GEAR KRIEG

WARGAMING COMPANION

DREAM POD 9 TEAM

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DIG 'EM AND DIE IN 'EM

Hauptman Heinrich Luckner ducked as a slug from a Russian sniper's bullet whined off the brick wall behind his head. He snarled a curse at the war, the Bolsheviks, and the rain that was driving down in sheets, sluicing cold water down the back of his neck.

"Hurry up with those damn things, Feldwebel!" Heinrich barked. "Do you want to bring the damned Ivans down on us?"

Feldwebel Johann Schmidt cursed the war, the Bolsheviks, his damned slave driver of a Hauptman, the rain and the damned equipment he and his men were hauling over the broken brickwork of what was once the Russian city of Sevastopol in the Crimean peninsula. Twelve men struggled to manhandle the three tarp-covered handcarts towards the tunnel entrance up ahead. The rest of the platoon floundered through the morass of broken brick and mud, some guarding the perimeter, others hauling the rest of the engineering equipment on their backs.

Nothing much has changed since the time of the Roman legionnaire, mused Hauptman Luckner. Soldiers today would still appreciate the old joke that named the legionnaires "Marius' Mules" for the loads they had to carry.

Operation Barbarrossa was now six months old. The November rains were turning the miserable excuses for Russian roads into a sea of mud. And soon, the tempera-

ture would drop, and it would start to snow. Sevastopol had been under siege since early October; the German army had flattened the city in the ensuing month of fighting, but the Russian defenders, inspired by the radio broadcasts of the Great Stalin, fought on. Living in misery in the network of underground tunnels and bunkers, they crept up by ones and twos to snipe at German troops and to blow up supply dumps whenever they found them.

Another shot rang out. One of the men cried out in pain and fell clutching his knee. All around, Luckners' Assault Pioneers dropped to the ground.

"Radio!' he barked. His radioman crawled towards him, the bulky radio set giving him the appearance of a hunchback. After a few seconds of work, the private handed Luckner the headset and microphone.

"This is Gertrude calling Tin Woodsman ...come in, Tin Woodsman. Over."

A moment or two later the crackle of static was replaced by a distant voice.

"Jawhol... Tin Woodsman here, Gertrude... over."

"Where the hell are you? I've got a 'Wolf' problem here! Over."

Another bullet cracked overhead.

"If the damn Ivans put a bullet into the cargo, we're all dead! Hurry up for God's sakes! Over."

"Understood Gertrude...don't fret on our account. We are inbound on your location now. We had a bit of trouble with the roads ourselves. Over."

Luckner peered cautiously up over the sheltering rubble. Looming out of the driving rain the lumbering forms of two Valkuries could be seen. Luckner smiled; that was more like it.

"Tin Woodsman... have you in sight. Gertrude located in shell holes thirty meters to your front, at your two o'clock.'

"Acknowledged and understood, Gertrude. Tin Woodsman commencing sweep now. Over."

Luckner heard the roar of the rotary engines as the Valkuries poured on the power. He looked out again. Suddenly there was a flash to his left, followed by the report of a shot. A spark leapt from the glacis of Tin Woodsman One.

"Tin Woodsman... Tin Woodsman! Sniper at 10 meters to your front, at your one o'clock! Over."

The second Valkurie bulled forward over the rubble towards the hidden Russian as the first opened fire with its machine gun.

"Danke Gertrude...this Ivan's goose is cooked. Over."

Flames belched from the nozzle of the flame-thrower on the second Valkurie. Luckner closed his eyes in relief as he heard the Russian snipers' screams.

"Alright Feldwebel... move out. We're almost 10 minutes behind schedule."

*　　　*　　　*

Sergeant Kolya Yakushev kicked out at the rather bold rat that had been investigating his left boot. The rat ambled away with a marked lack of fear.

Knows I'm too bloody tired to do anything more to him. Kolya mentally snorted. *We are all too worn out fighting the Fascists to worry about the rats.*

Kolya and his fellows in the engineering battalion had spent the last year working in and around Sevastopol. They'd tunneled in the earth like moles, constructing a huge underground network of tunnels and bunkers. At the time, everyone had complained about the

reasons for the work. Why? Didn't the Great Stalin have a treaty with the Fascists? But he had been right not to trust the Germans. And now Kolya's battalion, having dug these holes, had to die defending them from the invading armies of the Fascists.

The fighting over the last month had been hellish. At such close quarters pistols, submachine guns and grenades ruled the day. Of course, knives, bayonets and fists had their uses too. Yevtushenko, the biggest man in Kolya's platoon, swore by the entrenching tool that he kept razor sharp.

All of Kolya's men were pale-faced, begrimed and exhausted. Food was almost gone. Soon the lazy, fat rats would be scurrying for their lives.

Kolya felt a tap on his leg. Young Igor Shugin, eyes huge in his haggard childman's face, had nudged him.

Stumbling out of the gloom was a broad-shouldered bull of a man with the apple-green shoulder flashes of Comrade Beria's NKVD. Kolya rose to his feet and wearily saluted. "Comrade Commissar."

Alexiev was a hard-faced man. When he looked at you, it didn't take much imagination to imagine him staring over the sights of the Tokarev automatic he wore at his waist. Last week, he had shot Kolya's lieutenant and assumed command himself. For "defeatist attitudes in the face of Fascist aggression." Defeatist. As if any of them were going to get out of this hellhole alive, never mind beat the Germans.

"Comrade Sergeant." Alexiev's voice was as harsh as his demeanor. "I want you to take out a patrol. The Fascists have been too quiet for the last three hours. I want to know what they are up to."

Alexiev let his façade crack for a moment, showing Kolya his concern. "And

Comrades Ivanova and Roshenko have not yet returned from their stalk. They are overdue, and I fear the worst."

That was bad. Ivanova and Roshenko were the best snipers they had left. If the Fascists had gotten them...

Alexiev nodded. "Go and sneak about or an hour or so... then report in and we'll see."

Grumbling, Kolya's squad gathered up their weapons and staggered off down the tunnel into the darkness.

*　　　*　　　*

Hauptman Luckner looked at his watch for the fifth time in the last few moments. Only two more minutes to go.

"Seems a damn dirty way to die... even for Ivans." Schmidt muttered. Luckner fixed his sergeant with an icy cold stare.

"A German soldier does not question orders, Schmidt. He carries them out. Now pass the word for gas masks to the men, and have the control teams ready for launch."

Schmidt nodded in acknowledgement. The men rapidly stripped off their caps and helmets, pulling on their gas masks.

Luckner let his eyes move to the objects of the exercise. Three two-meter long ovoid insectile forms crouched low on their six-legged chassis. The backs of the machines bulged obscenely.

Luckner's smile was humorless. For the second time in the war, his pioneers would be sending the "Cockroaches" off to war. Last time, they planted shaped charges on the Maginot line forts. This time, they would carry their deadly cargo of chlorine gas deep into the Russians' tunnels.

Luckner checked his watch again. 1300 hours. It was time to go. "Feldwebel Schmidt. You may launch when ready."

With a clatter, the three "Cockroaches" skittered off down their separate tunnels. The control teams hunched over the tiny screens as they piloted their "bugs" over and around obstacles. The glow of the little televisor screens lit their gas-masked faces eerily. *Like men from space,* Luckner thought, *or demons.*

The wire drums clattered as the thin control cables played out behind the machines. Luckner nodded his satisfaction to Feldwebel Schmidt. "Shouldn't be long now."

*   *   *

"Hsst! Sergeant. I think I heard something." It was young Igor Shugin, out on point. He waved everyone into silence.

Kolya stained to hear anything... what was that sound? The clatter of a rock? Kicked by a careless German's boot?

A few minutes later they froze again. Two pinpoints of light, low to the ground, could be seen moving up the tunnel towards them. A low growling hum carried down the tunnel. Igor's eyes widened impossibly large.

"Sergeant! What in the name of the Devil's Grandmother is that thing?"

Kolya played his torch over the oncoming whatever it was. "It's... some kind of metal bug?"

*   *   *

The lead operator of team two looked up at Hauptman Luckner.

"Sir! Unit one has contacted enemy!"

Luckner nodded. "Very good. Release the gas."

As the young Assault Pioneer flipped the switch, Kolya Yakushev's flashlight shimmered in the billowing yellow clouds of chlorine gas.
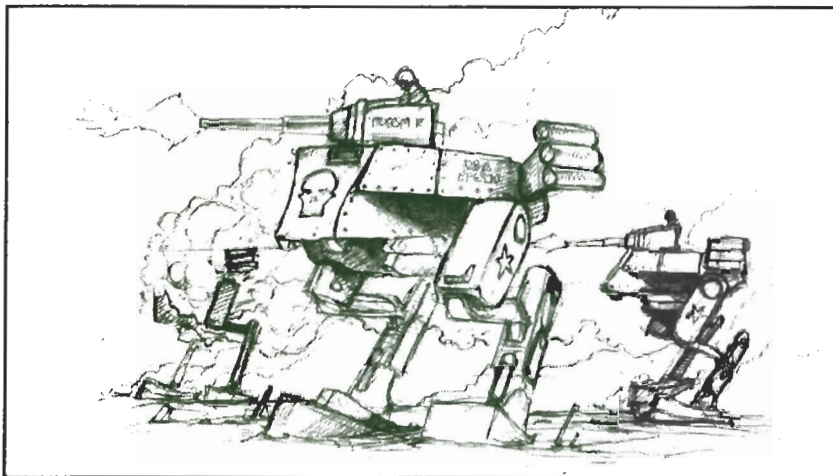
BOOK OVERVIEW

The purpose of the **Gear Krieg Wargaming Companion** is to expand and clarify not only rules, but the setting of **Gear Krieg** as well. This supplement contains advanced rules, new equipment, weaponry and vehicles. The **Companion** is divided into five main chapters, each focusing on certain aspects of the miniature game. When additional clarification is deemed necessary, sidebars provide examples of rules or provide additional background information.

The rest of this first chapter covers the different types and techniques used for warfare. Some are new or are just being proven for the first time, while others were old and outdated before World War II began. This chapter also provides some background on combat engineering and related equipment.

The second chapter introduces the special rules required to play on a smaller, denser battlefield — such as a jungle patch or an urban fight — where small groups engage at close ranges that would be impossible to properly represent on the more abstracted tactical scale tabletop. These rules are referred to as Skirmish combat.

The third chapter covers advanced rules such as artillery support, combat engineering and heroic characters. The fourth chapter adds specific rules for infantry along with new equipment and infantry types, such as the dreaded zombie troops of the Axis. The fifth chapter contains a detailed scenario generator, some sample scenarios and the main campaign rules.

The rest of the book is taken up by game aids. The first of the four appendixes covers some new Perks, Flaws and Weapon Characteristics. The second appendix summarizes the infantry equipment, its Threat Value cost, campaign cost and other pertinent information. The third appendix first covers the new datacard record sheet, explaining how to read it. This is then followed by the datacards for more than 164 vehicles and variants; this includes blank datacards, improved datacards for all the vehicles in print so far and game stats for the new vehicles discussed in this book. The fourth and last appendix contains reference sheets.

BASIC WORLD WAR II GROUND FORCES TACTICS

World War II shared many things with the myriad of wars that came before it. People fought for ideology, patriotism, money, or perceived justice. Soldiers died by the thousands in mass engagements as armies swept across a good portion of the world. New weapons were debuted and perfected and new terrors were unleashed. It was the way in which this war was fought, though, that was different. The weapons used were unlike any that had come before. Rapid advances in science and technology had opened up almost every facet of warfare to a new idea or a new employment of forces to a level unseen in human history.

Of the many great innovations of this era, there are a few that stand out as key elements in the forces that changed and shaped the face of the modern battlefield. Most of these techniques and technologies had been pioneered decades earlier; it was the advent of a global war, though, that saw them refined to the degree that they were becoming the decisive elements in most of the major land engagements of the Second World War.

MANEUVER WARFARE

The idea of outmaneuvering one's opponent to gain advantage over them on the battlefield is as old as war itself. With new technologies, however, comes the need for new tactics. The initial development of the strategies at the core of the mobile combined warfare concept was made by men on both sides of the English Channel. B.H. Liddel Hart, a junior British officer, proposed a fully mobile combined force that could breakthrough an enemy's defensive line, then exploit that rupture by penetrating deep into enemy territory and isolating the bypassed enemy forces. A German officer, Heinz Gudieran, came up with much the same idea independently of Liddel Hart. His idea for fast, combined mobile armed forces came from initial consultations with old cavalry troopers. Using the concept of cavalry but employing light motorized vehicles, he showed how it was possible to move quickly and outmaneu- ver enemy forces using a motorized combined arms approach. As the opening phase of the war developed, the use of the tank and the walker in offensive roles (and the role of the truck in ferrying supplies to sustain these offensives) became the key element to almost every major combat engagement.

Much of this still came down to the skill of the commander. First, a commander had to grasp that these elements were necessary on the modern battlefield. This was the deciding factor in many early engagements, as commanders who favored the trench and line tactics of old matched wits with commanders who had successfully reasoned that the new fast armored units made this "honorable" way of fighting a war obsolete. It was in these early engagements, too, that the cream of every major army to fight in the war rose to the top, and the deadwood was sifted out. General Lloyd Fredendall was a prime example of this sort of commander. Fredendall was a capable administrator with no grasp of the new style of warfare that governed the battlefield; a shortcoming which allowed Rommel, one of the commanders who had spent the years between wars mastering the new style, to achieve a stunning victory over the U.S. forces at Kasserine Pass.

As the wheat was separated from the chaff, the great commanders of the field went to work using these new weapons to maximum effect. The most recognizable of these new tactics was known by the term *blitzkrieg*, or lightning war. It's interesting to note that the blitzkrieg was actually pioneered in the Franco-Prussian War of 1870-1871. In that war, the term had been applied to troops rapidly advancing through enemy territory, bypassing major pockets of resistance, and then encircling them. This tactic obviously fell out of favor in World War I,

Lloyd Friedendall

Known more as a troop trainer than a combat soldier, Fridendall was picked by Eisenhower, with some misgivings, to succeed Mark Clark as the 2nd Corps commander. Friedendall partially assuaged these concerns with successful landings near Oran at the beginning of TORCH.

Disaster struck when Friedendall was ordered to advance and secure the Tunisian port of Sfax. This would block the retreat of Rommel's Panzer Army Africa in its attempt to link up with Von Arnim. Friedendall stretched the tanks and walkers of his 2nd Corps over an 80-mile front to cover the Allied right flank. Eisenhower had ordered a standard deployment with a strong mobile reserve, but Friedendall scattered his infantry across several isolated djebels and broke up his mobile reserve into small, scattered elements. To top off this poor deployment, Friedendall placed his headquarters 80 miles behind his front lines.

It wasn't long before the Germans blasted through the gateway at Faid Pass and quickly isolated and encircled the American infantry. With the reserve so broken up, it allowed Rommel to smash the Americans at Kasserine Pass. General Bradley's subsequent report on Friedendall's military blunder saw his return to the U.S. and Patton's promotion to commander of 2nd Corps.

where the machinegun and artillery made open movement of masses of troops in attempts to encircle practically suicidal. With the emergence of high survivability weapons like the tank and the gear into mainstream combat forces, this tactic was once again an option. Tanks could move very quickly over a wide variety of terrain and deliver a massive punch, while gears could cross terrain that even tanks had difficulty negotiating, with a greater degree of maneuverability and often a wider assortment of firepower. Field Marshal Rommel himself described the tactic rather succinctly in his engagements against the British at Tobruk. In speaking of the timidity of his own 5th Light Infantry Division in a reconnaissance raid on Tobruk, he stated, "the division's command had not mastered the art of concentrating its strength at one point, forcing a breakthrough, rolling up and securing the flanks on either side, and then penetrating like lightning, before the enemy had had time to react, deep into his lines." The Germans used this tactic successfully in the Low Countries, France, the Soviet Union and Africa. Other forces exhibited similar skills, though. Learning from battle with the Germans, or developing them on their own, they would eventually use similar tactics to destroy the Axis.

General George Patton had correctly surmised before the war even began that this basic strategy was the most effective given the new tools at hand. He echoed Rommel's sentiments in his famous pre-embarkation speech when he said, "There is no such thing as a foxhole war anymore. Foxholes only slow up the offensive. Keep moving!" Patton's skills would prove his ability with this new style of war time and again, but they first showed through at El Guettar. Despite a potential disaster and another

cautious slow start when 1st Armored Division encountered 10th Panzer Division at Maknassy Pass, Patton was able to turn the tide and take the Germans and Italians in the open plains along the Gabes-Gafsa highway east of El Guettar. The 1st Infantry Division mauled 10th Panzer's tanks and gears with massed artillery and tank destroyers by being there faster and better prepared than an enemy caught almost unawares.

General Georgi Zhukov was another leader who understood early the new face of war that was sweeping across Eurasia. One of the few generals to survive Stalin's purges (though not without trouble), he later took command of a force of Soviet troops against the Japanese Imperial Army at the battle of Khalkhin-Gol. General Zhukov used a combination of his own impressive battlefield skills, as well as an effective deployment of modern battlefield weapons in open terrain, to defeat an enemy with poor mobility. This only major conflict in the undeclared war between the Soviet Union and Japan in 1939 forced the Japanese to look elsewhere for easy conquest.

General Bernard Law Montgomery could arguably be noted for only halfheartedly adopting this new paradigm shift in warfare. His victories at El Alamein were based on tactics from the First World War: his major attack plan centered on a massive front infantry assault combined with an armored assault wherever weakness was detected in the German lines. This was hardly a "modern" assault, but he knew he was in for a war of attrition and used the tactics of the era, albeit in a most primitive fashion, to achieve his victories.

Perhaps the most notable factor in development of these tactics was that both sides had the advantage of a sur-

prising deal of flat terrain with which to conduct their combat actions. With the exceptions of fighting in the Balkans and the Pacific Theater, most of the war was fought on relatively flat land, which was ideal for the kind of maneuver warfare that was the norm for the entirety of the war.

In the Balkans, warfare was fought as it had been for centuries, for control of strategic chokeholds like mountain passes and overlooks. The quick disintegration of the local forces reduced fighting to mostly guerilla actions. Though these were no less important in the overall scheme of the war, the actions in question lent themselves more to special operations and irregular tactics than the standard strategies of the rest of the war.

In the Pacific Theater, the tactic of island hopping became the preferred and only significant means of maneuver warfare. In that area of operation, the navies of the United States and Imperial Japan vied for control of the sea-lanes. These sea-lanes were the equivalent of the major autobahns and road nets being used in Europe to ferry armies across the continent. Once control was established in an area, such as the Japanese control of the seas around the Phillipines, or the United States' control of the seas around Okinawa, a defending force could be encircled, cut off from its source of supply, and reduced.

aged by the better commanders of the war to move as far forward as possible as often as possible. If the line moved, the artillery moved, and quickly. Great lengths were taken, given that the artillery was seen as a much more involved part of a combat force rather than the simple support element it had been in past wars, to ensure that these units did not fall too easily.

Artillery was also employed to protect the flanks of an advancing force from enemy counterattack. Not many forces would risk actually charging into an artillery barrage to try and flank an enemy, a fact counted on by commanders who used it, such as in Rommel's assault against the French near Philippeville in 1940. The effectiveness of its employment, again, was strongly dependent on the troops using it. During the original German campaigns in France and Africa, strong use was made of artillery as an equal partner in an attack, basically looked upon as another combat division. Nations like France and Great Britain were somewhat slower to grasp the effectiveness that modern artillery pieces could have on the battlefield. Allied artillery units at that time were often relegated to bombardment duty, meant only to soften up or harass the enemy. This type of fire ranged from marginally to wholly ineffective in degrading the German's combat capabilities. It was because of this, as with the other modern inventions of war that the Germans capitalized on first, that the Allies suffered such crippling defeats in the early stages of the Second World War. It was not just that artillery was better used, but that there was far more variety in weapons than there had been before.

The main types of artillery used on the battlefield of the Second World War can be broken down into three types. The

North African Battlefield Etiquette

Early war use of mechanized warfare by the British tended to be thwarted by German anti-tank guns. The most notable gun was the 8.8cm PANZERABWHERKANONE which was a originally an anti-aircraft weapon. The gun could penetrate the armor of a Matilda at ranges of up to 2km. The gun was instrumental in repelling the British during Operation BATTLEAXE at Halfaya Pass. A captured British officer was overheard by member of Rommel's staff to express indignation towards the weapon.

"In my opinion," said the Englishman as he glanced at a nearby 88, "it is unfair to use 'flak' against our tanks."

A German artilleryman nearby, listening to the interpretation, excitedly interjected, "Ja, and I think it most unfair of you to attack with tanks whose armor nothing but an 88 will penetrate!"

ARTILLERY USE

The use of artillery on the battlefield is almost as old as the use of gunpowder. Gunpowder weapons in the form of great mortars began their use in warfare as siege weapons. Artillery's importance in this war cannot be understated, though. All sides used it to excess as an essential element of any major operation. Its use as a proactive part of any battle was a standard feature of more modern warfare. Forward

observers and artillery officers were called upon more to work more closely with the infantry, not only to call fire on targets harassing the infantry, but to bring counter-battery fire on units that might be able to harm friendly artillery as well. Artillery units were expected to be ready as soon as a position was taken to provide fire, should it become necessary, on any of the avenues the enemy might use as a path from which to counterattack. Artillery was encour-

first, field artillery, consisted of the large cannon weapons and rocket platforms that could be called upon to mass fire and suppress, neutralize, or destroy enemy targets. The second type of artillery, mortars, could be used to provide responsive fire against smaller targets, and were often organic to small infantry units. Mortars could be used in a variety of roles, including direct infantry support, battlefield illumination, laying down smoke for the purposes of obscurement of the enemy or the screening of friendly forces, and engaging targets too obscured by terrain features to allow small units the opportunity to directly assault them. Lastly, there were the direct fire weapons of the period. These included a variety of weapons, from the shoulder-mounted panzerfaust and bazooka to the big direct fire support weapons of demolition vehicles such as the Hummel, to the towed anti-tank guns like the German 88mm. Close air support could also be loosely included into this category, as the guns of aircraft and small bombs were often used to the same effect. These weapons had a wide variety of uses, including direct suppression of enemy positions and the destruction of enemy vehicles. They were commonly used in tactical situations to deal with immediate and readily identifiable threats.

AIR SUPPORT

Air power had been used in various minor military roles as early as the 19th century, in the form of lighter-than-air balloons, and then into the First World War in the form of balloons, dirigibles, and biplanes. Still, these units were hardly decisive in tactical engagements. Many proponents of air power on both sides saw, as planes quickly developed in technology, that they would soon become an essential part of any tactical

operation. This was due in part to two factors. One was that aircraft technology was still in development in the period between wars, more so than most other potential instruments of war. The other was that precognitive commanders on both sides began exploring what kind of roles these newer designs might play in a coming conflict.

Both sides did focus on air superiority over the battlefield as their number one priority. The Germans realized very early on that aircraft could be used to perform a wide range of duties. Mostly due to their experience in the Spanish Civil War, the Luftwaffe developed aircraft like the Henschel Hs129 to compliment their Stuka dive-bombers to fill out a new role in air combat, ground attack. It also developed a program whereby its air officers participated directly in Army wargames, acting not just as observers, but taking a direct role in coordinating air assaults on targets of priority to ground forces.

The Allies, as with many things, were slow to realize the advantage of aircraft in close ground support missions. The British RAF proved least concerned by these new innovations in air combat, and instead continued to focus all development of their air doctrine on strategic bombing raids instead of army support missions. U.S. air commanders did take some note of the Spanish Civil War and the new ground support tactics being pioneered by the Germans. Major George Kenney, later commander of the Fifth U.S. Air Force, wrote an article in 1938 on the conflict that was complimentary of the Germans on their support and interdiction missions. He also predicted that, given what had been seen with air transport of combat forces in Spain, transport of ground troops by air would be an important mis-

Lucian Truscott

An old-time cavalry commander, Truscott was a strict disciplinarian with a passion for thorough training and a penchant for pushing his men to the limit. Truscott shared Patton's unorthodoxy of dress, most notably his silk scarf, weathered leather jacket, enameled helmet, cavalry breeches and boots. At the beginning of Torch, he almost single handedly salvaged the landings at Mehdia. The Navy had bungled the landings and French Colonial forces caught the break they needed to push the Americans back into the sea. Truscott reorganized several units and formed a rally point for the survivors of the first wave. He then personally radioed other landing craft onto the beach, and vectored them into positions, which allowed them to flank and eventually rout the assaulting French forces back to Port Lyautey. Truscott even managed to secure, at cost, the airfield that was one of the original objectives of the landings.

General Truscott went on to distinguish himself in several unconventional operations under Patton's command while in Africa, and was hand-picked by Patton to lead the tactically and politically important raid on Rabat.

sion of the air force in wars to come. American and British air forces would soon develop their fighter-bombers and convert their regular fighter aircraft to ground attack with the use of heavy machine guns and rockets. In the early stages of the war, however, Germany could be said to have the edge in ground attack aircraft and tactics.

The missions of this new breed of fighter aircraft were quite varied. The Germans, in keeping with the blitzkrieg style of warfare, applied a doctrine of keeping their best ground attack aircraft very close to the front, and developed them to be capable of using rough airfields. The focus was still more on interdiction than direct support of ground forces. After air superiority, the secondary priority of fighters was to hit bridges, roads, enemy reserve forces, and artillery positions. Fighters were mostly equipped with light bombs for these missions. The cannon developed for some German aircraft such as the Stuka gave them the ability to destroy armored vehicles, a mission that German high command had originally considered beyond the capability of their fighters. To destroy larger targets, or perform on a more strategic scale, German commanders even developed air combined arms operations. These involved mixes of reconnaissance, heavy fighter, and bomber groups going after large, massive targets, such as rail networks deep behind enemy lines.

The Allies main focus for their fighter aircraft in the early part of the war was bomber escort. Fighter actions in Africa were almost solely focused on interdiction, destroying fixed installations and slow moving targets. Direct combat support missions were even further from common usage than they were with Axis forces of the day. Early missions of the Allies were focused on drop zone sup-

pression, in which they would attempt to knock out flack batteries and provide assistance against enemy formations in the immediate area. As the Luftwaffe forces dwindled and the Allies' ground attack missions became more frequent, new interdiction missions were developed. In advance of a ground force, aircraft would spread out to attack any enemy forces or supply trains that might be moving forward, delaying enemy counterattacks, harassing enemy forces already engaged and, of course, disrupting rail and road networks.

One thing both sides realized early and often was that communication between planes and formations allowed for better coordination against ground targets and enemy formations. The power most lacking in this ability early in the war, the Soviet Union, also provided the most glaring example of how fatal this could be for a war effort. Soviet aircraft rarely had radios and usually flew in tight formations to visually coordinate with one another. Radio-equipped German fighters that could better coordinate their attacks and fly in more spread-out formations shot Soviet fighters and bombers down like flocks of geese.

FORTIFICATIONS

A quote attributed to General George Patton said that fixed fortifications were monuments to the stupidity of man. No more strongly was it proven than in this war. Names that had at the same time been spoken with pride and to inspire fear, like the Maginot Line, the Sigfried Line and the Atlantic Wall, became the punch lines to jokes after they had been conquered and brought low. The idea of fortifications as bastions of power and centers of refuge for the European powers most of all stemmed from an ancient dependence. It could also be argued that the staggering losses of the First

World War caused timidity towards large-scale ground operations, especially in countries such as France. All these things led to the development of massive fortifications in preparation of an assault by neighboring nations. France, Belgium, and Germany were the largest practitioners of this art.

The French military command became obsessed with the "continuous front" strategy. This strategy assumed that if a front along the entire combat zone could be maintained, the perceived aggressor, Germany, would not be able to sustain an offensive or break through to the French heartland. Thus, in the 1920's and 1930's, the Maginot Line, named after a minister of war who had lost an arm at Verdun in 1916, was budgeted and began construction. The original plan was for this Line to run all the way to the channel, but more liberal elements in the French government halted the proposed series of fortifications at the Belgian/German border. This was in conjunction with King Leopold's action to take Belgium out of France's web of alliances and declaring its neutrality. The Maginot Line was never envisioned as an endless line; it was designed to be a series of fortifications running up and down the French border. It was also not designed to be impenetrable, but rather was to bog down any potential German advance, and allow fast, mobile forces to advance and support the fixed fortifications. Sadly for the French, Hitler had other ideas. The fatal mistake to stop the Line at the Belgian border would soon lead to the downfall of France and its occupation by the Germans.

The Germans for their part had a similar fortification constructed in the 1930's. This was the vaunted West Wall, known in the United States as the Siegfried line.

This massive concrete and steel structure running from Switzerland to the Low Countries was designed for similar reasons to the Maginot Line. For the first time in the country's short history, it did not have to fear a war on two fronts. The West Wall was instrumental in holding back ideas of an assault by the British and French while Germany subjugated Poland. Hitler had envisioned it to be the last bastion of the Reich's defense in the unlikely event that Germany would come under heavy assault by the Allies. Indeed, it proved to be that to some extent. It provided one last gasp for the Germans as the staging point for the Wacht-am-Rhein Offensive, also known as the Ardennes Offensive or the Battle of the Bulge. In its final act in defense of the Reich, taking the Line caused approximately 100,000 Allied casualties.

The final focus in this development of strongholds from which to hold off enemy forces, were the fortifications of the German Army along the Atlantic Wall. A wide array of bunkers, trench networks and fortified towns were built up along the beaches of France after its conquest. Towns such as Verdun and Metz threatened to be tough obstacles to overcome in the advance towards France. Lightning war threatened to make casualties of these fortifications as well, however, since they could be so easily bypassed and isolated. Time would tell with those great cities.

The Soviet Union faired somewhat better in this area. As the Germans advanced into the Soviet heartland, they laid siege to Leningrad, and began reducing the city of Stalingrad. For the Soviets, this may have gone the same way that it had gone for the French and would go for the Germans, except for the onset of the Russian winter. The one thing the Soviets had in abundance was cold weather gear, and much of their

equipment was already cold weather adapted. The Germans suffered from a stark lack of cold weather gear and most of their equipment faired poorly in the frigid conditions. This led to the testing and reduction of those fortifications becoming academic.

The Japanese took the idea of fortified positions to the extreme. Given their strategy of defense of the islands that were part of their Empire, every island and atoll was honeycombed with bunkers and fixed positions. Each island proved to be its own small fortress. The United States Marines took the wisest course of action they could by passing the majority of these, and going after only those that possessed some strategic value to the Pacific campaign. These islands were either the sites of Japanese air bases, or soon became the sites of American air bases.

AIRBORNE OPERATIONS

The advent of troops being airlifted to their targets was seen in the Spanish Civil War. Again it was the Germans who pioneered this new facet of mobile warfare. During the opening phases of the war, neither side tried much in the way of massive airborne assaults, but both sides did attempt to develop that potential. The Allies did this by creating Airborne Divisions, who could be dropped by glider or parachute into an operational area with light equipment. The oddest force in this operation was the Daedalus Brigade. The Brigade was a glider-equipped formation hastily assembled in response to Germany's *Rocketruppen*. Although not as highly respected as regular airborne troops, hence the informal name of their unit, they still proved highly effective in early trial runs. It was even rumored that in time they would receive some rocket assist technology, or production mod-

els of Igor Sikorsky's one-man helicopters, to augment the gliders and make them a more rapid reaction force.

The German *Rocketruppen*, led by the infamous Otto Skorzeny, debuted in a stunning fashion with a raid on an Italian hotel to rescue Mussolini after he had been deposed by the Italian King. The *Rocketruppen* quickly became one of the most celebrated and admired forces of the German Army. This could be considered an unusual occurrence since most staff officers of the early part of the war viewed irregular troops, like the special operations forces being conceived at the time, to be ungentlemanly and unworthy combat troops. This underhanded type of warfare left a bad taste in the mouth of most "classical" officers. Nonetheless, it was partly due to the flamboyant nature of Skorzeny, and partly the end result of being so effective in their operations that they attained the prestige that they did. The *Rocketruppen* would see action in almost every theater of the war, with daring missions conducted in Africa and the Soviet Union.

Despite these rather unique elements, massed airborne assaults were still being considered as viable additions to the future assault on Fortress Europe. These were still mostly in the development stages, as their use would require a theater-wide campaign to support and fully utilize their capabilities. For the early part of the war, airborne special operations in assisting guerilla units in occupied Europe, conducting irregular raids on enemy rear areas, and disrupting command and control of enemy forces proved to be the main focus of airborne operations early in the war.
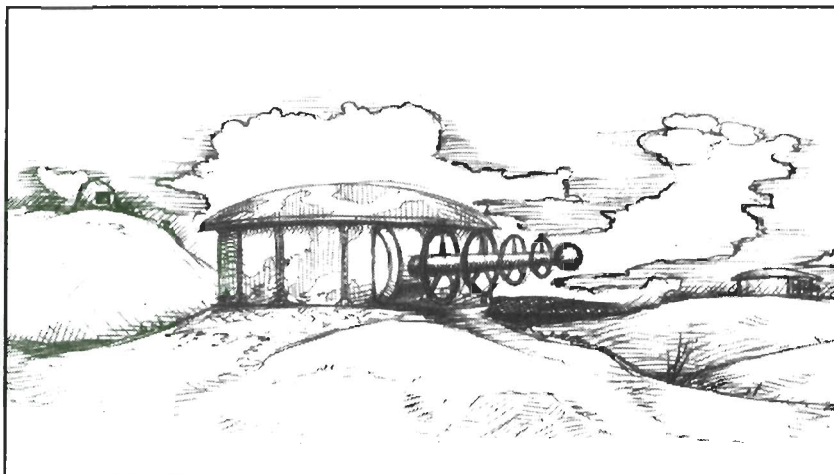
COMBAT ENGINEERING IN WORLD WAR II

As long as Humankind has been devising ways to fortify and defend, it has been devising ways to overcome those same fortifications and defenses. Tanks were first designed in World War I to overcome the defenses of the machinegun and artillery. As mechanized warfare sought to break through these, defenses became monolithic in scope and strength. New techniques and ideas had to be thought up to counter the new obstacles, and many ideas were tried during the war.

The major innovations were in using armored vehicles to help engineers in the assault role of breaching obstacles to pave the way for troops behind them. Bridge-laying tanks were devised to cross rivers and anti-tank trenches. The vehicles took many forms, such as scissor-type bridges that folded in half and rested on top of the tank. Other vehicles became part of the bridge themselves, allowing other vehicles to roll right over them. Fascines, which were bundles of sticks or brushwood, were attached to tanks with quick-release mechanisms so they could be dropped into trenches to allow for easier traverse of vehicles. Still others devised ways to defeat barbed wire to allow infantry to bypass the obstacle.

