escuadrilla, Grupo 27



Emblem of Grupul 5 Vânătoare



Wallpaper 1280x1024 | 1920x1080

[TECH] U.S. Tank Destroyers

26. May - Author: Adam "BONKERS" Lisiewicz

In the early stages of World War II, the strength of the U.S. mechanised forces was fairly limited. Most of the available tanks were fast, but not well armed or armoured. After the Fall of France in 1940, the U.S. General Staff began studies into the tactics used by the Wehrmacht, in order to exploit their weaknesses and to devise new strategies. In early 1941, General George C. Marshall developed a theory of a mobile "tank destroyer" force.

The idea was to create units equipped with fast and well armed combat vehicles which would serve as an "anti-armour arm" of the army. The creation of such units would also, in the view of the U.S. generals, permit regular tanks to fulfill their "original" role – exploiting breakthroughs in the front lines and causing chaos in the rear areas. Among the proponents of this theory was the Chief of Staff of the General Headquarters – General Leslie McNair.



M3 GMC featuring the 75 mm M1897 cannon

This high-level support quickly resulted in the creation of the Tank Destroyer Center at Fort Meade in the state of Maryland in late 1941. Soon, the army began to look for projects suitable to be dubbed as a "tank destroyer".

There was, however, a problem – at the time, the U.S. did not have a lot of guns or vehicles which would suit that category. An interim solution, though, was quickly spotted. In June 1941, the Ordnance Department quickly decided to create a new tank destroyer by mounting a M1897 75 mm field gun to the M3 Halftrack. The prototype of the new vehicle, dubbed the T12 Gun Motor Carriage, was quickly completed and serial production started in September 1941.



The M10 Wolverine with 76,2 mm M7 cannon

The combat debut of the new vehicle took place in December 1941 during combat against Japanese forces in the Philippines. After including changes to the design (such as the enlargement of the gun shield), the new tank destroyer was standardised under the designation "M3 GMC". It quickly became the main tank destroyer of the US Army and was used in North Africa during Operation "Torch", as well as in the Pacific Theater where its cannon was mainly used as a "bunker-buster".

From the outset, the U.S. brass knew that the M3 GMC was only going to be a stopgap measure. This was why in May 1942 a new tank destroyer prototype was presented – the T35E1. It was based on the chassis of the M4 medium tank and was armed with a 3-inch anti-tank gun. It was then decided to push the T35E1 into serial production and standardise it under the name "M10 GMC".

The new tank destroyers started to reach the frontlines in 1943 and took part in battles in Tunisia, Italy, France and the Pacific. The British also received the M10 tank destroyers under the Lend-Lease program; however, they decided to rearm them with the 17-pounder anti-tank gun to further boost the anti-tank potential of the vehicle. M10 GMCs armed with the 17 pounder cannon then became known as the "Achilles".

Engineers in the U.S. submitted new design proposals for even more powerful tank destroyers. After the Tunisian campaign, it became apparent that the 75 mm M3 gun was not fit to fight new German tank designs. This resulted in the abandonment of any projects featuring this gun – this included the T67 prototype tank destroyer. Priority was then given to the development of the T70

prototype, armed with a much more potent 76 mm gun.



The M18 'Black Cat' with 76 mm M1A2 cannon

In April 1943, the T70 prototypes were tested on the Aberdeen Proving Grounds and, after incorporating necessary changes, were standardised and placed into serial production under the designation "M18 GMC". The new tank destroyer was an overall improvement over the M10 – while it had much thinner armour, it was armed with a more powerful gun and possessed better mobility. The Hellcat made its debut in combat on the Western Front of Europe in 1944. By the end of the conflict, it was deemed to be the most successful U.S. Tank Destroyer.

Even earlier than this, the U.S. Army began the project of up gunning the M10 Gun Motor Carriage. The appearance of the Tiger heavy tank in Tunisia highlighted the need to replace the 3-inch gun of the M10 with a more potent design. The saviour was quickly found – the 90 mm M1 gun. The new prototype became known as the T71 Gun Motor Carriage and was tested in Aberdeen in March 1943.

