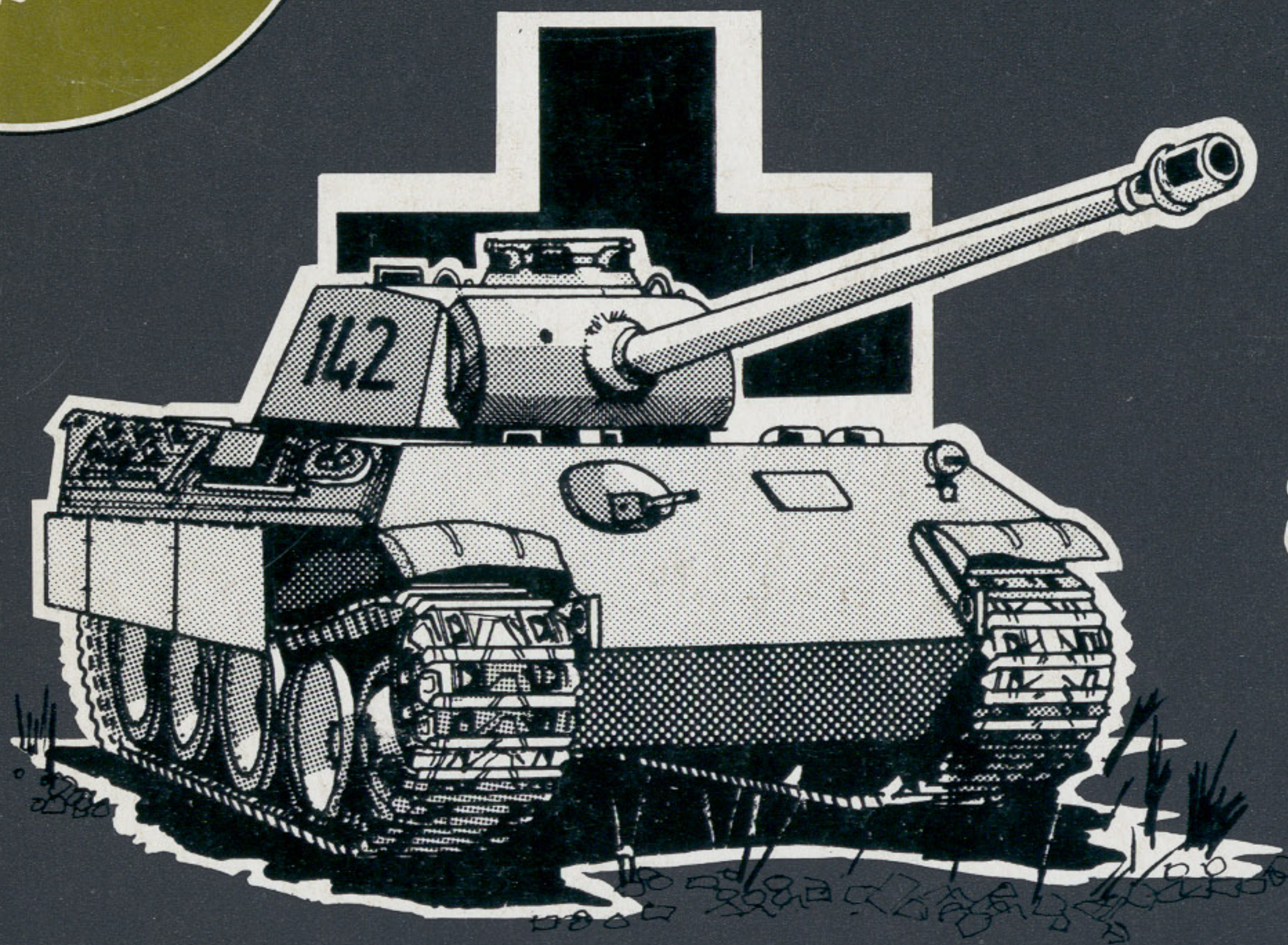


No.3 GERMAN

EASTERN FRONT

FOCUS ON
ARMOUR
CAMOUFLAGE
& MARKINGS



Kenneth M Jones

An Almark Publication

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No. 3 GERMANY

EASTERN FRONT

By
Kenneth M. Jones

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INTRODUCTION

It can safely be said that Hitler and his OKH (Oberkommando des Heeres) grossly underestimated the strength of the Soviet Army when drawing up plans for the invasion of Russia under the codename 'Barbarossa'. A confident Hitler endorsed Directive No. 21 ordering 146 divisions, comprising seven armies and four panzer groups with 3,580 armoured and 600,000 other vehicles, and 7,184 guns to attack across a wide front at 03.15 hours on the morning of 22nd June, 1941. The German force was deployed in three elements, Army Groups, North, Centre and South.

The initial attacks took the Red Army by surprise. The Northern Group thrust over 40 miles into Russian Territory; within 36 hours the Germans had taken over 300,000 Soviet prisoners and captured a large amount of Soviet vehicles, many of which were in running order and were impressed into German service. By the 9th of July the Germans were crossing the Dvina and Dniepr rivers and two days later, Army Group South were within 10 miles of Kiev. July 16th saw the Germans of Army Group Centre at Smolensk, but strong Soviet counter-attacks and stiff opposition held them away from the city interior.

Hitler was constantly interfering with his generals tactical plans frequently overriding and meddling with carefully worked out strategies replacing them with his own schemes. He insisted that Moscow was not the prime target as originally envisaged, but that Leningrad should be assaulted as soon as Russian resistance at Smolensk was crushed. He would have his centre force swing south to destroy the Russian 5th Army, envelope Kiev, then swing north again to join up with the other groups. By August 5th 1941, Smolensk was in German hands and the Russian Force there destroyed. The Russians counter-attacked, but by the end of August these attacks had been repulsed. The Russian 5th and 37th Armies were totally destroyed and by the 16th of September, Army Group North was ready to attack Leningrad. The plan was to surround the city and starve it into submission. Leningrad was completely divorced from the rest of Russia by land approach, and thousands died of starvation in the city. It would be December, during the Soviet 'Winter Offensive' that relief – albeit small – was forthcoming to the beleaguered city.

In late September the Germans prepared to attack Moscow; attacks began on the 30th day of the month. These were



A PzKw III command vehicle passes burning Soviet armour. Barely visible on the tanks rear is the 'Kursk' marking for the 2nd SS Panzer Division 'Das Reich'. The tank in right background is a lease-lend M3 Lee in Soviet service.

hampered by rain which slowed the German advance. Within the next month the weather would deteriorate to the point of greatly delaying the whole advance, but the freezing over of the quagmire caused by heavy rains enabled the Germans to move again. At this time Army Group South, which had taken Kharkov on the 24th of October, was charged to go to the Caucasus as their objective. The oil fields there would have been of immense value to the Germans. On the 20th November, the Germans took Rostov and a week later Army Group North had reached the Volga and were under 20 miles from the centre of Moscow. On the 29th November the Russians countered causing the Germans to retreat from Rostov which they had captured nine days earlier. This withdrawal was to prevent the units in Rostov from being cut off from the rest of the army.

The Russians began a great counter offensive on 5th December. Their forces were bolstered by fresh Siberian divisions, and caused a German retreat. Although starting with some impetus, the Russian offensive soon ran out of steam towards the end of January, leaving the Russians in trouble from German counter-attacks. The spring thaw brought ground operations to a halt, and both sides took the opportunity to replenish their depleted supplies. The Russians attacked again on 12th May, but were soon halted by a reinforced German Army, which went over the offensive once again.

By July 1942, the Russians were evacuating Sevastopol in the Crimea, and come the 13th of that month, Army Group South sped into the Caucasus to capture the oil fields there. The Germans were not to possess the oil however, Hitler once again interfered and made another city, Stalingrad, a major objective. By the middle of August the Germans were concentrating all their strength against Stalingrad and the once all-important oil fields were forgotten. Come the end of August the Germans had managed to push the defenders of Stalingrad into a 500 square mile area which backed onto the river Volga. The Russians hung on to this area tenaciously making the Germans pay dearly in men and material for every foot of ground gained. The Germans attempted to take the besieged city by frontal attack straight through to the Volga, but ran into heavy street fighting which bogged the advance down to a snails pace and eventually to a halt. On all fronts in Russia the Germans were becoming stretched, and so their deployments became weaker. Conditions – it seemed – were ripe for the Russians to counter-attack.

The Russian counter-attack began on 19th November, and by Christmas the Germans were in retreat. General Paulus' Sixth Army surrendered to them at Stalingrad much to Hitler's chagrin; he had insisted that Paulus should fight to the last round or man, whichever was left. The Germans countered the new Russian offensive in the south, which left a large salient around Kursk.

Operation Citadel began on 5th July and turned into the immense tank battle we now know as Kursk. The Germans were doomed to failure from the outset, and were in retreat a week later, pushed back by massive Soviet counter-attacks. The invasion of Sicily by the Allies had given Hitler the 'excuse' to dump his eastern front plans and to transfer badly needed divisions for Russia to the Mediterranean theatre. The Russians lauded that the Battle of Kursk enabled the Allies to land in Sicily virtually unopposed as the Germans had to draw their reserves from the Mediterranean theatre. Everyone, it seemed, was turning events to their own advantage politically. Hitler had his excuse, and the Russians had a nice set-piece of propaganda.

The Russian offensive continued. It cost the Soviets dearly in manpower and material, mainly due to the ability of the German General's, who now free from Hitler's meddling, were able to mount well planned counter-attacks, but unfortunately for them these were only delaying actions. The Germans were totally outnumbered, and at last the 'writing was on the wall',

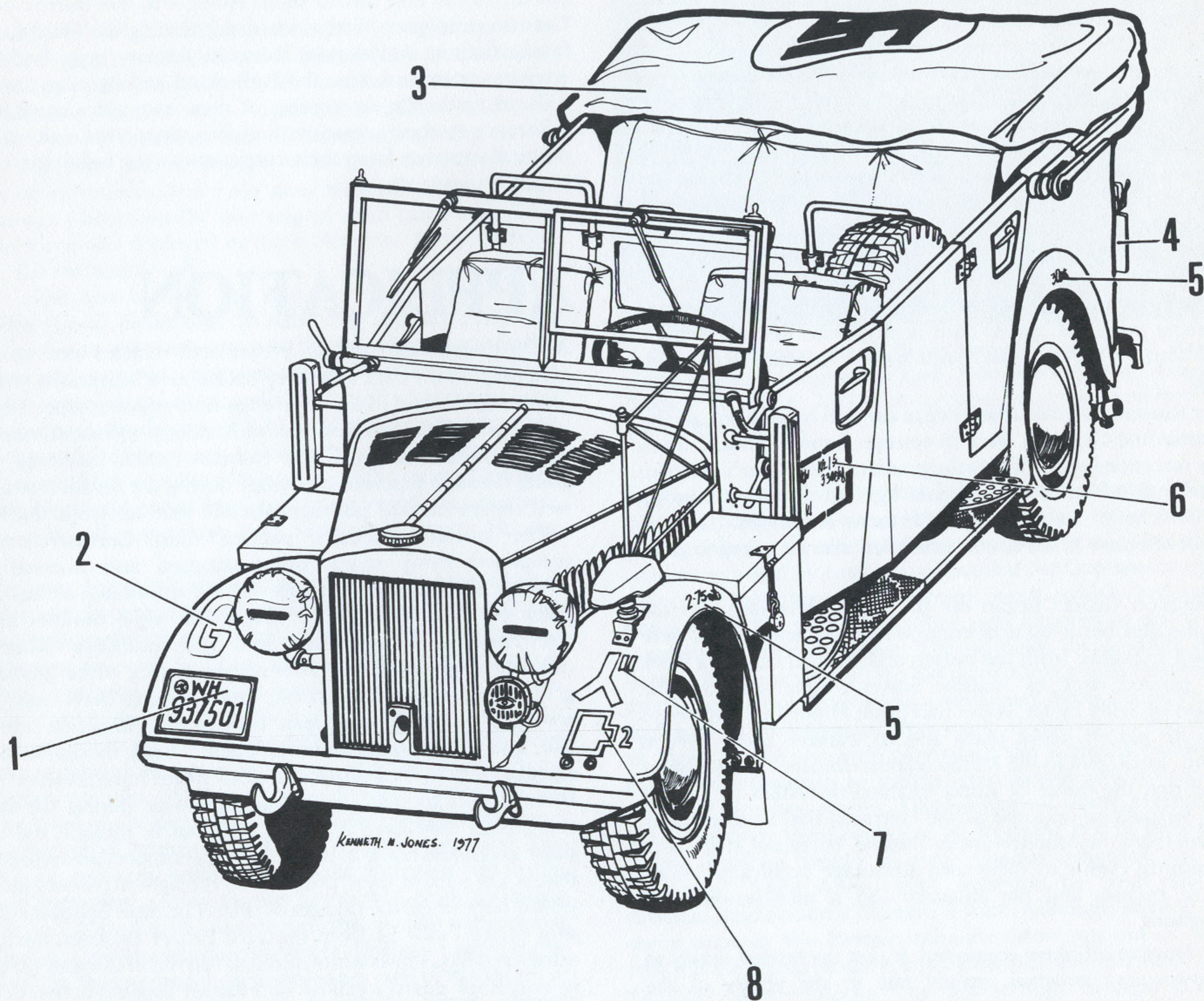
Germany was fighting a war on two fronts. The Western Allies were pushing up through Italy and the Soviets to the east, coupled with the pounding from day and night bombing offensives the end was in sight. Hitler – to the horror of the German strategists – had succeeded in sealing his Third Reich's fate by fighting on too many fronts. By January 1945, the Soviets were ready to push into the Fatherland and fight on German soil, no doubt the destruction of their own cities made some difference to their memories and thus sharpened – along with political speeches from their commissars – the fighting abilities of the Russian troops.

APPLICATION

At the time of 'Barbarossa', Wehrmacht vehicles were painted, generally, in the dark blue-grey colour now universally dubbed 'panzer-grey', and more often than not, vehicles, especially the tanks, were fully marked out with tactical numbers, national and divisional markings. The German tactical markings were going through a period of change during the invasion which is well represented in photographs still existing from the time.

The tactical numbers painted onto German armour comprised many styles, using standard and non-standard colours. Black or red numerals with white outlines, or just plain black or white, unlined, or simply the white outlines alone, contrasted with other stencilled type numbers. Although official ruling did dictate how numbers were to be applied, a great amount of artists licence seems to have been used. The surviving colour photographs from Signal Magazine and the like, give some indication of the colours used, though with the passage of time these original colour prints have faded or have been subject to many variations in colour during the many reprintings they have received. Fortunately though, red does show as red and black as black, as far as numbers are concerned that is. On a lot of these prints, even the lighter colours such as yellow have stood the ravages of time. The most popular colour shot of the PzKw III from the 23rd Panzer Division, tactically numbered 633, shows white outlined red turret numbers and on its rear track guard a yellow 23rd Panzer Division arrow device along with the white Eifel Tower motif associated with this division.

Wherever possible the Germans spray painted their vehicles but spray guns were not essential equipment and so many



TYPICAL POSITIONS OF MARKINGS ON WEHRMACHT VEHICLES

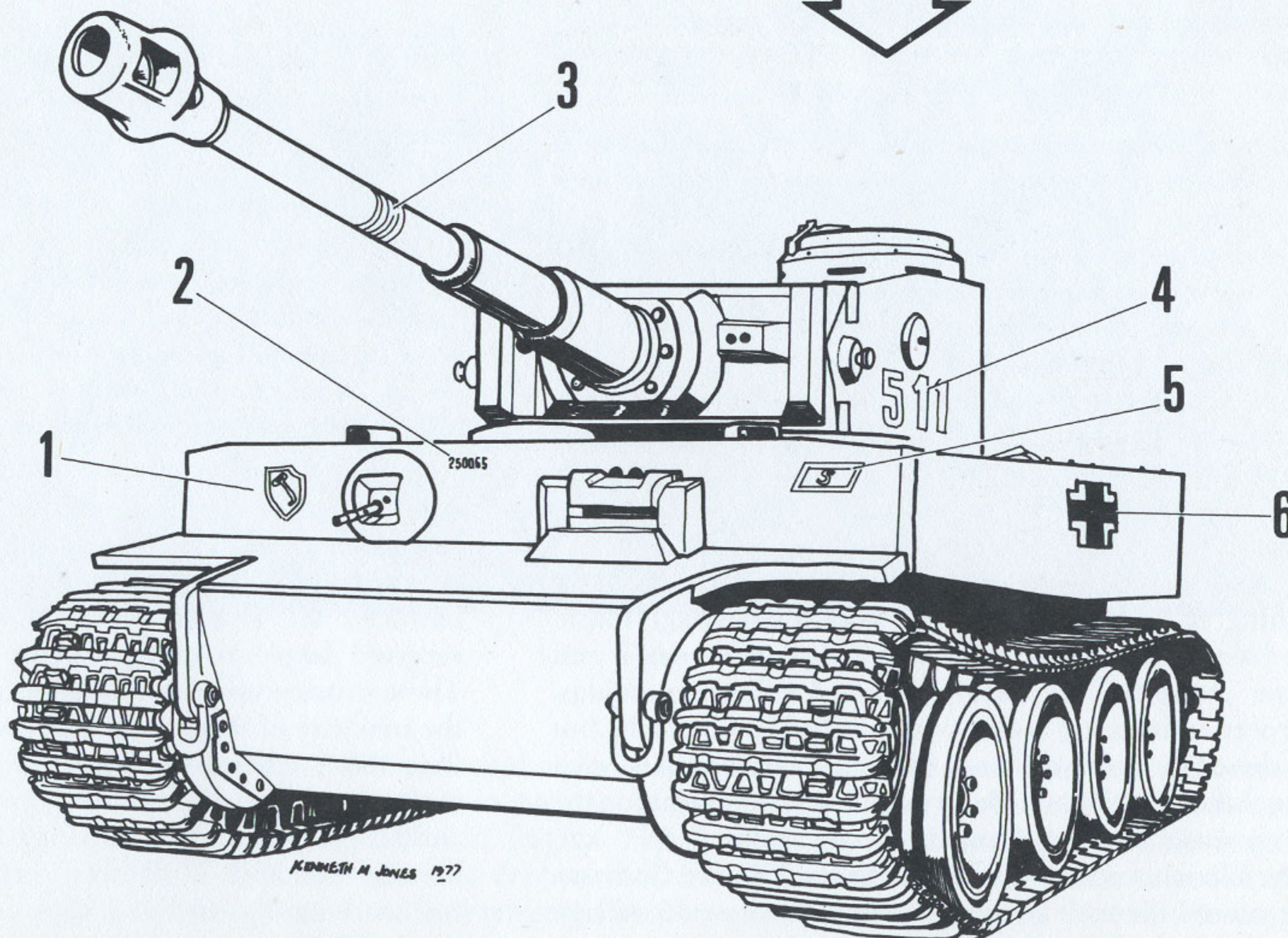
Kfz 15



1. Number plate.
2. 'G', signifies that the vehicle belonged to Guderian's Group.
3. National flag as an aerial recognition signal – alternatively displayed on the vehicle bonnet.
4. Rear number plate.
5. Tyre pressures in atmospheric units.
6. Weight data shipping panel.
7. Divisional markings.
8. Tactical marking.

Tiger I

1. Divisional insignia.
2. Chassis number, often painted over in service.
3. Kill tally usually painted as rings on gun barrels.
4. Tactical numbers.
5. Tactical marking.
6. National marking.





This grey finished, dust coated motorcycle combination sports tactical marks and numbers on its sidecar. The tactical markings indicate that this combination belonged to the HQ (stabs) company of a reconnaissance unit. The number 49 is the number of the combination. A sign which looks like the 2nd SS Panzer's barred 'N' device appears on the sidecar but this is not clear.

individual hand painted efforts became evident. Paint pigments were supplied in paste form which had to be thinned with water; gasoline or oil could and indeed were used in lieu of water, the resulting mix was then sprayed or brushed onto the vehicle. Obviously instructions again would be either adhered to or completely ignored. The viscosity was not always constant and these water bound paints were easily washed from the surfaces of vehicles with the action of the elements. Many combinations of colour sprayed or brushed upon the basic factory applied paint are therefore evident, and once again a hard and fast ruling is difficult to substantiate as to what was the correct finish, especially amongst front line units.

Sand coloured vehicles were used in Russia, over which an even coating of natural dust gave a good camouflage finish. Over the base coat could be painted greens and browns if and when time permitted, to blend in with local surroundings. Army Orders concerning colours were issued periodically, but whether these were obeyed, or in fact *could* be obeyed is open to dispute. Sand finished vehicles would have been ideal for the summer campaigns in the Caucasus and Crimea.

The terrible winter conditions experienced by the Germans in Russia caused them to attempt an overall white camouflage for concealment in the snow. A washable white emulsion was

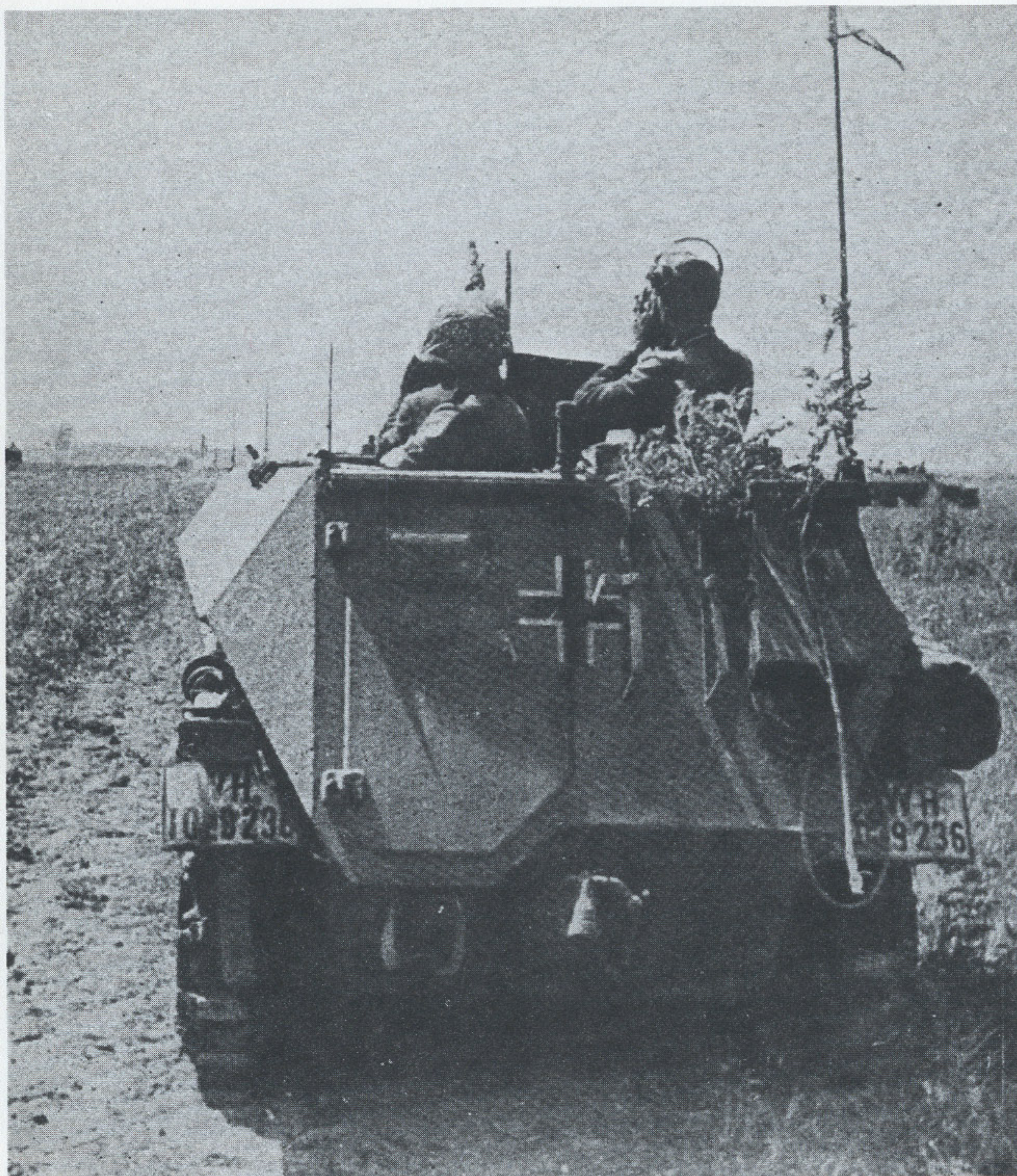
available but photographic evidence shows many different schemes. The use of white sheets, foliage with snow packed into it were used, just as vehicles were left in their original grey finish, no doubt the white paint was in short supply. The white paint could be applied in a solid coat or in random patches allowing the the base coat to show through, or even spattered on with a broom. Usually – but not always – the national, tactical and any other markings were painted around or masked off during spraying. This left a large darker surround of the base colour around the markings, as seen in many photographs. Alternatively, examples of taking the whitewash to the marking edge and squaring off are common as the slap dash finishes seen in photographs taken on the Russian front.

Zimmerit was a light grey cement paste which was applied to vehicles to counteract sticky and magnetic devices being fixed to the armour plating of armoured vehicles. It was applied to vertical or near vertical surfaces, but rarely if ever to horizontal or upper surfaces, gun barrels or running gear. Zimmerit was used on tanks and assault guns, though its use cannot be ruled out on other vehicles such as armoured cars or half-tracks. Photographs show the paste applied in neat and obviously hasty forms, with quite an amount of differing patterns, from practically smooth to a heavily 'rutted' finish. Markings were often painted straight onto the zimmerit finish resulting in wavy looking digits or motifs. In some SS regiments zimmerit was scraped off the glacis plates – seen on Tiger I's – to enable the divisional badge to be applied. Either that, or the badge could have been painted before application of the zimmerit took place, the person applying zimmerit leaving an area around the device. Whichever method was used, several photographs of SS Tiger Tanks show this feature.

Captured Russian vehicles that were still servicable were put into use against their former owners, after suitable remarking had taken place. The German national flag was omni-present on captured vehicles in an attempt to identify them against mistaken air attacks from friendly aircraft. Tanks usually received large crosses or occasionally *swastikas* painted on. These crosses varied in dimensions, but photographs do show the majority of them to be of generous proportions, far larger than those applied to native vehicles. Some captured vehicles were given coats of sand paint – most commonly seen on T34's and SU85's – and full tactical markings. There must have been literally hundreds of different permutations on a basic theme for marking the material captured from the Soviets on the Eastern Front.



