

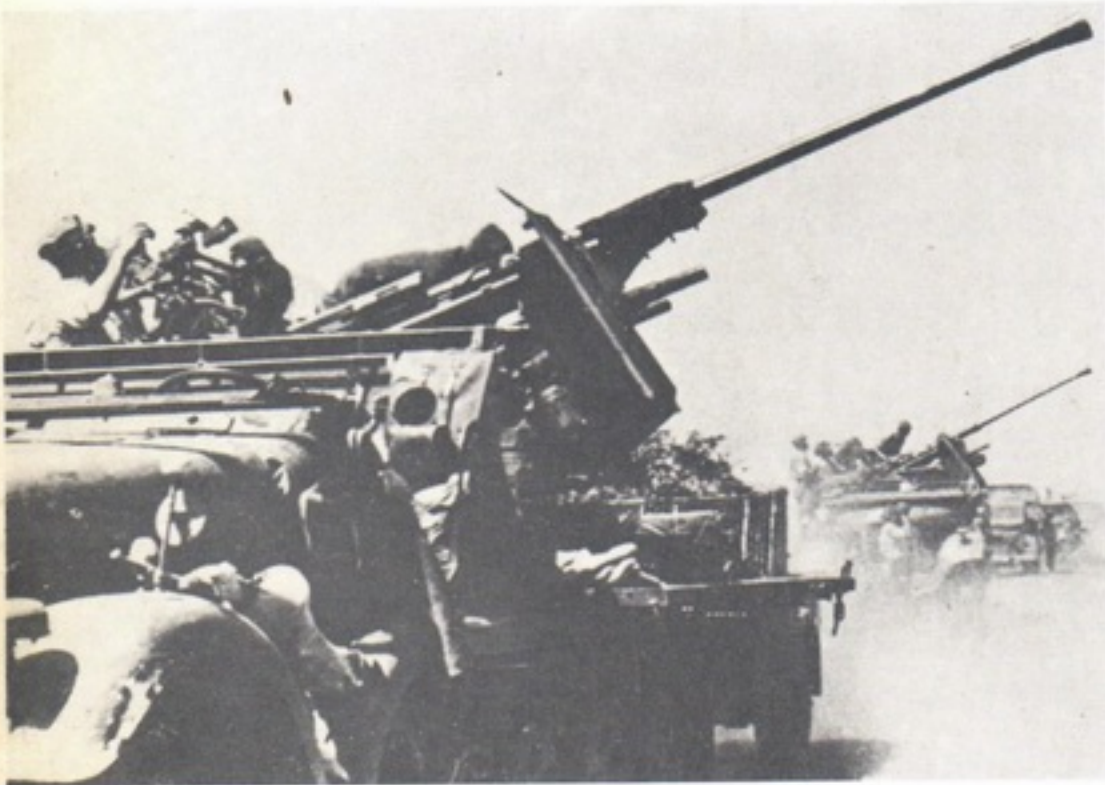
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German Self-Propelled Weapons

by Peter Chamberlain and H. L. Doyle



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**10.5cm (f) auf PzKpfw
Mk VI (e)**
*A small number of captured
British light tanks of the
Mk VI series were converted
as mobile mounts
for the French 105mm gun.*
(Bundesarchiv Koblenz)

Illustrated Summary of German Self-Propelled Weapons 1939–1945

by Peter Chamberlain and Hilary L. Doyle

INTRODUCTION

EVEN before the outbreak of the Second World War, German Panzer experts had called for the introduction of self-propelled guns to accompany the Panzer Divisions then in the process of being formed. These demands, of course, referred primarily to self-propelled carriages for the field guns of the artillery regiments which would support the main fighting units, the tanks, in both attack and defence. However, due to the heavy production requirements for tanks and the limited war effort during the period from 1939 to 1941, plans to produce self-propelled artillery were neglected to a great extent and only a few attempts were made to introduce mobile guns.

Events in Russia during the latter part of 1941 forced an unforeseen development—the hurried introduction of large numbers of improvised self-propelled anti-tank guns. The carriages used were converted from the now obsolete light tanks which constituted so much of the strength of the Panzer Divisions and occupied so much space on the production lines of numerous German tank factories. These self-propelled guns were not the carefully designed weapons which had been urged before the war, but were instead a panic attempt to make up for the very low number of medium tanks available and even the inferiority of these same medium tanks. Such make-shift equipments were not the answer to the problems, and field units soon complained and demanded better tanks and tank destroyers. However, production was continued until the end of the war by the utilisation of otherwise useless stocks of captured foreign tank chassis and guns; such production being justified on the grounds that

the mobility of these anti-tank guns was worthwhile during the many defensive battles that were the order of the day. Fortunately, a true anti-tank weapon became available through the up-gunning of the infantry assault gun or Sturmgeschuetz, and by its more developed successor the Jagdpanzer. Heavily armed and armoured these low vehicles were ideal for defensive warfare and proved very successful, so much so that in the final years of the war far more of this type of vehicle were produced than tanks.

Meanwhile, the much neglected mobile artillery was provided by using a proportion of the already mentioned obsolete light tank chassis. Again the improvised nature of these self-propelled guns caused difficulties, and improvements were requested by artillery units in the front line. This led to the interesting development of the Waffenträger. Basically it was hoped to produce a gun with all-round traverse which could be dismounted from its self-propelled carriage when required. Several advanced projects were not finalised due to the pressure on German industry as the war situation deteriorated.

A notable exception in this story were the anti-aircraft guns which were given self-propelled carriages of a semi-tracked type from the start of the war. However, the development of a fully tracked and armoured anti-aircraft mounting was continually left over and this problem was only tackled in the last years of the war when Allied air power began to cripple the mobile formations of the German Army.

There were a vast number of different types of self-propelled gun and these can be classified either by the carriage or by the type of weapon. As the prime purpose for building all these self-propelled guns was to mobilise

a specific weapon, any and every type of chassis could be and was used.

For this reason the authors have divided this Summary into sections according to the type of weapon used, ie. Anti-Tank (Pak), Assault Gun (StuG), and so forth, and then they have catalogued the equipments within these sections in chronological order by the calibre of the gun.

Reference to the glossary of German terms will explain the full meaning of any of the vehicle designations given in the picture captions.

This Summary is the first fully comprehensive coverage of all known German operational, improvised and experimental self-propelled weapons to be mounted on wheeled, tracked or semi-tracked vehicles during the period from 1939 to 1945 and the authors would like to thank the following individuals for the assistance they have given ie:

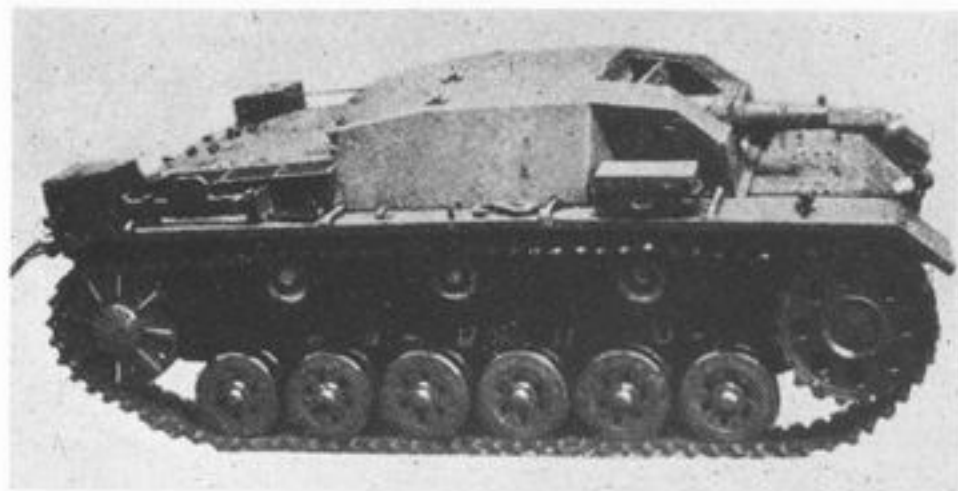
Col. R. J. Icks, J. de Voss, Masami Tokoi, J. Milsom, R. Hunnicutt, W. Spielberger. Grateful acknowledgements also to Derek Mayne of the Imperial War Museum and to Dr Haupt of the Bundesarchiv Koblenz.

GLOSSARY OF GERMAN TERMS USED IN THIS SUMMARY

Abbreviation	Full Term	English Translation
	Auf	Upon, on
Ausf.	Ausfuehrung	Model, Mark
	Bis	To
(f)	Franzoesisch	French
Fgst	Fahrgestell	Chassis
FH	Feldhaubitze	Field Howitzer
FK	Feldkanone	Field Gun
Flak	Fliegerabwehrkanone	Anti-Aircraft Gun
	Flakpanzer	Anti-Aircraft tank
	Frueher	Formerly
	Fuer	For
	Geraet	Weapon
gep	Gepanzert	Armoured
gl	Gleiskette	Track(ed)
GrW	Granatewerfer	Mortar
GW	Geschuetzwagen	Gun Motor Carriage
Haub	Haubitze	Howitzer
I	Infanterie	Infantry
IG	Infanteriegeschuetz	Infantry Gun
JgdPz	Jagdpanzer	Tank Hunter
Kwk	Kampfwagenkanone	Tank Gun
le	Leicht	Light
leFH	leichte Feldhaubitze	Light Field Howitzer
Lkw	Lastkraftwagen	Lorry, Truck
m	Mittler	Medium
MG	Maschinengewehr	Machine Gun
	Mit	With
Mrs	Moerser	Heavy Mortar/Howitzer
NbW	Nebelwerfer	Chemical/Smoke Projector
(O)	Oesterreichisch	Austrian
	Oder	Or/Alternatively
Pak	Panzerabwehrkanone	Anti-Tank Gun
Pjk	Panzerjaegerkanone	Anti-Tank gun adapted for use in Tank Hunter vehicles
Pz	Panzer	Tank
PzB	Panzerbüchse	Small Anti-Tank Gun with tapered bore
PzH	Panzerhaubitze	Howitzer adapted for fitting in armoured vehicles
PzJaeg	Panzerjaeger	Tank Destroyer/Fighter
PzKpfw	Panzerkampfwagen	Battle Tank
PzSpWg	Panzerspähwagen	Armoured Reconnaissance Car
(r)	Russisch	Russian
Raup	Raupe	Caterpillar Track
RaupFzg	Raupenfahrzeug	Self-Propelled full tracked vehicle
RSO	Raupen Schlepper Ost	Tracked Carrier East
RW	Raketenwerfer	Rocket Projector
s	Schwer	Heavy
Saukopf	Saukopfblende	Boars Head/Cast gun mantlet
SdKfz	Sonderkraftfahrzeug	Special Purpose Motor Vehicle
SdFgst	Sonderfahrgestell	Purpose built chassis
sFH	Schwere Feldhaubitze	Heavy Field howitzer
Sf(Sfl)	Selbstfahrlafette	Self-Propelled Carriage
sIG	Schwere Infanteriegeschütz	Heavy Infantry Gun
sPzSpWg	Schwere Panzerspähwagen	Heavy Armoured Reconnaissance Car
SPW	Schützenpanzerwagen	Armoured Infantry Vehicle
StuG	Sturmgeschuetz	Assault Gun
StuH	Sturmhaubitze	Assault Howitzer
StuK	Sturmkanone	Assault cannon
StuMrs	Sturmmoerser	Assault Mortar
(t)	Tschechoslowakisch	Czechoslovakian
	Und	And
	Vierling	Quadruple
VK	Voll Ketten/ Versuchkonsruktion	Fully tracked/Experimental prototype vehicle
	Waffentraeger	Weapons Carrier/Transporter
Werf	Werfer	Projector
Zgkw	Zugkraftwagen	Prime Mover/Semi-Tracked Vehicle
	Zwilling	Twin/Dual

Assault Guns (Sturmgeschuetz)

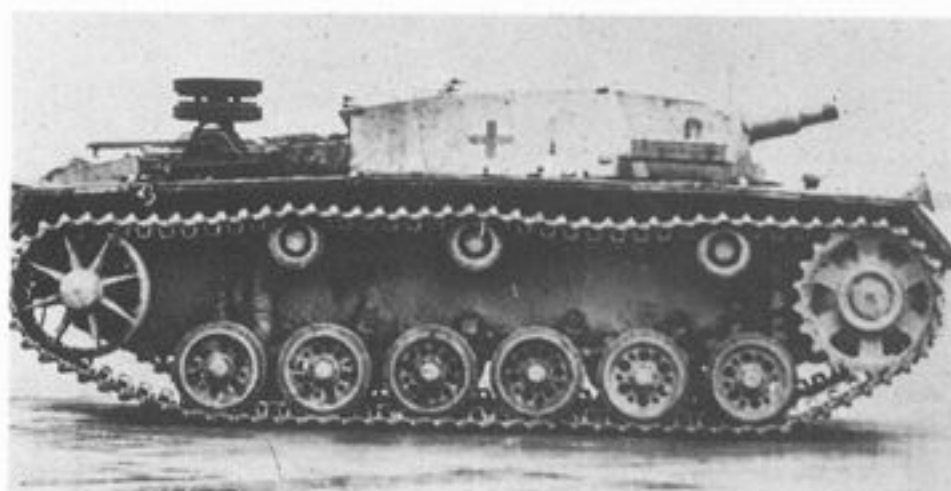
From experience gained during World War I, the German Army requested an armoured mobile gun able to advance with the infantry and destroy local strong points where supporting artillery was not available or capable of doing this task. The design eventually adopted was



Gepanzerte Selbstfahrlafette fuer Sturmgeschuetz 7,5cm Kanone Ausf. A SdKfz 142 or Sturmgeschuetz III Ausf. A
Based on the Panzerkampfwagen III Ausf. E, this was the first of the series to go into production, during 1940. Crew 4. Weight 19.5 tons.

that of a turretless tank mounting a low velocity gun in the front hull.

The turret was replaced by a squat superstructure, and a short barrellled 7,5cm KwK L/24 gun was mounted low in the hull front, the gun having a limited traverse.



Gepanzerte Selbstfahrlafette fuer Sturmgeschuetz 7,5cm Kanone Ausf. B, C and D SdKfz 142 or Sturmgeschuetz III, Ausf. B bis D
Produced from 1941 these three models were basically similar to StuG Ausf. A. There was little external difference between these models except for variations in the chassis, Ausf. F, G and H respectively. Crew 4. Weight 22 tons.



Sturmgeschuetz III, Ausf. E SdKfz 142
Produced in 1942, this was the last model to be armed with the short barrellled 7,5cm KwK L/24. Though similar to the previous models, this vehicle was fitted with an additional armoured pannier on the right side to carry extra radio equipment when in use as a Zugführerwagen (Unit Commander's vehicle).



7,5cm Sturmgeschuetz 40, Ausf. F SdKfz 142/1 or Sturmgeschuetz III Ausf. F
Early in 1942 the first StuG models with a long barrel 7,5cm StuK 40 L/43 were introduced. This was a development of the KwK 40 tank gun adapted for use in the assault type of vehicle. Based on a chassis similar to that of the StuG III Ausf. E, this vehicle had a modified superstructure fitted with an electric fan on top to ventilate the fighting compartment. Crew 4. Weight 21.6 tons.



7,5cm Sturmgeschuetz 40 Ausf. F/8
Only a small series of the StuG III Ausf. F were armed with the L/43 gun. The Ausf. F/8 was then fitted with a longer gun, the 7,5cm Sturmkanone (StuK) 40 L/48.



7,5cm Sturmgeschuetz 40 Ausf. G SdKfz 142/1 or StuG III Ausf. G fuer StuK 40 L/48
This model appeared at the end of 1942 and was based on the Panzerkampfwagen III Ausf. J. Again various changes had taken place. The longer gun, the Sturmkanone 40, was fitted and the nose frontal armour increased. The roof of the superstructure was equipped with a circular commander's cupola, with seven episcopes—previously the commander had had a fixed hatch through which the artillery scissors periscope projected. Also on the roof was a small armour shield for use with the machine gun. Later vehicles were fitted with armoured skirting and treated with Zimmerit (Anti-magnetic grenade plaster). Crew 4. Weight 23.9 tons.



7,5cm Sturmgeschuetz 40 Ausf. G (Saukopf) SdKfz 142/1
 This was the final production version of the Sturmgeschuetz III and was similar to the Ausf. G, but it had heavier armour and a cast gun mantlet called a Saukopfblende or Saukopf (Pig's Head). Final production vehicles were equipped with a remote controlled machine gun on the turret roof. Crew 4. Weight 24.5 tons. (Bundesarchiv, Koblenz)



Sturmgeschuetz IV L/48 (7,5cm StuK 40) SdKfz 163 or StuG IV fuer 7,5cm StuK 40
 Produced from 1943, this equipment consisted of the 7,5cm StuK 40 mounted on the chassis of the Panzerkampfwagen IV Ausf. H or J. The superstructure was modified from that of the StuG III Ausf. G, late model with Saukopf mantlet. Armour protecting was increased by the addition of slabs of concrete six inches thick attached to the front plate and roof over the driver's compartment. Late models were equipped with a remote-controlled machine gun on the roof. Crew 4. Weight 23 tons.



10,5cm Feldhaubitze 42 SdKfz 142/2 or Sturmhaubitze 42 Ausf. F
 With the adoption of the long L/43 7,5cm gun in place of the short 7,5cm low velocity gun on the StuG III models there remained a limited requirement for howitzer-armed vehicles for the close support role. As developed, this close support weapon had the usual characteristics of the StuG but was confined to a purely anti-personnel role, firing high explosive and not armour-piercing ammunition as did the up-gunned StuG models. Produced in 1942, the first of the assault howitzer vehicles were armed with the 10,5cm 1e FH 18, a light field howitzer adapted for use in the StuG. Identical to Sturmgeschuetz 40 Ausf. F, only a few of these vehicles were built. Crew 4. Weight 23 tons.



Late production model above showing remote-controlled machine gun on roof.



10,5cm Sturmhaubitze 42 Ausf. G, SdKfz 142/2 or Sturmgeschuetz III mit 10,5cm StuH 42 L/28 3 or StuG III fuer 10,5cm StuH 42
 This equipment with respect to the chassis and superstructure was identical to the Sturmgeschuetz 40, but it was armed with the 10,5cm Sturmhaubitze 42 L/28 (Assault Howitzer) that had been adapted to this role. Late production models had no muzzle brakes and were fitted with remote-controlled machine guns on the roof. Some vehicles in this series were fitted with a modified version of the cast gun mantlet Saukopf. Crew 4. Weight 24 tons.



10.5cm Sturmhaubitze 42 Ausf. G without muzzle brake. Equipped with armour skirting.



10.5cm Sturmhaubitze 42 Ausf. G with Saukopf.



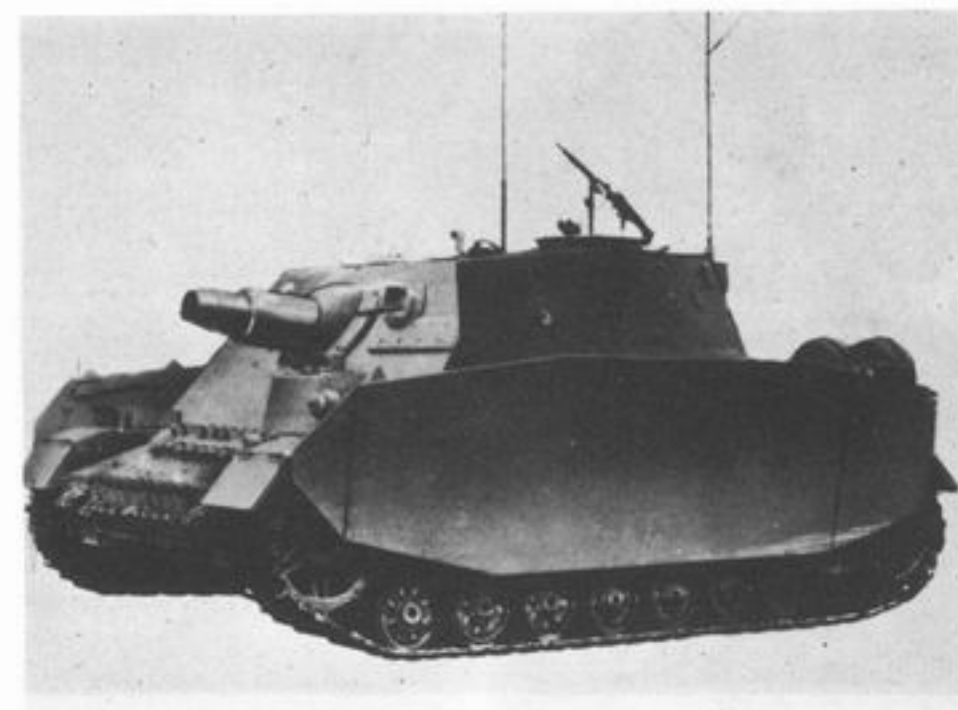
**StuPz 43 or Sturmpanzer IV Brummbaer
or Sturmhaubitze 43 L/12 auf Fgst PzKpfw IV (Sf) SdKfz 166**

Designed as a heavy armoured assault vehicle this equipment was the final development of the 15cm sIG 33 assault gun carriages. Based on the Panzerkampfwagen IV chassis models F, G, H and J this version was equipped with the 15cm Sturmhaubitze L/12 that had been developed from the sIG 33. This short 15cm howitzer was ball-mounted in a heavily armoured box-type superstructure with a frontal thickness of 100mm.

Variations of this equipment existed. In early vehicles the driver had direct vision through a visor of the vertical sliding shutter type arranged in the front plate of the superstructure, this was as used on the Pz VI Tiger tank. Mid-production machines were fitted with a built-up cab with no visor, the driver using a fixed periscope in the cab roof. The late production version carried a ball-mounted machine gun high up on the left side of the front superstructure plate. The armour arrangement of the front and rear of the superstructure was also changed, the front now consisting of two plates instead of one. 313 machines were built. Crew 5. Weight 28.2 tons.



Mid-production Brummbaer showing driver's housing with periscope.



Late production Brummbaer with front ball-mounted machine gun, and new type of commander's cupola equipped with anti-aircraft machine gun.



**38cm RW 61 auf StuMrs Tiger
or Sturmmoerser 38cm, RW 61, Sturmtiger**

This equipment was designed at the request of the army for a self-propelled 21cm howitzer, capable of following the advancing troops and able to engage difficult targets with high angle fire.

As no suitable howitzer of 21cm calibre was available however, it was decided to use the 38cm Raketenwerfer 61 L/54, a weapon that had originally been developed as a naval anti-submarine projector.

The mobile mount for this breech loading rocket projector was the chassis of the PzKpfw VI Tiger E with the normal superstructure and turret replaced by a heavy rectangular superstructure of the type used on the Panzerjaeger SP equipments, the projector being mounted offset to the right of centre in the front plate. A small crane for loading the rocket projectiles through a hatch in the rear roof plate into the interior of the vehicle was mounted on the right rear corner of the superstructure. Racks were provided on either side of the fighting compartment to accommodate 12 rounds, while an additional round could be carried in the projector tube.