The results of the tests satisfied the U.S. brass who quickly ordered a batch of 500 vehicles to be produced under the designation "M36 GMC". The new tank destroyers reached the European Theater of Operations in August 1944. They were generally liked by their crews, especially for the more powerful 90 mm main armament.

After the Second World War, the doctrine of the use of tanks in the U.S. Army was changed. Combat experiences showed that Tank Destroyers were far too specialized vehicles – while they were able to effectively battle enemy tanks, their thin armour meant that they were vulnerable to artillery, mines, and portable anti-tank rockets carried by enemy infantry. In the eyes of the U.S. top brass, the Tank Destroyers were a dead end – this is why after the war, all development of new tank destroyers was stopped and the Tank Destroyer force was disbanded.



The T95 featuring the 105 mm T5E1 cannon



With an upcoming Update, we will introduce the 'Emblem of the 628th Tank Destroyer Battalion' decal to War Thunder by Branislav "InkaL" Mirkov



Republic P-47D-25 Thunderbolt Designation FACH 750 from No. 11 Group Fighter Bomber. Camouflage created by darth_linux_man | Download here !

[AIR FORCES] Chilean Air Force and Peruvian Air Force

27. May - Author: Jan "RayPall" Kozák

The development of the Chilean Air Force (Fuerza Aérea de Chile, abbreviated FACh) first started in 1910, when the Military Aviation Service (Servicio de Aviación Militar de Chile) was founded by Lieutenant Colonel Pedro Pablo Dartnell. He had undergone pilot training in France, and had returned to his homeland with the much needed 'know-how' that would lead to aviational development. Although this early organisation had its own flying school, the first batch of Chilean military aviators were nonetheless sent to train in France as well. One of those recruits, Captain Manuel Ávalos Prado, eventually took command of the newly founded aviation school, named Escuela de Aeronáutica Militar et Lo Espejo in the vicinity of Santiago de Chile, Chile's capital. Eventually, their first combat unit was formed in 1918, which was to be stationed at Base Aérea El Bosque and equipped with Bristol M.1c monoplane fighters and de Havilland DH.9 bombers. More aerial units were created in the following months, and in 1919, both army and naval air units were unified under Dirección de la Fuerza Aérea Nacional. However, due to rivalries between army and air service officials, an independent air unit was founded on 15th July 1920.

In 1923, an independent naval air force was also created, named the

Aviación Naval de la Armada de Chile, and during these years, new airbases were built – in 1924, four airbases had come into existance. The first bomber squadron was then formed in 1928, equipped with Junkers R.42 bombers and followed by its first amphibious squadron, flying with Dornier Wal flying boats. Thr Air force was then reformed again, and on the 21th March 1930, Fuerza Aérea de Chile was officially formed as an independent air force. During the 1930's, the influx of British airplanes continued, supplemented by aircraft purchases from Germany and Italy.



One of 26 P47D that served in Chilean Air Forces

The growing number of personnel and aircraft necessitated organisational changes, and two air brigades were formed at airbases El Bosque and Temuco. However, budget cuts due to the Great Depression caused shortages of materials, and personnel were heavily demoralized due to reduced payments. This drop of morale ultimately resulted in the mutiny of Chilean sailors from August to November 1931 - this incident is seen as the FACh's baptism by fire, as several bombing sorties were made against rebel ships in order to suppress the mutineers.

From 1940's onwards, the United States began to send training missions periodically into Chile, and when the USA entered Second World War in 1941, air missions were established in Chile with the task of reorganising the FACh in accordance with American tactics. This also meant that a large quantity of American aircraft were delivered to Chile to follow through with Lend-Lease Agreements. Thanks to these supplies, the FACh aquired new aircraft, such as Republic P-47 Thunderbolt fighters, Consolidated PBY Catalina flying boats and North American B-25 Mitchell bombers.