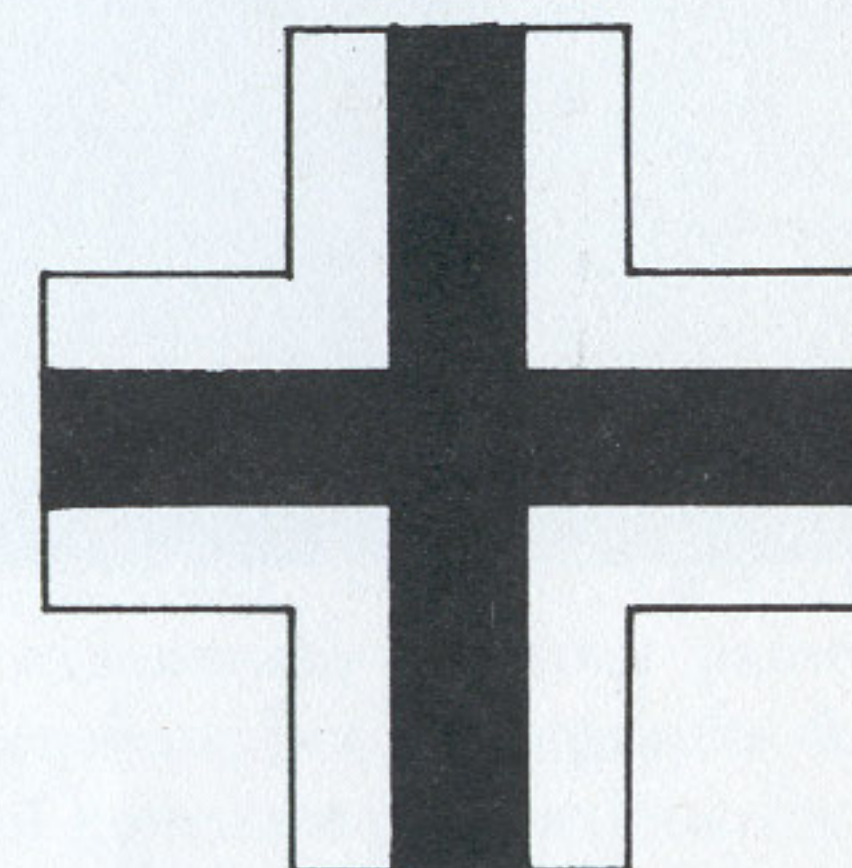
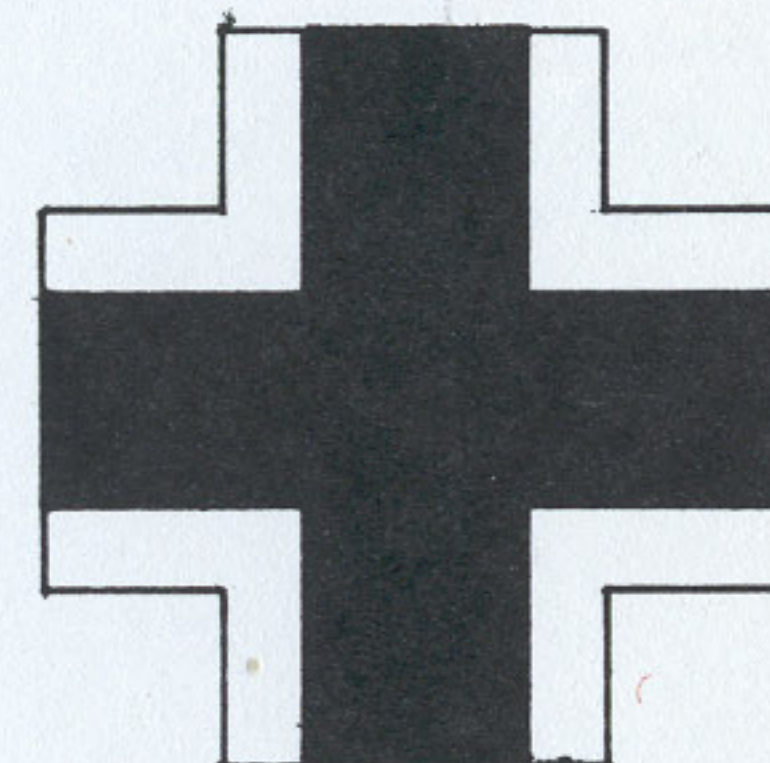
The 24th Panzer Division on the move; half-tracks, SdKfz 250's and 251's flanking PzKw III's. The two lead Sdkfz 250's show a good contrast in markings in that the left-hand vehicle carries only its national marking and a flag on its bonnet for aerial recognition, whereas the right hand-vehicle carries full divisional and tactical insignia. The divisional sign of the 24th Panzer is the leaping horse and rider. This should be painted yellow. The tactical marking denotes that this vehicle belongs to a fully motorized artillery unit within the 24th Panzer which was at the time Panzer Artillerieregiment 89. Note the dust thrown up by the vehicles and how the following tanks and half-tracks appear a shade lighter through it.



The rear view of this grey finished SdKfz 250 shows dual number plates and one variation of the national marking and its position, centrally, on the vehicle's rear plate. Note that the left arm and portion of the cross is on the rear entry door. The positioning of the cross was governed by the 'jerrycan' stowage racks on the right side. Faintly visible in this shot is the tactical sign of a motorcycle unit painted on the sloping facet of armour immediately above the rear 'Notek' light. No divisional signs are visible.

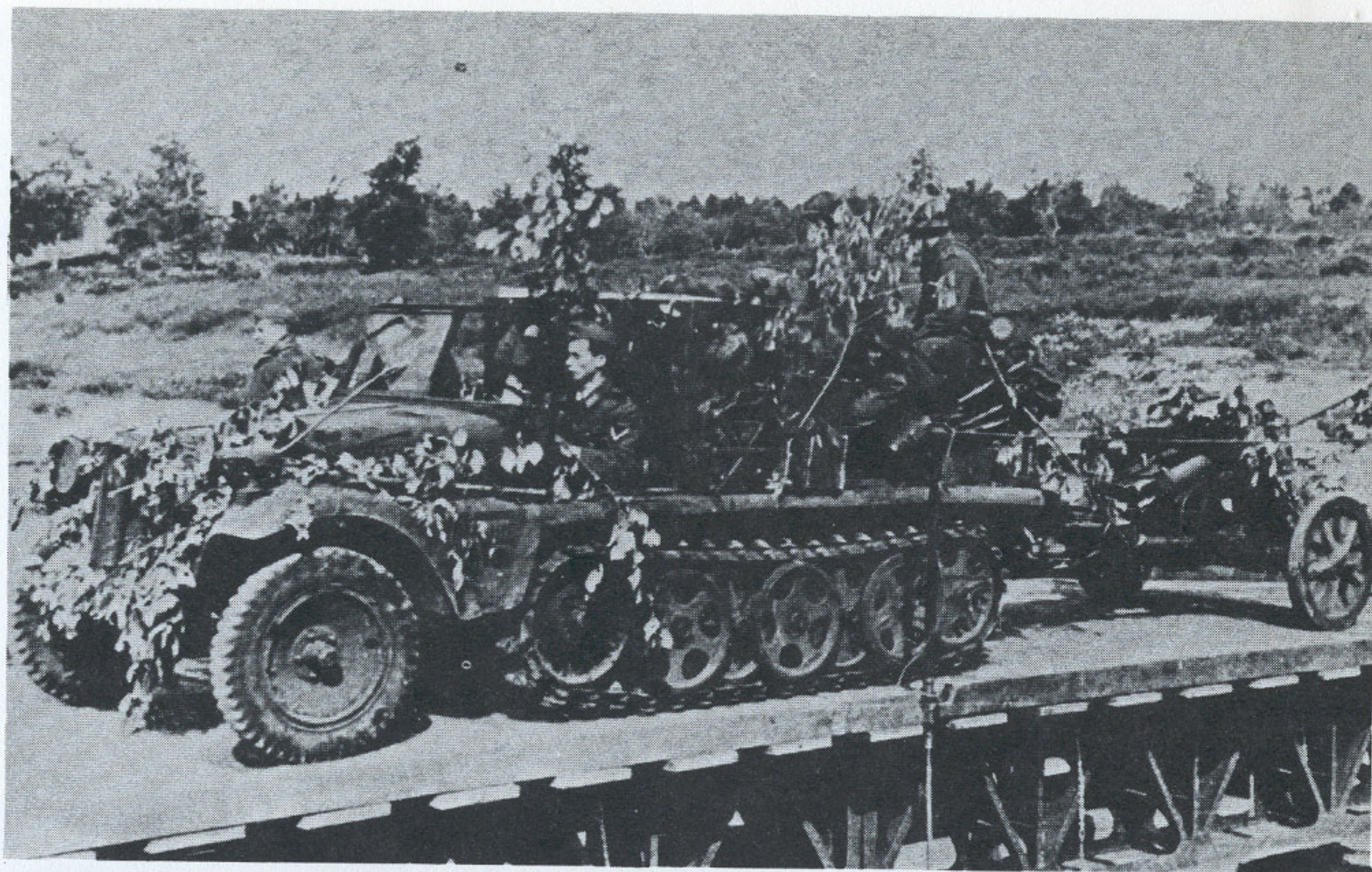


STANDARD REAR NUMBER PLATE



NATIONAL MARKING VARIANTS

The crew of this 1 ton SdKfz 10 have attempted to break up the outline of their vehicle and its 50mm Pak 38 with foliage, which unfortunately has covered up any markings, which may have been painted onto the front wings. The half-track and gun are in a dusty grey finish. The gun is obviously being moved to a new location as the foliage it carries would be of little use in its present local, rather in keeping with the trees in the background of this photo, perhaps where it was formally sited.



G
K

GUDERIANS
PANZERGRUPPE

KLEISTS
PANZERGRUPPE

A column of vehicles from von Kleist's Panzergruppe, Army Group South, on a Russian road. The PzKw II and car are in overall dark grey with the large white letter 'K' to signify they belong to General Kleist's Panzergruppe. Vehicles are seen in photographs with the letter 'G' which signifies General Guderian's Panzergruppe. Without any other markings it is not certain to which unit these vehicles belonged.

TACTICAL MARKINGS (*Taktische Zeichen*)

The complete system of tactical markings used by the Wehrmacht was changed from time to time and these signs found their way onto the vehicles, signposts, maps and battle orders both in their correct and also modified form.

The system is extremely complex as the Germans found and it was simplified slightly about November 1942 and once again the following year. Photographs show many variations in use and the rule appeared to be if the German troops fully understood what was intended by the marking on a vehicle or signpost and the enemy were confused by them, the system merited itself. Matters were further complicated, or alternatively simplified to a degree by extra digits or combinations of numbers and letters added to the signs in service. Needless to say over elaboration of tactical markings tended to defeat the object of the original plan.

Many different types of vehicles are evident in this photograph of a column on the Russian plains. Note the heavily rutted Russian 'road'. The nearest light truck on the right has a battalion flag tactical marking on its tailboard, but no further subordination of this sign is evident. The Kfz 17 in front of this truck has a frame aerial erected and carries full tactical and divisional signs. The tactical sign is for the second signals company, and the divisional sign is that of the 22nd Panzer Division. It can be assumed that this radio truck, and the vehicle behind it with the battalion flag, belong to 140 Panzer Signal Battalion of 22nd Panzer Division, or one of its sub-units. The larger vehicle further down the road has had sand paint or dried mud painted on in wavy lines as a disruptive camouflage. The vehicles in the photograph are predominantly grey.



Basic Tactical Symbols



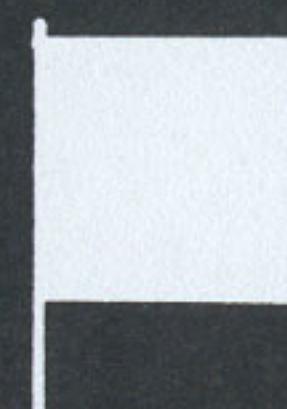
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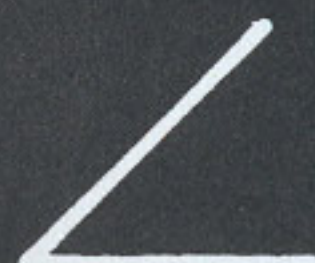
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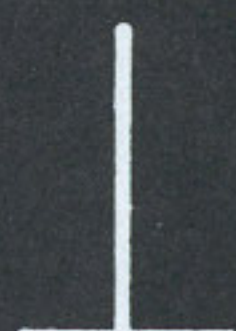
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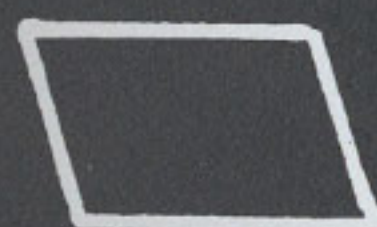
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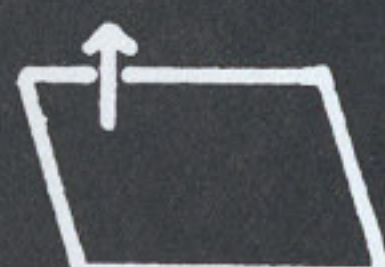
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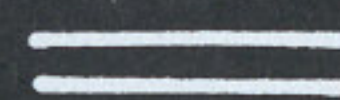
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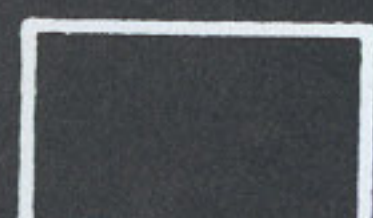
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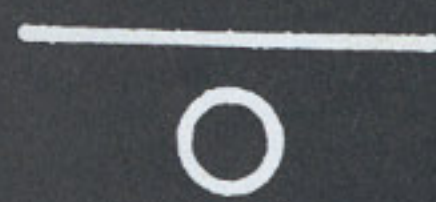
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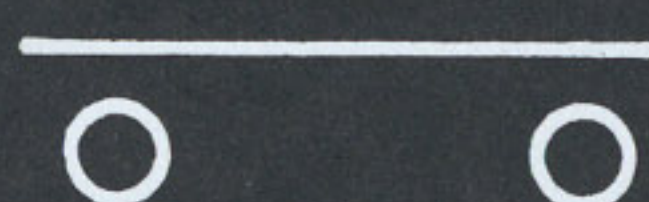
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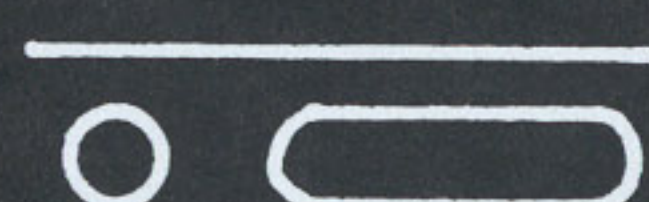
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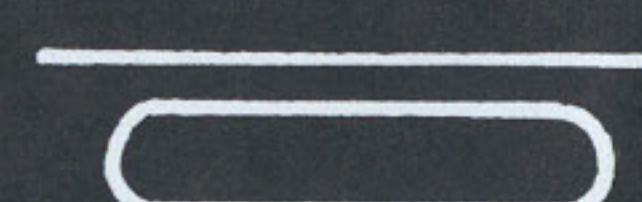
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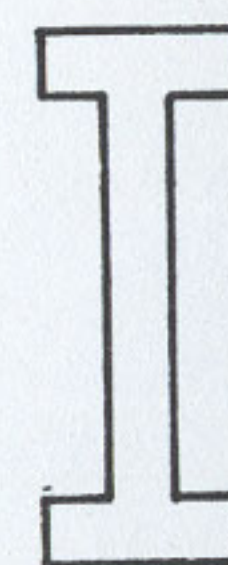


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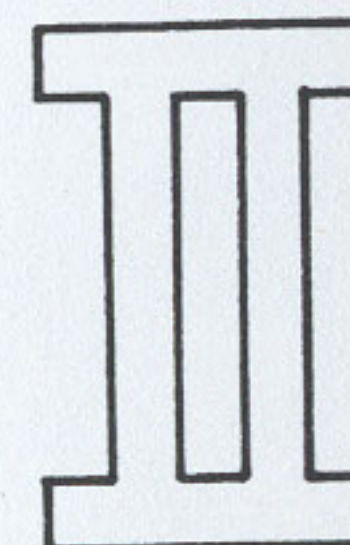
Command Flags. 1 Army. 2 Army Corps. 3 Division. 4 Regiment. 5 Battalion Units. 6 Machine gun. 7 Mortar. 8 Infantry howitzer. 9 Flame thrower. 10 Gun (field or anti-aircraft). 11 Howitzer. 12 Anti-tank. 13. Rocket/smoke. 14 Armoured. 15 Assault gun. 16 Armoured car. 17 Motorcycle. 18 Engineers. 19 Transport. 20 Signals. 21 Workshop/repair. 22 Medical. 23 Infantry/Grenadier. 24 Mountain. 25 Parachute. 26 Reconnaissance. 27 Searchlight. 28 Field post office. 29 Cavalry. Transport symbols. 30 Partly motorised. 31 Fully motorised. 32 Half-tracked. 33 Fully-tracked.



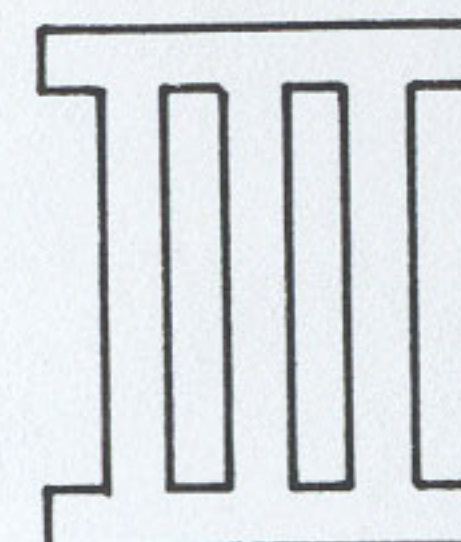
A PzKw II with the 'Y' divisional marking of the 7th Panzer Division on its turret rear plate and hull sides, which should be yellow. The large turret markings signify the third battalion, the dinome further subordinating the user of the vehicle within the 3rd Battalion. These markings are red, outlined white. Worthy of mention is the national marking repeated on the turret rear, just visible under the helmet slung there. This marking, as the hull side cross, is black with a white outline. Note the small national flag on the engine covers for aerial recognition.



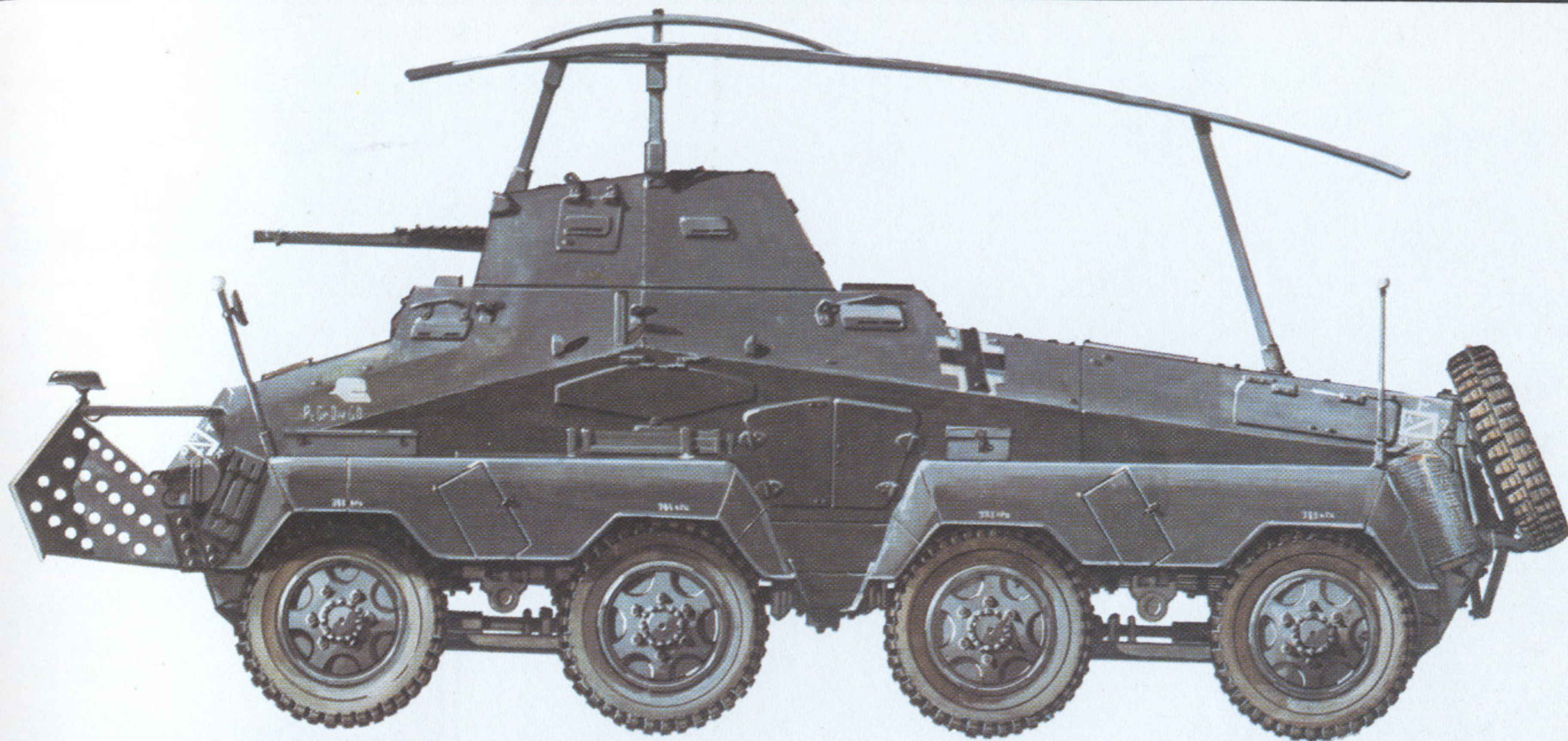
1st BATTALION



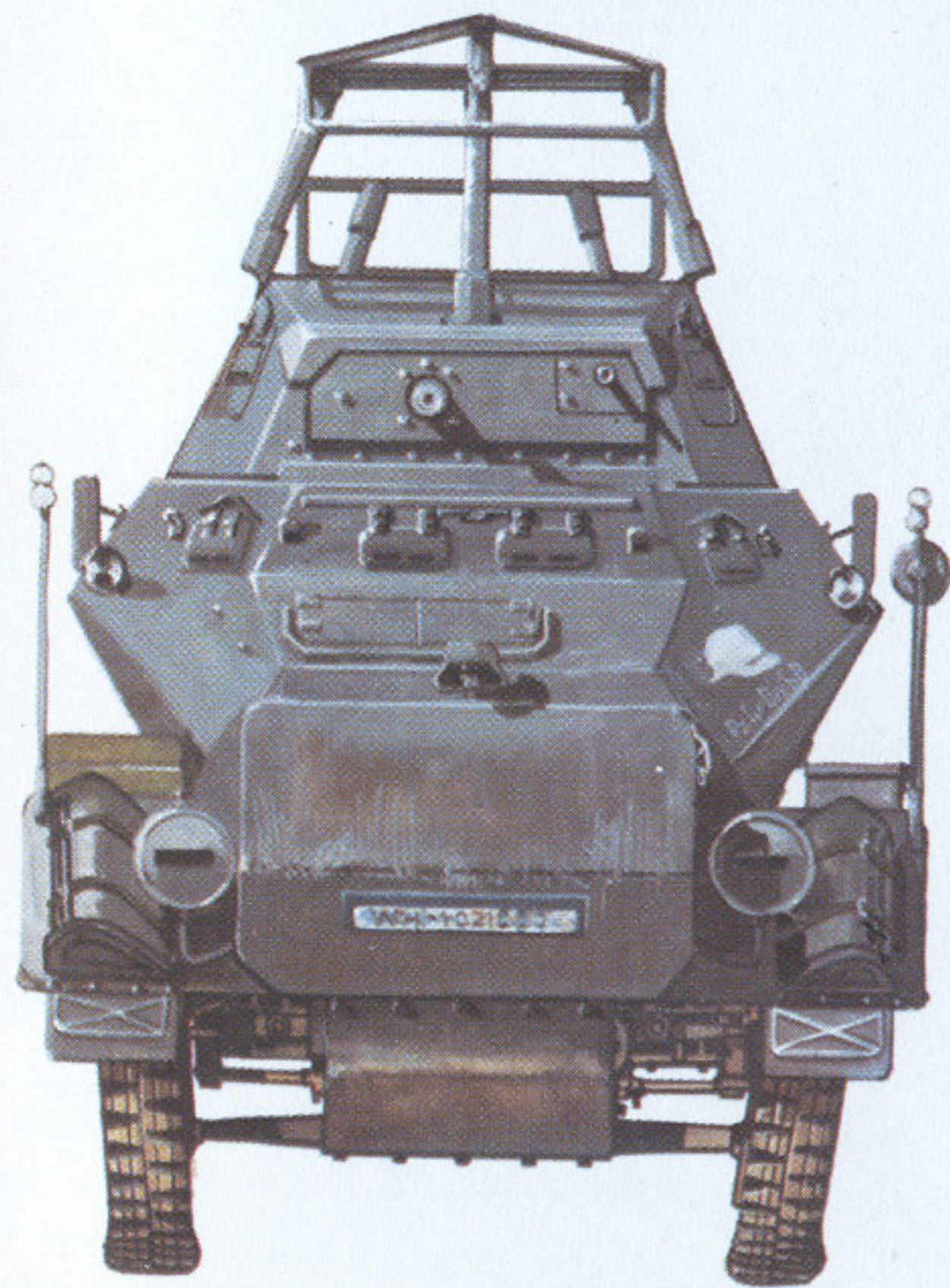
2nd BATTALION



3rd BATTALION



SdKfz 232 (Fu) of the Panzer Grenadier Division 'Grossdeutschland'.