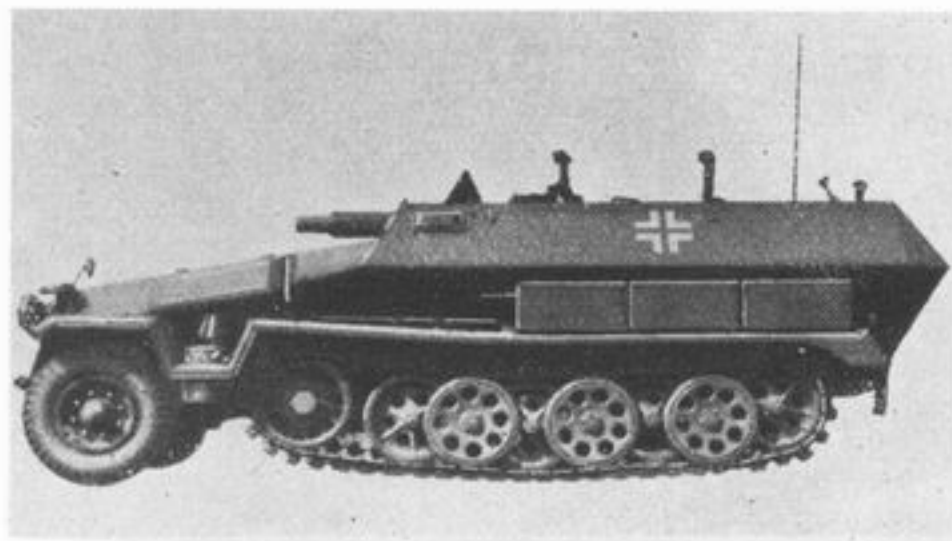
This vehicle entered limited production during 1944, a total of 10 Tigers being converted. Crew 5. Weight 68 tons.

Close Support 7,5cm KwK L/24

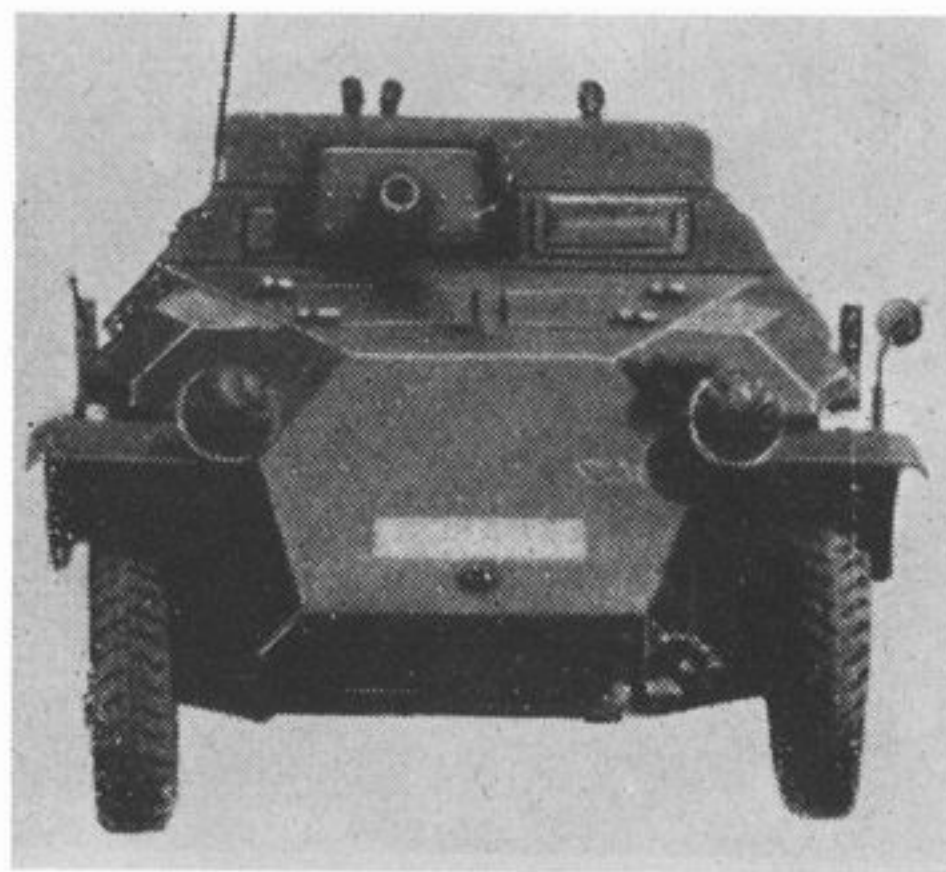
As the short barrelled 7,5cm gun became available, being no longer required for use with the Panzerkampfwagen IV and Sturmgeschuetz vehicles, it was used for mounting in armoured cars and armoured personnel carriers, adapting these vehicles to the close support role. It was first used on the SdKfz 251/9 armoured personnel carrier and the SdKfz 233 eight-wheeled armoured car, both mountings requiring structural modifications of the basic vehicle.

The gun was mounted on a low pedestal, and the right half of the driver's visor plate was cut away to make

room for the barrel. A small sloping armour plate was arranged over the gun to provide protection for the gun crew. Traverse of the gun was limited, being 12 degrees each way, with a maximum elevation of 20 degrees. During mid-1943 a new mounting was developed that enabled the gun to be fixed on top of any suitable structure with only minor alterations. This new gun mounting was used for the armoured personnel carrier, SdKfz 250, similar equipment being used with the SdKfz 234 eight-wheeled armoured car.



Mittlerer Schuetzenpanzerwagen (7,5cm KwK L/24) SdKfz 251/9
Armoured Personnel Carrier SdKfz 251 with 7,5cm KwK L/24 in the early recessed gun mounting. Crew 3. Weight 8.53 tons.



Front view of the SdKfz 251/9. Dial sight and commander's periscope are shown behind the gun.

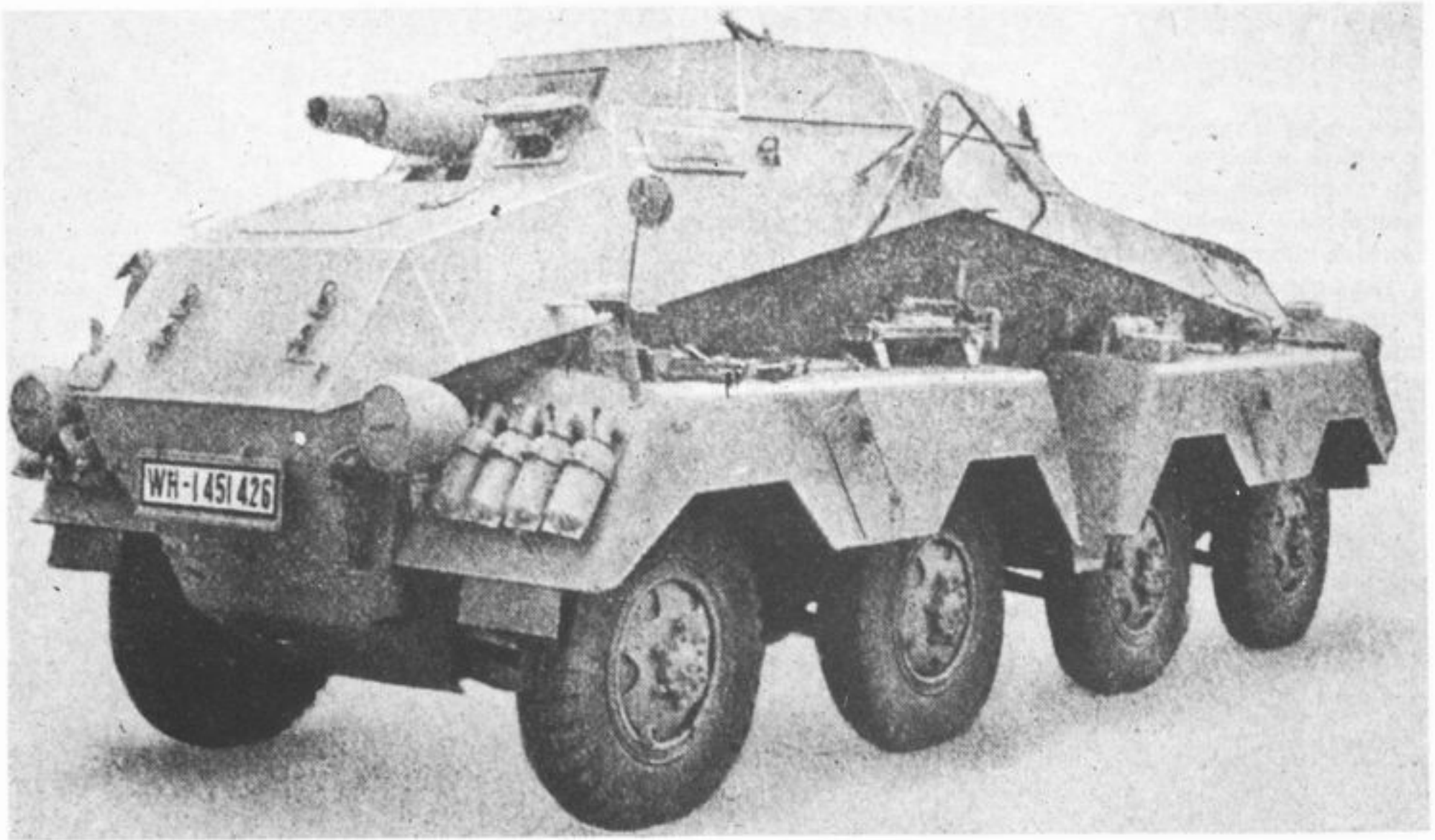
SdKfz 251/9 with 7,5cm gun in new mounting.



Leichter Schuetzenpanzerwagen mit 7,5cm KwK L/24 SdKfz 250/8
Light Personnel Carrier SdKfz 250 equipped with the short 7,5cm gun in new mounting. An MG 42 machine gun was mounted on the gun to give co-axial fire and also to act as a ranging gun for the latter. Crew 3. Weight 6 tons.



Panzerspähwagen (SdKfz 233) mit 7,5cm StuK L/24
or **Schwerer Panzerspähwagen (sPzSpWg) (7,5cm L/24)**
SdKfz 233, 8-Rad
Heavy eight-wheeled armoured car SdKfz 233 with early cut-away gun mounting. Crew 3. Weight 7.55 tons.

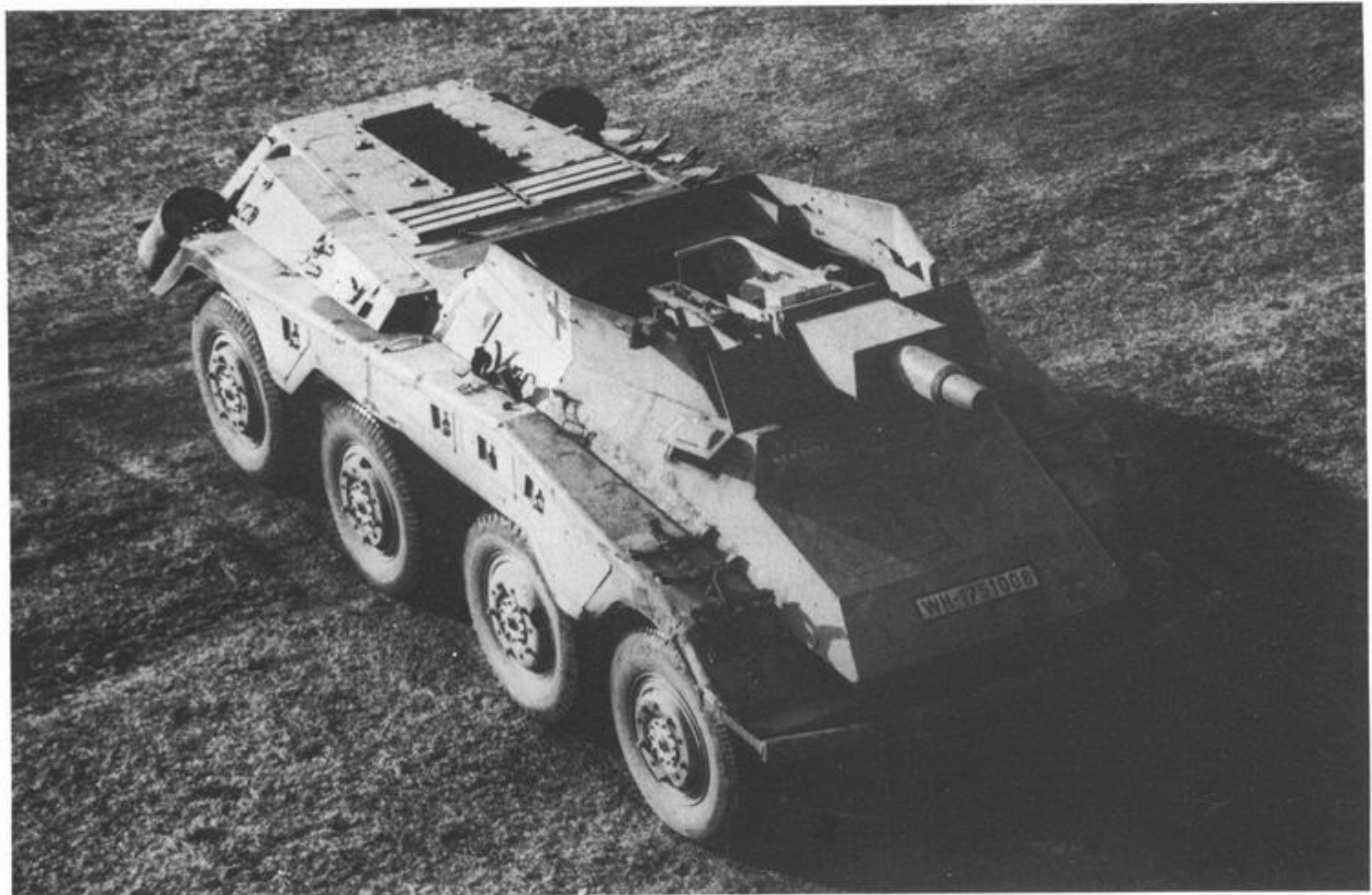


SdKfz 233 with modified recessed gun mounting.



**Schwerer Panzerspähwagen (sPzSpWg) (7,5cm L/24)
SdKfz 234/3, 8-Rad
or Panzerspähwagen (SdKfz 234/3) mit 7,5cm StuK L/24**
*Improved model of the eight-wheeled armoured car series, SdKfz 234
equipped with the 7,5cm L/24 gun in new mounting. Crew 4. Weight
9.7 tons.*

SdKfz 234/3. View of the gun compartment.



Heavy Infantry Artillery (Schweres Infanteriegeschuetz 33)

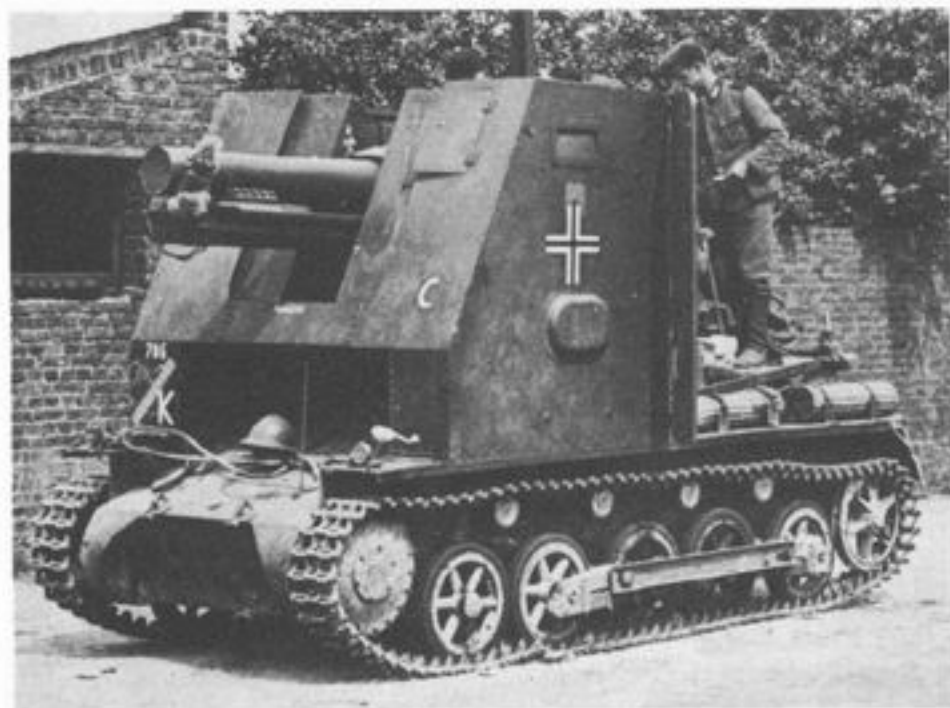
Prior to the appearance of the heavy armoured assault howitzers, a self-propelled lightly armoured howitzer was improvised and used in the Polish and Flanders campaigns to give high angle support fire to the attacking German infantry units.

The weapon used, based on the chassis of the obsolete Panzerkampfwagen I, was the 15cm sIG 33 (Schweres Infanterie Geschuetz 33) a standard German infantry support howitzer that could be used for either high or low trajectory shooting.

As this weapon proved successful, able to open fire

instantly and to come into position with comparative rapidity as compared to the horse or tractor drawn standard 15cm Infantry Howitzer, similar equipments based on the Panzer II, III and 38(t) chassis were built.

All these SP equipments, with the exception of the Panzer III version, were only armoured against shell fragments or small arms fire, and suffered from the disadvantage of being open at the top and rear. By the end of 1943 this type of equipment had become obsolete and was gradually replaced by the 10,5cm Sturmhaubitze or 15cm Sturmpanzer IV (Brummbaer).



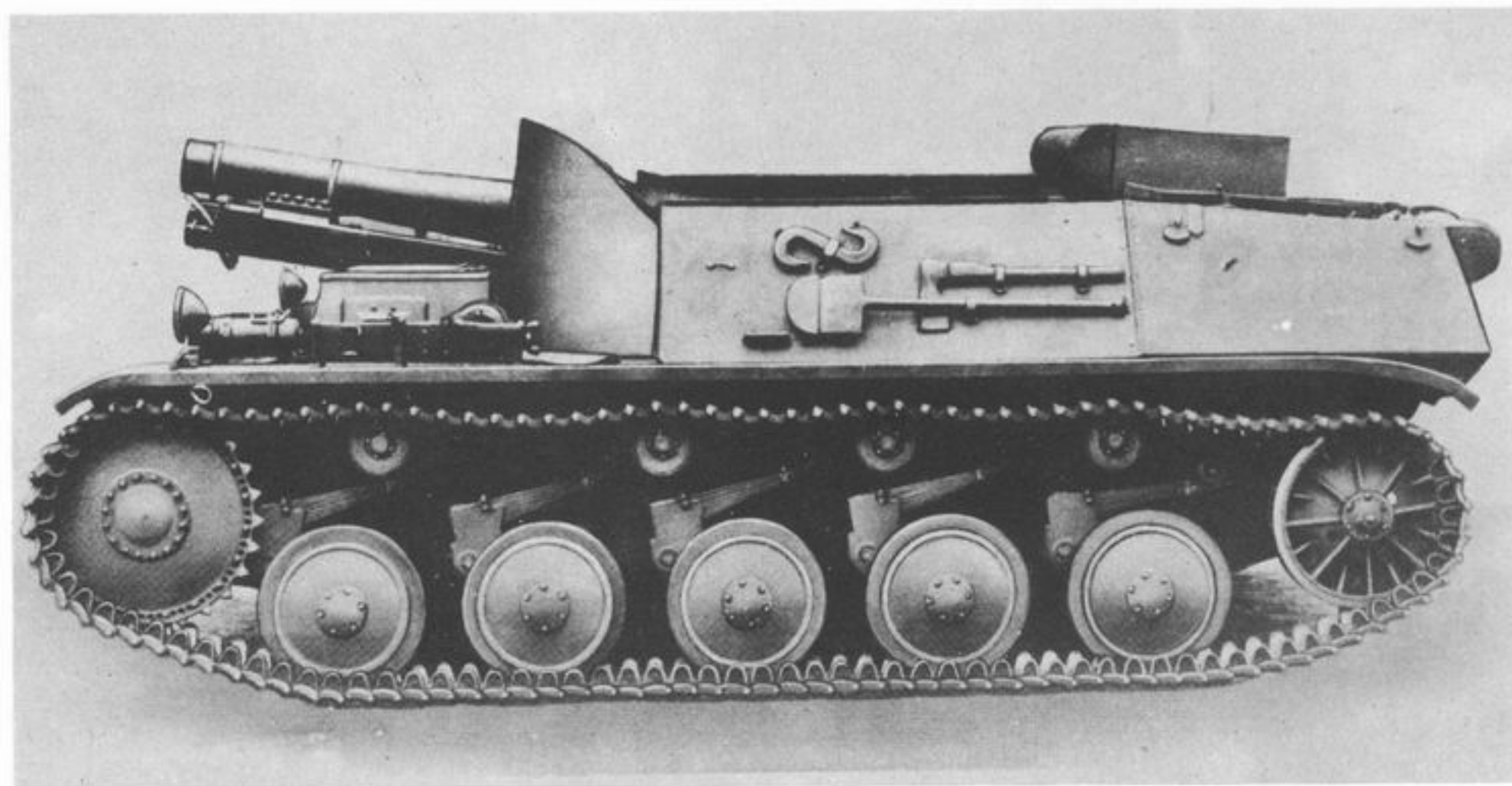
**15cm sIG 33 L/12 auf PzKpfw I Ausf. B
or GW I fuer 15cm sIG 33
of 15cm sIG 33 auf Geschuetzwagen I Ausf. B**

Produced in 1939, this equipment consisted of the 15cm sIG 33 infantry howitzer complete with shield, wheels and trails mounted on the chassis of the Panzerkampfwagen I Ausf. B. The howitzer and crew were protected by a large armoured box-shaped superstructure, open at the top and rear. 38 were built. Crew 4. Weight 8.5 tons.



**15cm sIG 33 auf Fgst PzKpfw II (Sf) Verlaengert
or GW II fuer 15cm sIG 33**

This modified version appeared in 1943, equipped with a lengthened chassis and an additional road wheel to replace the five-wheel version that was over-loaded.



15cm sIG 33 auf Fgst PzKpfw II (Sf) SdKfz 121 or GW II fuer 15cm sIG 33 or 15cm sIG 33 L/12 auf Pz II

This self-propelled equipment entered service in 1942 and was a conversion of the Panzerkampfwagen II Ausf. C modified to mount the sIG 33 howitzer. The gun was mounted in a low superstructure welded to the front glacis plate, and this superstructure was extended to the sides to close in the whole length of the chassis. Crew 5. Weight 12 tons.



