

# Ambush Pr

*Jagdpanzer 38 tank hunters were initially painted Dunkelgelb sandy yellow when they left the factory. This survivor is on display at the Swedish Tank Museum (Arsenal)*

*'A pack of Jagdpanzer 38 tank hunters would hide in a wood or thick hedgerow and pick off enemy tanks at long range'*

# edator

The Jagdpanzer 38 tank hunter was designed to have a low profile that made it hard to target and easy to conceal

As World War Two progressed, the conflict turned into a numbers game. Germany needed more armoured fighting vehicles that were cheap to build and quick to construct and so the army started using the hulls of captured tanks and reliable but obsolete tanks like the Panzer 38(t) to mount anti-tank guns and artillery howitzers.

This resulted in the production of the Marder series and Nashorn anti-tank self-propelled guns. While they carried powerful guns, their thin armour, open-top fighting compartment and high profile made them easy to spot on the battlefield.

To overcome these weaknesses, the Jagdpanzer 38 tank hunter was conceived. At just 2.10m (6ft 10.6in) high, its low profile made it easier to conceal and ideal for ambush tactics. Armed with a powerful high-velocity 75mm Pak 39 L/48 long-range gun, it was able to knock-out most enemy tanks and was also cheaper and quicker to build than a Panzer IV, Panther or Tiger tank. Although it is today commonly referred to as the Hetzer, it was not officially called this during the war.

The Jagdpanzer 38 was not designed to be a close combat vehicle, used at the head of an attack like a tank. Instead, it was a self-propelled anti-tank gun that was intended to be deployed on the flanks to stop counterattacks.

A pack of Jagdpanzer 38 tank hunters would hide in a wood or thick hedgerow and pick off enemy tanks at long range. The sloping front armour gave the crew reasonable protection from frontal attack and so long as the driver pointed the front of the vehicle at any threat, the crew would typically survive a hit from an enemy armour-piercing shell. The thin armour on the sides, however, and at the rear meant that there was a risk of being knocked out during flank and rear attacks with armour-piercing shells. If there was a danger of being outflanked, the driver had to change location quickly.

By 1944 the Panzer 38(t) tank was considered outclassed and obsolete and had been withdrawn from frontline units. The Jagdpanzer 38 used its tried and tested components on a wider hull, meaning the new vehicle was relatively reliable as all the early mechanical





**ABOVE: This Jagdpanzer 38 was constructed in January 1945 at the Skoda factory and knocked out near Prague in May 1945. It was rebuilt and served with the Swiss Army after the war. It has the later version of the exhaust system. It is now on display at the Australian Armour and Artillery Museum, Cairns, Queensland, Australia. AAAM**

**BELOW: The Jagdpanzer 38 on display at the Tank Museum, Kubinka, Russia is fitted with the early version of the exhaust system that had a large horizontal silencer box**



problems had been overcome. Production was also able to start earlier than usual for a new armoured fighting vehicle as most of the factory tooling for the manufacture of the Panzer 38(t) tank was still available.

On November 26, 1943, the production of Sturmgeschütze III (StuG III) assault guns at

the Alkett company was severely interrupted when Allied bombers dropped 1,424 tons of explosive and incendiary bombs on the Berlin factory. Due to the damage, the German Army High Command (Oberkommando des Heeres - OKH) investigated the possibility of starting Sturmgeschütze III production

at the Bohemian-Mähri Maschinenfabrik AG (BMM) company in Prague. Before the German invasion of Czechoslovakia, this factory used to be called Českomoravská Kolben-Daněk (ČKD) and built tanks for the Czechoslovakian Army. However, OKH soon reported to Hitler that BMM was unable to carry out this type of production order as it did not have the infrastructure to manufacture the 24-tonne StuG III. The factory cranes could only lift 13 tonnes and had spent most of the war constructing the 9.8 tonne Panzer 38(t) light tank for the German Army.

Hitler gave orders that the BMM factory was to concentrate on producing a new lighter tank hunting assault gun. It was proposed the new vehicle would have a top speed of 55 to 60 km/h (34 to 37 mph), weigh 13 tonnes and, as a result, have thin but sloped frontal armour to keep the weight down. The side armour was only to be thick enough to provide the crew protection from small arms fire and high explosive shell shrapnel.

The Romanian Mareşal light tank hunter is credited with being the inspiration for the shape of the Jagdpanzer 38 and on December 17, 1943, designs for a new vehicle based on the hull of the now obsolete Panzer 38(t) light tank and a new type of reconnaissance vehicle (Aufklärungsfahrzeug) were presented to Hitler. They were approved. By January 24, 1944, a 1:1 wooden scale model had been built and two days later demonstrated to officers from the Heereswaffenamt (HWA) Army weaponry research and development agency. The size of the fighting compartment on the wooden mock-up was shorter than on the production model, and the engine compartment had a longer, sloped cover. These features were changed to give the crew more room.

