

TIGER I & TIGER II

HORST SCHEIBERT

Scheibert

TIGER I & TIGER II

Schiffer Military History



501
Janjusek



Tunis, North Africa, 1943. One of the first Tiger I tanks to see action. (BA)

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PEIPER TIGER

King Tiger II "204" of sPzAbt 501 is shown taking up a new point defense during an artillery barrage on La Gleize, Belgium, on the evening of December 22, 1944. sPzAbt 501 (Heavy Panzer Battalion 501) was attached to *Kampfgruppe Peiper* at this time and was equipped with thirteen Tiger IIs during the Ardennes offensive of late December 1944.

Translated from the German by Dr. Edward Force.

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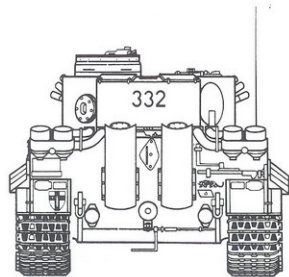
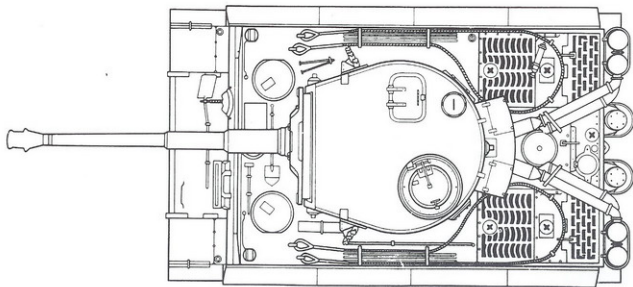
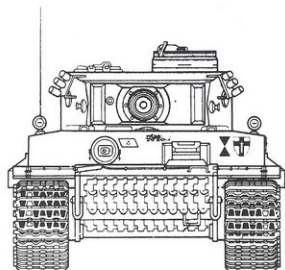
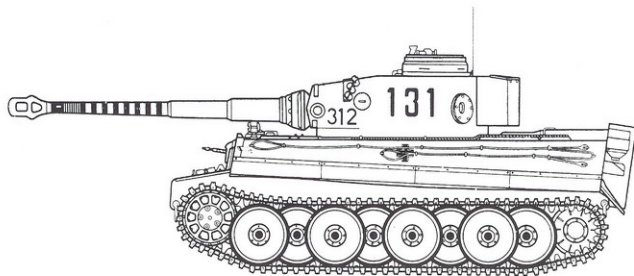
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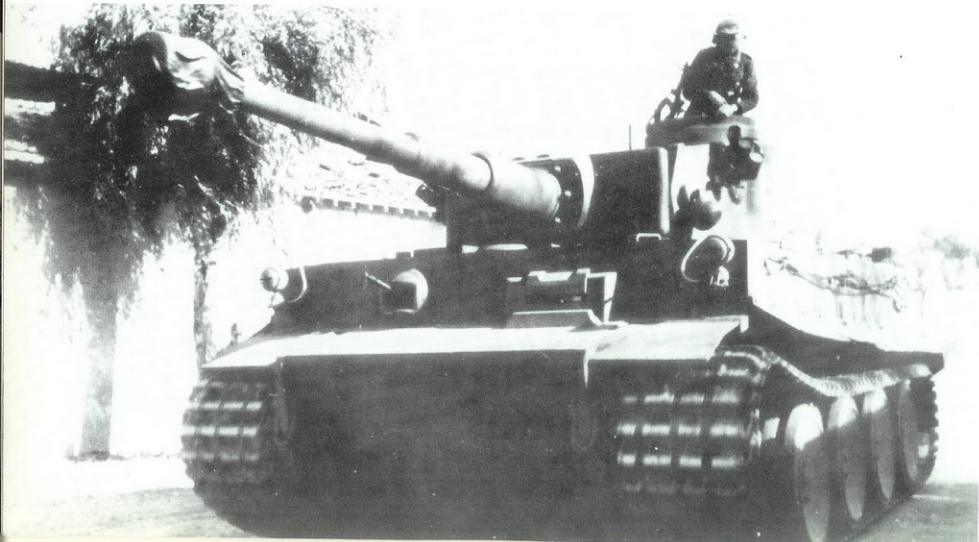
TIGER (I) – Sd. Kfz. 181 – Type E



On instructions from Hitler, both the Henschel firm and Professor Porsche received contracts in the spring of 1941 to develop a battle tank with a fighting weight of about 40 tons and correspondingly heavy weaponry. When German troops became acquainted with the Russian KW I and II and T-34 during the same year, the level of urgency was increased. Thus both prototypes were introduced as early as the spring of 1942, and the technically more

conservative tank built by Henschel turned out to be the better one, while the Porsche prototype, equipped with many technical innovations, failed completely. All the same, Hitler – probably in view of the well-known tank designer’s reputation – allowed both types to be developed further. Thus arose the “Tiger” (later called “Tiger I”) made by Henschel and the “Ferdinand” (later renamed “Elefant”) of Professor Ferdinand Porsche, each armed with

an 8.8 cm tank gun (KwK). Since neither tank had achieved the specified weight – Tiger I, 60 tons; Ferdinand 70 tons – the construction of a new tank of around 40 tons was ordered, and thus the Panzer V, called “Panther”, was born. The Tiger I, shown here, first saw service at the end of August 1942 (Unit 502) near Leningrad, then in December 1942 in Tunisia, North Africa, and January 1943 near Rostov on the Don. Its first large-scale action took place in July 1943

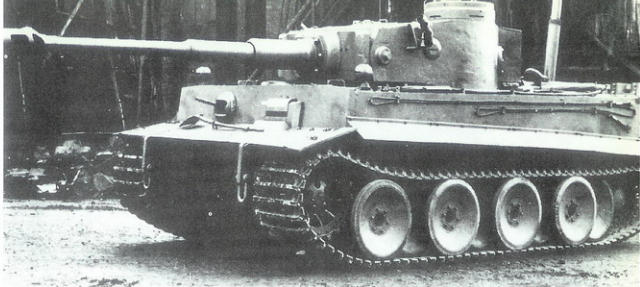


in Operation Citadel, at Kursk, in which 146 Tiger I tanks took part. After that it saw action on all fronts, though always only in small numbers. The Tiger II, on the other hand, saw action almost exclusively in the west.

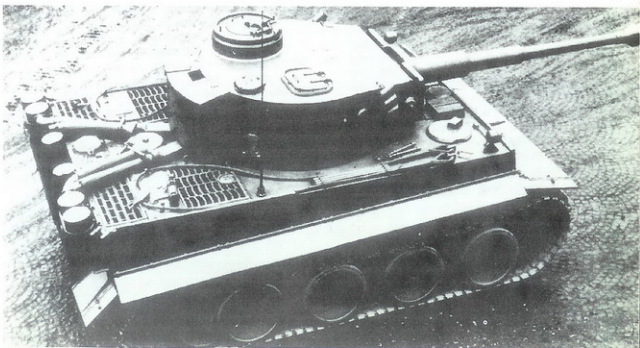
The crews were not always composed of old, experienced tank soldiers. Often they included retrainees from other service arms and young replacements; only once in a while did a man – usually an officer or older NCO – come from the replacement units of the already existing tank regiments, for which the Panther (Panzer V) was reserved. This led to disappointments among the old “Panzerhasen.”