**15cm sIG 33 (Sf) auf Panzerkampfwagen 38(t) Ausf. H, Bison
SdKfz 138/1 or 15cm sIG 33 L/12 auf (Sfl) 38(t)
or 15cm sIG 33 auf Geschuetzwagen 38(t)**

Produced in 1942 this equipment consisted of the 15cm sIG 33 howitzer carried on the chassis of the Panzerkampfwagen 38(t). The gun was positioned at the front of the vehicle within an armoured open top superstructure that sloped towards the rear of the chassis. The front plate overlapped the gun shield that had been retained; a further plate which moved with the gun was fitted over the barrel and recuperator. Crew 4. Weight 12.7 tons.

**15cm sIG 33 L/12 auf (Sf) 38(t) Ausf. M
SdKfz 138/1 or GW38 fuer sIG 33/1
or 15cm Schweres Infanteriegeschuetz 33/1 auf
GW 38(t)**

Produced in 1943, this was an improved version of the above model. The engine was re-positioned centrally in the chassis and the fighting compartment moved to the rear. This was a similar arrangement to that adopted for the Panzerjäger 38(t) Ausf. M. A total of 370 vehicles of both versions of the 15cm sIG 33 auf Pz 38(t) were built. Crew 4. Weight 12 tons.



**Sturm-Infanteriegeschuetz 33 B Sfl or 15cm sIG 33 auf Pz III
or StuIG 33 auf Fgst PzKpfw III**

Produced in 1941 and based on the chassis of the Panzerkampfwagen III Ausf. H, twelve pre-production vehicles were built and then production was cancelled. For this conversion the 15cm sIG 33 howitzer was completely enclosed within an armoured superstructure. Crew 5. Weight 22 tons.

(Bundesarchiv, Koblenz)



Self-Propelled Anti-Tank Guns (Panzerjaegers)

The largest proportion of the German self-propelled artillery consisted of the type known as the 'Panzerjäger' or Tank Hunter. These vehicles were characterised by their slightly modified, or unmodified tank chassis, their light, bullet-proof open topped superstructure and their armament which was practically unmodified from the field mounted version. Most of these equipments were improvised to make available the self-propelled mounting of as many guns as possible in the shortest possible

LIGHT INFANTRY ANTI-TANK GUNS



Leichter Panzerspähwagen SdKfz 221 mit 2,8cm Panzerbuechse 41 or 2,8cm sPzB 41 auf SdKfz 221

Produced in late 1941, this equipment consisted of the tapered bore light anti-tank gun mounted on the SdKfz 221 four-wheeled light armoured car. The normal 7.92mm MG 34 was removed and the front of the open top turret was cut away to mount the gun which retained its normal gun shield. Crew 2. Weight 4.5 tons. (Bundesarchiv, Koblenz)



Leichter Schuetzenpanzerwagen (Schwere Panzerbuechse 41) SdKfz 250/11 or leSchutzPzWg (sPzB 41)

The light personnel carrier SdKfz 250 adapted to mount the anti-tank gun 2.8cm sPzB 41. The weapon was dismountable and for this purpose a field carriage (airborne type) was carried, the wheel section at A the trail portion at B. Crew 4. Weight 5.53 tons.



3,7cm Pak auf Fahrgestell Bren(e)

Conversion of the British Bren carrier to a self-propelled mount for the 3.7cm Pak. Only a few were so converted, the gun and shield being mounted on the engine behind the driver's compartment.

time, some of these guns being of French, Russian or Czech origin.

Although the bulk of this class of equipment was mounted on standard German tank chassis and semi-tracked vehicles, a number of them were based on captured French or Czech tank chassis converted to this role. Various types of wheeled vehicles were also adapted to carry certain anti-tank guns.



3,7cm Pak auf lge Lkw(o)

3.7cm Pak and field carriage mounted on a 6 x 4 Krupp light truck type L2H43. This was a field improvisation. The gun had a restricted traverse.

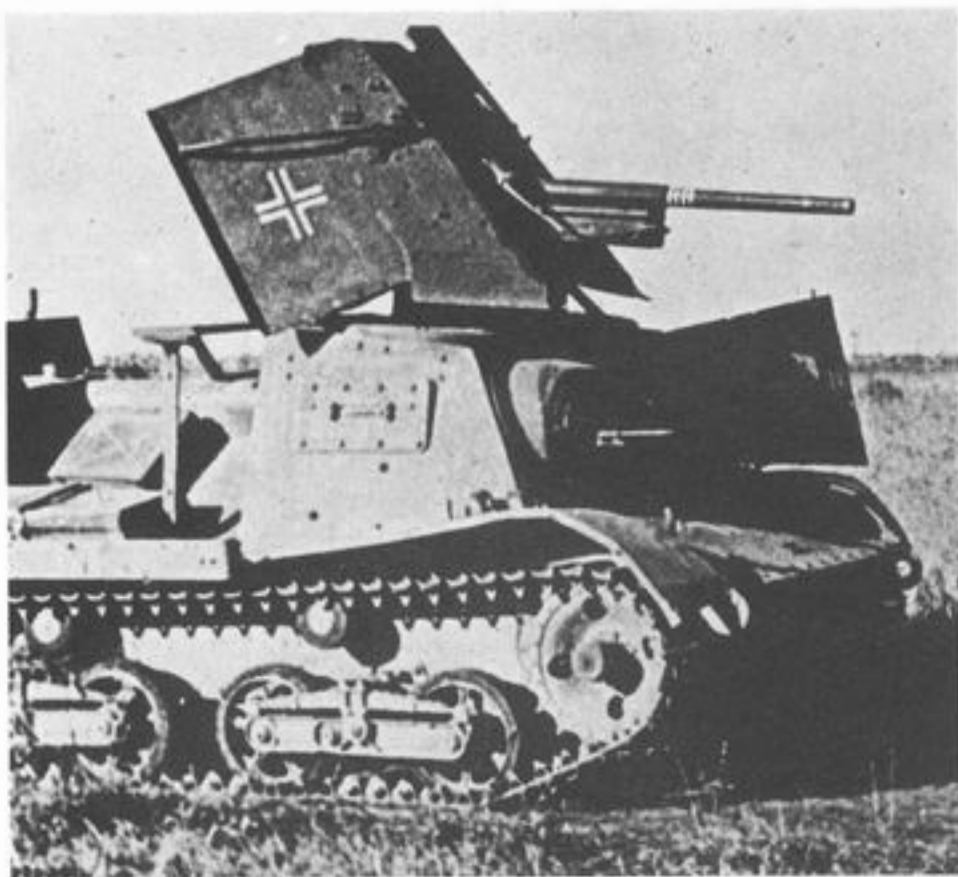


Medium personnel carrier SdKfz 251 equipped with the 2,8cm anti-tank gun. This was not a standard fitting on this class of vehicle.



3,7cm Pak (Sf) auf Infanterie Schlepper UE (f)

The French Chenillette infantry carrier adapted, with minor modifications, as a mobile mount for the 3.7cm Pak. Crew 3. Weight 2 tons.



3,7cm Pak auf gep Artillerieschlepper(r)

This was a typical field improvisation and consisted of the 3,7cm Pak mounted on the Russian artillery tractor STZ Komsomolets.



3,7cm Pak auf 1e Zgkw

This was a field conversion and consisted of the 3,7cm Pak with field carriage mounted on the SdKfz 10. A number of variants of this improvised mounting existed, some of the vehicles being fitted with make-shift armour plate. Crew 5. Weight 5.5 tons approx.



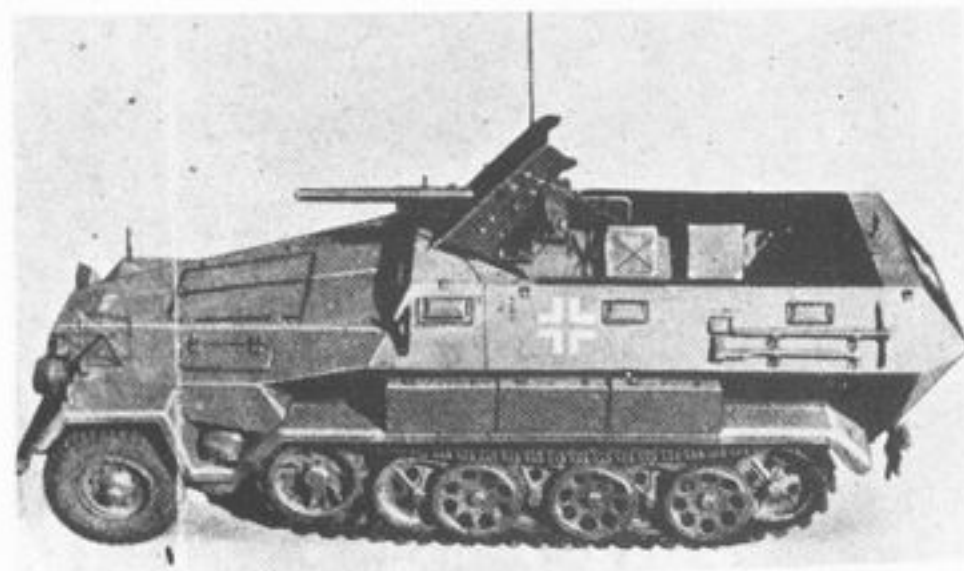
3,7cm Pak (Sf) auf Zgkw1t

To provide additional mobility for the 3,7cm Pak used by the motorised infantry units, a number of these guns were removed from their field carriages and mounted on the SdKfz 10, a pedestal mount being provided. Crew 5. Weight 4.9 tons.



Leichter Schuetzenpanzerwagen (3,7cm Pak) SdKfz 250/10

Produced during 1942, this equipment consisted of the 3,7cm Pak mounted on the light personnel carrier SdKfz 250. Several variations existed as regards the gun shield. One version was fitted with the normal gun shield, another was equipped only with a small armour shield on the gunner's side, while on a third version the gun shield was dispensed with altogether. Crew 4. Weight 5.67 tons.



Mittlerer Schuetzenpanzerwagen (3,7cm Pak) SdKfz 251/10

This was the first adaptation of the 3,7cm Pak to be mounted on a semi-tracked personnel carrier. Produced in 1940 this equipment was similar to the SdKfz 250/10 with variations to the gun shield. Later models were equipped with a new pattern gun shield to decrease the silhouette of the vehicle. Crew 6. Weight 8.15 tons.



Late model of SdKfz 251/10 with lower gun shield.

MEDIUM ANTI-TANK GUNS



4,7cm Pak (t) Sfl auf PzKpfw I Ausf. B or Panzerjaeger I fuer 4,7cm Pak (t)
 Introduced into service in 1940, this was the first self-propelled anti-tank gun to enter German service. Based on the chassis of the Panzerkampfwagen I Ausf. B, this equipment was fitted with a Czech 4,7cm anti-tank gun L/43 mounted within a three-sided gun shield. Crew 3. Weight 6 tons.



Top left
4,7cm Pak 181 oder 183(f) auf PzJaeg Lorraine Schlepper (f)
 Produced in limited numbers during 1941, this equipment consisted of the unmodified French Lorraine Tracteur Blindé 38L with either the French 47mm M/E 1937 or M/E 1939 anti-tank gun mounted on a pedestal at the rear of the vehicle. Crew 3. Weight 6 tons.

Top right
4,7cm Pak (t) auf PzKpfw 35R (f)
or 4,7cm Pak (t) auf Panzerjaeger Renault R35 (f)
 Based on the French Renault R35 tank, this conversion appeared in early 1943. The turret was replaced by a large open top superstructure mounting a 4,7cm Czech anti-tank gun. Crew 3/4. Weight 10.5 tons.

4,7cm Pak(f) auf Panzerspähwagen P 204(f)
 A small number of captured French Panhard 178 armoured cars were converted to anti-tank vehicles. The vehicle's turret was removed and replaced by an open top three-sided superstructure, in the front of which was installed a 47mm gun retaining its original shield.

(Bundesarchiv, Koblenz)



47cm Pak(f) auf Infanterie Panzerkampfwagen Mk II(e)
Improvisation of the British Infantry Tank Mk II (Matilda) to mount the French 4,7mm anti-tank gun. Only one converted.
 (Bundesarchiv, Koblenz)



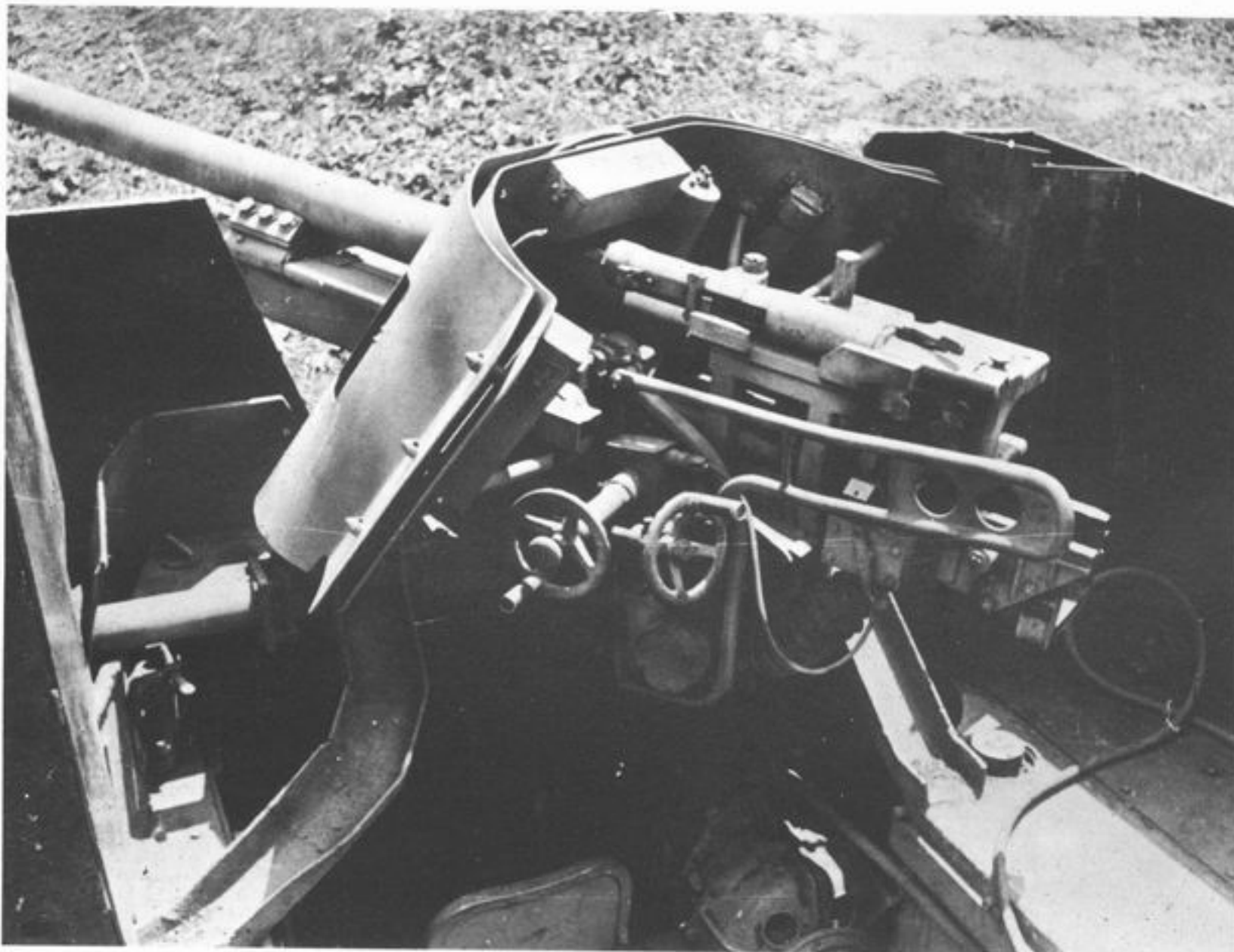
5cm Pak 38 (Sf) auf leichter Selbstfahrlafette
To increase the mobility of the 5cm Pak, some of them were carried on the SdKfz 10 semi-tractor on a pedestal mounting.
 (Bundesarchiv, Koblenz)



Borgward PzSfl Ia fuer 5cm Pak 38 L/60
Based on the Borgward ammunition carrier VK 301, two prototypes were converted to mount the 5cm Pak 38 during 1940. Project dropped.



5cm Pak 38 auf leichter Schuetzenpanzerwagen SdKfz 250
5cm Pak mounted on the light semi-tracked personnel carrier SdKfz 250. Nothing known, believed to be a trials vehicle.



5cm Pak 38 auf Fgst PzKpfw II
Developed during 1942, this equipment consisted of the 5cm Pak 38 mounted on the chassis of the PzKpfw II. As this weapon proved unsuitable it was replaced by the 7,5cm Pak 40/2 auf Sfl II, Marder II.
 (Bundesarchiv, Koblenz)

5cm Pak 38 L/60 auf PzKpfw II n.A (Sd 7gst VK901) or Pz Sfl Ic fuer 5cm Pak 38
(No picture available) Two test vehicles were built from the chassis of the VK901 which was the prototype for advanced models of the PzKpfw II. These vehicles were used in Russia early in 1942 as light anti-tank units. Crew 4. Weight 10.5 tons.

HEAVY ANTI-TANK GUNS



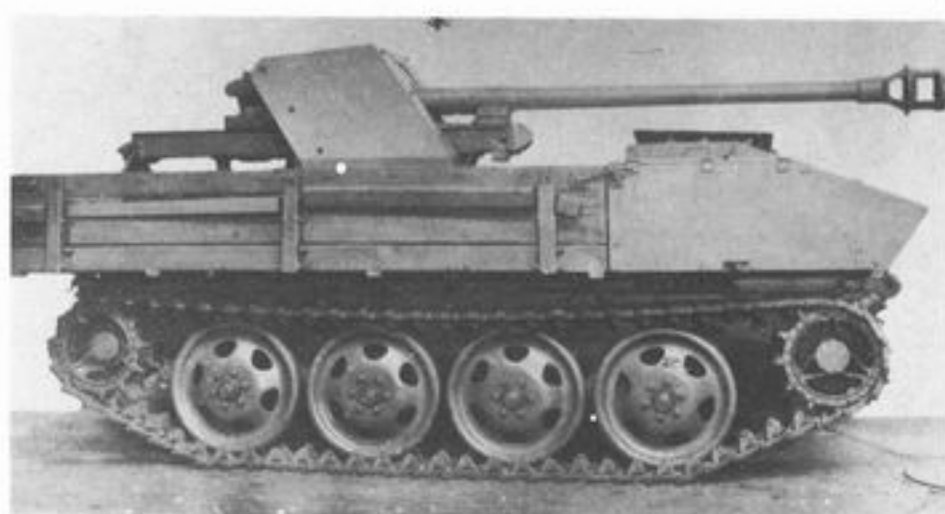
7,5cm Sfl L/40.8 or 7,5cm Selbstfahrlafette L/40.8

Based on an early model of the Buessing-NAG 5-ton semi-tractor series, this vehicle and two other prototypes were developed during 1934–1935 as anti-tank vehicles designed to co-operate with cavalry units. The engine was moved to the rear and the vehicle was fitted with an armoured body mounting a 7,5cm L/40 Pak gun in a rotating turret. One prototype was used in North Africa. Crew 4. Weight 6 tons approx.



Schwerer Panzerspähwagen (7,5cm lang) SdKfz 234/4

This conversion was produced on Hitler's personal orders. It was practically identical to the SdKfz 234/3 except for the longer gun. The complete gun (7,5cm Pak 40 L/48), less wheels and trails, was mounted on a pivot in the centre of the SdKfz 234 fighting compartment. This vehicle was often referred to as the 'Pakwagen'.



7,5cm Pak 40 (Sf) auf PzJaeg RSO or 7,5cm Pak 40/1 auf RSO (Sf)

This conversion appeared in 1944 and consisted of the fully tracked cargo tractor Steyr Raupenschlepper Ost (Tracked Tractor East) or RSO modified to carry the 7,5cm Pak 40 gun. It carried no protective armour other than the gun shield and was constructed without a cab to the driver's compartment. The two sides and tail gate were made of wood and could be lowered to the horizontal position to make additional space for a gun platform. Crew 4. Weight 4.5 tons.



7,5cm Pak 40/1 auf Lorraine Schlepper(f) (Marder I) SdKfz 135 or Panzerjaeger fuer 7,5cm Pak 40 (Sf) Lorraine Schlepper or PzJaeg LrS fuer 7,5cm Pak 40/1

Produced in 1942, 184 Lorraine tractors were converted as self-propelled mounts for the 7,5cm Pak 40/1. The gun was mounted within a high open top armoured box with the original gun shield overlapping the front superstructure. Crew 5. Weight 8 tons. (Bundesarchiv, Koblenz)

7,5cm Pak 40 L/46 auf mittlerer Schuetzenpanzerwagen, SdKfz 251/22

This was the last official variant of the SdKfz 251 series. It stemmed from a personal order from Hitler that as many anti-tank guns as possible be self-propelled to combat the increasing numbers of enemy tanks. This equipment entered service during November 1944 and consisted of the 7,5cm Pak 40, without its wheels and gun trails, mounted on a sub-frame within a SdKfz 251 armoured carrier. Part of the driver's compartment roof was removed to permit limited traverse of the gun. Crew 4.



7,5cm Pak 40 L/46 auf mittlerer Schuetzenpanzerwagen, S 307(f) or 7,5cm Pak 40 L/46 auf ZgkwSomua(f)

Produced in mid 1944, 16 French Somua semi-tracked vehicles were converted as self-propelled mounts for the 7,5cm Pak 40. Crew 3/4. Weight 9 tons approx.



**7,5cm Pak 40/2 auf Sfl II (Marder II) SdKfz 131
or PzJaeg II Ausf. A, C und F fuer 7,5cm Pak 40/2 L/46
or GW II fuer 7,5cm Pak 40/2 (Marder II)**

Prototypes of this equipment were first tested with the 5cm Pak 38 (5cm Pak 38 auf Fgst PzKpfw II) but the production version was fitted with the more powerful 7,5cm Pak 40/2. These equipments entered production during 1942. The basic chassis used for this conversion was the PzKpfw II Ausf. A, C and F. The engine was removed to the rear and the 7,5cm gun with its original shield was mounted on a platform on the front of the vehicle, being protected by a 10mm armour shield that sloped to the rear. 1217 of this equipment were built. Crew 4. Weight 10.8 tons.



**Panzerjaeger 38(t) Ausf. M SdKfz 138
or 7,5cm Pak 40/3 (L/46) Marder III auf GW 38**

This self-propelled mount consisted of the 7,5cm Pak 40 mounted on a considerably modified PzKpfw 38(t) chassis. As the previous Marder III had suffered difficulties because it was nose heavy, the engine was re-positioned centrally in the chassis and the gun moved to the rear. The superstructure of 10mm plates was extended over the tracks to the extreme rear of the vehicle, this arrangement bringing the fighting compartment more conveniently to the back of the hull. A total of 799 vehicles were converted, production beginning in mid-1943. Crew 4. Weight 10.5 tons.