To defeat concrete barriers like walls, bunkers and anti-tank blocks (so called "Dragon's Teeth"), explosives were the best and easiest weapon to use. Traditionally these explosives had to be carted and delivered on foot, at incredible risk to the combat engineer using them. Weapon designers of all nations quickly saw that tanks could be a great asset in this role, and many tanks were designed to perform it. Tanks with weapons that fired big explosive charges short distances began to show up on the battlefield. Engineers could now blow through concrete in relative comfort knowing they now had armor between them and enemy fire.

Explosives were also the tool to use when blowing up bridges, a favorite delaying tactic. Engineers could rig any bridge to blow up and leave a mess behind for enemy to clean up. Building those bridges again quickly was of paramount importance to keeping an army mobile and attacking the enemy. Bridges were built from

specially designed girders and pontoons and often whatever material was at hand. Specially modified Walkers helped a great deal in building bridges, with stronger arms than on other Walkers. They could move parts of a bridge into place easily and help to shore up a bridge until it was securely fastened together.

In addition to ditches and structures, mines were used extensively. It was the engineer's job both to lay minefields and to clear them. Common APCs were produced in models with combat engineers in mind. Extra stowage for mines was often a feature of those APCs. Mines came in all shapes and forms, from the large round metallic anti-tank mines to the wooden coffin mines. Not all could be easily found with the metal-seeking mine detectors.

Skilled engineers could lay a hasty minefield in minutes. Many engineers, however, particularly the Germans in retreat, made laying mines an art form. Mines were designed to be detonated in a variety of ways, including exploding if the mine was lifted instead of just walked upon or rolled over. German engineers extensively used this feature to booby trap anti-tank obstacles, making them an absolute nightmare to remove. The Germans were able to buy considerable time on the retreat back into Germany with these tricks.

The Russian were the first to use radio-detonated mines. They developed a receiver set and battery that fit into a watertight canvas bag that could be buried along with the mines. Engineers keeping an eye on the mined area could detonate the field from several kilometers away to maximal effect. Other nations on caught on and duplicated the mines.

The Engineer Listening Company

The Russians not only used radio technology in their minefields, but they also used it in their scorched earth methods. The radio receiver was coupled with a large buried antenna and a crude analog computator. The computator periodically turned on the receiver for 8 seconds every 3 minutes to see if a detonation signal was being sent. This scheme allowed the battery to power the system for up to three months. The receiver was capable of getting a signal as far away as 300km. The whole unit would be attached to several explosive charges set within a building.

The Germans formed the Engineer Listening Company to help combat these radio-detonated traps. The name derived from the method of finding the detonators. The computator was analog and used mechanical parts to operate. Using very sensitive microphones, the engineers in the listening company could detect the sound of the computator working. Once found, the engineers could go about defusing the device. To help in this process, the antenna would be dug up and slowly reduced in length. Reducing the length of the antenna diminished its ability to receive a signal and therefore reduced the chance that the explosives would be set off before the Germans could remove them.

Frank L. Scott

Lt. Frank Scott was a combat engineer in Italy and France in 1943-44. He commanded a platoon of engineers, which he led to distinction several times. The first time was in Italy: Vellerti was a town near the top of a mountain. The Germans defended its approach well with one exception — a forest that ran up the side of the mountain. In the vegetation lay a rain ditch running the length of the slope. The commander, Major General Fred L. Walker, reasoned that a road could be constructed up that ditch so supplies could be driven up the mountain. Those would allow friendly forces to attak from the summit down into Vellerti, making the task of removing the Germans much easier.

The road had to be constructed in the dead of night, and without firing weapons — even if attacked. This would have given the Germans a reference point at which to aim, which would have spelled disaster for the entire operation. Scott and his men managed to complete the new road by dawn the next day, enabling the attack to commence. The Germans were sent marching, and Scott's unit received the first of two Presidential Unit Citations it was awarded for actions in the war.

Mines were designed that could jump into the air first before exploding, spreading shrapnel around to maximum effect. These so called 'Bouncing Betties' were despised by infantry universally and could decimate a unit in seconds.

Almost as ingenious as the design and application of minefields were the myriad forms tanks took to defeat them. Tanks with explosive charges in tubes that could be snaked across the fields were used. When set off, the charge would clear a path through the field. Wildly spinning chain flails were attached to tanks. Modified rocket launchers could be shot at the ground, hoping to set off mines. Tanks with huge wheels and reinforced, raised tracks were tested and built. One particularly dangerous tank design used a nitroglycerin launcher! Walking and tracked remotely-controlled vehicles were used to set off mines as well. Even artillery was used to pound a minefield into oblivion.

Combat engineers were called upon to rebuild roads in addition to other du-

ties. Roads could be damaged by all manner of methods such as mines, artillery, excessive combat vehicle usage and even deliberate sabotage. The most common method to quickly rebuild roads was to use logs and smaller sticks on beds of gravel to allow use. These roads were sometimes called corduroy roads.

In the Pacific, combat engineers moved heaven and earth to build landing strips for aircraft operations. Metal slats would be placed on prepared beds of earth and gravel to allow airplanes to keep up with the pace of the island-hopping warfare in that theater.

Combat engineering made it possible for warfare to keep up with the new demands placed upon it. Without engineers armies would not only be more vulnerable, but they would soon halt in the face of geographic obstacles. Without them, any unit that depended on vehicles for combat and supply would have been left stranded. Engineers may not have had the glory other men achieved, but they made armies *work*.

VEHICLES

As the war marched on, so did the technology to wage that war. Weapons that were mere dreams a few short years before were fast becoming reality. Each nation refined walker and tank designs, and some fielded these vehicles for the first time. Conventional tank guns were designed to fire bigger projectiles faster and further, blasting through armor more easily than ever before. More efficient engines were built, allowing for more heavily armored vehicles to be fielded. Those engines particularly helped walker design, allowing for the superior mobility that the walkers promised to deliver. Armor was always a welcome addition to any fighting vehicle, and with guns that could penetrate ever-heavier protection, as much armor as could possibly be mounted on a vehicle was deemed necessary.

Alongside the natural progression of vehicles from ungainly prototypes to sleek killing machines was the development of unique vehicles to fit particular tactical needs. As the African theatre wound down and Italy was retaken, many lessons learned in the process were used to create new vehicles with bizarre contraptions to take the fighting in new directions never before seen. The Allies in particular began to develop vehicles to help with the inevitable landing in France, to start the final push of the Reich back to Germany. Vehicles that could help keep the tempo of modern warfare began to appear. The vehicles often took the form of combat engineering vehicles, armed with demolition equipment and bridges.

The Allies also spearheaded development of non-conventional weaponry. The Russians took the research of Nikolai Tesla and started to field his accelerated energy weapons in greater numbers during Operation Barbarossa. Were it not for the desperate situation they were in, the Soviets might have armed their tanks with the new weapons in far greater number than they did before 1944. The British developed their Canal Defense Light system into a nightfighting weapon *par excellance*, and infrared versions allowed the British to operate covertly.

Nightfighting

Before World War II fighting effectively at night was unthinkable. Even at the beginning of the war itself this notion was still true. However, as the war continued, several technologies began to erode that assumption. Radar was a burgeoning technology that relied on unseen radiation to reveal the enemy. It detected without regard to the position of the sun in the sky. Early uses on planes demonstrated that night attacks could be adequately carried out. Ironically, soon thereafter, radar helped to guide anti-aircraft artillery. Experiments in using the infrared portion of the light spectrum also helped to erase the night. The British Canal Defense Light, while starting as a white light device, developed into an infrared system able to shine light that was invisible to the naked eye but picked up by special infrared sights. Forward thinkers like Colonel Walter Krueger expanded night fighting techniques to use this new system to great effect to plan and execute small units actions during nighttime operations. The Germans worked on a smaller scale, developing the "Vampir" system. Vampir systems were small infrared flashlights with integrated scopes mounted on early assault rifles. These weapons were employed by the Nachtjägers — an elite force similar to Krueger's men, specializing in nighttime special operations. Developments in drugs also had an effect. Drugs that stimulated the user helped men to keep fighting day and night. These were the first steps in making warfare a constant assault of force and death with no regard for time.

EARLY CDL VEHICLES

In 1937 a group of private individuals presented an intriguing idea to the British War Office. The idea was to mount a powerful searchlight in a special housing on a tank to provide 'artificial moonlight' during night attacks. Trials of the system, known as the Canal Defense Light, proved that the system could be beneficial. Trials also showed that the system could be used in an offensive fashion by aiming it at the enemy and blinding them. The first vehicle to use the new system was the Matilda infantry tank in 1940. The turret the Matilda normally carried was replaced by a cylindrically shaped housing. The housing contained the searchlight, focusing mirrors and a thin slit through which the light shone. The system was used to good effect in night fighting in Africa, and further development continued.

The CDL system was further refined and fielded as a modification to the Grant tank. This second version shone in the infrared spectrum and acted as a spotlight for the early IR sensors being developed at the time. The new CDL allowed units to fight at night without alerting the enemy to their presence like the older Matilda CDLs did. The IR CDL systems also had the added benefits of being able to blind enemy IR sensors, such as those being used by the Nachtjägers. The sponson-mounted 75mm was an added bonus: the offensive firepower was a welcome addition to crews supporting nightfighting actions. The Grant CDLs were fielded in late 1943, just missing action in Africa. They served adequately in western Europe, however.
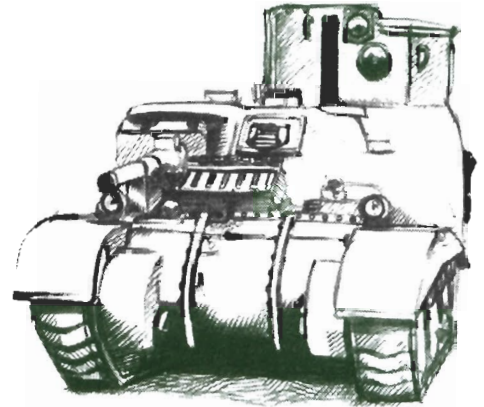
INFANTRY QUADRUPED MK I

Walter Owen Bentley (always referred to as 'W.O.') started out designing cars in the early part of the century. He designed a number of racing vehicles which were built to handle the rather rough conditions on roads at the time. Around 1931 W.O. began an association with Rolls-Royce, and 1933 his company was folded into Rolls-Royce. While the rest of the company pursued luxury vehicles, Bentley sought to work on vehicles for military use. He was fascinated by the walker vehicles he began to hear about in the late 30s, and Bentley set about to design his own. He was rather unsuccessful at first, but once the lend-lease and licensed walkers from the Yanks crossed the pond Bentley was able to see working examples of the technology.

He liked what we saw, but all of the walkers he saw were bipedal, which he knew would never be able to support heavier weaponry. He had in mind to design a walker that could carry the 6-pdr tank gun, which was a well-respected weapon. Bentley figured a quadrupedal walker would do the trick, and he set about to design one. The fruit of his labor was the Infantry Quadruped Mk I. The walker, like his earlier vehicles, was noisy, heavy and built like a truck. Additionally, the vehicle lurched quite a bit when it walked (luckily, it moved slowly). The vehicle earned the nickname "Wagsworth" amongst the troops.

Later models of the IW Mk I lost the swaying gait and moved the 6-pdr to a turret. The turret made the insides rather cramped for the crew, but the more capable mounting was considered to be more desirable than comfort. These versions were very well-liked by the crew that piloted them, and the Mk I was dubbed 'Bulldog' in reference to not only the appearance of the vehicle, but as a loving tribute to Winston Churchill, the 'British Bulldog.'
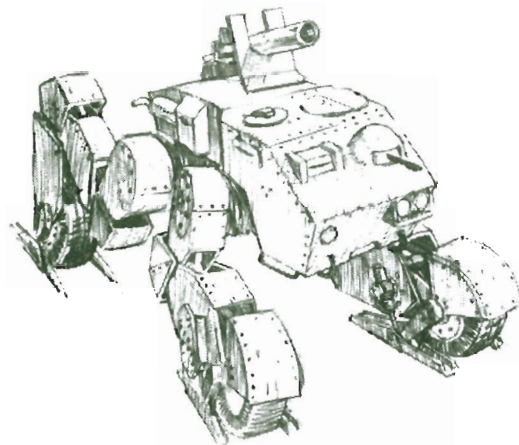
T-45 Land Battleship "Nikolai Tesla"

The Soviets showed as much interest in the weapons designs of Nikolai Telsa as the French did, if not more so. They funded considerable research into Tesla's theories. As a result, Tesla was able to improve upon the designs he developed for the French. He devised a directed energy weapon that was longer ranged than his previous designs, which the Soviets named the *Electricheskiya Uskoracya Energia Artilleria* Tesla Model 39. This fearsome weapon was able to fire out to nearly twice the range of the French versions. The Russians mounted the EUEA into the large T-44 land battleship hull. They had to remove the heavy cannons in order to make room for the new weapon, and it was still difficult to fire the Tesla gun rapidly due to the power it required. Still, the T-45 put on a spectacular show when used in combat, zapping the enemy with bolts of lightning and providing a boost to friendly morale. The official name for the tanks was "Nikolai Tesla," which was so close to the T-44's name that the Soviet troops quickly came up with a new nickname for the vehicle: "Troll."
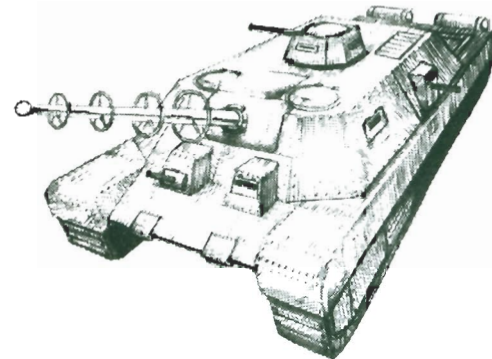
KV-IIC Tesla Tank
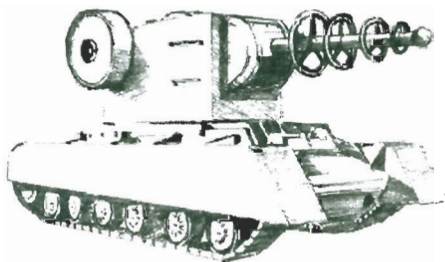
The Soviets needed a tank on which to field their Tesla weaponry that overcame the mobility problem the super heavy tanks like the T-44 and T-45 suffered. The huge tanks were just too easily out-flanked and vulnerable. The Soviets decided to take the KV-II tank, already a strange combination of a KV-I and a large artillery piece, and mount a new smaller Tesla weapon in a large slab-sided turret. The new weapon, the EUEA Model 40, sacrificed hitting power for a more efficient power supply. The new weapon could also fire more quickly than earlier models. Unfortunately, the new tank wasn't really faster or more maneuverable than the land battleships it was designed to replace. The design was a step in the right direction for the Soviets, however, who continued to develop Tesla guns throughout the war.

G27 Walker

Until the outbreak of the Great Patriotic War, the Soviets lacked the technical and tactical know-how required to field walkers. During the first months of the German invasion, the Soviets underwent a crash program, with the first Soviet Walkers appearing in the Summer of 42. Before that, several US Longstreets had been acquired through Lend-Lease, but these early units were quickly lost to the superior skills and machines of their fascist enemies.

The G27 was the first example of Russian design philosphy. The walker was designed to not only fight in the extreme cold of the Russian winters, but it also was able to travel further than most other contemporary walkers of the time. The cold was warded off by covering the joints with electrically-heated canvas cowlings which prevented freezing. The latter systems were sometimes prone to overheating, resulting in more than one fire or premature explosion. Additionally, the large fuel tanks and inefficient engine design left the G27 vulnerable to attack. Eventually, later versions of the G27 were able to overcome some of these design flaws, but a few were left to be remedied in future *hodokye*.
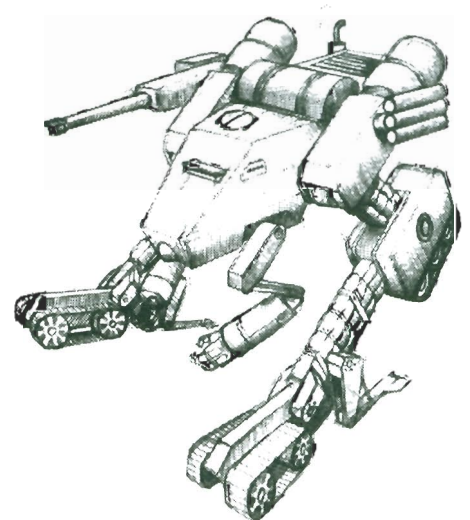
INFANTRY TANK MkIV CHURCHILL AVRE

Bitter experiences in early WWII demonstrated to the Commonwealth the need for a heavily armored vehicle that could support assaulting combat engineers tasked with breaching heavy defenses. Lt. Donovan of the Royal Canadian Engineers suggested adapting an existing tank rather developing a new one. The Canadian Ram and the American Sherman tanks were evaluated, but the comparatively roomy and extremely well armored Churchill seemed to fit the bill best. The new engineering vehicle was named the Churchill Armoured Vehicle, Royal Engineers or Churchill AVRE. A special weapon was developed for the vehicle, the "Petard" mortar. The weapon was a 290mm spigot mortar that replaced the 6-pdr gun the Churchill IVs usually carried in the turret. It fired a 40lb demolition bomb used to breach obstacles and could only be reloaded from outside of the tank! The tank was further fitted with any number of common combat engineering attachments, such as fascines, bridges and mine-clearing devices.
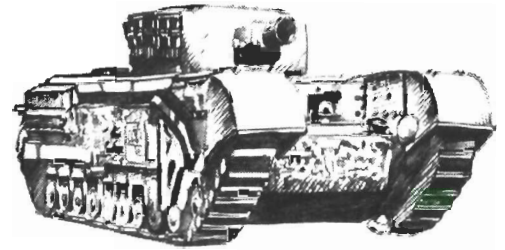
T10 MINE EXPLODER "TRICYCLE"
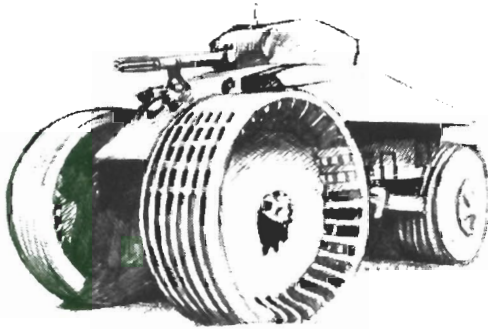
Many were the number of bizarre and strange looking ideas for mine clearing vehicles, but none were quite as bizarre as the T10 Mine Exploder. Based on a Sherman tank chassis, the T10 rested on three large steel wheels in a reverse tricycle arrangement. The front wheels were nearly 3 meters tall and a meter wide, and all of the wheels were serrated. The resulting monstrosity was 4 meters high and had a ground clearance of 1 meter. The vehicle was controlled remotely from another vehicle, usually a modified Sherman tank. The first models were controlled through a cable and the operator worked by sight only. Later models featured television guidance and used radio signals to control the vehicle. The T10 retained the Sherman turret and was quite operational, although until the television guidance was installed aiming the main gun was quite difficult. The vehicle was massive and moved very slowly, but it could certainly clear minefields.

LONGSTREET ARTILLERY MATE

The American government lend-leased a great many walkers to the Soviets in the early parts of the war while the Soviets were still getting their walker program up to speed. However, once they could field walkers of their own, they turned to experimenting with the walkers they received from overseas. One such experiment was the Longstreet Artillery Mate. The idea was to have a walker that could help move large artillery shells around, including loading the guns themselves. The main cannon on the Longstreet was removed and the arms were beefed up to allow them to heft more weight. The resulting vehicle worked wonderfully, allowing artillery barrages to be fired more quickly and with less crew. The vehicles had the side effect of providing the basis for engineering walkers that could move around large pieces of construction material and help to construct temporary bridges in ways other vehicles could not.
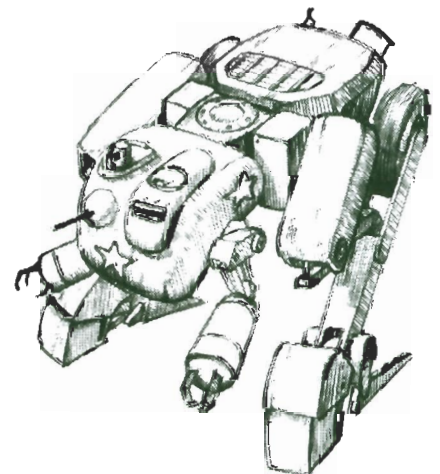
CHEMICAL WARFARE

The Great War introduced the world to the most horrible form of warfare yet known. Although incidents of chemical or disease warfare had been documented as far back as five centuries before the common era, never had chemicals been employed on such a scale in mass warfare. The results have scarred modern warfare to this day. Also included in this escalation of the horror of war was the development of flame weapons, particularly the portable flamethrower, and the large-scale use of battlefield smoke. Early uses of chemical warfare included everything from sulfurous smokes (used to literally smoke out a fortification's defenders) through Greek fire, poisonous gasses in fifteenth and sixteenth century Venetian mortar bombs to the "standard" poisoning of wells and other water sources. History contains numerous anecdotes of disease warfare, such as purposely providing infected blankets or clothing to indigenous peoples lacking immunities in order to cause epidemics.

The eighteenth and nineteenth centuries saw renewed interest in using chemicals in warfare, concurrent with the development of European chemical industries. Fortunately, the intense ethical arguments on the topic precluded their use. Discussed as early as 1812, chemicals were considered for use in almost all the major conflicts of the later nineteenth century, including the Crimean War, the American Civil War and the Franco-Prussian War. An initial prohibition against using poisons in war was included in the 1874 Brussels Convention. The 1925 Geneva Convention only implied a prohibition on the first use of chemicals, but did not limit their possession and preserved the right to retaliate in-kind for a chemical attack.

Initially, the Great War saw the use of industrial chemicals, such as chlorine and phosgene, as relatively simple releases of clouds of chemicals from pressurized cylinders. The technology rapidly progressed to chemical compounds specifically developed or selected for their efficiency at killing or crippling people. Soon artillery shells and bombs were fielded, allowing the projection of the chemical clouds away from friendly lines and providing some independence from wind effects on usage decisions. Defensive technology progressed just as rapidly, resulting in gas masks and chemical detectors recognizably similar to their descendants, if heavier and less capable.

After the war, many nations continued the development of both military chemicals and chemical warfare equipment. Most nations with chemical warfare programs focused on mustard agents as the most useful of battlefield chemicals, and concentrated on refining and perfecting both their offensive and defensive capabilities. Italy provided the next example to study chemical warfare in the field when it employed mustard gas against unprepared and unprotected Ethiopian forces to devastating effect in the mid-1930s. Although the Japanese also used mustard gasses in China in 1939, by then world attention was focusing back on events in Europe. During this period the first mechanical collective protection systems were fielded, providing overpressure environments to fortifications and other fixed installations. Advances continued in other areas of chemical defense as well, resulting in improved masks, detectors and, for the first time, decontaminating solutions and kits. Unfortunately, German chemists, part of perhaps the most preeminent chemical industry in the world at the time, also discovered nerve gasses in time to offer a potentially dire shock to other countries' chemical defense preparations.

Although the United States had no formal biological warfare program, relegating what study was done to the Army Medical Department's studies of diseases, many nations — including Germany, France, Britain and Canada — had active biological warfare programs, and Japan had perhaps the most notable of them all. Establishing a formal biological weapons program near the occupied town of Harbin in Manchuria, Unit 731 became one of the most infamous organizations the world has ever known, eclipsed only by the mass-produced evil of the Nazi's Final Solution. Unconstrained by any recognizable hu-

man decency or morality, both the Nazis and the Japanese Army conducted extensive tests on human "subjects," immeasurably advancing their understanding of biological warfare and processes at a horrendous cost in human lives and with sometimes even more bizarre and horrible results, such as the homicidal Nazi *ubermenschen* berserkers and both countries' zombie troops. Luckily for the world, biological warfare was still in its infancy, and most programs were researching the basic concepts and principles of fighting with organisms rather than engaging in the large-scale production and use of potentially world-shatteringly uncontrollable weapons.

CHEMICAL AGENTS

Chemical agents are categorized by their action or affect on humans. Broadly, these categories include nerve, vesicants (the blistering agents), tearing and pulmonary, and correspond to the three major routes of exposure: respiratory, absorption (i.e. skin contact) and ingestion or injection. Chemical agents are further categorized as persistent or non-persistent, based on their rates of evaporation and effecting their battlefield use. Tear gas is a relatively harmless incapacitating compound developed for riot control. Being chemicals, these agents can be found in any physical state (solid, liquid or gas) depending on local environmental conditions, with temperature the most significant. Pressure, wind speed and the surface the agent is applied to all contribute. Chem agents are normally employed as either a liquid (persistent) or gas (non-persistent) and are stored as liquids.

The primary Great War agents maintained by most countries for future use were mustard agents and phosgene. Phosgene, a common industrial chemi-

cal first synthesized in 1812, is the prototypical pulmonary (lung-damaging) agent killing exposed troops by "dry land drowning" as their lungs filled with fluid hours after exposure. Mustard gas, a blister agent, takes hours to inflict horrible blisters on any exposed skin and frequently causes blindness or death if the chemical burns are to the eyes or lungs. Cyanides are fast-acting, short-duration chemicals deadly at high concentrations but which dissipate rapidly. Another common industrial chemical, most hospitals can treat cyanide poisoning cases that actually make it to the hospital.

The newest and most deadly chemicals developed prior to the next war were the German nerve agents. Unknown outside of Germany, the Germans had discovered and distilled pesticides — called organophosphates — that inhibit the transmission of nerve impulses throughout the human body within seconds of exposure. Fortunately, the nerve agents (called Tabun and Sarin by the Germans and later designated GA and GB by the Americans) are chemicals for which antidote-style drugs could be developed.

BACTERIOLOGICAL AGENTS

Biological weapons are classified by type, including bacteria, viruses and toxins. Bacteria are unicellular organisms, some of which may form long-lasting spores, including anthrax, cholera and plague. Viruses are smaller microorganisms than bacteria and are stereotypically human transmissible or infectious diseases such as smallpox or hemorrhagic fevers. Toxins are byproducts of natural processes from animals, plants or microbes, and behave in very similar manners to non-persistent chemical agents. Examples of toxins include ricin, and the botulinum toxins causing botulism, both of which

have been under consideration by some intelligence agencies as possible assassination tools. At the time the Second World War was starting, most programs were focusing on the use of bacteria, but were not dealing exclusively with human applications. Crops and animal attackers were close competitors for development resources with human-affecting agents, and there is significant evidence indicating that German agents had tried infecting American animals with glanders prior to their shipment to Europe in the first of the World Wars.

Comparatively, biological agents are far more lethal than chemical. However, even though many of the same principles and considerations apply to using the two forms, on the whole biological weapons are much slower acting than chemical weapons (this delayed effect is due to the incubation period — the time between exposure to an agent and the appearance of symptoms). In addition to the incubation period, biological agents are much harder to weaponize than chemicals, and storing viable material for later use is a significant technical challenge.

COMBAT USE

Many factors affect decisions whether to employ chemical or biological weapons. At the strategic level considerations include everything from measuring the expected retaliation against the possible gains, including an analysis of both friendly and enemy preparation and ability to fight through the attack, to personal opinions or memories of Great War experiences of gas in battle. Factors affecting tactical employment decisions include the available agents, weather, terrain, and the ability of a particular force to actually deliver the agents in an advantageous manner. For example, President Roosevelt in the United States

detested chemical weapons but, prior to its entry into the war, the United States made known its intent to massively retaliate in kind for any use of chemicals. This declaration not only added to the significance of the air war over Europe (particularly the large bomber raids) but ensured that chemical weapons followed the front lines and were constantly positioned for use within a theater. The critical decision point was whether or not a local commander on the ground had the release from higher headquarters to use chemical weapons at his discretion, and what limitations or conditions were placed on that commander.

CHEMICAL DEPLOYMENTS

Persistent agents, which evaporate very slowly and remain effective for relatively long periods of time (hours to days), are generally used to shape a battlefield in a manner similar to minefields and other obstacles. Non-persistent agents, the more volatile and faster-evaporating substances, are used for direct attacks on enemy troops in an attempt to cause casualties while limiting friendly exposures to those chemicals. Non-persistent agents are also affected much more by wind and weather than persistent agents.

The optimum conditions for using chemicals are when the temperature is relatively cool (but not so cold that the agent will not form a gas) with no precipitation to wash the chemical away, a slight breeze towards the enemy and an atmospheric inversion to keep the chemical close to the ground. Normally, early morning is the best time to employ gasses (or even non-lethal smoke screens), but warfare is rarely kind enough to provide conveniently perfect conditions.

BIOLOGICAL DEPLOYMENTS

Research on biological weapons focused on determining which agents could be effectively turned into weapons and how to successfully deliver them. Although the physical employment of a biological agent is very similar to that of a chemical, biological agents are even more susceptible to heat — and especially direct sunlight — than chemicals, making early morning the absolute best time to disseminate them. Various delivery systems were developed or experimented with, including aircraft spray tanks, bombs and the balloon bombs constructed by Unit 731 and launched towards America. In the later years of the war, the Japanese even tried launching a bomber from a submarine, loaded with disease-laden bombs in order to attack San Diego.

PANDORA'S BOX

Numerous delivery systems exist for chemical weapons. Almost every country possessing chemical weaponry has artillery shells and heavy mortar bombs (such as the American heavy mortar, originally designed to fire chemical shells but normally used for smoke screening missions), aircraft bombs and spray tanks, and rockets (an intended use of the German Nebelwerfer was to deliver chemical rockets, and the Americans also developed a multiple-launch rocket system). Even some infantry weapons had chemical rounds available. The Americans developed a cyanide-filled bazooka round and the Japanese had cyanide gas grenades.

Biological weapons are much more challenging to construct than chemical. The organism not only has to survive in a viable form, but the munition has to disseminate a substance that is notoriously sensitive to heat. Low impact, non-explosive delivery systems such as aircraft spray tanks or parachute-retarded bombs were the preferred means of delivery, along with natural vectors like glass containers of mosquitoes or fleas, or covert dissemination by spies and agents behind enemy lines in water supplies and the like. Most research focused on modifying agricultural sprayers and similar equipment adaptable to the purpose.

PROTECTION

Protection focuses on the basics — limiting the exposure of friendly personnel to toxic substances. Individually, this involves attempting to eliminate opportunities for troops to breathe or contact hazardous material by covering exposed skin and filtering the air they breathe. Units that cannot avoid contamination through maneuver or dispersal can limit exposure by rapidly decontaminating and reconstituting after an attack. On a more general level, overpressure systems protect buildings by raising the internal air pressure slightly so air constantly flows out of the building while all air coming into the building goes through banks of filters to remove any contaminants. Overpressure systems have not been developed for vehicle use, yet, but most countries are assumed to be working on them.

SCALES AND MEASURES

The **Gear Krieg Rulebook** suggests that different scales can be used, depending on the models and miniatures at hand. It is also possible to play in "real time," where everything on the table is in scale. This would be useful when playing with larger miniatures, or for those wishing to play in-scale with the terrain. This "Skirmish" scale is the best and most suited for simulating small-scale combats or engagements in restricted quarters with a great deal of detail, such as fighting in the industrial region of Moscow. To simulate the minute tactical decisions and precise action of this more 'detailed' scale, some slight modifications to the standard ruleset are required.

The following rules are all modifications of the Tactical Combat Rules detailed in the **Gear Krieg Rulebook.**

Skirmish Scale

Time:	Each round lasts 6 seconds
Scale:	Each MU represents 10 meters
Vehicle Movement Points:	Remain identical
Weapons' Rates of Fire:	Remain identical
Weapons' Range Bands:	5 x Listed value
Actions:	Maximum of one extra Action allowed (with the standard penalty)

CHANGE OF SCALE

Skirmish scale rules takes a much closer look at mechanical combat than the basic tactical rules. Skirmish scale MUs are only 10 meters across. Elevation are still in scale with the miniatures to preserve lines of sight. Skirmish scale combat rounds represent only 6 seconds of real time. Since all dimensions are divided by a factor of five, the MP values of the various units do not change: one MP still represents approximately 6 kph of speed.

Weapon ranges remain as they were, but all Range Bands are multiplied by 5 to take into account the smaller distance scale. For example, a weapon with a Base Range of 1 will now have a Base Range of 5. An attacker is at Point Blank range when he is within 2 MUs of his target. Obviously, most of the Skirmish combats will take place at Point Blank or Short ranges, making them extremely deadly.

The **Gear Krieg Rulebook** is a little vague on game scales and the implications of those scales. The time frames and MU values indicate nothing of the rule modifications that are necessary to run those battles. The size of the miniatures, the ground scale and the time scale all effect the dimensions of the playing field. The following section should help to explain the various scales in **Gear Krieg.** A revised table of game scales, next page, summarizes the data.

• GROUND SCALE

Ground scale is the ratio of the simulated distances on the playing field to the actual distance portrayed. For example, in 1/100 scale, each centimeter on the playing field represents one meter of distance in the real world. In **Gear Krieg**, ground scale is further modified by MUs, which are dependent on game scale. MUs are either 50m or 10m

of real world measure, depending on whether the game is played at Skirmish game scale or Tactical game scale. At 1/100 ground scale, each MU is 50cm long in Tactical game scale and 10cm long in Skirmish game scale.

Many players find the game more enjoyable if the ground scale is the same scale as the scale of the vehicles. Buildings match the vehicle sizes, and line of sight calculations become much easier. If the ground scale is smaller than the vehicle scale, a larger sized battle may be played in a smaller playing area, but then the vehicles are larger than they should be and line of sight calculation become more problematic at times. Some players also find the disparaging scales disconcerting.

• VEHICLE SCALE

Vehicle scale is to miniatures what ground scale is to playing area. Vehicle scale is further complicated by two conventions used to measure the size of miniatures. Miniatures are described in ratio scales like ground scales, but they can also be described in 'mm' scales. The 'mm' system is used to describe the height (more or less) of a typical human figure. For example, in 15mm scale the typical infantry man miniature is about 15mm tall. To make things even muddier, the ratios and the 'mm' scales do not always mesh

properly (for example, 15 mm is actually closer 1/110 for most manufacturers). The two scale denominations, however, are usually close enough to make generalizations possible.

• GAME SCALE RECOMMEN-DATIONS

The best scale for playing **Gear Krieg** depends on both the vehicle scale and the ground scale. If the vehicle scale and the ground scale are identical, the best game scale is then a factor of the size of the playing area. For example, with 15mm (1/100) miniatures and 1/100 ground scale, a typical playing area of 1.3m x 2m would be more suitable for a skirmish rather than a tactical battle. Both game scales would have the same

playing field of 130m x 200m in ground scale: for skirmish, this translates to 20 MUs x 60 MUs, which is a decent sized area for units to maneuver in. Conversely, this same area would only be 4MUs x 12MUs in tactical scale, which is hardly enough room to do anything. As a result, for tactical games, a ground scale that is smaller than the vehicle scale is recommended in order to give units room to maneuver. A larger playing area is also a solution: a good rule of thumb is that the shortest axis of the playing area should represent about 4-5km long in Tactical scale and 0.8-1km long in Skirmish scale for large games. Smaller games can get away with 2-2.5km for Tactical games and 400-500m in Skirmish games.