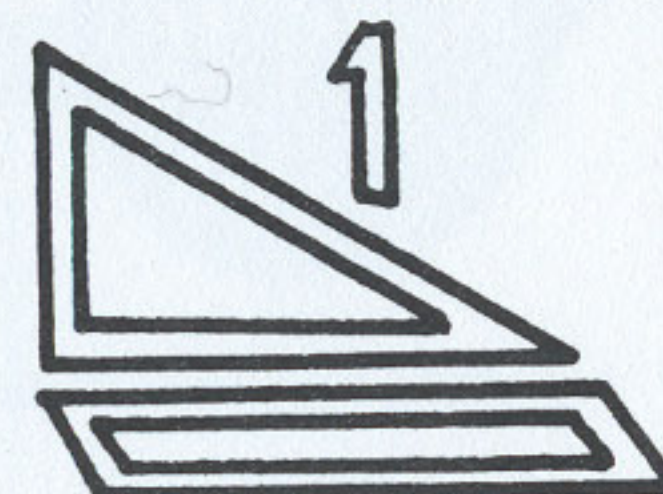
SdKfz 231 showing national flag used for aerial identification purposes.





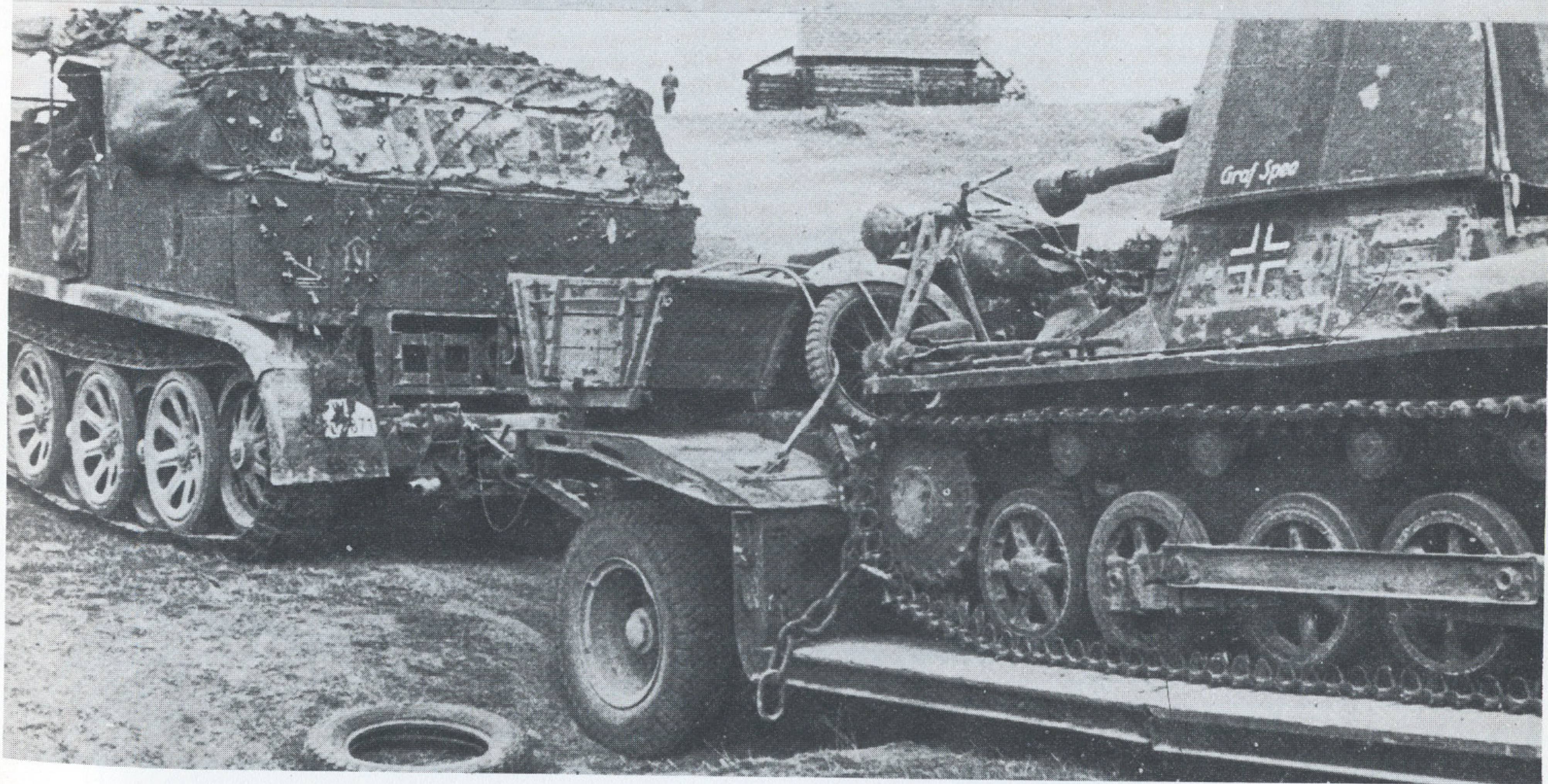
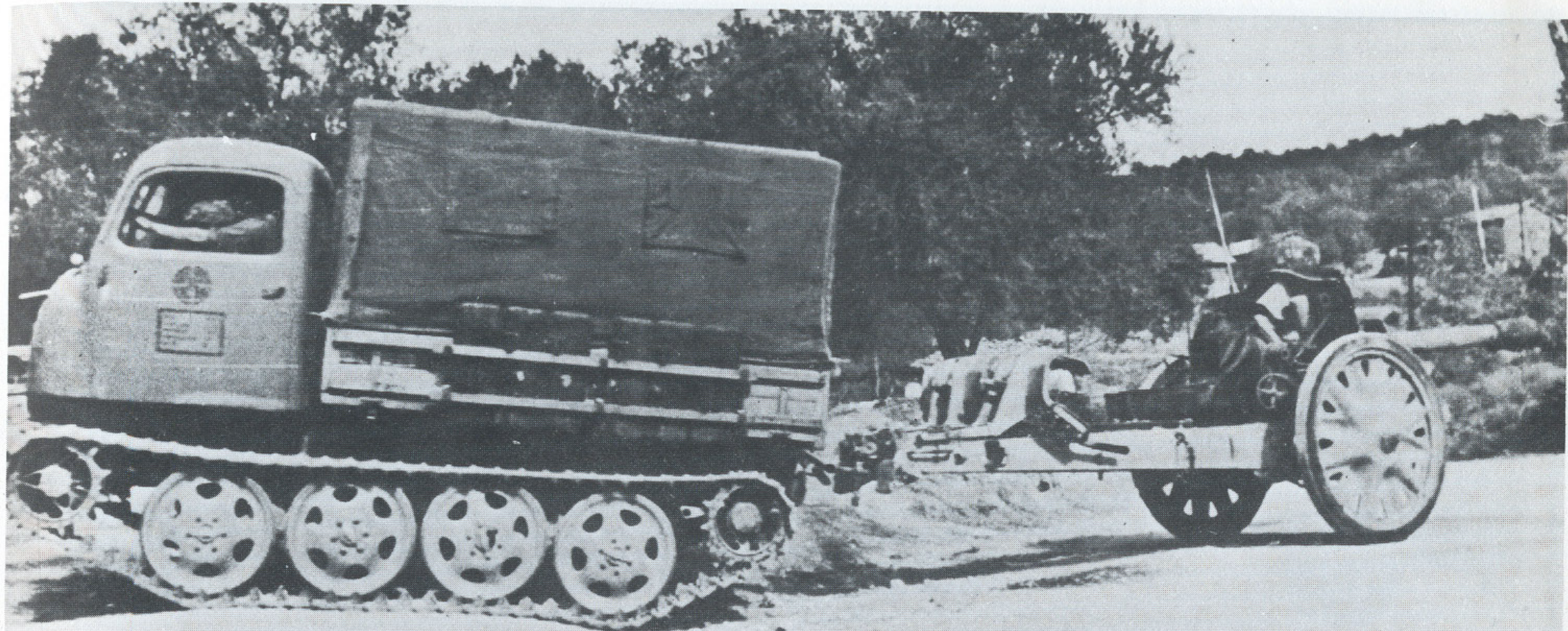
ABOVE: This scruffy SdKfz 222 shows how the national flag was often carried as extra recognition. In this case it cannot be assumed that the flag is mounted for aerial recognition but rather as an identifying marker to ground troops by virtue of its display on a vertical plane. This is a feature more commonly associated with captured equipment and it is quite plain that the flag in this position makes an excellent aiming point for an enemy anti-tank gunner, should this SdKfz 222 go into action with its flag in position. Noteworthy are the large canvas cover on the spare wheel and the folding turret screens, fitted to counteract missiles from being thrown into the open topped turret. Faint tyre pressure markings are just visible on the front wing edge.

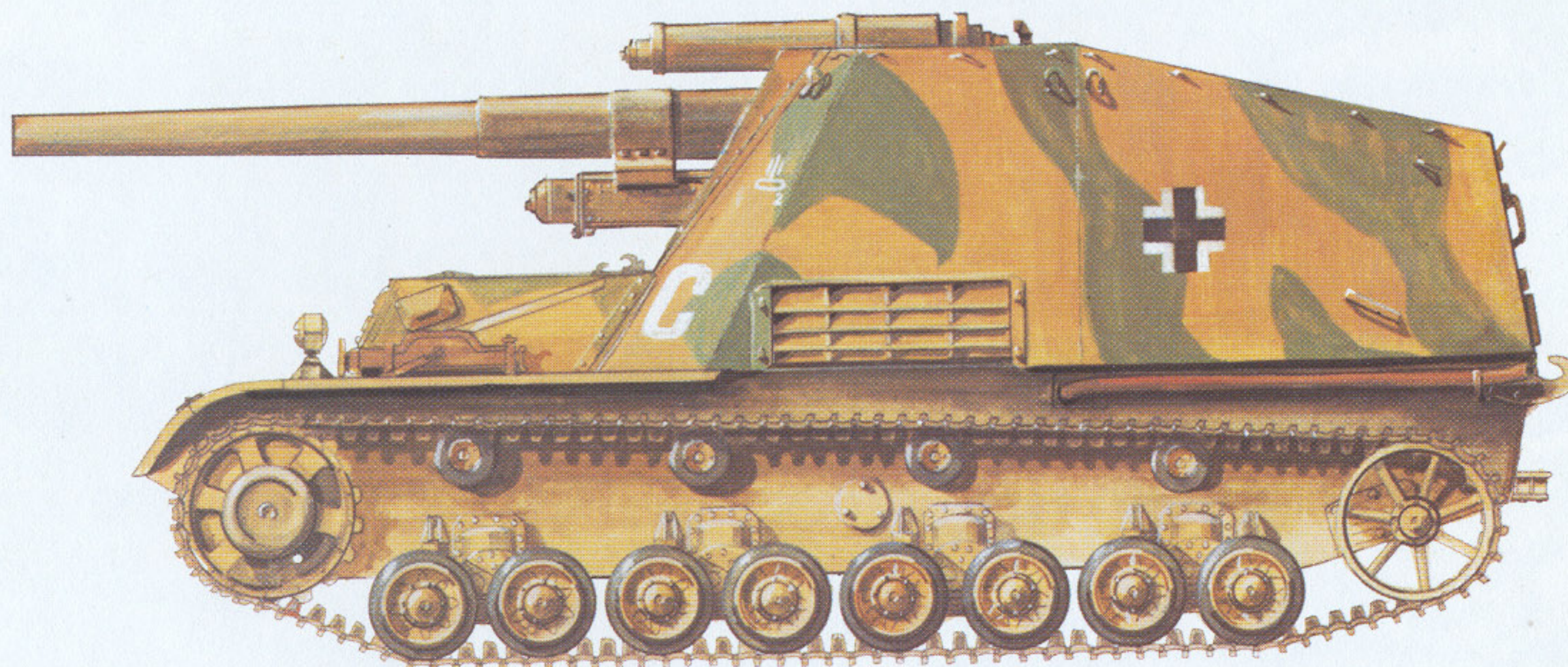
RIGHT UPPER: A sand finished Raupen Schlepper Ost towing a similarly finished 10.5 cm Light Field Howitzer. The dark tarpaulin on the tractor contrasts well with the sand finish of the vehicle body. A weight data panel is stencilled in dark grey or black on the cab door. This panel gave type, weight and shipping classes for movements personnel. The circular device above this is a Steyr company badge, the builders of this particular tractor, which consisted of concentric rings broken by a cross on a dark background with a stylized 'Steyr' logo on the central disc. The dark objects in racks on the body side are track fittings for rough cross country operation.



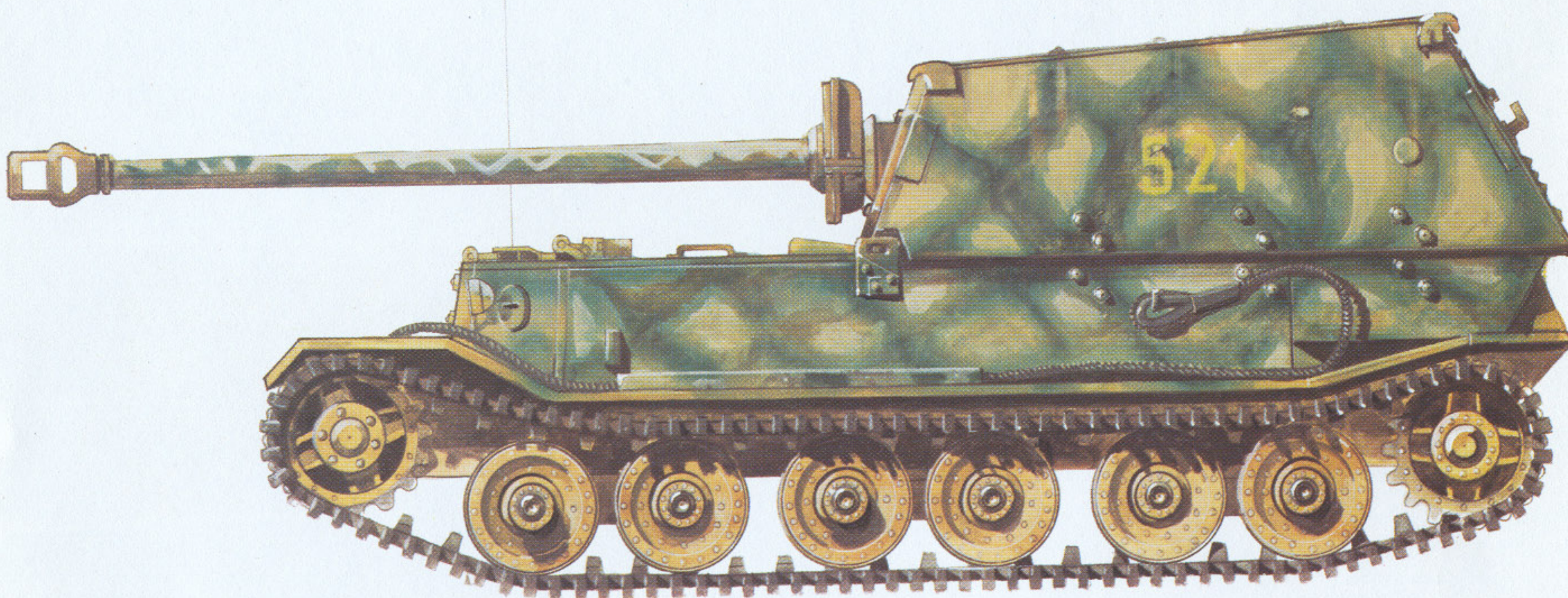
ARMoured
ANTI-TANK
COMPANY

RIGHT LOWER: This grey SdKfz 8 12 ton half-track carries the tactical markings of an armoured anti-tank company along with a divisional badge on its rear plate, which is undecypherable, due to the camouflage netting slung over this vehicle. Nevertheless it does show one pattern of camouflage netting used by the Germans. The trailer has a Panzer Jäger I, (4.7cm Pak(t) auf PzKw I Ausf B) chained down, which has a personal name 'Graf Spee' painted onto its fighting compartment. The grey finish of this self-propelled gun has blotches of a lighter colour, probably winter whitewash, which has flaked, or has been washed off. Note how the NSU light motorcycle has been lashed down to the trailer with a wire hawser through its front wheel spokes.





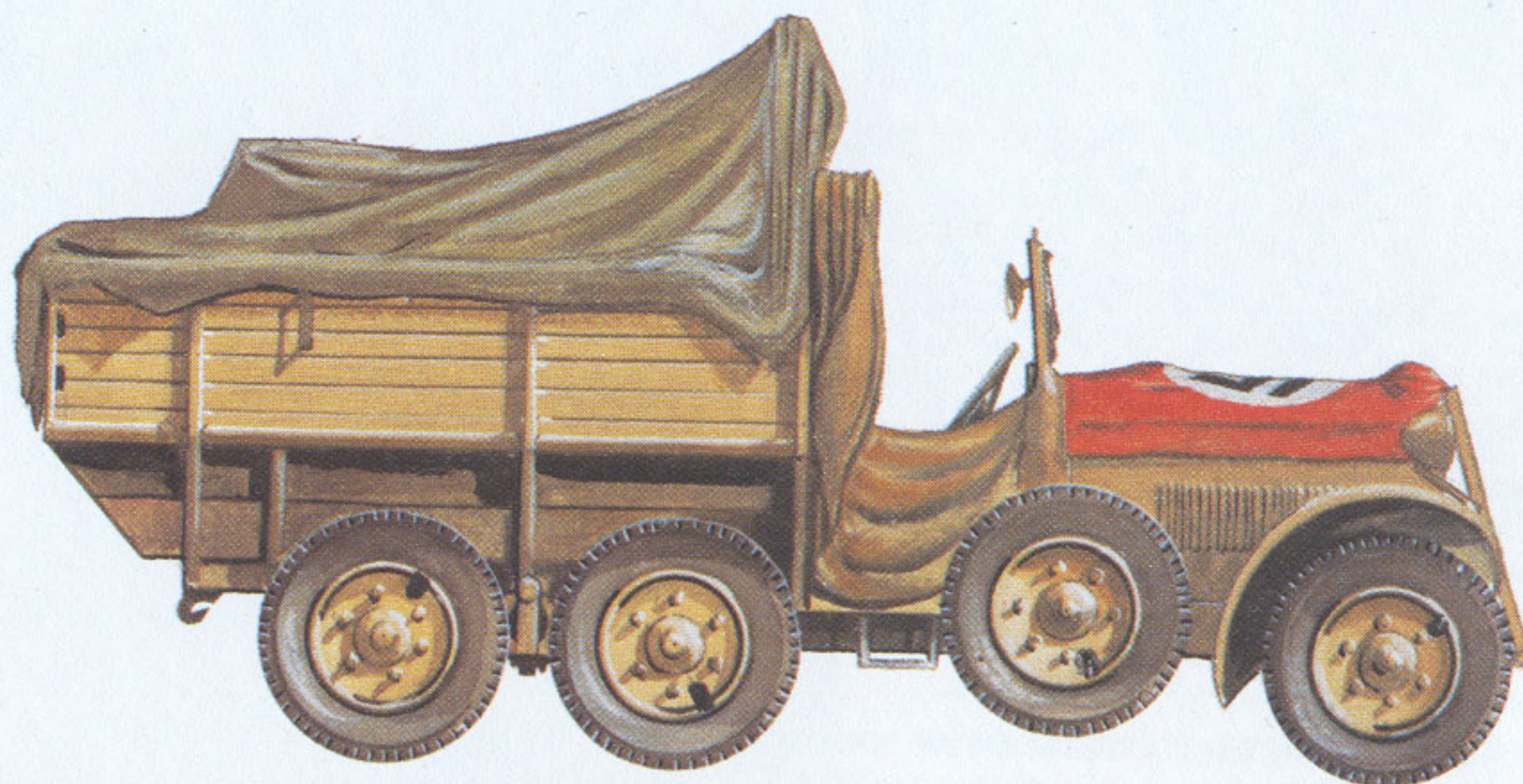
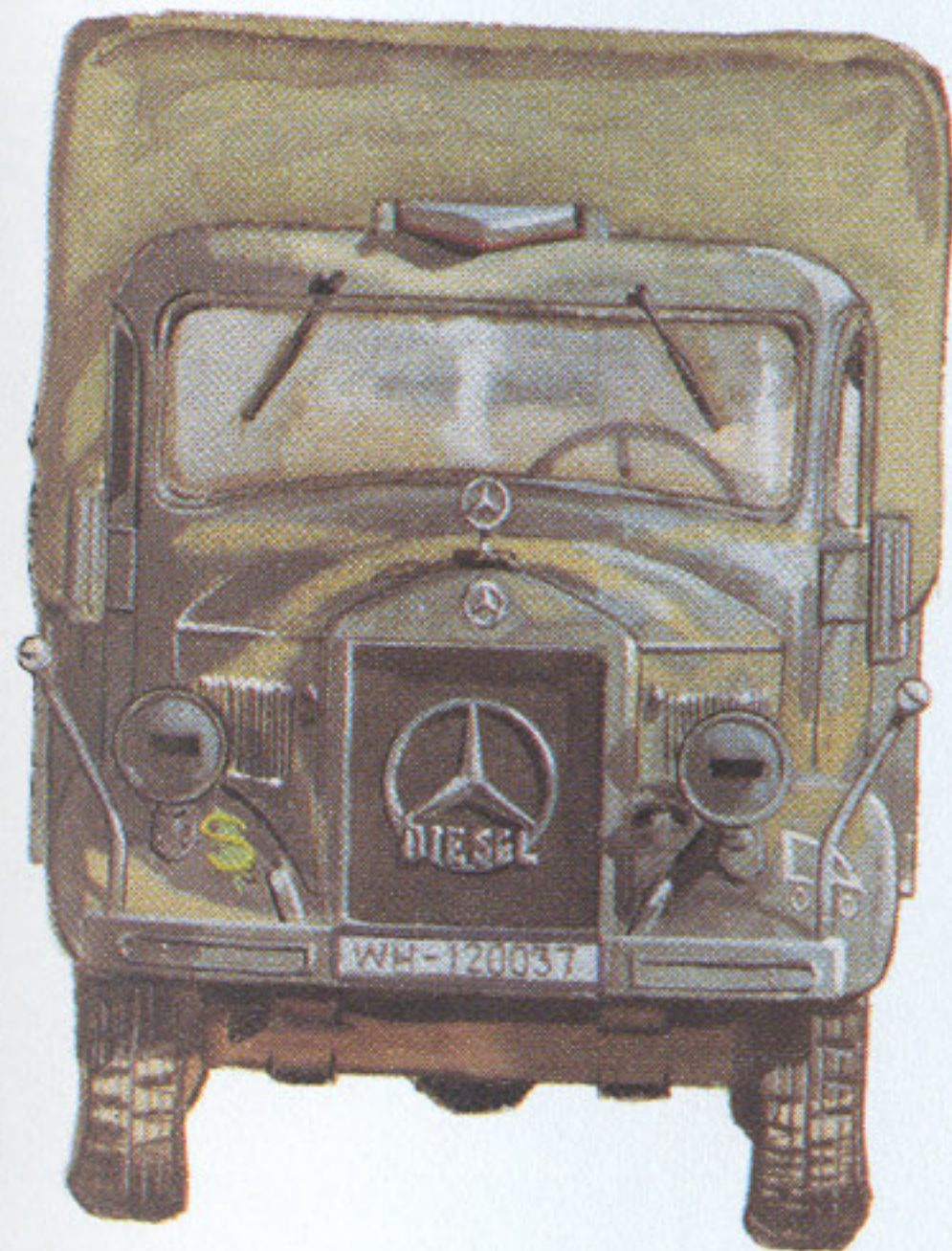
15cm. Panzerhaubitze 18 auf Sf IV 'Hummel', SdKfz 165.



Jagdpanzer Tiger (P), 'Elefant' SdKfz 184.



Daimler-Benz 'L-3000S', 4 × 2, 3 Ton Medium Truck, of 100 Jäger Division.



Steyr-Daimler-Puch 640, 6 × 4 Light Truck.