Eventually during the 1980's, Dassault Mirage 50 jet fighters were purchased from France, along with locally built ENAER T-35 Pillán trainers. Today, the primary fighter aircraft of the FACh is the Lockheed Martin F-16 Fighting Falcon, with transport squadrons being equipped with C-130's, DHC-6 Twin Otters and CASA C-212 aircraft. The FACh possess its own fleet of helicopters as well, consisting of Bell 412 and UH-1 helicopters.



Republic P-47D-25 from Peruvian Air Force. Camouflage created by TeodorSan | Download here !

In Peru, military aviation started in January 1919 with the founding of the Servicio de Aviación Militar del Ejército del Peru, followed by the establishing of the first Peruvian flight school equipped mainly with French aircraft. Śubsequently, the naval air force was formed in 1920, and during 1920's, the French air mission that had been present during previous years was replaced by the British, from which Peruvians aquired fighters and bombers. The British air mission was in turn replaced by the American air mission in 1924, bringing American airplanes and starting a long period of U.S. influence over Peru. An independent air force, named Cuerpo de Aviación del Perú (CAP), was founded on 20th May 1929 by merging the Army and Navy air divisions.

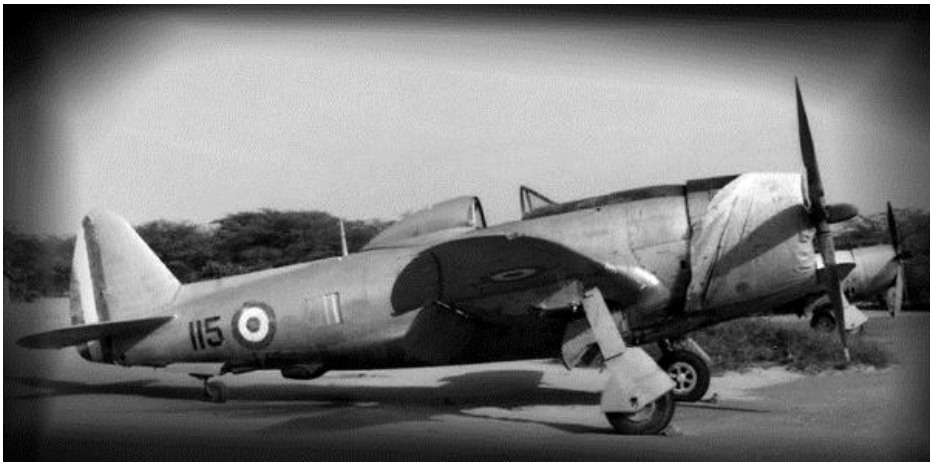
In 1932, an incident known as the "Leticia Incident" occured. During this small-scale conflict, Peru attempted to reclaim Amazonian territory from Columbia by invading a garrison in Leticia. When diplomatic efforts failed, two Peruvian Vought O2U Corsairs attacked Colombian vessels at the Amazon River – this was the first CAP combat mission ever. During the conflict, the CAP received more planes from Britain, France and the U.S. As a result, when the ceasefire was signed in 1934, the CAP emerged stronger than ever.