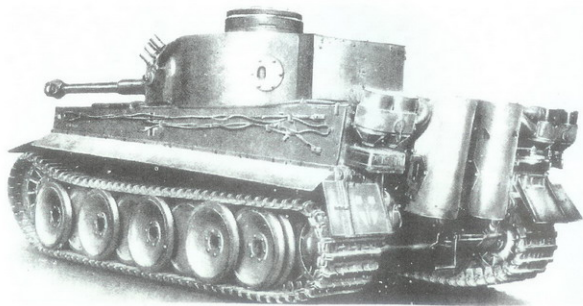
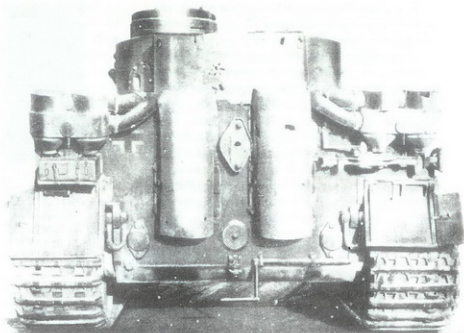
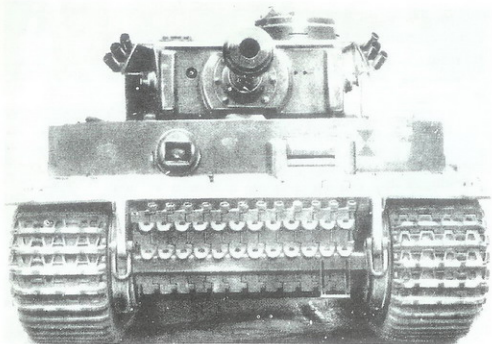
The training center was the barracks of Panzer Regiment 11 in Paderborn, along with the nearby Senne training camp. There is scarcely a member of the Tiger units who did not know that place. The units bore the numbers 501 to 510. They were independent units and were used by the upper leadership at focal points. In addition, the three SS Panzer corps gained Tiger units, and the “Gross-deutschland” Panzer-Grenadier Division acquired a Tiger company, which later was expanded into a unit. Unit 502 was renumbered 511 in 1944, 503 joined the “Feldherrnhalle” Panzer Division, and 509 joined the Führer’s escort division.

In all, 1355 of the Henschel “Tiger (I)” tank were built from 1942 to 1944.



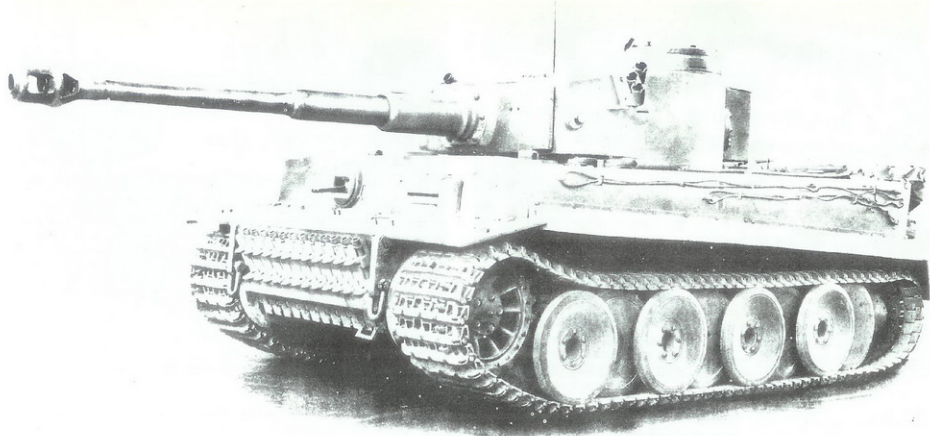
Two Tigers were developed: that of Professor Ferdinand Porsche (above) and that of the Henschel firm (below). In the end, the Henschel Tiger went into production and the fifty available Porsche Tigers were rebuilt into the “Elefant” tank destroyer.





Both pages show the Tiger (named Tiger I when the Tiger II was produced). Unlike the Panther, Tiger II, T-34 and KW I, it did not have a shot-deflecting shape. It trusted in its heavy armor of 110 mm (front) and 60 to 90 mm (sides). But since enemy antitank guns grew more and more effective over time, the later Tiger II took on a more favorable form for shot deflection.

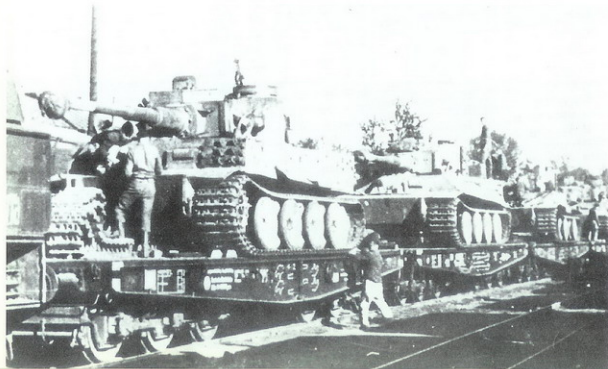
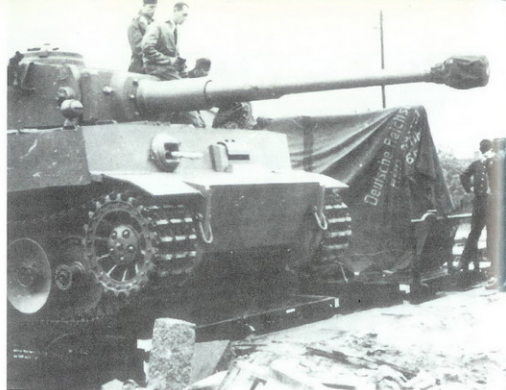
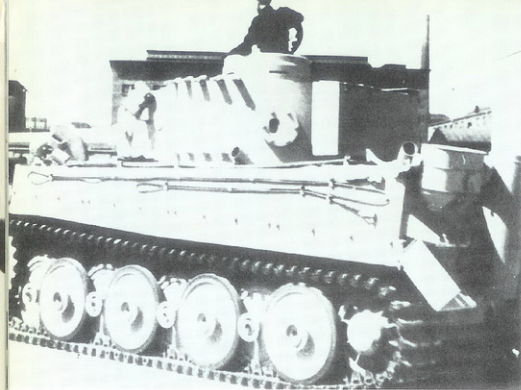
The big exhaust muffler was meant, among other things, to dampen the engine noise. The two small cylinders to the right and left of the exhaust held air filters; they were installed primarily in the Tigers intended for the African campaign.



Along with its heavy armor, it was the 8.8 cm tank gun that gave the Tiger its power. While the armor made it less vulnerable than any other German tank, the good gun allowed it to fire quickly.

The photo at right shows a Tiger in the battle zone between Byelgorod and Kursk (Operation Citadel). Here the first large-scale use of Tigers took place in the summer of 1943. In this photo, the Tiger has a bulge on the right – from the viewer's standpoint –side of the gun mount (to strengthen the optic openings). The first Tigers did not yet have it (see above).





Upper left: A Tiger ready to be loaded. To fit on normal railroad cars, the four outside road wheels were removed and narrower tracks (shipping tracks) were installed. The track cover panels are missing here, probably for the same reason. Only the screws for them can be seen.

Above: A similar situation is seen here as the first tigers are loaded in Fallingbommel for shipment to Tunis in 1942. Note also the two camouflage lights on the upper corners of the hull (later there was only one, in the center of the front).

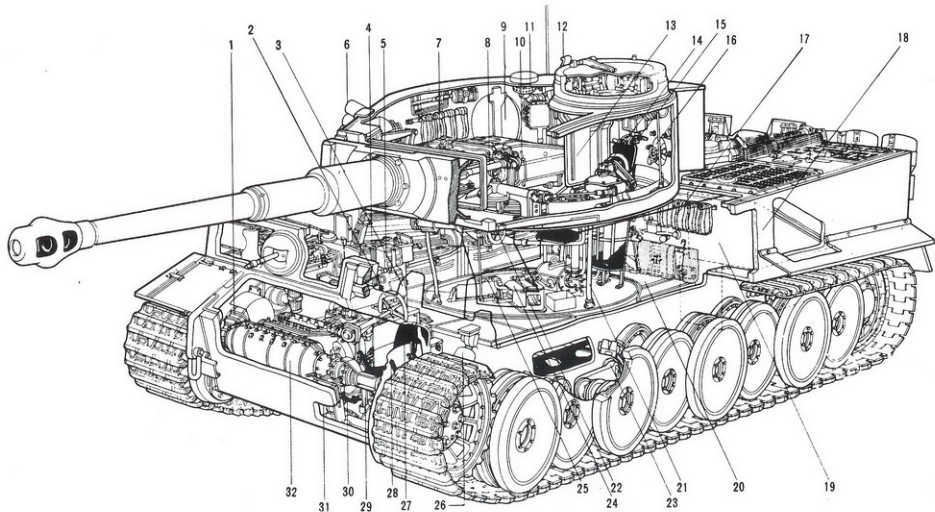
Left: Special railroad cars finally allowed Tigers to be shipped without removing their outer road wheels and being fitted with special tracks. This saved a lot of time and allowed their use sooner after being unloaded.