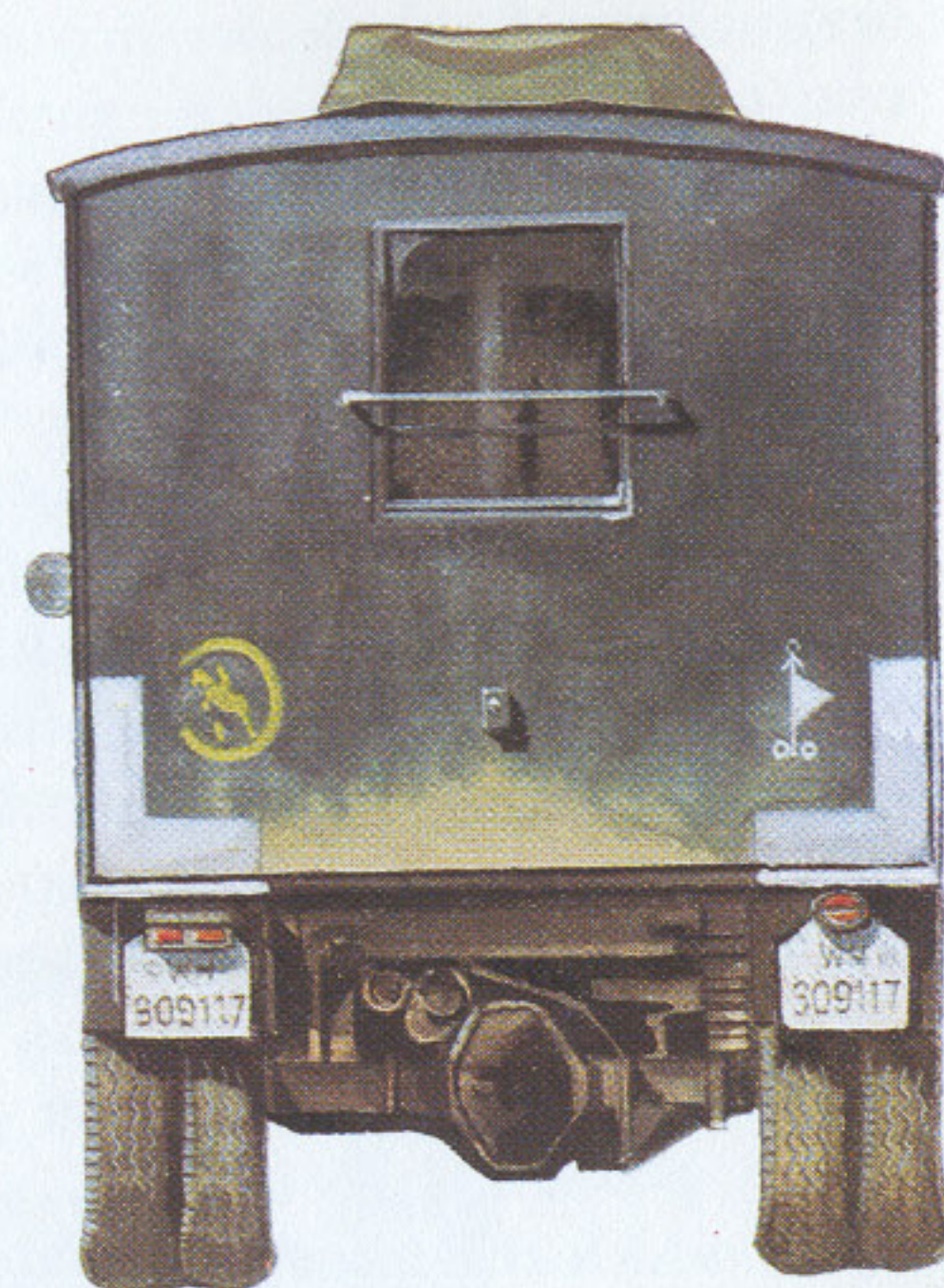
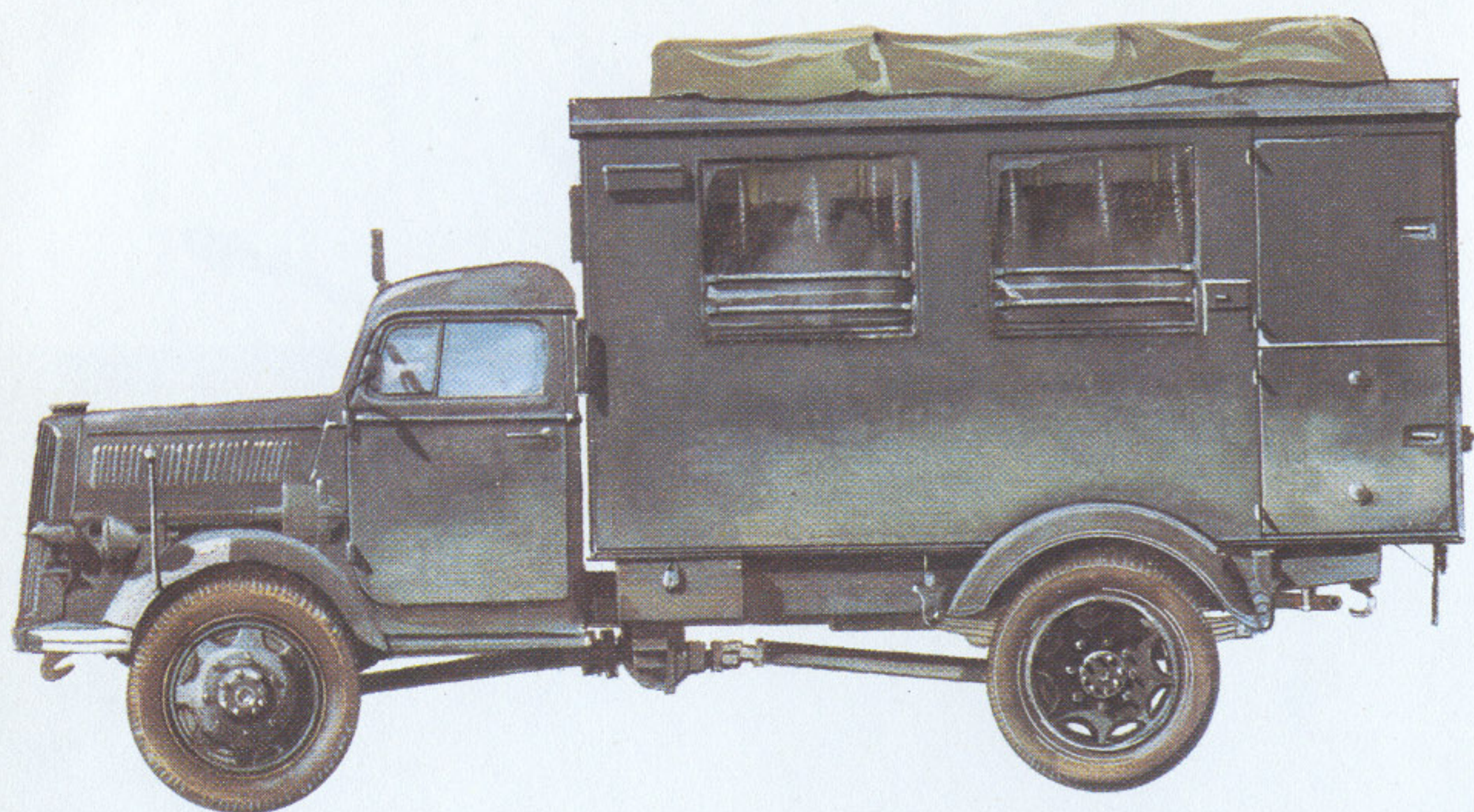


This interesting photograph from Soviet sources shows Russian tank men examining a knocked out Czech Model 38 tank, which in German service was known as the PzKw 38(t). This vehicle is finished grey with only two markings visible, an 'outline' type of national marking in white and a monomic tactical mark on the turret which does not appear to be white; although the photo is slightly blurred at this point. It could be yellow, but as always, this is not definite and it pays to be cautious in assuming what these colours are. PzKw 38(t)'s can be seen with large red turret numbers outlined white in photographs taken around the time of 'Operation Barbarossa' just as they were marked with plain white numbers, or as the version shown in this photograph. The Germans must have thought this tank was good in its class as they used them in large numbers in their Panzer Divisions.

This Stug III Ausf G has been given a light overspray of sand paint. Note that the original grey finish shows through on the rear plate where a device – probably the battalion insignia – has been masked off during painting. The forward element of the side shields is of a different darker base colour and could possibly be a replacement part. An attempt has been made to match this to the rest of the vehicle by daubing it with sand coloured paint. Obviously a hasty job. A wire has been strung across the side skirts for foliage which would break up the angular outline of the vehicle. A cross can be seen behind the centre man with the letter 'F' – repeated on the rear plate – which is probably the identity of the battery to which this Sturmgeschütz unit belonged.

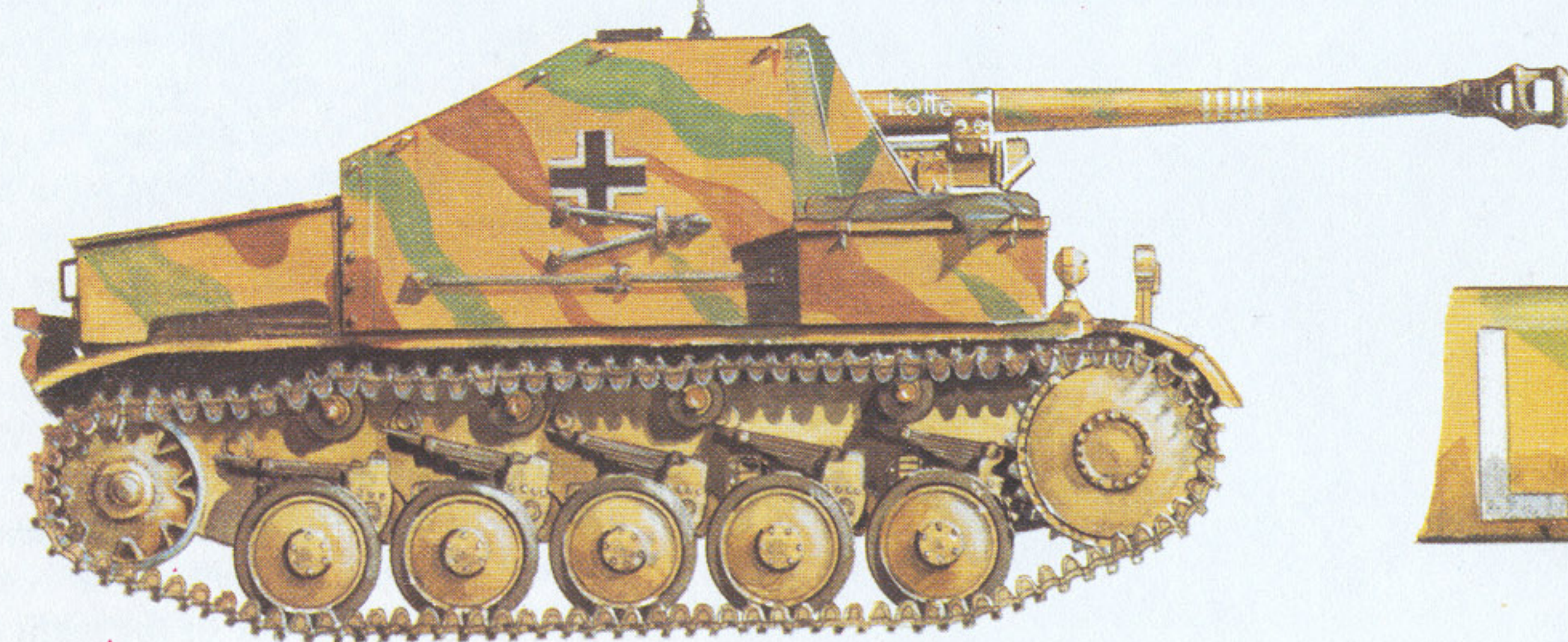


An interesting rear view of a 'Nashorn' (SdKfz 164, 8.8 cm Pak 43/1 L71 auf Sf IV) that has been camouflaged with either an overspray of green, or red brown mottle over a sand base colour. A tactical number has been applied by stencil as the numbers are very neatly painted. A cross with a white outline appears on the left side partially obscured by brushwood which has been deposited around the vehicle as extra camouflage. It appears that there is some sort of device under this cross which is also hidden and unidentifiable, probably a tactical marking. Note the car to the right of the 'Nashorn' which has a coat of very light sand paint with a faint mottle pattern.



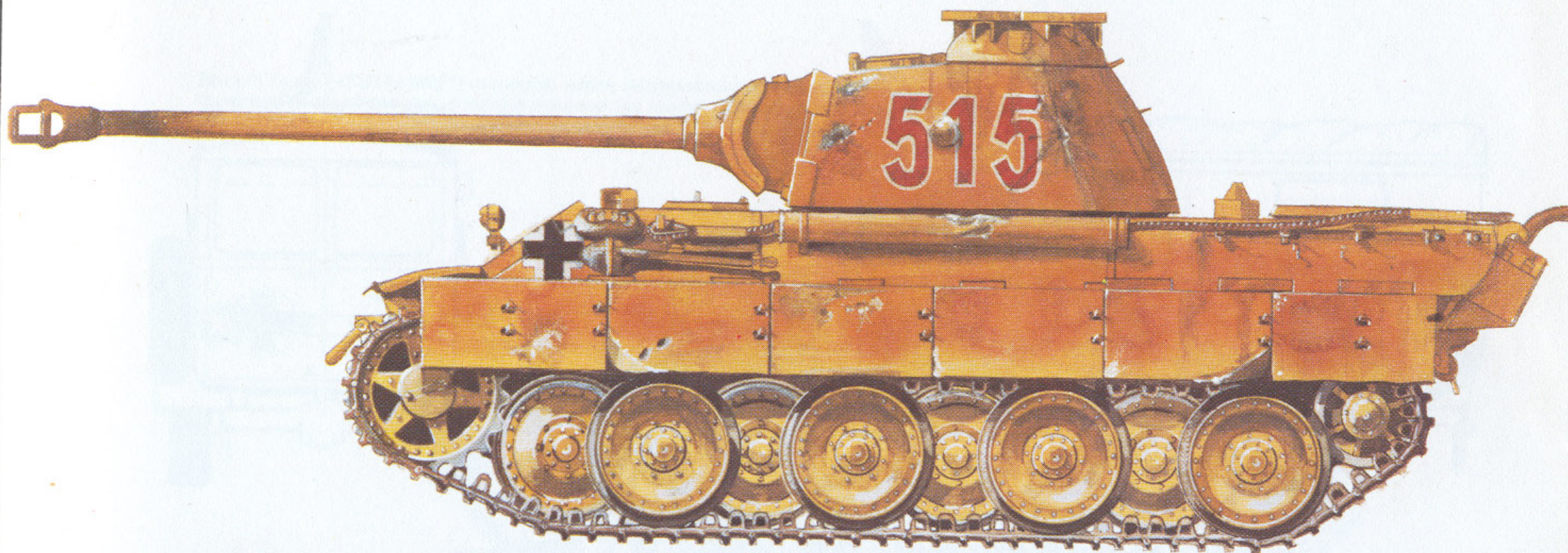
Opel 'Blitz' 3 ton 4×4 Medium Truck (with Kfz 305 Box Body) of a signals battalion, 24th Panzer Division.

Panzerjäger 'Marder II' SdKfz 131.



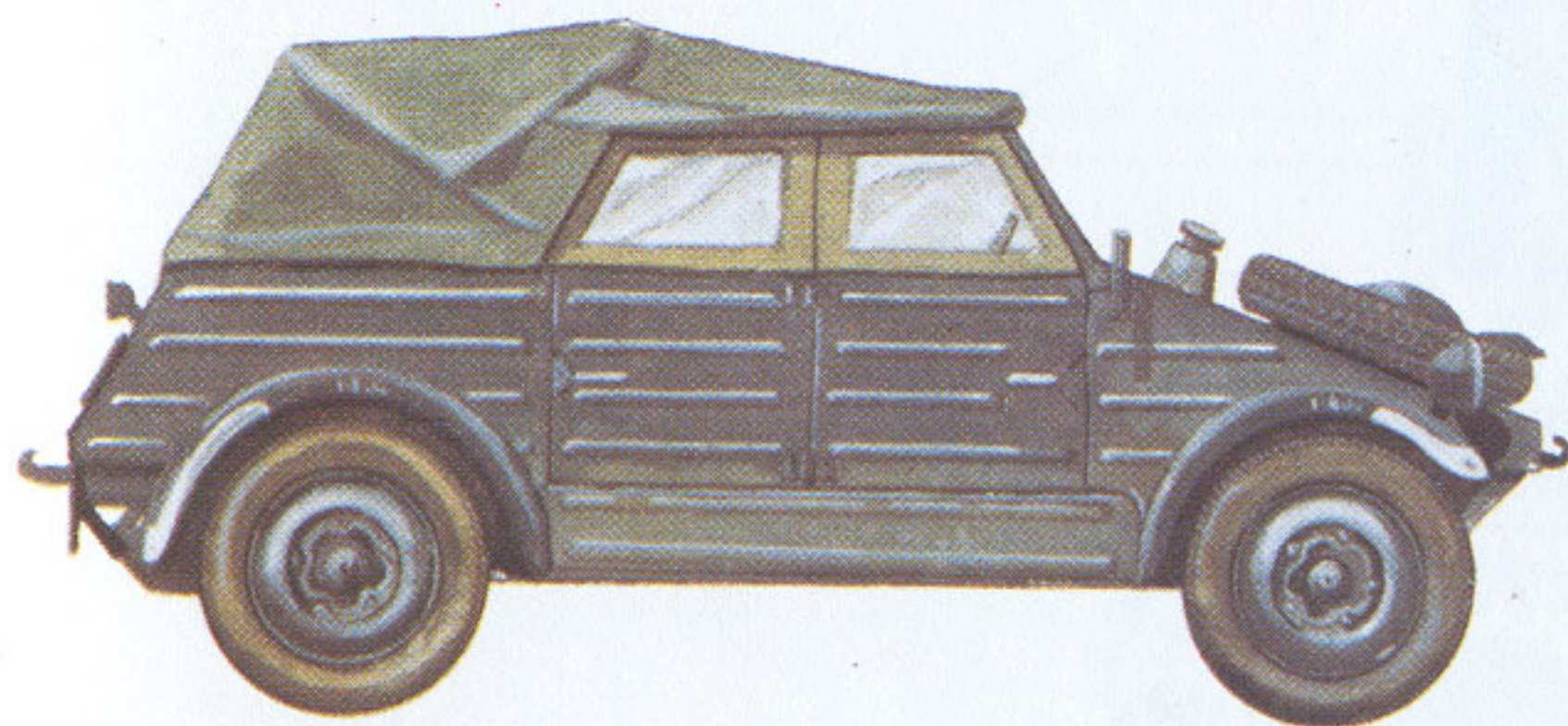
Personal name style on gunbarrel.



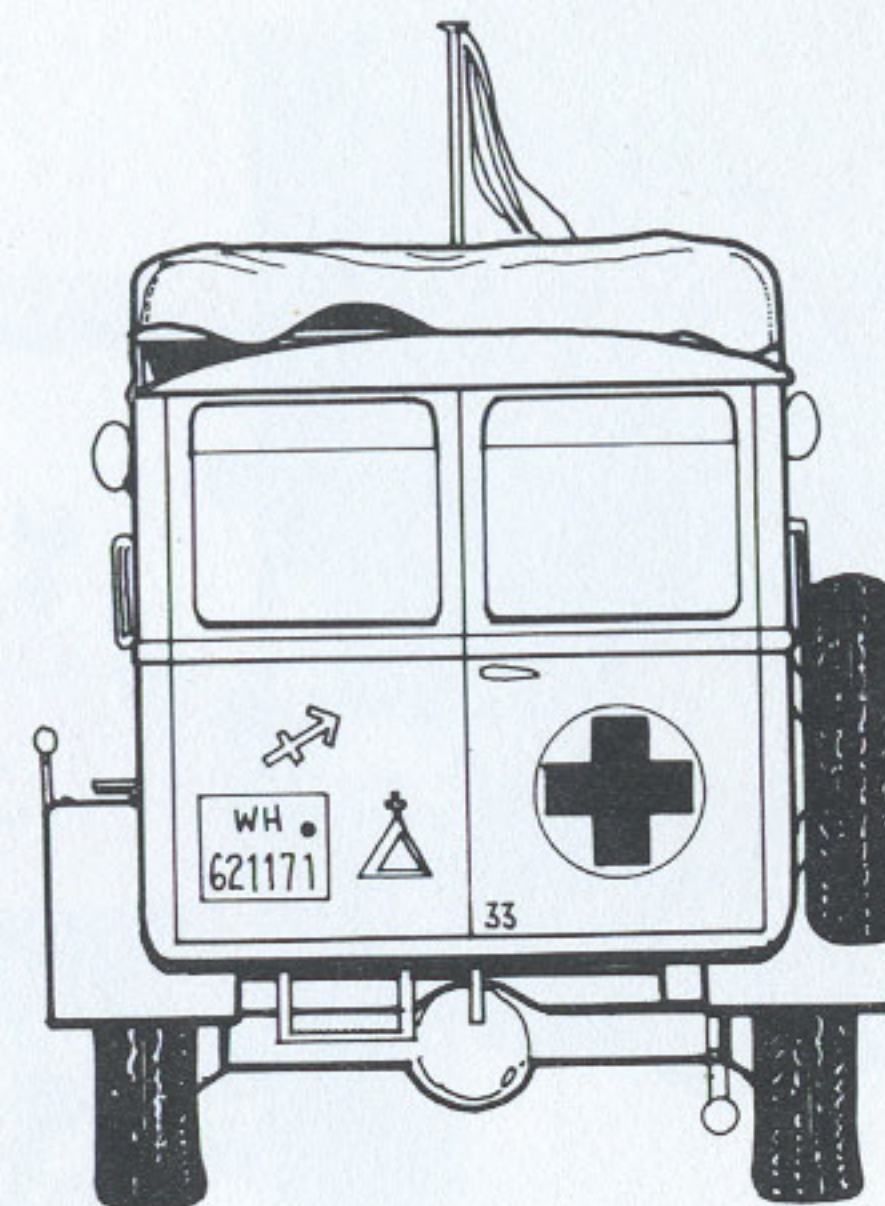
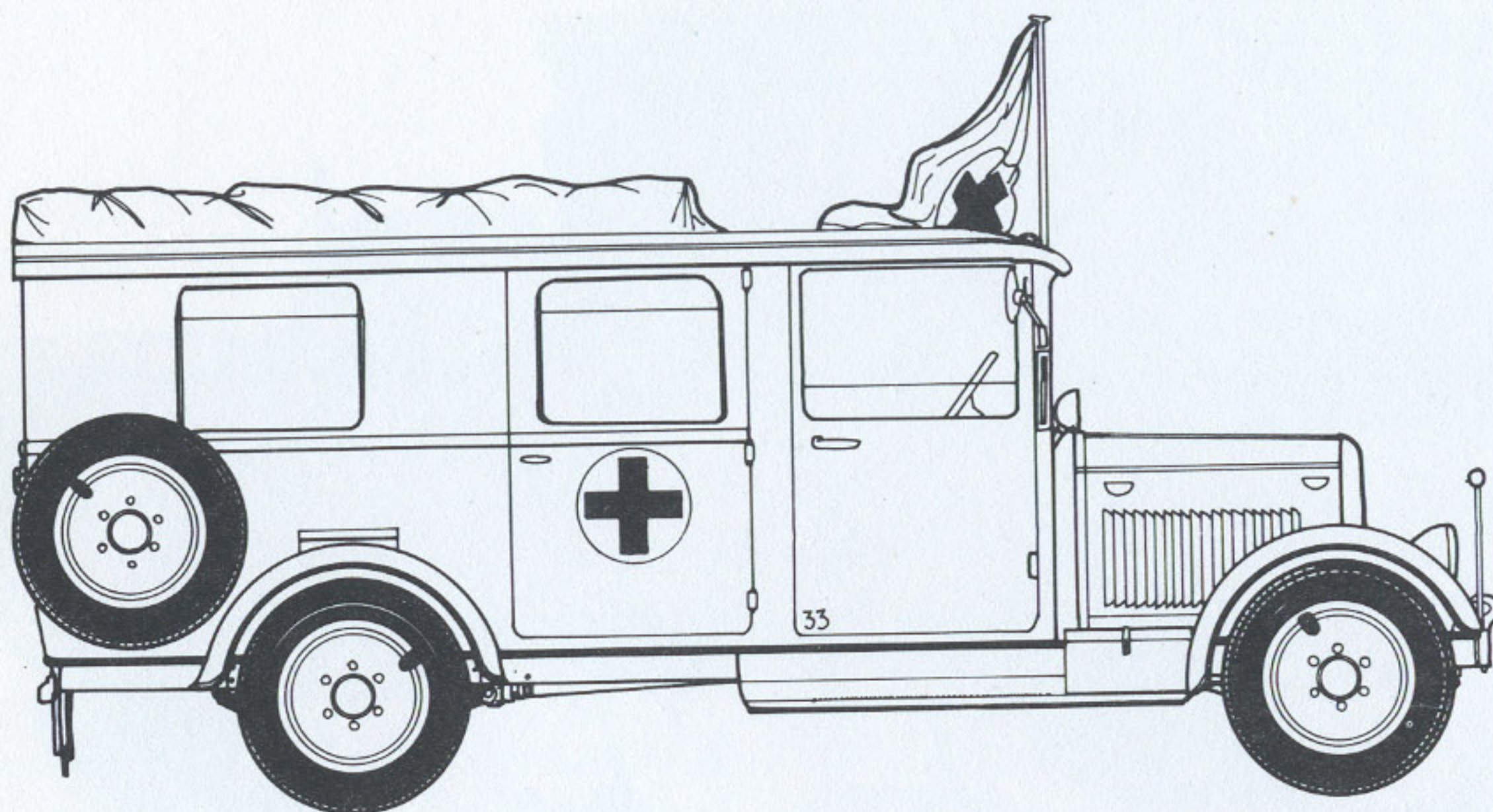


PzKw V, ausf. D 'Panther' (late production model) SdKfz 171.

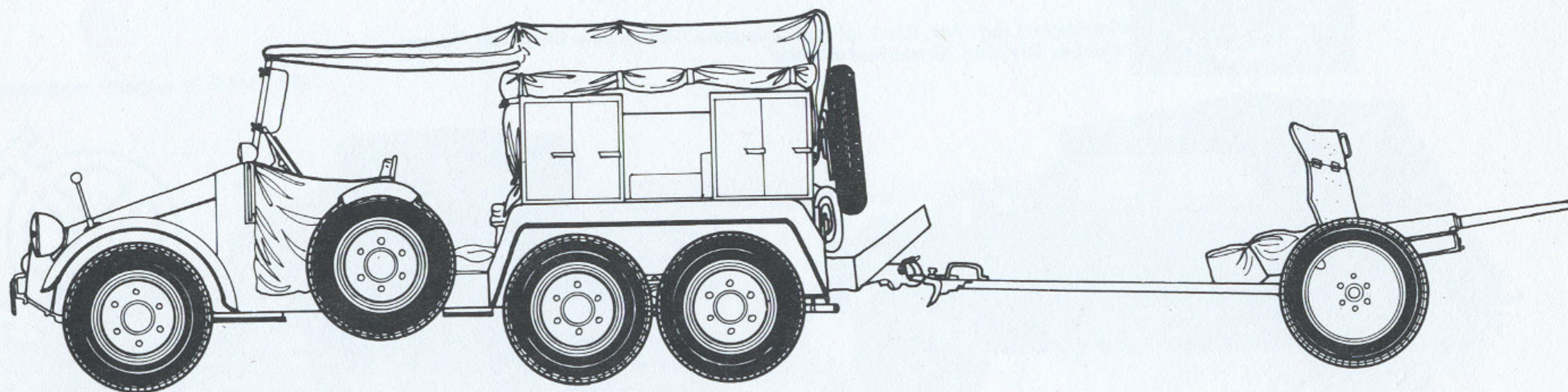
Volkswagen Light Car, Kfz 1, of 2nd Company, Motorcycle Battalion, Panzer Grenadier Division 'Grossdeutschland'.



Tactical marking for a motorcycle battalion, 2nd company.