Once the final design of the production Jagdpanzer 38 was agreed, BMM was



**This Jagdpanzer 38 is on display at the Panzermuseum in Thun, Switzerland. The block of wood on the front right track guard is the base plate for the jack. MASSIMO FOTI**

## SPECIFICATIONS

<b>Model</b>	Jagdpanzer 38
<b>Manufacturer</b>	BMM, Škoda
<b>Production</b>	1944 to 1945
<b>Main gun</b>	7.5 cm Pak 39 L/48
<b>Machine gun</b>	MG 34
<b>Engine</b>	Praga epa AC 2800 six-cylinder
<b>Horsepower</b>	160hp at 3,000rpm
<b>Fuel</b>	Petrol
<b>Transmission</b>	Praga-Wilson
<b>Max road speed</b>	40km/h
<b>Range</b>	180km
<b>Dimensions (overall)</b>	
<b>Weight</b>	16 tonne
<b>Length</b>	6.27m
<b>Width</b>	2.63m
<b>Height</b>	2.10m



**The driver only had two forward-looking periscopes to see where he was going. He had no vision to his left or right. Behind him sat the gunner and loader**

awarded a contract to produce 2,000 vehicles. More was needed so the Czechoslovakian company Skoda was also awarded a contract to build 2,000. Although both factories suffered bombing raids, BMM produced 2,047 and Skoda 780 by the end of the war.

The Sturmgeschütz III gun mount had been bolted to the floor of the vehicle. But due to the limited space inside the Jagdpanzer 38 and a desire to keep vehicle's profile low, its gun was fixed to the roof of the superstructure and the gun mantlet in a cradle mount. The gun mantlet was bolted to the upper glacis plate, which took a lot of the weight. The gun had to be installed off centre to the right which meant the driver, gunner and loader sat on the left, one behind the other. The commander sat on the right at the rear of the fighting compartment, directly behind the gun with his hatch above him.

As the gun was mounted on the right, traverse was restricted to only 5° left and 11° right. To engage targets outside this narrow 16° traverse, the vehicle would have to be moved. The off-centre gun meant there was too much weight on the right track and suspension and to level the vehicle, 850kg of crew and equipment had to be placed on the left. If all the hatches were closed, the crew had limited visibility, especially to the side and rear. The driver had two angled periscopes that protruded out of the upper glacis plate under a protective armoured cover while the gunner had a forward-looking Selbstfahrlafetten-Zielfernrohr 1a (Sfl.ZF 1a) periscope gun sight. The loader had a periscope to look out for threats on the left and the roof machine gun was aimed by looking through another periscope that could rotate 360°. The commander had access to a rearward looking periscope, but if his hatch was closed, he had no forward vision, so it

was only shut in an extreme emergency. He also used a Scherenfernrohr 14Z (Sf.14Z) scissor telescope which poked out the top of the open roof hatch and had an 8x10 magnification.

The new tank hunter was powered by a Praga EPA AC 2800 six-cylinder 158hp petrol engine. The engine was like the one used in the Panzer 38(t) tank but had been uprated. Instead of producing 129hp it now produced 158hp and was connected to a five-speed Praga-Wilson transmission which was in turn connected to a Planetary steering system.

A top road speed of 40km/h (24.85mph) was less than initially hoped for. This was because the production vehicle weighed 16 tonnes rather than the proposed 13 tonnes, which affected the speed. Cooling the engine was another issue as the Jagdpanzer 38 only had a small air intake vent on the rear deck. It required a powerful motor to drive the air intake fan, which reduced overall performance. Although the hull, suspension track and road wheels look like those used on the Panzer 38(t) tank, the vehicle was a new build. The hull was wider: 2.63m on the Jagdpanzer 38 compared to 2.13m on the Panzer 38(t) tank. The road wheels were also larger - 82cm diameter compared to 77.7cm. The suspension was more durable, especially at the front to cope with the extra weight and the tracks were widened from 29cm to 35cm. However, the Jagdpanzer 38 was only given one track return roller unlike the Panzer 38(t) which had two.