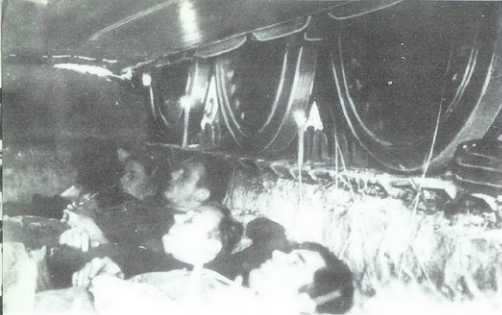
1. Disc brakes
2. Steering wheel
3. Gearbox
4. Radio
5. 86 mm ammunition bins
6. Foglauncher
7. Machine-gun ammunition belts
8. Aiming telescope

9. Exit hatch
10. Turret securing box
11. Ejector blower
12. 50 R range finder
13. Commander's shield
14. Turret turning drive
15. Commander's seat
16. Turning handle

17. Machine-gun ammunition belts
18. Gasoline tanks
19. Gasoline stopcock
20. Ventilation system
21. Gunner's seat
22. Aiming mechanism
23. Torsion-bar suspension
24. Hydraulic foot pedal

25. Fire extinguisher
26. Shock absorber
27. Driver's seat
28. Steering arms
29. Clutch
30. Foot brake
31. Gas pedal
32. Steering housing





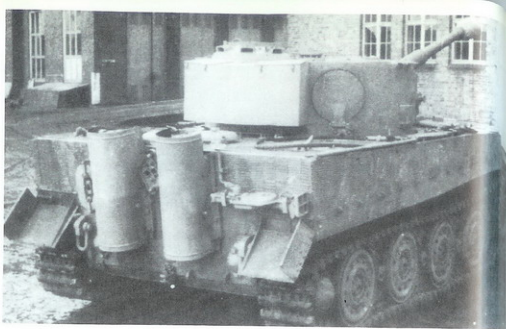
Upper left: A sleeping pit under the parked tank gave the crew good protection.

Above: Members of other service arms also felt safe under it.

Left: Discussions before combat were important factors for the success of the operation. The Tiger in the background has the new commander's cupola – as the open turret hatch shows.

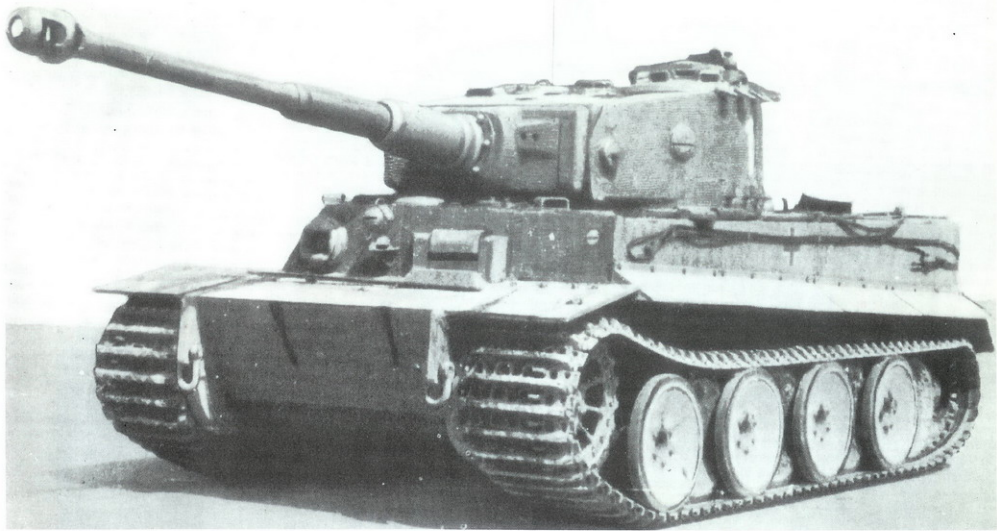


A Tiger of the 5th SS "Wiking" Division. It too has combat tracks. These special cars allowed no traffic in the other direction, as they were wider than normal cars.



Various views of Tigers.

The upper one and that at left have no air filters, but have later-type road wheels. They can be recognized by their large-size hubs and somewhat wavy shape. These tanks have round exhaust deflectors (there were also V-shaped ones with external reinforcing ribs) and the new commander's cupola.



This Tiger shows the later cupola and the later reinforcing bulge around the two optical openings of the cannon mount. In the similar picture on page 7, it is the opposite (early cupola and mount).

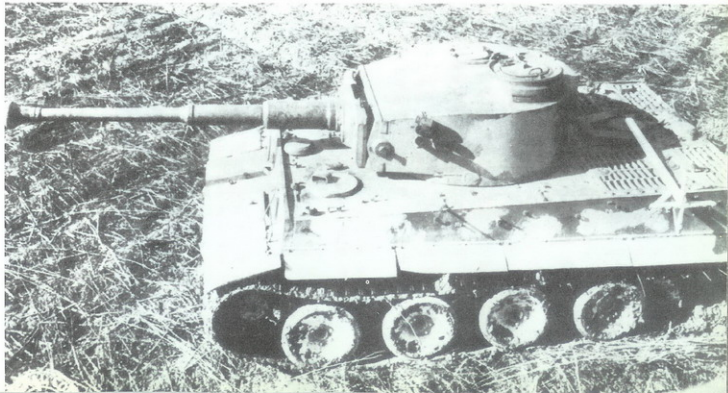


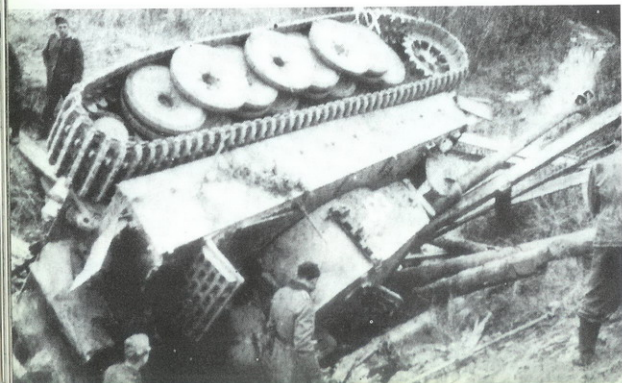
Tigers in off-road training; they are the earlier type. (BA)

This Tiger has a Zimmerit coating only on the hull, multicolored camouflage paint (rare, usually seen only on Tigers that belonged to Waffen-SS divisions), and an additional luggage box along with the standard one. (BA)



This photo shows the loader's lookout next to the commander's cupola. To what extent the white spots were camouflage for the transition from winter to spring cannot be known for sure. The multicolored or spotted camouflage paint did not achieve what had been hoped – one reason why the Bundeswehr went back to one-color camouflage paint.





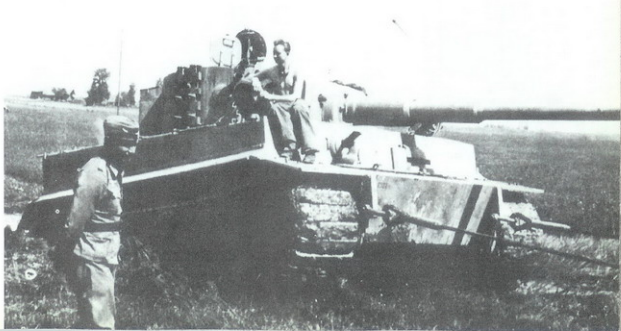
Upper left: Barrel explosion – a rarity. The Tiger lacks its outer forward road wheel.

