



ABOVE: The surviving Hummel at the German Tank Museum (Deutsches Panzer-museum) in Munster, Germany is an early production version as it only has a single raised cabin for the driver on the front glacis plate. It is fitted with Travaline standard tracks
 BELOW: The surviving Hummel at the Museum of Armour (Musée des Blindés) in Saumur, France was knocked out in combat by tanks of the 5th US Armored Division on 10 August 1944, near the farm 'Les Noyers', near Nouans, France

Stings Like a Bee

Transporting the German 15cm heavy field howitzer 18 from place to place during World War Two was a challenge. It required a team of six horses in three pairs to tow it. In addition to the six crew members operating the artillery piece, a further three men were needed to manage the horses. So, one can understand that mounting the gun on a tank hull simplified transportation greatly.

The full designation of the artillery self-propelled gun (SPG) was a mouthful: panzerfeldhaubitze s.F.H.18/1 (Sf) auf Geschützwagen III/IV Hummel, Sd.Kfz. 165.

I will attempt to break the name down. A vehicle fitted with an artillery field howitzer was known as a 'Geschützwagen', which literally means 'gun vehicle'. The letters 'Sf' stands for 'Selbstfahrlafette', or self-propelled carriage. 'Panzerfeldhaubitze' means armoured field howitzer, while the German word 'Hummel' means bumblebee, an apt name because it was an armoured fighting vehicle that had a nasty sting.



However, the German High Command thought differently as in February 1944, an official order was passed to stop using the nickname 'Hummel' as they thought it improper to call a large artillery self-propelled gun after a little flying insect.

The Hummel was designed in 1942 and the prototype featured a large muzzle brake, although this was not used on

production models. The contract was awarded to weapons manufacturer Alkett while Deutsche Eisenwerke in Duisberg was contracted for assembly. The powerful 15cm sFH 18 L/30 heavy field howitzer was mounted on the specially designed Alkett/Rheinmetall-Borsig lengthened 'Geschützwagen III/IV' tank chassis. Components were adopted from both



The Geschützwagen III/IV tank hull was slightly longer than the standard Panzer IV tank hull allowing for more room for the driver and passenger

the Panzer III and the Panzer IV tank chassis. The more robust final drive wheels, front-drive wheels and steering units plus the Zahnradfabrik SSG 77 transmission gearbox were adopted from the Panzer III Ausf. J. The Maybach HL 120 TRM engine with its cooling system, the suspension, and idler with track tension adjustment were adopted from the Panzer IV. The engine was moved from the rear of the tank chassis to the centre to make room for the gun and the armoured fighting compartment. Due to Allied bombing, the Hummel and the parts needed for its construction were built at different factories.

The Geschützwagen III/IV hull was also used for mounting the 88cm anti-tank gun and this version was called the Nashorn. Unlike the Nashorn's armour piercing rounds, the Hummel's 15cm high explosive (HE) shells came in two parts. The explosive shell was loaded first, followed by the variable charge canister. This meant that the Hummel could only carry 18 rounds of HE.

The first five production series Hummels were completed in February 1943 and entered service in March 1943. They were immediately sent to the Eastern Front to provide artillery support for the Panzer Divisions. The first batch saw action during Operation Zitadelle (Citadel) which started on July 5, 1943. Ten German divisions were issued with Hummels and a total of 60 were available to be deployed during the battle. They were used by Panzer-Artillerieregiments on the Eastern Front until the end of the war, with a small number captured by the Red Army and used against Axis forces in Hungary. Hummels were also used in Greece, Italy and north-west Europe in 1944.