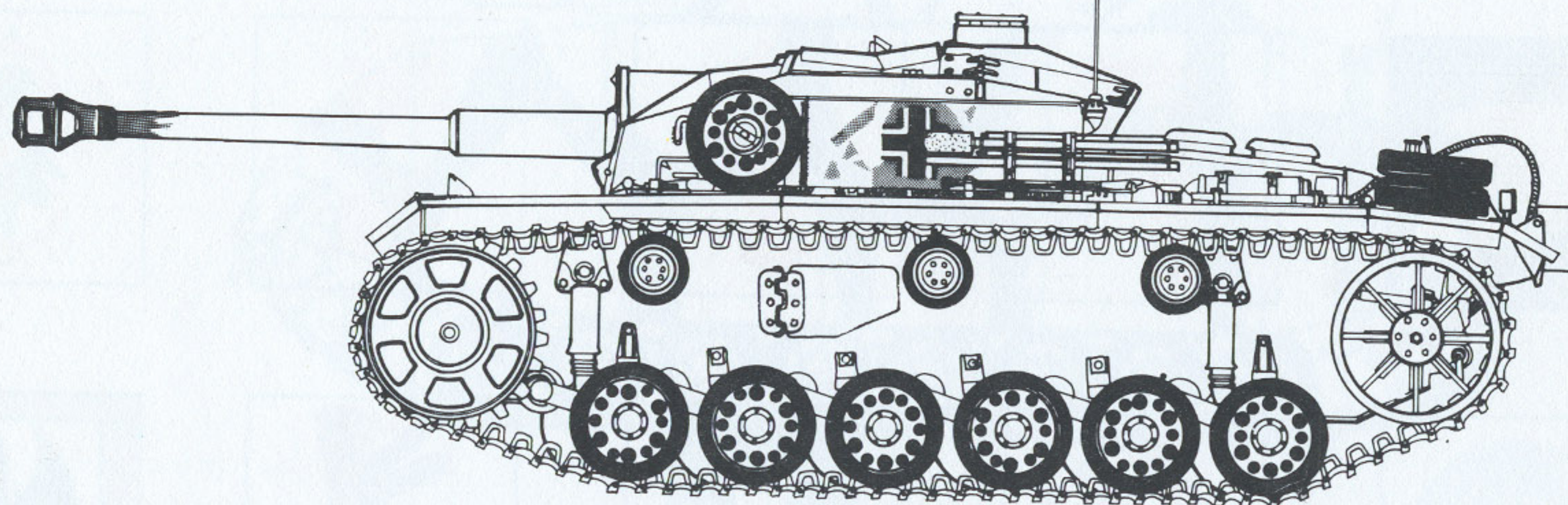


Kfz 31 Phänomen Granit Ambulance of the 23rd Panzer Division. Tactical marking is for a medical company. The vehicle was overall grey with red crosses on white discs. German ambulances often carried a red cross flag as shown in this example.

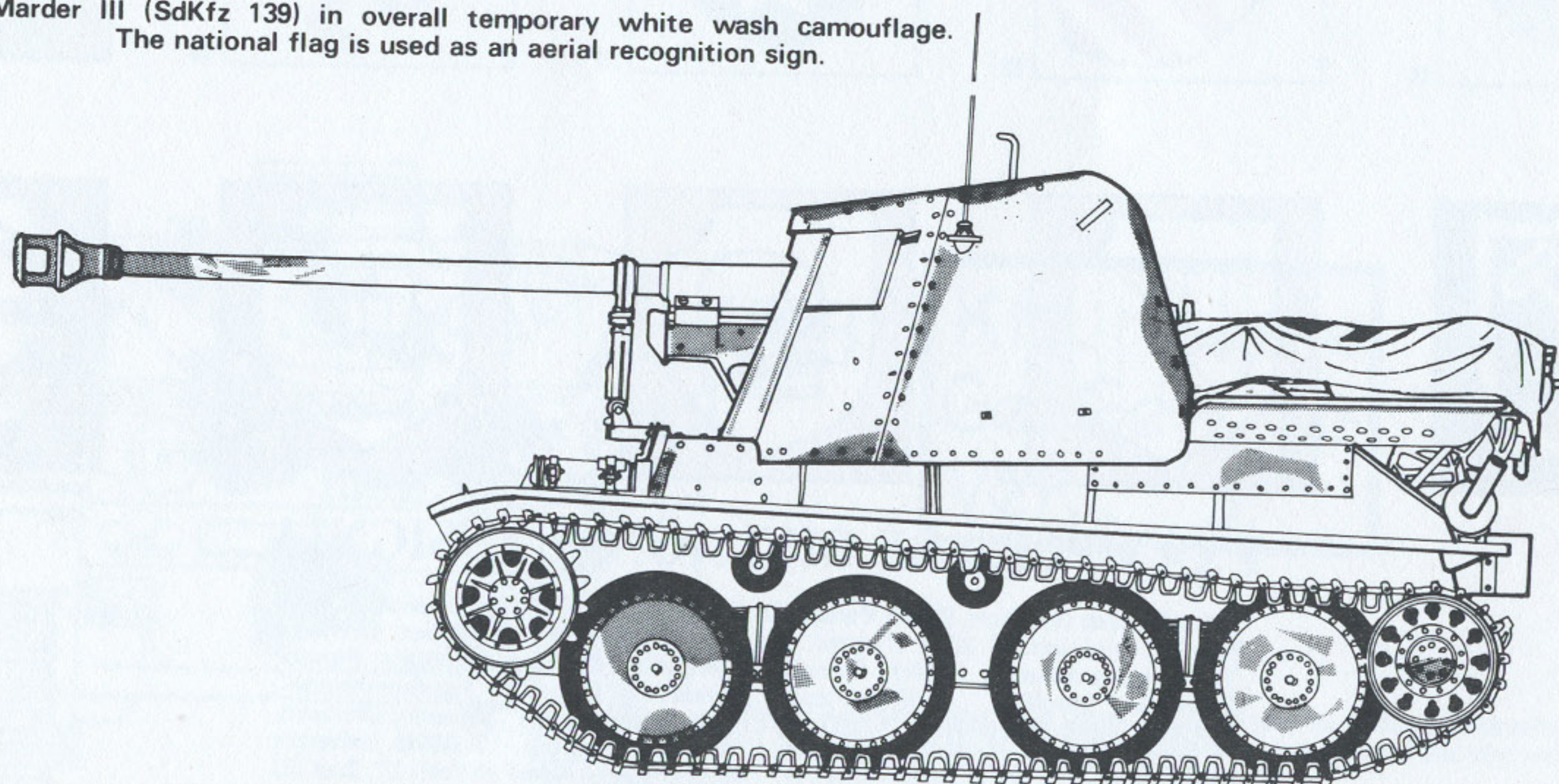


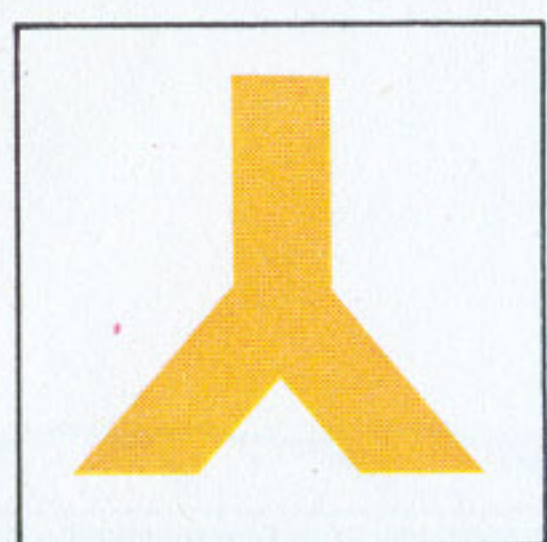
Kfz 69 Krupp light truck with a 37mm anti-tank gun. This vehicle was overall grey and carried a tactical marking for a Pak troop front and rear.

Stug III Ausf. F (SdKfz 142/1) in overall white winter snow camouflage. The continual firing of the gun, smoke blackened the muzzle brake and blistered the paint on the gun barrel.

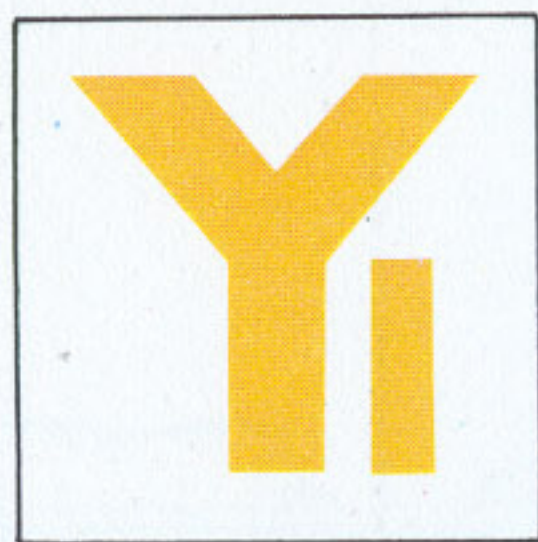


Marder III (SdKfz 139) in overall temporary white wash camouflage. The national flag is used as an aerial recognition sign.

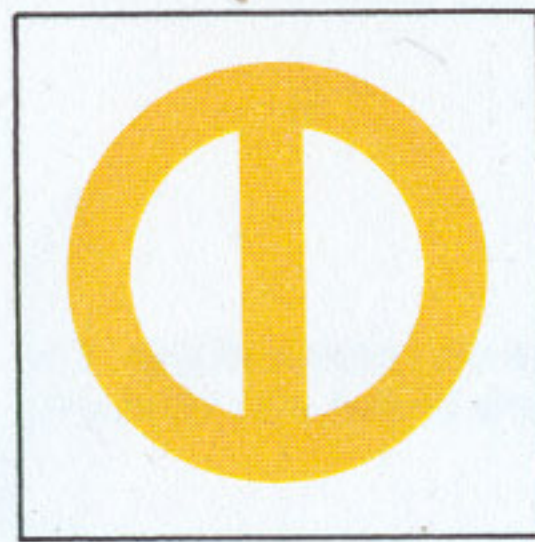




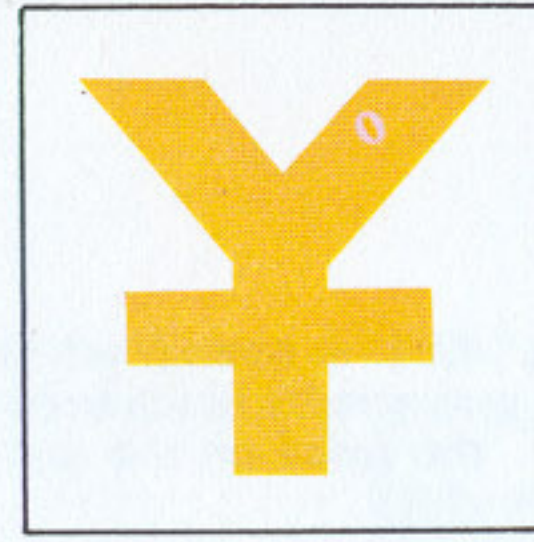
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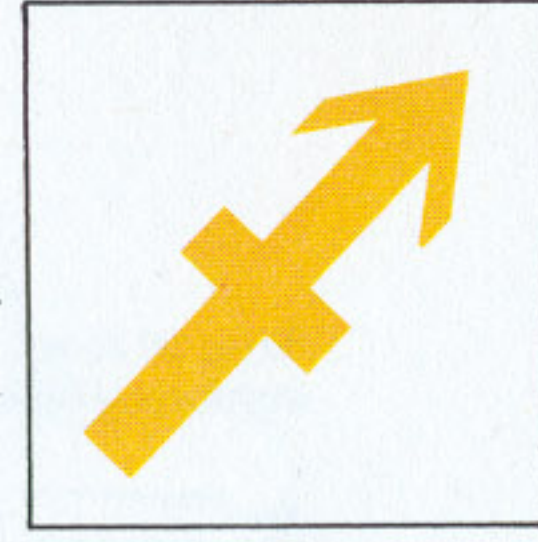
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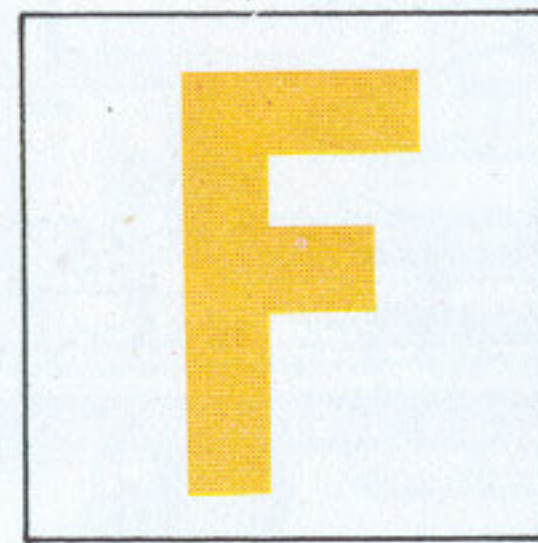
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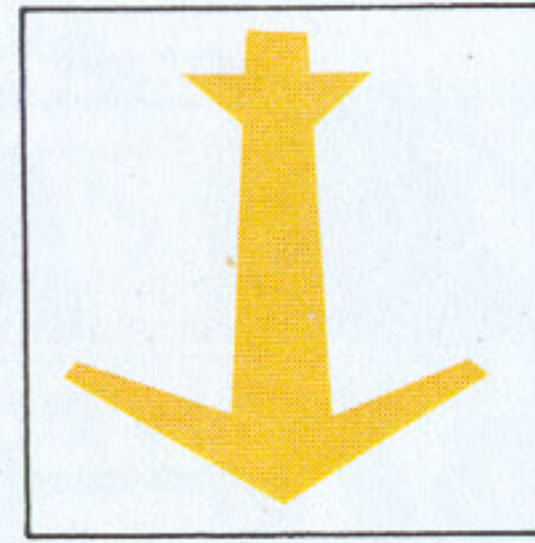
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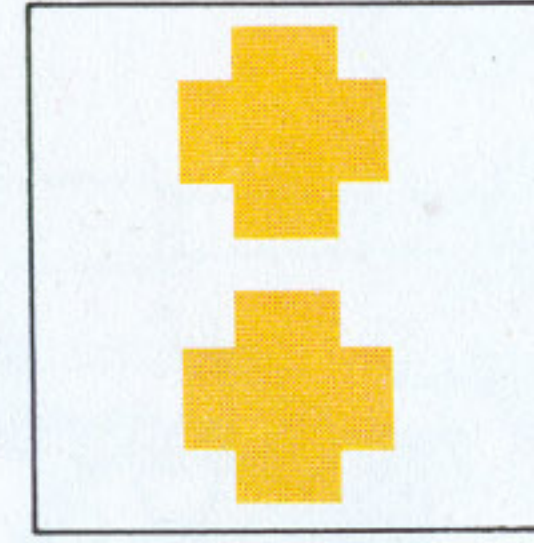
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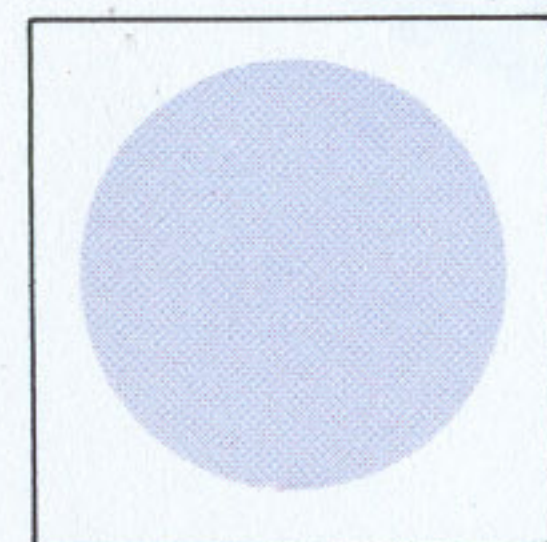
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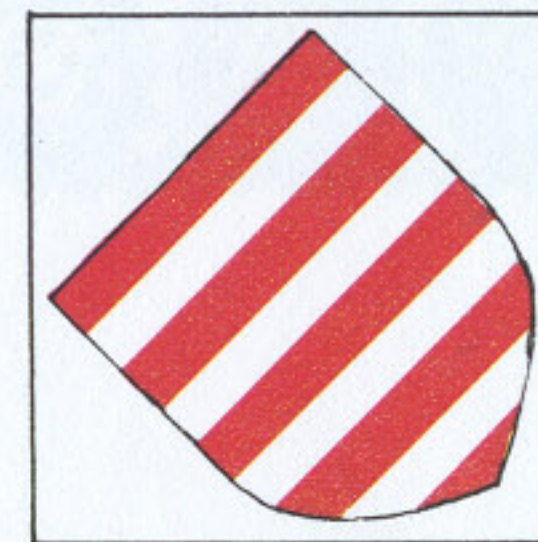
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18



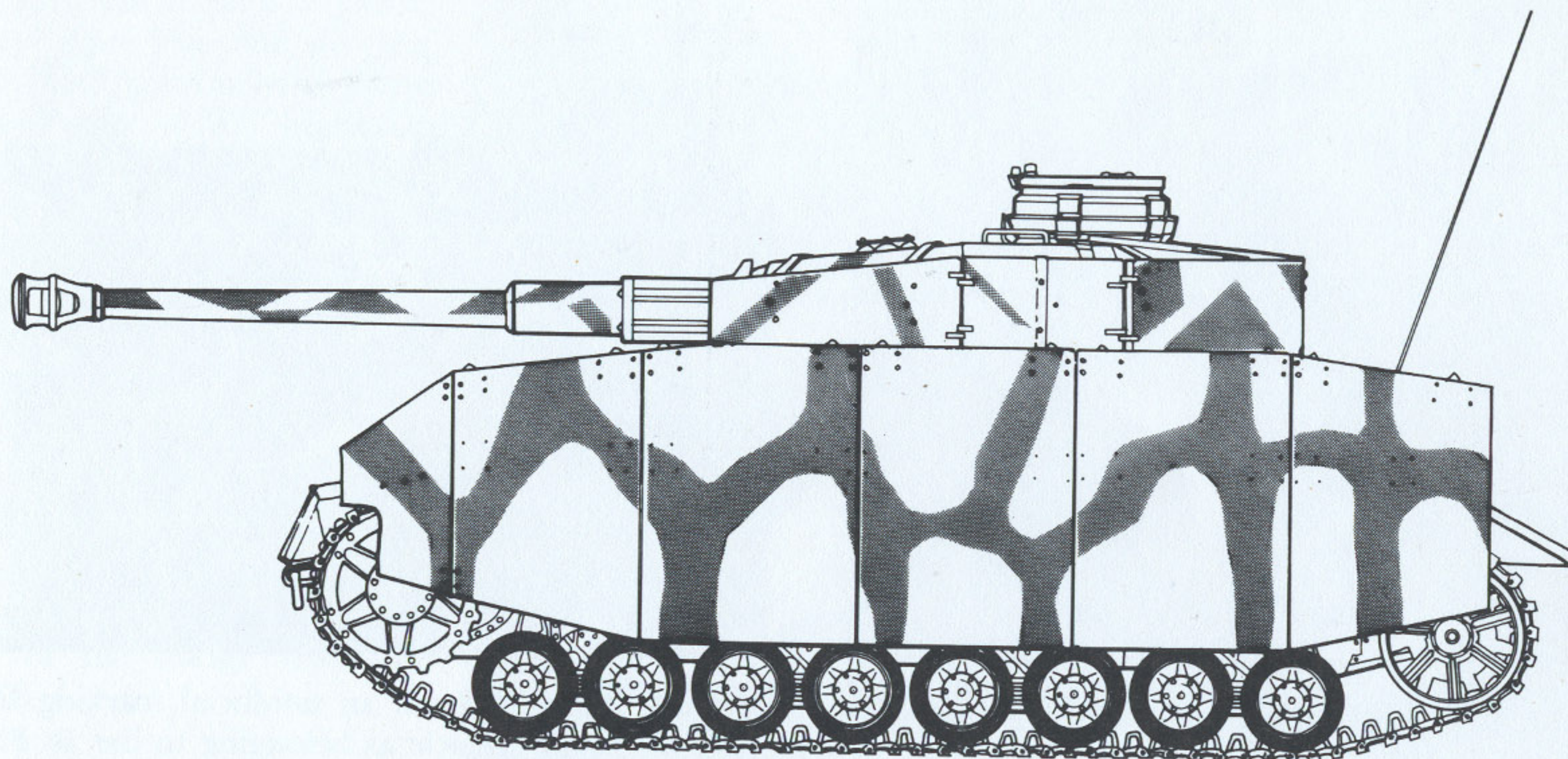
19



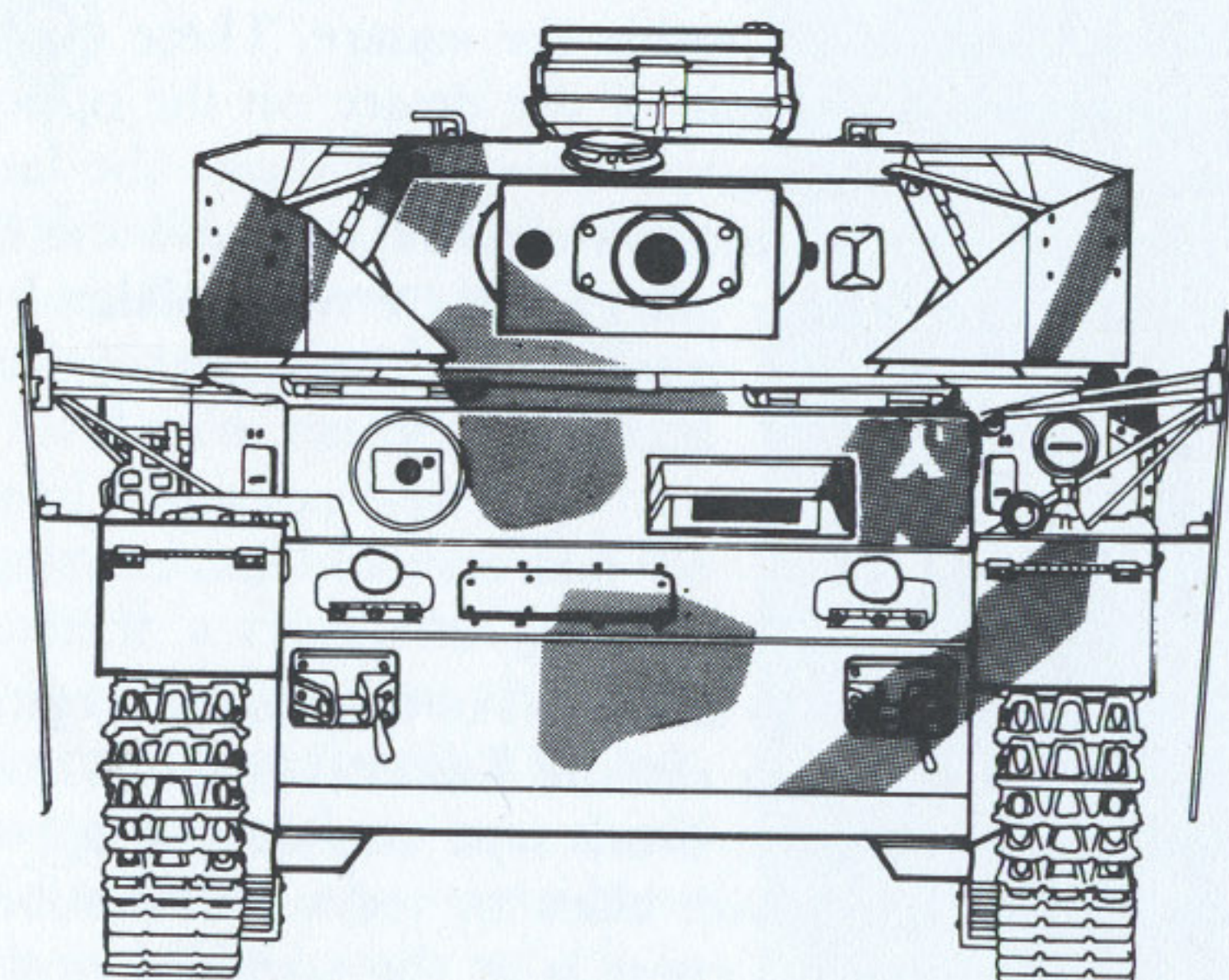
20

EXAMPLES OF DIVISIONAL INSIGNIA

1. 1st Panzer Division. 2. 8th Panzer Division. 3. 11th Panzer Division. 4. 16th Panzer Division. 5. 23rd Panzer Division. 6. Panzer Grenadier Division 'Grossdeutschland'. 7. 10th Panzer Grenadier Division. 8. 20th Panzer Grenadier Division. 9. 60th Panzer Grenadier Division 'Feldherrnhalle'. 10. 100th Jäger Division. 11. 11th Infantry Division. 12. 30th Infantry Division. 13. 168th Infantry Division. 14. 293rd Infantry Division. 15. 335th Infantry Division. 16. 1st SS Panzer Division, 'Leibstandarte Adolf Hitler'. 17. 2nd SS Panzer Division, 'Das Reich'. 18. 3rd SS Panzer Division, 'Totenkopf'. 19. 10th SS Panzer Division, 'Frundsberg'. 20. 11th SS Freiwilligen Panzer Grenadier Division, 'Nordland'.



PzKw IV Ausf. J, in sand and green finish. This vehicle belonged to the 2nd Panzer Division.



Kfz.	SdKfz 161
Gef Gew.	23t
VeKl.	S.

Weight and data shipping panel from a PzKw IV. This was usually found on the hull side, and gave the type, weight in metric tons and the vehicle class for shipment.



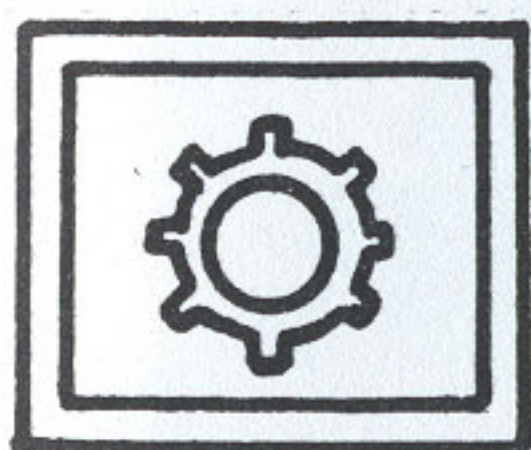
ABOVE: A Kfz 15 with an unofficial marking on the door, indentifying the vehicle as belonging to the 1st Platoon of an unidentified unit. This practice appeared to be fairly common on soft skin vehicles in service, going by photographic evidence that is.



TOP LEFT: The Mercedes car in the foreground of this photo carries very interesting markings. Barely visible on the wing under the 'Notek' light is a tactical sign for a motorized unit with the letters 'PK' inside the square. These could equate to 'Propaganda Kompanie' if the device on the opposite wing is taken in conjunction with this. This shows the famous Baron Von Münchhausen riding a cannon ball, and the Baron was a well known tall-story teller from German folklaw! If this is not an official unit sign it could be the work of some German humorist.