**7,5cm Pak 40/3 (L/46) auf PzJaeg 38(t) SdKfz 138
or 7,5cm Pak 40/3 auf Sfl 38(t) Ausf. H
or Panzerjaeger 38(t) Marder III**

Produced in late 1942 as an interim tank destroyer, this equipment consisted of the 7,5cm Pak 40 mounted on the chassis of the ex-Czech Praga TNH/LT38 tank chassis, designated by the German Army as Panzerkampfwagen 38(t). The gun was positioned at the front of the vehicle protected by a three-sided open top gun shield constructed of 10mm-15mm armour plate. Total number converted was 418. Crew 4. Weight 10.8 tons.



7,5cm Pak 40 auf GW 39H(f)

Produced during 1942, the basic chassis used as a self-propelled mount for this equipment was the French Hotchkiss H39 tank, a total of 24 being converted. This conversion was similar to that of the Marder I, the gun being mounted forward within a high open top armoured superstructure with the gun shield overlapping the front plate. Crew 5. Weight 12.5 tons.



7,5cm Pak 40 auf GW FCM(f)

Entering service during 1943, this conversion was based on the French FCM tank chassis. Only 10 of these vehicles were converted. The design of the superstructure was similar to that of the previously converted French tanks. Crew 3/4. Weight 13.5 tons.

FOREIGN ANTI-TANK GUNS



7,5cm Pak 97/38 auf m Beute Panzer T 26

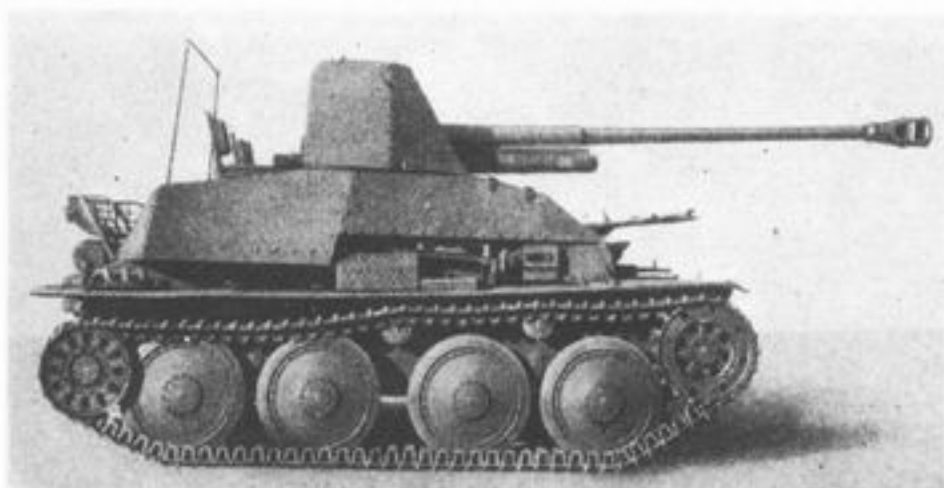
This was an experimental equipment built in 1943, and consisted of the French 75mm gun Model 1897 mounted on the chassis of the Russian light tank T 26. The gun, of which large stocks had been captured in France, had originally been adopted into the German Army in 1942, where it had been remounted on the field carriage of the German 5cm Pak gun and fitted with a long perforated muzzle brake. The modified gun was designated 7,5cm Pak 97/38. (Bundesarchiv, Koblenz)



7,62cm Pak 36(r) auf Panzerjaeger Selbstfahrlafette Zugkraftwagen 5t, Diana

Nine of these equipments were built during 1941-42. They consisted of the Russian 7,62cm FK 296 gun on its wheeled carriage, with the split gun trails shortened, mounted on the chassis of the 5 ton Buessing-NAG semi-tracked tractor SdKfz 6. For this conversion a high box type armoured superstructure was built behind the driver's compartment, consisting of two sides and a back plate, all of which were fitted with hinged doors. Frontal protection was provided by the gun shield set behind partly built-up front plates. Crew 5. Weight 10.5 tons.

(Bundesarchiv, Koblenz)



Panzerselbstfahrlafette II fuer 7,62cm Pak 36(r) SdKfz 139, Marder III or Panzerjaeger 38(t) fuer 7,62cm Pak 36(r)

This vehicle appeared early in 1942 and was an expedient for a tank destroyer to counter the large numbers of new enemy tanks (T 34 and KV's) appearing on the Russian front. As the only effective anti-tank gun available was the Russian 7,62cm FK 296, of which large numbers had been captured during the early fighting in Russia, it was decided as an interim measure to mount these guns on the chassis of the Czech 38(t) tank. To speed production the conversion was made as simple as possible. The turret and forward deck plates were removed and replaced by a cruciform on which the gun less its undercarriage was mounted. A low armoured superstructure was fitted around the vehicle to protect the gun mounting and crew. A total of 344 were built. Crew 4. Weight 10.8 tons.



PzSfl fuer 7,62cm Pak 36(r), Sd Kfz 132 (Marder II) or 7,62cm Pak 36(r) L/54.8 auf Fgst, PzKpfw II (Sfl) or PzJaeg II Ausf. D, E fuer 7,62cm Pak 36(r) or 7,62cm Pak 36(r) (Sfl im PzKpfw II)

This vehicle also appeared early in 1942, and like the early Marder III was an interim design for a mobile tank destroyer. Based on the chassis of the Panzerkampfwagen II Models D and E, this version was also armed with the Russian 7,62cm FK 296 anti-tank gun. Like the Marder III (SdKfz 139) the gun and shield were mounted above the superstructure, whereas the normal practice was to enclose the gun within the armoured superstructure. Later in the war some vehicles of this conversion were equipped with the German 7,5cm Pak 40/2. Crew 4. Weight 11.5 tons.

SUPER-HEAVY ANTI-TANK GUNS

8,8cm Kw K 43 L/71 auf mittlerer Schuetzenpanzerwagen

Developed during 1943, this was an experimental mounting of the 8,8cm Kw K (tank gun) carried on a modified chassis of the SdKfz 251.





8,8cm Flak 18 auf Selbstfahrlafette Zugkraftwagen 12t

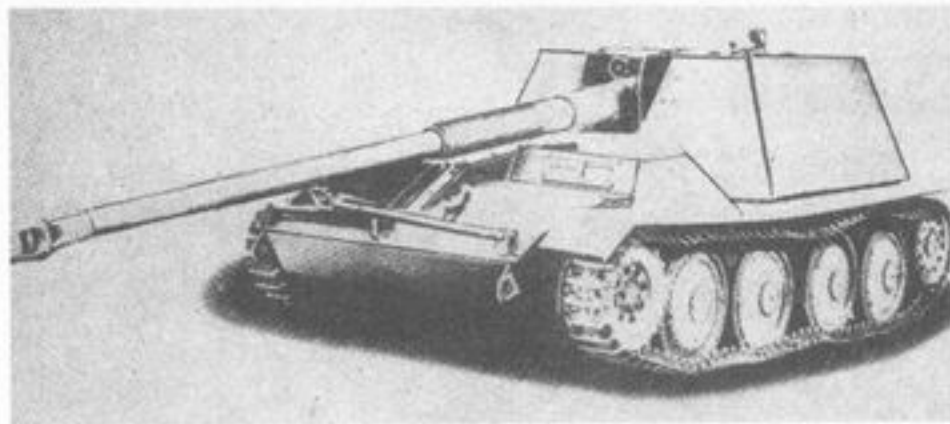
Produced in limited numbers during 1940, this was an early attempt to employ the 8,8cm Flak gun in the role of a self-propelled anti-tank gun. The mobile carriage used for this conversion was the 12 ton semi-tracked tractor, SdKfz 8 which had been armoured in front. At the back of the chassis was a platform on to which the gun mounting was fixed.

(Bundesarchiv, Koblenz)



8,8cm Pak 43/3 auf Panzerjaeger 38(t)

Developed late in 1944, this was a prototype machine for a proposed new series of Panzerjaegers. This version was based on a modified 38(t) chassis with the engine moved to the front. It was armed with the 8,8cm Pak 43/3. Crew 4. Weight 11 tons.



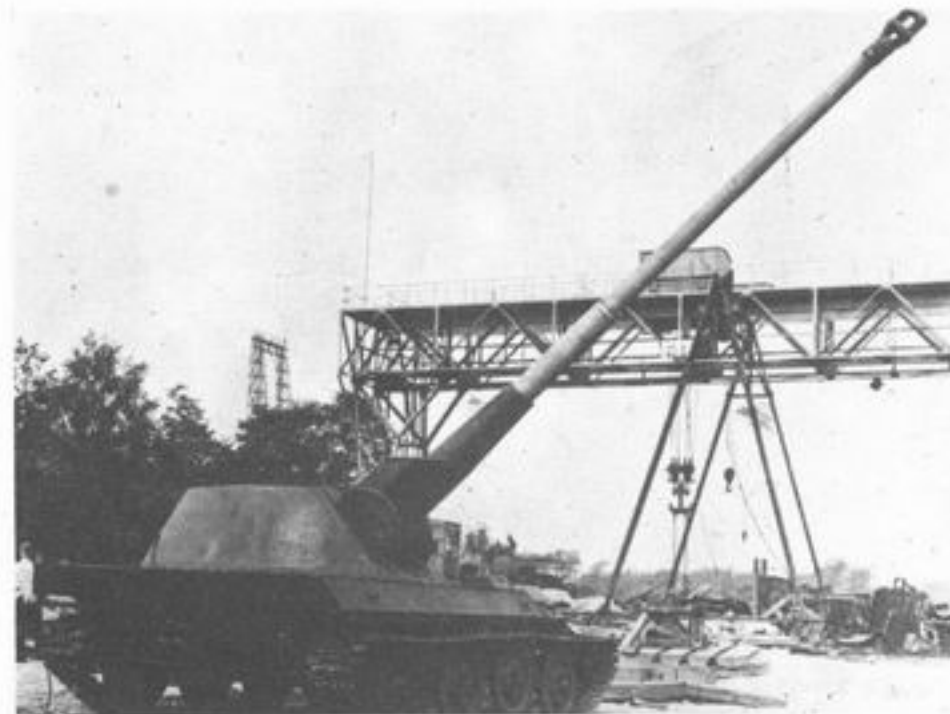
8,8cm Panzerjaeger 43 auf Sfl 38(d)

This pilot model built by Rheinmetall-Borsig and Ardelt appeared in 1945. The carriage used for this conversion was a purely German redesigned and enlarged version of the Panzerjaeger 38(t), powered by a new Tatra diesel engine that had now been moved to the front of the vehicle. The 8,8cm Pak 43 was mounted at the rear of the chassis in an open top armoured turret that had all-round traverse. Designated 38(d) this modified chassis had been developed as a self-propelled mount for the Waffentraeger series on which it was planned to carry anti-tank, field or medium guns mounted on their field carriages and which should, when required, be dismountable to permit firing from the field carriage on the ground. Crew 4. Weight 15.5 tons.



8,8cm Pak 43/1 (L/71) auf Fgst PzKpfw III/IV (Sf), SdKfz 164 or Panzerjaeger III/IV Nashorn fruher Hornisse or 8,8cm Pak 43/1 L/71 auf GW III/IV

Introduced into service in November 1942, this equipment consisted of a modified Pz IV chassis with the engine moved forward and installed directly behind the transmission to provide a clear space for the fighting compartment at the rear. The gun was mounted over the engine, and both gun and crew were protected against small arms fire by a high open-topped superstructure of thin armour plate, 30mm at the front and 20mm at the sides. The transmission and drive were the same as those used on the Pz III. Two types of driver's hatches were used on these vehicles, of which 473 were built. Crew 5. Weight 26.5 tons.



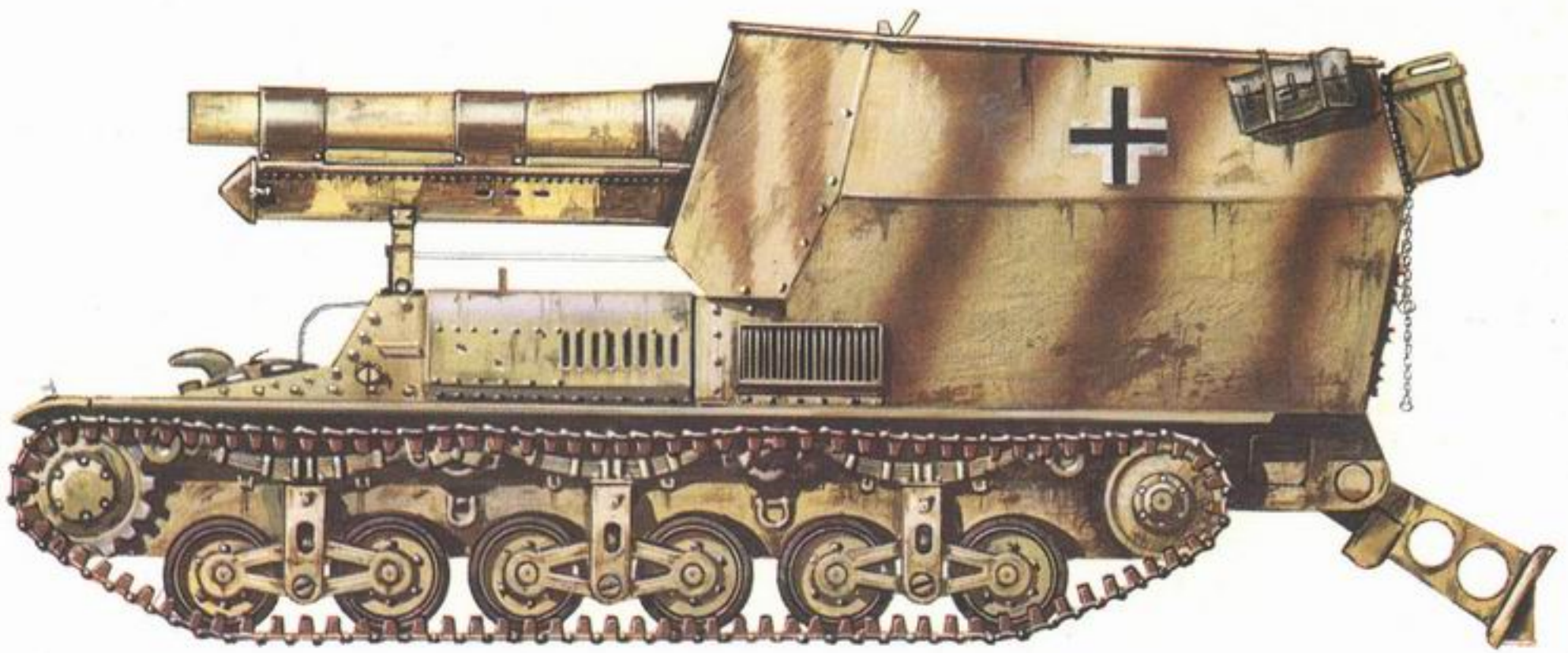
8,8cm Pjk43/3 auf Krupp/Steyr Sfl 38(d)

Also produced in 1945, this was a similar type of vehicle to the Rheinmetall-Borsig and Ardelt vehicle, except that the chassis incorporated the suspension units of the Steyr Raupenschlepper Ost (East Front tractor). Crew 4. Weight 15.5 tons.

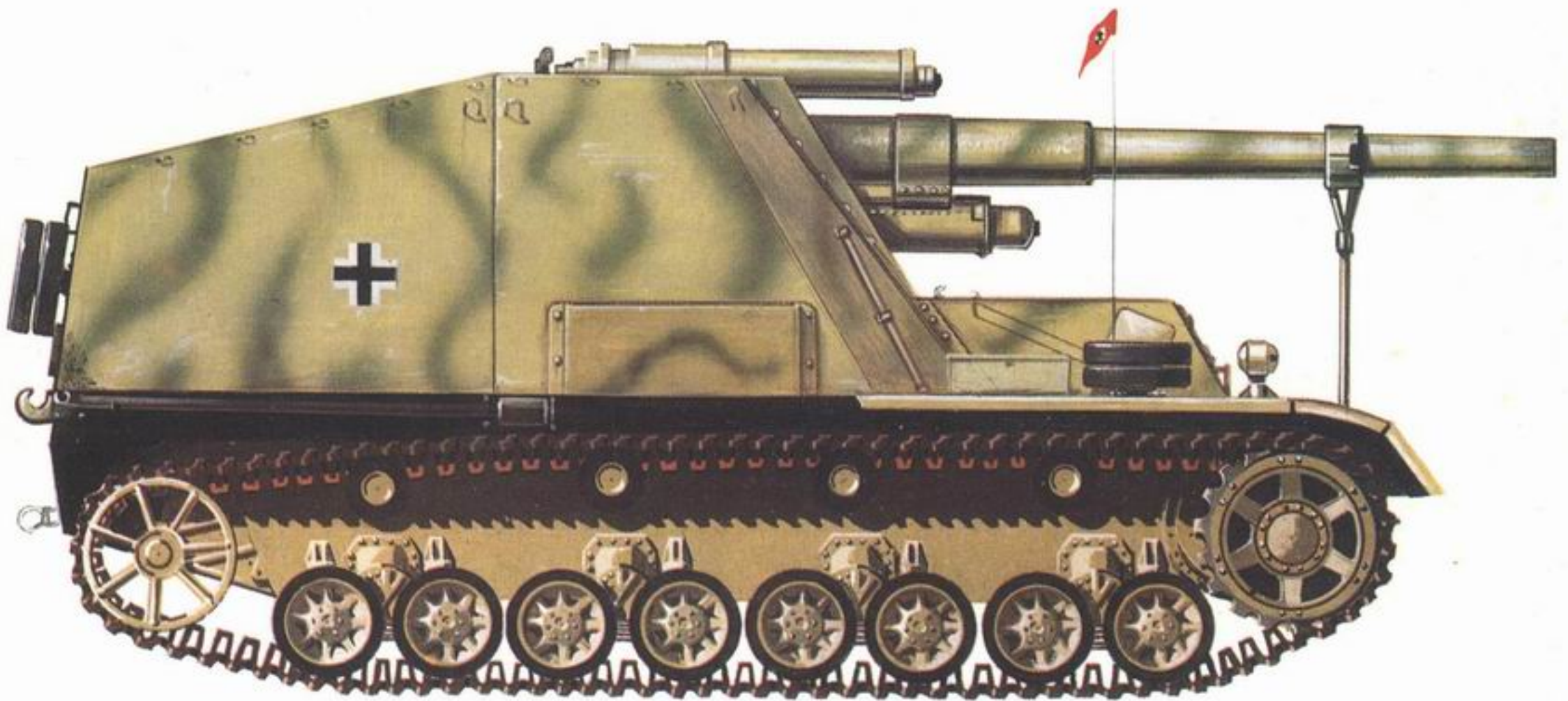


12,8cm K 40 auf Versuchsfahrgestell (VK 3001) H or 12,8cm Kanone 40 auf Sfl VK 3001 (H) or 12,8cm Selbstfahrlafette L/61 (Panzer-Selbstfahrlafette V)

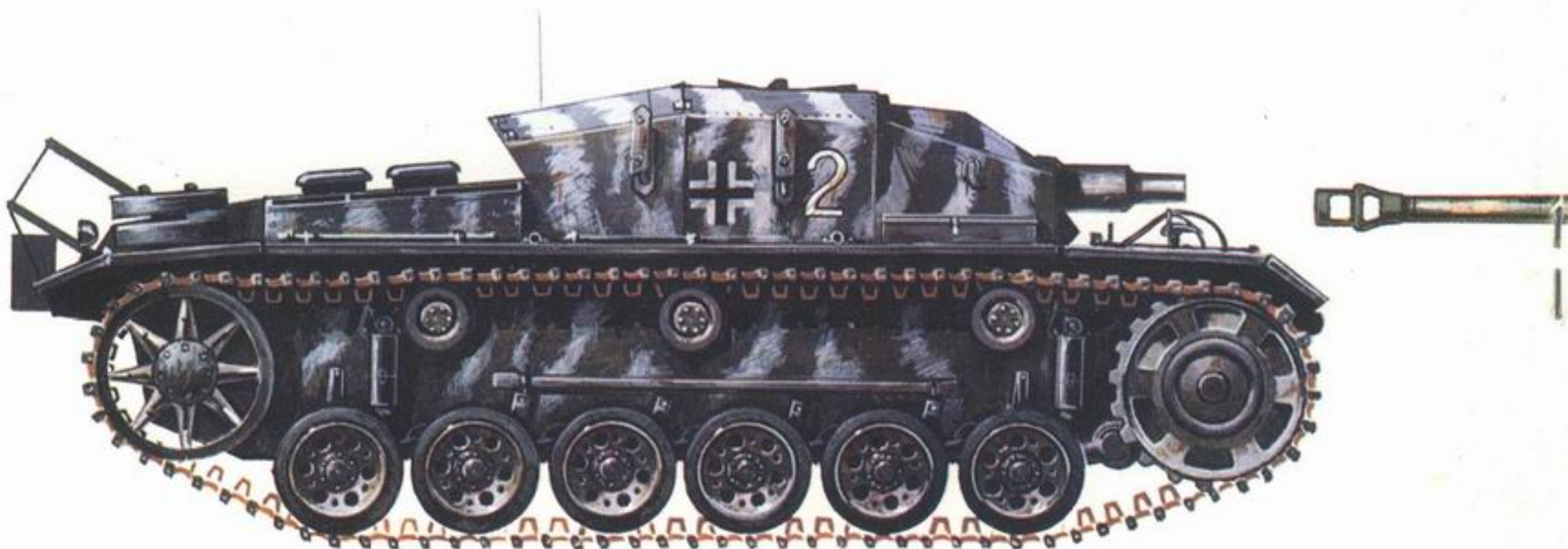
Produced in 1942, the chassis used for this equipment was that of a Henschel prototype for a tank in the 30 ton class, four of which were built in late 1941, but were made obsolete by the appearance of the Russian T 34 tank. Two of the four VK 3001 chassis were converted as self-propelled mounts for the 12,8cm Kanone to test its feasibility against fortifications and as an anti-tank gun. The 12,8cm Kanone had originally been developed as a Flak gun. The converted vehicles were lengthened, the rear idler wheels being moved back a considerable distance to accommodate the large fighting compartment that consisted of an open top lightly armoured superstructure. The two vehicles were sent to Russia for trials during 1942. Crew 5. Weight 35 tons.