Point Black Diagram

The diagram at right is a visual representation of the Point Blank range band in the Skirmish scale game. Any unit within the 2 MU radius zone (and within the vehicle's fire arc) is attacked with a +1 modifier to hit. Unlike the regular Tactical scale game, where simply being at Point Blank range is enough to attack a unit in close combat, in Skirmish scale melee combat is possible only when the activated unit is in contact with the target.
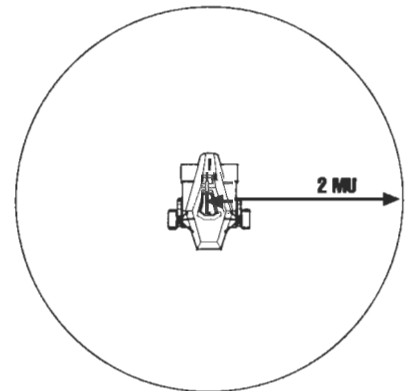
Revised Game Scale Table

Vehicle Scale	Ground Scale	Game Scale	1 MU	Large Battle	Small Battle
1/35 (models)	1/35 (1m=3cm=1.2")	Skirmish	30cm/1'	12m x 18m (36' x 54')	4m x 12m (12' x 36')
1/76 (models)	1/76 (1m=1.3cm=0.5")	Skirmish	13cm/5"	6m x 9m (18' x 24')	2m x 6m (6' x 18')
1/87 (HO, 20mm)	1/87 (1m=1cm=0.4")	Skirmish	10cm/4"	6m x 9m (18' x 24')	2m x 6m (6' x 18')
1/100 (15mm)	1/100 (1m=1cm=0.4")	Skirmish	10cm/4"	6m x 9m (18' x 24')	2m x 6m (6' x 18')
1/100 (15mm)	1/250 (1m=0.4cm=0.2")	Tactical	4cm/2"	2m x 3m (6' x 8')	1.33m x 2m (4' x 6')
1/144 (N, 12mm)	1/144 (1m=0.5cm=0.2")	Skirmish	5cm/2"	2m x 3m (6' x 8')	1.33m x 2m (4' x 6')
1/144 (N, 12mm)	1/250 (1m=0.4cm=0.2")	Tactical	4cm/2"	2m x 3m (6' x 8')	1.33m x 2m (4' x 6')
1/285-1/300 (micro)	1/250 (1m=0.4cm=0.2")	Tactical	4cm/2"	2m x 3m (6' x 8')	1.33m x 2m (4' x 6')

THE SKIRMISH SCALE COMBAT TURN

Because the Silhouette game engine has been designed to be modular and not dependent on a specific background or time scale, it is possible to vary the latter without affecting the balance of the rest of the elements. Indeed, a Skirmish scale combat encounter follows the same basic turn procedure and rules as a normal tactical scale combat. Unless so mentioned in the following text, all tactical combat rules (starting on page 42 of the **Gear Krieg Rulebook** apply in full.

The text on the previous page explains the effects the smaller scale has on the rules. Because the scope of the battle has been reduced by a factor of five, some movements and actions not previously "visible" in the tactical scale become possible (and, indeed, required) and are detailed here. For example, the blast effects of many weapons, which were previously abstracted in the 50-meter wide MUs, can now affect more targets.

INITIATIVE

Initiative proceeds as normal, except when there are only two units on the field. In this case, it is assumed that the vehicle crews are independent as opposed to being part of a coordinated military unit.

When only two units are engaged, Players roll initiative for each individual unit separately rather than roll initiative for each side. Any ties are rerolled. These individual Initiative rolls are Piloting Skill rolls, not Leadership Skill rolls. All usual modifiers (Maneuver, crew's Attributes, etc.) apply to the Piloting Skill roll. Command Points are not used in one-on-one combat.

Additionally, Command Points are spent in more limiting ways in multiple unit combat. These limitations are a reflection of the smaller amount of time in each turn. Command Points may be spent for Activation, Defense and Reaction but may not be spent on Action or Block (see page 49 of the **Gear Krieg Rulebook**). Additionally, only one Command Point may be spent on any single unit in each turn. Players may want to place a Command Point marker next to a unit when a Command Point is spent on that unit to remind them that the unit can no longer receive Command Points that turn. The markers are removed at the end of the turn during the Miscellaneous Phase.

MOVEMENT

Vehicles move in the same manner as in a normal tactical game, with two exceptions: vehicles move individually (not as part of a combat group) and sharp turns now cost one Action to perform in addition to one MP (see *Maneuvering* below). Other than these differences, movement works exactly the same as in the normal tactical game.

ACTIONS

In Skirmish scale combat, Players still get the same number of Actions per round as in tactical combat. They may get one additional Action with a -1 modifier to all their rolls. Because of the short time span involved, it is impossible to get more.

For the same reason, the scope of what an Action includes has been reduced. For example, in the tactical system, maneuvering a vehicle costs zero Actions and firing a weapon costs one Action. In the Skirmish scale, maneuvering a vehicle requires one Action and both aiming and firing a weapon require an Action each (see further).

As a general rule, most "events" in the Skirmish scale require two Actions. The first Action spent represents the preparations made (e.g. acquiring a target, programming active sensors). The second Action represents the actual completion of the act (i.e. firing the weapon at a target, performing the sensor scan). Usually, the second Action can be performed many times in a row without requiring the first act to be repeated. For example, once a vehicle has acquired a target, it can fire upon it repeatedly until it either loses sight of its target or switches to another target (see Target Acquisition below).

Maneuvering: In addition to costing 1 MP, any turn of more than 45° requires one Action. Moving in a mostly straight line (e.g. no turn of more than 45°) does not require an Action.

Shifting Speeds: Instead of simply declaring a change from Combat Speed to Top Speed or vice versa after movement, in Skirmish scale combat this change requires the expenditure of an Action (the change still takes place after movement).

Target Acquisition: Before attacking an opponent, a unit can use one Action to acquire it as a target (also see *Wild Fire Attack* further on). A target can also be automatically acquired if the attacker moves within a distance equal to its Size in MUs (x2 for walker vehicles in Walk mode) of the defender and a clear line-of-sight exists between the two for one full turn. Infantry's Size is equal to its ROF bonus +1; a squad of ten men, for example, is Size 4. This target remains acquired until the unit's line-of-sight with the target is broken. A unit may only acquire a limited number of targets: the maximum number that can be acquired simultaneously is equal to the unit's total Actions per turn.

Standard Attack: After performing target acquisition, a unit may attack the target with one weapon or set of linked weapons, as usual. Damage is applied immediately as each weapon hits.

Reloading Vehicle Weapons: Most tank guns require reloading every time they fire. The turns in Tactical scale are long enough that this can be safely ignored. In Skirmish scale, however, the turns are short enough that the time to reload is a significant factor. All main guns in tanks and vehicle that function like tanks (tank destroyers, anti-tanks guns, etc) must take an Action to reload after firing the main gun.

Wild Fire Attack: A Wild Fire attack consists of an attack performed without first acquiring the target. Wild Fire attacks suffer a -2 penalty on their Attack rolls. If a unit performs three Wild Fire attacks (successful or not) against a target without ever losing a line of sight, the target automatically becomes acquired.

Changing Weapon Systems: Each crewman can handle a single weapon system or set of linked weapons at a time. Using more than one is simply too confusing in the heat of close-quarter battles. Switching between weapon systems costs one Action. A set of linked weapons is considered to be one weapon for the purposes of this rule.

Activating Auxiliary Systems: Before using any auxiliary system, such as ECM or active sensors, a vehicle crew must expend one Action preparing the system for use. No rolls are made during this Action; it succeeds automatically. Communication systems and passive sensors are assumed always to be "on" and do not need to be activated prior to being used. However, if either is shut down (to avoid leaving telltale emissions, for example), it takes one Action to activate them as usual.

Using Auxiliary Systems: Once an auxiliary system has been prepared, a vehicle's crew may expend one Action to use the system. If the system requires a roll of some sort, it is performed when the Action is expended. An auxiliary system may be used for multiple combat rounds in a row without additional preparation. If two rounds go by without the system being used, the crew must expend one Action to prepare it again the next time the auxiliary system is to be used.

Preparing to Embark/Disembark: One Action is required for a vehicle crew outside their vehicle to prepare to embark (if at all possible) or for a crew inside their vehicle to prepare to disembark. This Action covers the various ingress preparations such as lining up for orderly entry, opening hatches and access doors, etc. Crew preparing to leave the vehicle must likewise release their security harnesses and move into position by the doors.

Embarking/Disembarking: Once a vehicle's crew has prepared to embark or disembark, up to three crew members or ten passengers may enter or exit the vehicle per Action expended, provided the situation allows it. This Action covers various activities such as entering the crew compartment or cockpit, settling down, reaching for straps and belts, etc.

Warm-Up/Shutdown: Starting up a vehicle's engine or shutting it down requires a full Action. In most combat situations, all vehicles will already have their engines started, but a crew could begin outside their inactive vehicle.

In such cases, the crew is treated as an infantry squad with a Skill level one lower than their crew level (e.g. a Veteran vehicle crew becomes a Qualified infantry squad). They will often have fewer members than usual, so the crew is divided into makeshift units of about five people. How they are armed depends on the vehicle and nationality. For simplicity, we will assume pistols (see page 78). In the case of large crew, one in five crewmen is equipped with a heavier weapon: for simplicity, it is treated as a standard infantry rifle for that nationality (see p. 78).

FIRE MODIFICATIONS

Due to the smaller scale and the increased level of detail it brings about, some modifications and clarification are required for weapon fire.

• AREA EFFECT WEAPONS

All area effect values are multiplied by 5; thus a weapon with a tactical AE of 3 would have a Skirmish scale AE of 15 (a weapon with an AE of 0 would have a Skirmish blast radius of 2 MUs — see AE0 diagram below.

Only the area within a zone equal to the tactical AE times two (the "primary" blast zone) is fully affected by the explosion. Targets within the Skirmish AE but outside the primary zone (the "secondary" blast zone) receive only half damage. This represents the fact that the explosion doesn't cover quite everything in the target zone. In the diagram, the primary blast zone is in black while the secondary one is in gray. Weapons with an AE0 in Tactical scale do primary blast zone damage to any model or unit under the 'X' found in the diagram.

Purists may want to decrease the damage along a more sloping curve. It slows down the game considerably, however, and so the above approximation is best for most games.

• BLAST RESULT

The concussion of the blast of an area effect weapon can knock walkers and infantry off their feet. In some cases, it might even overturn light vehicles. Walkers in Ground mode fall under the rules governing normal vehicles.

Walker vehicles are automatically pushed back one MU from the center of the blast and knocked to the ground (roll Piloting as per normal falls to avoid damage) if they are in the blast's primary zone, no matter the damage suffered (if any). Walkers in the secondary zone must make a Piloting Skill roll versus a Threshold equal to the damage total divided by 5, rounded down. If failed or fumbled, the vehicle falls (see the optional rule on page XX). Infantry that are in the blast zone of an artillery attack must pass a Morale test. If they fail and are in the scondary blast zone, they receive one "Pinned!" marker; if they are in the primary blast zone, they receive two. Light vehicles may be pushed or overturned by the blast: if they are in the primary blast zone, and the damage total is equal to or greater than 3 times the vehicle's Size, the vehicle is pushed back one MU from the center of the blast. Roll one die and compare the result on the chart below:

Blast Effect

1d6	Result
1-2	The vehicle remains upright
3-4	The vehicle ends up on its side (roll randomly which one)
5-6	The vehicle is overturned

• POWERFUL WEAPONS AND AREA EFFECT

Non-area effect ranged weapons with damage multipliers of x20 or greater are considered to have an area effect in Skirmish scale combat. Weapons with damage multipliers between x20 and x49 have a Skirmish scale AE of 0 (they affect all units within one half of an MU of the spot they hit). Weapons with damage multipliers greater than x50 have a Skirmish scale AE of 1.

Example of Area Effect

A 25-pdr battery has an AE of 1 in the Tactical scale. The battery therefore has a Skirmish scale AE of 5, for a total area of effect 5 MUs in radius. The primary blast zone is the Tactical AE times two, or 2 MUs in radius. The remaining area of effect of the battery is the secondary blast zone.

The Priest's 105mm howitzer only has an AE of 0 in the Tactical scale. Its total blast radius is thus 2 MUs in the Skirmish scale, which is also its secondary blast zone. The Priest's main weapon would only do primary blast zone damage if its shell happened to hit a specific model, unit or terrain feature.

Primary — 2 MU — 3 MU

Secondary

2 MU

• USING ROF

Because ROF represents the unit firing multiple times during the Tactical 30-second rounds, it costs a lot of ammo. In the Skirmish scale, fewer and tighter bursts are fired to accomplish a similar (though much smaller) pattern of dense firepower, diminishing ammunition consumption.

For each point of ROF used, only 5 shots of ammo are consumed (instead of the Tactical scale's 10). Missile weapon ROF ammunition costs are not affected by this and remain the same, following the usual exponential scale (see **Gear Krieg Rulebook**, page 56).

• SATURATION FIRE

Saturation fire affects an area approximately 3 MUs in area. Any area of any shape can conceivably be used, as long at the area is roughly 3 MUs in size (see the diagram below for two examples of fire patterns).

Additionally, Saturation Fire may only be used out to the Medium range band of the weapon. The entire area must be directly visible to the firing unit and must fall completely within the weapon's firing arc. The weapon cannot shoot around obstacles by "bending" the fire pattern, nor may it affect units outside of the arc of the weapon.

Saturation Fire Diagrams

The diagrams shown here are two valid fire patterns for laying down Saturation Fire. As long as the patterns are roughly 3 MUs in surface area, they may have any orientation They must remain within line of sight of the attacking unit — no bending fire patterns around obstructions!
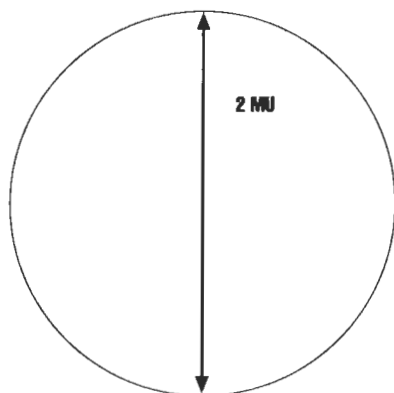
These diagrams can be photocopied and used as templates if so desired.

2 MU

1 MU

3 MU
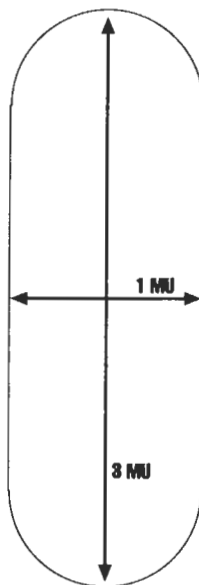
Example of Skirmish Scale Actions

An M3 half-track carrying a squad of infantry is speeding toward some woods. The M3 is jumped by a Panzer IIIE, which is 12 MUs away. The Panzer wishes to fire at the M3 and has 2 Actions per turn. Its first Action is to acquire the M3, since it can't automatically acquire the half-track (the M3 is more than 7 MUs away). Its second Action is to fire its main gun at the M3, and misses. The Panzer doesn't move. The M3 decides to slow down to unload the infantry. It must spend its sole Action to drop from Top Speed to Combat Speed. The infantry wisely spends its action to prepare to disembark.

Next turn, the Panzer wins initiative and elects to go first. The tank moves out of the woods at full Combat Speed, making its distance now 10MUs away. Since the M3 is acquired, the Panzer fire its main gun twice but miss both times. The M3 must stop for the infantry to disembark and has no Actions to perform. It automatically acquires the Panzer since the tank is now 10 MUs away and the M3 has a clear LOS. The infantry acts next, using its Action to disembark and then run for cover.

The following turn, the Americans win initiative; the M3 decides to move first. It manages to hide behind some cover, breaking LOS to the Panzer. It spends its Action doing nothing but hiding. The Panzer goes next and closes on the infantry, managing to get within 8 MUs of them. It must spend an Action to switch weapon systems and another Action to acquire the new target. The Panzer could have fired upon the infantry using a Wild Fire attack, but would have had a hefty -2 penalty to hit. The infantry again runs away.

SKIRMISH TERRAIN

Some of the rules about terrain and cover have been slightly modified to fit within the new scale. They mostly concern the Obscurement values and the damage points required to ignite/destroy certain types of hexes.

OBSCUREMENT

Each Skirmish scale MU only produces one-fifth the Obscurement of a standard 50-meter long MU. To simplify things, Obscurement values were recalculated to take this into account. All Obscurement-producing terrain types cause one point of Obscurement per terrain type crossed by the line-of-sight between attacker and target. For example, if there is Jungle in the LOS, the Obscurement modifier is +1. If the LOS also crossed Swamp, the modifier would be +2, and so on.

Additional Obscurement may be caused by a great number of obscuring terrain MUs. The table below lists the minimum number of MUs required to produce one more point of Obscurement for each terrain type.

URBAN TERRAIN

Urban terrain in the Skirmish scale is considered to be a single building about the size of a house (16 damage points). Dense Urban terrain is considered to be a larger, more strongly built building (20 damage points). A large building may be spread over a large area, but four 1 MU x 1 MU squares or fractions thereof are treated separately for damage purposes. The total number of damage points a building has is its Damage Point Capacity. Note that area effect weapons do damage to each 4 square MU area that falls within the area of effect.

Infantry may spend one MP to enter either form of building. Vehicles may not normally enter a building. If the building has lost one half of its total damage points or more, vehicles may then enter it at the same movement cost as Rough terrain (it has destroyed sections and gaping holes in it). Vehicles may freely enter buildings that are obviously designed for their entry, such as garages or large factories. These kinds of building do not have to be reduced to rubble first for vehicles to enter them.

The building can lose these damage points as the result of being rammed. Treat house-sized buildings (Urban terrain) as a Size 6 vehicle for this purpose. Larger buildings (Dense Urban terrain) are considered to be Size 12 vehicles. Buildings are considered to have rolled 0 for their defense roll against ramming attacks.

Additional Terrain Obscurement

Terrain Type	Minimum Number of MUs for +1 Obscurement
Clear	-
Rough	-
Sand	-
Woodland	5
Jungle	3
Swamp	5
Water	*

* Water only produces Obscurement if the defender is in water and is not a hover vehicle. In this case, Water produces 1 point of Obscurement per three MUs.

• WALLS

Walls are a special type of Urban terrain that span entire Skirmish scale MUs. Walls are not necessarily cement or brick, but are any structures that act like a wall, such as the bocage. In the tactical scale, walls are disregarded for simplicity. In the more-detailed Skirmish scale, walls can be both useful (as cover) and downright annoying (as obstacles).

In order to keep the game simple and fast moving, walls have been standardized. A typical wall stands at about one to two meters tall and is made of a resilient material such as stone or concrete. Walls made of lighter material, such as wood fences, have little defensive value for vehicles and are disregarded for simplicity. Walls are impassable unless they are damaged, destroyed, climbed or jumped over.

A typical wall segment one MU in length has a Damage Capacity of 12 for a standard wall (such as the bocage or a singe layer of brick wall) and 16 for a dense wall. If a one MU length of the wall loses one half of its damage points or more, vehicles may cross it at the same movement cost as Rough terrain (the wall has gaps in it now).

Most large vehicles are able to fire over walls, gaining the wall's full Obscurement benefit but are not impeded in their own attacks. For simplicity, any unit of Size 4 or more can fire over walls. Units with the Low Profile Perk may not fire over walls when under Size 15, because their hulls are too low to be able to clear the top of the wall.

Infantry units disregard walls when firing (it is assumed they find windows, cracks or just stand at the corner). Infantry may cross a wall by taking one full combat round to cross it, climbing over the wall using any convenient stairs, walkways or their own climbing equipment. They may also simply go through doors, if any are present. Infantry units gain full Obscurement from the wall when placed adjacent to it and the attack crosses the wall.

BRIDGES

Movement across bridges still has the same MP cost as Clear terrain, unless a road has been built on it. Each bridge MU is rated by Damage Point Capacity, Elevation Level and Size Capacity. Obviously, each will have a lower Damage Point Capacity and Elevation Level than a Tactical bridge to reflect the change in scale: divide the Tactical scale's values by a factor of 5, rounding up.

Apply the normal rules for Size Capacity. If converting a Tactical bridge to Skirmish, keep the same Size Capacity for each Skirmish scale bridge MU.

FIRESTARTING AND DESTROYING TERRAIN

The damage points required to ignite or destroy terrain are halved. To ignite an area one Skirmish scale MU wide a total of 50 points of intensity must be fired into it. No attack roll is necessary. Slow burn incendiaries add their intensity times 2. Once the 10-meter wide area is ignited, it is considered to be a fire of intensity 8. At the end of every combat round thereafter, its flame intensity is increased by one until it reaches 20. Once it reaches 20, the area expands one MU in radius and ignites as an intensity 8 fire. All other rules for Incendiary Effects (page 67, **Gear Krieg Rulebook**) apply.

The Bocage

Many things made the fields of France dangerous to cross. The bocage, low edge walls of rock and earth created by 2000 years of continual farming, made it difficult to see what was on the other side, and crossing it gave an exposed target to those waiting across. Treaded vehicles clawing their way over the top exposed their weak underbellies, which the enemy was eagerly waiting to pierce with their high-tech spears. Add to this the fact that with even the slightest rain, they became mud pits, and one can easily see why the carcasses of disabled vehicles and the dead littered the French countryside.

ARTILLERY SUPPORT

It is certainly possible to place long range fire support units off the playing surface. An artillery battery consists of multiple guns or rocket launchers that fire as a single unit. Batteries are most often located far from the battlefield, using the long range of their weapons to provide covering fire without exposing themselves to the enemy. An artillery attack is called a "fire mission." Fire missions are requested by a unit's Forward Observer or the commander himself (see *Requesting Fire Missions*, further on). They consist of one or two units firing on a specific spot or all units blanketing the area, at the caller's request. Players wishing to rely on artillery support merely have to purchase artillery barrages (see page 32), one fire mission at a time.

Off-board artillery can be as close as a few hundred meters off the field to a few kilometers away. The Player possessing the artillery must write down at the beginning of a game the direction and range (in MUs) of the artillery piece from one edge of the playing surface nearest the artillery piece. The artillery piece's range is equal to its distance from that edge plus the distance from the edge to the target. The opponent will know the general direction of the incoming fire but not its distance or precise location.

NOTE: If used, the following rules replace and completely supersede the rules found on page 34 of the **North Africa** theater book.

REQUESTING FIRE MISSIONS

Fire missions are usually called in by a dedicated artillery spotter unit called the Forward Observer. Most commanders also have the ability (or the authority) to call for fire missions. The Forward Observer must be identified as such before the game starts (preferably in writing), but his identity need not be revealed to the opposing Player. Forward Observers can be vehicle-mounted or on foot; there is no difference as far as rules go. Forward Observers and commanders must have functioning communication systems in order to request a fire mission.

The Forward Observer first opens a communication channel and give the name (or codename) of the target, along with its description and coordinates. Target points are often identified and objectives are planned before the battle whenever possible for maximum efficiency. Once the target is identified, the mission (illumination, harassment, etc.) is requested, along with the type of ammunition and the number of turns required.

Fire missions can be called at any time by spending one action. Only specific map coordinates, terrain features or buildings can be targeted by artillery fire, never combat units. The Forward Observer calling in the support fire must have a clear line-of-sight to the target area. Because of this, Forward Observers will often find a nice position overlooking the battlefield and attempt to remain there.

A Leadership Skill test against a Threshold of 6 is required to get through to the artillery battery. Any bonus from the caller's Communication system is added to the roll, if applicable. If the Forward Observer has not moved last Tactical turn or five Skirmish turns, the Threshold is only 5. If the Forward Observer has been in the same position, without moving, for the last two Tactical turns (ten for Skirmish) or more, the Leadership Threshold to call in fire missions is equal to 4. Commanders attempting to call in a fire mission may do so in the same way a Forward Observer does.

Artillery fire will normally arrive at the end of the next turn if the Leadership roll is successful. It is very possible that there will be a delay of one or more turns if the artillery battery is very far away: the *Artillery Response Time* table at the bottom right lists the flight times for most situations.

If the Leadership roll is failed, the request is not heard or just not given priority. The next request attempt is made with a +1 modifier, provided the new request is made the turn immediately after. No fire missions are sent on a failed test. A fumble means the communication did get through, but the wrong coordinates were transmitted: the target point is scattered by a distance in MUs equal to the roll of one die times two in Tactical scale or times ten in Skirmish scale (see *Deviation*, page 34, for scattering procedures). The shells may further deviate from the new target area as normal, depending on the Margin of Success (or Failure) of the artillery battery's crew.

If multiple turns are requested (and paid for), the barrage of fire missions continues on each subsequent turn until the total number of requested mission are fired or the barrage in cancelled (see further). The fire missions following the first mission do not require additional communications rolls. If a battery requires additional time to reload, those turns reloading simply don't have fire missions resolved. The barrage will continue on the next possible turn. Barrages from multiple batteries must be called and started individually. For example, if a Player has bought missions from two different battery types, each battery must be called, even if from the same Forward Observer, to initiate one or more fire missions.

• CALLER HIERARCHY

Only the unit's Forward Observer, commander and second in command may call in fire missions or cancel them. If the unit's designated Forward Observer becomes a casualty or loses his Communication system to battle damage, his job is taken over by the unit's commander or the second in command, Player's choice. If the commander should also be incapacitated, the second in command takes over. Other personnel may request artillery support, but the Threshold is an 8 and cannot be lowered by staying stationary. In all cases, the calling unit must have a functioning Communication system.

• CANCELING FIRE MISSIONS

For a whole host of reasons, it is sometimes necessary to cancel a fire mission. Fire missions can only be canceled the turn after they were called. Canceling a fire mission requires one action. A Leadership skill roll against a Threshold of 4 is required to get through to the artillery battery. Any bonus from the calling vehicle's Communication system is added to the roll, if applicable.

If the Leadership roll is failed, the request is not heard, but a new attempt may be made the turn immediately after. If this attempt is failed or fumbled as well, the crew ignores the request and the fire mission proceeds as normal. A fumble means the communication did not go through at all and the artillery fire proceeds as normal.

• CANCELING BARRAGES

Once a barrage is underway, it is sometimes tactically necessary to stop it in the middle of being carried out. Barrages may be canceled just like individual fire missions, with all of the same rules. Fire missions already on their way cannot be stopped, but no further firing will be carried out unless the battery receives a new request.

ARTILLERY RESPONSE TIME

Distance of Battery in MUs	Flight Time (Tactical)	Flight Time (Skirmish)
64 and less	0 turn	0 turn
65 to 128	0 turn	1 turn
129 to 192	0 turn	2 turns
193 to 256	0 turn	3 turns
257 to 320	0 turn	4 turns
321 to 384	1 turn	5 turns
		Etc.

Artillery Barrages

Tube Artillery	Force	Year	Range	DM	Special	FM Cost	Time to Reload
105mm Howitzer	USA	1939	14/28/56/112/224	x12	MR10, AE1	10	0
155mm Gun	USA	-	29/58/116/232/464	x15	MR21, AE1	38	0
8-in Howitzer M1	USA	1940	21/42/84/168/336	x17	MR15, AE1	19	0
240mm Howitzer M1	USA	1944	29/58/116/232/464	x20	MR21, AE1	38	1
Ordinance, Q.F., 25-pdr)	CW	-	15/30/60/120/240	x11	MR11, AE1	10	0
7.2in Howitzer	CW	1940	22/44/88/176/352	x17	MR16, AE1	21	0
76.2mm Field Gun M1936/42	USSR	-	17/34/68/136/272	x10	MR12, AE1	13	0
152mm Gun	USSR	-	22/44/88/176/352	x15	MR16, AE1	21	0
152mm Howitzer	USSR	-	16/32/64/128/256	x15	MR12, AE1	13	0
203mm Howitzer	USSR	-	23/46/92/184/368	x18	MR17, AE1	23	1
7.5cm Feldkanone 16 nA	Gr	-	16/32/64/128/256	x10	MR12, AE1	11	0
10.5cm Kanone 18	Gr	-	24/48/96/192/384	x12	MR17, AE1	25	0
10.5cm Howitzers	Gr	-	15/30/60/120/240	x12	MR11, AE1	11	0
15cm schwere Feldhaubitze)	Gr	-	17/34/68/136/272	x15	MR12, AE1	13	0
15cm Kanone	Gr	-	31/62/124/248/496	x15	MR22, AE1	41	0
17cm Kanone	Gr	1941	37/74/148/296/592	x16	MR26, AE1	67	0
21cm Morse 18	Gr	-	21/42/84/168/336	x19	MR15, AE1	20	1
24cm Kanone 3	Gr	-	47/94/188/376/752	x20	MR33, AE1	101	1
35.5cm Haubitze M.1	Gr	-	26/52/104/208/416	x26	MR19, AE2	78	3
Skoda 76.5mm kanon vz30m	Cz	-	16/32/64/128/256	x10	MR12, AE1	12	0
Skoda 149mm vz37 Howitzer	Cz	-	19/38/76/152/304	x15	MR14, AE1	17	0
Canon de 75mm "Saucy Cans"	Fr	-	14/28/56/112/224	x10	MR10, AE1	8	0
Canon de 105mm court 1935B	Fr	-	15/30/60/120/240	x12	MR11, AE1	10	0
Cannone da 75/27 m6/m11	It	-	13/26/52/104/208	x10	MR10, AE1	7	0
Obice da 75/18 m35	It	-	12/24/48/96/192	x10	MR9, AE1	6	0
Obice da 210/22 modello 35	It	1940	19/38/76/152/304	x19	MR14, AE1	15	1
75mm Field Gun Type 38	Jp	-	15/30/60/120/240	x10	MR11, AE1	9	0
Rocket Artillery	Force	Year	Range	DM	Special	FM Cost	Time to Reload
15cm Wurgranate 41	Gr	1941	9/18/36/72/144	x9	MR9, AE1, Acc -1	2	5
21cm Wurfranate 42	Gr	1943	10/20/40/80/160	x11	MR10, AE0	2	5
M13 132mm Rocket "Katyusha"	USSR	1941	10/20/40/80/160	x9	MR10, AE0	2	4
Land Mattress	CW	1944	9/18/36/72/144	x9	MR16, AE1	3	4

Year: The year the weapon was first available. A dash ('-') indicates the weapon was available for the entire war.

Range: The range brackets in Tactical MUs. The five values are the Short, Medium, Long, Extreme and Artillery range bands.

DM: Damage Multiplier for the weapon.

Special: Any special characteristics for the weapon. MR is the minimum ranges for the weapon battery, AE if the area effect value for the weapon battery and Acc is the Accuracy modifier for the weapon (if applicable; use 0 as the default value).

Fire Mission Cost: This is the TV cost for one fire mission from the battery. This cost is for an HE mission. The cost is modified further by other ammo types and crew Quality (see page 33).

Time to Reload: The amount of tactical turns the battery needs to reload its weapon after a fire mission. If the value is zero the battery may fire the very next turn at no penalty. A value of one or more means the battery cannot fire again until the indicated number of full turns have passed. If playing Skirmish scale, multiply this value by 5.

Friendly Fire Incidents

Due to many factors, artillery was not as highly reliable or highly accurate as anyone wanted it to be. Commanders tried to use artillery as a scalpel when it was more of a hammer. They often required artillery to hit enemy positions quite close to friendly troops, but without comprehensive survey equipment, artillery crews just could not hit exactly where they wanted to all the time. As a result, sometimes artillery barrages landed in friendly positions, causing casualties from the friendly fire. An old maxim says, "friendly fire ain't," and it was never truer in World War II than when a unit's own artillery was pounding the earth around it.

FIRE MISSION ATTACK PROCEDURE

Once the coordinates have been communicated in, the artillery battery can fire. Artillery guns with large crew can fire several salvoes per turn. The flight time of shells is irrelevant to the game most of the time, except if the artillery battery is very far away or the game is played in Skirmish Scale (see page 22). The table below lists the response time for both game scale.

A flight time of zero turns means that the shells arrive the same turn they were fired; a flight time of one turn means they arrive the turn after the turn in which they were fired, and so on.

ARTILLERY ATTACKS

The artillery batteries have an area effect to reflect the large number of projectiles they fire in one salvo (from multiple shots within a turn from one gun and from multiple tubes). Unlike normal Indirect Fire weapons, they can augment the size of the area affected by spreading the shells around. This adds one to the area effect (e.g. an AE of 0 becomes an AE of 1, and so on) but divides the damage multiplier in half (rounded down). Such an augmented area effect is called an open sheaf. A converged sheaf is a pattern of concentrated fire — the weapon's normal AE.

Tube Artillery (but not Rocket Artillery) weapons may use one of several ammunition types: High Explosive (HE), Smoke, Biological, Chemical or Illumination. For convenience's sake, it is assumed that all shells in the salvo are of the same type. Rocket Artillery is considered HE only.

High Explosive (HE): these barrages use the basic game statistics as written.

Smoke: Smoke barrages cover an area equal to the AE of the battery plus one, both vertically and horizontally, with an Obscurement of 2. In Skirmish scale, each 3 MUs of smoke adds +1 Obscurement. The smoke lasts for two turns and dissipates in the Miscellaneous Events Phase. Smoke shells have no effect against armor. Smoke missions cost half of the cost of an HE mission.

Biological: The barrage contains a short-lived biological warfare agent, such as an airborne bacteria with a very short incubation period. Whether or not the agent is lethal should be decided during puchase. Lethal agent victims will die immediaetly after the battle, while victims of semi-lethal agent can survive if provided with medical attention. The disease's infection sphere is assumed to cover the battery's AE plus one. Biological shells have no penetration power and thus no effect against armor. Infantry in chemical warfare suits are not affected by biological rounds.

Infantry and vehicles with the "Exposed Crew Compartment" flaw are affected if hit (although the vehicle itself suffers no damage). For each ten points of damage, a penalty of -1 will be applied to all actions attempted by the target. This represents the fact that the enemy unit is feeling quite sick. If the penalty goes down to -5 or worse, the affected unit becomes a casualty. Biological fire missions cost twice the cost of an HE mission for semi-lethal doses, and cost threes time the cost for lethal missions.

Chemical: The barrage's shells are hollow and filled with a chemical agent. The most common payload is a deadly mustard gas. The gas cloud's radius is assumed to cover the battery's AE plus one. Chemical shells have no penetration power and thus no effect against armor. Infantry in chemical warfare suits are not affected by chem rounds. Other infantry are casualties (any remaining damage points are crossed out). Vehicles with the "Exposed Crew Compartment" flaw are also considered casualties if they are hit, although the vehicle itself suffers no damage. Chemical fire mission cost five times the cost of an HE missions.