LEFT: Panther tanks (PzKw V) of the Panzer Regiment 'Prince Eugen', during 1943 on the Eastern Front. These are early model 'D's' with the drum type cupola and appear to be in overall sand finish with black or red turret numbers, outlined white. The national cross is in the standard position on this vehicle between the exhausts. Compare this photograph with the one on page 36.

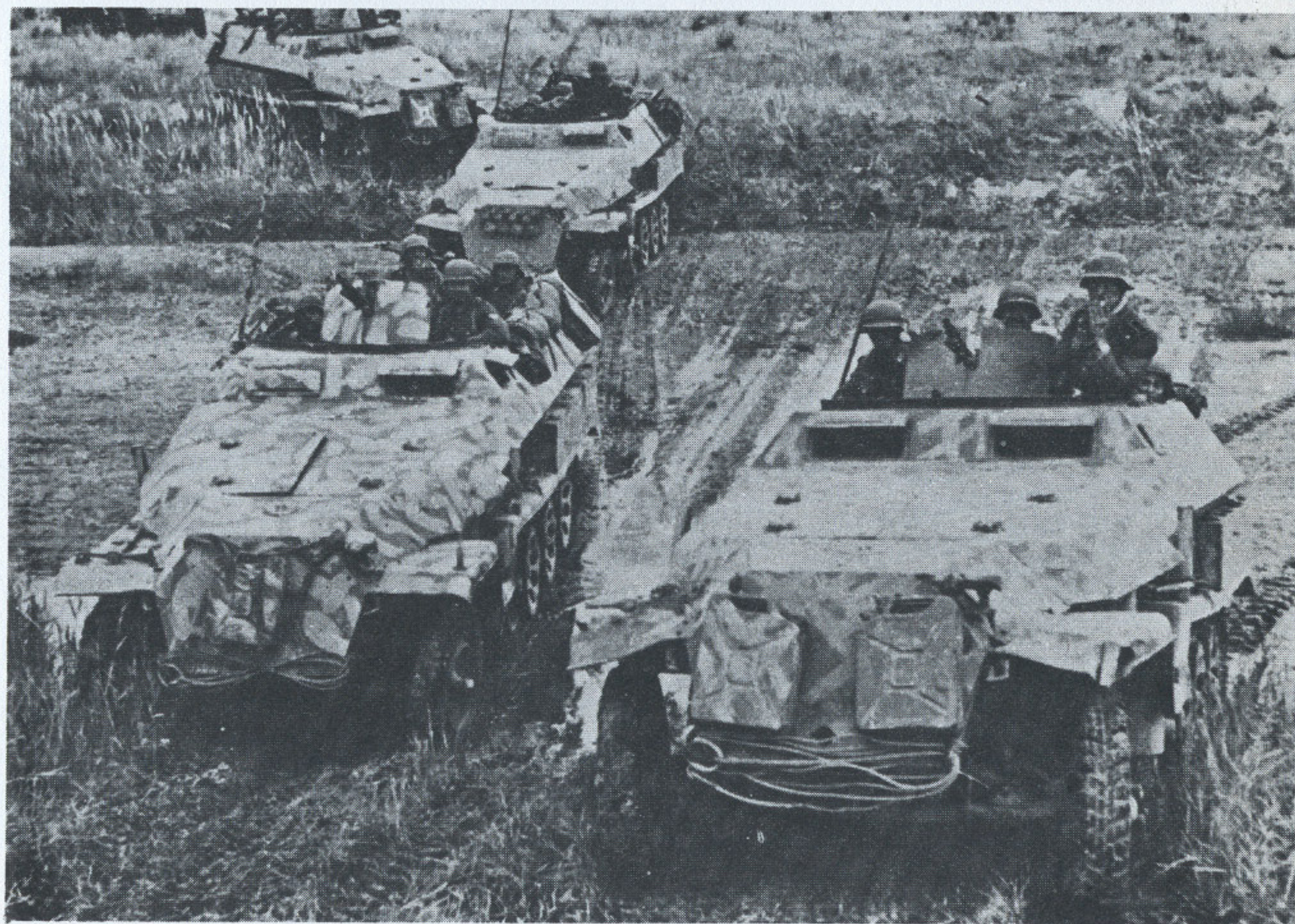
A grey painted SdKfz 6 Praga built half-track passes a SdKfz 250 also in grey. The Praga 5 ton half-track shows a very clear front number plate but not so clear tactical markings on its front wing. These show it to belong to a fully motorized workshop company. Further identification above this on the wing, was unreadable on the original print, as is the rear body of the vehicle, hidden under foliage. Note the blackout headlamp covers on this vehicle, the 'Notek' light and width judging stanchion. The 250 carries no national markings on its rear plate, but a two figure tactical number in white outline only. Its numberplate is barely visible on the left trackguard, mainly obscured by the shadow of the foliage from the adjacent SdKfz 6.



*MOTORIZED
WORKSHOPS
COMPANY*



A column of SdKfz 251/1 half-tracks negotiating a dried up river bed, show some interesting variations of camouflage application. Sand paint has been brushed onto the lead vehicles, the left one receiving 'squiggles and blotches' and the right-hand vehicle a criss-cross pattern. Even the 'jerrycans' slung on the front plates have been camouflaged. The left-hand vehicle has its machine gun shield camouflaged, whereas the right-hand half-track has not. The fourth vehicle in line carries a white lined can on its bow signifying that it contains water.



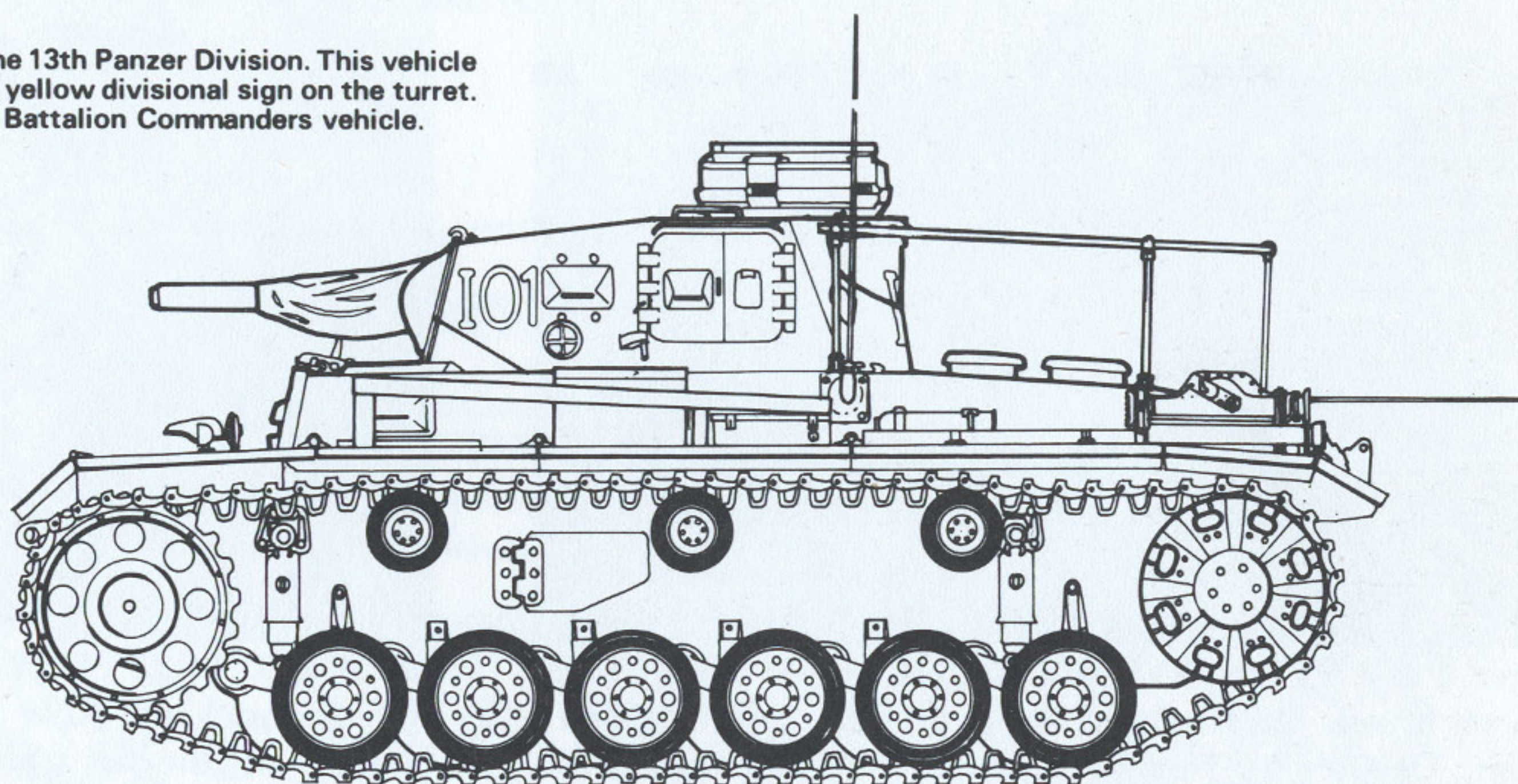


LEFT: Non-standard markings on a PzKw III signifying the unit adjutants tank within a Panzer unit, be it either regiment, battalion or company.

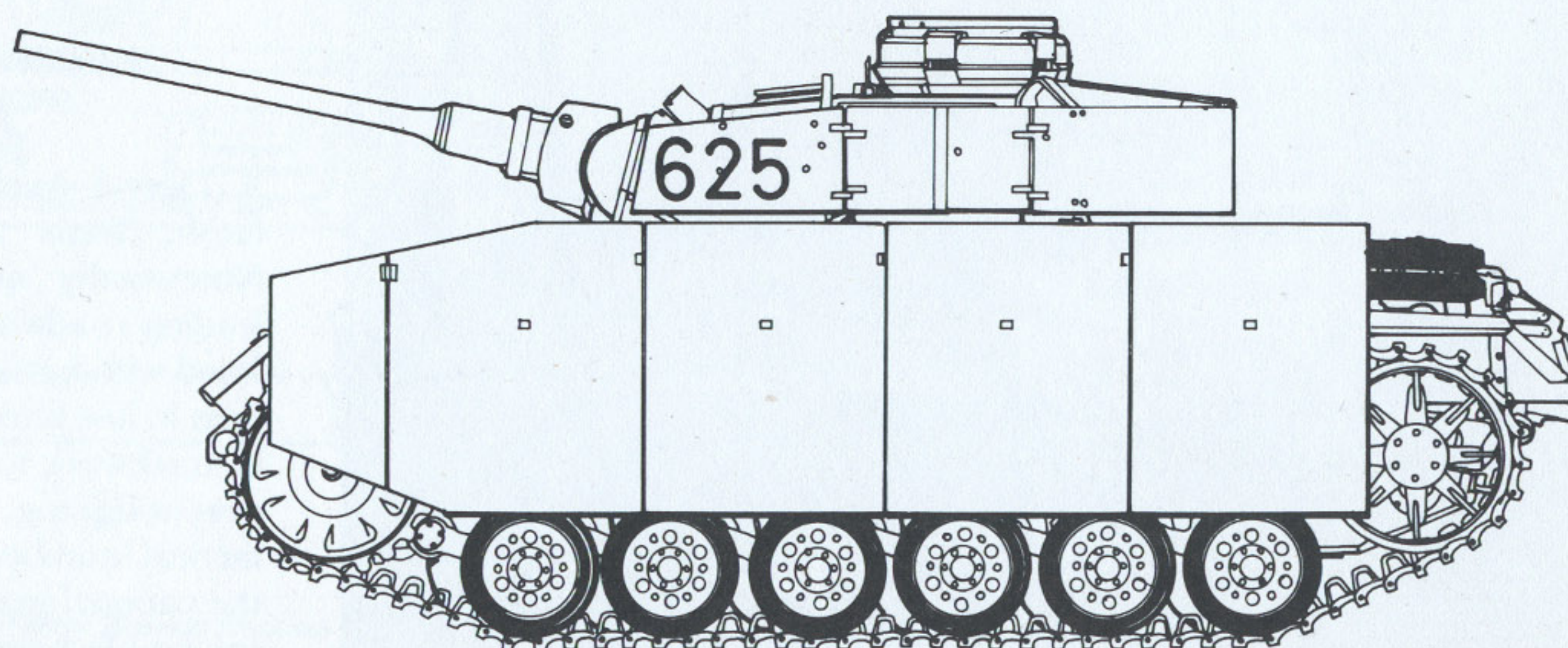
BELOW: Very neatly applied 'zimmerit' on a whitewashed battalion commanders late production Tiger.



PzKw III Ausf. E commanders tank of the 13th Panzer Division. This vehicle is overall grey with white numbers and yellow divisional sign on the turret. This particular vehicle was the 1st Battalion Commanders vehicle.



PzKw III Ausf. M in overall sand finish with plain black tactical numbers on the turret spaced armour.

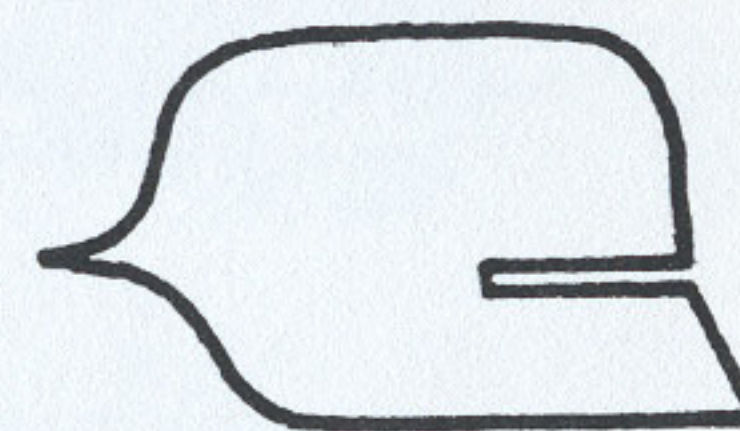




A Tiger (PzKw VI Ausf E) with a sprayed mottle finish, either green or brown on sand – or both – of the 2nd SS Panzer Division, 'Das Reich'. This photograph was taken during the Kursk battles and shows the insignia for 2nd Panzer on the bow plate. All other divisional emblems were removed and these 'operational markings' were used by the SS Panzer Korps at Kursk.



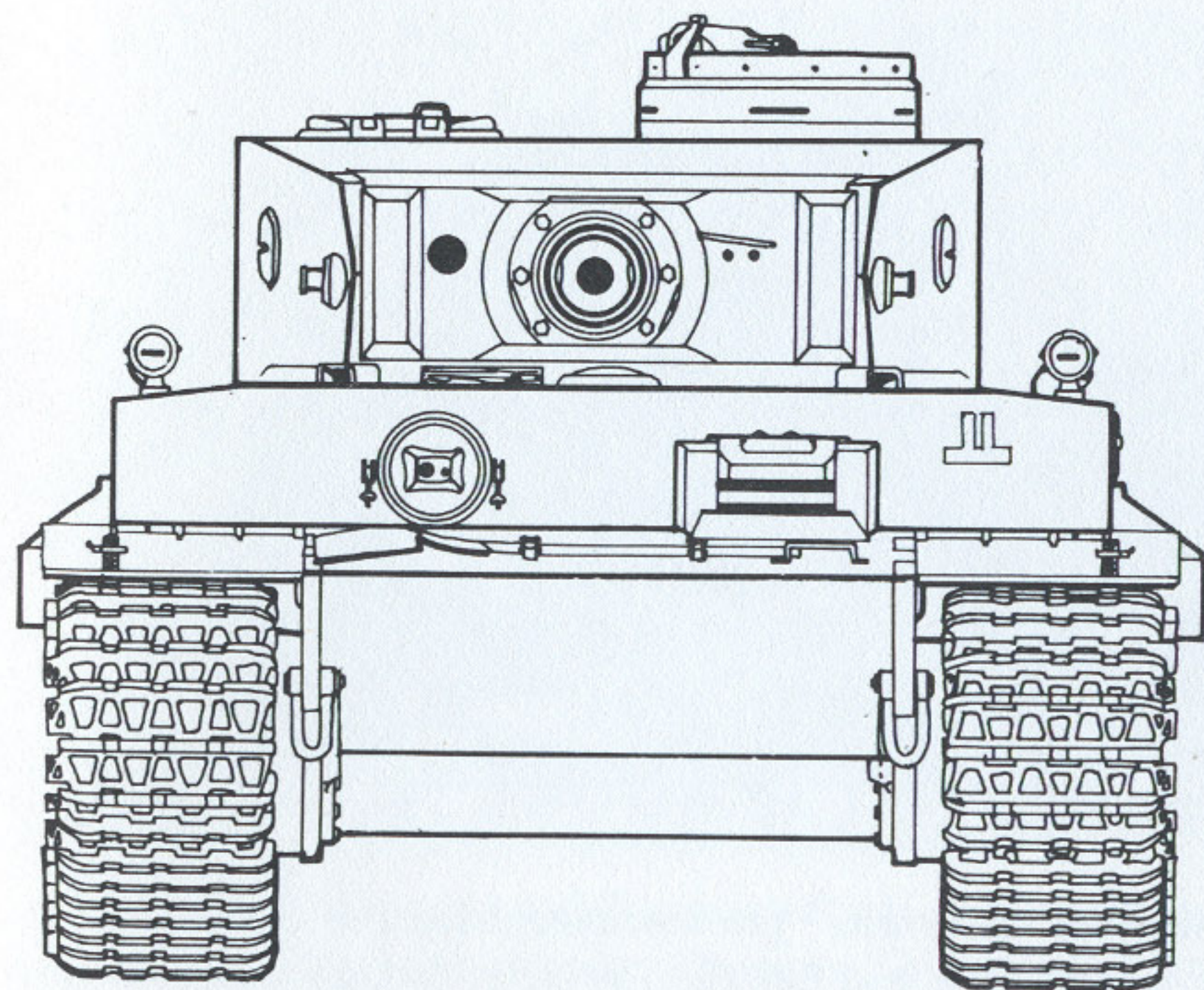
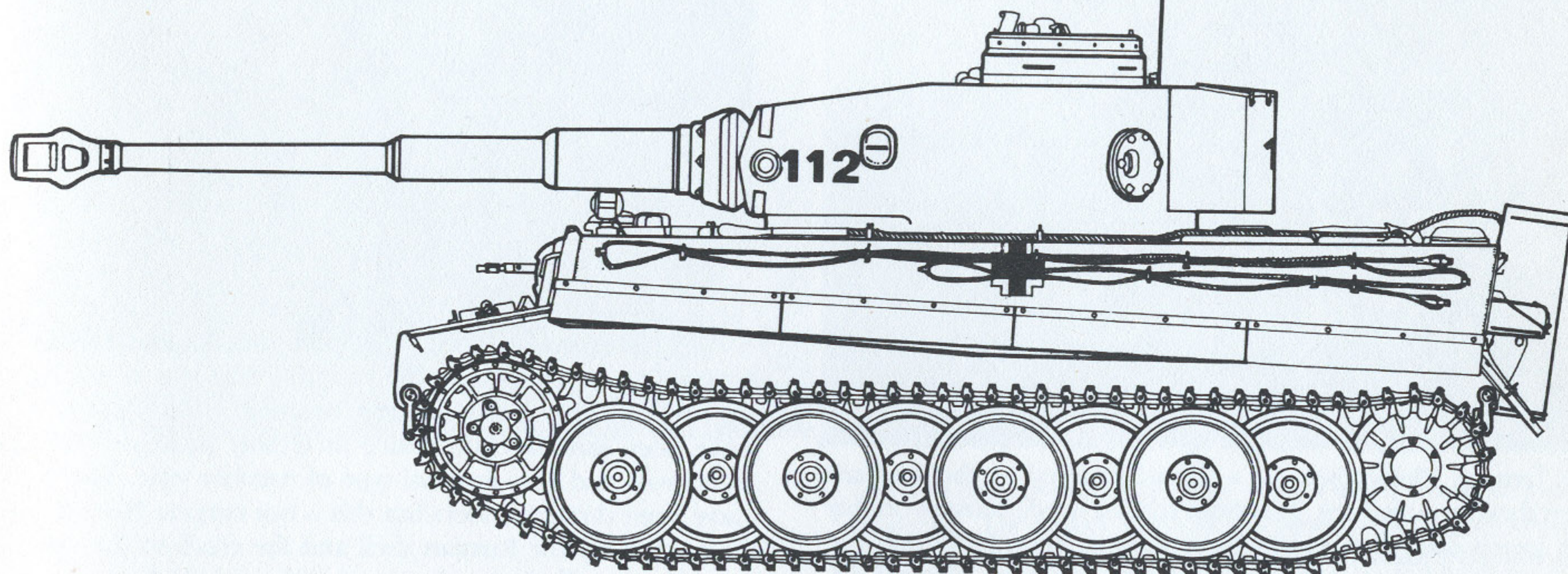
A PzKw IV Ausf F2 belonging to the Panzer Grenadier Division 'Grossdeutschland'. The famous helmet badge of the division appears on the far track-guard under the Notek light. The vehicle appears to have had sand paint painted on over the dark grey base colour. Foliage, once again, has been deposited about the vehicle in an attempt to break up the outline of the tank.



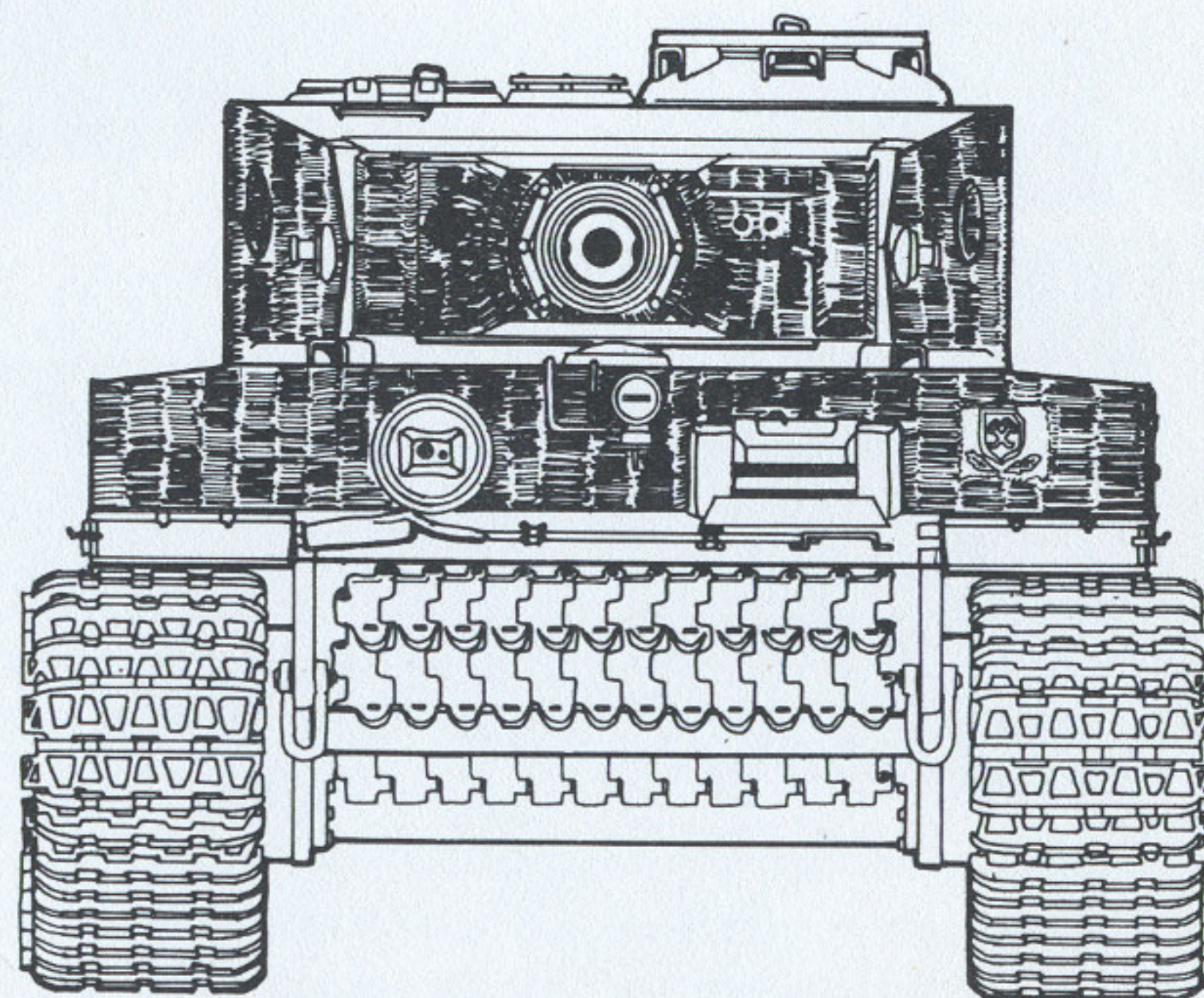
PANZER GRENADIER DIVISION
'GROSSDEUTSCHLAND'

A Tiger I Ausf. E in scruffy whitewash finish, leads a line of PzKw III's. Noteworthy are the absence of the leading roadwheel on the Tiger which is fitted with battle tracks, and the PzKw III next in line fitted with 'Ostketten' links on its trackwork to improve its performance over softgoing. Note also the plain black tactical numbers on the Tiger's turret, the national marking on the sideplate, the smoke blackened gun barrel and muzzle brake. The whitewash finish on the tanks appears to be fading away.