15cm sFH 13 Sfl Lorraine (SdKfz 135/1)



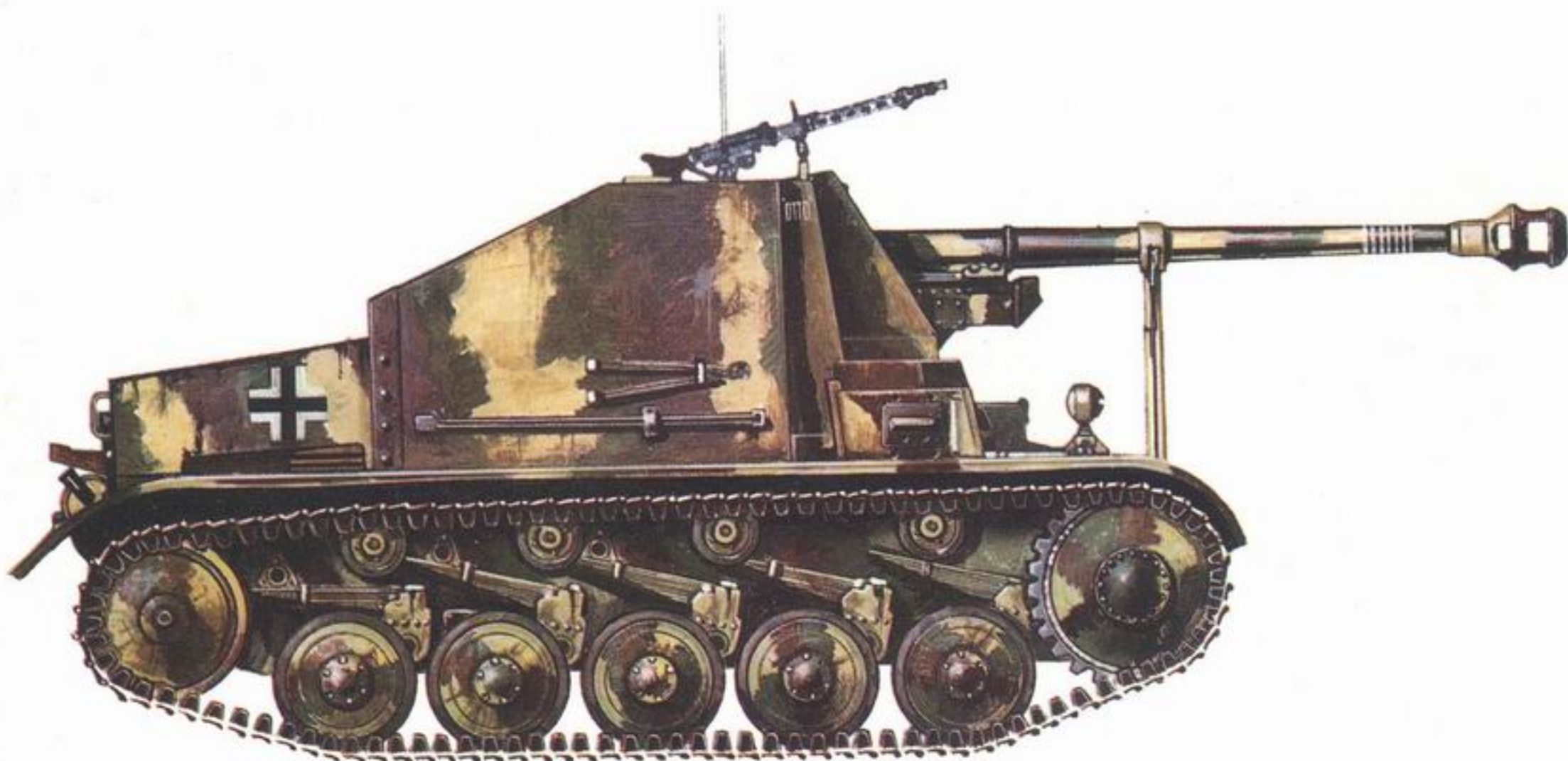
Geschuetzwagen III/IV 'Hummel' (SdKfz 165)



Sturmgeschuetz III Ausf.D (SdKfz 142)



Sturmpanzer IV 'Brummbaer' (SdKfz 166)



7.5cm PaK 40/2 auf Sfl II 'Marder II' (SdKfz 131)



Jagdpanzer V Jagdpanther (SdKfz 173s)

Tank Hunters (Jagdpanzers)

The increased casualties and lack of effectiveness of the traditional towed anti-tank guns led at first to the simple self-propelled mounts described in the section on anti-tank guns. These self-propelled guns had mobility and could be brought into action without loss of time. However, they lacked protection for the crews, as did the wheeled anti-tank guns, but they were without the latter's facility for concealment. In 1942 the long 7.5cm cannons were first mounted in the assault vehicles (Sturmgeschuetz) and this development introduced a highly successful anti-tank weapon which had not only mobility but also the protection of armour and a low silhouette. This basic concept was now developed and improved so that a new class of vehicle was introduced, able to carry out the dual role of both tank destroyer and assault gun. These vehicles were known as Jagdpanzers. The powerful anti-tank gun was butted in the lowest possible vehicle with the heaviest armour it was capable of carrying. Special care was taken to increase protection with sloped armour.



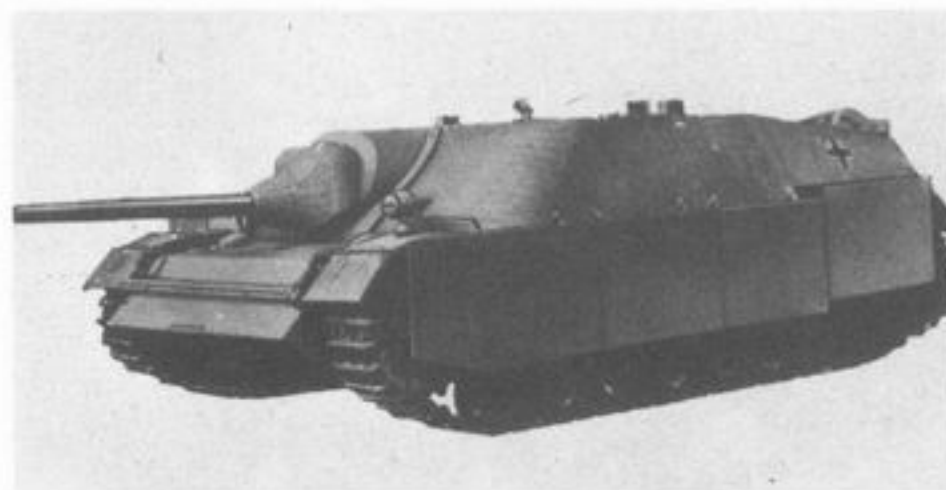
Jagdpanzer IV Ausf. F (7.5cm Pak 39 L/48) SdKfz 162 or Panzerjaeger 39

In an effort to improve the StuG III concept this vehicle was designed upon the chassis of the PzKpfw IV which could be manufactured in large numbers. Sloped armour and substantially improved gun mounting and mantlet characterised the design. From an early stage it was intended to use the 7.5cm StuK 42 L/70 cannon based upon the high velocity weapon of the Panther tank, but delays and shortages in 1943 led to the introduction of this vehicle late in that year, armed with the 7.5cm Pak 39 L/48 which was based upon the 7.5cm StuK L/48. Late production models dispensed with the muzzle brake and the machine gun port on the left hand side of the front plate. Crew 4. Weight 23.6 tons.



7.5cm Pak 39 L/48 auf PzJäg 38(t) Hetzer (SdKfz 138/2) or Jagdpanzer 38(t) or JagdPz 38 fuer 7.5cm Pak 39 L/48

The large production facilities of the Czechoslovak Praga and Skoda works were used to mass produce the Hetzer from 1943. The anti-tank gun was the same 7.5cm Pak 39 L/48 mentioned above. This lighter chassis had less armour and a very cramped interior but proved to be effective support for the infantry units to which it was attached. Some 1577 were manufactured before the end of the war, including about 100 guns with rigid mountings. These latter guns were fitted in a simple ball mount and possessed none of the usual recoil gear as the recoil forces were absorbed by the vehicle itself. While the guns performed successfully, difficulty was encountered with the sighting devices; the solution had not been introduced by 1945. Crew 4. Weight 15.8 tons.



Late production model of the Jagdpanzer IV, equipped with mild steel skirting plates (Schürzen) and coated with Zimmerit, an anti-magnetic compound to stop the attachment of magnetic demolition charges.



Left Panzer IV/70 SdKfz 162/1 or Jagdpanzer IV mit 7.5cm StuK 42 L/70

This was the 7.5cm StuK 42 using the Jagdpanzer IV chassis as originally intended. Muzzle brakes were not fitted on these equipments due to the proximity of the gun to the ground and consequent problems of dust created by the back blast. Later models had only three return rollers and steel-tyred resilient wheels in place of the rubber-tyred ones on the front road wheels. The reason for the change was the damage caused to the tyres by the heavy front of the vehicle (80mm) and the long overhang of the gun.

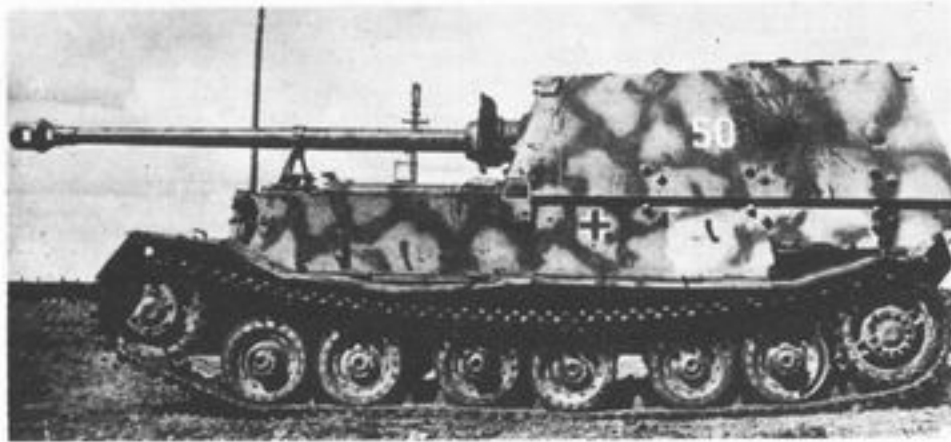
Produced in late 1944 this vehicle was intended to replace the Panzerkampfwagen IV, hence the designation.

1531 Jagdpanzer IV chassis were produced and were equipped with both types of guns. Crew 4. Weight 24.5 tons.



Right Panzer IV/70

Late production model with minor modifications and three return rollers.



Panzerjaeger Tiger (P) Ferdinand
 fuer 8,8cm Pak 43/2 oder StuK 43/1 (SdKfz 184s)
 or 8,8cm Pak 43/2 L/71

auf PzJaeg Tiger (P) Elefant früher Ferdinand
 or Jagdpanzer Tiger (P) Elefant mit 8,8cm Pak 43/2 L/71

This equipment was a conversion of the VK 4501 (P) the Porsche Tiger that had been built to compete with the VK 4501 (H) Henschel Tiger. As the production of the Porsche Tiger had begun and 90 had been authorised before the result of the trials in which the Henschel Tiger was chosen, it was decided to convert the Porsche Tiger chassis as self-propelled mounts for the 8,8cm Pak 43. Introduced into service during 1943.

Later re-worked Elefants were armed with a hull machine gun and a new commander's cupola. 90 built. Crew 6. Weight 71.7 tons.

Panzer IV/70 Zwischenloesung

The urgency to mount the 7,5cm StuK 42 in as many vehicles as possible led to Hitler's order in August 1944 that all PzKfw IV production be immediately switched to building the Panzer IV/70. Obviously, instant change could not be undertaken by industry and so an interim vehicle was improvised with the modified superstructure of the Panzer IV/70 on top of the standard Panzerkampfwagen IV chassis.

Only a small number of these vehicles were built during 1944-1945. Crew 4/5. Weight 28 tons.



8,8cm Pak 43/3 auf Panzerjaeger Panther SdKfz 173s
 or Jagdpanther

The lack of success of the self-propelled 8,8cm Pak 43 Nashorn using a lightly armoured Pz III/IV chassis and the limited number of technically unsuccessful Elefant vehicles led to the development of a Panther chassis to carry the 8,8cm Pak 43. Minor differences appeared between the vehicles from different manufacturers, one type having a welded gun mounting and the other a heavy bolted-on type. Only 382 Jagdpanthers were built, mainly during 1944. Crew 5. Weight 46 tons.



Jagdpanther with heavy bolted gun mantlet.

Jagdtiger fuer 12,8cm Pak 44 L/55 SdKfz 186s or PzJaeg Tiger Ausf. B fuer 12,8cm Pak 44

The race between armour and anti-tank guns reached its wartime limit with the use of the 12,8cm gun as an anti-tank gun. Obviously performance was good but such guns were too heavy for normal field use. For such a large gun a Jagdpanzer based upon the chassis of the Koenigstiger (PzKpfw Tiger Ausf. B) was developed. This massive vehicle had armour to match with 250mm frontal plates. An order for 150 was placed, though records indicate that only 48 were completed by the end of the war. Porsche developed a new form of longitudinal torsion bar suspension for these vehicles to replace the Henschel transverse torsion bar suspension, but only a few vehicles were equipped with this Porsche suspension. At one period several of these vehicles were armed with the 8,8cm Pak 43/3; this was due to the delay, caused by Allied bombing, of the production of the 12,8cm Pak 44. Crew 6. Weight 76 tons.



Mobile Flak Guns

Early versions of self-propelled anti-aircraft guns were made by the mounting of small calibre 2cm and 3,7cm Flak guns on wheeled and semi-tracked vehicles to give mobile anti-aircraft protection to transport and armoured convoys against Allied air attacks. These light weapons could also be used against ground targets, being provided with armour-piercing ammunition in addition to high explosive rounds.

The first full-tracked vehicle to be used as a self-propelled mount for the anti-aircraft role appeared in 1943. This was the Flakpanzer 38(t) based on the chassis of the Czech 38(t) tank. It was followed by other models of Panzerflak with increased firepower, the Flakpanzer IV series that utilised the chassis of the Panzerkampfwagen IV. The final stage of development in this series

FLAK MACHINE-GUNS



Leichter Truppenluftschutz-Kraftwagen, Kfz 4

Used in motorised convoys for air defence, this was a light 4 × 4 Stoeber personnel car with the Zwillingslafette 36 installed in the rear compartment.



The Zwillingslafette 36 was a universal MG mount that could be adapted to fit most vehicles, including rail-wagons. The picture shows the mount on a medium type truck.

was the leichte Flakpanzer IV Kugelblitz armed with two 3cm automatic cannon in an enclosed armoured power-operated turret. Only five of these vehicles had been built by the time the war ended.

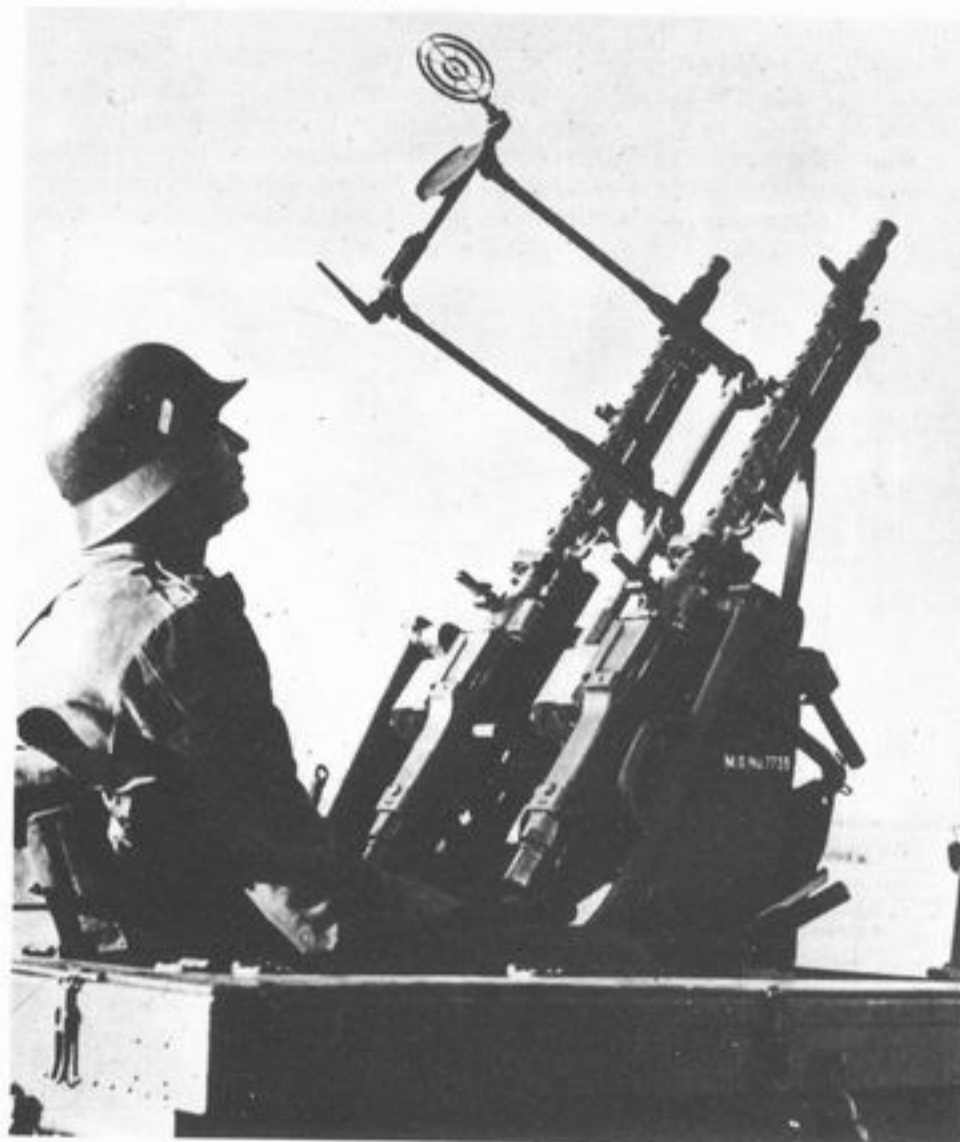
During the war, various attempts were made to make the 8,8cm Flak gun mobile by employing the 12- and 18-ton semi-tracked vehicles as self-propelled mounts for this equipment. Fourteen of the 18-ton vehicles were converted to carry the 8,8cm Flak 37. Designs were also projected to mount the 8,8cm gun on a full-tracked chassis. Only one of these vehicles was developed. Designated Flakpanzer fuer schwere Flak, this equipment was mounted on a composite chassis consisting of Panzerkampfwagen IV and semi-track suspension components.



MG Doppelwagen 36

Used for anti-aircraft protection of infantry on the march. The 7,92mm MG 34 machine guns of some units were carried in a single axle horse drawn limber known as the MG Doppelwagen. The MGs were mounted in pairs on a combined seat and pedestal mount known as the Zwillingslafette 36 (Twin machine gun mount, Model 36). When used in this defence role, the MGs were equipped with a special anti-aircraft sight. The normal ground tripods were carried strapped at the rear of the limber.

Zwillingslafette 36 close up.

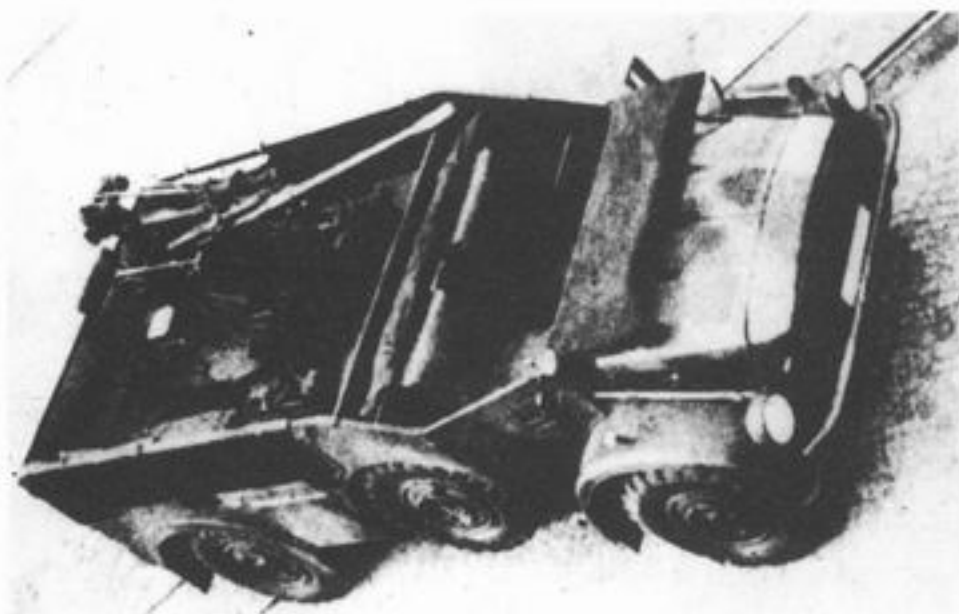


MG 151/15 oder 151/20 Drilling auf mSchutzPzWg SdKfz 251/21

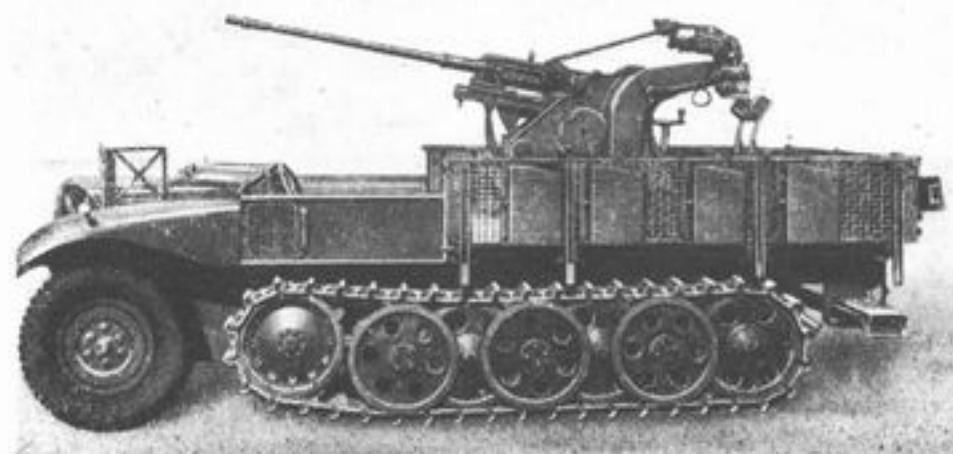
Introduced in late 1944, this equipment consisted of 1.5cm MG 151/15 or 2cm MG 151/20 aircraft guns on a pedestal triple mounting. This weapons system was installed on a 3-ton armoured semi-tracked personnel carrier SdKfz 251. Though designed for light anti-aircraft defence in armoured convoys the guns could also be used in an anti-tank role. Crew 4/6.



LIGHT FLAK GUNS



2cm Flak 30 als Selbstfahrlafette auf E-Fahrgestell sPkw
2cm anti-aircraft gun model 30 mounted on the heavy 4 x 4 Auto-Union personnel car fitted with a special body with drop sides to form extension of rear body. Used mainly by Luftwaffe units for convoy defence.