Persistent: Biological and Chemical fire missions may be bought with persistent effects. Persistent weapons cause the target to suffer the attack's effects for a number of combat turns equal to the original Margin of Success of the attack. Damage is calculated using the original MoS, minus one for each additional turn after the first one. For example, a MoS 4 attack would use MoS 3 on the second turn to calculate damage, MoS 2 on the third and MoS 1 on the fourth and final turn. Persistance adds one to the cost multiplier for Biological and Chemical barrages (i.e., Chemical costs six times the cost of an HE mission).

Illumination: the barrage lights up an area equal to the AE of the battery plus one. The illumination lasts for one turn per ten points of the barrage's Damage Multiplier, rounded up. The illuminated area is counted as being in daylight. Illumination missions cost one fifth (rounded up) of an HE mission.

The attacker must write down the destination, sheaf (open or converged) and nature (the type of ammunition used) of each separate fire mission. Note that he does not have to reveal anything about the type or nature of the incoming fire until it actually hits the target. Thus, the defending Player will know that a fire mission is incoming (from bribes or intercepted transmissions between forward observer and battery, ranging shots, etc.), but he will not know where it is aimed or whether the rounds are simply smoke or a more lethal payload.

When the fire mission arrives on the battlefield, the attacker rolls the artillery crew's Gunnery skill, modified as normal for range and accuracy, versus a Threshold of 8 (this number factors in stationary fire bonuses and base accuracy of the artillery batteries). If the modified die roll is equal or higher than the Threshold, the fire mission lands right in the targeted area. If the dice roll is failed or fumbled, the shot will deviate.

• DEVIATION

Many factors influence the projectiles as they fly toward the battlefield: incomplete or uneven burn of the propellant charge, damaged projectile, cross winds, etc. Because of this, even the most skilled gunnery crew will sometimes misplace their shots by a few dozen meters.

If the attack roll fails, the shot will deviate from its intended destination by a number of MUs equal to the Margin of

Failure. To know the direction of the deviation, the attacker rolls one die and consults the Artillery Scatter Diagram.

If the attack roll was fumbled, the shot deviates as normal, but *toward the nearest friendly unit*. Sometimes, a fumble will land a shell right on top of an enemy unit anyway. Resolve the attack as normal: the crew goofed, but they still got lucky.

• RANGING SHOT

Because they fire from so far away, artillery units may require a few attempts before they hit their target. In order to save ammunition, the crew may use what are called ranging shots, where only a few shells are fired rather than a whole salvo. Ranging shots are called and treated as normal fire missions. They do no damage and do not consume ammunition since there are so few shells (the possibility of the odd damaging hit is disregarded to keep the game simple). They therefore do not count as using up an attack and don't cost anything.

Each ranging shot gives a +1 modifier to subsequent attempts to fire at a given target, provided the firing unit does not move and does not switch target. Thus, given the worst possible luck, an artillery unit will always hit its target on the eighth salvo. Ranging shots are incompatible with direct firing by artillery batteries present on the tabletop.

DAMAGE

Damage is applied as per normal weapon fire. For defensive purposes, the attack is considered as coming from the side of the mapboard nearest to the artillery battery. Damage is applied immediately; the target cannot fire back unless it survives the artillery barrage.

Even if the attack failed, the weapon still causes damage equal to its basic Damage Multiplier to everything in its area effect.

All off-board artillery attacks are resolved during the Miscellaneous Events phase (Step Four of the Game Turn).

• PSYCHOLOGICAL DAMAGE

Although artillery weapons are capable of inflicting terrible damage, their main effect is to destroy the morale of enemy forces. A constant bombardment will sap the morale of the troops in the field even though they might suffer very few casualties. The Morale rules (page 70 of the **Gear Krieg Rulebook**) are highly recommended to simulate this. If the Players prefer to play without them, the following behavior rule should be observed.

Because of the huge amount of shrapnel it throws around, artillery is especially devastating to infantry units. If any part of an artillery salvo falls within two MUs of an infantry squad, the squad must

ARTILLERY SCATTER DIAGRAM

Reproduce this template on a piece of cardboard. Make sure the arrow is always oriented toward the same table edge (which one does not matter).

T: *Original Target Point*

#: *Die Result*
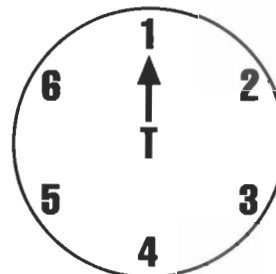
make a Leadership roll versus a Threshold of 5 to keep moving. If failed, they are Pinned into place (one counter) but may still fire their weapons. If fumbled, the squad may also do nothing for the turn. If a squad is caught in the area of effect of a salvo, it is automatically Pinned down and must pass the Leadership test to get moving again (even if the artillery barrage is over).

Armored vehicles have less to fear from artillery than infantry — only a direct or near-direct hit will harm them. Vehicles caught under a salvo must attempt to exit the area of effect as soon as possible, but suffer no additional adverse morale effect.

MISCELLANEOUS RULES

Although most people have come to think of artillery as a "steel rain of death" launched from large cannons or racks upon racks of long range missiles, in truth artillery has many more faces and uses. For example, mortars can lend fairly precise indirect firepower to even the lowly infantryman.

In addition to its task of providing support firepower, artillery can be used to attack enemy batteries and supplies lines, clear minefields and open trails through dense fortifications. The following text explains how to use artillery for such specialized missions.

• CLEARING MINEFIELDS

Artillery can be used to clear minefields through brute application of firepower. If a minefield is present in the area targeted by the fire mission, it will automatically be affected. Both its Vehicular and Infantry Thresholds will drop by one point for every full ten points of damage caused to a zone 1 x 1 MU.

If either Threshold falls below zero, the minefield, while not quite eliminated, has huge gaps in it and is no longer a threat to units passing through the area. Except for Water and Swamp areas, the target area's terrain is automatically transformed into Rough ground.

• ARTILLERY RANGE

Any weapon with the Indirect Fire characteristic may fire out to a special range band beyond the normal Extended Range band. This special band is the Artillery Range band and is twice the range of the Extended Range band. Fire at this range suffers a -4 accuracy penalty. Additionally, individual units may not be targeted at this range; only terrain features may be so targeted. Any IF weapon fire at this range is subject to all of the artillery rules outlined above, including deviation.

• GUN CARRIAGES

Gun carriages are simple towed platforms whose purpose is to allow small vehicles to carry and use heavy weaponry. Gun carriages are often used to transport artillery batteries and other battlefield support weaponry. Gun carriages, like the artillery pieces themselves, are largely abstracted in **Gear Krieg**. The assumption is that artillery is going to be placed off the board, and as a result the specifics of a gun carriage as a vehicle with armor and movement are really not necessary. If an artillery piece is necessary as an on-board asset, it should be treated as a tactical objective and detailed in the scenario's briefing. Most artillery pieces cannot be limbered and moved within the time limit of the typical scenario, so the point becomes largely academic.

Fire Mission Example

A besieged Russian company commander decides it is time to give his German attackers a taste of Soviet firepower.

He has his radio (-2, 2km range), and he's been in his current position for at least two tactical turns. His Threshold to contact the battery is therefore a 6 - 2 + 2 = 6. He spends an Action to make the roll and comes up with a 3. The radio doesn't work, the artillery battery is busy or something else has occurred to make the requested fire mission impossible. In the next turn, the commander tries again and this time manages to roll a 6. His pleas are heard! The Russian Player records the various characteristics of the fire mission.

In the next turn, the defender, prudent, attempts to remove his unit from the vicinity of what he thinks is the target point. The fire mission arrives at the end of the turn, in the Miscellaneous phase.

The artillery battery is manned by a Qualified crew (Skill level 2) and is located at Medium range. The basic Threshold is 8; the crew rolls two dice, yielding a 5. Modified by distance (-1), the attack roll gives a total of 4. The Margin of Failure is thus 4, which means the shot deviates by 4 MUs (200 meters in the standard Tactical scale) from the target. Rolling one die gives the direction, and the true impact point is marked on the table.

FIELD ENGINEERING

Be it fortifications, area denial weapons or simply obstacles, field engineering aims to foil the enemy in some way. It uses basic construction materials and more specialized supplies, like barbed wire or fascine rolls, to build fortifications or traps. Some of it can be acquired locally: dirt and sand to fill sandbags, large stones, wood, etc. The rest has to be brought in, generally by truck. Although factory-fresh units are preferred, field engineers are adept at salvaging old material or even manufacturing makeshift units from whatever scrap metal they can find.

CONSTRUCTION MATERIAL

Construction material is a broad term to cover the components field engineers use to build their fortifications and other earthworks. They have been known to use just about anything to do the job: loose soil, rocks, even hulks of destroyed vehicles.

Fabric bags — the ubiquitous "sandbag" — may be filled with sand or dirt beforehand to allow easy transportation and stacking. They add five points to the protection factor of any type of revetment or foxhole per row of bags (each row being half a meter thick).

• BARBED WIRE

Barbed wire covers any type of material that impedes the movement of combat units. Barbed wire transforms the area where it is installed into a nightmare of razor-sharp protrusions and edges placed in a chaotic pattern, requiring each trooper to carefully pick and cut his way through. Tripwires linked to flares or worse, anti-personnel mines, make this operation extremely hazardous if time and care are not taken.

Infantry units may move through an area which contains barbwire at the MP cost of the terrain, plus 2 (more than one turn may be needed). The unit must pass an Infantry skill test versus a Threshold of 3 plus the MP cost before moving every turn: if the roll fails, the infantry squad is busy picking and cutting their way through and cannot move this turn. On a Fumble, one die's worth of damage is applied to a random trooper in addition to the "failed" effect.

Vehicles that move over barbwire simply hope to rip their way through. A ramming attack is made against the barbed wire: it is considered an immobile Size 3 vehicle. The barbed wire's "Size" and Threshold for infantry drop by one for every fifteen points of damage (i.e. after 45 points, an area one MU in diameter is cleared).

There are several ways to clear barbed wire (besides crashing vehicles into it). Infantrymen may try to cut it by hand or with explosive. They causing damage equal to their Skill level times the number of troopers. Satchel charges may also be used (see the table page 76). The last method of removing barbwire is to use an artillery barrage to clear entire areas (see page 35).

Barbed wire comes in spools designed for efficient storage and rapid deployment in the field. For convenience's sake, all barbed wire comes in standard spools, each capable of covering a 10x1 m^2 zone (thus, about 200 packs are required to cover a 1x1 Tactical MU area) and costing 2 TV. When stored, a barbed wire spool occupies a volume of 0.1 m^3 with a mass of 50 kilograms.

Deploying one spool of barbed wire requires two men or one vehicle equipped with two Manipulator Arms. It takes four Tactical turns (two minutes) to deploy and anchor it. Five spools equal one "Size point" of barbed wire for purposes of clearing and applying damage. A 1 MU wide span of barbed wire is thus made from 15 spools, is Size 3, can take 45 points of damage and costs 30 TV.

• FASCINES AND MATS

Fascines are strips of sticks or brushwood tied to one another with wire to form bundles that are further rolled into a bigger bundle for dropping into ditches and anti-tank trenches. One man (or one vehicle equipped with a Manipulator Arm) can deploy one roll of fascines per minute. Larger rolls can be mounted on vehicle and deployed more quickly. Vehicles with fascine rolls may release them to make one 10 meter width of ditch passable as if it were Rough terrain. Releasing fascine rolls takes one Action to perform.

Mats are constructed with flat wood attached by wire or even canvas reinforced with slat wood. Mats are used in assaults to create temporary roads over rough ground and barbed wire. Vehicles with mat-laying devices may use them to negate one 10-meter width of barbed wire for up to 30 meters in depth. This negation applies to infantry only — if any other vehicle uses the mat, they destroy it and render it useless.

ANTI-VEHICLE FORTIFICATIONS

Anti-vehicle fortifications are obstacles designed to impede the movement of vehicle-sized units. They take many forms such as welded steel girders, reinforced concrete blocks called Dragons' Teeth and even large tree abatis sharpened to a point and faced toward the enemy. Like barbed wire, often anti-vehicle fortifications are supplemented with booby traps and mines.

Anti-vehicle fortifications are impassable to Ground vehicles and treated as Swamp terrain by other units. They may be cleared with area effect weapons; fortifications can take 20 points of damage per 10x10m area before becoming Rough terrain. Fortifications may also be removed by units with the Engineering characteristic by spending hours to remove the offending obstacles. The amount of time it takes is outside the scope of a typical scenario, but may be accomplished between scenarios. Fortifications cleared this way are completely removed; for example, if an abatis was placed on a road, once cleared by an engineering squad the road is considered intact, not Rough terrain.

Anti-vehicle fortifications cost 10 TV per 10x10m area. A typical 1 MU square section takes 100 damage points before being cleared and costs 50 TV.

DEFENSIVE POSITIONS

Defensive positions built to protect vehicles and infantry from enemy fire are called revetments and foxholes, respectively. These structures allow vehicles and infantry to go hull down in almost any terrain they are constructed in.

A vehicle using a revetment is automatically considered "hull down" and gains all the usual benefits. Revetments add 20 points to the protection offered by the terrain. It costs only one MP to park in a revetment since it is a prepared position. Infantry units add one to their Defense roll to reflect the prepared nature of their cover (infantry units are always assumed to be under cover already, as indicated by the -2 to hit modifier).

Both types of defensive positions are extremely hard to destroy since they are really just holes in the ground with some reinforced structure(s) on one side. Each can take up to the lowest MP cost of the terrain times fifty in damage points before becoming unusable. Another way these positions can eliminated is to simply fill them in, such as with dirt.

DITCHES

Ditches are large trenches in the ground that impede the movement of vehicles. They may only be 'cleared' by engineer units or filled with fascines. In order to 'clear' a ditch, it must be filled in; this action requires several hours and cannot be performed during a scenario.

Infantry, Walkers, and Ground Vehicles with the Improved Off-Road Perk may cross ditches as if they were Swamp terrain. They are impassable to other Ground vehicles. Ditches cost 10 TV per 10x2m area. A typical 1 MU wide section costs 50 TV. Any ditch more than 10m in two dimensions is actually an elevation level change!

DEMOLITION

Engineers have special training to make maximum use of the demolition charges they are carrying. They may be called in to blow up a structure that impedes their forces' movement, or to deny an important bridge to the enemy. By placing shaped charges at key points within the structure, they can bring it down rapidly and completely with little effort.

Engineers who spend four Tactical turns in the same area as a structure (a building or a bridge) may plant explosive charges to bring it down. The number of turn is doubled for Dense buildings since they are sturdier. The explosives can be detonated by using an Action from an engineering squad in any subsequent turn. The structure is automatically transformed to Rough terrain, except if the target was a bridge above water.

BUNKERS/EMPLACEMENTS

Buildings and general structures such as roads and bridges are assigned Damage Point Capacities rather than Armor. These structures take damage by ablation rather than by Light or Heavy damage effects. It is possible to mount systems and weapons on these basic structures to give them additional capabilities: these are referred to as emplacements.

Emplacements' movement is always equal to zero, and their Maneuver value is equal to -10. Their defense roll will always be equal to zero — a gun emplacement does not dodge. Emplacements always benefit from the Stationary attack modifier (+2). Gun emplacements ignore any Movement or Maneuver-related damage result, but still lose Armor points as usual (1 for Light Damage, 2 for Heavy Damage).

LANDING ZONES

Sometimes, landing zones must be cleared to allow air transport to land and offload troops and supplies. Such a task consists mainly of making sure the surface is neat and strong enough to support the weight of the aircraft. Preparing a landing zone in a Clear of Sand area 1 MU in diameter takes one Tactical turn. It takes six Tactical turns to prepare an equal area of Rough terrain. If the aircraft is not a helical aerodyne, the time required quadruples since an entire landing strip must be cleared.

The task gets more complex when the landing zone must be cleared in forests and other hazardous areas. A total of 1000 points of damage will transform a Jungle area 1 MU in diameter into a Woods area. An additional 1000 points of damage will transform the Woods into a Rough area, which may then be cleared according to the procedure above. Area Effect weapons multiply the damage they cause by their AE factor plus one to represent the additional concussion effects of the explosion. Thus, the most expedient method is to use bombs or demolition charges to blow away the obstructions, though physical attacks will do just fine as well.

Skirmish scale landing zones use the same procedure, but require less damage since the zone affected is smaller. Preparing a zone in Clear or Sand still takes one turn, but clear a smaller area (10 meters in diameter) which must be taken into account when checking how much space is needed. Only 40 points of damage will be required case of Woods or Jungle areas (which must still be cleared to Woods first).

ADVANCED MINEFIELD RULES

Minefields are nasty area denial weapons used to slow the enemy down. They not only cause casualties, but they also force the enemy to try and neutralize them. Mines in WWII came in all shapes and sizes, from metallic to non-metallic and from anti-personnel to anti-tank. A variety of fuses were used to fill every tactical possibility, including booby-traps.

This section explains how to define mined areas and handle them during the game. Two different types or "grades" of mines are available depending on the target requirements. Both can be modified using four characteristics to customize them to the exact needs of the situation. The text also covers the procedures for laying down and removing mines.

NOTE: The following rules are more detailed than those found on pages 33-34 of the **African Theater** rulebook. Either set of rules can be used at the Players' discretion.

MINEFIELDS IN THE GAME

Any area may be designated as a minefield (mines can be designed for practically any environment, be it ground or water). The type of mine used to produce the minefield determine the minefield's Threshold and Damage Multiplier. Minefields are treated as areas that continuously have an area saturation attack in effect (see *Saturation Fire*, page 57 of the **Gear Krieg Rulebook**). The mines themselves small enough and there are so many of them that the field effectively remains active through-

out the game (unless cleared, see below). Depending on their type, mines have different detonation Thresholds versus different unit types.

Damage is considered to come from underneath the unit for game purposes, though some mine designs are first launched out of the ground before exploding and attack normally according to facings (see *Jumping Mines*, further). Additional armor is ignored, unless it is mounted directly on the underside of the vehicle. Mine attacks are automatically aimed at the Movement system

but do not suffer the usual -1 aiming penalty. No unit can be attacked more than once per area during any given game turn.

The costs given in the table (page 39) assume that the enemy is not aware of either the existence of the minefield or its location. Such a minefield costs the listed price. It is possible, however, to buy minefields whose existence is known by both sides. Such a minefield costs only one-third the listed TV.

• BOOBY-TRAPPED MINES

Mines are designed with detonators that can be both pressure detonated and lift detonated. As a result, booby-trapped minefields are particularly nasty to try and clear. They cost twice as much as normal minefields and have additional properties. When attempting to clear booby-trapped mines, the squad making the attempt does so at one level lower than their normal level. A Qualified engineering squad would roll one die A non-engineering squad rolls two dice and takes the worst result (and if either die is a 1 the roll is a Fumble).

• REMOTE MINES

Remote-detonated minefields are extremely sneaky and deadly. They can remain hidden until an enemy is well within the minefield's boundaries — they then attack with deadly effect. Remote-detonated mines cost twice the listed price, but do not attack until activated by a friendly unit within communication range.

Activating a minefield requires either a LOS to the minefield area, or a forward observer. Any number of minefield areas can be detonated at once, provided they satisfy the condition above. A Leadership roll must be made against a

Threshold of 2 plus the area terrain's MP cost (highest cost in case of multiple terrain), modified by the radio's rating. This roll costs one action. A successful roll means immediate detonation of the selected area(s). A failed result means only some of the mines went off — halve the Damage Multiplier of the minefield. A fumbled result has no effect. Remote-detonated minefield areas can be used only once per game (all mines in the area are detonated at once).

• JUMPING MINES

Jumping mines use a small rocket motor or compressed gas charge to "jump" into the path of their intended target before detonating. This allows them to attack almost any kind of unit, including aircraft flying at very low altitude over the mined area. Because they have to be carefully placed and concealed, jumping mines may only be placed by engineering infantry units.

Jumping mine attacks are unpredictable: the mine can explode in front of the target (1-3 on one die) or wait until the target has passed and attack from behind (4-6). Other than this, they are treated as a normal attack against the facing rolled above.

MINEFIELD COSTS AND CHARACTERISTICS

The following table lists the two types of minefields available. More than one type of mine may be placed in any given area, but the full price must be paid for each. The price below gives the cost to completely cover an area of one square MU — additional Threat points spent on that minefield have no effect and do not give any kind of bonus. If the Skirmish scale is used, the listed cost will buy ten square MU's worth of mines (rather than 25 — it is supposed that a mined Tactical scale zone is not fully covered by mines, allowing some units to pass through unharmed on a good die roll).

Minefield Type gives the minefield's primary function. Damage Multiplier is used in the same way as other weapons' Damage Multipliers. For simplicity, treat all mines as HEAT weapons. The Vs. Vehicles and Vs. Infantry columns list the Threshold used to determine whether a hit as occurred and how much damage is inflicted. Finally, TV per MU^2 is the cost, in Threat Value points, of one Tactical square MU for this type of minefield. This cost will be further modified depending on the chosen characteristics of the minefield (juming, remote-detonated, etc). All costs are rounded up to the nearest whole point.

MINEFIELDS

Minefield Type	DM	vs. Vehicles	vs. Infantry	TV per MU^2
Anti-Personnel	x4	4	6	2
Anti-Armor	x12	6	4	6

MINEFIELD TV COST MULTIPLIERS

Booby-trapped	x2
Remote-detonated	x2
Jumping	x1.5
Minefield is known by both sides	x0.33

Dog Mines

The Soviets experimented with using dogs as anti-tank weapons. The theory was that dogs could be equipped with demolition charges and a pole set to detonate the charge as it bent when the dog ran underneath the enemy tank. The selected dogs were trained with dummy charges and Russian tanks, and learned their job easily enough. However, once the program was tried on the battlefield, the shortcomings of the dogs' training were shown. The dogs, trained with Soviet tanks, tended to run to familiar sights and smells once released — other Soviet tanks. Additionally, once the Germans learned of the new weapon, the word spread quickly to shoot dogs on sight. Both of these factors led to the canceling of the program within weeks, never to be widely used again.

DEPLOYING MINEFIELDS

Minefields must be placed by hand. A well-trained engineering squad can mine an entire area in a matter of minutes. The exact time required is equal to the base TV cost of the chosen minefield (before any multipliers are applied), in minutes, provided that all of the soldiers in the squad work at it. Multiply the previous result by two to get the time required in Tactical scale turns or by ten to get the time required in Skirmish scale turns.

If only part of the squad works at it, the time required is proportionally longer. For example, if only half the squad place mines, it takes twice the time. If only one trooper places mines, it takes him ten times as long as if the entire squad was working at it. The time required is also doubled if the unit is inexperienced (Skill level 0 or 1) or is not an engineer squad (the modifiers are cumulative). It is not possible to place mines while under attack.

DETECTING MINEFIELDS

Hidden minefields are very hard to detect, but it is possible to find them using sophisticated equipment, careful search or just plain dumb luck. Infantry units have a one in three (1-2 on one die) chance of discovering a minefield when they enter a mined area, even if they do not trigger it (i.e. receive damage). Ve-

hicles passing through a mined area but not triggering it will not be aware that they have passed through a mined area.

Infantry units can be equipped with bulky mine detectors to look for mines (see page 49). Mine detectors prohibit the soldier carrying them from carrying any weapon other than a pistol or submachine gun. Two soldiers per engineering squad or mine clearing detail carry the detectors. The detectors give a +1 bonus to detecting mines, but this bonus is lost if one of the soldiers is killed.

CLEARING MINEFIELDS

There are several ways to clear mined areas, but none of them is particularly safe (except perhaps the artillery bombardment, if only because the soldiers never actually enter the minefield). The job is always extremely dangerous and requires extensive training in the field of demolition and explosive devices.

The simplest and cheapest method is to send in an engineer or infantry unit which will attempt to clear a path through the mines. Too often, they have to make do with sticks, intuition and common sense to find mines. Luckier units will have access to electronic detectors designed to find hidden mines. Needless to say, the job is dangerous and thankless.

Vehicles can also be equipped with special equipment to detonate the mine safely. The armored hull of the vehicle makes the job of mine clearing somewhat less dangerous for the crew, but once in a while a mine slips through and explodes, damaging or even destroying the vehicle. Often, engineering units rely on remote-controlled drones to avoid endangering a crew.

Artillery can also be used to clear suspected dangerous areas. This tactic tends to be costly in ammunition and is not very subtle, often devastating the target area and everything within.

• INFANTRY

Infantry squads sent to clear minefields must remain in the mined area for at least two complete turns. By spending one Action, they can roll versus the minefield's infantry Threshold using an effective Skill of one. Engineering squads roll a number of dice equal to their actual Skill level to reflect their additional training. If the minefield is booby-trapped, the effective Skill level is one lower than normal. If the Skill level is reduced to zero, two dice are rolled, taking the lowest result (any result of 1 on either die is a Fumble).

If the test is successful, both of the minefield's Thresholds are reduced by one. If any of the two Thresholds drops to zero or lower, the minefield is effectively neutralized (most mines remain, but a safe path is identified through a square MU area).

If the roll fails, the infantry unit is immediately attacked by the minefield, as per the normal rules. If the roll is Fumbled, the infantry is also attacked but does not get a defense roll (i.e. the roll is equal to zero for damage purposes).

• MINE-CLEARING VEHICLES

Vehicles can be equipped with mine-clearing devices (see Perks, page 76). The vehicle must remain in the mined area for at least one complete turn. By spending one Action, the vehicle can roll versus the minefield's Vehicular Threshold using the crew's Piloting Skill, adding the Rating of the mine-clearing equipment.

If successful, both of the minefield's Thresholds are reduced by one. If any of the two Thresholds drop to zero or lower, the minefield is effectively neutralized.

If the roll fails, the vehicle is immediately attacked by the minefield, as per the normal rules. If the roll is Fumbled, the vehicle is also attacked but does not get a defense roll (i.e. the roll is equal to zero for damage purposes).

• ARTILLERY FIRE

Minefields can also be cleared by concentrated artillery fire. Fuses will be set to explode after the shells have burrowed into the ground, increasing the chances of detonating as many mines as possible.

A minefield present in the area(s) hit by the artillery will automatically be affected. Both its Vehicular and Infantry Thresholds will drop by one point for every full ten points of damage. Except for Water areas, the target area's terrain is automatically transformed into Rough ground. Because artillery fire will not destroy all the mines, a minimum Threshold of 1 will always remain, but can be removed by the other mine-clearing techniques.

HEROES

Though most purely military games tend to shy away from Heroes (usually called Special or Character units), their presence is actually encouraged in Gear Krieg. Heroes, as their name indicate, are troopers or vehicle crew with special abilities that set them apart from the rest of the troops and allow them to be a force to reckon with on the battlefield. The ruggedly handsome Hero doing the impossible is such a staple of the pulp genre that it could not be ignored.
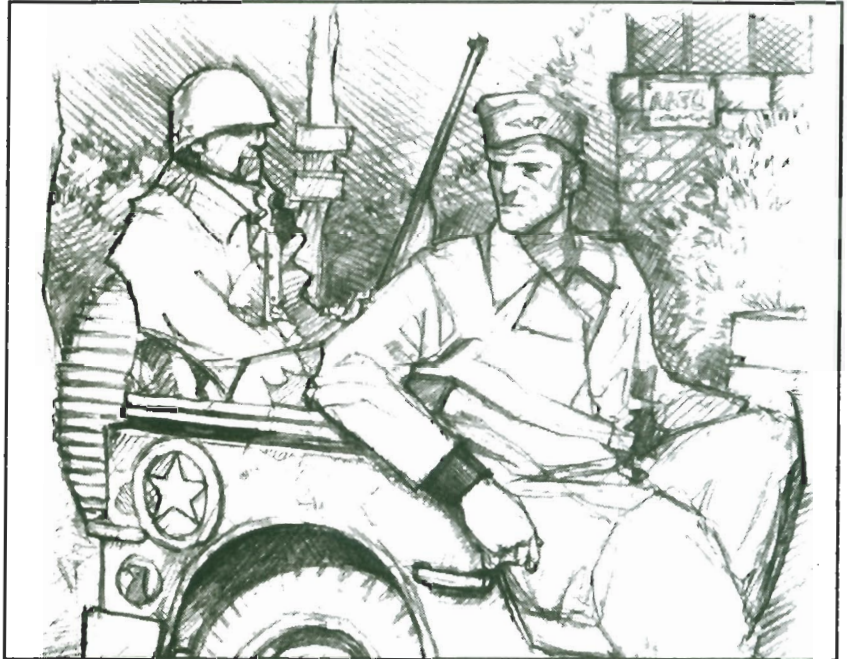
HIRING HEROES

Heroes can be very powerful and including them in a scenario can unbalance or change the game greatly. A scenario might have rules governing the inclusion of Heroes; if it does not, it is best to assume there should be a limit on the number of Heroes present.

Limiting Heroes can be accomplished by Threat Value, ratios between regular units and Heroes, or just a cap on the total number of Heroes (the latter depends on the scenario). One of these methods should always be used; chose the one that yields the lowest number of Heroes possible (note that you can always field at least one Hero.)

Heroes cannot make up more than 10% of a Player's starting Threat Value, and armies cannot field more than one Hero unit for every nine "standard" units. This will keep Heroes rare and exceptional, not 'a dime a dozen.'

HEROIC ABILITIES

Heroes can be highly skilled troopers, naturally talented walker pilots, or just someone who is driven to become something more than his fellow men. Heroes in Gear Krieg can have several abilities that allow them to perform incredible feats. These abilities (and their Hero cost) are listed and defined on the following page.

Crack Shot (2 points): The Hero, with his steady aim, excellent eyesight and calm hand, can make incredible shots. The Hero has a bonus of +1 when shooting any weapon. If the Hero is a gunner in a vehicle, his attack rolls are likewise modified by the +1.

Driving on Fumes (1 point): The Hero's vehicle (if part of a vehicle crew) never seems to run out of fuel. This Heroic Ability is only useful in a campaign.

Inspirational (1 point): All units within LOS and double the usual command distance receive a +1 to Morale Checks. If the Hero is a Commander (ie, the Hero would be giving Command Points to other units), he receives an additional Command Point each combat turn.

Just a Scratch (2 points): If the Hero takes damage equal to or greater than his current Damage Points, he may use this ability to make it just a minor injury. The first time this is done, no damage is taken. The second time, one Damage point is marked off; on the third, two Damage Points are removed. If this would cause the Hero to have no remaining Damage Points, they get one more turn to act (give a speech, perform some last feat) and then die.

Last Man Standing (1 point): In an infantry unit, the Hero will always be the last to receive damage. Skip the Hero and apply damage to the next trooper until the Hero is the last person left alive.

Luck of the Irish (3 points): All rolls the Hero makes and fails may be rerolled once. Pushing his luck and rolling a third time can be done, but then negates any more rerolls for the rest of the scenario.

Patton's/Gruderian's Notebook (2 points): The Heroic commander is either a natural tactician or has studied and learned from the best. In any case, he always gets a +1 to all Tactics rolls.

Real Gun (1 point): The Hero, due to his superhuman stamina and strength, does not carry a 'toy gun' but a heavy weapon. The Hero can use the heavy weapon on the move, not having to stop or set it up to fire.

Sixth Sense (1 point): The Hero always knows where the enemy is located. This means the Hero (and his unit) always gets a +1 to the Defense roll.

Supply Connections (2 points): The Hero has extensive contacts with supply sergeants, fencers and others who would help the Hero and his unit get the supplies they need. This Heroic ability is only useful in a campaign and gives a +1 modifier to all Supply, Recruitment, Reinforcement, and Repair rolls.

Two Fisted (2 points): The Hero can perform twice the normal Actions. If part of a vehicle crew, give the vehicle an additional Action; if part of an infantry unit, increase the ROF from the number of troops by 1. If the Hero is not part of a unit, he may either take two Actions or increase the ROF of his attack by 1 if his weapon has an ROF of 1 or higher.

Tough As Nails (3 points): The Hero has twice the amount of infantry damage points for his Quality level. If part of a vehicle crew, he can survive a Crew hit by taking off half his damage points; if hit again, the Hero loses the last of his damage points and but is merely unconscious for the rest of the scenario. If playing a campaign and the Hero's side wins, the Hero is recovered. If not, the Hero makes an opposed Skill test versus a random unit of the opposing side. On an MoS of 0 or higher, he escapes. On an MOF of 1 or lower, the Hero is captured. On a Fumble, the Hero dies.

When the Hero is not in a vehicle and takes more damage than should be possible for his Quality level, the unit that

caused the damage has to make an immediate Morale check (see the **Gear Krieg Rulebook** page 70). If the Hero takes the exact amount of Damage Points that he has remaining, he falls unconscious for the rest of the scenario. The same rules for being recovered as above apply if playing in a campaign.

Unpinnable (1 point): Due to his aura and presence, the Hero inspires all around to follow him, even in the face of enemy fire. This Heroic ability makes it impossible for the unit the Hero is a part of to be Pinned (see **GKRB**, page 64).

Untiring/Fanatical (3 points): Although described differently, the results are the same. An Untiring Hero is one that never tires; even with no food or sleep, he will fight on. A Fanatical Hero believes in the right of his fight or the wrong of his opponent's so strongly that it drives the Hero to fight on, no matter the odds. A Hero with either of these abilities automatically win Morale tests.

CREATING HEROES

A Player should have in mind the type of character he wants to create. There are three major roles in **Gear Krieg** a Hero can be focused or tuned for: Infantry, Vehicle Crew or Command. Command can be combined with either Infantry or Vehicle Crew.

Select the Quality level. Look at the Heroic Abilities and write down those that go with the Hero's concept. Players may change the default Morale Threshold from the Quality of the unit to a different one. The Morale Threshold may be raised by one level or lowered by three (to a minimum Threshold of one). The chart covers the multipliers to use for raising or lowering the Moral Threshold.

Morale Modification Table

Modification	Multiplier
Raise by 1	x.5
Lower by 1	x1.5
Lower by 2	x1.75
Lower by 3	x2

• FIGURING THE COST

The base cost of a Hero is the Quality level multiplier (see chart on page 46 of the **Gear Krieg Rulebook**) plus one. Take that value and, if modifying the Morale Threshold, add the multiplier from the Morale Threshold table. Add to this the cost for the abilities the Hero has. The result becomes the new Quality modifier for the Hero.

If the Hero is part of a vehicle crew, average the Quality multiplier between the Hero and the other crewmembers. If the Hero is to be part of an infantry squad, purchase the infantry squad without the Hero and purchase the Hero as an infantry squad of one, using the Hero's Quality multiplier.

HEROES IN ACTION

Heroes can always use Tactical Command Points, even without a radio or being in command distance.

Heroes in an infantry squad may detach themselves at any time from an infantry unit during its activation. A Hero may also attach himself to any infantry unit anytime during the Hero's activation.

A Hero in an infantry squad can either fires with the rest of the squad (in which case, the squad's usual Skill level is used) or the Hero may fire separately, rolling his own Skill dice for the Attack roll and choosing his own target.