Between February 1943 and March 1945, a total of 705 Hummel 15cm self-propelled artillery guns were built, while a further 157 Hummel Munitionsträger ammunition carriers were also produced. The initial contract for 500 (including the ammunition carrying Munitionsträger version) was

completed in January 1944. This was followed by a new, improved version which appeared in early 1944. It included a redesign of the front hull superstructure with the driver's armoured compartment enlarged, covering the whole width of the vehicle. The radio operator and driver now

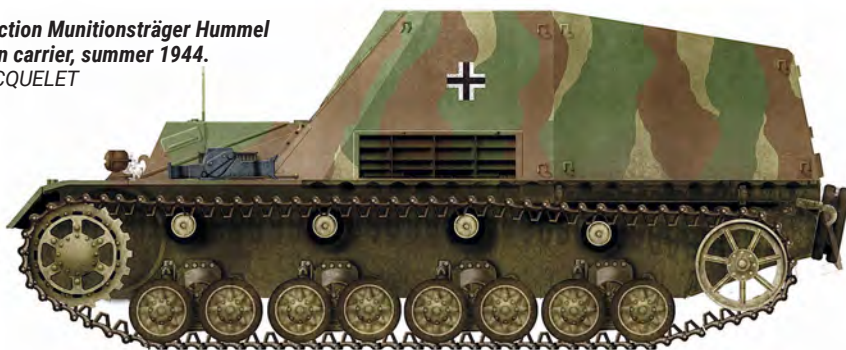
SPECIFICATIONS

- Length:** 7.17m (23ft 5in)
- Width:** 2.97m (9ft 7in)
- Height:** 2.81m (9ft 2in)
- Total weight, battle ready:** 22 tonnes (21.65 tons)
- Crew:** Six (commander, driver, four Kanoniere gun crew)
- Propulsion:** 12-cylinder water cooled Maybach HL 120 TRM 11.9 litre petrol engine, 265hp at 2600rpm
- Fuel capacity:** 400 litres
- Top road speed:** 42 km/h (26mph)
- Operational range (road):** 215km (133 miles)
- Main armament:** 15 cm s.FH 18/1 L/30 howitzer with 18 rounds
- Secondary armament:** 7.96mm MG 34 machine gun
- Armour:** Front 30 mm, sides 20mm, rear 20mm.
- Superstructure Armour:** front 10mm, sides 10mm
- Total production:** 705

Late production 15-cm sFH 18/1 (Sf) auf Geschützwagen III/IV Hummel (Sd.Kfz.165) artillery self-propelled gun of the 2 SS-Pz Div 'Das Reich', summer 1944.
DAVID BOCQUELET



Late production Munitionsträger Hummel ammunition carrier, summer 1944.
DAVID BOCQUELET



Late production 15-cm sFH 18/1 (Sf) auf Geschützwagen III/IV Hummel (Sd.Kfz.165) artillery self-propelled gun of the 2 SS-Pz Div 'Das Reich', Summer of 1944.
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'The full designation of the artillery self-propelled gun (SPG) was a mouthful'

had more space to work in. The exhaust system was also changed. It was moved from the original location below the rear double doors, the fitting of exhaust silencer boxes was discontinued, and the end of the exhaust pipes were cut at a slant away from the tracts to avoid stirring up additional dust.

When not in use, the Hummel's 15cm howitzer was locked in place by a large 'A' frame travel-lock bracket that was mounted on the front hull glacis armoured plate. This stopped the gun moving up and down too violently when the vehicle was travelling across rough undulating ground. On early versions, the front top of the hull had sloping armour with a raised armoured compartment for the driver on the left of the vehicle.

The Geschützwagen III/IV tank chassis did not have a hull-mounted machine gun. Crews were issued with a single 7.92mm MG34 recoil-operated air-cooled machine gun (or later an MG42), carried inside the fighting compartment, and two 9mm Maschinengewehr MP 38 submachine gun for self-defence.

The Hummel was designed to be operated by a crew of six: commander, driver and four gunners. They were protected by an enclosed high silhouette armoured fighting compartment. Although it was open-topped, the crew were issued with a thick canvas tarpaulin covers that could be used in bad weather.