When it came to arming the new vehicle, the 7.5cm Panzerjägerkanone 39 L/48 (7.5cm Pak 39 L/48) anti-tank gun was fitted (it was also used on the Jagdpanzer IV/48). The German word 'Panzerjägerkanone' literally translates to 'tank hunter gun' (anti-tank gun) and is usually abbreviated to Pak, thus



**The Jagdpanzer 38 tracks were 35cm wide. The Panzer 38(t) tank tracks were only 29cm wide. Several different styles of rear idler wheels were fitted to the vehicle between 1944 and 1945**

**'It was quick and cheap to build when compared with some other vehicles'**



**The Schürzen side skirt armour was made from 5mm steel plate. It was designed to protect the side 20mm thick lower hull armour from the Soviet 14.5mm anti-tank rifle**



**The metal cone in the middle of the bolted circular engine access hatch is a cap that covers the hole for the engine starter hand crank**



**The factory bent the leading edge of the Schürzen side skirt armour to try and prevent it being ripped off by getting caught on branches**



*The driver had two forward-looking periscopes. He had no vision to his left or right*

## **'Hitler gave orders that the BMM factory was to concentrate on producing a new lighter tank hunting assault gun'**



*The commander's rear-view periscope (missing) was protected by a curved piece of metal*



*The Jagdpanzer 38 commander did not have a protective armoured cupola. This was his two-door hatch. He had a rearward-looking periscope*



*On May 5, 1945, this Jagdpanzer 38 was captured with three others by Czechoslovak freedom fighters at the Skoda factory in Smichov. Machine guns were fired out of the gun mount hole. It is on display at the Army Technical Museum, Lešany, Czech Republic. MASSIMO FOTI*

sharing the contraction of the more common 'Panzerabwehrkanone'.

It was an electrically fired weapon fitted with a semi-automatic breech mechanism and a 48-calibre long barrel (3,615mm or 11ft 10.3in). It could penetrate the armour of most common Allied tanks at a range up to 1,000m. A remote-controlled, roof-mounted 360° swivelling 7.92mm MG34 machine gun was also fitted and was fired by the loader from inside the safety of armoured fighting compartment. As alluded to earlier, the front of the vehicle was the most well-protected area with the upper glacis plate designed to be 60mm thick, sloped at 30° from the horizontal. This meant that an armour-piercing (AP) round fired at the front upper glacis plate would have to penetrate 120mm of armour due to the angle. The steep slope would also help increase the possibility of a

to the 30mm face hardened armour used on the Panzer III. The upper side armour of 20mm thickness was comparable to the 14.5mm plate used on the front of a 251 half-track. It was made from a low alloy Siemens-Marteneit (SM) steel. Investigations have revealed the tolerances on armour production were quite wide after the thickness of four different Jagdpanzer 38 upper glacis plate 60mm thick armour were measured. The thickness ranged from 62.2mm to 64.8mm.

As with all other German armoured fighting vehicles, improvements were continuously introduced to improve performance and increase the rate of manufacture. Other changes were forced due to parts or raw material shortages.

A surviving Panzerjäger Schule Milowitz (tank hunter training school at Milowitz)

*This is one of four Jagdpanzer 38 tank hunters, bought by Sweden after World War Two for trials. It is on display at the Arsenalen Swedish Tank Museum. MASSIMO FOTI*



ricochet. In comparison, the Tiger 1 heavy tank only had 100mm frontal hull armour. Sloping the armour on the Jagdpanzer 38 meant the level of protection could be kept high, but the weight of the vehicle low. Also, the front glacis armour plate featured interlocking welded joints for added strength. The lower front glacis plate was 60mm thick angled at 50°. This would make the effective thickness of that armour plate 78mm.

The lower hull side armour was 20mm thick and sloped inwards at an angle of 75°. The rear armour was 20mm thick angled at 75°. The roof armour was 10mm thick and the belly armour 8mm. The Schürzen side skirt was made from 5mm steel plate. It was designed to protect the side 20mm thick lower hull from the Soviet 14.5 mm anti-tank rifle.

From these statistics, it would appear the front armour of the Jagdpanzer 38 was very strong. Unfortunately, these figures are deceptive because the armour plate used was of inferior quality compared to the armour used on the Panzer IV and Panther tanks. The 60mm armour on the upper and lower glacis was roughly equivalent

document showed that Jagdpanzer 38 crews were encouraged to find preselected firing positions, preferably behind an earth wall in cover, like at the edge of a wood. Once targets had been engaged and there were no more targets available, the commander was to direct the driver to change location, which could reveal the vehicle's position. The Jagdpanzer 38s were assigned to independent Heeres Panzerjäger Abteilungen (Army Tank Hunter Battalions). They were to provide Infantry Divisions with a mobile anti-tank destroyer. When the infantry was attacked, they could be used to support the infantry's counterattack. They were never intended for use as a 'tank' at the front of an attack in a major offensive.

Overall, the vehicle proved successful. It was quick and cheap to build compared to some other vehicles, was reliable, easily concealed, hard-hitting, and when used right, a hard to kill vehicle. A company or platoon of Jagdpanzer 38 tank destroyers working together, concealed in a good location, could damage or knockout a considerable number of attacking enemy tanks. ■