Cost Example

Example: Alex wants his German forces to have der Ubermenschen in his German Command. Alex decides that his Hero should inspire other troops, not be worried by the little scratches and carry a real big gun. To save on cost, Alex decides that his der Ubermenschen is only Veteran Quality, but decides the Hero needs a lower Morale Threshold. He will also add Inspirational, Just a Scratch and Real Gun. Adding up the cost would look like this:

Veteran Quality	2.25
Hero	1
Morale Multiplier (-1)	1.5
Inspirational	1
Just a Scratch	2
Real Gun	1
Total	8.75

Alex now has the Quality multiplier for his Hero: x8.75.

Sgt. Hank Diamond

Sgt. Hank Diamond outlived many of the units he had fought and served with. He survived when hundreds of others died fighting the Nazis. Sgt. Diamond soon realized that the standard issue rifle just didn't fire fast enough, so he started carrying a machinegun. Not one of those new small and fast firing sub guns neither — one of those older Tommy Guns. Sgt. Diamond is fanatical about the USA and believes strongly about protecting it.

Name:	Sgt. Hank Diamond
Heroic Quality Multiplier:	x16
Heroic Abilities:	Unpinnable (1), Last Man Standing (1), Fanatical (3), Real Gun (1), Tough As Nail (3), Just A Scratch (2)
Skill Level:	Elite (4)
Morale Modifier:	No Change (0)

Gunter Himmelman

Gunter's family had always been proud of their lineage and heritage. The National Socialists came to Gunter's parents while he was still young. His parents agreed to send him to a special school. There were many medicines, lots of training and countless tests. Many of his classmates left the school, but not Gunter. He soon realized he was different. He was stronger, faster and smarter than everyone else. He discovered he was part of some program to build a better soldier, and he was their finest product. The world would pay for the humiliation they caused Germany in the last world war. All Germanic people would be reunited. The National Socialists would see to that. If only the program had produced more like him.

Name:	Gunter Himmelman
Heroic Quality Multiplier:	x32
Heroic Abilities:	Unpinnable (1), Sixth Sense (1), Untiring (3), Two Fisted (2), Real Gun (1), Tough As Nail (3), Crack Shot (2), Just A Scratch (2)
Skill Level:	Legendary (16)
Morale Modifier:	No Change (0)

HIDDEN SET-UP

For obvious reasons, units like to remain concealed on the battlefield as long as possible, in order to strike with maximum effectiveness. All units try to mask their presence in basic ways, such as camouflage fatigues and paint schemes, measures reflected in the normal Detection rules. Units may wish to further conceal themselves for an added advantage, however. Additionally, Players may want to play **Gear Krieg** in a way that enhances the uncertainty of the battlefield by making units out of LOS 'invisible.' The following rules outline ways for these possibilities to be implemented in a game of **Gear Krieg**.

CAMOUFLAGE

Units may wish to further mask themselves from view by covering their vehicles with camouflage netting and attaching foliage to the net. Infantry also attach foliage to themselves and wear special suits to blend in with the terrain. Units with such measures in place receive a +1 to Concealment when they are immobile and in terrain that has a Concealment value. This bonus is lost in the open or if the unit moves. Camouflage costs 5 TV per vehicle or infantry squad.

DOUBLE-BLIND RULES

The truly ambitious Players may want to play **Gear Krieg** double-blind. This kind of play requires a considerable amount of resources and a Referee in addition to the Players. However, the rewards can be very satisfying.

Double-blind means that each side has a separate table devoted to them. All of a side's miniatures or playing pieces are visible on the map of the side playing them. The pieces or miniatures belonging to the enemy are only visible if a line of sight can be traced to them and they are detected.

The Referee is the sole arbiter of who can see what unit, and is the only person (other than the spectators) who may see both maps. If possible, the Referee can have a third map with all of the pieces visible to help him determine who has line of sight to each other. Units that cannot be detected or are out of LOS completely are removed from the enemy's map until they are visible again.

This type of play is an experience not to be missed, for it is much closer to actual battlefield conditions.

CHIT HIDDEN UNIT RULES

Very few Players have dozens of miniatures available, however, and as a result double-blind play may not be an option. For everyone else, though, there's always the chit rules, where small cardboard markers ("chits") are used to implement the fog of war.

In this type of game, markers on the table represent the positions of units that no enemy unit can see. The markers must be easily distinguishable from each other, and for this reason numbered or letter chits are highly recommended (alternatively, different colored beads or dice may be used).

Each unit represented by a marker must be recorded as belonging to that marker. The markers are moved according to the unit they are representing. Until revealed, the enemy can only see the position of the unit, but not its facing, nature, type or any distinguishing characteristic other than its physical position.

This style of play requires trust between the Players. They are completely reliant on each other to properly indicate unit Sizes to determine Detection value and results. Once a piece is detected, the proper miniature is placed on the map and play continues. If a unit is no longer detected or moves out of line of sight, it may be replaced with its marker again. It is up to the other Player to remember what the chit represents, and no one may be forced to reveal any other information about a given chit except its Size for detection value.

The game is otherwise played using the standard **Gear Krieg** rules. Both Tactical and Skirmish play can take advantage of the double-blind setting.

ADVANCED C&C RULES

These advanced Command & Control procedures represent a much more constrained set of rules for spending and receiving Command Points. They account for leaders and the responsibilities they face. The following, if used, replaces the normal Command Point rules described on page 49 of the Gear Krieg Rulebook.
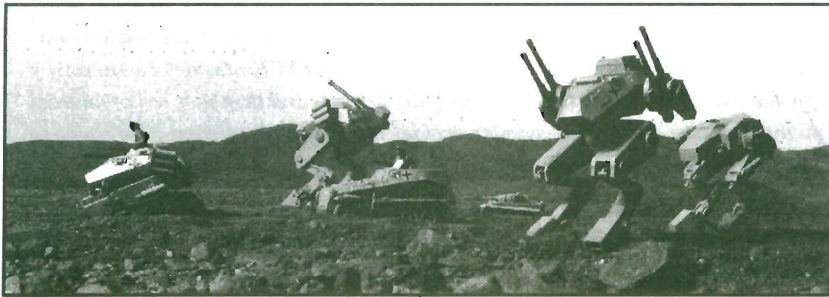
LEADER SETUP

Each side designates one unit to be the leader for that side. The leader's Leadership and Tactics Skills are one level higher than the crew level of equal type. Additionally, each side chooses one assistant leader, whose Leadership Skill is one higher than the crew level of equal Quality.

If the leader is taken out of action, the assistant leader takes over. If the assistant leader is taken out, then use the normal Skills levels of the highest Quality crew for initiative and Command Point (CP) purposes.

TACTICAL CPs

Each side gets a number of Tactical CPs (TCPs) equal to the Tactics Skill of the commander. TCPs can be spent by units regardless of ECM status, that is, no Communications roll is necessary. TCPs represent the training level of the unit and the leader's ability to train that unit to fight even under the most adverse of conditions. TCPs are not replaced throughout the game. Once used, TCPs are gone for the duration of the scenario.

ADVANCED INITIATIVE

During initiative, each leader has the option of taking one Action to make a Command roll. This roll is a Leadership test using the opposing leader's Tactics Skill level as a Threshold. The MOS of this roll determines the number of Initiative Command Points generated. This number cannot exceed the Leadership Skill level of the leader. Excess points are lost.

If the leader does not spend an Action, they compare their Leadership Skill to the opposing leader's Tactics Skill; the difference, if positive, is the number of ICPs generated for that turn.

In addition to determining the number of ICPs each side receives, the leaders' rolls determine Initiative. The highest result determines the winner, and that winner chooses which side will move a combat group first.

If the rolls are tied, compare the next highest die of the initial roll. In the case of neither side taking an Action to make a Command roll, both sides make a roll anyway to determine initiative *only*.

Example of Advanced Command & Control

A Veteran British commander is facing a force led by a Qualified Italian commander in the deserts of Africa. The British commander has Leadership and Tactics Skill levels of 3. The Italian commander has a Skill level of 2 for both Leadership and Tactics. The British commander starts the game with 3 Tactics Command Points and the Italian commander starts with 2 TCPs.

During each Initiative Phase, each commander has the choice of rolling his Leadership Skill for initiative by expending an Action OR taking his Leadership Skill level as the default roll result. The British commander decides he has more important things to do this turn than to spend one of his precious Actions rolling for initiative. His initiative roll is therefore a 3, which is equal to his Leadership. This number is compared to the Italian commander's Tactics of 2, resulting in one ICP for the British forces to spend during the turn.

The Italian commander is not so lucky, and decides to roll his Leadership Skill test in order to have some chance of getting at least some Command Points. He rolls 2 dice (based on his Leadership Skill level) and gets a 4 which, when compared to the British commander's Tactics Skill of 3, will give him a single ICP for the turn. The Italian commander also wins the Initiative test (4 versus 3) and gets to chose who will act first in the turn. He decides to let the British side go first to see what they are up to and react accordingly.

• COMMAND POINT EFFECTS

Command Points can be spent at any time during the turn by anyone to do one of three things:

1) Activate a unit out of sequence;

2) Give a unit a one time +2 defensive roll bonus;

3) Turn a unit up to 180 degrees.

Tactical Command Points can be used at any time by any unit regardless of communication status.

Initiative Command Points can only be used if both units have functioning Communication systems and there is no ECM (or they can pass a Communication test in the presence of ECM). Alternatively, if the leader is within 50m of the unit and is in a vehicle that has functioning Manipulator Arms, has Exposed Crew, or is unbuttoned in a Buttoned Up vehicle, he can bypass communications completely.

• CP SPENDING LIMITS

Each side may spend up to the crew's Quality (Rookie = 1, Qualified = 2, etc.) of CPs of any type on any one unit. The total number includes both TCPs and ICPs; either type can be used in any combination, as long as the total number of CPs spent does not exceed the unit's Quality. Note that Skirmish scale combat further limit Command Point spending to one CP per turn per unit.

ADVANCED DETECTION

Use the Concealment rules as presented on page 52 of the **Gear Krieg Rulebook** for passive sensors only. This applies to the Obscurement for terrain. For Concealment versus visual detection, use the additional modifiers of the Advanced Detection Table, at right.

Example of Advanced Initiative (Continued)

The British side activates a combat group of three Grant medium tanks, all with Qualified crews. The British Player moves his first Grant into firing range for the 75mm. The Italian commander then decides to Snap Fire with a light tank to see if he can take out the Grant before it attacks and destroys something.

The British commander, not wanting to see a unit destroyed before it can do something effective, decides to spend a Command Point to give the Grant a +2 defensive modifier. Luckily for him, both the command unit and the Grant have radios allowing them to transfer the ICP he has instead of a TCP, of which he has only 3 for the entire game. The Grant successfully defends and then gets to continue its activation. The Italian commander decides to save his Command Points and so the attack proceeds normally.

After the attack, the Italian commander wishes to spend a Command Point to activate a unit to take advantage of the Grant's position and take a coveted rear shot. However, the unit in question does not have a radio and the commander is not within 50m of the unit. He must therefore use one of his two TCPs if he wishes to activate the unit. He does so, and the units move in for the kill.

The British commander sees this and elects to spend a Command Point to turn the tank around to meet the attack. He has only TCPs left, and he spends one of the three he has to turn the vehicle around. The British commander is also particularly attached to this crew, and he would like to spend yet another Command Point to give the tank a +2 defensive modifier. However, the crew is only Qualified, allowing for a total of 2 Commands Points to be spent on that vehicle in a turn. The commander has spent one ICP and one TCP on that vehicle for a total of 2 Command Points, and therefore no other Command Points may be spent on behalf of that vehicle.

Luckily the tank survives this attack. Unfortunately, now the tank is vulnerable to any further attacks that it may take to the rear.

Advanced Detection Modifiers

- Obscurement total from terrain as normal
- Add Vehicle Movement Concealment Modifier:

MUs Moved	Concealment Modifier
0	+3
1-2	+2
3-4	+1
5-6	0
7-9	-1
10-19	-3
20+	-4

- Subtract one per ROF point used
- Subtract one per each additional shot fired in the current turn

DETECTION VALUE

All passive detection, either by visual means or through sensors, is affected by the range to the target and the defensive arc it lies in (see the basic rules in the Gear Krieg Rulebook, p52). Each unit has a Base Detection value: this is equal to the vehicle's Sensor Rating (if it has one), or a Visual Rating of 4 during the day and 2 at night. The highest of either value is used (keep in mind that many sensors are unaffected by weather conditions that block normal vision). As long as the total Concealment Value of the target does not exceed this Detection value, the target can be seen and attacked.

The Detection value is modified by a number of conditions, the most important being the range between the two units. Each unit has a base range at which they are always detected; see how distance affects the Detection value on the Range Modification Table. The arc where the target lies also modifies the Detection Value, as indicated on the Arc Modifier Table. If the target has used sensors this turn, add its Sensor Range (in kilometers) to the Detection value when using passive and active sensor to find it. Finally, add the Rating of the Large Sensor Profile Flaw, if the target has it.

To sum up, the passive sensor Detection value is the Sensor Rating of the vehicle, plus the target's Range Modifier, plus the Attack Arc Modifier, plus the Range of the target's sensors (if it has used them), plus the Rating of the target's Large Sensor Profile Flaw (if present). If the detecting unit has no sensor (or chose not to use them), the visual Detection value is 4 for daylight and 2 for nighttime, plus the Range modifier, plus the Arc modifier.

Range Modification Table

Range	MUs	Modifier
Point Blank	0	+1
Short	smaller or equal to Target Size	0
Medium	smaller or equal to Size x 2	-1
Long	smaller or equal to Size x 4	-2
Extreme	smaller or equal to Size x 8	-3
Infinite	greater than Size x 8	-4

Notes: If the Target Size is greater than 15, add +1 per 15 Sizes of vehicle. Walker vehicles count as twice their Size when in Walk mode.

Infantry Size Table

Number of Personnel	Unit's Effective Size
1	1
2-3	2
4-7	3
8-15	4
16+	5

Arc Modifier Table

Arc	Modifier*
Target in Front Arc	0
Target in Flank Arc	-1
Target in Rear Arc	-2

*Improved Rear Defense Perk reduces the penalties by one, minimum of 0

Concealment Example

A Japanese Shiki 38 combat walker is waiting in the cover of jungle (1 MU) at night in walker mode, when a Marine unit of ten men, in the clear, slowly approachs (moving 2 MU per turn) the hidden walker, which is currently 10 MUs away. Normally, the walker has a Concealment of 2 due to the Jungle and the infantry has a Concealment of 0 due to the Clear terrain. These values are now used against passive sensors only. Against basic vision, the Shiki has a 5 (2 for Jungle + 3 for being stationary) and the infantry has 2 (for their movement).

The Shiki is Size 6 and the infantry unit, with 10 men, is Size 4. The Shiki's pilot has a Detection Value of 0 visually (2 at night - 2 due to the range) and 0 passively (the earlier Shiki models did not carry any sensors). He can't visually detect the infantry unit. The Marines have a visual Detection Value of 2 (2 at night - 0 due to the range). The jungle's Concealment of 2 successfully masks the Shiki.

INFANTRY

Infantry are the unsung heroes of the battlefield. While walkers and tanks have revolutionized the way war is waged, the common G.I.Joe is still needed to hold the ground his compatriots have taken. For all of the mobility that walkers have to offer, infantry still reigns supreme in terrain like cities and mountains. They are able to take advantage of the slightest bit of ground cover and must often be flushed out of their position by large applications of explosives or the intervention of another group of infantrymen.

With the same advances that make combat walkers and tanks possible, man-portable weaponry has been improved enough to allow the infantry to at least hold their own in mechanized warfare. As the war progresses, the soldiers gain access to technologies that allow them to move faster, hit harder and conceal themselves better than ever before. And for all of the whizbang technology around, it is still the meek infantryman that builds and destroys bridges as well as sets and overcomes obstacles.

This chapter contains the rules and the equipment that help make infantry not only survive on the battlefield of **Gear Krieg**, but to be a force to be reckoned with as well. Some sections just further explain the rules in the **Gear Krieg Rulebook** and how they apply to the new material introduced here. Many of the rules below details combat engineering equipment, which infantry can use to really change the face of terrain, often with deadly advantages to their own side. A whole selection of new equipment and even troop types are included that reflect the ever-evolving superscience world of **Gear Krieg**. While walkers and tanks may be the latest new things, infantry is something that is ignored to one's own peril . . .

SQUAD COHESION

If the trooper miniatures within an infantry unit are not attached to a common base, then the following infantry cohesion rules should be applied (instead of those found on the bottom of page 44 of **Gear Krieg Rulebook**). An infantry unit must remain within 1MU of its command element in the Tactical scale. When playing in Skirmish scale, the unit must remain within a number of MU's equal to the command element's Leadership Skill level.

If, due to any circumstances, a unit breaks cohesion, it cannot use or give any Command Points and is at a -1 to all Actions until it moves back within normal cohesion distance.

INFANTRY COST

Simply add up all the Threat Values of the weapons and equipment the unit is carrying and multiply that sum by the unit's Quality Multiplier (see **GKR**, page 46). Note that some equipment multiplies the cost of the soldier rather than just adding to his cost. If a unit is equipped with the item, just multiply its post-Quality cost to get the final TV. If individual solders are using such equipment, multiply their sum TV by the equipment multiplier, add that cost into the sum TV for the whole unit, and *then* multiply the total by the Quality multiplier.

COMBAT ENGINEER TRAINING AND EQUIPMENT

Specially trained engineering squads perform many technical tasks on the battlefield, including disarming and planting explosive devices. They receive additional theoretical training in the fields of structural design, basic vehicular mechanics and explosive handling and preparation.

Engineering squads cost one and a half times the cost of an equivalent infantry unit. Most of the time, any other infantry squad can accomplish the same tasks as engineers, but they take twice as long as the listed time to finish the work and often deliver an inferior product. The effect of engineering training and equipment is indicated in the rules when relevant.

NEW EQUIPMENT

Infantry sometimes carried much more than just their guns in battle. The following sections contain several new (and for some, advanced) pieces of infantry equipment. Where applicable, these rules and game stats supersede those found in previous **Gear Krieg** books. Threat Values are summarized on the Infantry Equipment Chart in Appendix II, page 78.

• ENCUMBRANCE

Some equipment is restrictive and heavy, impairing a soldier's actions. This impairment is represented by Encumbrance points: each point causes a -1 modifier to all rolls made by the soldier.

The more experienced a soldier is, the more he is able to function while encumbered. Rookie and Qualified troops take the full Encumbrance penalties. Veteran soldiers have their Encumbrance penalty reduced by one. Elite and better soldiers reduce the penalty by two.

DETECTION DEVICES

Binoculars: these double the base range and subsequent ranges for detecting units. Vehicles and infantry may be normally detected at twice their size in MUs, and Walkers in walker mode may be detected at four times their size in MUs. Binoculars weigh 1kg and cost 1 TV.

Mine Detectors: these are a set of bulky sensors designed to recognize the presence of buried mines. At least two men are required to use the equipment, preventing them from carrying weapons. If either one is killed, any bonus from using the detectors is lost. Mine detectors cost 10 points per set of sensors, for a total of 20 for the complete kit. They weigh 20 kg each. See *Clearing Mines* (page 40) for further details.

SIGHTS

The Accuracy rating of the infantry and some vehicle mounted weapons in **Gear Krieg** assumes the use of "iron sights" built into the weapon. Greater accuracy is often required, however, and several types of optional sighting devices may therefore be attached. These sights usually provide a +1 Accuracy bonus to shots taken at Long and Extreme ranges and provide additional bonuses in specific circumstances as described below.

The sights all are passive systems, except for active infrared. Passive sensors gather energy from the direction they are pointed to create a better picture. The active infrared sight actually emits energy and forms a clear picture from the energy reflected off the target.

Scope, Optical Magnification: A variety of telescopic sights and scopes can be added to the standard rifle, in many cases, to make a 'sniper' weapon. These sights are almost always fixed magnification. Variable magnification scopes are available, but usually do not provide a much better picture than a fixed magnification scope. Scopes often include different crosshairs and markings for range and windage. Optical scopes do not provide any bonuses to attacks at night or in bad weather, including rain. Scopes weigh 0.5 kg and cost 1 TV per trooper.

Infrared, Passive: This sight creates an image based upon the infrared energy radiated by or reflected from whatever the sight is pointed at. It is best used in conjunction with an infrared spotlight or some other infrared source. Later in the war the sensitivity could be varied, and practical use with or without infrared spots could be adjusted for quickly. Passive infrared sights provide a +2 modifier to any attacks conducted at night or heavy snowfall and +1 to attacks conducted in the rain, fog, or light snowfall. They are unusable during a bright day (desert during daylight hours). Passive Infrared sights weigh 5 kg for the sight and power supply. They cost 2 TV per trooper.

Infrared, Active: Essentially an infrared flashlight mounted underneath the barrel, usually with a passive infrared scope mounted on the top. Anybody using this type of sighting system can attack as if it were daylight. Detecting that a unit is being hit by an active infrared sight or an infrared spotlight would require some form of infrared sight and a Skill test versus a Threshold of 4 to observe that it has been "tagged" by an infrared source. The Active Infrared sight, after May 1942, can be used in a passive mode as well. Active/Passive Infrared sights weigh 5 kg for the sight and power supply. They cost 4 TV per trooper.

Light Amplification Sight: Often called starlight scopes, these devices amplify ambient light and will not work in total darkness. Starlight scopes provide a +1 modifier to any attacks at night where there is at least starlight or partial moonlight with light cloud cover to see by. They provide no bonus in rain or other bad weather. Light Amplifying sights weigh 5kg for the sight and power supply. They cost 2 TV per trooper.

PERSONAL PROTECTION

Germany started experimenting with natural and synthetic fibers in the late 30s. By 1941, a type of flexible armor was in limited production. Although the armor was too heavy for North Africa and southern Italy, winter months and operations in the mountains made wearing the armor (Gepanzerte Infanterie) a little more bearable. This armor allowed for specially-made Bakelite pieces to be placed in pockets on the outside of the armor. These pieces greatly enhanced its performance, sometimes allowing an infantryman to survive a hit by small arms fire. The Bakelite was good for stopping fragments from explosions and artillery fire. Due to its usefulness on the Eastern Front, it soon got the nickname of 'Leibstandarte' or Bodyguard.

The United States quickly researched the armor's construction and was able to duplicate it by late 1943. However, the US was allocating most of its synthetic fiber manufacturing to producing parachutes, paragliders and armored joint covers for walkers. There was some limited supply, but usually only specialized or special operation units were issued the armor. Most US Soldiers found the armor to be too heavy and unless they used the Bakelite plates, it really didn't stop anything but pistol shots.

Body armor falls into two categories, light and heavy. The **Light Armor** is composed of natural and synthetic fibers. Light armor adds one damage point to each infantryman and gives that infantryman one Encumberance point. The **Heavy Armor** is the same fibers but reinforced with synthetic polymers or metal plates. Heavy armor adds 2 damage points and 2 Encumberance points. Light armor weighs 7.5 kg and costs 1 TV per person. Heavy armor weighs 14 kg and costs 2 TV per person.

Chemical Warfare Suits: these are overgarments designed to protect the wearer against the effects of chemical (and, incidentally, bacteriological) warfare. They can protect a soldier for up to 6 hours. External air is processed through a filter before being redirected into the gas mask, but may become overwhelmed if the chemicals are too powerful for the filters. The suit has a double liner designed to offer some protection even if the surface of the garment is ripped or otherwise damaged. Each suit comes equipped with a small decontamination kit for initial individual decontamination after an attack. Made of heavy impregnated cloth or rubber, the suits are quite cumbersome to wear and very tiring to fight in: they have a -2 encumbrance penalty, cumulative with any armor worn. It takes two Actions to put on a chemical warfare suit and another to "zip up." The cost is 1.05 x TV to use without penalty, and the suit weighs 10 kg.

Gas Masks: Designed to filter toxic chemical from 4-6 hours, gas masks are uncomfortable to wear and limit sight as well as the ability to fire weapons, imposing a -1 penalty on infantry actions. It requires two Actions to don and adjust a gas mask. All troops were issued gas masks and familiarized with their use; although it costs nothing for troops to be issued masks, a Leadership test vs. 3 is required for them to still actually be carrying them if gas has not been used previously. Gas masks weigh 1 kg and cost 2 TV.

COMBAT DRUGS

Improving soldier effectiveness is a constant goal of any nation preparing for war. The Second World War saw the use and spread of a number of drugs intended to enhance the combat efficiency of individual troops. These drugs ran the gamut from stimulants like Benzedrine to the Japanese *Strength of Virtuous Spirit*, commonly referred to as "Banzai" by their Allied opponents because the Japanese frequently take it prior to their charges of the same name. Combat drug users are variously referred to as berserkers, Supermen and kamikazes, depending on nationality.

Most combat drugs cause an increase in stamina and aggressiveness, although no one has yet been able to augment a trooper's skills with a pill. Disadvantages include increased fatigue, damage to the individual's organs and increased aggressiveness (frequently crossing over into uncontrollable homicidal rage). Addictions to the drugs result in not only a black market for supply but increasingly violent encounters related to acquiring the drugs.

Although combat drug formulas are closely guarded secrets of their manufacturing countries, they all have similar effects on users. In game terms, combat drug use raises the infantry's Morale Threshold and Stamina by 1 point and adds either one Action or one Movement Point per turn at a cost to Skill equal to the Stamina bonus. Drug injection requires one Action and lasts for a number of turns equal to an Infantry Skill test (i.e. Qualified troops roll two dice). Troops attempting to take combat drugs while under fire or firing must *fail* a Morale check first. A Command Point will allow a unit to take combat drugs prior to engaging another unit instead of failing a Morale check.

Any unit on combat drugs that fails a Morale Check goes *berserk* and must attack the nearest unit, regardless of nationality, and continues attacking until the drug's effects wear off (at which point another Morale test is required).

Units may intentionally overdose on combat drugs to gain Fanatical Morale, 2 additional points of Stamina and an additional Movement Point at a cost of effectively dropping 2 Skill levels and automatically going *berserk*. Additionally, the unit automatically becomes Exhausted for scenario purposes and takes two damage points at the end of the combat drug's effectiveness. Vehicle crews taking combat drugs increase their number of Actions at a cost to their Skill, just like infantry. Combat drugs multiply a unit's Threat Value by 1.5.

COMMUNICATIONS DEVICES

The Germans had learned a hard lesson in WWI and were trying to make sure that they did not make the same mistake twice. Maneuver warfare required communication between elements to make the best of an opportunity or opening in the enemy's lines. The German philosophy was to put a radio into every vehicle. As Germany had all infantry moved on vehicles whenever possible (trucks and semi-tracked vehicles most often), the infantry would have constant access to a radio.

With advancement of technology, it was found that an infantryman could carry a backpack radio that would allow him communication without being dependent on a vehicle. These first radios where heavy, bulky and awkward. As the war progressed, the sets got smaller, increased their useable range and improved on quality of the transmission.

Before the United States were drawn into WWII, the Army realized that it needed better equipment for communication. Though companies would spend years just in Research and Development of new and better radios, the US Army needed something immediately. The US

Army Signal Corps looked at what was available from many different manufacturers. Police car radios had the right combination of features that the Army could use as a stopgap method until better radios were designed and built. The police radios were mounted in all manner of vehicles, including walkers. This provided a way for individual vehicles to talk to each other and for the commanders to talk to all of the vehicles under their orders.

Some forces did not realize the importance of a radio in the new style of warfare that was sweeping the world. Others just did not have the manufacturing capability to manufacture such a complicated and delicate electrical device. No matter the reason, they would pay for their lacking, usually with the lives of their troops, as their opponents would coordinate attacks and reserves with speed and grace, while those without would flounder and sluggishly try to react.

• RADIO WARFARE

With the widespread use of radios for relaying orders, many realized that by simply listening in, you could discover what your enemy was about to do. Many mobile and stationary radio listening outposts were established early on in the conflict, whose sole purpose was the interception and decoding of enemy trasnmissions. They would prove invaluable (and juicy targets) to all the technology-savvy forces involved.

So that an enemy did not obtain the orders or information, many started to use old forms of code or ciphering that was popular during WWI, when orders were passed using a messenger. The problem with this was that someone had to translate the original message to the code, transmit it, and it then had to be decoded at the other end. This was not a fast process and not 100% error free.

This method was not viable for small units where the orders needed to be transmitted immediately. Technology provided a solution. Small, electrical devices, called scramblers, purposely distorted the signal so that only those with the correct equipment could descramble the signal. This worked for a short time, until the enemy worked out the scrambling method. So, every so often, new scramblers would have to be deployed.

Many manufacturers were working on a way to provide a device that had multiple scramblers that could be combined. This would give the operator a way of selecting a new scramble pattern when warranted. Leading US and German radio manufacturers hope to have these devices ready for trials in 1944.

While there were hundreds of different types of radios, they are distilled down into four major types for infantry. The specifics will be found on the Infantry Equipment chart. Here is some general information on these four different types:

Radios

Type	Weight	Notes
I	25 kg	Normally an infantryman would only carry a pistol or a SMG while wearing this monster backpack.
II	16 kg	No explosives or heavy weapons
III	16 kg	No explosives or heavy weapons
IV	12 kg	No explosives

Galvin Manufacturing

The company started by Paul Galvin was selected by the US military to research, design and build some of the most forward looking communication equipment. This company was the first to design and mass produce automobile radios in the '30s.

This product's name is a play on the popular Victrola name, the 'Motorola®.' This was quite common at the time, and even the Victor Talking Machine Company (makers of the Victrola) did this, with its Electrola and Radiola. The brand name Motorola became so popular it was used on all subsequent Galvin products.

By 1944, Galvin Manufacturing's R & D boys had produced a man-portable backpack radio with a range of 6 miles (10 km) and the ability to both transmit and receive at the same time. Galvin Manufacturing promises to have a complete hand held unit for the military by year's end.

DIVING EQUIPMENT

Diving equipment is usually reserved for elite units operating in the waters of the Pacific, but some brave souls in the Atlantic used them as well. Diving equipment consists of a skintight suit of rubber material equipped with a transparent faceplate. A tank of air provides up to one hour of oxygen. The suit offers some thermal insulation, but neither it nor the faceplate provide any significant physical protection. Infantry may move underwater at one MU per turn. Diving equipment doubles the cost of the infantry squad that is equipped with it. The cost includes the modifications required to protect the squad's weapons against the effects of water, allowing them to fire as the troopers emerge. Diving Equipment weighs 45 kg and costs 2 TV.

EXPLOSIVES

There are several types of explosive available to infantry squads, although most of the time these explosive are solely used by engineer squads. Dynamite, Composition B and other improved compounds form the bulk of the supply. Special charges, described below, make the engineer's task easier in a battlefield situation. Large scale use of of explosives, like bridge and building destruction, are covered under Demolition in the Field Engineering section (see page 37).

Anti-Tank Grenades: these were developed to give the lowly grunt a way to attack armored targets at a stand-off range, like the later rocket launchers. AT grenades tend to take one of two forms: a thrown grenade or a rifle-launched one, both of which use a HEAT warhead. The Thrown models, like the Russian RPG-43, have cloth that releases when the grenade is thrown that stabilize it in flight, allowing the warhead to hit with the proper end facing the target. Rifle-fired grenades use spin stabilization to keep the business end of the grenade in the right direction. In some armies, the AT grenade has been replaced by rocket launchers, but it remains in use with many armies. See Appendix II, page 78, for weapon statistics.

Magnetic Limpet Mines: Magnets allow these to be attached directly to an armored fighting vehicle's hull, concentrating the weapon's effect at the best possible angle and maximum effectiveness. Some limpet mines are straight explosive packs, but many also use a Monroe-effect HEAT warhead to do their damage. Unfortunately, proper use of a limpet mine requires that an infantryman get close enough to the intended target to attach the mine. Additionally, the Germans have developed anti-magnetic coatings (Zimmerit) for their tanks, defeating the magnetic adhesion advantage of the weapon. Magnetic limpet mines are used in the same way that satchel charges are used as anti-tank weapons. See Appendix II for details.

Molotov Cocktails: these are improvised weapons constructed from gasoline or some other combustible liquid in a glass bottle with an oil soaked rag in the top. Over time additional gelling agents have been added to the gasoline to help make it stick to the target. Molotovs are used by partisans and regular soldiers alike, and are thrown just like grenades. See Appendix II for details.

Satchel Charges: These are blocks of explosives in a cloth bag with a carrying strap. They are one of the mainstays of engineers, and are used for demolition work as well as emergency anti-vehicle work. Units with satchel charges must spend two Actions to prime them, and they can be used only against immobile targets. Non-engineer units take twice as long to prime the charges. Once readied, a charge can be set to detonate at the end of any turn.

Units using satchel charges as stop-gap anti-vehicle weapons do so at great risk. As speed is of the essence, infantry making satchel attacks do not get the -2 infantry modifier and take double damage from area effect weapons because they are not using cover. Satchel charges are always aimed at the target's Movement system, ignoring the usual -1 aiming penalty. See Appendix II for details.

Sticky Bombs: These are another improvised weapon, made from blocks of explosive, primer cord, axle grease and (usually) a sock. The cord is lit and the

soldier wielding it runs up to the target vehicle and attach the charge to the enemy vehicle with the axle grease. Wheels were a popular target.

Sticky Bombs are used in the same way satchel charges are used, with the addition that if the attack roll is Fumbled, the infantry man is dead. See Appendix II for details.

MOBILITY DEVICES

Many methods for giving additional all-terrain mobility to infantry were tried during the war, but none were as successful as the various flying devices. These ran the gamut from the comparatively simple parachutes and gliders to the more agressive and temperamental rocket backpacks.

Parachutes: When infantry squad is represented by a single miniature, a Morale test is made at +1 to the Threshold with the following results. If the roll has an MOS of zero or more, the squad lands within 1 MU of the intended target and receives one Pinned! marker to represent the amount of time they need to become combat ready. If the roll results in a MOF of one or more, the unit is scattered (see page 34) a number of MUs equal to the MoF and also receives two Pinned! markers. If the roll is a Fumble, not only do they suffer the same result as a failure, but also a number of casualties equal to the MoF. Use the *Infantry Hit Location* table on page 64 of the **Gear Krieg Rulebook** to determine who the casualties are.

If an Infantry unit is not represented by a single miniature (i.e. they use the Infantry Cohesion rules) the effects of a parachute drop are worked out differently. A Morale test is still made (at +1 to the Threshold), but each trooper that makes up the infantry unit rolls his own

scatter result. The infantry unit does not receive any Pinned! markers; instead, the full Infantry Cohesion rules apply. Note: at Skirmish scale, all distances are multiplied by 5. Parachutes weight 15 kg and cost 1 TV.

Paragliders: Soldiers equipped with paragliders can control their descent and landing with a greater precision than any parachute. Paragliding soldiers that are landing make a Morale check (at +1 to the Threshold). If the result of the roll has an MoS of zero or more, the unit lands on its target and receives a Pinned! marker. If the roll results in an MoF of one or more, the unit scatters 1 MU and receives a Pinned! marker. If the roll is a Fumble, they suffer the same result as a failure and a number of casualties equal to the MoF. Use the *Infantry Hit Location* table on page 64 of the **Gear Krieg Rulebook** to determine who the casualties are.