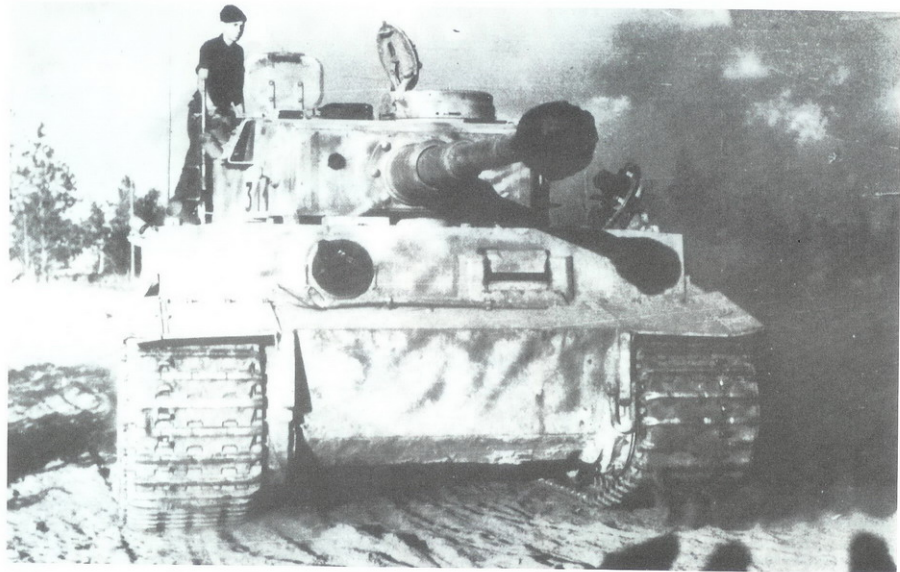
Above and left: The makeshift bridge was not strong enough. Recovering the huge tank was not easy.



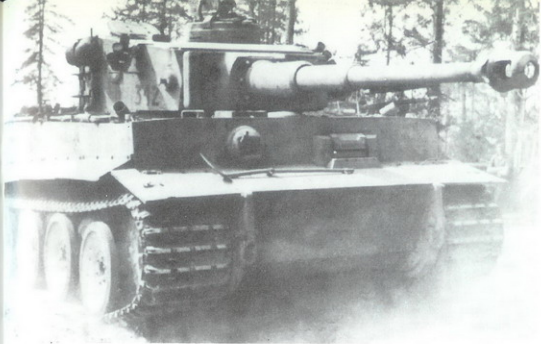
Above: A Tiger of the "Gross-deutschland" Panzer-Grenadier Division after fighting with Russian Stalin tanks in Rumania, April 1944.

Upper and lower right: Its weight and unfamiliarity with the terrain often resulted in such scenes in the watery northern and central sectors of the eastern front.





An older type – recognizable by the raised turret hatch of the cylindrical commander's cupola. It carries launchers on the corners of the hull – they were eliminated later. All weapons are protected from dust. (BA)

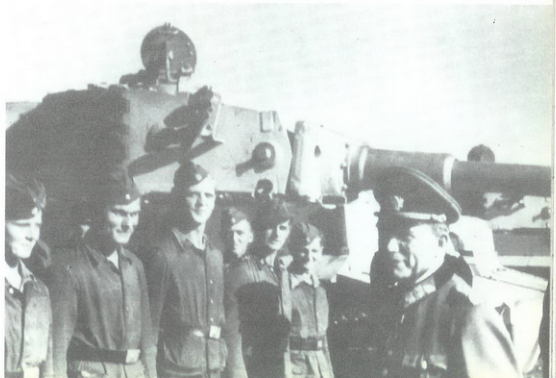


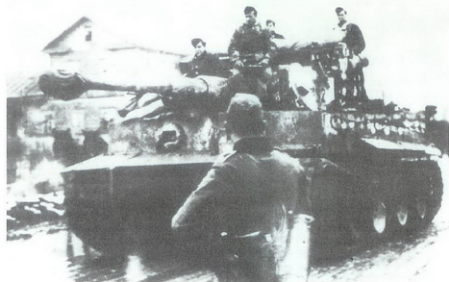
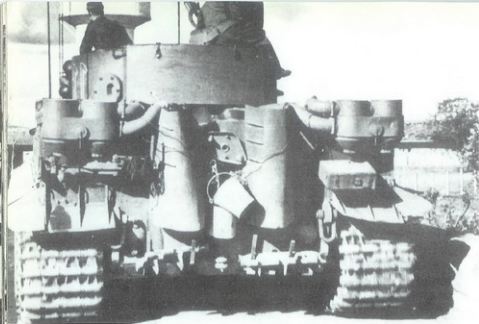
Above: This Tiger is also one of the earlier types. Steel helmets – intended to protect the crew when outside the tank – hang on the outside of the turret. Still there were many head wounds who looked outside. They did this as long as they could, for they saw and heard better (and battle noise is very important to judge the situation). Because of their headphones, though, they could not wear a steel helmet.



Upper right: The name of Tiger suggested this decoration. But it would not have lasted long in this location.

Right: The replacement Tiger unit is inspected by the Inspector General of the Panzer Troops, Generaloberst Guderian, on July 26, 1943.

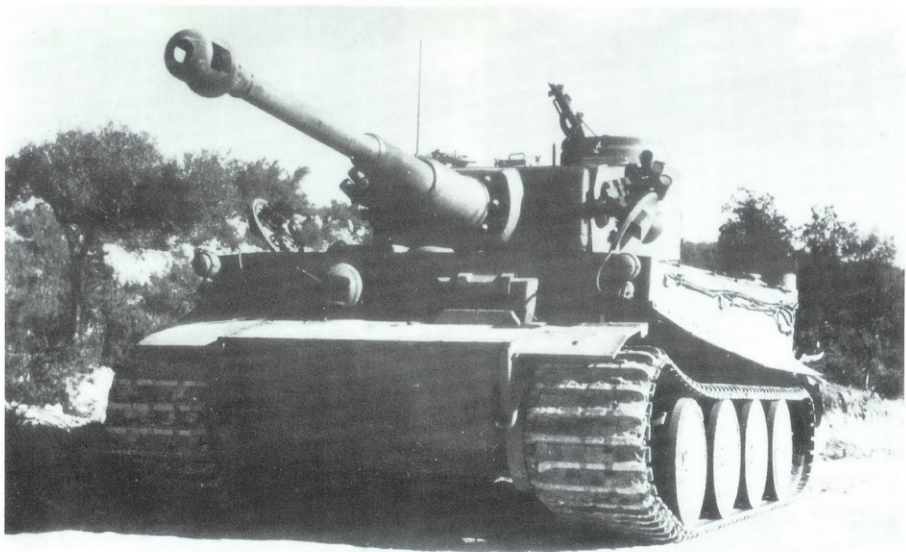




Upper left: One of the first Tigers in Tunis (November 1942). It belonged to the 1st Co., 501st Unit. The curiously formed exhaust cylinders are of note. Since they became hot and burned when made in this shape, a more cylindrical type was used on the later Tiger.

Above: A Tiger, hung with steel helmets, track links and baggage, on the march, with crew outside and weapons under dust protection. (BA)

Left: At a training camp in France before the invasion. The tank gun set at 3:00 shows its difficulties in forest or town combat.



Tunis, late 1942 or early 1943. (BA)



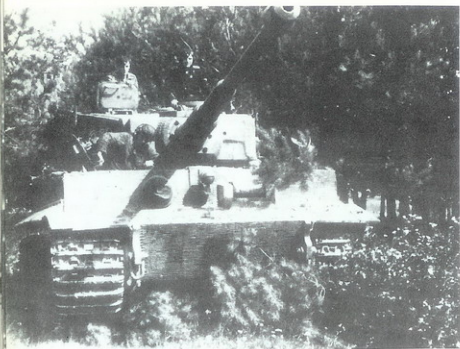
Upper left: The ammunition cases fastened to the rear track aprons of this Tiger in Tunis are of special interest. There was surely no ammunition in them, but rather – as usual in the Panzer troops – food supplies etc. (BA)

Above: Three SS officers stand before a Tiger of the “LAH” 1st SS Panzer Division, Kharkov, summer 1943. This Tiger shows the reinforced optical openings to the right of the tank gun.