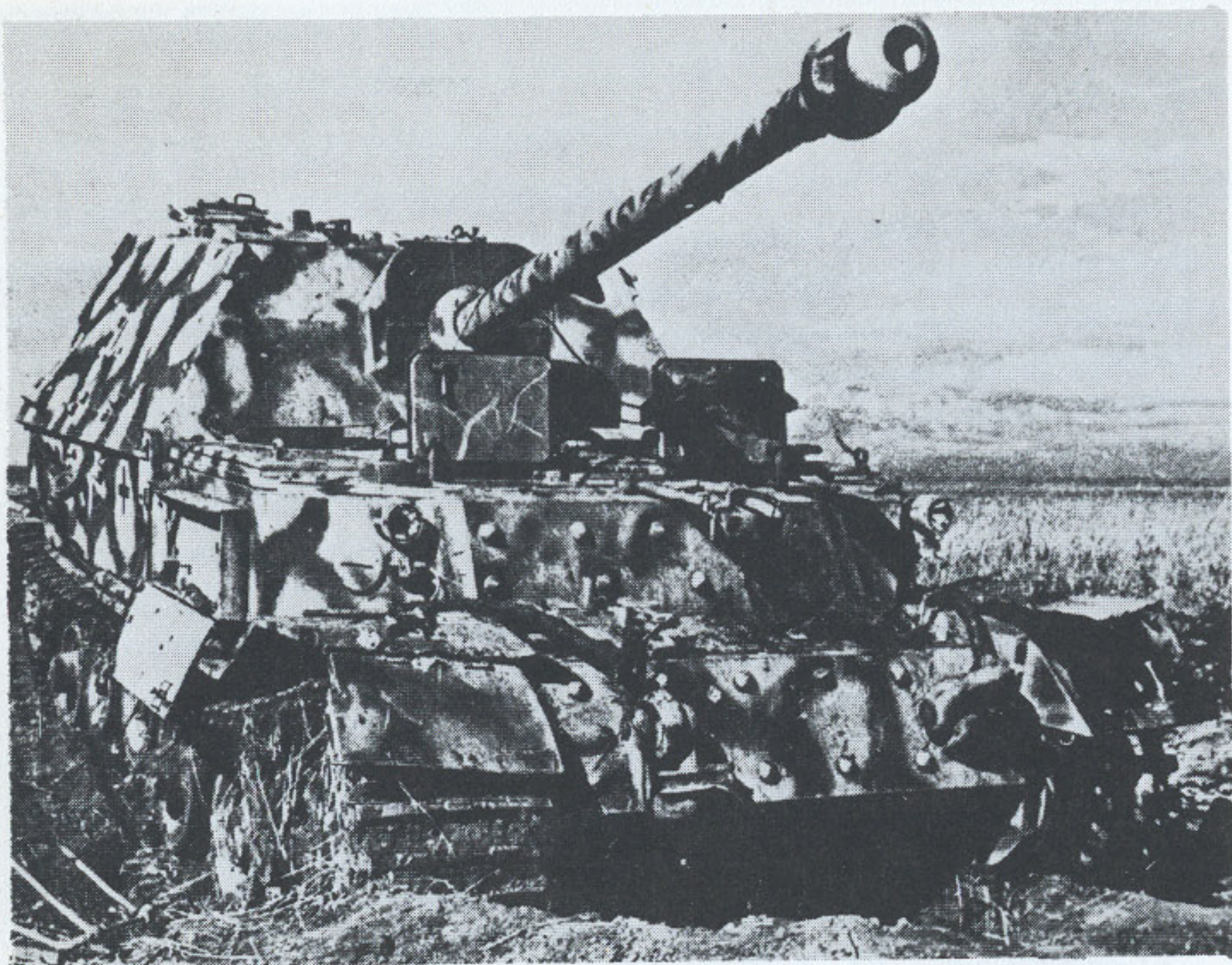
Tiger I Ausf. E (SdKfz 181) in overall sand finish with black unlined tactical numbers.



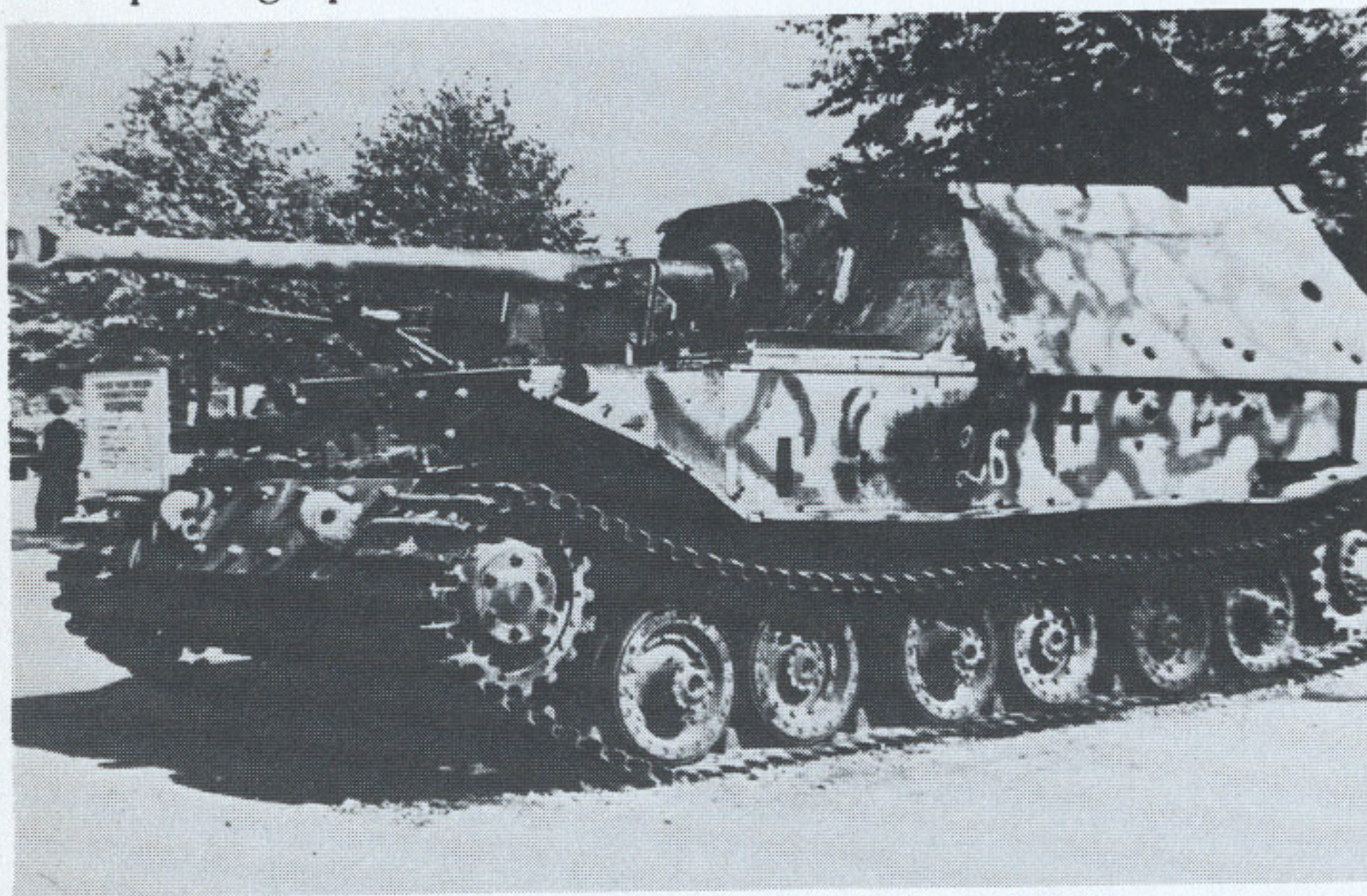
Tiger I Ausf. E of the 2nd SS Panzer Division 'Das Reich'. The bow marking was used by the SS Panzer Korps at Kursk and signifies the 2nd SS Panzer Division. No other markings were carried.



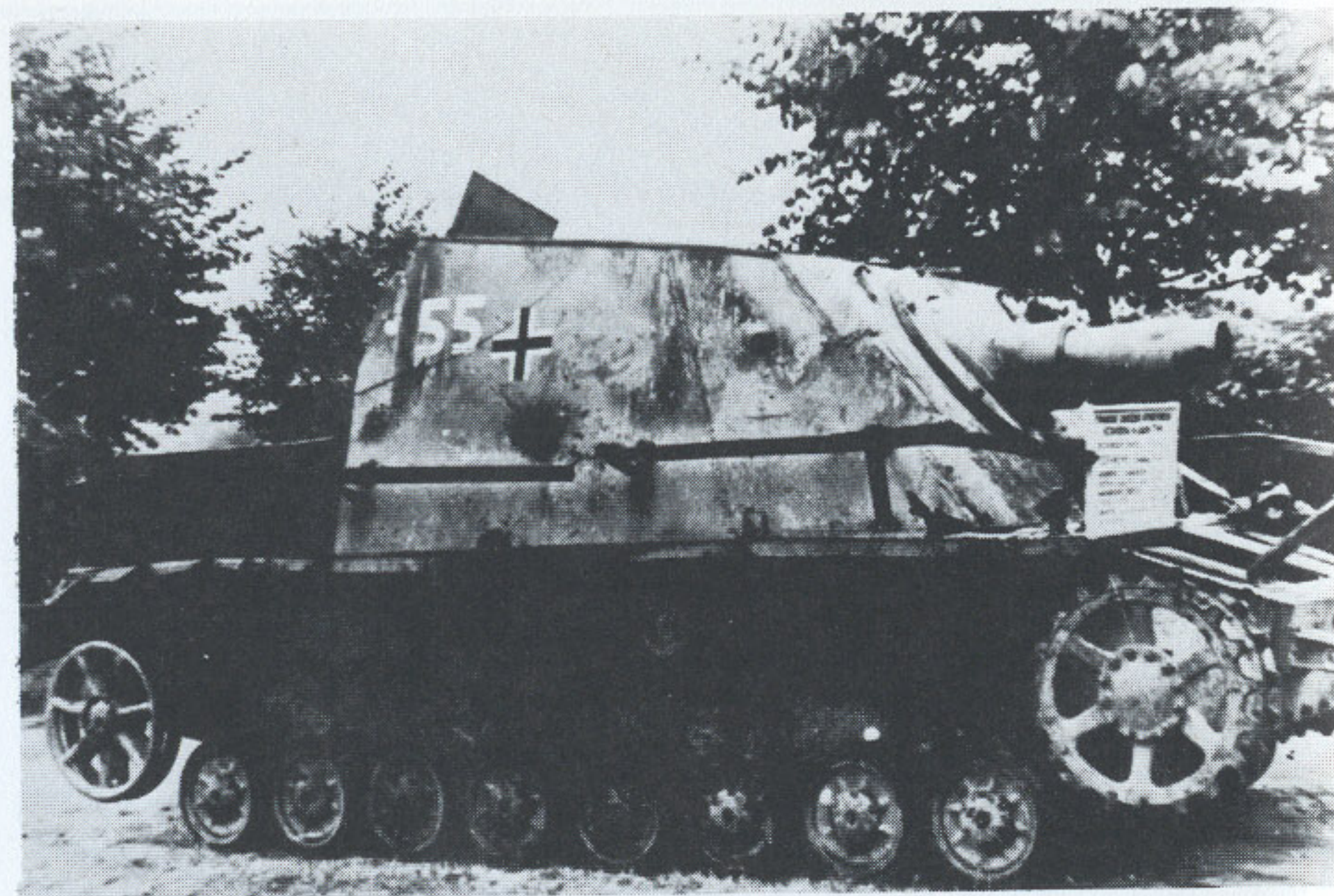
Tiger I late production model with zimmerit finish. Badge of the 1st SS Panzer Division, 'Leibstandarte Adolf Hitler' was left showing when the zimmerit was applied.



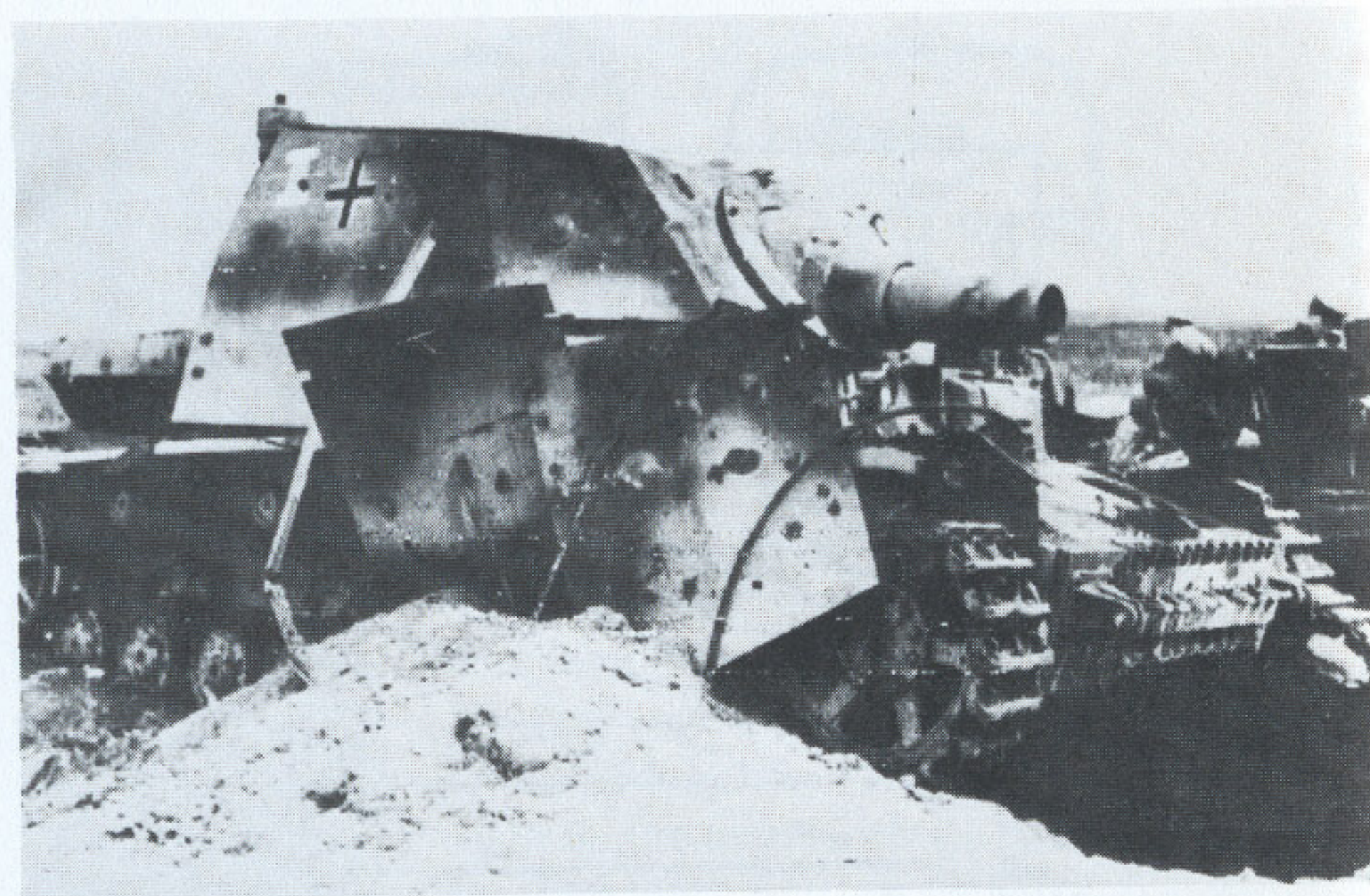
The 'famous' Elefant No. 501 as photographed by the Russians when they captured her. The bold striped finish, most probably dark green over dark sand is very evident here. Note that the left track is missing, and that the finish has been sprayed on. This photograph is from Soviet sources.



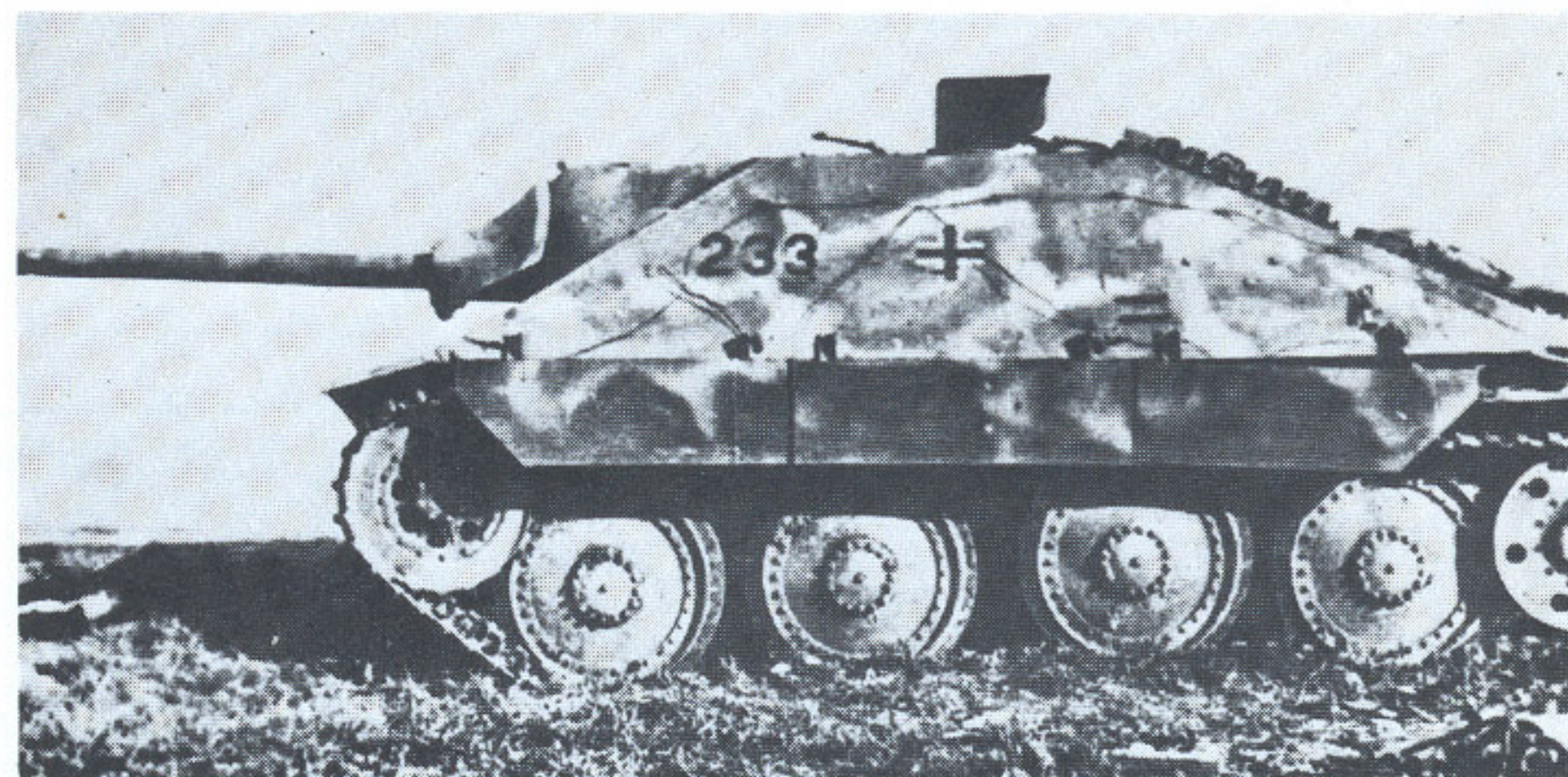
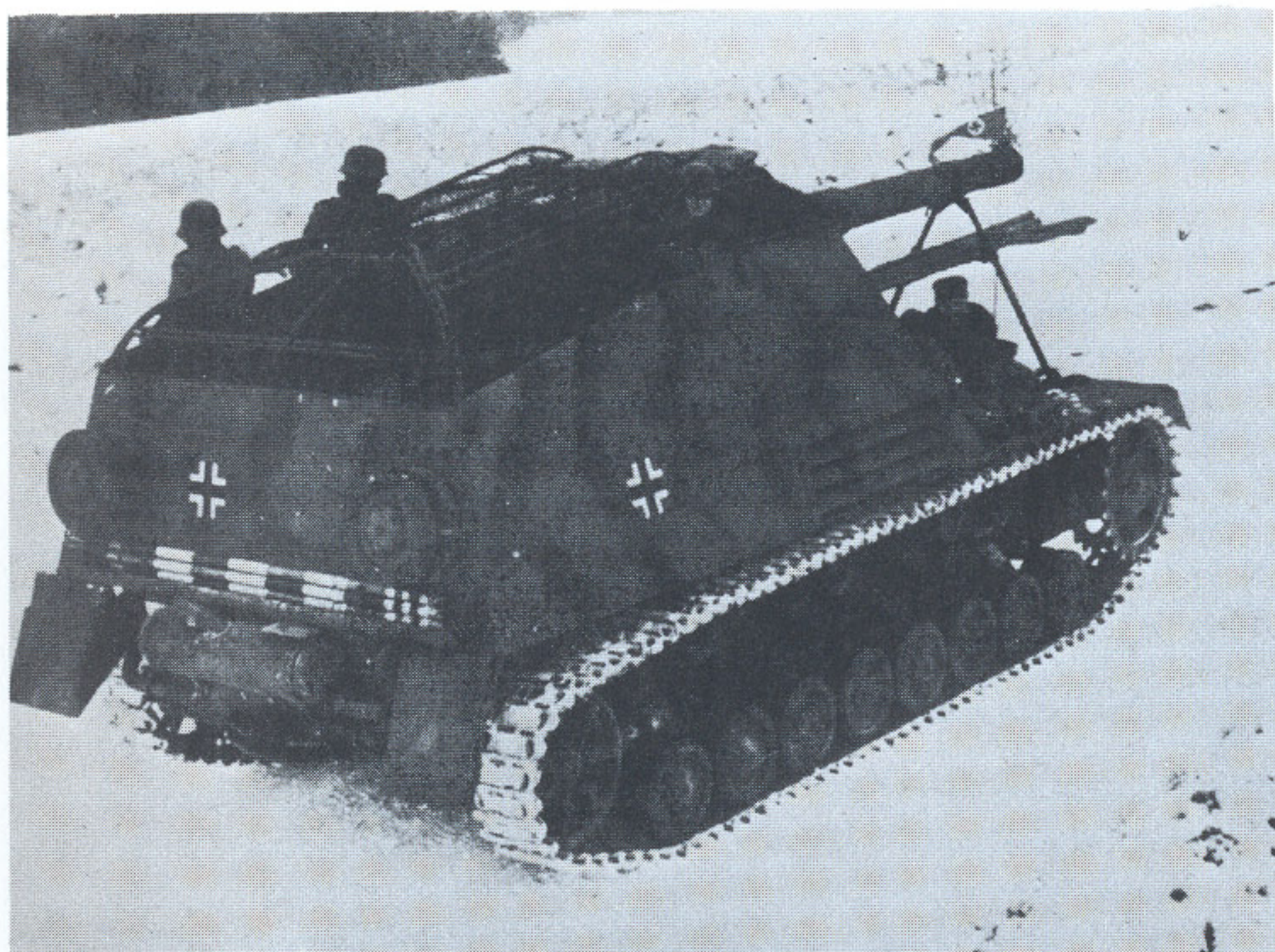
Another Soviet photograph of captured Elefant No. 624 (the numbers are very faint on the fighting compartment side) on display. The finish is very similar to No. 501 above. The large black patch is the flash made by an impacting armour piercing round which disabled 624. The numerals, 26, were most likely put there by the Soviets.



From the same display as the captured Elefants, is this Russian photograph of a badly mauled 'Brumbär'. This 'grizzly' could have been sand overall; notice its freshly painted markings, a neat cross and very unusual type of number style. There could have been three numbers but this is not certain. Note the huge hole made by the Russian shell and the crack in the side plate caused most likely by the ammunition exploding.



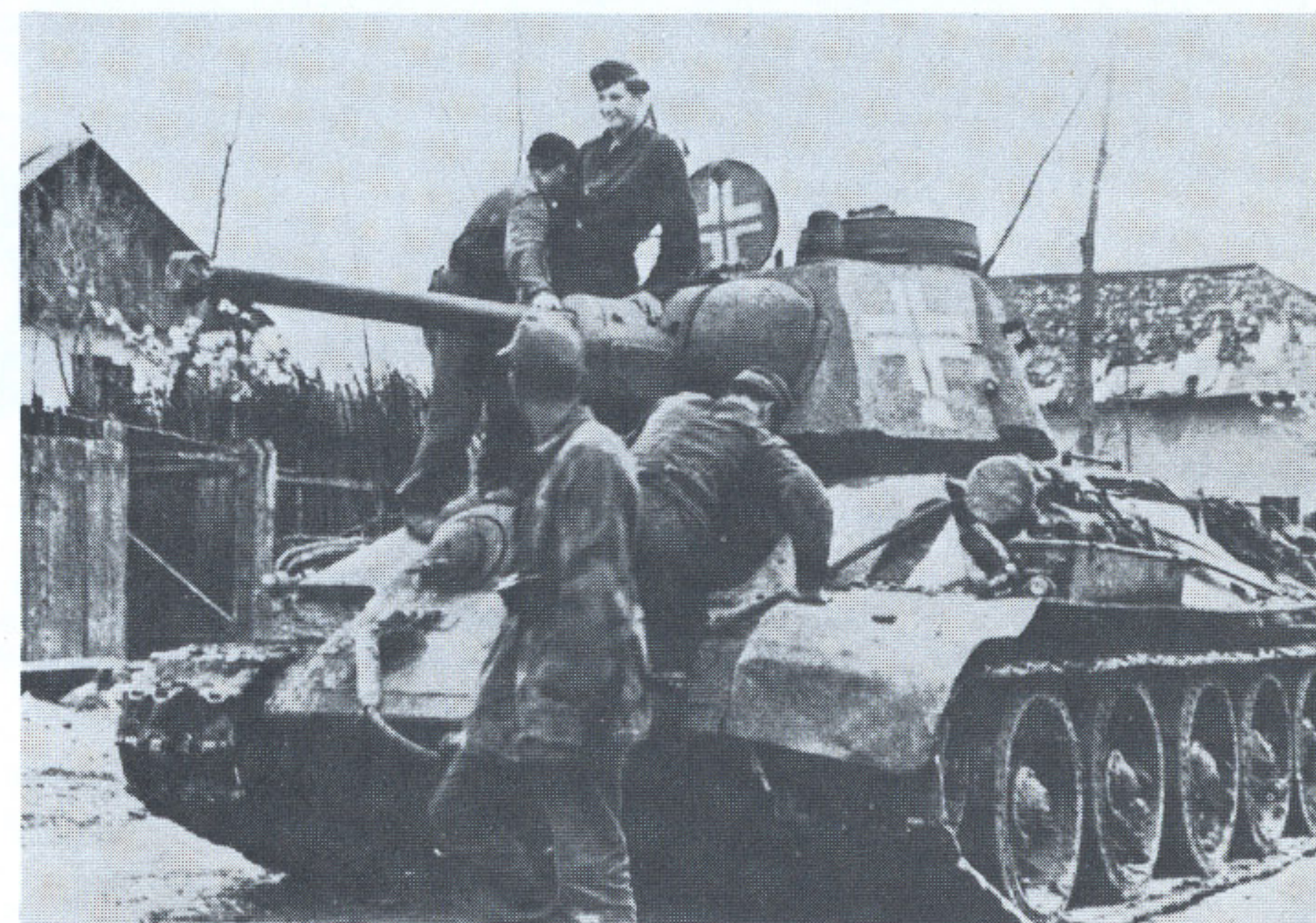
Another 'Brumbär' photographed by the Soviets shows the markings of a 2nd Battalion vehicle, though to which unit this 'grizzly' belonged is uncertain. From this photograph alone it is difficult to determine the finish, though as on the 'grizzly' in the photo above, no zimmerit is visible. The battalion sign appears red outlined white.