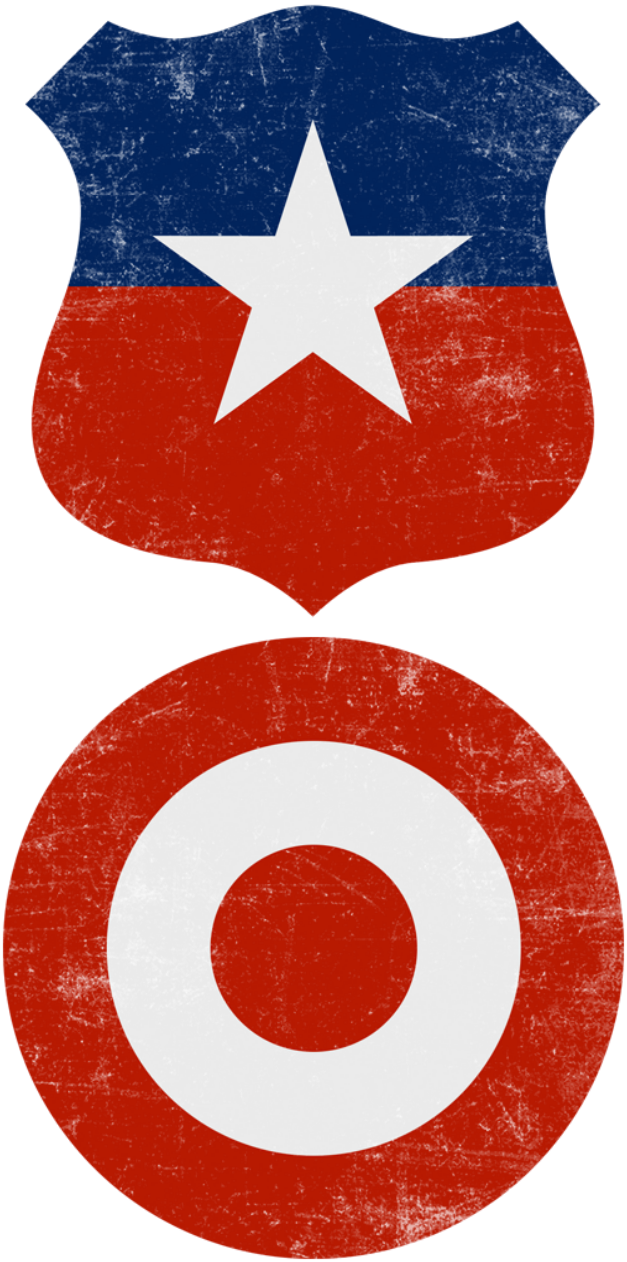
During the 1930's, Peru purchased a large number of Italian aircraft and also aquired a license to build Caproni aircraft. The first combat squadron, named Esquadrón de Aviación No.1, was formed in 1936, and by the time the Second World War started, the CAP consisted of four Air Regions, each possessing several squadrons. Despite the fact that Peru did not directly participate in the Second World War, a short conflict with Ecuador broke out in 1941. The CAP actively participated in this conflict,

equipped with aircraft such as Caproni Ca.114, North American NA.50 fighters, Douglas DB-8 attackers and Caproni Ca.135/Ca.310 bombers.

With this inventory, the CAP provided air support to Peruvian ground forces until the ceasefire in October 1941 was signed. Shortly after this, army and naval air services were separated from each other, and reorganisation took place. The CAP received a batch of about 60 American aircraft under the Lend-Lease agreement with the United States. After Peru signed the Rio Treaty of 1947, even more American aircraft were delivered, including Republic F-47D Thunderbolt fighters. Three years later, the CAP was then reformed into the Fuerza Aérea del Perú (FAP).

In 1955, FAP received its first jet aircraft: the North American F-86F Sabre fighter. This was followed shortly by English Electric Canberra jet bombers in 1956. More jet aircraft were purchased during the 1960's (for example, Dassault Mirage 5 fighters and additional Canberras), and from 1974 onwards, Peru began to aquire Soviet aircraft, notably, Mil Mi-6 and Mi-8 helicopters, Sukhoi Su-22 fighters, and Antonov An-26 transport aircraft. From 1996 onwards, FAP started to receive deliveries of MiG-29 fighters and Sukhoi Su-25 attackers, provided by Russia and Belarus.The MiG-29 formed the backbone of the FAP fighter force until recent times, where it has been supplemented by Dassault Mirage 2000 fighters. The attacker force consists of Su-25's, and upgraded A-37 Dragonflies, while transport squadrons are equipped mostly with Antonov An-32 and de Havilland DHC-6 Twin Otter transport aircraft. The helicopter fleet consists mainly of Russian helicopters, such as the Mi-25/35 and Mi-17.