Left: A Tiger – with Zimmerit coating – in the winter of 1943-44. Its winter camouflage is a makeshift coat of chalk and water. In the background is a Panzer IV with turret skirts. (BA)



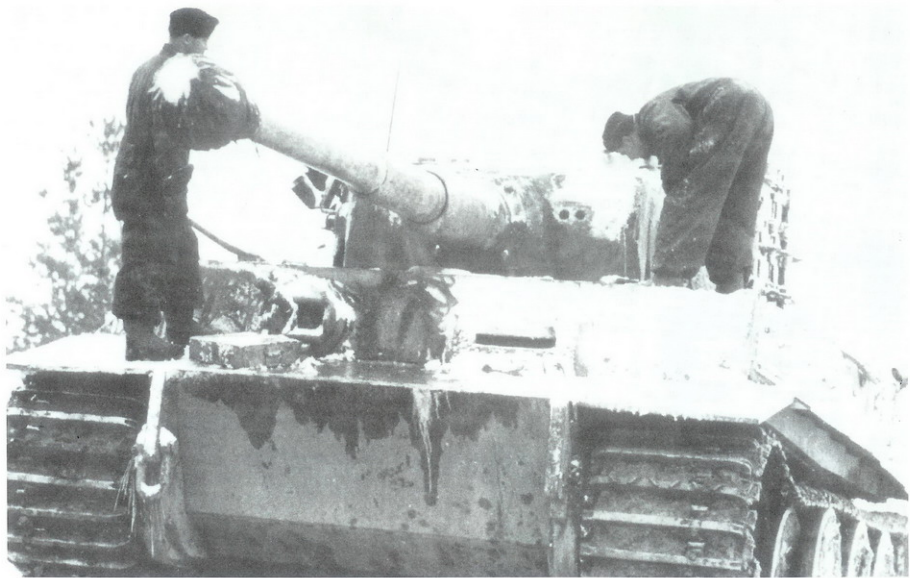
This tiger (newer type with flat commander's cupola) also shows the reinforced optical openings. By the emblem (two keys crossed) on the front, it belongs to the "Leibstandarte Adolf Hitler (LAH)" 1st SS Panzer Division. Unlike the previous Tigers, it has only one camouflage light, mounted centrally – the earlier type had one on each corner of the hull. (BA)



Upper left: A later-type Tiger in Poland in 1944. (BA)

Above and left: Tigers in the area north of Byelgorod during Operation Citadel (July 1943). Taking on fuel above and ammunition at left (note the "M" on the cover of the truck in the background), or waiting for a tow, since the towing cables are already in place. Note that, instead of the usual flat box on the rear of its turret, it has a "Rommel crate", otherwise used only on Panzer III and IV. The round panel attached below the drinking soldier was not used on later Tigers. (BA)

Tom Clavin



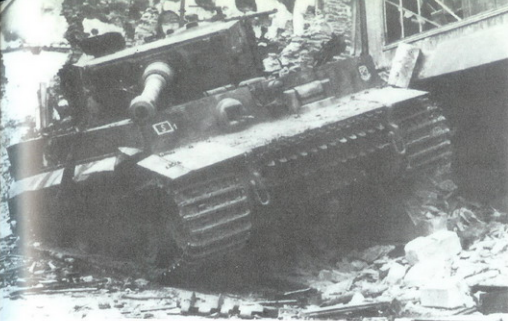
A Tiger with winter camouflage and spare track links on the turret (rare). The rear launcher is visible on top of the hull, but the front one seems to have been lost. (BA)



A well-camouflaged Tiger. Its tracks were 72.5 cm wide. By the launchers on the hull, the lack of reinforcement by the optics, and the commander's cupola, this is an earlier Tiger. (BA)



The Tigers shown on this and the next page (below) appear, by the type of cross and numbers, to belong to the same unit. The round armor plates placed on both sides of the turret (between the steel helmet and the launcher here) protected the viewing slit for the gunner and loader. (BA)



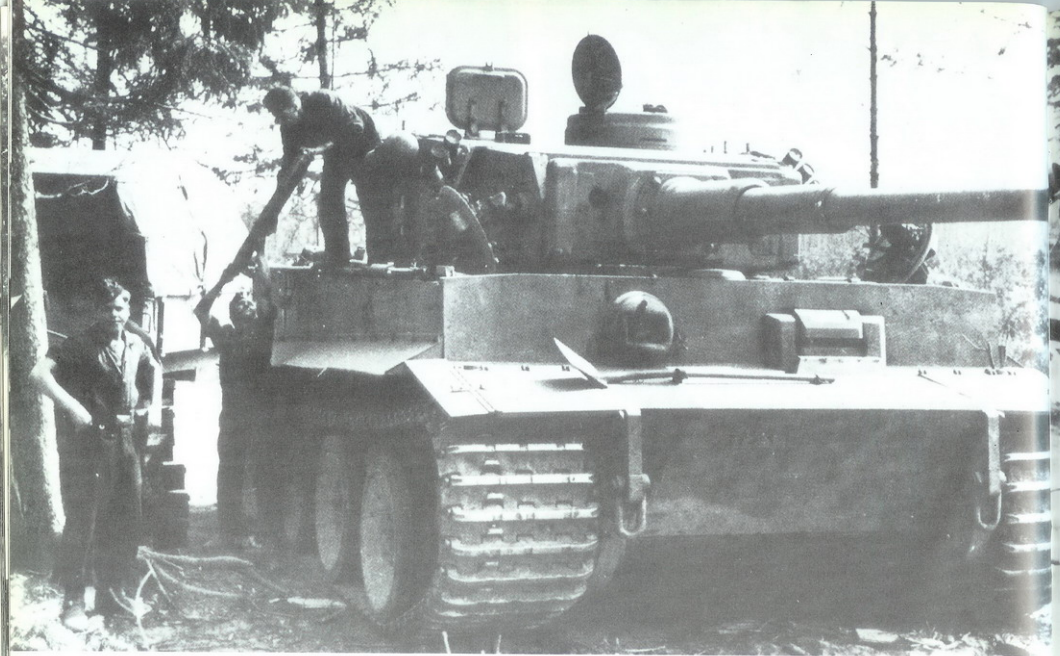
Above: A Tiger of the 1st Co., Heavy SS Panzer Unit 101, destroyed by bombs at Villers-Bocage on the Normandy front. It is the later type with the rounded commander's cupola.



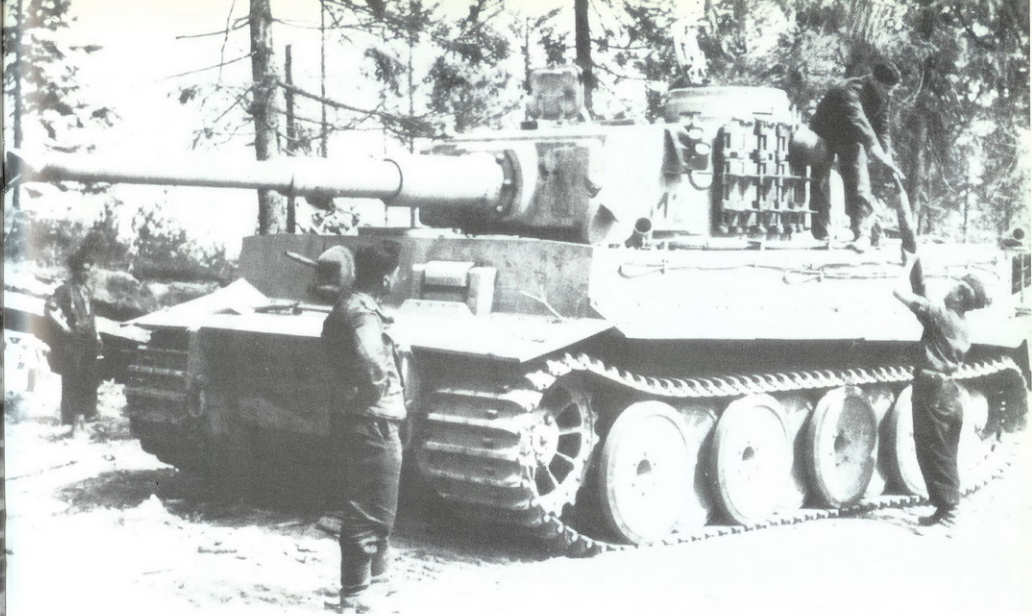
Upper right: This Tiger of Heavy Panzer Unit 503 fell victim to a bomb near Caen. The picture gives an impression of the strength of the bombs that were dropped there.