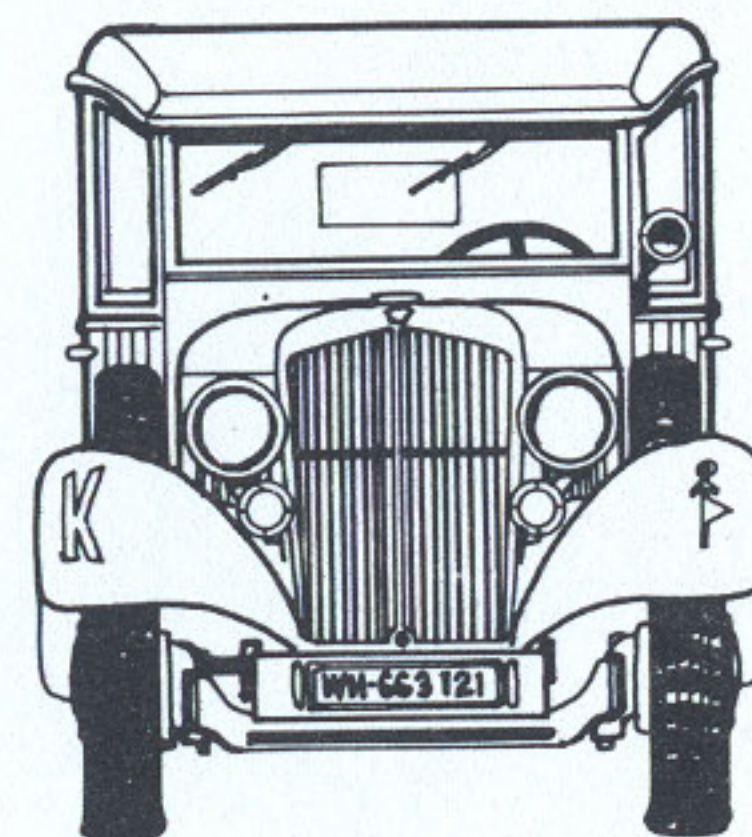
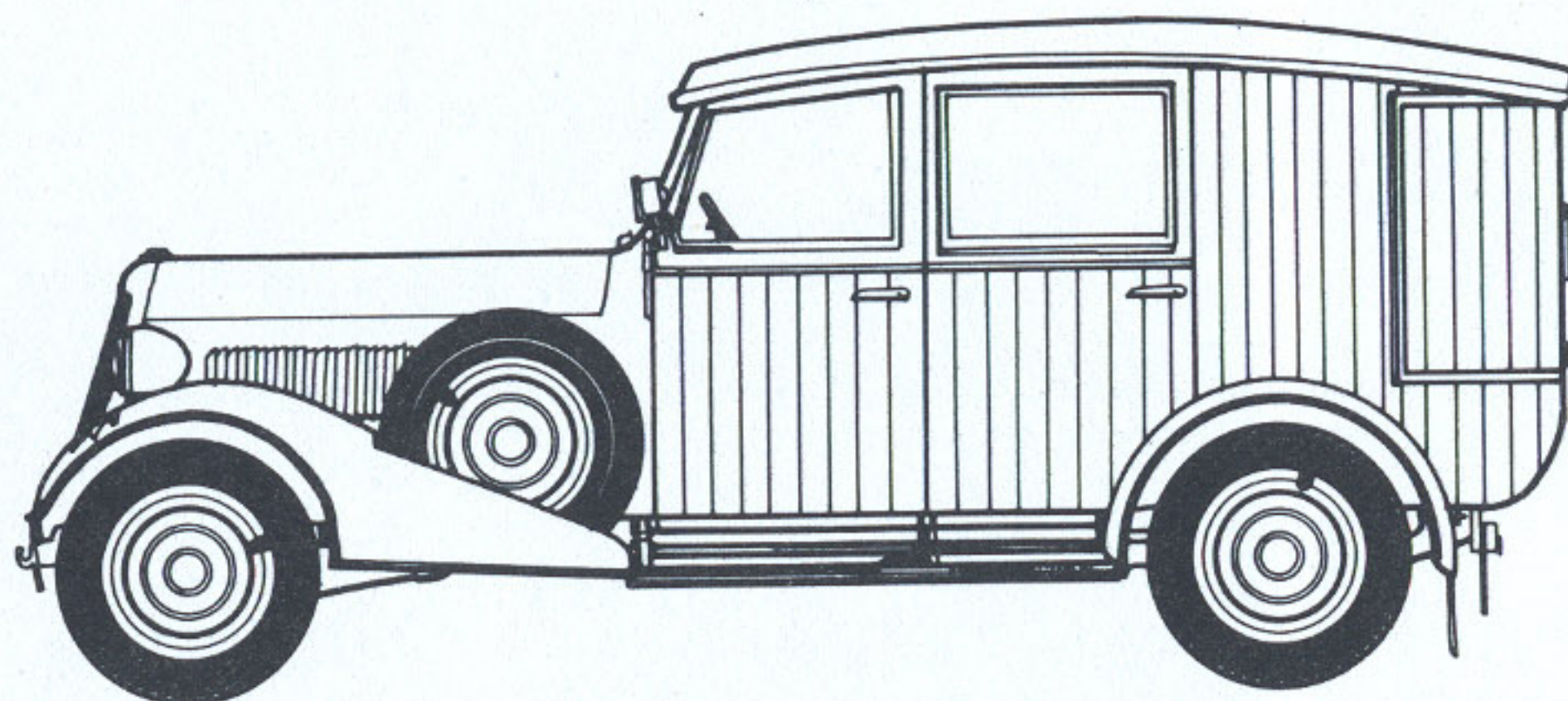
ABOVE: A sand, green and brown 'Hetzer' captured and photographed by the Russians. The vehicle has wire stretched across its sides for attaching foliage. The plain black tactical numbers have been neatly painted on, as has the small cross.



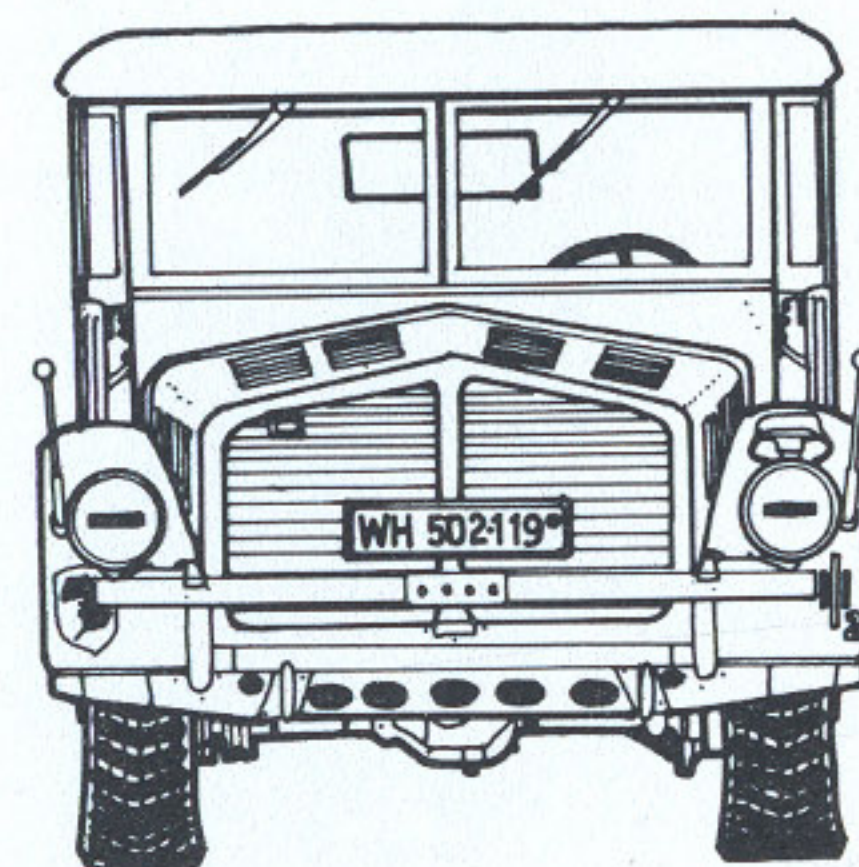
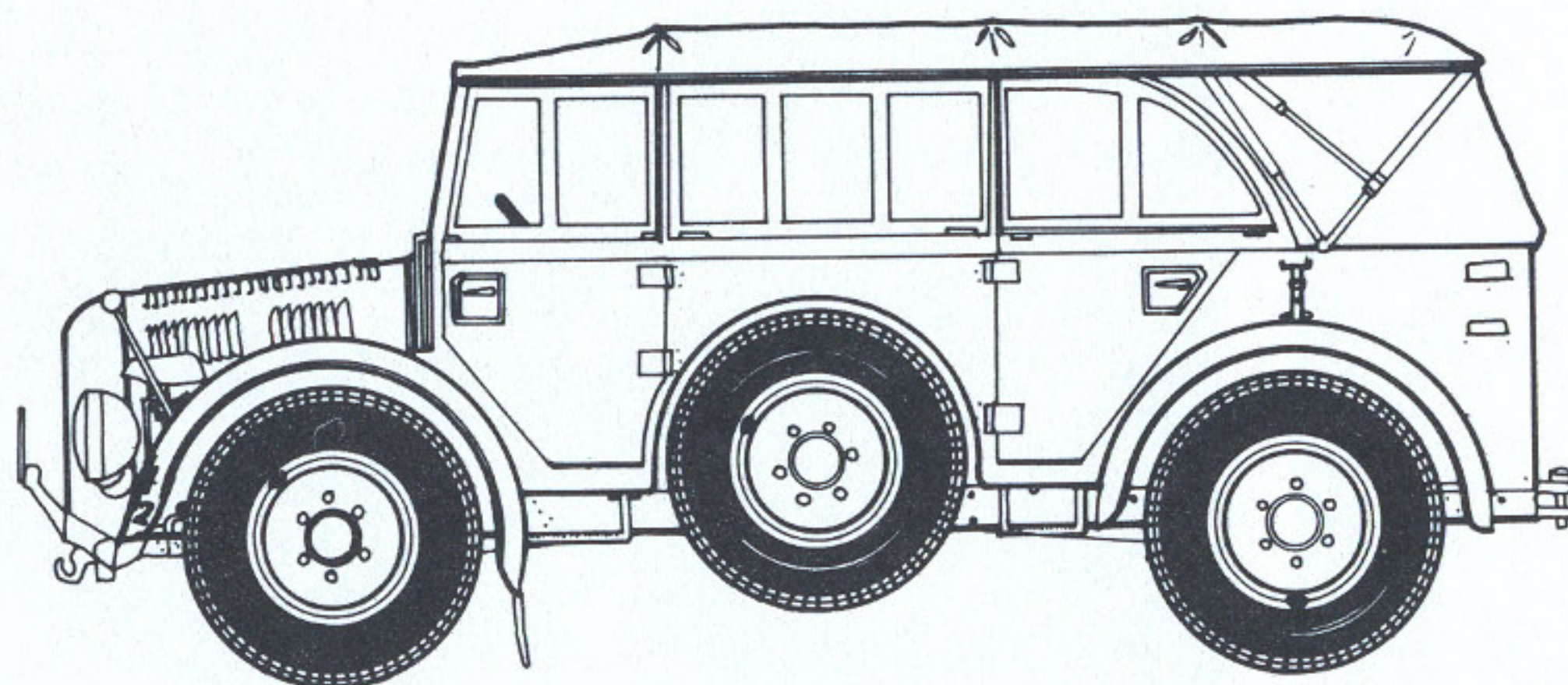
LEFT: These two photographs show a nicely finished 'Hummel' of the SS. The upper photograph shows a dark grey finish with random green stripes neatly applied. A small pennant on the radio aerial. Notice the red and white poles for lining up 'shoots' mounted on the hull rear. The lower photograph shows the unusual addition of a number plate on an AFV, even the Feldpost stamp is visible over the hyphen. The vehicle has been named 'Scharnhorst' and this is painted onto the gun barrel. The overall wire cage on top is unusual.



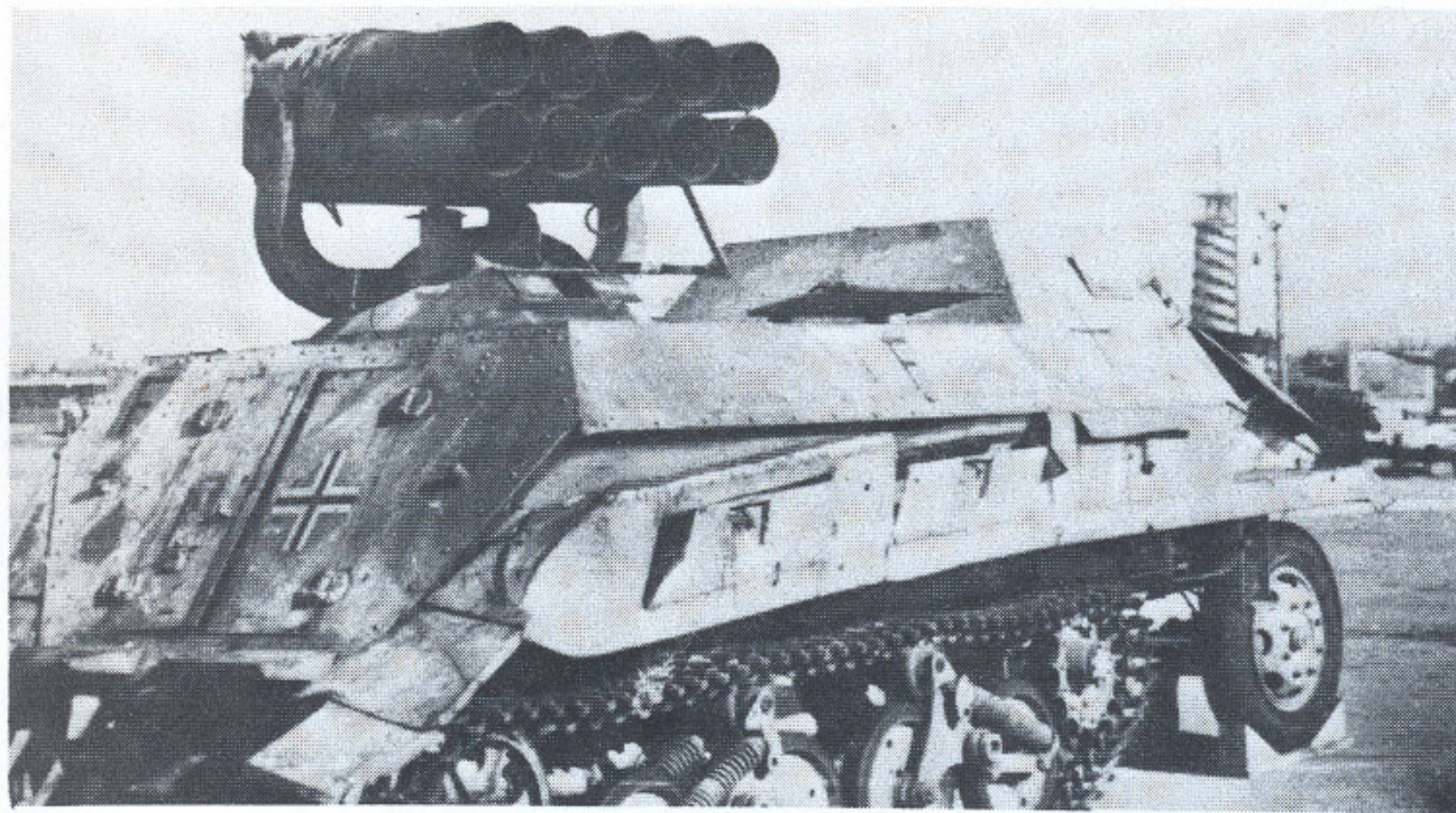
RIGHT: A T34/76E (1943 model) captured and re-marked by its new owners, the Panzer Grenadier Division, 'Grossdeutschland', who have painted their helmet badge under the turret cross. Note the cross painted onto the loaders hatch, obviously for aircraft recognition. The headlamp cover is unusual and is probably a German addition.



Kfz 17 Horch light radio car (*Kleinfunkwagen*) of Von Kleists 1st Panzergruppe, Army Group South. The tactical sign is for a signal battalion. Vehicle was overall grey with white markings.

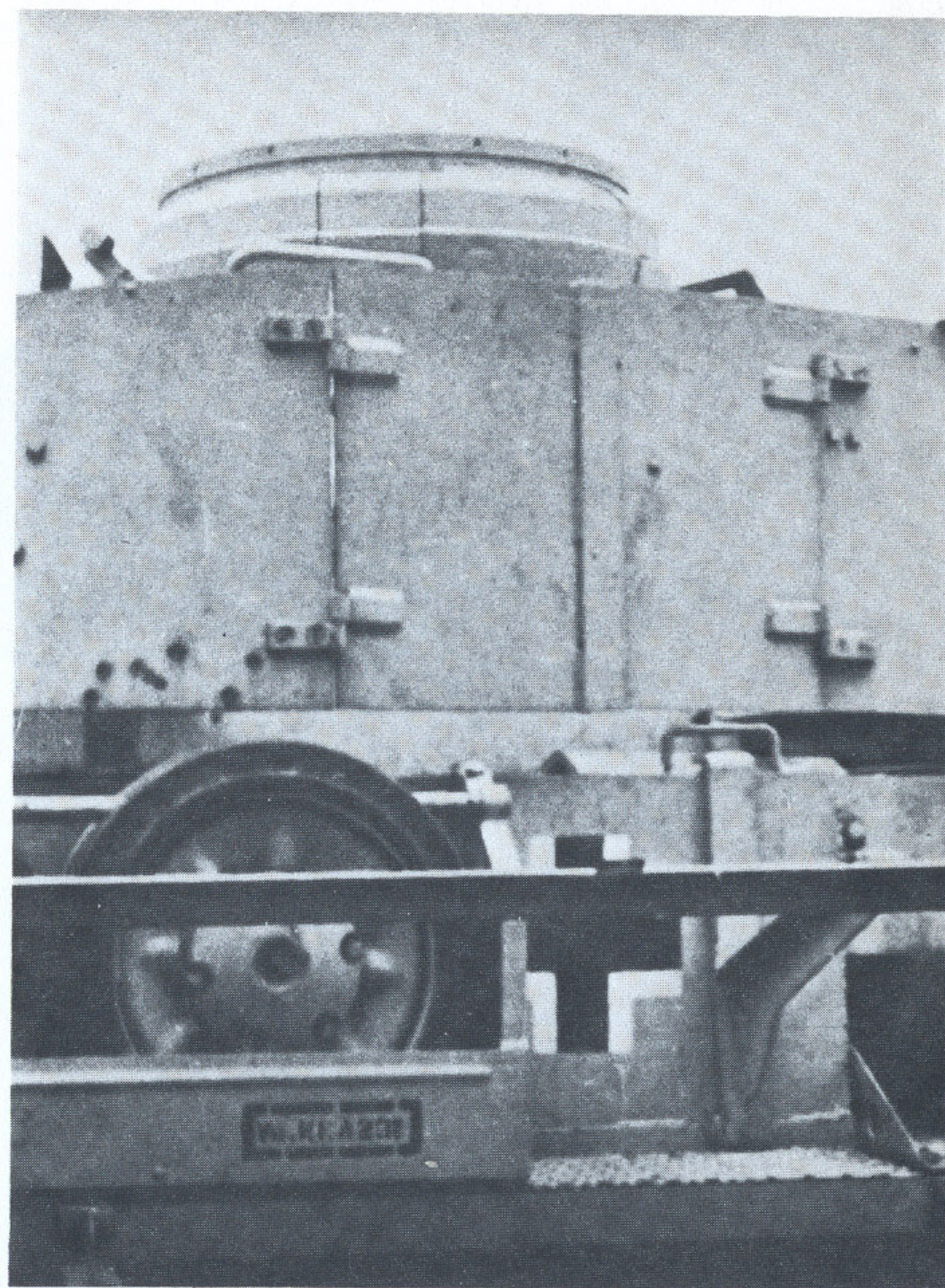
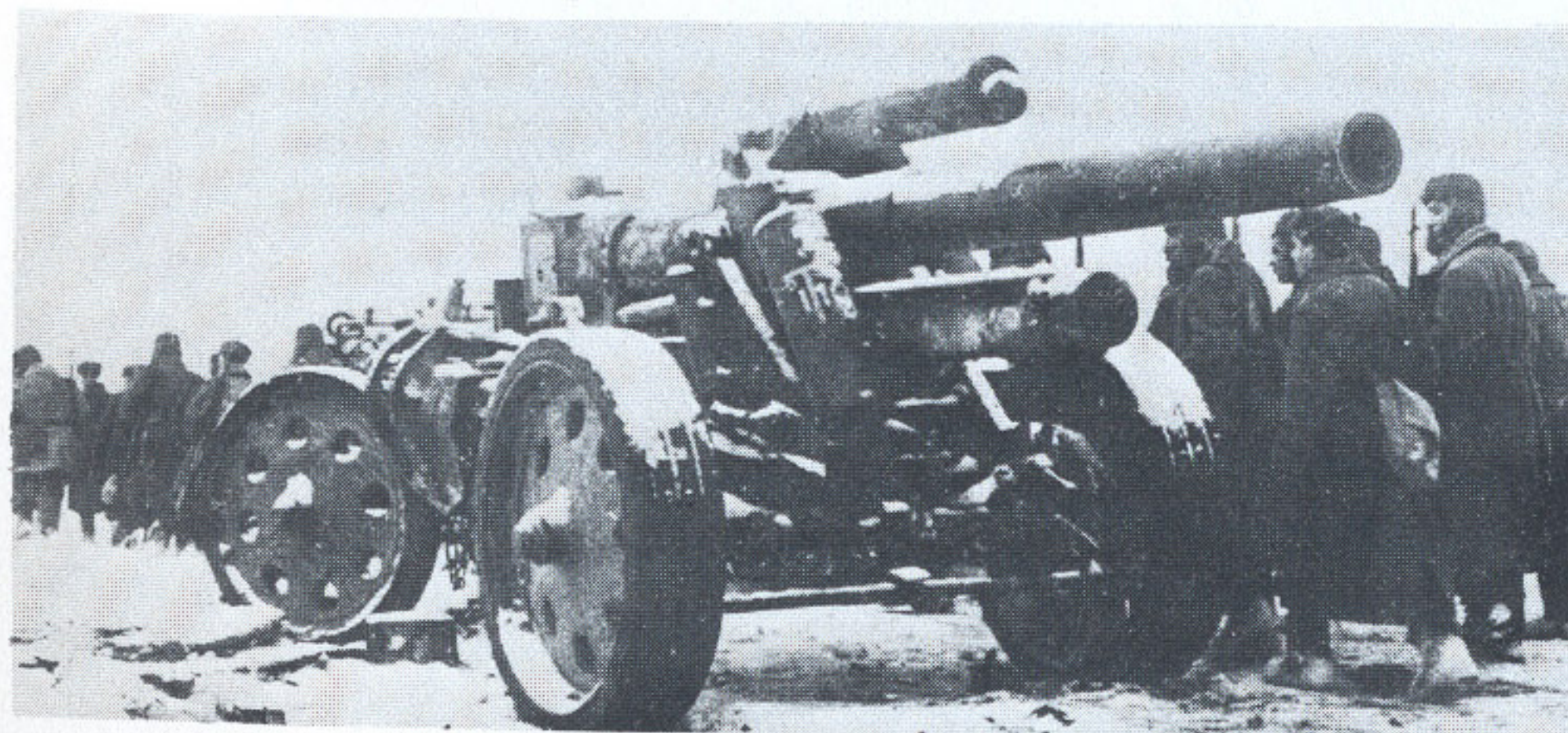


Kfz 70, Horch personnel carrier of the 97th Jäger Division. This car was overall grey and belonged to an artillery unit, signified by the white tactical sign on the wing. The divisional badge was a black feather on a white shield.



A 15 cm NbW 42 auf 2 ton 'Maultier' on display in Russia. This vehicle has a coat of whitewash over its sand base colour, note how the 'F' battery letter – also on the sideplate – was masked off when the whitewash was applied. Just visible below this is the tactical sign for a fully tracked NbW unit. The 'thin' type cross marking is neatly applied and appears to have been painted around with whitewash.

Although very common, this photograph shows how artillery pieces were marked with tactical signs, in this case the sign of a fully motorised towed artillery unit has been painted onto the equilibrator housing of this 15 cm s.F.H. 18.



A close-up of a data panel on the side of a PzKw IV. This version shown was applied by stencil and gives information of the vehicle class for shipping and shows a weight of 23 tons (metric). Shipping data panels are usually more complex than the abbreviated example shown, giving type of vehicle, weight, shipping class and the like. Note the neatly applied cross on this sand finished panzer.



This Panther Ausf G has had an overall coat of zimmerit applied (even its cupola has been coated) which has been cross-hatched free hand. The Tactical numbers, 424, on the turret are black, outlined white, and have been painted over the zimmerit. A cross has been painted well forward – to clear hull side stores – on the sideplate and repeated on the rear plate between the exhaust stacks, of which the left cluster has a pipe missing. This Panther is in good condition, save for the battered right-hand stowage bin – its roadwheel tyres are hardly worn. Note the scratches on the sideplates and their 'attitude' when mounted on the vehicle's side.



This book, the third of a series on military vehicle camouflage and markings covers the vehicles used by the Germans on the Eastern Front.

22nd June 1941, Operation Barbarossa was the codename for the German attack against Russia, a campaign that was to end in dismal failure, after much initial success, for the German Wehrmacht.

The Germans used, alongside their standard equipment, many specially adapted vehicles for use over the varying terrain of Russia, for which different forms of camouflage were devised to blend in with the terrain and the seasons: from spring to the bitterly cold Russian winter with heavy snowfalls, ice and blizzards.

This book shows with colour drawings, photographs and line artwork a broad selection of the colours and markings used on The Eastern Front making it of interest to AFV modellers and enthusiasts equally.

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