In front of the driver, a metal wire grid was fixed into position to aid the driver manoeuvring the vehicle in the correct fire position. Some early versions had a metal pole and wire mesh roof framework fitted above the fighting compartment of the vehicle. These were designed to prevent grenades and mines being thrown into the vehicle as it moved through towns and cities.

Hummel SPGs were fitted with Funksprechgeraet f wireless radio sets (Fu. Spr.Ger.f) for communication with other vehicles and the battery commander. For internal communications, the crew used a different system called the Bordsprechgeraet. The driver was a long way forward from the fighting compartment, and the engine and tracks made a lot of noise when the vehicle was on the move. This is why an internal communication system was fitted.

Metal louvred covers ventilated the engine and radiator. They were on the side of the superstructure; however, it was found that they often were caked in dirt and dust which reduced the efficiency of their cooling function. Later versions were fitted with an angled shield that opened upward protecting the vents from clogging up. The air was drawn down from the top. These

cooling air intake and exhaust covers were fitted to Hummels around August 1943.

Three red and white striped aiming stake poles were carried in brackets below the rear door. The gunner would use a large ZE 34 sight with the top lens aperture pointing to the rear of the vehicle. The gunner used this aperture of the sight to locate the aiming sticks that a member of the crew had pounded into the ground at the rear at a known bearing from the vehicle by using a compass (compasses did not work inside a metal vehicle in 1943). By lining up the red and white fire aiming stake, he could work out the correct bearing the gun

barrel was pointing towards.

The upper fighting compartment superstructure walls were constructed using 10mm (0.39in) thick E11 chrome-silicon armour plates hardened to 153 kg/mm² for protection against shell fragments, but tolerances varied. The superstructure of the Hummel in the Museum of Armour in Saumur, France ranges between 10.20mm to 11.5mm in thickness. The 30mm (1.18in) thick front hull was made using face-hardened FA32 armour plates. The rest of the hull was made from cheaper rolled SM-Stahl (carbon steel) that was hardened to 75-90 kg/mm². It took 20mm (0.78in) thick plates of SM-Stahl to provide equivalent protection against penetration by SmK (7.92mm AP bullets) as 14.5mm (0.57in) of E11 armour plate.

The early Hummel SPGs used the standard 1943 38cm wide SK18 Travaline track that had three smooth metal pads visible on the front face of the track. In winter, some vehicles were fitted with

Late production 15-cm sFH 18/1 (Sf) auf Geschützwagen III/IV Hummel (Sd. Kfz. 165) artillery self-propelled gun with armoured engine-louvred exhaust cover. Summer of 1944. DAVID BOCQUELET



Early version of the 15-cm sFH 18/1 (Sf) auf Geschützwagen III/IV Hummel (Sd.Kfz.165) artillery self-propelled gun in winter whitewash livery Eastern Front, 1943. DAVID BOCQUELET



Prototype 15-cm sFH 18/1 (Sf) auf Geschützwagen III/IV Hummel (Sd.Kfz.165) artillery self-propelled gun with large muzzle brake. DAVID BOCQUELET





To the left of the track, there is a curved piece of metal attached to the hull side. This is a track pin bump. Track pins were kept in place by a split pin on the outside edge of the track. AUSTRALIAN ARMOUR AND ARTILLERY MUSEUM

'The demand for spare parts sometimes could not be met'



The Hummel at the Museum of Armour (Musée des Blindés), in Saumur, France has black lines painted over the upper superstructure. This is to simulate wire the crew would have strung around the vehicle to hold in place tree and bush branches to help camouflage the vehicle



On early Hummels, there was an exhaust silencer box attached to the rear of the vehicle under the hatch doors. Gun crews got burnt. AUSTRALIAN ARMOUR AND ARTILLERY MUSEUM



The Hummel was fitted with a 15 cm s.FH 18/1 L/30 heavy field howitzer and could carry only 18 two-part rounds. AUSTRALIAN ARMOUR AND ARTILLERY MUSEUM

track width extenders called Winterketten (winter track). These rectangular pieces of metal were bolted on to the outer edge of the track to extend the width of the track and help the vehicle move across snow and mud by spreading the load over a larger area. They were problematic in that they fractured and often fell off.