Right: A photo from Poland in 1944 – an early-type Tiger. It also has launchers on the rear corners of the hull. (BA)





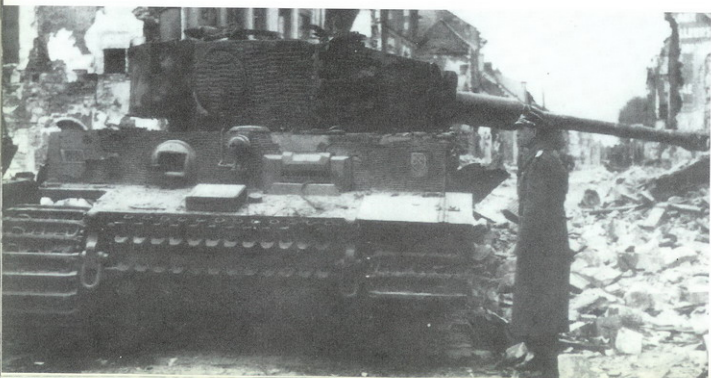
The photos on both pages show the same Tiger being supplied with ammunition on the eastern front in 1944. (BA)



It is an early-type Tiger – here with all four launchers at the corners of the hull. (BA)



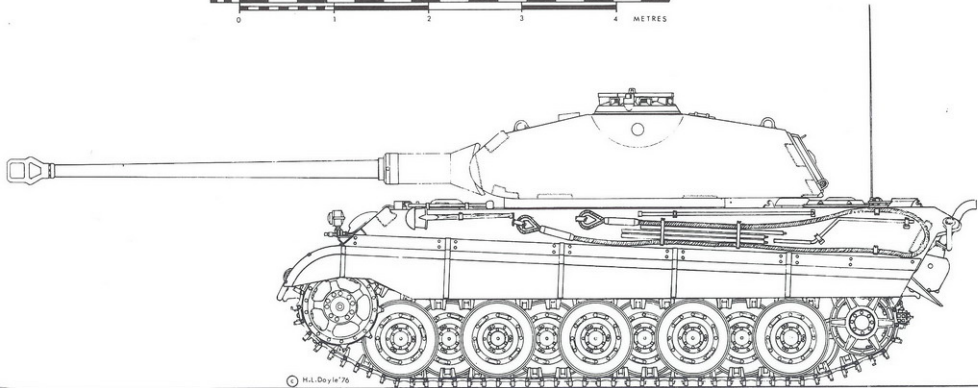
A Tiger with the new-type commander's cupola – the cover has been opened and can be seen at right by the ring for the anti-aircraft machine gun. Many Tigers – including this one – had towing cables hooked on during combat. (BA)



Destroyed by bombs on the invasion front. The side exit hatch (the very first Tigers had none) at the rear of the right side of the turret can be seen clearly despite the Zimmerit coating. It was also used for loading ammunition.

PANZERKAMPFWAGEN VI – TIGER II

Sd. Kfz. 182
“King Tiger”



© H.L. Doyle '76

In the spring of 1943, after the Panzer VI (Tiger I) saw its first action, and after the "Panther" was ready for production and a "Panther II" had been planned, the Weapons Office, to simplify production and spare-parts supply, called for a thoroughgoing use of standardized components. Since the first combat experience of the Tiger I had encouraged the use of a more shot-deflecting shape, a new Tiger type, the Tiger II, also called "King Tiger" (first by the Allies, then by the Germans). It was put into production by Henschel at the beginning of 1944. The installation of a longer 8.8 cm KwK (L/71 instead of L/56 as in the Tiger I) demanded different running gear. All of this, along with somewhat thicker armor, resulted in a weight increase of 11 tons compared to the Tiger I.

With its weight of around 70 tons, not only was the vehicle underpowered (unfavorable power-to-weight ratio), but its practicality had been exceeded. There were only a few bridges that could handle it, and special railroad cars and tracks for use in transporting it had to be built.

Its main external difference from the Tiger I was its better-looking turret. There were two versions of it. The first fifty used the so-called Porsche turret, originally intended for the Porsche Tiger. As of the 51st tank, the King Tiger was fitted with a new turret (called the production turret) built by the Krupp firm. This turret stood out for its thicker frontal armor and smaller frontal surface. In addition, it allowed a total of 84 shells, six more than before, to be carried. It can also be told from the Porsche turret because it has no bulge for the commander's cupola on the left side of the turret.

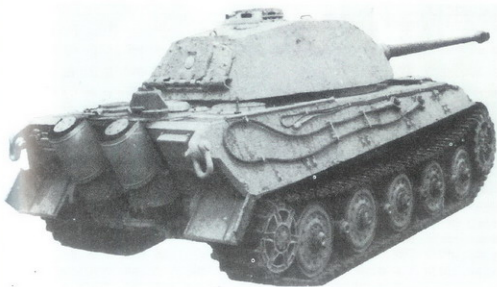
There were also command vehicles based on the "King Tiger", but they differed only in having more radio equipment at the cost of the already noted quantity of ammunition. They can be recognized by an additional umbrella antenna. In addition, a "Jagdtiger" based on the Tiger (without a rotating turret and sometimes armed with a 12.8 cm antitank gun) was built.

The "King Tiger" has a legendary fame – somewhat undeservedly, because of the reasons already noted as well as the overly long, "unhandy" tank gun, which gave its shells a greater penetrating power but caused greater wear, and

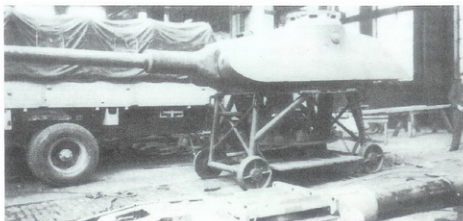
which fired less accurately than the L/56 on account of its instability. It also had to be adjusted very often. The inner space of the Tiger II was very cramped, more so than that of the Tiger I and Panzer V. But it is beyond doubt that the "King Tiger", despite all its teething troubles that quick developments always show, and even more so the "Jagdtiger" developed from it, were superior to all the world's other tanks at the time. Its main disadvantages were its too-great weight and its lack of power, but even more so, its too-small numbers.



Above and next page: The Panzer VI, Type B – Tiger II (Sd. Kfz. 182) with the Porsche turret, seen from all sides. The first fifty were fitted with this turret. The completely new shape of this tank as opposed to the Type E (Tiger I) is easy to see. It resembles the Panther. The Porsche turret differed from the later production turret in its slim shape and the bulge on the side for the commander's cupola. As can be seen in the pictures on the next page, there were – as on the Panther – various exhaust systems.

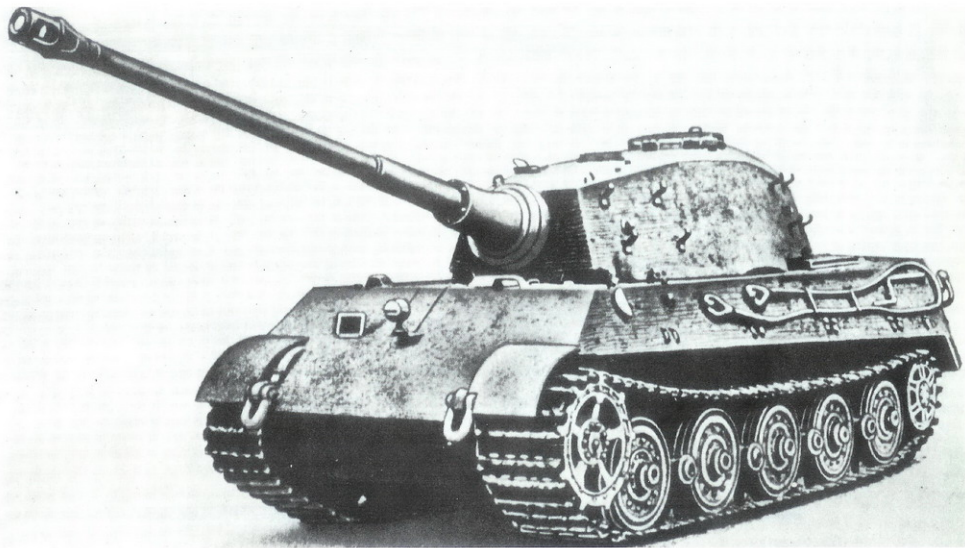


Unlike the Tiger I, the Tiger II had five outer road wheels instead of four.