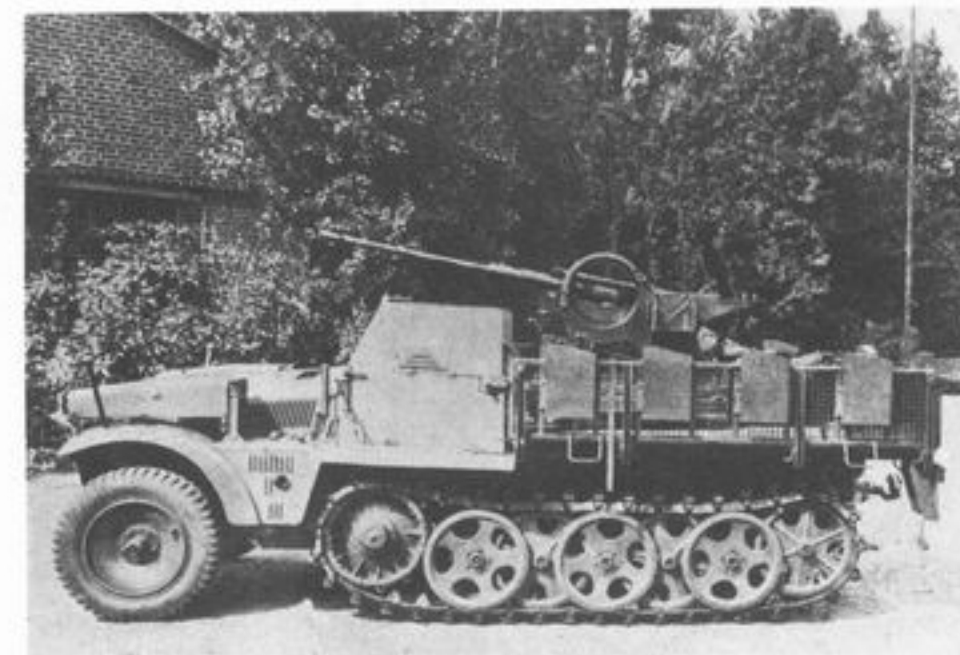
Leichte Selbstfahrlafette (DemagDII, 3) 2cm Flak 30
Experimental mounting of the 2cm Flak gun on the third prototype vehicle of the SdKfz 10 series to test the feasibility of adopting this vehicle as a standard self-propelled carriage for the 2cm Flak. Crew 7. Weight 5 tons.



Leichte Selbstfahrlafette (2cm Flak 30) SdKfz 10/4
2cm Flak gun mounted on 1-ton semi-tracked vehicle SdKfz 10. The sides of the vehicle were dropped when in action to facilitate all round traverse. Spare ammunition was carried in a towed two-wheeled limber. Crew 7. Weight 5.5 tons. (Bundesarchiv, Koblenz)



Mittlerer Schuetzenpanzerwagen (2cm)
This equipment consisted of the 2cm Flak 30 mounted on an unmodified SdKfz 251. Only a limited number of these vehicles were converted.



Leichte Selbstfahrlafette (2cm Flak 38) SdKfz 10/5
This was a modified version of the SdKfz 10/4 with an armoured cab and armed with the 2cm Flak model 38, a weapon with an increased rate of fire. Crew 7. Weight 5.5 tons.



2cm Flak 38 auf Mannschaftskraftwagen
2cm anti-aircraft gun model 38 in the rear compartment of an Auto-Union 4 × 4 personnel car. The weapon was mounted on a raised platform.



2cm Flak 38 auf le gl Lkw Kfz 70
This was a standard conversion, and consisted of the 2cm Flak gun carried in the rear compartment of a 6 × 4 light truck, (Type Krupp L2H143) used by the Luftwaffe.



Luftwaffe, mSchtzPzWg (2cm Flak 38)
Developed for the Luftwaffe Flak troops, several were built and tested in troop trials. This equipment consisted of the 2cm Flak 38 on a modified SdKfz 251. To allow the gun to be installed in the fighting compartment, the body was redesigned so that the sides of the vehicle could be folded down to allow full traverse of the gun. (Bundesarchiv, Koblenz)



mSchtzPzWg mit 2cm Flak 38 SdKfz 251/17
Developed as a flak vehicle in 1944, and built in limited numbers this series became standard equipment. The gun, in a small armoured turret, was positioned behind the driver's compartment with the gun barrel projecting over the armoured cab of an SdKfz 251. Crew 4/6.

Leichte Flakpanzer 38(t) SdKfz 140
Built during 1943, this was the first full-tracked vehicle to be used as a self-propelled mount for an anti-aircraft weapon. A 2cm Flak 38 was mounted at the rear of a modified PzKpfw 38(t) tank chassis and enclosed by an octagonal shield 10mm thick. The upper part of each of the eight sides of the shield was hinged at the bottom; these could be folded outwards when going into action. Crew 4. Weight 9.8 tons.



MULTIPLE LIGHT FLAK GUNS



2cm Flakvierling 38 auf m Lkw

These vehicles appeared in 1943 and consisted of the 2cm quadruple anti-aircraft guns mounted on 4 × 4 or 4 × 2 3-ton medium trucks. The driver's compartment and the engine were armoured and the vehicle's sides could be lowered to allow full movement for the gun and crew.

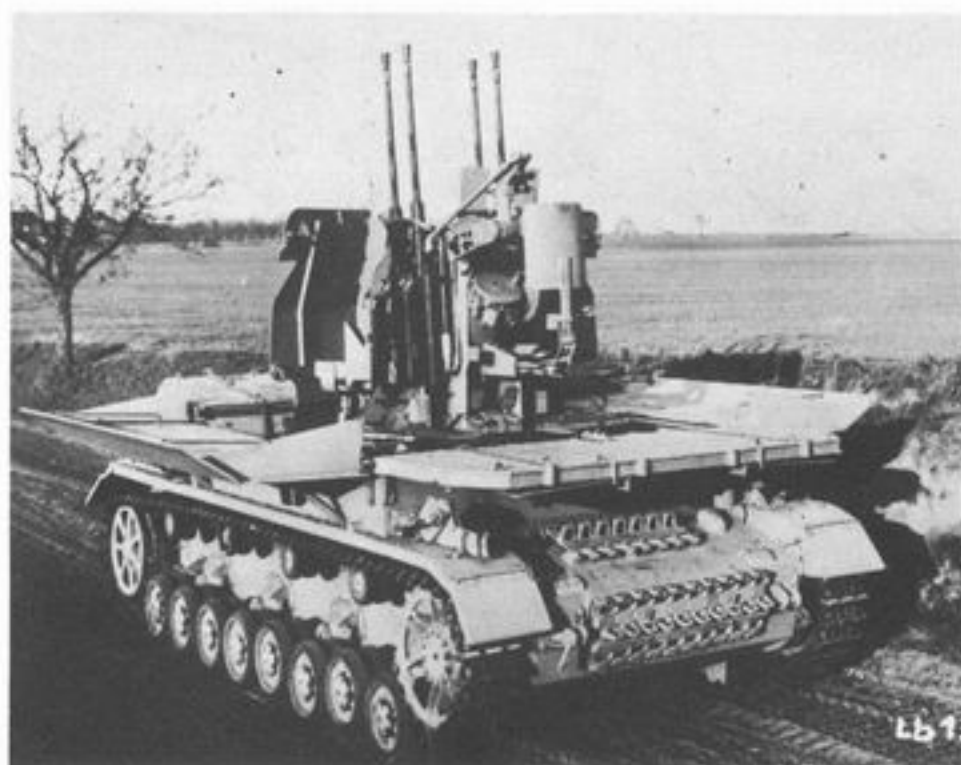
A two-wheeled trailer was towed carrying extra ammunition.

(B. L. Davis)



Mittlerer Zugkraftwagen 8(t) mit 2cm Flakvierling 38 SdKfz 7/1 or Selbstfahrlafette 2cm Flakvierling 38

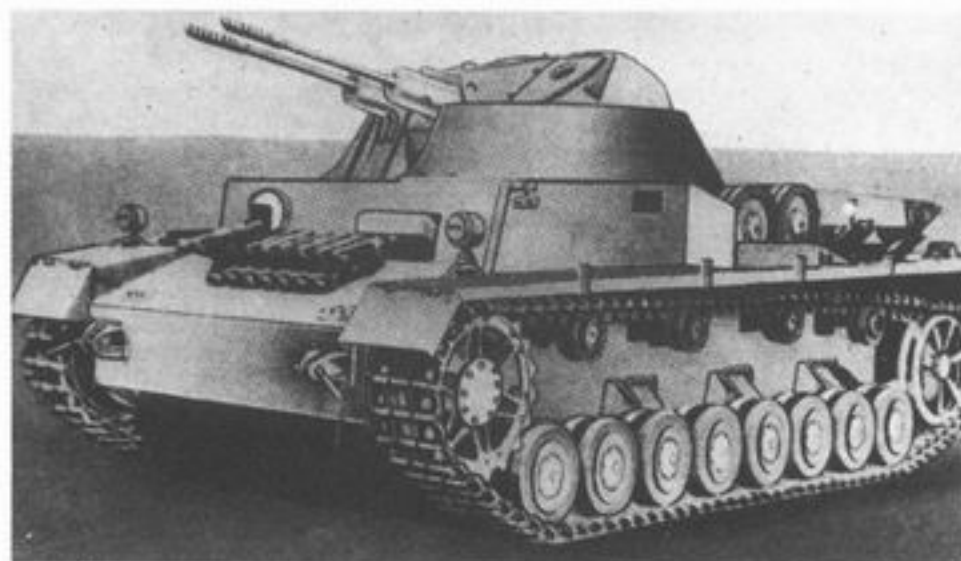
This equipment consisted of the 2cm Flakvierling 38, a quadruple version of the 2cm Flak 38, mounted on the rear of the 8-ton semi-tracked vehicle SdKfz 7. Developed in 1941, the combination of the four guns under one fire control increased the rate of fire to 800 rpm. Crew 10. Weight 11.5 tons.



Flakpanzer IV, (2cm Flakvierling 38) auf Fgst PzKpfw IV Möbelwagen

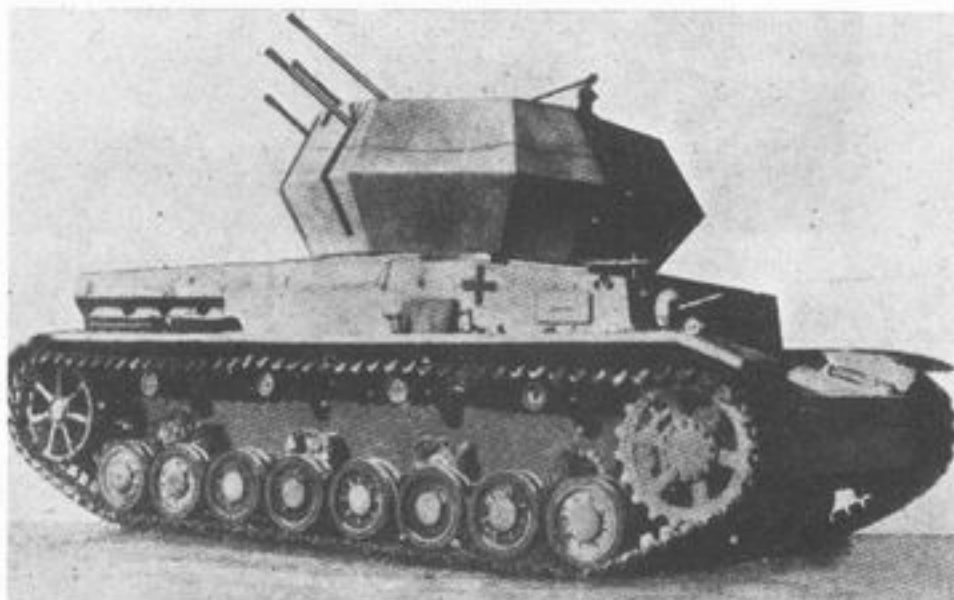
For the defence of German armour against the increasing Allied fighter-bomber attacks attempts were made to develop a more satisfactory anti-aircraft vehicle than that of the leichte Flakpanzer 38(1). Entering service during 1943, this equipment consisted of the 2cm quadruple anti-aircraft guns mounted on the chassis of the PzKpfw IV Ausf. H and J. The guns and crew were protected by four hinged 10mm armoured plates, which were lowered in action to allow full traverse. A counter-part of this vehicle mounted the 3.7cm Flak 43. Crew 5. Weight 25 tons.

Late production mZgkw 8(t) mit 2cm Flakvierling 38 with gun shield and the front of the vehicle armoured. (Bundesarchiv, Koblenz)



leichte Flakpanzer IV (3cm) Kugelblitz

This vehicle was the last in the series of the Flakpanzers, and was designed to give complete protection to the gun crew and to mount an armament with greater penetration power against the armoured fighter-bombers. The PzKpfw IV chassis was also used for this development, which carried an armoured power-operated turret. Mounted within the ball turret were two Mk 103/38 aircraft guns; these were quickfiring cannon with automatic belt feed. Only five of these vehicles were built by the end of the war. Crew 5. Weight 24 tons.



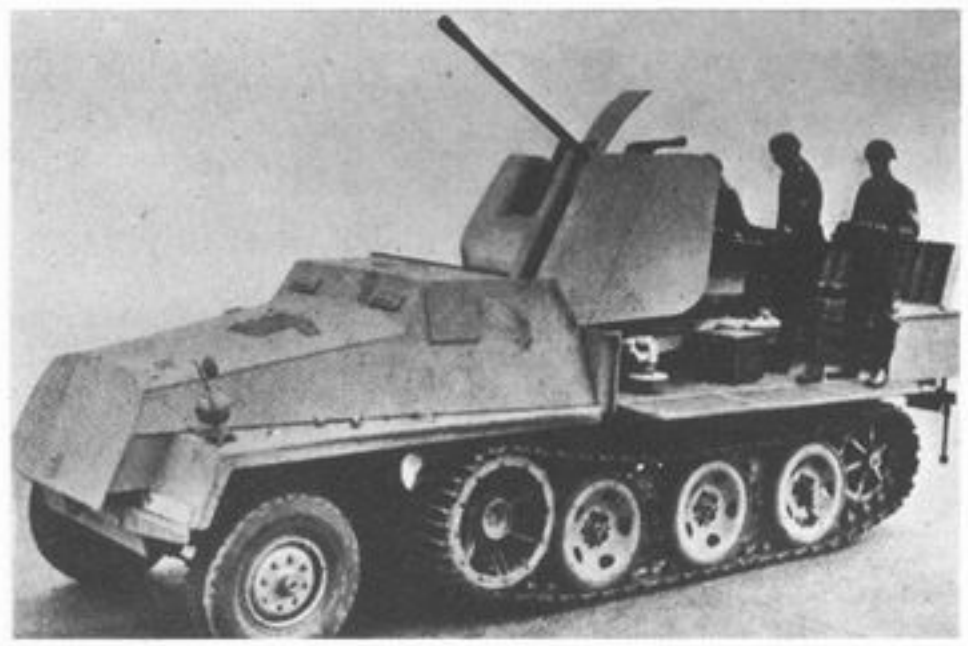
Flakpanzer IV (2cm) auf Fgst Pz IV/3 Wirbelwind

This vehicle was designed to give the crew better armoured protection and entered service at the end of 1943. Based on the chassis of the PzKpfw IV Ausf. J, the 2cm quadruple guns were now mounted within a 16mm armoured revolving open turret. A counter-part of this vehicle, the Ostwind, mounted the 3.7cm Flak 43. Crew 5. Weight 22 tons.

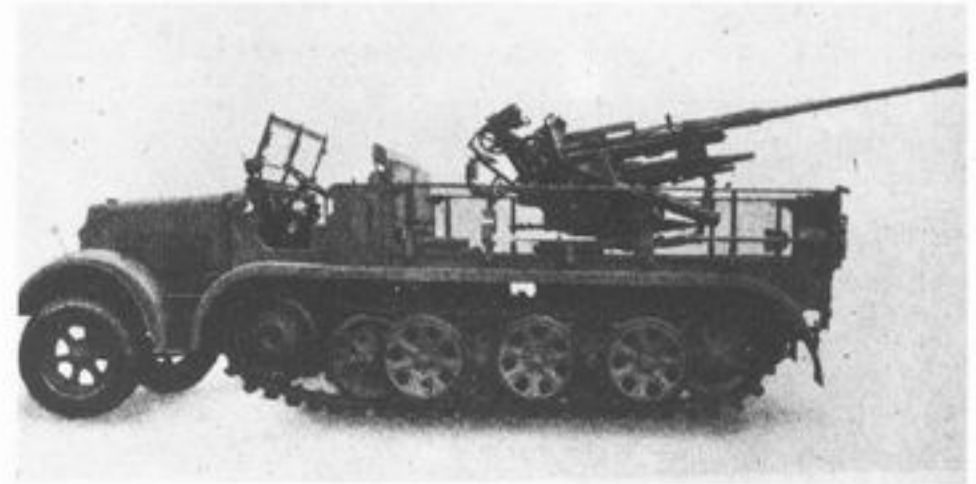
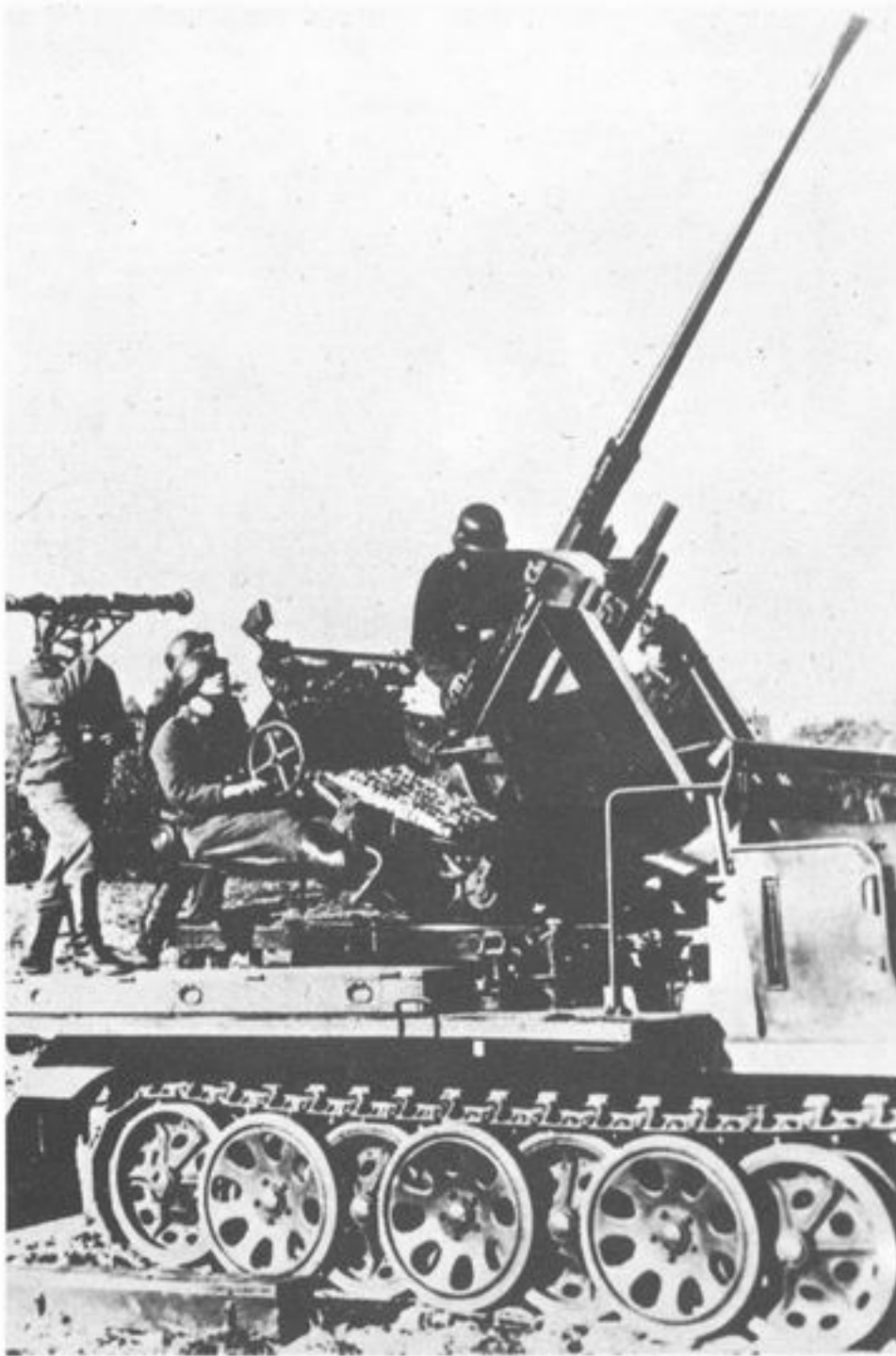
MEDIUM FLAK GUNS



3,7cm Flak 36 auf Lkw Mercedes-Benz, 4500A
 3,7cm Flak mounted on the chassis of the 4 × 4 Mercedes-Benz 4.5-ton cargo truck, Type 4500A. The vehicle was considerably modified for this adaptation.



3,7cm Flak 43 auf Schwerer Wehrmachtsschlepper
 3,7cm Flak 43 mounted on the chassis of the SWS half-track, a vehicle that had been designed to replace the 5-ton semi-tracked vehicle, SdKfz 6.



mZgkw 8t mit 3,7cm Flak 36 SdKfz 7/2
 3,7cm Flak mounted on the chassis of the 8-ton semi-tracked vehicle, SdKfz 7.



Reworked version of the SdKfz 7/2 with armoured cab.

3,7cm Flak 36 (Sf) auf Zugkraftwagen 5t SdKfz 6/2
 3,7cm Flak 36 mounted on the 5-ton semi-tracked vehicle SdKfz 6.