If an Infantry unit is not represented by a single miniature (i.e. it uses the Infantry Cohesion rules), the effects of a paraglide landing are done differently. A Morale test is still made (at +1 to the threshold), but each miniature that makes up the infantry unit gets its own scatter result. The infantry unit does not receive any Pinned! markers; instead, the full Infantry Cohesion rules apply. Note: at Skirmish scale, all distances are multiplied by 5. Paragliders weigh 54kg and cost 3 TV.

Rocket Packs: these can be used both for improved general mobility as well as aerial deployment and redeployment. In this instance, "rocket pack" covers both the jet packs used by the Germans and the similar aerial mobility units deployed by other armies, such as the Sikorsky personal helicopters of the US Army. Units equipped with rocket packs typically deploy onto the battlefield from the

Landing in Dangerous Terrain

Units attemping to land using parachutes, paragliders and rocket packs use the Walker column on the Terrain chart (page 50 of the GEAR KRIEG RULEBOOK and page 107 of this manual). Landing in Urban or Dense Urban terrain reduced to rubble should use the Swamp terrain for the purposes of this test.

Landing in terrain as opposed to just travelling through it presents more problems and thus warrants a greater risk. If the unit fails the Dangerous Terrian test, the unit loses all remaining MPs for the current turn. If the roll is Fumbled, the unit suffers two points of damage for each MoF of the failed roll. Rocket packs and similar devices are a special case, rolling an additional die on a fumble. If the roll is low (1-3), the unit suffers two point per MOF as described above. If the roll is high (4-6), they suffer 4 points per MOF.

air. However, these units suffer none of the problems that troops aerially deployed with other means like parachutes and paragliders. Soldiers equipped with rocket packs do not need to make any Morale tests when landing. They do make an appropriate test if they land in Difficult terrain (see the sidebar).

Once on the battlefield, rocket pack equipped soldiers may use their packs for improved movement in one of two ways. First, these soldiers may use the packs in short hops. making maximum use of available cover. Infantry moving in this manner have a Movement of 3 MPs, which ignore terrain costs. If the landing zone is in Dangerous Terrain, then the infantry must test as normal.

Second, soldiers may use the packs to redeploy, shooting into the sky and moving great distances (for infantry, that is) before landing again. The unit is removed from the table as it climbs into the sky. The unit may not fire again until it lands (the soldiers are far too busy controlling their flight). They may move up to 20 MUs in any direction for each turn they remain aloft. The soldiers may be attacked while in the air, with a -2 infantry modifier and any applicable movement penalties. The flying unit may land on any subsequent turn, following the rules for aerial deployment. Note: at Skirmish scale, all distances are multiplied by 5. Rocket packs weight 30 kg each and multiply a unit's TV by 3.

SNIPERS

Snipers are one or two man units that operate independently, trying to pick off important enemy assets through sheer accuracy. Snipers are also known to cause severe Morale problems in enemy squads — at least until they are spotted and have an artillery barrage called on their position!

A sniper is armed with a long-range weapon: either a scoped Rifle or an Anti-Tank Rifle. Stationary snipers may aim at a specific system on a vehicular target at no penalty, or they may choose to attack one specific infantryman when attacking a squad. They may also attack a specific crew member in a vehicle with the Exposed Crew, Partially Exposed Crew or Buttoned Up Flaws (when not buttoned up for the latter, of course). Because they take great care to conceal themselves, snipers have the equivalent of the Stealth Perk at Rating 1. A standard Morale test must be made after each sniper attack, successful or not.

The cost of a sniper is calculated the same way as a standard infantryman, but the sniper is counted as being two levels higher than his actual Quality when calculating his Threat Value (thus, no sniper may have a Skill level of four or more).

SUPPORT WEAPONS

Infantry units have access to several types of support weapons. Although a number of superscience devices were developed for this purposes, few made it to the battlefield, and most squads used more conventional weaponry. The game statistics can be found on the Infantry Equipment Chart in Appendix II, page 78.

Flamethrowers: Vehicle-mounted flame weapons were fielded by many nations during the conflict, but several man-portable flame-throwers were designed and used as well. Unfortunately, these personal flamethrowers tended to be temperamental and excellent targets, proving as detrimental to the user as the enemy. Any soldier armed with a flamethrower automatically becomes a casualty if hit by any weapon. See Appendix II for details.

Mortars: The mortars carried by infantry units are capable of precise indirect or off-board fire, and provide fire support in a more tactile way than artillery. They are often provided to commanders at a much lower level than other artillery assets, allowing for more tactical flexibility. More often than not, they are man-portable as well, enhancing their flexibility. In short, they are perfect for the company commander who needs fire support now and not at an artillery battery's convenience.

Mortars can fire from as far out as Artillery Range (see page 35). Mortars firing at that range must obey all the usual artillery rules and cannot be targeted at individual vehicles. Mortars may fire Smoke rounds as well as the normal HE rounds. The 50 mm (5 cm) and 2" mortar shells may be used as improvised grenades. See Appendix II for details.

TANK RIDERS

Infantry may ride tanks in an effort to gain faster movement. To climb onto a tank, the infantry squad must begin the turn in the same hex as the tank, at which time they are assumed to be climbing aboard. When the tank moves whilst carrying infantry, it may go no faster than Combat Speed. To disembark from the tank, the infantry may do so at any time during the tank's movement, but may not move on the turn they disembark. They may fire normally if they have not done so already.

Tank-riding infantry may fire while on a tank, but suffer an additional -1 modifier due to the inherently unstable platform from which they are firing. A tank can only carry one infantry squad at any given time.

of Allied POWs as zombies has proven particularly dreadful. Rumors persist that anyone wounded by a zombie is susceptible to the "zombie disease" and may become one.

Though apparently created by different superscience processes, most zombies have Stamina 5 and Skill level 1; they have Fanatic Morale and are never Pinned. The zombies are unable to use any kind of firearm or ranged attack, much less drive a vehicle: they rely on their hands and crude close combat implements, giving them Accuracy -1, DM x1 and a Range of 0 (they have to be in physical contact with their target to attack). Zombies can wear body armor if someone dresses them in it. Zombies cost 10 TV points each.

Zombies have only one MP and use the Walk movement costs. They're clumsy and slow, and tend to walk into obstacles before going around them. Unlike infantry, it may cost them more than 2 MPs (paid over several turns) to travel through one MU. Zombie tactics are simple: once they are driven away from their release point (usually by a judicious application of cattle prods or bayonets), they head in a mob in a straight line in the direction they were pointed until they detect infantry or a vehicle, which they immediately attack regardless of affiliation.

A unit attacked by zombies must pass a Morale test or retreat at least one MU from them, as per the Flame Weapons special rule (Gear Krieg Rulebook, page 71). The unit cannot surrender to the zombies and are removed from the board if forced to do so (the are cornered and brutally torn apart). When attacked by zombies for the first time, units must pass a Morale test as per the Panic rules (Gear Krieg Rulebook, page 71), unless the unit is Elite or Legendary.

WALKING BOMBS/MINES

They go by many names: Spider Mines, Cockroaches, Nightcrawlers, Bukashki. Walking Bombs and Mines are small ovoid vehicles with six to eight mechanical legs. They are remotely guided to their targets, where they either blow up or release their payload of smoke or chemical agents. Walking bombs move 1 MU per turn in any direction. When detonated, they have a DM of x13 and an AE of 0. They may use Smoke, Chemical, Biological and Persistent payloads, using the costs as listed in the Fire Mission Attack Procedure on page 33. Early models are wire-controlled and require a LOS to the bomb to guide it. If LOS is lost, the bomb continues in a straight line until seen again or detonated. Later models are television guided through radio signal and do not require LOS to function. Walking bombs cost 10 TV each (15 for the radioguided ones) for a basic HE payload and weigh 65 kg each, including the control unit.

ZOMBIES

Perhaps the most horrifying opponents encountered on the battlefield are the Axis' "zombie" troops. Whether Allied POWs infected with the infamous "Jungle Rot" by their Japanese captors or German concentration camp prisoners whose minds have been chemically destroyed, these walking atrocities prove very challenging to neutralize for troops encountering them, although their overall effectiveness is questionable. It is unknown if the zombie process was discovered as the result of early combat drug experiments or through some natural process, but they have proved some of the toughest troops fielded by the Axis. Rumors persist that zombies are almost as dangerous to their side's own troops as they are hard to kill. Evidence collected in the field allegedly proves that zombies are not animated corpses, but most troops have no intention of researching this themselves. In the Pacific Theater, the Japanese use

SCENARIO GENERATOR

The Scenario Generator is a set of tables and guidelines enabling the rapid creation of scenarios for stand-alone tactical combat. They have been designed so that the participation of a Gamemaster is not required for play. By either selecting the scenario's elements (or rolling them randomly), a large number of tactical scenarios can be easily generated. Some additional work may be required to tie the various elements together, but it is much faster and easier than having to design the whole scenario from scratch.

Both Players receive a number of mission objectives that have to be fulfilled in order to win the battle. The opponent is trying to prevent the other from achieving his objectives, while at the same time fulfilling his own. Enemy objectives normally remain secret, unless resources are allocated to find out what they are.

STEP 1: PREPARING THE SCENARIO

The scenario's characteristics will be determined later on. First though, a Threat Value point total must be decided upon according to the time available to play the game (see the table below). A time limit to the game can also be decided upon, though one will most likely be generated for the scenario. Forces will be chosen for both sides using this point total, as modified during the sce-

nario generation process. For a more challenging and interesting game, however, there are specialized options further down. These optional rules include Bidding, Going for Glory and Subplots.

Bidding: The option of Bidding allows additional variations on the theme, and forces Players to become better tacticians through skillful use of the available resources. Bidding down one's force increase the scenario's Victory Points in the same way as "Going for Glory."

The participants start the bidding with one of them (selected by tossing a coin or rolling a dice) making a bid: "I'll try this scenario with only 900 points in TV instead of the full 1,000. " The process goes clockwise, with everyone trying to outbid his predecessor. When all the Players agree that one of them has gone lower than they are willing to go, the process starts again between the remaining Players, who cannot have a lower TV than the "winner" of the last bidding. The process is repeated until only one Player is left, who will take the basic TV. Bids should be made in increments of 50 points for lower TV amounts (2000 and under) and 100 points for larger amounts, for the sake of simplicity. See the next option to see how the reduced TV affects the Victory Points.

Going for Glory: Instead of bidding, one side may voluntarily choose to lower its available Threat Value total in order to gain more Victory Points. The gain in VPs is directly proportional to the reduction in force: divide the VP total by the fraction. For example, if a Player elects to use a force equal to only 75% of his opponent's Threat value point total, his total VPs for the game will be worth 133% (100 divided by 0.75).

Subplots: These are complications that hinder the fighting abilities of an armed force (see Step 4 for more detail). Normally, a single subplot is rolled for both sides. By lowering its available Threat Value, one side may force extra Subplots onto the enemy. For each slice of 10% the initial TV is reduced by, one additional Subplot is rolled. In other words, if a Player who has 1,500 points in TV and wants to purchase two additional subplots, he will lose two slices of (10% x 1,500 =) 150 points (a total of 300 points), leaving him with a final TV of 1,200 points to purchase his forces with.

Suggested Point Total

TV Points per Side	Battle	Approximate Time
500	Patrol/Recon	1 hr
1000	Heavy Patrol/Strike Force	2-3 hrs
2000	Raid	3-4 hrs
4000	Minor Battle	5-6 hrs
7000	Major Battle	8+ hrs

Mission Design Table

1d6	Type	Objective	Time Limit
1	Capture	All forces	None
2	Defend	Communications	None
3	Destroy	Rearguard	Random
4	Destroy	Object	Random Increasing
5	Disable	Terrain	Until Objective Reached
6	Provide	Vehicle	Until Objective Reached

STEP 2A: MISSION DESIGN

Very few military actions are of the "kill them all" sort. When forces are engaged in an operation, it is always for very specific reasons, which may or may not be related to actual body count. The Mission Design table above is divided into three columns. A die roll on the first column defines the type of mission; another die is then rolled to indicate the specific objective. Finally, a third roll determines the time limit.

The objectives have been generalized for simplicity. If the mission type is an offensive, then the Objective means the enemy forces. If the mission type is more defensive in nature, then it means the friendly forces.

Capture: The enemy has something you want. It might be a physical object, like a vehicle or a terrain feature, or it might be a more abstract condition (control of the communication airwaves, for example). It must be held (i.e. only friendly vehicle within 4 MUs) for at least three turns or until the end of the game, if a time limit is present.

Defend: The enemy wants something you have. It might be a physical object, like a vehicle or a terrain feature, or it might be a more abstract condition (control of the communication airwaves, for example). It must be held (i.e. only friendly vehicle within 4 MUs) for at least three turns or until the end of the game, if a time limit is present.

Destroy: the objective, whatever its actual nature, must be denied to the enemy. It must be destroyed before the end of the game.

Disable: the objective, whatever its actual nature, must be denied to the enemy. It must be disabled (no movement, no Action of any kind) before the end of the game.

Provide: the objective must be provided to the rest of the armed forces of your side. It might be an actual item, in which case it has to be delivered beyond the enemy line. Or it might be a condition, such as delaying the opposing force for a set number of turns. If the latter, it must be provided for at least five turns or until the end of the game, if a time limit is present.

All Forces: All units present on the table for that side. Regardless of the mission type and the task(s) involved, all units are equally affected.

Communications: This means that clear communication channels (at least one vehicle is able to use its Communication system) must be available to friendly forces or denied to the enemy.

Rearguard: One force is fighting a rearguard action to cover the withdrawal of other friendly forces. Attacking units are attempting to break through the defenders lines, and exit the tabletop from the defender's board edge.

Object: Headquarters considers an object vital. It is probably something small that can be picked up and carried by a walker vehicle or an infantryman.

Terrain: Headquarters considers a terrain feature (a bridge, hill, building, river ford) vital. It must be captured or held.

Vehicle: headquarters considers one of the vehicles vital. It might be a prototype, or someone important pilots it.

No Time Limits: the game ends when the Players have no more time, or one of the forces in presence is completely destroyed (or retire from the field).

Random: the game proceeds normally for five turns. A die is then rolled to know the number of turns remaining before the end of the game.

Random Increasing: the game proceeds normally for five turns. A die is then rolled versus a Threshold that starts at 1 but increases by one every turn. If the die roll does not exceeds the Threshold, only one more turn is played before the scenario ends.

Until Objective Reached: once one side has completed its scenario objectives, only one more turn is played before the scenario ends.

STEP 2B: LOCATION

Next, decide where the battle will take place. Before miniature terrain is placed on the table, the choice of who will do the actual board set-up will depend on which side assigned the most resources for Scouting (see *Scouting*, further on, for more detail).

The following tables randomly assign a certain type of battlefield to each scenario. Due the huge number of possible set-ups, only the general look of the battlefield is suggested here. For more variety, the battlefield can be divided into several equally sized sub-zones, each of which will receive a different terrain type.

Players should make sure there are plenty of cover and hiding places, even on the flattest of battlefields. This is especially true of Skirmish scale games, where even individual rocks can be modeled. It is important to avoid choking the battlefield with too much obstructing terrain, however — the troops will have to move through it, and any cover may well become the enemy's if the battle takes an unsuspected turn.

Desert: although it is constituted of a multitude of different terrain types, North Africa still features quite a lot of empty and dusty flat deserts. Desert battleground has at least 50% of the playing surface made up of Clear or Sand terrain.

Broken Ground: the area of transition between plains and mountainous regions is the type of terrain we will refer to as Broken Ground. Broken Ground battlefields have at least 50% of the playing surface made up of rocky hills and outcroppings.

Mountains: Normally not the type of terrain ideally suited for a battlefield, Mountains were the site of many hard fought defensive actions. Mountain battlefields have at least 75% of the playing surface made up of Rough terrain. Alternatively, they may be composed of any type of terrain provided there are at least three different elevation levels.

Woodland: Forests and woodlands were common battle environments, especially in the latter days of the war. Entire campaigns took place in the dense forests of Europe. A Woodland battlefield has at least 50% of the playing surface made up of Woodland terrain.

Rural: mostly composed of open fields and croplands with the occasional cluster of farm buildings or a village at a crossroads, Rural terrain comprises the majority of land in the European theater.

Swamp: in some regions, such as in low lying river valleys and deltas, Swamp becomes the primary terrain type. The battleground is a Swamp when at least 50% of the playing surface is made up of Swamp terrain. A battlefield with 75% of the terrain as Water also counts as a Swamp.

Coastal: not all of the battles in North Africa took place in the inland desert. Most of the existing roads in the region followed the coastline of the Mediterranean Sea quite closely. A battlefield is considered to be Coastal if at least 30% of the playing area is made up of a contiguous Water terrain feature.

Urban: battles sometimes occur within the confines of large cities but are much more likely in the crowded streets of neighboring towns and villages. This type of battleground is composed of at least 50% of Urban or Dense Urban terrain (in any proportion, not including Roads or Bridges).

STEP 2C: EXTERNAL CONDITIONS

This is a catchall term for weather effects and time of day. Only one External Condition is rolled for the entire scenario, and it applies throughout the game for everyone.

Daylight: the battle occurs under normal day conditions.

Dawn/Dusk: the battle occurs partway between night and day. The scenario is treated as being a normal day scenario, but with all Detection ratings being reduced by one (they cannot go lower than the Night rating, however).

Location Table

1-2	European Theater
3-4	North African Theater
5-6	Far Eastern Theater

Terrain Table

1d6	European	North African	Far East
1	Broken Ground	Desert	Broken Ground
2	Mountains	Desert	Mountains
3	Woodland	Broken Ground	Woodland
4	Rural	Mountains	Jungle
5	Rural	Coastal	Swamp
6	Urban	Urban	Urban

Fog: The entire battlefield is covered with a rolling fog that makes visual identification nearly impossible. Each full three MUs of fog count as one point of Obscurement for detection purposes (but not weapon fire).

Heavy Rain: The battle takes place in heavy rain. Each full ten MUs of terrain, regardless of its type, count as one point of Obscurement.

Night: The battle takes place at night, with all the associated night combat rules in effect.

Rain: The battle takes place under a light rain. For each full twenty MUs, counts one additional point of Obscurement over and above the normal penalties of the underlying terrain.

Sandstorm: The battle takes place during a violent storm, with all the associated rules being in effect.

Winds: Heavy winds blanket the battlefield, lifting dust clouds and making aerial travel very difficult. Neither Player can request air support.

External Condition Table

1d6	Europe	North Africa	Far East
1	Daylight	Daylight	Daylight
2	Daylight	Daylight	Daylight
3	Dawn/Dusk	Dawn/Dusk	Dawn/Dusk
4	Night	Night	Night
5	Rain	Sandstorm	Fog
6	Winds	Winds	Heavy Rain

Example of Random Scenario Generation

Gordon and Adrienne have decided to play a game of Gear Krieg. Not wanting to play too large a game, they have elected to play a simple Patrol/Recon scenario. This allows them 500 TV per side. They decide to add interest by bidding on the TV, each of them writing down a bid secretly on a piece of paper. Gordon bids his force down to 400 TV, while Adrienne conservatively bids herself down to 450. Gordon has won the bidding. While he doesn't feel inclined to further "Go for Glory," Gordon does elect to add a single Subplot, further reducing his force's TV by 40pts.

Gordon rolls on the Mission Design table and rolls a 1, 5 and 3. This generates a scenario in which Gordon's forces will have to capture (1) a predetermined terrain feature (2) in a random (3) number of turns. He then rolls once on the military subplot table, rolling a 2. This result, Corrupted Supplies, indicates that one of Adrienne's units will start the game with a randomly determined Light Damage hit.

Next Gordon rolls for the location of the battle. He rolls a 3 and then a 2, thus determining that they will be fighting in North Africa, in the desert. A roll of 5 on the External Conditions chart indicates that the battle will take place in a howling sandstorm!

At this point, Gordon and Adrienne can move on to purchase their forces with their Threat Value points. Adrienne, grumbling, announces that Gordon is never going to be allowed to roll for external conditions again...

STEP 3: ASSIGN PRIORITIES

Each Player has five points to secretly distribute between Scouting, Troops and Support. Scouting is used to determine the strength of the enemy, his position and his intentions. Troops are the actual fighting force: combat vehicles and infantry. Support represents the elements that, although not present on the immediate battlefield, can affect it: air strikes, artillery and intelligence work.

Scouting: The point(s) assigned to Scouting by each Player are revealed and compared. The Player with the highest total wins; the difference is noted as the Scouting Advantage Margin (see table next page for the exact effect).

Troops: The point(s) assigned to Troops by each Player are revealed and compared. The Player with the highest total wins; the difference between Troop Points is the Troop Advantage Margin. The opponents' total TV is reduced by an amount equal to the Troop Advantage Margin, times 10% of the original TV. For example, if Player A assigns 2 points to Troops and Player B assigns 4 points, the Troop Advantage Margin is equal to 2. The forces of Player A are reduced by (2 x 10% =) 20%. He will be able to spend only 80% of the agreed-upon Threat Value total.

Support: Support are options that can be bought just before the scenario to help the Player. They are normally written down and concealed from the opponent, unless they manage to learn about them (see *Intelligence*, next page). The points assigned to Support by each Player are revealed. Each side may buy support up to an amount equal to the Support Points times 10% of the original TV. For example, if Player A assigns 2 points to Support, he will be able to assign (2 x 10% =) 20% of the agreed-upon Threat Value total on support material.

Air Strikes: aircraft can be called to provide ground support for beleaguered combat units. Air strikes are purchased like artillery barrages; the controlling Player must designate the unit calling for them (it must have a radio).

An air strike usually includes strafing runs with cannons and rockets. The strafing run starts on one side of the battlefield and continues in a straight line to the other side. Any unit within 1 MU of this path is a valid target. The attack is considered to be direct fire at Short range and at Combat speed. Apply the Obscurement for the target's MU only to the To-Hit roll. All attack rolls are made using 2d6. Due to fuel and ammo limitations, each type of aircraft has limit to the number of times it can attack.

Anti-aircraft attacks versus the aircraft are possible. The aircraft is traveling faster than 20 MUs per turn, using 2d6 for all Defensive rolls. Units may use Reaction Fire to engage the aircraft. To de-

termine the range from a ground unit, double the shortest distance in MU between the attacker and the aircraft's line of attack. If the attack is successful, compare it to the Armor listed. If the damage result is Heavy, halve the number of remaining attack runs available. If the damage result is Overkill, all further air strikes are cancelled.

Artillery Barrages: These are massive bombardments made by off-board artillery pieces. Artillery barrages are bought as per page 30 and cannot account for more than a quarter of the available Threat Value.

Intelligence: Information gathering is a major part of warfare. It is assumed that both sides have access to fairly complete intelligence reports before the start of the scenario. Sometimes, though, the system does not come through and there are differences in the preparedness level of the forces in presence.

Intelligence resources can be used to buy dice rerolls, representing the increased level of preparation of the friendly forces. Die rerolls can be used at any time, and cost the equivalent of 1% of the Threat Value total each. When dice are rerolled, however, the second result stands, even if it was worse than the first one.

Intelligence assets can force the other Players to reveal either his mission type, mission objective or time limit. They may also be used to reveal the type of support bought for the game. Every 5% of the total Threat Value assigned to this purpose forces the opponent to reveal *one* of the above.

STEP 4: SUBPLOTS

Subplots make a scenario more interesting. They are complications that have to be taken into account when formulating battle plans. Subplots are always applied to the side spending TV points to buy them.

Coordinated: Link two units. When they attack the same target, they each get a +1 on their Attack roll.

Combat Fatigue: A random unit has seen too much. Upon being hit for the first time, the unit must make a Morale test to remain in combat and then continue to test each turn. A failure result means that the unit must retreat, but may try to pass another test the next turn.

Coward: A random unit on the other side falls back as soon as it is damaged. If someone with the Leadership Skill is within Comm range, he may attempt to rally the fleeing unit: the Threshold is 4.

The Hero: A random friendly unit is piloted by a young hero. This Hero does not count toward the limit on the number of Heroes and is bought with the points spent on the Subplot. See the rules on page 41.

☐ Air Strike Table

Type	Acc	DM	ROF	TV/Mission	Priority	Armor	# Attacks
Fighter	0	x6	2	3	+1	5	10
Fighter-Bomber	0	x8	2	5	0	6	6
Light Bomber	0	x8	4	10	-1	7	3

☐ Scouting Advantage Table

Scouting Advantage	Effect
0	No effect. Randomly determine which Player sets up the playing field first; the other may choose his home edge.
1	Minor Advantage: the Player may choose between setting up the playing field OR choosing his home edge.
2	Major Advantage: the Player sets up the playing field and chooses his home edge.
3	Ambush: in addition to the major advantage above, the Player automatically wins the initiative for the first turn.
4	Total Ambush: in addition to the major advantage above, the Player may hide his units anywhere on his half of the board, noting their positions on a sheet of paper. See the Hidden Set-Up rules on page 44.
5	Perfect intelligence: in addition to the total ambush advantage above, the Player knows the enemy's mission type, objective and time limit.

Traitor: One of the enemy works for your side. At any point during the game, the weakest unit (in TV points) is transferred to your control and remains thus for the remainder of the game.

Vendetta: A random unit on the other side hates a random unit on your side. The enemy must match speeds (Combat or Top) and attack continuously until one of the two is destroyed.

Bad Intelligence: Once setup is finished, you may relocate up to a quarter of your forces on the playing surface.

Corrupted Supplies: One enemy vehicle starts the game with a random Light Damage result from bad maintenance (disregard Crew hit results).

Left-Over Ammo: One random unit has been supplied with left-over ammunition. One die is rolled every turn, immediately after the unit's first attack: on a 4 or more, all attacks that turn are duds, including the one just rolled.

Low Priority: The mission objectives are not that important to the enemy commander, and his troopers know it. The opponent applies a -2 penalty to all Leadership rolls.

Malfunctions: One random enemy vehicle is experiencing weapon malfunctions. One Action is required to clear the weapon after each Fumble.

Minefield: An old forgotten minefield is located somewhere on the board. The Player gets a standard minefield (see page 38) and may place it anywhere.

Bystanders: A group of civilians have unwittingly wandered into the battle zone. They can be impoverished refugees, or perhaps even local residents. They are treated as an unarmed, unqualified infantry unit, moving in a random direction every turn. A penalty of one VP is deducted for every civilian killed.

Intelligence Options

Dice Reroll:	1% of the Threat Value total each
Intelligence Asset:	5% of the Threat Value total per item revealed

Subplot Generator Table

1d6	1-2 Cinematic	3-4 Military	5-6 Unforeseen Events
1	Coordinated	Bad Intelligence	Bystanders
2	Combat Fatigue	Corrupted Supplies	Blizzard/Storm
3	Coward	Left-over Ammo	Communications Out
4	The Hero	Low Priority	Friendly Fire
5	Traitor	Malfunctions	Sabotage!
6	Vendetta	Minefield	SNAFU

Blizzard/Storm: An unforeseen weather system has moved in. All targeted units get a +2 modifier to their Obscurement value due to the poor visibility caused by the bad weather.

Communications Out: There is a problem of some kind with the radios, either because of the weather or a superscience experiment. No communication rolls are allowed for the duration of the battle.

Friendly Fire: A plane, back from a mission with spare ammunition, is looking to dump it on anything resembling a target. A fighter-bomber makes a single attack run centered on a random enemy unit. Any target within the attack corridor, friend or foe, is at risk.

Sabotage!: One successful enemy attack is cancelled out. In addition, roll one die for the attacking unit. On 1-2, it is simply jammed and put out of commission for the rest of the game. On 3-4, the weapon explodes, doing a Light Damage hit on the walker/vehicle. On a 5-6 the weapon explodes, causing a Heavy Damage hit on the vehicle.

Situation Normal All Fouled Up: Orders have come down from HQ, superseding current operational directives. Unfortunately, not everybody gets the messages on time! At the beginning of the game, before either side takes a turn, roll one die for each unit in the enemy force. On a roll of 1, the unit is confused and may do nothing for the first turn.

HIT AND FADE TO BLACK

Battlefield

Location:	Northern France, June 6, 1944
Weather:	Clear
Time of Day:	Morning

Order of Battle

GERMAN UNITS

1 x	SS Rockettruppen Command Section
2 x	SS Rockettruppen Raider Section

AMERICAN FORCES

2 x	Airborne Command (Officer w/SMG, NCO w/SMG & Type II Radio, parachutes)
6 x	Airbornes (NCO w/SMG x 2, Rifleman w/Rifle x 9, Rifleman w/BAR, parachutes)

MISSION BRIEFING

As part of the Normandy invasion, hundreds of troops of the 101st Airborne parachuted behind enemy defenses to cut off retreats and to trap the Germans between them and the invading forces in the beach landing sectors. Part of the 101st, the 506th Brigade, landed around Carentan, hoping to hook up with the forces landing at Utah Beach. During the early morning of June 6th they parachuted into Normandy. They endured anti-aircraft fire and ground forces but managed to organize into platoons and companies and start to form up with the invading forces.

Learning of the airborne troops marauding behind the lines, the Germans decided to send the troops that could react the fastest to counter the 101st. Those troops were the mighty Rockettruppen. The Rockettruppen could cover the great distance and fight fire with fire. The Americans will have to survive the attack to keep the promise of providing relief to the rest of the invading troops. But can they survive a hit-and-fade SS rocket pack-equipped platoon?

MISSION OBJECTIVES

The Germans must eliminate as many American troops as they can within 10 turns (5 minutes). At that point they will be summoned to fight elsewhere, continuing their mission of harassment. The American paratroopers must weather the assault as intact as possible, and eliminating some of the despised SS can only help the next poor guy they will be attacking.

The German win a major victory (2 VP) if they can eliminate all of the American forces. They win a minor victory (1 VP) if they can eliminate at least half of the American troops while sustaining fewer than half casualties themselves. They must conserve troop strength to be able to carry the fight to their next target.

The Americans achieve a major victory (2 VPs) if they can eliminate all of the Rockettruppen. They get a minor victory (1 VP) if they can eliminate at least half of the SS.

MORALE

All German units are Elite and the Americans are Veterans. This is a Medium Mission Priority for the Germans and a High Mission Priority for the Americans.

TERRAIN AND SETUP

The map is comprised of open countryside. There are some scattered woods and roads, but most of the open area is farmland and meadow. The American troops deploy as per the Parachute rules on page 53. The American Player picks the target drop zones and rolls to see the results. Once the airborne troops are placed on the map, the clock starts.

On the first turn the Rockettruppen may enter from the eastern side of the map. They enter in flight mode and may land as the German Player wishes. The game lasts for 10 turns. On the tenth turn, the German Player must return to flight mode with each unit as it activates and moves off the west side of the map as quickly as possible. The American Player may take any last shots he can as the German troops rocket off the map.

COMPLICATIONS AND VARIATIONS

1) Add a Hero to the American Troops. Germans get a bonus VP if they can eliminate or incapacitate the hero.

2) Add four glider-deployed Veteran M11A3 Early Walkers to the American forces. Add one Rockettruppen Support Group '43 to Germans forces.

3) The Americans are Qualified instead of Veteran. Remove one of the SS Raider Groups.

HARD LANDING

Battlefield

Location:	Tulagi, August 17th, 1942
Weather:	Clear
Time of Day:	Morning

Order of Battle

JAPANESE UNITS

1 x	47mm ATG Type 1
2 x	Shiki 41
1 x	Command Squad
4 x	Rifle Squad
2 x	Hvy Weapons Squad (LMG or AT Rifle)

AMERICAN UNITS

2 x	Command Squad
4 x	Rifle Squad
6 x	M4A3 Sherman
4 x	M12A1 Longstreet

MISSION BRIEFING

It was supposed to be an easy landing. The American naval forces had just completed their shore bombardment with their 16" guns. The barrage cleared the beach of any Japanese defenders; the ones that weren't dead should have run off from such an onslaught. Any remaining defenders should have put up token resistance before the American forces cleared them out and established the beachhead.

However, the bombardment seems to have landed a little short of the shore. As a result the Japanese forces remaining are larger and more dug in than anticipated. They are more than ready to put up a fight and repel the Marine landing force. Additionally, the 16" guns have left several craters in the shallow water, making it difficult for the American forces to land. The Americans will have to pay dearly to take foot on this island. It was supposed to be a easy mission...

MISSION OBJECTIVES

The Americans must land on the beach and rout the Japanese forces. The beach must be taken. Only by defeating the Japanese forces can the American forces achieve a major victory (2 VP). A minor victory is not possible — it's do or die. If the Americans try to retreat, they will be sitting ducks for the waiting Japanese, and this option is thus not available.

The Japanese can win a major victory by destroying all of the American forces (2 VP). If the Japanese hold the beach (i.e, only Japanese units are on it) at the end of the scenario, they have at least achieved a minor victory (1 VP).

MORALE

All forces are Qualified. This is a High Mission Priority for the Americans, but only a Medium Mission Priority for the Japanese.

TERRAIN AND SETUP

One long side of the table (and about one-third of the width) is the beach that the American forces must take. The Japanese get two bunkers to set up on the beach; each can take 40 points of damage. Infantry may set up in the bunkers; the AT gun and any infantry not in the bunkers are considered dug in. All other vehicles are considered hull down. The beach itself is Sand terrain.

The remainder of the table is shallow water. The American start there and must trudge through it to make it to the beach. Scatter 30 markers in the water, equally divided into Clear, Mine or Crater. When a unit moves within 1 MU of a marker, it is flipped over. Clear markers have no effect. Mine markers represent 2 MU radius anti-vehicle minefields. Crater markers represent the craters left behind by the pre-landing bombardment of the 16" battleship guns. If an infantry unit uncovers a crater, it loses a turn swimming back to the surface. Tanks that uncover a crater sink and are destroyed. The crew must make a Morale test to see of they escape with their lives. Walkers uncovering a crater must make a Piloting test versus a Threshold of 6 to escape the muck. If the roll is failed, the crew must pass a Morale test to escape the mired walker.

COMPLICATIONS AND VARIATIONS

1) Increase the American forces to Veteran Quality and Morale. Add 150TV of barbed wire to the Japanese setup.

2) Increase the Japanese force to Veteran Quality and Morale. Add 2 Veteran engineer squads with satchel charges to the American forces.

3) Add Heroes to both sides, of comparable value.

MONSTER MASH

Battlefield

Location:	Guadalcanal, October 31st, 1942
Weather:	Clear
Time of Day:	Night

Order of Battle

JAPANESE UNITS

2 x	Command Squad
8 x	Zombie mob (14 Zombies each)

AMERICAN UNITS

1 x	Command Squad - Lt. Col. "Chesty" Puller (Hero: Inspirational, Tough As Nails, Unpinnable, Untiring) and Gunnery Sgt. "Manila John" Basilone.
2 x	Rifle Squad

MISSION BRIEFING

The American Marines are bogged down on Guadalcanal, fighting heavily around the village of Matanikau and the Henderson airfield. The Marines made advances in the late summer, but the Japanese have counter-attacked and have begun to gain ground. October has been a nightmare for the Americans, and it is about to get worse.