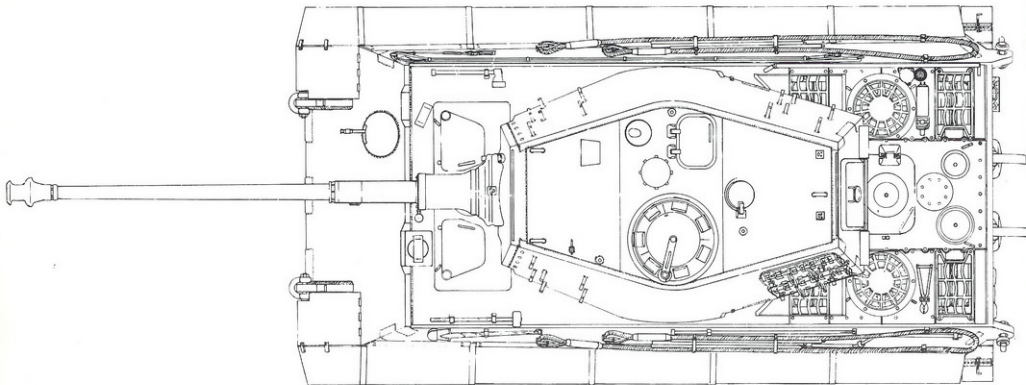




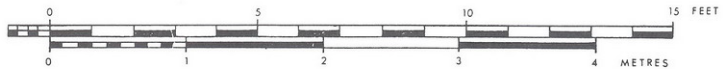
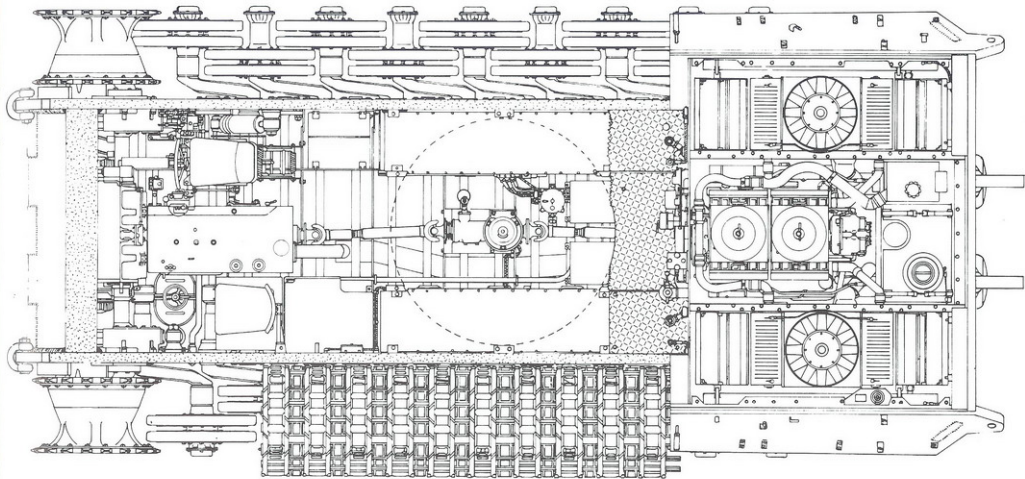
TIGER II (King Tiger) with Production Turret



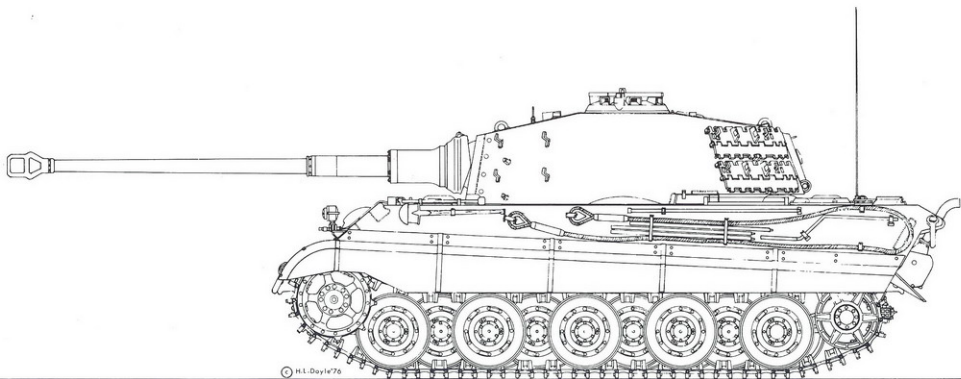
The somewhat more rugged appearance, with a round gun mount, typifies the production turret made by Krupp.



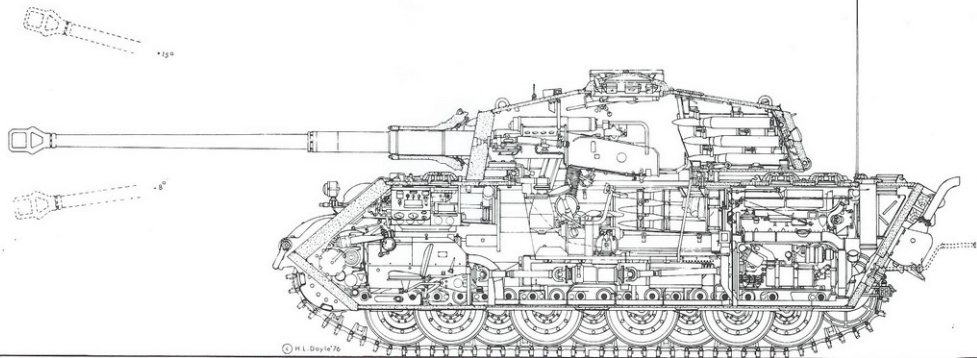
Two drawings of the King Tiger: Above is a top view, and on the next page an interesting look from above into the hull after removal of the turret and upper hull armor.



These two pages also show drawings of the King Tiger. The turret, projecting backward unlike other German tanks of the time, can be seen below. It has become customary in almost all present-day tanks.



© H.I. Dayle '76



This very interesting longitudinal drawing shows the heavy armor on the bow and front of the turret very clearly. Note also the storage places for the 8.8 cm ammunition.



Above: The Tiger II on display at the U.S. Army Ordnance Museum in Aberdeen, Maryland.

Left: A good photo, showing the massive machine-gun mount, the small camouflage light (here only one in the center of the vehicle) with cable attachment from outside and parts of the gun cradle. The driver looks out; in front of him is the visor of his Kinon lookout for use in battle. For driving as shown here, he could raise the driver's seat.



Above: A Tiger II command tank, recognizable by the umbrella antenna.