3,7cm Flak 36 auf Maultier
 This equipment consisted of the 3,7cm Flak gun mounted on a Ford 2-ton semi-tracked cargo vehicle. (Gleisketten-Lkw, 2t (Maultier))
 (Bundesarchiv, Koblenz)

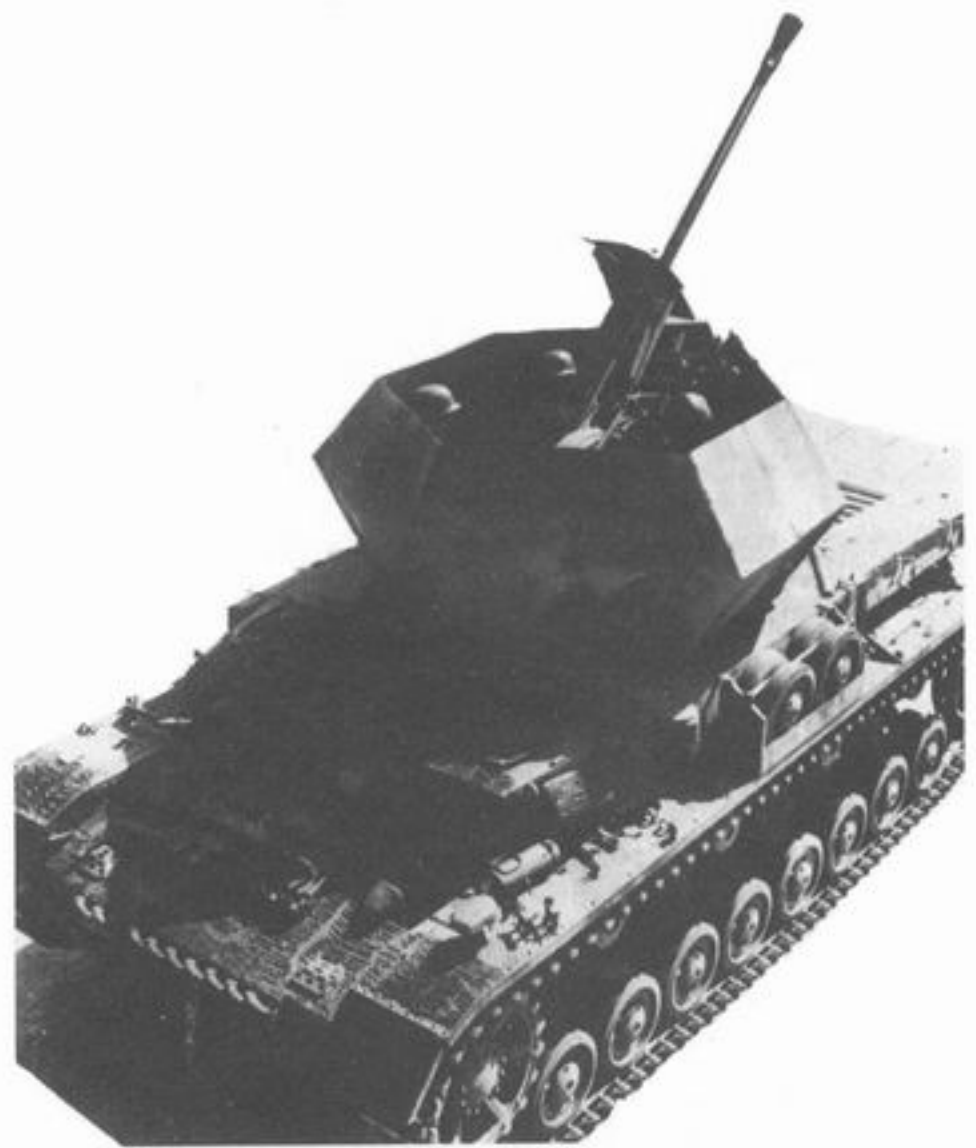


3,7cm Flak 43 auf Sf IV Möbelwagen

This was a similar carriage to that of the Flakpanzer IV, but armed with the 3,7cm Flak 43 in place of the 2cm Flakvierling 38. Both vehicles appeared at the same time.

3,7cm Flak 43 auf Sf Ostwind

A similar vehicle to the Wirbelwind, but mounting the 3,7cm Flak 43 in the armoured turret.



HEAVY FLAK GUNS



8,8cm Flak 37 (Sf) auf Zugkraftwagen 18t

Though the 8,8cm Flak gun had in 1940 been mounted on a semi-tracked vehicle to create a mobile mount for this gun, this conversion had been developed purely as an anti-tank weapon. In 1943 a series of 14 of the 18-ton semi-tracked vehicles SdKfz 9, were converted to mount the 8,8cm Flak 37 for the dual role of Pak and Flak. The cab and engine were armoured and outriggers or jacks were attached to the vehicle's sides; these could be lowered to increase the stability of the gun when in action. Crew 9/10. Weight 25 tons.



Flakpanzer für schwere Flak (8,8cm Flak 37) or 8,8cm Flak 37 auf Sonderfahrgestell

Developed in 1943, this experimental equipment was the 8,8cm Flak 37 mounted on a full-track chassis, consisting of Panzer IV and semi-track suspension components. The gun, which retained its normal gun shield, was protected at the sides and rear by armour shields, which could be lowered to allow full traverse of the gun. Crew 8. Weight 20 tons.

Below left

8,8cm Flakpanzer with the three protecting armoured shields lowered.

8,8cm Flak 41 auf Sonderfahrgestell

This was the special chassis mounting the 8,8cm Flak 41 model replacing the Flak 37. Experimental only.



Mobile Field Artillery

Medium and Field self-propelled artillery was introduced about the middle of 1942. Employed with the armoured and motorised divisions, various models of the 10,5cm and 15cm guns mounted on German and captured French tank chassis were used.

During 1942/43 plans were made for the development of a new range of weapons called Waffenträger (Weapon Carriers). These equipments were to consist of Anti-tank, Field and Medium guns mounted on their original field carriages, the complete units to be carried on a lightly

armoured tracked chassis and, where possible, to be dismountable as field pieces, power-driven mechanism being carried for this purpose. To be constructed with standard tank components, the Weapon Carriers consisted of three groups: Heuschrecke (Grasshopper), Grille (Cricket), and a third series based on the chassis of the modified 38(t) Czech tank. Though many of these projects existed as wooden models or as designs on the drawing board, only a few prototype machines were built.

LIGHT FIELD HOWITZERS



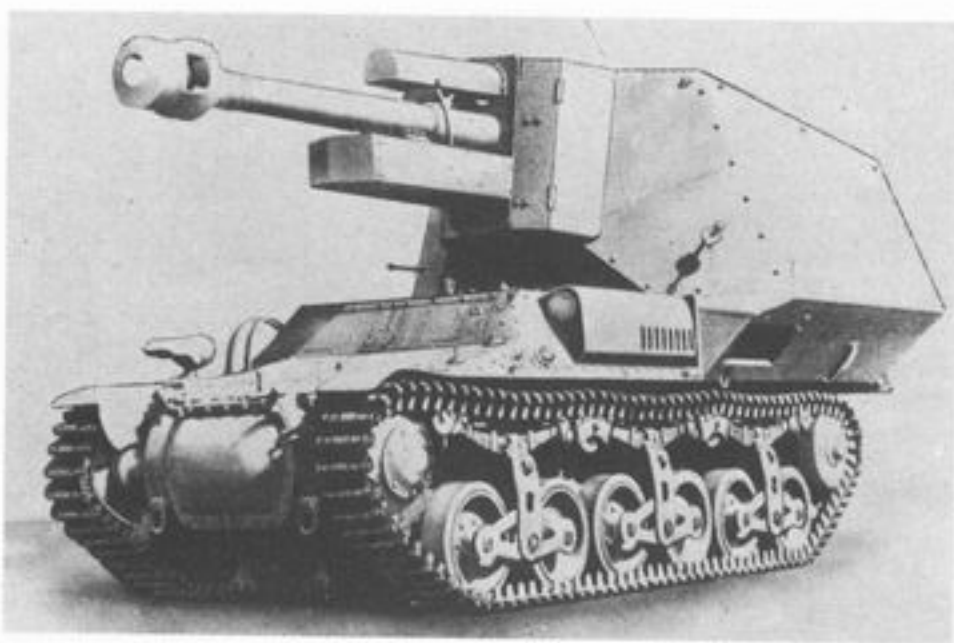
le FH 18/2 auf FgstPzKpfw II (Sf) SdKfz 124 Wespe or GW II fuer 10,5cm le FH 18/1 Wespe

Introduced in 1942 for employment with the armoured regiments, this equipment consisted of the 10,5cm gun howitzer mounted at the rear of a Panzer II Ausf. F chassis. The fighting compartment was open at the top and rear. Crew 5. Weight 11.5 tons.



10,5cm le FH 16 auf GW FCM (f)

This conversion consisted of the 10,5cm gun howitzer model 16 mounted on the chassis of the French FCM tank. Ten of this model were produced and taken into service during 1942. Crew 4/5. Weight 13.5 tons.



10,5cm le FH 18 auf GW Lorraine Schlepper (f)

This lightly armoured mobile gun howitzer appeared in mid 1942. Based on the French Lorraine carrier chassis 24 were produced. Crew 4. Weight 8.5 tons.



10,5cm le FH 18 auf GW 39H (f) or 10,5cm Panzerhaubitze 18 auf SdKfz 39H (f)

Based on the chassis of the French Hotchkiss tank type H39, forty-eight conversions of this type appeared during 1942. Crew 4/5. Weight 13 tons.

leFH 18/1 (Sf) auf GW IVb or 10,5cm leFH 18/1 auf GW IVb SdKfz 165/1

This was an experimental Panzerartillerie type using a shortened PzKpfw IV chassis as the self-propelled mount. A total of eight vehicles was built during 1942 and these later saw service in Russia. Crew 5. Weight 17 tons.





10,5cm le FH 18/3 (Sf) auf GWB2 (f)

A limited number of this equipment was introduced into service in 1942. The 10,5cm gun was mounted in the front of an open topped compartment placed well forward on a French Char B1bis hull. Crew 5. Weight 32 tons.



leFH 18/40 (Sf) or 10,5cm leFH 18/40 auf Fgst GW III/IV

This vehicle was also developed as a Weapon Carrier and carried the gun, gun carriage, and gun shield within an armoured superstructure, with the gun mounted to fire forward within a limited traverse. The gun wheels and trails were carried at the rear of the vehicle. When required for ground action, the weapon was removed by a block and tackle and with the wheels and trails was assembled on the ground as a normal field piece.

10,5cm K 18 auf Panzer-Selbstfahrlafette IVa or 10,5cm leFH 18 L/52 auf PzSfl IVa

Based on the chassis of the PzKpfw IV Ausf. D, only two of this experimental vehicle were produced, in 1942. The gun howitzer that was developed from the 10cm sFK 18 field gun was installed in an open top fighting compartment. Tested in Russia this equipment proved unsatisfactory. Crew 5. Weight 25 tons.



GW IVb fuer 10,5cm leFH 18/1 (Heuschrecke IVb) or 10,5cm leFH 18/1 L/28 auf Waffentrager, GW IVb

Based on a modified chassis of the PzKpfw IV, eight of these experimental Weapon Carriers were built during 1942. The turret which was fully rotating could be removed by a block and tackle assembly that was attached to a girder frame, and placed on the ground in the ground defence role of an armoured pillbox. This lifting gantry was arranged on both sides of the vehicle. The turret could, when required, be towed behind the vehicle. This was accomplished by placing the turret on a small girder frame with two wheels; these components were also carried on the vehicle. When towing the turret the vehicle was used as an ammunition carrier. Crew 5. Weight 17.3 tons.



This picture shows the Heuschrecke IVb towing the turret on wheels. The gantry is still in the lifting position.



Rear view of leFH 18/40 (Sf) showing the two gun wheels and trails.



Lb 11B 2 α

HEAVY FIELD ARTILLERY



15cm Panzerfeldhaubitze 18M auf GW III/IV SdKfz 165 (Hummel) or 15cm schwere Panzerhaubitze 18/1 (Sf) auf Fgst PzKpfw III/IV or Geschützwagen III/IV Hummel

Produced in 1942, this lightly armoured mobile heavy howitzer was carried on a self-propelled mount made of components from the PzKpfw III and IV series. Early versions were equipped with muzzle brakes but these were later eliminated. From mid 1944 the Hummel's driver's compartment was redesigned to a straight front. Crew 5. Weight 23.5 tons.



A late production Hummel with the redesigned front superstructure. (Warpics)



15cm sFH 13 Selbstfahrlafette Lorraine SdKfz 135/1 or 15cm sFH 13 auf GWLrS (f)

This mobile artillery equipment consisted of a French Lorraine chassis (Tracteur Blindé 38L) on which was mounted the 15cm sFH 13, a medium howitzer of World War I. The howitzer was mounted at the rear of the vehicle within an open top fighting compartment. A hinged spade at the rear of the vehicle was lowered when the gun was in action. A total of 102 conversions were made from 1942 on. Crew 4. Weight 8.36 tons.



Hummel fitted with the Ostkette (East track). This was a lateral extension to the normal tracks for improved ground pressure and better traction over soft ground.

SUPER-HEAVY ARTILLERY



Grille 17/21 fuer 17cm K 18 oder 21cm Mrs 21

Designed as a mobile mount for the 17cm K 18 gun or 21cm Mrs 21 heavy howitzer, this consisted of a lengthened PzKpfw Tiger Ausf. B chassis with a built-up superstructure. One pilot model was nearly completed by the end of the war. Crew 8. Weight 58 tons.



Wooden model of the Grille 17/21.



60cm Moerser (Geraet 040) and 54cm Moerser (Geraet 041) Karl

This was the biggest weapon to be mounted on a self-propelled carriage. Projected in 1937 the first of the 60cm series appeared in 1939. This equipment was designed as a super-heavy self-propelled howitzer capable of firing a very large explosive projectile with a high trajectory to penetrate the deepest fortifications. Though initially developed for use against the French Maginot Line, with the fall of France the Karl was later used on the Russian Front, participating in the siege of Sevastopol, at Brest-Litovsk and later in the Warsaw rising.

Six of the 040 equipment were built, having two different tracked systems, either eleven twin road wheels and six twin return rollers or eight twin road wheels and eight twin return rollers. To increase the range of these weapons, some of the 040 equipments in 1942 were re-equipped with new 54cm howitzers, these being interchangeable with the 60cm barrel, and were re-designated Geraet 041.

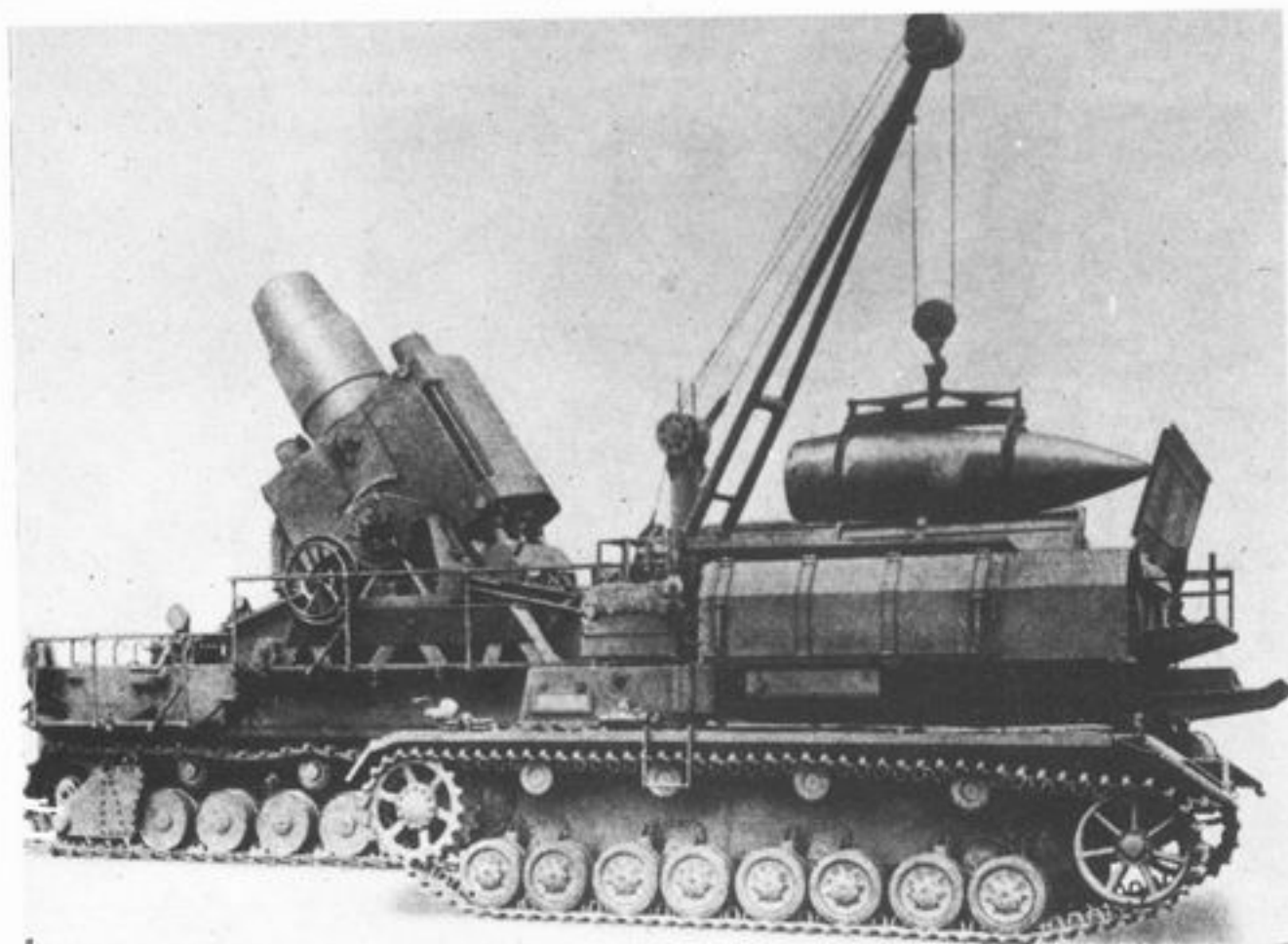
Because of the size of these guns special means were provided for transporting them over distances too great to be negotiated as a self-propelled unit. For transporting by rail, the unit was suspended between two special railway trucks by means of a special steel truss. For movement by road, the equipment was partially disassembled and carried on special trailers.

To supply ammunition to these guns a special armoured carrier was developed, based on the PzKpfw IV Ausf. F chassis. This was equipped with a 2.5-ton crane to lift the three rounds of 60cm or 54cm ammunition that it carried and place them on the loading tray of the howitzer.

Weight 60cm Moerser/125 tons. Weight 54cm Moerser/132 tons.

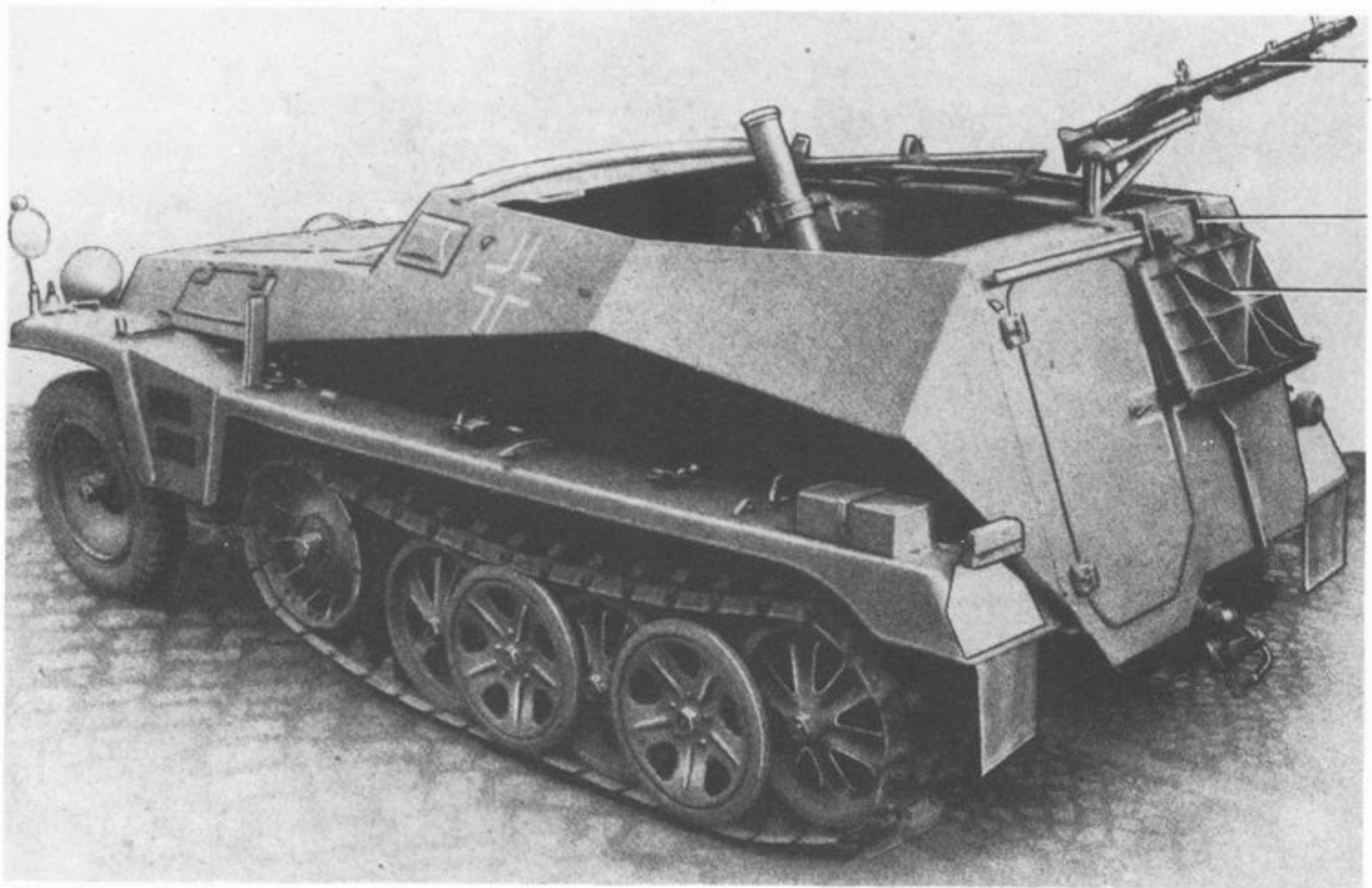


54cm Moerser (Geraet 041).



Munitonpanzer IV loading 54cm shell on to Geraet 041 loading tray.

Mobile Mortars



SdKfz 250/7 8cm GrWWagen (Granatewerferwagen)

In service by 1943 this was a later version of the semi-tracked personnel carrier as a mobile mount for the standard mortar. In this case the mount used was the one-ton SdKfz 250 adapted to carry the 8cm mortar (sGrW 34).

The mortar could be fired forward from the vehicle or from a ground position, a baseplate for the ground role being carried at the rear of the vehicle. A similar vehicle was converted to carry spare mortar ammunition. Crew 5. Weight 5.61 tons.



**SdKfz 251/2 mSchtz PzWgGrW
or Mittlerer Schuetzenpanzerwagen (Granatewerfer)**

Produced in 1942 the three-ton semi-tracked personnel carrier SdKfz251 was modified to carry the 8cm mortar model 34. The mortar was sighted to fire forward over the driver's cab. A base plate was carried for use with the mortar when firing from the ground position. Crew 8. Weight 7.84 tons.



**1/2 8cm Schwerer Granatewerfer 34 auf PzSpWg AMR (f)
or Moersertraeger AMR (f)**

This was a conversion of the French light tank AMR (Renault Type ZT) as a mobile mount for the 8cm mortar. Two types of this conversion were constructed: One (above right) with a high superstructure open at the rear with the mortar sighted to fire forward; the other (right) similar, but equipped with a small armoured cab at the rear of the vehicle and a pulpit type of cupola on the front.