Lieutenant Colonel "Chesty" Puller, with elements of the 1/7 Marines, has been isolated in the jungle infested valleys south and east of Matanikau. They have been fighting tirelessly for days. Unfortunately, they have also been chosen as the target of a new Japanese secret weapon — zombies!

The Americans must face their own former friends and comrades who have been put under a spell (or worse, are undead!) and must now kill them in order to make it back to friendly lines. Those who live through the night shall not soon forget what they have seen on Guadalcanal.

MISSION OBJECTIVES

The Japanese command is testing out their new weapon and hoping to get rid of Puller at the same time. The two command squads are handlers for the zombies as well as observers tasked with reporting their results.

The Japanese achieve a major victory (2 VP) if all of the Marines are eliminated, including Puller. They get a minor victory (1 VP) if at least one of the Marine squads is eliminated and one of the two command squads successfully retreats after personally witnessing the zombies' performance. In order to do the latter, the squads must have LOS to a zombie attack and successfully detect the squad being attacked.

The Americans are fighting for their lives against unthinkable foes. They win a major victory (2 VP) if they can defeat all of the zombies as well as the observers. They win a minor victory if the zombies are defeated, the observers are eliminated or the Marine command squad survives.

MORALE

The Zombies have special Morale, as described on page 55. The Japanese command squads are Qualified. The Marine command squad (including Puller) is Veteran Skill level, but Elite Morale. The rifle squads are Veteran. This is a High Mission Priority for the Americans, but a Medium Mission Priority for the Japanese. The American forces are considered Exhausted.

TERRAIN AND SETUP

The entire map is Jungle terrain. A river, 2 MUs wide, runs the length of the map; numerous trails and clearings are scattered in the trees. The Americans start in the center of the map: they are crossing the river when the attack begins. One squad and Puller are on one side of the river, and the other squad along with Manila John are on the other side.

The Japanese forces enter along any side of the map, and may enter along multiple sides if desired. Because of the size of the scenario, it is recommended that this scenario be played out in Skirmish scale, but it need not be.

COMPLICATIONS AND VARIATIONS

1) Add another Rifle Squad to the American forces. They start on the side of the river with Manila John. The Japanese get a Veteran Rifle Squad sent in to ensure that "Chesty" Puller is dealt with.

2) Add two more Zombie Squads to the Japanese forces. Puller will decide that the threat is too horrible and call in artillery fire on her own position if it looks like she will be defeated. The American receives two 105mm Howitzer HE fire missions which will fire over two turns as one barrage (one mission that will last two turns) once Puller calls it in.

PLANE SMASH

Battlefield

Location:	North Africa, January 17th, 1942
Weather:	Clear
Time of Day:	Night

Order of Battle

GERMAN UNITS

4 x	light MG team
2 x	squad of infantry
5 x	Aircraft (see *Air Strike*, p.60, for stats)
2 x	Valkurie Ausf B
2 x	Sdkfz 251b

BRITISH UNITS

4 x	Pink Panther truck
2 x	Pink Panther jeep
2 x	MV12B Roundhead

MISSION BRIEFING

Lt. Colonel Stirling, father of the Special Air Service (SAS), worked the night extensively in the North African theater. He and his men patrolled behind enemy lines under the cover of darkness, reporting on troop positions and harassing the enemy when possible. They excelled at blowing up supply dumps and vanishing again into the dark desert night.

On this night, Stirling and his group has uncovered a little out-of-the-way Luftwaffe airstrip, seemingly ripe for the picking. There seems to be few guards, and several planes are grounded near the makeshift airstrip. Something's going on... The only way to find out for sure is to attack, which is just what Stirling has decided to do. The unsuspecting Germans must deal with a daring night raid by one of Britain's most capable soldiers!

MISSION OBJECTIVES

The British objective is to damage or destroy all of the planes; doing so earns them a major victory (2 VP). If they manage to only damage or destroy three of the planes that is a minor victory (1 VP).

The Germans will get a major victory (2 VP) if none of the planes are damaged. If only two are damaged or destroyed, it will be only a minor victory (1 VP).

MORALE

All German units are Qualified and all British are Veterans, except for Stirling, who is a Hero (Elite crew with the following Heroic abilities: Inspirational, Untiring, Driving On Fumes, Patton's Notebook).

This is a High Mission Priority for the Germans and Medium Mission Priority for the British SAS (they can always slip away if things go badly and go blow up another airstrip).

TERRAIN AND SETUP

A runway cuts through the center of the battlefield. The area around the runway and buildings has been leveled and cleared, but outside of that area, it is rough and very broken terrain. There are four foxholes, two of which are on the far side of the runway; each foxhole has a light MG team in it.

The Germans set up with the MG teams in the four foxholes. The infantry squads are in the barracks and deploy 1 turn after either a German unit spots a British unit or shooting begins. The 251s are by the barracks and their crew is inside. It will take them an extra 2 turns before they are combat ready. The German walkers start hidden in the hangars.

Stirling's units may enter the board on any one edge. This is to be a quick raid, intending to damage the planes as fast as possible and then retreat to the desert.

COMPLICATIONS AND VARIATIONS

1) The Germans just finished a night drill. All units are active and in position.

2) The airfield seems very quiet. A Skill roll vs. Threshold 6 when within 1 MU (or an attack on any of the vehicles) reveals that they are mockups for Luftwaffe training! The German Player get five fighter runs and three bomber runs with which to 'practice.'

3) The Germans have laid a trap for Stirling. There are a total of six squads of infantry in the barracks. There are also four Loki and two Valkuries hiding in the hangars. The planes are mockups (as above) and the area around them is mined (4 x 1 MU minefields). The Victory Conditions change: if Stirling exits the board undamaged with all units, it's a major victory (2 VP). If only Stirling gets away, it's a minor victory (1 VP).

DOSE OF LEAD

Battlefield

Location:	Stalingrad, October 29th, 1942
Weather:	Snowing
Time of Day:	Mid-Morning

Order of Battle

GERMAN UNITS	
2 x	Light MG team
4 x	Infantry Squad
2 x	SdKfz 314 "Spinner Zwei"
SOVIET UNITS	
2 x	Sniper Team (w/AT Rifles)
2 x	Infantry Squad (w/Molotov Cocktails)
1 x	Light MG Team

MISSION BRIEFING

The Germans have advanced through the workers' suburbs. Artillery, tank guns and bombs easily decimated the suburbs, with their light stone and wooden structures. The commercial and industrial buildings were little affected by light and medium artillery and stood up to tank gun fire. The artillery and bombing covered the streets with the remains of the lesser buildings, leaving corridors of rubble between the stouter constructions.

In this urban wasteland of rubble, the Germans started to pay heavily for their advances. The Soviets are defending yet another block of the city when the temperature drops and the snow starts falling.

MISSION OBJECTIVES

The Germans are here to sweep and clear the area. Lucky enough, they are supported by walking armored cars, which faired much better in the rubble than did conventional vehicles. Germans obtain a minor victory (1 VP) if they drive off the Soviets. If they eliminate all the Soviet units, it is a major victory (2 VP).

The Soviets are waiting for the vehicles to advance down the road until they can ambush it with Molotov Cocktails. The snipers and MG team are there to keep the infantry well back so that the German vehicles are unsupported when the Soviet infantry attacks from hiding.

If the Soviets destroy or disable (that is, make them unable to move) all the German vehicles, it is a major victory (2 VP). If they destroy or disable half (round up), it is a minor victory (1 VP).

MORALE

All German units are Qualified, and all Soviet units are Veteran, except the snipers, who are Elite.

This scenario is a Medium Mission Priority for the Germans, but a High Mission Priority for the Soviets, who are desperate to stop the progress of the Fascists in the Motherland.

TERRAIN AND SETUP

A central road is covered in pieces of stone from the facing of buildings and the road. Some structures have collapsed, blocking several side streets. All that remains of many of the buildings are craters from artillery shelling and Luftwaffe bombing. Any amount of Rough terrain with mounds of rubble, an occasional wall, building or crater hole would do well for this scenario.

The Germans start out where the road enters the map on the German side. The Soviet units start out hidden; if using the chit rules (page 44), several dummy counters should be placed. The snipers can be placed anywhere on the board; the Soviet infantry set up on opposite sides of the main road, in cellars and basements, to ambush any vehicles (they are considered hidden and dug in). The Soviet MG team is set up anywhere they can cover the road and keep infantry from coming down the road with the vehicles.

COMPLICATIONS AND VARIATIONS

1) Make one of the Soviet Sniper teams a Hero. Make one of the Spinner crew a Hero of similar point cost.

2) Add one PzKpfw II Ausf E 'Flamingo' to the German defenders. Add two more LMG Teams to the Soviets.

3) Increase the Sdkfz 314 crews to Veterans. Add a Soviet Command Squad (see **Gear Krieg Rulebook**, page 85).

4) Increase German Lt. MG Teams and Infantry to Veterans. Add two more sniper teams for the Soviets.

5) The snowstorm turns to a blizzard! Swap the Snipers for two-men teams with SMGs and grenades.

VELIKAN-LYUDOED

Battlefield

Location:	Outskirts of Stalingrad, October 13th, 1942
Weather:	Clear
Time of Day:	Afternoon

Order of Battle

GERMAN UNITS

4 x	Infantry Squad, one Rifleman w/Panzerfausts each
4 x	PzKpf V Ausf B "Valkurie"
1 x	SdKfz 251/12 w/Artillery Spotter
4 x	10.5cm Howitzer fire missions

SOVIET UNITS

1 x	T-45 *Velikan-Lyudoed* Tesla Tank (Elite)

MISSION BRIEFING

The Germans have been advancing through Russian territory like lightning. The Soviets have been pushed back at every turn... except for one or two units, who are steadfastly resisting the advance of the Fascist invader.

A sole T-45 is one such unit, marauding around behind enemy lines, always staying one step ahead of its pursuers. Through sheer force of will (and not a little luck), the crew has managed to find fuel and supplies to keep their ponderous beast on a combat footing.

Today this tank, the *Velikan-Lyudoed*, has found an artillery spotting vehicle getting into position on the outskirts of a worker's city. If the Fascists are allowed to survive, they will rain steel death on the hapless Red proletarians holed up in their houses and cellars. The defense of the *Rodinya* is at stake, and this lone tank must destroy that spotter vehicle and the forces defending it at any cost.

Can one brave tank beat all arrayed against it?

MISSION OBJECTIVES

The Soviet tank must destroy the SdKfz 251/12 to win a major victory (2 VP). Destroying the other defenders will win the Soviets a minor victory (1 VP), but the real prize is the artillery spotter.

The Germans win a minor victory (1 VP) if the SdKzf 251/12 survives, and a major victory (2 VP) if the T-45 is eliminated. Thanks to the Fuhrer's "no retreat!" policies, the SdKfz 251/12 cannot leave the table during the scenario. Doing so is functionally the same as losing the vehicle in battle.

MORALE

All German units are Qualified, and the T-45 crew is Elite.

This is a High Mission Priority for the Germans and a High Mission Priority for the Soviets as well. The *Velikan-Lyudoed* is desperate to prevent the shelling of the city, while the Germans are eager to kill what many have come to see as a malevolent mechanical beast ready to devour them all. Much ride on the outcome of this battle.

TERRAIN AND SETUP

The battlefield is a wasteland of scorched earth and devastation. The battles of the previous weeks have churned the soil which is slowly turning to mud under the October rain.

The tabletop is liberally covered with patches of Rough and Woodland terrain. The scenario is played along the long axis of the table, which is divided in half. The Germans may set up anywhere on their half of the table. The fire missions, if used, must be called for normally.

The Soviet unit enters on the edge of its half of the table on the first turn.

COMPLICATIONS AND VARIATIONS

1) Add a Hero to the T-45 crew. The Germans may setup up hidden minefields of equivalent Threat Value.

2) Add a second T-45 (also Elite). Add three 7.5cm Pak 40 AT Guns to the German side. The Pak 40s may use AP ammo (see page 101).

CAMPAIGN RULES

A campaign is a series of scenarios linked together thematically, following the exploits of specific units. This section contains the rules and stats for playing a campaign in **Gear Krieg**. If the reader is not familiar with the *Gear Krieg Scenario Generator* (page 56), that section should be read first.

Campaigns can take several forms. Teams of Players may fight alongside each other against other Players, or a group of Players can take turns playing each other. It could always be just one Player against another. Regardless of the format selected, the important thing to remember is that the battles are now thematically and *dynamically* linked: what happen in one scenario will affect the outcome of subsequent ones!

The rules below explain not only how to determine who won the campaign, but the repair of units, the resupply of ammunition and fuel, the replacement of lost troops and how quickly the unit was redeployed.

CAMPAIGN TERMS

There are several stats and terms used for campaigns that have no bearing on the individual scenario.

Command, the: The combination of units and support is the Command that a Player controls.

Salvage Roll: A roll made to scavenge resources from the battlefield.

Repair Roll: A Repair roll is for fixing damaged vehicles or equipment. The Threshold is the Repair Value vehicle and represents how difficult it is to repair and maintain a vehicle. This is further modified by the Theater chart and outcome of some scenarios. This also includes how common or available parts are. This stat's usual range is 1 through 6. See chart on page 104.

Repair Value: This value is the Threshold for a Repair Roll and is found on the Campaign Vehicle Chart on page 104.

Repair Pool: A pool of resources to repair a vehicles damage between scenarios. It takes one point of the pool to repair a light critical and two points to repair a heavy critical.

Recruitment Roll: This roll is used to obtain replacement troops. It is modified by the force, year and theater. All units gained this way are Rookie quality.

Reinforcement Roll: A roll to get reinforced from another Command. This allows experienced personnel to be obtained.

Redeployment Roll: If a Player wants to remove his Command from the game prematurely, a Redeployment roll is made.

Redeployment: There are two different aspects of Redeployment, one is the Reinforcement Roll and the other is the Redeployment Roll. Only two rolls are allowed, per campaign, from Redeployment. It is up to the Player to decide how to use them.

Supply Value: This is the Threshold that a Supply Roll is made against to obtain a particular piece of equipment or vehicle.

Supply Roll: There are two types of supply roll. The first roll determines if a Command can get food, ammunition, fuel and other consumables, either from the supply chain or local resources. It is modified by which force a Player is playing and in which theatre the campaign takes place. Every five trucks or halftracks (i.e. cargo carrying vehicles) act as a +1 modifier to the Supply Roll, with a maximum of +2.

The second type of Supply Roll is to obtain new equipment through the supply chain. The Supply Value for a particular vehicle or piece of equipment is the Threshold for this roll.

Victory Points: Points awarded for accomplishing the set criteria in a scenario.

OVERVIEW OF GEAR KRIEG CAMPAIGNS

A Gear Krieg campaign will start by setting the TV of the forces involved, what special rules apply and which optional rules will be used. How many scenarios are to be played and any special branching from one scenario to another will also be determined. Once the scenarios are set, each Player spends TV to build the units. Play the first scenario and award victory points. The salvage/repair rolls are made, then recruitment and reinforcement rolls are made, victory points spent and then either end the campaign or go to the next scenario.

To keep track of a Campaign, each Player will have his own Campaign Record Sheet and Campaign Scenario Record Sheet. The Campaign Record Sheet is used to record information about the unit and to help organize data for the campaign. The Campaign Scenario Record Sheet helps the Player keep track of the outcome of each scenario and Supply Roll.

Start by placing your name in the name field (in case the sheet is lost, someone might be able to return it to you). The remaining sections of the Campaign Record Sheet will be discussed throughout this section. The Campaign Cycle chart at right sets the steps up for how the campaign is to be ran.

SET THE TV

All Players will start out with the same amount of Threat Value. A infantry company is usually between 256 to 534 TV, though adding vehicles or higher quality levels will quickly eat up the TV that is available to a Player. Listed here is a chart to give the Players an idea of what level to set for TV and the type of campaign they want to participate in.

Campaign Cycle

Step	Description
0a	Set TV
0b	Determine Campaign Optional Rules, Set Scenarios
0c	Building A Unit
1	Play the Scenario
2	Award Victory Points
3	Salvage and Repair Rolls
4	Recruitment and Reinforcement Rolls
5	Experience Rolls
6	Supply Roll
7	Victory Points Spent
8	Establish Next Scenario (go to step 1) or Campaign End (Step 9), or Change Theater.
9	Determine Victor of Campaign

Suggested Point Total

TV Points per Side	Battle
1000	Patrol/Recon
3000	Heavy Patrol/Strike Force
6000	Deep Raiding Force
10000	Tactical Operational Unit
15000+	Strategic Operational Unit

Once the TV value is set, record it at the top of the Campaign Record Sheet, in the TV box.

Optional Campaign Special Rules

• Bidding (see page 56)
• One infantry squad for every two vehicles
• No more than 15% of TV on artillery and air support
• No more than 5% of TV on Extra Supplies
• Only 1 Hero per Player

It is up to the Players to agree upon which of these optional rules are used, if any. Write your choice(s) in the Special Rules box on the Campaign Record Sheet.

CAMPAIGN SPECIAL RULES

The important thing is that all Players agree to the level of the campaign and the amount of TV. Special rules could be set to help 'tune' the campaign, such as any on the list found on the table above.

SETTING THE SCENARIOS

The Players can roll up a set of scenarios, either alternating each roll in a given scenario or each taking turns to roll up complete scenarios. Or, they can play published scenarios or campaigns.

Special branching allows the outcome of one scenario to determine which of two (or possibly more) scenarios will be played next. This could be as simple or as complicated as the Players want to make it. Published campaigns will discuss all the special rules required for special branching.

Example: Annie has to delay Bob's unit for five turns in a scenario. If she is successful, Annie gets to go to a new scenario, which is a raid on Bob's Extra Supplies with whatever forces were *not* involved in the previous scenario. If Annie is not successful, the other branch will be used.

Once all the scenarios are set, the order can be copied onto the Campaign Scenario Results Record Sheet (see page 109).

BUILDING A UNIT

Once the Campaign Rules have been set, a Player can build his forces. First, a Player will determine the mix and composition of his army, then select the individual units that will comprise his command, down to individual vehicles and infantry squads. Some published campaigns will include the Commands it was designed for and what options are available to modify that force, but most of the time it is up to the Player to make that choice.

Determine each unit's TV and multiply by its Quality level (see **Gear Krieg Rulebook**, page 46). If a Player decides they want a specific unit to have a higher or lower Morale Threshold than what the unit has for its Quality, see the Morale Modification Table on page 43.

A Command does not consist of just infantry and vehicles, it can also include Extra Supplies, Artillery, Air Support and Heroes.

• BUYING EXTRA SUPPLIES

Buying extra supplies, at 1% of total TV each, gives a +1 to the Supply Pool, a pool of resources that are considered to be in the trucks or, if the trucks are involved in combat, dumped at an abstract location to be picked up later. The points from the Supply Pool must be delivered (used) by trucks. Without trucks, the points from the Supply Pool cannot be used. Therefore, while the Supply Pool may be of any size, a Player may only gain up to +2 on Supply rolls from the use of trucks to deliver the supplies. Scenarios could be designed just around trying to get another Player's extra supplies. The bonus from extra supplies cannot exceed the bonus given for trucks (see above) on any given roll. That means from extra supplies and trucks, your total bonus cannot exceed +4.

For example, if a Player has ten trucks or cargo capable halftracks, he would get a +2 from the trucks. This means if he had purchased 4% extra supplies (a total of +4), he could only apply a +2 from extra supplies to any roll. If several trucks were destroyed during a battle, then the bonus would only be a +1 for extra supplies (if 5 or more survived, but less than 10). If less than five cargo vehicles remain, the Player could not use his extra supplies.

The Campaign Record Sheet has a place for Extra Supplies to be recorded, just cross off or fill in the unused circles, leaving the correct number to represent the Extra Supplies purchased for the Command.

• BUYING ARTILLERY

Artillery is bought by the fire mission (see page 30 and following). Artillery falls under the Support section of the Campaign Record Sheet.

• BUYING AIR STRIKES

See page 60 for buying Air Strikes. Put down any air support purchased on the Support section of the Campaign Record Sheet.

• HEROES

A Player simply has to generate the desired Hero (see page 41); the standard rules and costs apply, and the Hero is paid for from the available TV. This is the only way to start a campaign with a Hero, though there are two other ways of obtaining Heroes after the campaign has started (see further in the Campaign Rules). A unit with a Hero can designate this by placing 'H' or 'Hero' in the Quality column on the Campaign Record Sheet.

PLAY THE SCENARIO

A Scenario does not have to include (and in fact rarely does) the whole force controlled by a Player. The Players determine which portion of their Command will be participating in this scenario. These portions would still be limited by the scenario, but not necessarily the campaign limitations. The scenario usually defines what the terrain will be, the maximum TV used, victory conditions, weather and time of day.

To help keep track of the results of a scenario in a campaign, use the Campaign Scenario Results Record Sheet (page 109). Be sure to track which units were lost during the scenario, as it will be important in following sections.

Between scenarios, hours or days may have passed. The passage of time between the various battles is usually abstracted for simplicity, and it is presumed that maintance occurs normally. Some Campaigns maybe driven by the clock, and thus the time between

battles is usually predetermined. Sometimes there may not be enough time for Repair, Recruitment and Reinforcement rolls, just Salvage rolls. This should be clearly stated in the campaign setup.

• VICTORY POINTS

Once a scenario is finished, the Victory Points are awarded. Each scenario will detail the victory conditions are and how many Victory Points would be awarded if successfully completed.

Victory Points are a very valuable resource. They can be used to purchase replacement men and equipment. They also determine who won the campaign.

Record the Victory Points awarded from that scenario on the Campaign Scenario Results Record Sheet.

• SALVAGE AND REPAIR

It is very common for the force that was left with control of the battlefield to scavenge the remains of vehicles and troopers for any useable material. If neither side was in control of the battlefield, but there were several disabled vehicles left behind, both sides tried to regain control of the area to salvage the remains. Although not required to do so, Players may choose to play a follow-on scenario to vie for control of an area if neither ends with control of the battlefield.

To salvage the battlefield, simply rolls two dice against a Threshold of 5. If the Player has complete control of the battlefield, he receives a +1 modifier. The Margin of Success is added to the Repair Pool for any vehicle. If the campaign or scenario does not allow a Repair roll, then the MoS is treated as the number of Repair rolls the Player may make before the next scenario, with no modifications from the Theater chart.

In addition to salvage, Players get to make a number of Repair rolls to mitigate the damage their vehicles have sustained. A Repair roll requires downtime to check out the vehicles and get supplies from storage or through the supply chain. This can take from ten hours to several days. A scenario or campaign will specifically state that no Repair roll can be made between scenarios if there is not enough time to make one.

Making a Repair roll on two dice against a Threshold equal to the Repair Value of the vehicle in question repairs it (refer to the Campaign Vehicle Chart on page 104 for Repair Values). The Repair Roll is modified by the nationality of the force, the year and the theater in which the battle was fought. Refer to the Theater Supply/Repair Modifier Table to determine the modifier. As long as the roll exceeds the Threshold, the vehicle may be repaired in some way.

Each point of MoS produces one Repair Point that goes into a Repair Pool for that vehicle. Each point spent from the Repair Pool removes one Light Damage hit from the vehicle. Each two full points spent from the Repair Pool removes one Heavy Damage hit. Overkilled vehicles cannot be repaired.

There is no limit to the number of Repair rolls that a Player may make, but for every one after the first, there is an additional -1 modifier to the roll. This modifier resets at the end of the next scenario (so further repair attempts are possible).

The Theater Supply/Repair Chart can be found on page 106. It gives the modifier for specific forces, year and theater to the Repair (and Supply) rolls.

• RECRUITMENTS

Casualties happen in war. How a force provides replacements is abstracted into two methods. One method, the Recruitment roll, is based on getting new recruits or untried troops from the rear. The other method, the Reinforcement roll, represents the command staff consolidating personnel, trying to keep from having several under-strength units.

To get new green troops a Player makes a Recruitment roll on 2d6. This roll is modified according to the Recruitment Modifier Table below. Multiply the result of the roll by four to obtain the total amount of TV of Rookie crew or infantry replaced. The amount of men lost is the maximum amount of personnel that can be gained through a Recruitment roll, even if the TV amount would allow more men to be purchased.

The other method for replacing troops is to make a Reinforcement roll on 2d6, modified by the Recruitment Modifier Table below. The roll is multiplied by 4 to indicate the amount of TV that may be used to purchase reinforcements. The result is similar to a Recruitment roll, but the Player may purchase experienced troops rather than being forced to recruit rookies.

To determine the Quality level of the reinforcements in the personnel pool, roll one die for each unit. Results of 1-2 indicate Rookie level reinforcements, results of 3-5 indicate Qualified level reinforcements, and 6 indicates that Veteran level reinforcements are available. The appropriate TV costs for the level of Quality must still be paid for. See the Crew Skills chart in the **Gear Krieg Rulebook** on page 46 for Quality level cost multipliers. Like recruits, the total number of men recruited may not exceed the total number of men lost.

In addition to the troops that are purchased through a Reinforcement roll, Heroes may be purchased as part of that reinforcement. The amount of TV gained from the roll is still used to purchase the reinforcements. Victory points must be spent to obtain the Hero. Each Victory Point spent will allow up to 20 TV to be spent on the Hero. Heroes are counted in the limit to the number of men that are replaced through reinforcement. That is, the total number of men reinforced plus the Hero must not exceed the number of men lost.

Using a Reinforcement roll must be considered very carefully. A Player may only make two Reinforcement and/or Redeployment rolls (see *When to End the Campaign*, page 73) for the entire campaign.

• EXPERIENCE

A unit gains experience from surviving a scenario. As a result of combat experience, a unit can increase in Quality and may even gain a Hero within its ranks.

The method by which troops gain Quality is based on the number of scenarios a unit has been through. After a unit has gone through a number of scenarios equal to its Skill level, a roll is made with two dice against a Threshold, which is the unit's Skill level squared. Thus, more seasoned troops are not likely to advance, but rookies are usually only rookies for their first battle. The unit's roll must exceed the Threshold to increase one level in Quality. This Threshold is lowered by one for each scenario a unit survives beyond the minimum number of scenarios that must be survived to be eligible for the Quality increase. Once a unit increases one level in Quality, the Threshold is set to the new value indicated by the new level and the minimum number of scenarios survived is reset

as well. The number of scenarios survived that a unit needs to be eligible for a Quality increase as well as the Thresholds to beat are listed on the table found at the bottom of this page.

For example: a Player has a standard Qualified German Rifle squad. After completing two scenarios, the Player may roll to see if this unit's quality goes up. The Player rolls a 5 and his German Rifle Squad is now a Veteran unit.

The same Player has another standard Veteran German Rifle Squad; it has completed seven scenarios and has increased in Quality. The squad's Threshold is lowered by 4 since the unit has survived four more scenarios than the minimum required to qualify for a roll. The squad's Threshold is now a 5.

Another aspect of experience is gaining Heroes. If a unit has never failed a Morale roll during a scenario (it has to have had rolled at least one Morale roll and not failed it) or if there is only one surviving member of a unit, this is called a Heroic Endeavor. Another Morale roll is made against a Threshold of 10. This Threshold is lowered by one for each scenario that the qualifying unit survives with 50% or more original personnel. If the unit passes, the owning Player may then spend Victory points to turn one member into a Hero, spending one Victory Point per 20 TV he wishes to spend on the Hero. See the Hero rules (page 41) for details on creating the Hero. Record the changes in quality of units on the Campaign Record Sheet.

• SUPPLY ROLL

In World War II, supply chains could get long, get strained and be unable to adequately supply the front line units. The situation was made worse as the forces involved sought to destroy, steal or cut off their opponent from their supplies.

This situation is simulated by the Supply roll. The Supply roll shows the very chancy nature of supply lines and the result of not receiving fuel, ammo, food and other consumables. Scenarios that do not allow for a Repair roll do not allow for a Supply roll either. There are two different types of Supply roll that can be made, one is for replacement of consumable supplies and the other is special request. These special requests are for vehicles and other equipment to be replaced or added to the Command.

The Player rolls two dice, modified by the truck bonus (see *Buying Extra Supplies*, page 70), Extra Supplies bonus and the Theater modifier (see Theater Supply/Repair Modifier Chart on page 106). The Threshold is 5, and a MoS of at least 0 is required. If the roll is successful, all vehicles are refueled, ammunition is replenished and food stores are restocked.

If the roll fails, the unit has not received the required supplies. The first time this happens, there are no effects. The second time, 50% (pick randomly) of the vehicles are out of fuel, and all vehicles only carry whatever ammunition is left from the previous scenario. All infantry

EXPERIENCE THRESHOLD TABLE

Level	Min # of Scenarios	Threshold
Rookie	1	1
Qualified	2	4
Veteran	3	9
Elite	4	16

are considered Exhausted (see **Gear Krieg Rulebook**, page 71), except for Elite and Heroes. A Player who failed two Supply Rolls may 'burn' two Extra Supplies to negate this effect either for vehicles or for Infantry (but not both). The Player must have enough trucks to do this.

The third consecutive failed Supply roll has dire consequences. 75% of all vehicles are without fuel and again, no ammunition is replenished. Each infantry unit needs to make a Skill test against a Threshold of 5. If failed, the infantry unit takes the MoF in damage points to each infantryman as they are starving and sick. This damage cannot kill an infantry unit: if any trooper reach zero damage point, the infantry unit is immobilized and cannot fight. Elite troops and Heroes do not have to make this test, but do become Exhausted (unless the Hero has the Untiring/Fanatic Heroic Ability, see page 42). A Player can burn two more Extra Supply points to lessen the effects for Infantry or vehicles as if it was only the second failed roll.

If a fourth Supply roll is failed, only 10% of the vehicles have fuel and all are left with whatever ammo they have left, if any. Infantry units that were immobilized in the previous failed Supply Roll die. All remaining infantry units (except Heroes) make a Skill test versus a Threshold of 6. The unit takes the MoF in damage. Heroes are not affected any worse than exhaustion.

The fifth failed roll results are abstracted; the Command no longer exists. It is left up to the Players as to the specific outcome, such as the unit killing the officers for letting them starve or just surrendering to the enemy when no fuel, food or ammunition is left. At this point, read *When to End the Campaign* and *Determining the Victor.*

A Player may also make a Supply roll to possibly get a vehicle or equipment. The vehicle or equipment is first purchased with Victory Points (1 VP = 20 TV) and the cost cannot cause the Command to exceed the starting TV.

The Player rolls two dice, which is then modified by the standard Supply modifiers (trucks, Extra Supplies, Theater modifiers). The item's Supply Value is the Threshold. A MoS of 0 means it will appear at the next Supply Roll Step (i.e. after the next scenario). A MoS of 1 or more means the item has arrived and will be combat ready for the next (upcoming) scenario. A MoF of 1 or more means the item cannot be acquired at this time (no VP or TV will be spent). If the roll is a Fumble, the Victory Points are lost and the vehicle or equipment is not received.

For specific Supply and Repair roll modifiers, see the Theater Repair and Supply Chart on page 106. For the Supply Values for vehicles and equipment, see the Campaign Vehicles Chart, page 108, or the infantry equipment lists in Appendix 2, page 78.

Any units that were lost in the previous scenario and not replaced during the Repair, Recruitment/Reinforcement or the Supply steps are no longer eligible to be replaced. The Command must move forward to the next scenario (or end the Campaign) with the forces it has. Now is the time to remove units lost in battle from the Campaign Record Sheet.

WHEN TO END THE CAMPAIGN

If a Player's Command is getting badly beaten, and he has exhausted the means to bolster his troops, the Player can make a Redeployment roll to have his unit removed from the campaign. A Player may want to do this is if there are not enough Victory Points left in the remaining scenarios for his opponent to surpass him, but his own army might not survive. The army would then want to be redeployed out of this campaign, as dead Commands do not win wars. The opponent automatically gain the Victory Points from the remaining scenarios, then the Players would consult the *Determining the Victor* section.

Healing

Infantry that is hurt but not killed automatically recovers one Damage point before the next scenario. If the unit is not involved in the next scenario, it is completely healed.

The exception to the above is the Player failing the Supply roll. The Command does not have the normal amount of medical supplies and the injured personnel do not heal.

On the third failed Supply roll, each injured trooper makes a Skill test versus a Threshold of 5. A MoF of 1 or more means the trooper dies due to lack of adequate medical supplies.

On the fourth failed Supply roll, all injured personnel die.

Heroes normally gain back two Damage Points between scenarios, and gain back one even after a failed Supply roll. Heroes with the Tough As Nails special ability heal all Damage Points between scenarios. Heroes never die due to lack of medical supplies.

• MOVING A CAMPAIGN TO A DIFFERENT THEATER

It can be part of the campaign's theme, or it could just be that the Players are tired of looking at the same terrain and want a change of scenery. If all the participants agree, just move the units to a new theater and complete the campaign. Many units moved from Africa to Italy or to the Eastern Front. Obviously, some forces were not present in all theaters, so sometimes moving theaters will not be possible for all armies.

• DETERMINING THE VICTOR

If one of the Commands was destroyed, then the surviving army is the victor. If, once the last scenario is completed (or the campaign is halted), neither Command was completely destroyed, each Player should total the number of scenarios they won and place that value on the Campaign Record Sheet in the '# Won' box.

Players should then total how much of their original Commands they still have, by comparing Threat Values. For each 10% of the remaining TV, a Player will get 1 Victory Point. That value is added to the Player's total of Victory Points that were earned from the scenarios; place it in the 'Total Earned Victory Points' box on the Campaign Record Sheet. Then she would total the amount of Victory Points spent and place that value on the 'Victory Points Spent' box in the Campaign Record Sheet. Simply subtract the Spent value from the Total Earned value to get the value to be placed in the 'Remaining Victory Points' box.

The Player with the largest Remaining Victory Points wins the campaign. In the case of a tie, compare the Spent value. The Player with the least spent Victory Points then become the winner. If there is still a tie, compare the # Won. If a tie situation still remains at this point, the campaign is a stalemate.