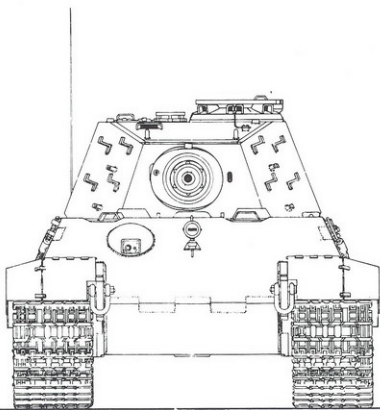
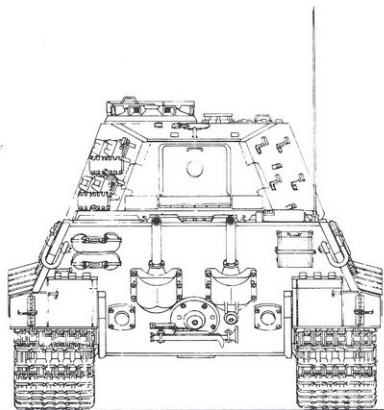


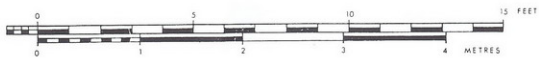
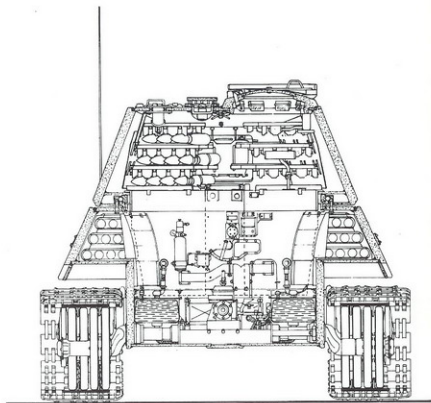
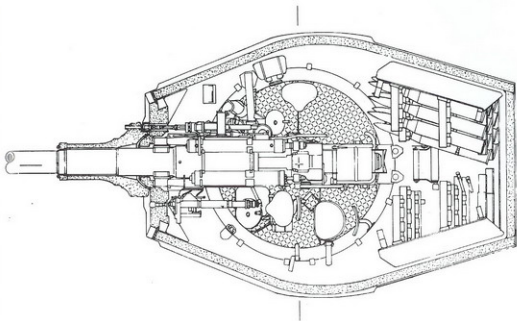
Upper right: A King Tiger of Heavy Panzer Unit 503, seen in Budapest, October 1944. The attachment for the anti-aircraft machine gun on the ring of the commander's cupola can be seen.

Right: This is how the end could look for a Tiger II and its crew.



HD







... and so they stood around for a long time – mostly in western Germany – until they were taken to collection points and finally scrapped. Note the shell leaning on the turret.

Technical Data

Tiger I

Engine	Maybach
Type	HL 210 P 45
Cylinders	V-12 60-degree
Bore	125 mm
Stroke	145 mm
Displacement	21,353 cc
Compression	7 : 1
Engine speed	2500/3000
Horsepower	700 HP
Power-to-weight	12.7 HP/ton
Main bearings	7+1 roller
Carburetors	4 Solex 52 JFF II D
Firing order	12-1-8-5-10-3-7-6-11-2-9-4
Starter	Bosch BPD 6/24 ARS 150
Generator	Bosch GULN 1000/12-1000
Batteries	2 12 volt, 150 Ah
Fuel pumps	2 mechanical
Cooling	Water
Clutch	Multidisc wet
Gearbox	Maybach OLVAR "401 216"
Speeds	8 forward, 4 reverse
Axle drive	Front tooth wheel
Axle ratio	10.75 : 1
Steering	Henschel L 600 C
Brakes	Südd. Arguswerke
Brake type	Mechanical disc
Foot brake affects	Steering system
Hand brake affects	Steering system
Lubrication	High pressure
Wheel type	Steel disc
Wheel size	800 x 95 E
Suspension	1 torsion bar per wheel pair
Track size	2822 mm, transport 2620 mm
Track width	725 mm, transport 520 mm
Track length	3605 mm
Ground pressure	1.08 kg/sq. cm normal 1.442 kg/sq. cm transport
Length	6.21 meters
Length with gun	8.24 meters
Width	3.70 meters

Height	2.88 meters
Chassis weight	44,550 kg
Total weight	56,900 kg
Load limit	1500 kg
Fuel consumption	Road 535, off-road 935 liters/ hour
Fuel capacity	534 liters in 4 tanks
Top speed	38 kph
Range	Road 100 km, off-road 60 km
Turning circle	7 meters
Ground clearance	470 mm
Climbing ability	79 cm height
Wading ability	120 cm height
Spanning ability	180 cm width
Armament	1 8.8/L 56 tank gun, 2 7.92 mm MG
Ammunition	92 shells, 4500 MG rounds
Crew	5 men

Tiger II (King Tiger)

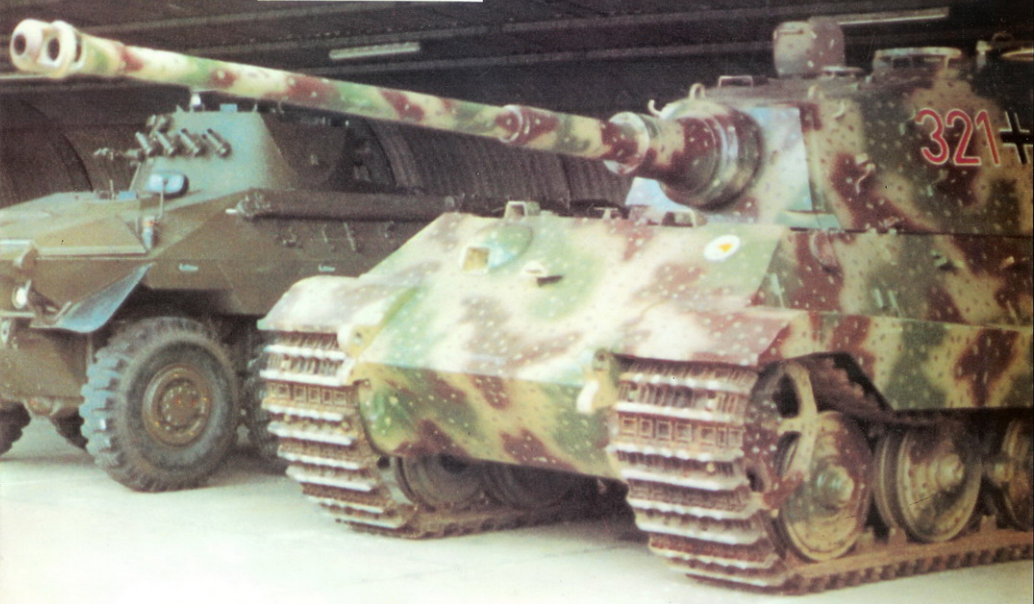
Engine	Maybach HL 230 P 45
Type	Carburetor (as of #251)
Cylinders	V-12 60-degree
Bore X stroke	130 x 145 mm
Displacement	23,880 cc
Maximum power	700 HP at 3000 rpm
Sustained power	600 HP at 2500 rpm
Compression	6.8 : 1
Carburetors	4 Solex 52 JFF II D double downdraft off-road
Valves	Dropped, 1 camshaft per cylinder head, driven by spur gears
Main bearings	8, removable liners
Cooling	water pump
Batteries	2 12 volt, 150 Ah
Generator	1000 watt
Starter	6 HP
Transmission	Rear engine, drive to track drive wheels, semi-automatic pre-selector gearbox

Gearbox	Maybach Olvar 40 12 16
Speeds	8 forward, 4 reverse
Axle ratio	10.7, side shafts
Structure	Self-bearing hull, armored body with rotating turret, driven by vehicle engine
Tracks	2 of 96 links each (130 mm), front drive rear guide wheel, 9 large staggered dual road wheels
Suspension	2 torsion bars per dual road wheel
Steering	Hydraulic by two-wheel link drive from steering wheel
Brakes	Argus hydraulic disc
General data:	
Track length	4130 mm
Track of vehicle	2790 mm, 2610 mm with transport tracks
Track width	800 mm, transport 600 mm
Dimensions	7260 x 3625 x 3090 mm, with gun and aprons 10286 x 3755 x 3090 mm, total width when transported 3270 mm
Armor plate	Front 100-185 mm, sides & rear 80 mm
Ground clearance	485 mm
Wading ability	1600 mm
Turning circle	5 meters
Gross weight	68,000 kg
Top speed	40 kph
Fuel consumption	Road 680, off-road 1000 liters/100 km
Fuel capacity	860 liters in 7 tanks
Range	Road 120, off-road 80 km
Crew	5 men
Armament	8.8 cm KwK 43 L/71 + 2 MG



King Tigers with production turrets, of Heavy Panzer Unit 503, at the Senne training camp in 1944, for the weekly newsreels.

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Tiger II (King Tiger) with production turret, in the instructional collection of Combat Troop School 2 in Munster. Since 1982 it has had this three-color camouflage paint, that of the last Tiger II tanks in the war.