With an upcoming update, we will add the emblems of Chilean and Peruvian Air Forces created by Colin 'Fenris' Muir



[VEHICLE PROFILE] M15 CGMC

28. May - Author: Stephen "Azumazi" Hembree

The History of the M15 vehicle is actually quite simple: the T-28 CGMC project, or Combination Gun Motor Carriage, was designed around the current Army 37mm M1A2 Autocannon to be flanked with two .50 caliber M2 Browning machine guns. The system was quite large and at the time they were attempting to marry it to the M2 Half-Track chassis. To get the gun system to even fit, it was necessary to remove the side armor at the rear.

The mount was unarmored at the time. Eventually the project was cancelled in early 1942, but it was very soon revived due to a need for a heavier AA gun mount and the M3 Half-Track was proposed to mount the guns. The married mount and chassis was giving the designation of the T28E1. 81 of these were produced from July to August of 1942. Starting in October of 1942, a new mount design for an enclosed armored protective box for the crew was devised. This lead to the M15A1 as seen in game. By the end of the Second World War more than 1600 had been produced.

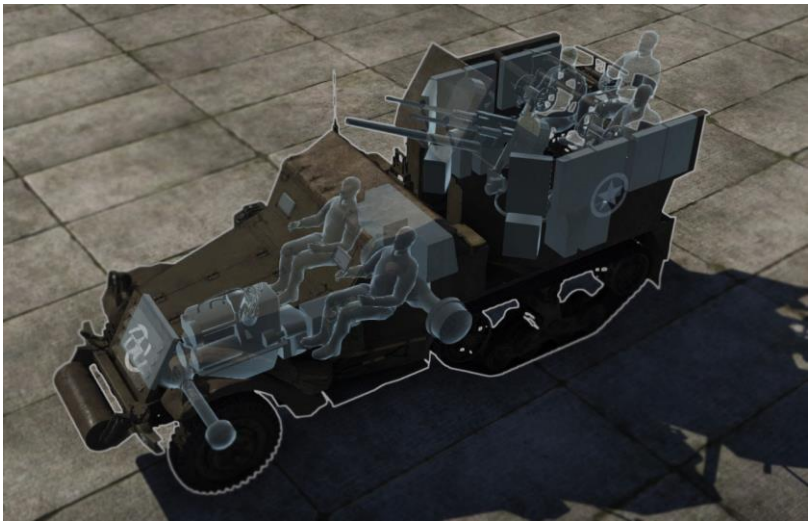


M15 CGMC in Germany

The M15 is an effective AA platform thanks in part to its mix of twin M2 Browning .50 caliber machine guns as well as it having a 37mm AA weapon.

The player can use the machine guns to bring the 37mm on target as well as keep up a continuous stream of fire while reloading the 37mm. Take note that the gun cannot depress over the cab compartment where the driver and co-driver are located. This can cause issues when attempting to engage low flying aircraft or enemy vehicles. You are also a very top heavy Half-track, meaning you should take notice how you climb slopes and go down hills as you can flip this vehicle quite easily on steep gradients. The 37mm has an AP round for use against light vehicles, but many players just opt to keep full HE load for AA usage and using the HE rounds as well for light vehicles as necessary due to the limited available 37mm ammo.

Watch your ammo usage in this vehicle. You only have 200 rounds of 37mm and 1200 .50 caliber rounds. Since your twin 50s are fired together, this means you will have 2 reloads before you're out as they each carry 200 rounds for a total of 400 rounds. Not paying attention can leave you only having 37mm ammo left with it having a 10 round magazine that has to be reloaded, taking on average of 4-5 seconds. Use the machine guns to find the lead angle of the aircraft if you're not in Arcade Battle and follow up with the 37mm. Try not to use both at once as you can waste a lot of ammo due to their rate of fire. Also keep in mind that you do have a fairly slow traversing AA turret at 25 degrees a second. So, when dealing with fast moving aircraft it's best to attempt to predict where they will be instead of trying to lead them if they are close, or wait for them to run into an attack as it is easy to lead the target at a distance.



With one of the upcoming Updates, we will add the Emblem of the 390th AAA Battalion "Gollywampus Gremlin" to War Thunder
by *Branislav "InkaL" Mirkov*