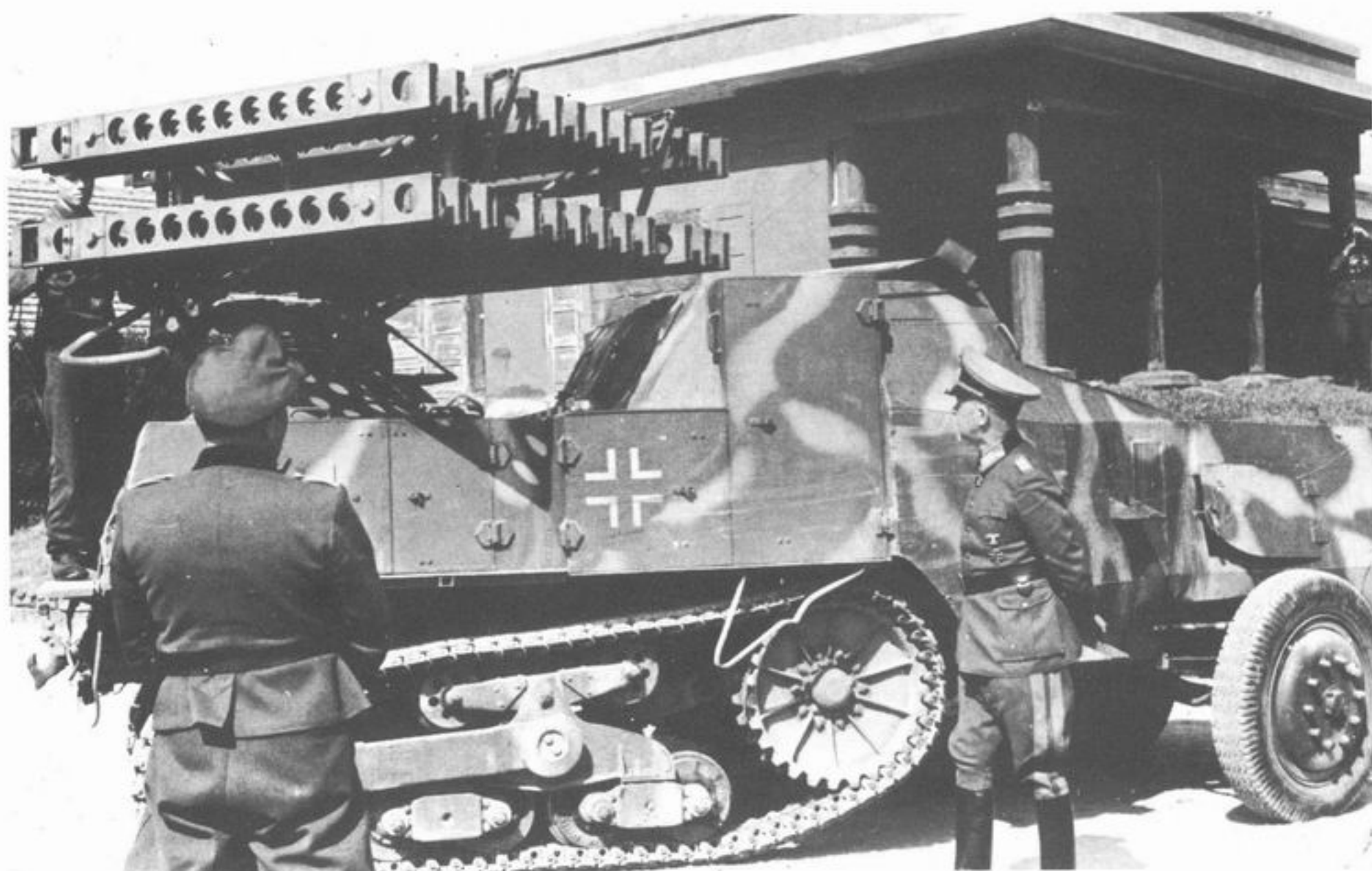




Mittlerer Schuetzenpanzerwagen S 307(f) mit Reihenwerfer

Produced in 1944, this equipment consisted of the French Somua semi-tracked vehicle adapted to carry 16 French 81mm mortars. These were arranged in two rows on a frame mounted at the rear of the vehicle. The bombs were discharged simultaneously. A similar device using German 8cm mortars was mounted on a truck.

Rocket Projectors



8cm R-Vielfachwerfer auf gep Mannschaft Wg Somua (f)

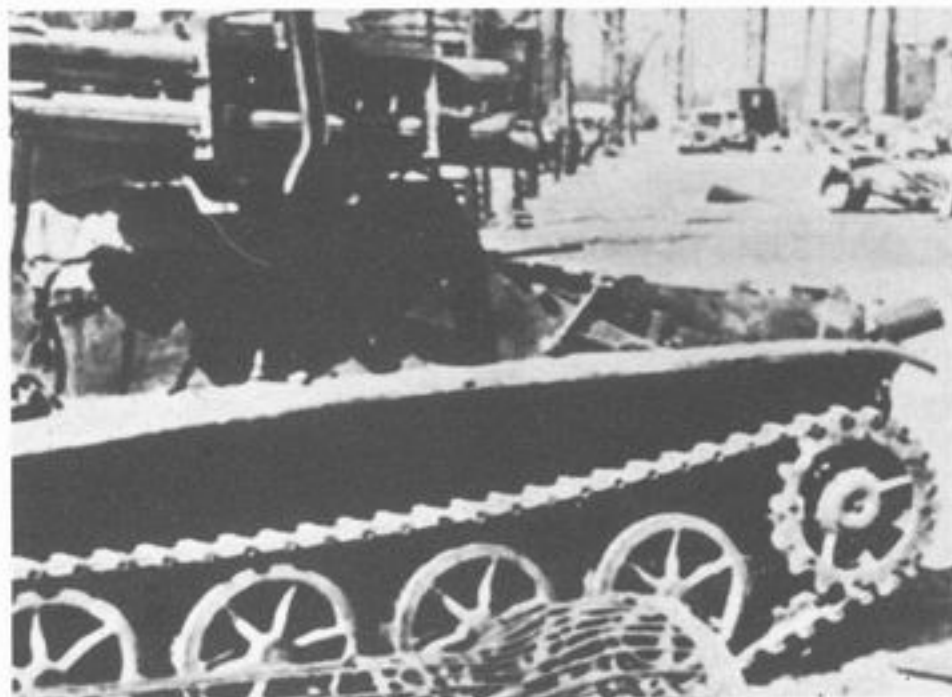
This experimental equipment was developed late in 1944 and consisted of 24 fin-stabilised 8cm nose-fused rockets (Raketen Sprenggranate) fired from a multiple projector known as the 8cm R-Vielfachwerfer. The projector assembly consisted of 24 launcher rails arranged in two rows of 12 on a rotating base mounted at the rear of a modified armoured French Somua semi-tracked vehicle. (Bundesarchiv Koblenz)

Kleinpanzer Wanze

Produced towards the end of the war, this equipment consisted of four 8.8cm Raketen Panzerbüchse 54 (Rocket Launchers Model 54) mounted together within a metal frame on the chassis of the Borgward B IV, converting the vehicle into a one-man tank.

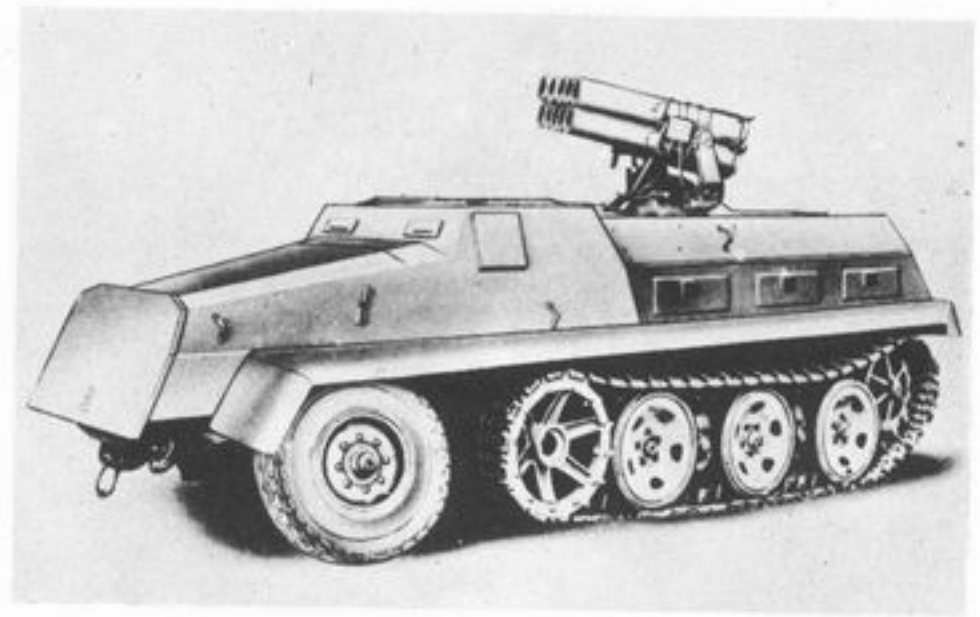
The 8.8cm RP 54 was the German equivalent of the American Bazooka. It fired a large hollow-charged rocket electrically, the current being obtained from a small generator located underneath the tube.

The Borgward B IV (Schwerer Ladungstraeger, SdKfz 301) was a radio-controlled tracked demolition vehicle that had been designed to carry and drop an explosive charge by remote control. Crew 1.





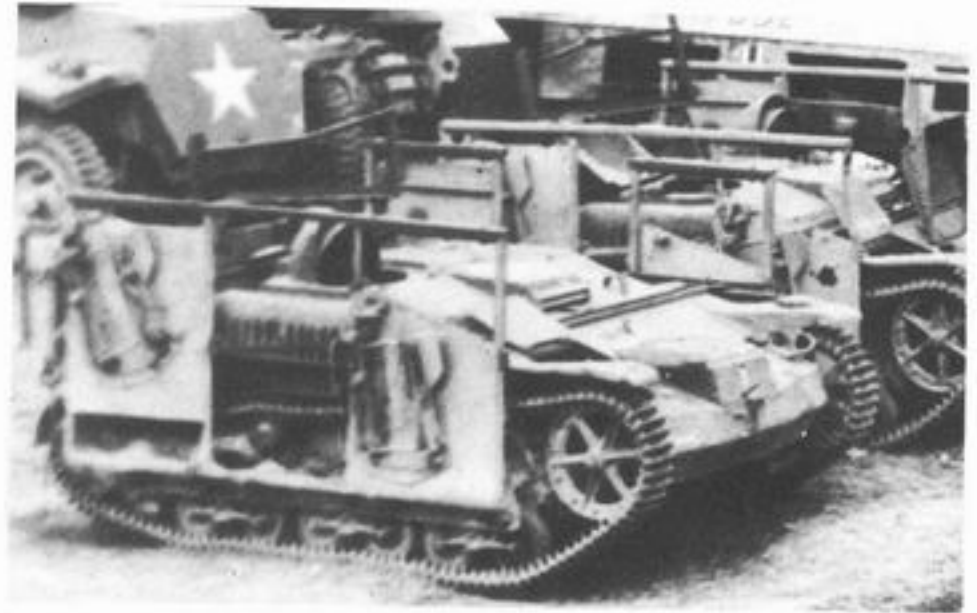
15cm Panzerwerfer 42 auf 'Maultier' (Opel) SdKfz 4/1
 Rocket projectors were introduced in 1940 for laying heavy concentrations of smoke and high explosive on target areas, the original 15cm 6-barrel projector equipment being mounted on a two-wheeled towed carriage. To increase the mobility and rate of fire of this weapon, ten projector tubes were mounted on a converted semi-tracked cargo vehicle. The mobile mount used for this conversion was the 2-ton Opel 3.6.36 Type S/SSM that had been fitted with a light armoured body. The projectors in two horizontal rows of five were mounted at the rear of the vehicle on a turntable with a 360 degree traverse. An additional ten 15cm rocket rounds were carried inside the vehicle. Crew 3. Weight 7.1 tons.



15cm Panzerwerfer 42 (Zehnling) auf Schwerer Wehrmacht-Schlepper
 Projected in 1942, the construction of this simplified design for a heavy military semi-tracked tractor (SWS) was personally sanctioned by Hitler for the Infantry Programme to replace the 5-ton semi-tracked vehicle SdKfz 6 which was to be discontinued. The SWS entered into service late in 1944 and a number of them were converted to self-propelled carriages for the 15cm Nebelwerfer projectors to replace the Maultier. An additional 26 rocket rounds were carried stowed inside the vehicle. Crew 5. Weight 14 tons.



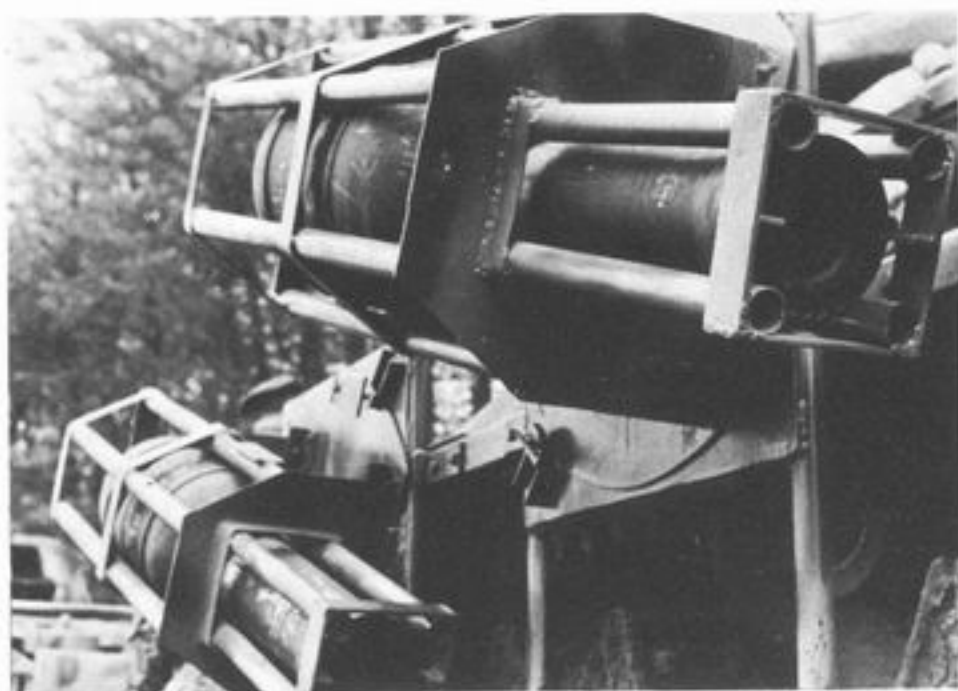
Mittlerer Schuetzenpanzerwagen mit Wurffrahmen, SdKfz 251/1
 Introduced into service during 1940, this equipment consisted of the standard 3-ton semi-tracked personnel carrier SdKfz 251 equipped with externally mounted pivoting racks for launching the heavy 28 or 32cm rockets. The racks known as the Schweres Wurffrahmen 40 (SWR 40) were attached, three on each side of the vehicle, and were designed to fire the rocket from the crate that it was packed in, thereby utilising the crate as the projector. The pivoting plates within the SWR 40 frames or racks were adjustable for elevations from 5 to 45 degrees and the rockets were aimed by manoeuvre of the vehicle. These vehicles were also known as Stuka zu Fuss (Infantry Stuka). Crew 7.
 (Bundesarchiv, Koblenz)



Gepanzerter Munitionsschlepper UE(f) mit Wurffrahmen or RW auf UE(f)
 This was the French Chenillette infantry tractor with four Wurffrahmen 40 mounted, two each side of the vehicle, for launching four 28 or 32cm rockets. The method of aiming and firing was the same as for the Stuka zu Fuss. Crew 2.



Infanterie Schlepper UE(f) für 28/32cm Wurffrahmen
 This version of the rocket launching Chenillette carried the crated 28/32cm rockets on a raised metal platform that had been constructed over the stowage bin at the rear of the vehicle. The platform was hinged to obtain elevation and the method of aiming was the same as its counter-part. A close-up of the sighting vane is shown in the picture of this vehicle, which is being inspected by Field-Marshal Rommel (centre of the group). (Bundesarchiv Koblenz)



28cm rocket launched from Hotchkiss H35. UE Chenillette with 28/32cm crated rockets is on the left. (Bundesarchiv Koblenz)



28/32cm Wurffrahmen auf PzKpfw 35H(f)

The rocket launching equipment on this vehicle, a French Hotchkiss H35 tank, was a modified device and consisted of a frame with two metal projectors bolted to movable plates, one frame being attached to each side of the vehicle. The projectors were shaped to the contours of the 28/32cm rockets and were designed as permanent launchers, additional rocket rounds being carried by a munitions vehicle.

Elevation of the launchers was achieved with the movable plates, the rockets being aimed by manoeuvre of the vehicle. (Bundesarchiv Koblenz)

Flame Throwers



This view shows the 1.4cm projector on the right side of the vehicle in action against a target. This vehicle is a late production model without the portable equipment. (Bundesarchiv, Koblenz)

Mittlerer Flammpanzerwagen, SdKfz 251/16 or m Flamm PzWg

Introduced in 1942, this was the 3-ton semi-tracked armoured personnel carrier SdKfz 251 equipped with flame-throwing weapons. Two 1.4cm flame-projectors protected by armoured V-shaped shields were mounted at the rear, on either side of the vehicle, and could be traversed 160 degrees.

A 154 gallon flame-fuel tank was fitted against the rear inner side of the vehicle and was sufficient for 80 bursts of 1 to 2 seconds at a range of 40 to 50 yards.

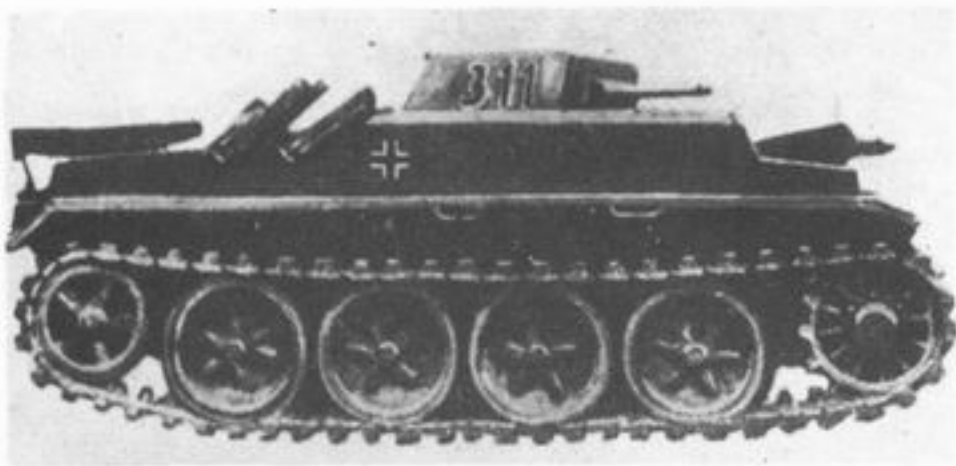
A portable 7mm flame-projector for use with a dismounted crewman against difficult targets was also carried. When in use the portable equipment was connected to the vehicle's flame-fuel tank by a 33 ft hose pipe. This equipment was dispensed with on later production models of the SdKfz 251/16. Crew 4. Weight 8 tons.



Flammpanzer I

A number of Panzerkampfwagen I Ausf. A were converted in the field by the Afrika Korps to the role of flame-throwers. The machine gun in the right of the turret was removed and replaced by a projector of a light infantry flame-thrower Model 40. The cylinders containing the flame-fuel and compressed air were installed inside the turret.





PzKpfw II (F) SdKfz 122

This equipment was a conversion of the Panzerkampfwagen II Ausf. D and E to the role of a flame-throwing tank, production of which began in 1940. Two remote controlled armoured turrets containing the flame projectors were mounted on the front of each track guard. These projectors with a range of 35 yards and a traverse of 180 degrees were controlled by the tank commander.

Each projector was supplied separately with flame fuel from a 35 gallon armoured tank carried externally on the track guards. At the rear of each fuel container was mounted a triple smoke generator discharger. Crew 3. Weight 11 tons.



Panzerkampfwagen III (F) SdKfz 141/3 or Flammpanzer III

Produced from 1942, this vehicle was the basic Ausf. L or M of the the Panzer III series converted to a flame-throwing tank. The flame-projector was contained inside a steel tube about 5 ft long and was mounted co-axially in the turret with a machine gun replacing the normal 5cm gun. A total of 225 gallons of flame-fuel was carried internally, being contained in two tanks within the hull. This enabled the projector to give 70 to 80 flame jets of 2-3 seconds at ranges of up to 65 yards maximum. Crew 3. Weight 23 tons.



Flammpanzer 38(t)

Produced in late 1944, the flame-projector was mounted on the offside front of a Panzerjäger 38(t) replacing the 7.5cm Pak 39. Two tanks containing 154 gallons of flame-fuel were carried internally. The range of the projector was 55 to 66 yards.

**A.F.V./Weapons Series Editor:
DUNCAN CROW**

PzKpfw B1 Bis(f) Flamm

Twenty-four French Char B1 Bis heavy tanks were converted during 1943 to flame-throwing tanks. A flame-projector was installed in the front of the hull replacing the 75mm gun and the tank for the flame-fuel was placed at the rear of the vehicle within an armoured housing. Crew 4. Weight 34 tons.



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Maus the largest armoured fighting vehicle ever built, was the culmination of Porsche technical development in the Tiger field. E-100 was the Maus's rival.

**French Infantry Tanks: Part I
(Chars 2C, D and B)**

by Major James Bingham, Royal Tank Regiment

The tanks included in Part I of the two French Infantry Tanks Profiles, in which Major Bingham completes the story of French tanks from 1919 to 1940 begun in his Profile of French cavalry tanks (AFV/WEAPONS 36), are: Heavy tanks - 1A, 1B, 1C ("significant only as the prototypes for . . .") 2C ("a formidable weapon for its time"); Medium tanks - D1 and D2 ("the Renault Chars D, together with a few Chars B, were the only new tanks to be issued to the French infantry between the end of World War I and 1935 when rearmament started"), B ("the Char B1 bis became the principal French medium tank in 1940 . . . a sophisticated tank with some technically advanced features, but its very complexity was a disadvantage in manufacture and maintenance, whilst its layout and demands on the crew hindered an efficient use of its weapons in battle"), AMX 38 ("it was not used in action"), and the post-war ARL 44. The Profile includes a full description of the famous Char B.

**French Infantry Tanks: Part II
(including R 35 and FCM 36)**

by Major James Bingham

The tanks included in Part II are the French Infantry Light Tanks: Renault FT, Renault NC, Renault R 35 ("the most numerous light infantry tank in service in 1940"), FCM 36, and Renault R 40 (AMX 40). A full description of the R 35 is included.

Major Bingham concludes this Profile with a critical examination of the French use of tanks, not only in direct support of infantry but in armoured formations, whose development, limitations and demise in action he recounts ("Within a period of three weeks the entire armoured force had been presented for destruction or neutralisation, successively and in detail").

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