In 1944, vehicles were fitted with the wider Ostketten (east track) to cope with the conditions found on the Eastern Front. The Winterketten extensions made the SK18 tank track 55cm wide. The one-piece Ostketten was 56cm wide and did not have bits falling off it. On the top edge of the superstructure, there were several 'D' shaped rings fitted to the armour plate. These were used to strap down the bad weather tarpaulin. It was also used in the hot continental summers to give shade from the sun. At the rear of the vehicle, below the hatch doors, a towing bar was fitted. This enabled the vehicle to be towed out of the mud if it got stuck. It could also tow other vehicles, trailers or supply sledges.

The Hummel was prone to some mechanical defects, which became evident after they had been used in action. The 15cm heavy field gun caused stresses on the vehicle when it was fired. The recoil force was felt throughout the vehicle, and some mechanical parts failed. Bolts, screws and rivets worked loose, causing leaks, equipment and fittings started to come away from the hull. Gears failed in steering units. Fan drives snapped or came off. When new targets were assigned to the battery the vehicle would have to be turned on the spot to align the gun to the new map reference and Idler wheel mountings broke. The final drive large gear failed and bolts that fixed the final drive snapped. The demand for spare parts sometimes could not be met.

In Italy, where they had to negotiate, narrow, winding mountainous roads, the continuous swivelling on the spot to get around tight turns caused the final drives to break down. Going down steep gradients wore out brake linings quickly and they had to be replaced regularly. Unavailability due to mechanical problems was much higher in Italy than on the Eastern Front due to the demands of the terrain. If these vehicles could not be fixed during a retreat, they had to be blown up to stop them falling into Allied hands.

One of the easiest ways of telling the difference between an early and late production Hummel when studying a photograph is to look at the upper front superstructure on the tank chassis. If you can see a separate armoured raised box on the left of the vehicle, where the driver

Surviving SPGs

- Australian Armour and Artillery Museum, Cairns, Northern Queensland, Australia**
- Deutsches Panzermuseum (German Tank Museum) Munster, Germany**
- Musée des Blindés, (Museum of Armour) Saumur, France**
- Auto + Technik Museum, Sinsheim Germany**
- Artillerie Schule, Idar Oberstein, Germany**
- The Fort Sill Field Artillery Museum, Oklahoma, USA**

would sit, then this is an early production vehicle. If there is a raised box that covers the whole width of the vehicle then this is a late production version. This change was introduced on the production line around February 1944.

If you cannot see the front of the vehicle, look for a large exhaust muffler/silencer box under the two small hinged doors at the rear of the vehicle. If you see one, then you are looking at an early production vehicle. It was dropped from the late production models, and two replacement spare bogie wheel holders were put in its place as well as an angled metal foothold to help the crew climb into the back of the vehicle. The end of the twin exhaust pipes can now be seen over the top of the track at the rear, one on each side.

This was a clever modification as the exhaust gases blew down onto the dust kicked up by the tracks during the summer and helped reduce the amount of dust that entered the crew compartment. These changes were introduced around August 1943.

On drawings dated May 15, 1943, the fitting of two Bosch headlights at the front of the vehicle was stopped. Later production Hummels were now only fitted with one Bosch headlight over the front left track. It is easy to tell the difference between a 15cm Hummel and 10.5cm Nashorn self-propelled gun even though they both used the same Geschützswagen III/IV tank chassis. The 15cm howitzer used in the Hummel was not fitted with a muzzle brake on the end of the gun barrel while the Nashorn's 10.5cm gun always had a muzzle brake fitted. ◀

You can read about this and the other 19 Artillery SPGs used by the Germans during World War Two in Craig Moore's new book **German Self-propelled Artillery Guns of the Second World War** available on Amazon.co.uk.