Revised Infantry TO&E Costs

GERMANY

Unit	Men and Equipment	TV
Command Squad	Officer w/SMG, NCO w/SMG, Rifleman w/Rifle x 4, Type II Radio, Binoculars	16
Rifle Squad	Squad Leader w.SMG, Rifleman w/Rifle x 7, Rifleman w/LMG	19
Anti-Tank Team	AT Gunner w/AT Rifle, Loader w/SMG, Bincoulars	6
Machinegun Team	Gunner w/LMG, Asst. Gunner w/SMG	5
8cm Mortar Team	8cm Mortar, 3 crew, Binoculars	14
Pioneer Squad	Squad Leader w.SMG, Rifleman w/Rifle x 7, Rifleman w/LMG, Engineers	29
Brigade Ramke Company HQ	Officer w/SMG x 2, NCO w/SMG x 2, Rifleman w/Rifle x 5, Type II Radio, Elite Morale	84
Brigade Ramke Platoon HQ	Command Squad, Elite Morale and Skill	60
Brigade Ramke Rifle Squad	Rifle Squad, Elite Morale and Skill	76
SS Rockettruppen Command Section	Officer w/MP42, NCO w/MP42, Trooper w/MP42 x 4, Type III Radio, Rocket Packs, Elite Morale and Skill	336
SS Rockettruppen Raider Group	NCO w/MP42, Trooper w/MP42 x 9, Type III Radio, Rocket Packs, Elite Morale and Skill	528
SS Rockettruppen Support Group	NCO w/MP42, Trooper w/MP42 x 3, Trooper w/AT Rifle x 3, Type III Radio, Rocket Packs, Elite Morale and Skill	396
SS Rockettruppen Support Group '43	NCO w/MP42, Trooper w/MP42 x 3, Trooper w/Panzerfausts x 3, Type III Radio, Rocket Packs, Elite Morale and Skill	720

Revised Infantry TO&E Costs (continued)

GREAT BRITAIN AND COMMONWEALTH

Unit	Men and Equipment	TV
Command Squad	Officer w/Pistol, NCO w/SMG x 2, AT Gunner w/AT Rifle Mortar Man w/2" Mortar, Loader w/Rifle x 2, Type II Radio, Binoculars	23
Rifle Squad	Squad Leader w/.SMG, Rifleman w/Rifle x 8, Rifleman w/LMG	21
Engineer Squad	Squad Leader w/.SMG, Rifleman w/Rifle x 8, Rifleman w/LMG, Engineers	32
Machinegun Team	Gunner w/LMG, Asst. Gunner w/Rifle x 2	7

IMPERIAL JAPAN

Unit	Men and Equipment	TV
Command Squad	Commander w/Pistol, Liaison NCO w/Rifle, Type II Radio (Company HQ only), Bincoluars	4/7
Rifle Squad	NCO w/SMG, Rifleman w/Rifle x 12, Rifleman w/LMG	29
Hvy. Weapons Squad	NCO w/SMG, Rifleman w/Rifle x 9, Rifleman w/LMG or AT Rifle	23
Mortar Team	50mm Mortar, 3 crew	7

ITALIAN ARMY

Unit	Men and Equipment	TV
Company HQ	Officer w/Rifle x 2, NCO w/Rifle x 2, Trooper w/Rifle x 6, Type II Radio	24
Command Squad	Officer w/Rifle, Rifleman x 7, Rifleman w/LMG	19
Rifle Squad	Squad Leader w/Rifle, Rifleman w/Rifle x 8, Rifleman w/LMG	21

SOVIET RUSSIA

Unit	Men and Equipment	TV
Command Squad	Officer w/SMG, NCO w/SMG x 2, AT Gunner w/AT Rifle Mortar Man w/50mm Mortar, Loader w/Rifle x 2, Type II Radio (Company HQ only), Binocluars	21/24
Rifle Squad	Squad Leader w/SMG, Rifleman w/Rifle x 8, Rifleman w/LMG	21
Machinegun Team	Gunner w/LMG, Asst. Gunner w/Rifle x 2	7

UNITED STATES

Unit	Men and Equipment	TV
Command Squad	Officer w/Rifle, NCO w/Rifle, Type II Radio, Binoculars	8
Rifle Squad	Squad Leader w/Rifle, Asst. SL w/Rifle, Rifleman w/Rifle x 9, Rifleman w/BAR	26
Engineer Squad	Squad Leader w/Rifle, Asst. SL w/Rifle, Rifleman w/Rifle x 11, Rifleman w/BAR, Engineers	45
Hvy. Weapons Squad	Squad Leader w/Rifle, Asst. SL w/Rifle, Rifleman w/Rifle x 6, Rifleman w/BAR, Rifleman w/LMG x2, Rifleman w/60mm Mortar	36
Machinegun Team	Gunner w/LMG, Asst. Gunner w/SMG x 2	7

VICHY FRANCE

Unit	Men and Equipment	TV
Company HQ	Officer w/Rifle x 2, MCO w/Rifle x 2, Rifleman w/Rifle x 8, Type II Radio	28
Command Squad	Officer w/Rifle, Rifleman w/Rifle x 7, Rifleman w/LMG	17
Rifle Squad	Squad Leader w/.SMG, Rifleman w/Rifle x 11, Rifleman w/LMG	25
Foreign Legion Company HQ	Officer w/Rifle x 2, MCO w/Rifle x 2, Rifleman w/Rifle x 8, Type II Radio, Veteran Morale and Skill	63
Foreign Legion Command Squad	Officer w/Rifle, Rifleman w/Rifle x 7, Rifleman w/LMG, Veteran Morale and Skill	39
Foreign Legion Rifle Squad	Squad Leader w/.SMG, Rifleman w/Rifle x 11, Rifleman w/LMG, Veteran Morale and Skill	57

*This table summarizes the types of squads used is various nations as outlined in the **Gear Krieg Rulebook** and the **North Africa Theater Book**. Their costs have been recalculated according to the new formulas for equipment described in Chapter 4. All of their equipment is listed, and any restrictions on equipment, such as radios, is also indicated.*

NEW PERKS, FLAWS AND WEAPONS

Listed below are new Perks, Flaws and Weapon Characteristics not previously described in **Gear Krieg**. As usual, Perks with the designator (AUX) are defined as Auxiliary Systems for combat and damage purposes. Perks with the designation (R) have a numeric Rating.

PERKS

Ammo Storage: The vehicle stores some or all of its spare ammunition in an armored compartment to protect them. If there is no Manipulator Arm or ammo-reloading Tool Arm mounted on the vehicle, the crew must reload the weapon manually, at a rate of one clip per Action. The clips are not counted as an AUX systems and can only be destroyed when actually in the weapon.

Bridging Equipment (AUX): Bridges are described in terms of their useful span and their load capacity in Size Points. The useful span of a bridge is the maximum width of a chasm the bridge can cross and still be stable. The Size of the bridge is also the value used for the bridge's Armor Value.

Bridges may be deployed by any vehicle with a Battle, Manipulator or Tool Arm capable of lifting it. A bridge may be deployed in a number of minutes (rounded up) equal to its useful span divided by its Size. Recovering a bridge takes a number of minutes equal to the Size of the bridge multiplied by the MP Cost of the ground the vehicle rests upon; the more difficult the ground, the longer it takes the vehicle to safely recover the bridge. Lighter bridges may be deployed and recovered by infantry.

A squad of engineer infantry may deploy or recover a bridge up to Size 4 in twice the time it takes for a Tool, Battle or Manipulator Arm to do so. Regular infantry may do the same task, but it requires four times as much.

A bridge taking Light Damage can still be deployed, but will only support half its capacity in Size Points (round down). Heavy Damage or greater to a bridge renders it incapable of supporting any weight at all. Further, if a bridge suffers an Overkill result while it is being carried by a bridgelayer, the bridge cannot be deployed; it remains stuck on the bridgelayer until it can be cut or torn off.

Glider Capable: The vehicle has attachment points allowing it to be secure for airborne transport and deployment. The vehicle can be deployed by a glider.

Fascine Equipment (AUX): Fascines are strips of sticks or brushwood tied to one another with wire to form bundles that are dropped into ditches and anti-tank trenches. Releasing fascine rolls takes one Action to perform. One man (or one vehicle equipped with a Manipulator Arm) can deploy one roll of fascines per minute. One roll makes 2 meters of ditch passable as if it was Rough terrain.

Mat Laying Equipment (AUX): Mats are made of flat wood attached by wire or even canvas reinforced with slat wood. Mats are used in assault to create temporary roads over rough ground and barbed wire. Vehicle with mat-laying devices may use them to eliminate a 10-meter width of barbed wire for up to 30 meters in depth. This negation applies to infantry only — if vehicles use the mat, they destroy it and render it useless.

Minesweeping Equipment (R): Any vehicles can be equipped with mine-clearing devices, but these will work only in the primary environment for which the

vehicle has been designed. For example, the mine plow of an engineering tank will be useless against naval mines, even if the vehicle is Amphibious. The exact nature of the minesweeping equipment depends on the design, but most often consists of a mine plow or flail on ground vehicles. See the Mine-clearing rules on page 40.

Minesweeping equipment may not be used to attack another unit. Attack-capable systems, such as rocket launchers, have their stats and cost included in the vehicle's weapon list.

Mining Equipment (AUX): The vehicle is adapted to perform mining functions. Light duty mining equipment consists of a small earth-moving blade and a winch. Heavy duty equipment is intended for commercial mining operations.

Pintle Mount: This is an infantry weapon installed on a swivel mount just outside a hatch; it must be operated by one of the crewmen. That crewman can do nothing else and is exposed to enemy fire (count as *Partially Exposed Crew*, unless the vehicle is already open-topped). Pintle Mounts have a 180-degrees arc of fire (chose one direction).

The weapon is not protected by the vehicle's armor and counts as an Auxiliary System. Fire Control hits neither affect pintle-mounted weapons nor does the Fire Control bonus apply to them. Firing penalties are equal to -1 for more than half and up to Combat speed, and -2 for Top speed, in addition to any other firing modifiers.

Pintle mounts are quite simple and add little to the cost of the vehicle. Any personal infantry weapon can be mounted on them (see Appendix 2, page 78). TV Cost is equal to the DM of the weapon plus its ROF (if any).

Ram Plate: Part of the chassis of the vehicle has been specially reinforced to withstand high speed impact. The vehicle takes only half the normal damage in a collision, provided the impact is in the same arc as the Ram Plate.

Stabilizer Mount: These are special systems designed to handle the recoil generated by a large weapon, allowing even a light vehicle to use them. Before firing that particular weapon, the vehicle must spend one Action preparing its position (dropping down to the ground, activating the hydraulic rams, etc.). When preparing the firing position or using the weapon, the vehicle cannot move. As soon as it moves, the vehicle is not able to fire its oversized weapon(s) anymore and must spend another Action regaining its firing posture.

FLAWS

Decreased Maneuver (R): When using one type of movement, the vehicle loses some of its natural agility. This Flaw is linked with one Movement Type in particular; when that Movement Type is used, the rating of this Flaw is applied to the vehicle's Maneuver value.

WEAPON CHARACTERISTICS

Attenuating Damage (AD): The weapon loses a significant portion of its damage potential over distance. An AD number is subtracted from the Damage Multiplier for each range band beyond Short. For example, a x12 weapon with AD2 would be x10 at Medium, x8 at Long and x6 at Extreme range.

Co-axial (Coax): Some tanks have machineguns mounted next to the main gun. These were typically used to help aim the main gun: by walking the fire into the target, the tank gun could be fired with confidence of a more likely hit.

Once the machinegun fire could be heard or seen ricocheting off of the target, it was time to fire the main gun.

This effect may be achieved by a two Action process. On the first Action, the co-axial MG is Burst Fired, with all the effects and consequences. If the MG hits, the main gun may be fired with an Accuracy bonus equal to one half of the total ROF (rounded down) that was used by the MG. This following Action must be taken before the target moves again but may take place in the following round. When using the Skirmish rules, the main gun may be fired without taking an Action to switch weapon systems.

Haywire (HW): The weapon's attack form consists of or causes a massive electrical discharge that fries electronic components, damages sensitive systems and shocks crewmembers into unconsciousness or death. This discharge courses through its target, often causing multiple systems to fail simultaneously. In tactical terms, the weapon gets two rolls on the Systems Damage Table when it scores Light or Heavy Damage on an opponent.

Illumination (ILL): The weapon can release an intense burst of light which can be used to blind opponents in battle. A normal attack is rolled: if successful (i.e., at least Light damage), the target is blinded for a number of rounds equal to the Margin of Success, but may still use Active Sensors. If the weapon has an Area Effect or a Wide Angle, the illuminated area is counted as being in daylight.

Power-hungry (PH): The weapon requires an inordinate amount of power and/or attention before firing. The vehicle can do nothing else while preparing that single weapon for firing. A number of actions equal to "PH" must be

spent to fire the weapon, with any penalties for multiple actions in a turn being applied cumulatively.

Slow Burn (SB): Slow Burn weapons are Incendiary weapons that cause the target to suffer the attack's effects for a number of combat rounds equal to the original Margin of Success of the attack. Damage is calculated using the original MoS, minus one for each additional turn after the first one. For example, a MoS 4 attack would use MoS 3 on the second turn to calculate damage, MoS 2 on the third and MoS 1 on the fourth and final turn. These effects are in addition to the Incendiary effects of the weapon.

Slow (Slow): The weapon needs time to recharge between shots, or reloading it is a complex operation. The weapon can only be fired once every R tactical turns.

Wide Angle (WA): The weapon's attack covers a wide area, attacking multiple targets at once. A single attack roll is made, but any unit within the affected area and within range must defend against it, friend and foe alike. Solid terrain features like hills and structures will absorb part of direct fire wide angle attacks (see *Hull Down*, page 67 of the **Gear Krieg Rulebook**), but not indirect fire ones.

An angle of 10 degrees will cover a path one MU (either scale) wide along the entire length of the beam — not entirely accurate, but a good game representation. Players are welcome to use a true 10-degree angle if they so desire. A 60-degree angle has the same shape as a "Fixed" weapon arc. The 180- and 360-degree angles are identical to the "F" and "T" fire arcs, respectively.

INFANTRY WEAPONS & EQUIPMENT SUMMARY

The following table compiles all the equipment options available for infantrymen (with some national restrictions). Where applicable, these rules and game stats supersede those found in previous **Gear Krieg** books. The "Year" entry indicates when a given weapon or equipment is first introduced; a dash means it is available for the entire duration of the conflict.

Personal Weapons

Weapon	Force	ACC	DM	Range	ROF	Special	Year	TV	Supply
Pistol	All	0	x1	0/0/0/0	0	AI	-	1	1
Rifle	All	0	x2	1/2/4/8	0	AI	-	2	1
SMG	All	0	x1	0/0/1/2	1	AI	-	2	2
MP42 or BAR	Ger./Allied	0	x2	1/2/4/8	1	AI	1942/-	4	3
Light MG	All	0	x2	1/2/4/8	2	AI	-	3	2
Medium MG	All	0	x3	1/2/4/8	2	AI	-	5	3
Heavy MG*	All	0	x4	1/2/4/8	1	AI	-	6	3
Panzershrek*	Germany	0	x12	0/1/2/4	0	HEAT	1943	5	4/3
Panzerfaust	Germany	-1	x14	0/0/1/2	0	HEAT	1943	12	3/2
PIAT	Cwealth	0	x10	0/0/1/2	0	HEAT	1941	7	4/3
RPG 43	Russian	-1	x7	0/0/0/0	0	HEAT	1943	10	3
RPG-6	Russian	-1	x7	0/0/0/0	0	AI, HEAT	1944	3	4/3
Anti-Tank Rifle*	Allied	0	x5	1/2/4/8	0	-	**	3	4
M-1 Bazooka*	Allied	0	x11	1/2/4/8	0	HEAT	1942	11	4/3
Molotov Cocktail	All	-1	x2	0/0/0/1	0	SB,AI	-	1	1
Grenade	All	-1	x4	0/0/0/1	0	AI	-	2	2
Rifle Grenade	All	-1	x8	0/1/2/4	0	HEAT	1940	3	4/3
Flamethrowers	All	+1	x7	0/0/0/1	1	SB	1941	15	4/3

* Heavy Weapon; 1 Action to set up before use / **1941 (Russian), 1940 (Japan), - (German, Commonwealth)

Mortars

Weapon	Force	ACC	DM	Range	ROF	Special	Year	TV	Supply
50mm	Russian	-1	x4	1/2/4/8	0	IF, AI, AEO, MR1	-	7	2
82mm	Russian	-1	x6	4/8/16/32	0	IF, AI, AEO, MR4	-	1	42
107mm	Russian	-1	x8	8/16/32/64	0	IF, AI, AEO, MR8	-	3	23
120mm	Russian	-1	x10	16/32/64/128	0	IF, AI, AEO, MR16	-	72	3
2"	Cwealth	-1	x4	1/2/4/8	0	IF, AI, AEO, MR1	-	7	2
3"	Cwealth	-1	x7	3/6/12/24	0	IF, AI, AEO, MR3	-	15	2
4.2"	Cwealth	-1	x9	5/10/20/40	0	IF, AI, AEO, MR5	1942	25	3
5cm	Germany	-1	x4	1/2/4/8	0	IF, AI, AEO, MR1	-	7	2
8cm	Germany	-1	x6	3/6/12/24	0	IF, AI, AEO, MR3	-	13	3
60mm	US	-1	x5	2/4/8/16	0	IF, AI, AEO, MR2	-	10	3
80mm	US	-1	x6	4/8/16/32	0	IF, AI, AEO, MR4	-	14	3
107mm	US	-1	x10	5/10/20/40	0	IF, AI, AEO, MR5	-	28	4
50mm	Japanese	-1	x4	1/2/4/8	0	IF, AI, AEO, MR1	-	7	3
81mm, light	French	-1	x6	3/6/12/24	0	IF, AI, AEO, MR3	-	13	3
81mm, heavy	French	-1	x8	1/2/4/8	0	IF, AI, AEO, MR1	-	16	4

Note: All of the Mortars may fire out to Artillery Range. All Mortars are Heavy Weapons.

Explosives

Weapon	Force	ACC	DM	BR	ROF	Special	Year	TV	Supply
Magnetic Limpet Mines	Germany	0	x8	0/0/0/0	0	HEAT	-	3	3
Sticky Bombs	US	0	x7	0/0/0/0	0	-	1942	3	2
Dynamite	All	0	x3	0/0/0/0	0	-	-	1	3
Satchel Charge	All	0	x10	0/0/0/0	0	Encumbr. 1	1941	4	3
Composition B	Allied	0	x5	0/0/0/0	0	-	1940	2	2

Personal Armor

Name	Force	Wt.	Additional Info	Enc.	Year	TV	Supply Value
F 'Fritz' Armor (light)	Germany	7.5kg	Gepanzerte Infanterie, +1 Stamina	1	1942	1	4/3
w/Bakelite inserts (heavy)	Germany	14kg	'Leibstandarte,' +2 Stamina	2	1942	2	4/3

Portable Radios

Name	Force	Wt.	Additional Info	Communications	Enc.	Year	TV	Supply Value
Type I	All	25kg	SMG or Pistol only	-3/2km	1	1941	2	3/1
Type II	All	16kg	No Hvy Weapons or Explosive	-2/2km	1	1942	3	3/2
Type III	All	16kg	No Hvy Weapons or Explosive	-2/5km	1	1943	4	3/2
Type IV	All	12kg	No Explosives	-2/10km	1	1944	3	3/2
Scrambler	All	10kg	No Hvy Wpns or Expl	Protected	-	1944	4	5/4

Infantry Mobility Equipment

Name	Force	Wt.	Additional Info	Special	Enc	Year	TV Mod.	Supply
Rocket Pack	Germany	30kg	SturmNebel/SturmWurfJager	see *Rocket Packs*, p.53	1	1942	x3*	5/4
BMW R75	Germany	672kg	Sidecar (Crew: 2)	6 Ground MPs	-	1941	x2*	2
WLA HD	Allied	300kg	-	6 Ground MPs	-	1940	x2*	2
Parachute	All	15kg	-	See *Parachutes*, p.53	1	-	1/Trooper	3
P14 PPG	US	48kg	-	See *Paragliders*, p.53	2	1943	4/Trooper	5/4

* Multiply TV once cost of infantry is calculated.

Miscellaneous Infantry Equipment

Name	Force	Wt.	Special Rules	Enc.	Year	TV	Supply
Binoculars	All	1kg	Doubles Detection Rating	-	-	1	2
Scope	All	.5kg	+1 at Long & Extreme Ranges	-	-	1	2
Infrared, Passive	German/US	5kg	See *Active IR*, p.49	1	1943	2	5/4
Light Amplification	German/US	5kg	See *Low Light*, p.49	1	1943	2	5/4
Infrared, Active	German/US	5kg	Emits and sees IR Light	1	1942	4	4/3
Combat Drugs	Jp/Gr	-	See *Combat Drugs*, p.50	-	1942	1.5x	5/4
Mine Detectors	All	20kg	See *Mine Detectors*, p.49	-	1940	10	4/3
Diving Equipment	All	45kg	Allow Infantry to operate Underwater	2	1941	2	5/4
Gas Masks	All	1kg	Protects vs. air Chem and Bio attacks	-	-	2	4/3
Chemical Warfare suits	All	10kg	Protects vs. Chem and Bio attacks	2	1941	x1.05	5/4
Walking Bombs/Mines	German	65kg	See *Walker Bombs/Mines*, p.55	4	1943	10/15	5/4

VEHICLE DATACARDS

Each vehicle has an appropriate datacard that details the necessary statistics for game play. These sheets allow clear tally of damage and other important information in a compact format that also include additional variants for the chassis.

• General Data

The datacard always lists the vehicle's name, its nationality and the year it was first made available.

• Threat Value

Everything on the battlefield has a Threat Value. The TV reflects a unit's combat abilities: the higher the number, the more powerful the vehicle. Games can be easily balanced by allocating an equal amount of TV points to each side.

• Size

Every vehicle is assigned a Size value based upon its mass and volume. Size is primarily used to determine the outcome of physical attacks, such as ramming attempts. The following table lists the mass range (in metric tons) that each Size value represents:

Size to Mass Chart

Size	Tons	Size	Tons
1	0-0.08	6	4.5-7.3
2	0.09-0.3	7	7.4-10
3	0.4-1.1	8	11-16
4	1.2-2.4	9	17-22
5	2.5-4.4	10	23-30

• Crew

This is the number of crewmen aboard, from which the number of Actions a vehicle can perform during a combat turn is derived.

• Fire Arcs

Fire Arcs determine whether or not a given weapon can be aimed at a target.

• Variants

Some datacards also list variants. To save valuable space, only the modifications to the game stats are listed. If it's not expressively mentioned here, a given statistic remains the same.

• Maneuver

Maneuver indicates a vehicle's ease of control. The value is used as a modifier to all Piloting Skill rolls, including Defense rolls.

• Fire Control

Fire Control is a catch-all category for targeting devices and stabilizers. This rating is used as a modifier to all Attack rolls.

• Sensors

Sensors rates the quality of a vehicle's detection systems, if any are present. It covers all systems, regardless of their actual nature (IR sights, radar, etc.).

• Range

Each weapon has four Range Bands: Short (S), Medium (M), Long (L) and Extreme (Ex). The Short Range is also called the Base Range. Some weapons can use the Artillery range, which is twice the Extreme range.

• Comm.

Communication systems combine radios and signal devices. They let units talk to each other and transmit coordinates to artillery batteries or air support.

• Accuracy

The Accuracy (Acc) of each weapon affects the odds of hitting and damaging opponents. It is applied as a modifier to each Attack roll made with the weapon. Accuracy can drop because of damage.

• Armor

Armor represents the toughness of the vehicle's protective hide and general structure. The Light Damage, Heavy Damage and Overkill Thresholds are listed here.

• Movement

A vehicle's speed is translated directly into Movement Points (MP). The first number is the Combat Speed, while the number after the slash is the Top Speed. Some vehicles can use more than one movement type.

• Deploy. Range

How far a vehicle can move on a single fuel load. This value is primarily used for campaign games.

• Perks and Flaws

The Perks and Flaws section lists any special characteristics the vehicle has that affect its performances on the battlefield. See page 76 for the full descriptions and effects.

• Special

This section lists all the special characteristics of the weapon, such as Anti-Infantry, Coax or Rate of Fire (ROF).

• Number Weapons

The # of weapon lists how many weapons of that type are carried by the vehicle.

• Damage Multiplier

The Damage Multiplier (DM) of a weapon is a rating of how destructive it is. Damage Multipliers work on an exponential scale, not a linear one: a Damage Multiplier of x10 is *four* times as effective as a Damage Multiplier of x5!

GEAR KRIEG™

PZKPFW I AUSF B

Year In Service:	1934	Maneuver:	-3	Armor:	7/14/21
Threat Value:	19	Fire Control:	-2	Movement:	Ground 3/5
Size:	6	Sensors:	None	Deployment Range:	170km
Crew:	2	Communications:	-1/3km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Weapon Link (LMGs)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
7.92mm LMG	T	1	2	4	8	0	x2	2	2250	ROF2, AI

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PZKPFW 38(T) AUSF A
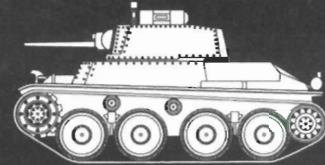
Year In Service:	1939	Maneuver:	-3	Armor:	9/18/27
Threat Value:	38	Fire Control:	-2	Movement:	Ground 3/6
Size:	7	Sensors:	None	Deployment Range:	250km
Crew:	4	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R1), Front

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Skoda 3.7cm	T	4	8	16	32	0	x8	1	72	-
7.92mm LMG	T	1	2	4	8	0	x2	1	1200	ROF2, AI, Coax
7.92mm LMG	FF	1	2	4	8	0	x2	1	1200	ROF2, AI

VARIANTS   Ausf D, TV: 38   Year in Service: 1939

Add: 1 x Smoke Launcher

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Smoke Launcher	FF	0	0	0	0	0	0	1	4	Obsc:2

Befehswagon, TV: 20   Year in Service: 1939

Remove 1 x 3.7cm

Change: Communications -1/8km

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PZKPFW II AUSF B1
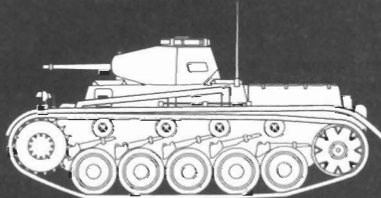
Year In Service:	1940	Maneuver:	-3	Armor:	9/18/27
Threat Value:	26	Fire Control:	-2	Movement:	Ground 3/5
Size:	7	Sensors:	None	Deployment Range:	200km
Crew:	3	Communications:	-1/5km		

PERKS & FLAWS

Amphibious, Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R1), Front

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
2cm KwK30/38	T	3	6	12	24	0	x5	1	180	-
7.92mm LMG	T	1	2	4	8	0	x2	1	1425	ROF2, AI, Coax

VARIANTS   Ausf C, TV: 26   Year in Service: 1941

Remove: Amphibious

Ausf D, TV: 29   Year in Service: 1941

Remove: 1 x KwK 30/38; Amphibious

Add: 1 x KwK L46.5

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
3.7cm KwK L46.5	T	3	6	12	24	0	x6	1	180	-

PZKPFW II VARIANTS

Ausf E "Flamingo", TV: 71   Year in Service: 1941

Remove: 1x KwK 30/38; Amphibious

Add: 2 x Flamethrower; Hazardous Ammo/Fuel Storage

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Flamethrower	F	0	0	1	+1	x7	1	80	ROF1, SB	
Flamethrower	F	0	0	1	+1	x7	1	80	ROF1, SB	

Change: Reinforced Armor to R2

Ausf F, TV: 29   Year in Service: 1941

Remove: 1 x KwK 30/38; Amphibious

Add: 1 x KwK L46.5

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
3.7cm KwK L46.5	T	3	6	12	24	0	x6	1	180	-

Change: Reinforced Armor to R2

GEAR KRIEG™

PZKPFW III AUSF E
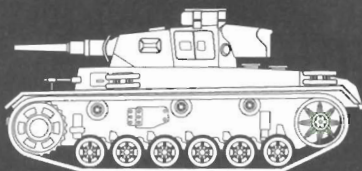
Year In Service:	1940	Maneuver:	-3	Armor:	12/24/36
Threat Value:	46	Fire Control:	-2	Movement:	Ground 3/5
Size:	9	Sensors:	None	Deployment Range:	165km
Crew:	5	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R2, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
3.7cm KwK L46.5	T	3	6	12	24	0	x6	1	131	-
7.92mm LMG	T	1	2	4	8	0	x2	2	-	ROF2, AI, Coax
7.92mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	4500	-

VARIANTS: Command, TV: 24   Year in Service: 1940

Remove: Turreted Weapons

Change: Communications -1/8km

PZKPFW III VARIANTS

			Ausf F, TV: 45		Year in Service: 1941					

Remove: 1 x KwK L46.5

Add: 1 x KwK 38 L/42

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
5cm KwK 38 L/42	T	4	8	16	32	0	x7	1	99	-

Change: MG Ammo 2700

			Ausf J, TV: 46		Year in Service: 1942					

Remove: 1 x KwK L46.5

Add: 1 x KwK 39 L/60

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
5cm KwK 39 L/60	T	4	8	16	32	0	x8	1	84	-

Change: Deployment Range 155km; MG Ammo 2700

			StuG C, TV: 32		Year in Service: 1941					

Remove: All Weapons

Add: 1 x KwK 37 L/24

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
7.5cm KwK 37 L/24	T	5	10	20	40	0	x6	1	44	-

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PZKPFW IV AUSF F
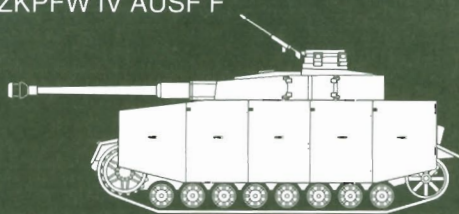
Year In Service:	1941	Maneuver:	-3	Armor:	12/24/36
Threat Value:	42	Fire Control:	-2	Movement:	Ground 3/5
Size:	10	Sensors:	None	Deployment Range:	250km
Crew:	5	Communications:	-1/3km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R2, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
7.5cm KwK 37 L/24	T	5	10	20	40	0	x6	1	80	-
7.92mm LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
7.92mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	3000	-

GEAR KRIEG™

PZKPFW V AUSF D "PANTHER"
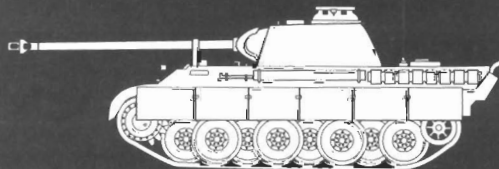
Year In Service:	1943	Maneuver:	-8	Armor:	15/30/45
Threat Value:	82	Fire Control:	-2	Movement:	Ground 3/5
Size:	12	Sensors:	None	Deployment Range:	177km
Crew:	4	Communications:	-1/3km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Pintle Mount (F), Random Shutdown (R1), Reinforced Armor (R5, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
7.5cm KwK 42 L/70	T	6	12	24	48	0	x11	1	79	-
7.92mm LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
7.92mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	6100	-

VARIANTS:

			Ausf G, TV: 85		Year in Service: 1944					

Remove: Random Shutdown

Change: Armor 16/32/48; KwK 42 Ammo 81, MG Ammo 4800

GEAR KRIEG™

PZKPFW VI AUSF E "TIGER"
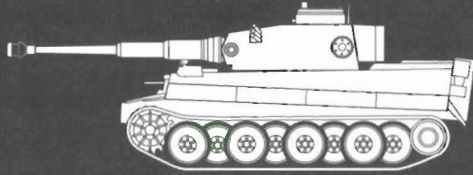
Year In Service:	1943	Maneuver:	-3	Armor:	18/36/54
Threat Value:	97	Fire Control:	-2	Movement:	Ground 2/4
Size:	13	Sensors:	None	Deployment Range:	140km
Crew:	5	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Random Shutdown (R1), Reinforced Armor (R2, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
8.8cm KwK 36 L/56	T	6	12	24	48	0	x11	1	92	-
7.92mm LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
7.92mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	4500	

VARIANTS: Ausf EXS, TV: 143   Year in Service: 1943

Add: 1x R-92; Sensors -2/2km; Defective Fire Control (R1)

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
R-92 Missile	T	5	10	20	40	+1	x14	1	-	-

Change: Fire Control -1

GEAR KRIEG™

WESPE
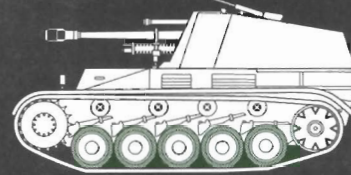
Year In Service:	1942	Maneuver:	-3	Armor:	9/18/27
Threat Value:	111	Fire Control:	-2	Movement:	Ground 2/4
Size:	7	Sensors:	None	Deployment Range:	220km
Crew:	5	Communications:	None		

PERKS & FLAWS

Exposed Crew, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R1, Front), Stabilizer Mount (10.5cm)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
10.5cm Howitzer*	FF	15	30	60	120	-3	x12	1	32	MR11, AEO, IF

* NOTE: This weapon may fire out to Artillery Range.

GEAR KRIEG™

BRUMMBÄR
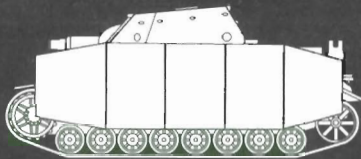
Year In Service:	1943	Maneuver:	-3	Armor:	17/34/51
Threat Value:	67	Fire Control:	-2	Movement:	Ground 2/4
Size:	10	Sensors:	None	Deployment Range:	210km
Crew:	5	Communications:	-1/3km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Pintle Mount (F), Reinforced Armor (R3, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
15cm sIG L/11	FF	2								

GEAR KRIEG™

PANZERWERFER 42 (SDKFZ 4/1)
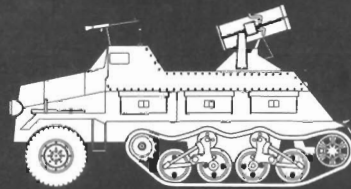
Year In Service:	1942	Maneuver:	-3	Armor:	6/12/18
Threat Value:	25	Fire Control:	-2	Movement:	Ground 2/4
Size:	7	Sensors:	None	Deployment Range:	130km
Crew:	3	Communications:	-1/5km		

PERKS & FLAWS

Ammo Storage (1 x Rockets Reloads, 5 turns to reload), Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Pintle Mount (F), Stabilized Mount (Rockets)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Wurfganate 41*	F	9	18	36	72	-3	x9	1	1	MR9, AEO, IF

* NOTE: This weapon may fire out to Artillery Range.

GEAR KRIEG™

PZK IV AUSF A "LOKI"
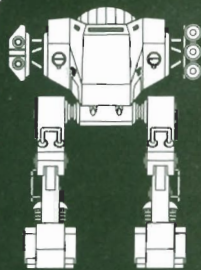
Year In Service:	1938	Maneuver:	-1	Armor:	7/14/21
Threat Value:	21	Fire Control:	-1	Movement:	Walk 2/4, Gr. 3/5
Size:	6	Sensors:	None	Deployment Range:	65km
Crew:	2	Communications:	-2/2km		

PERKS & FLAWS

2 x Battle Arms (R4), Decreased Maneuver (R1, Ground), Exposed Crew, Fuel Inefficient, Inefficient Controls, Poor Towing, Random Shutdown (R1), Unstable, Weak Point (R1, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
7.92mm LMG	FF	1	2	4	8	0	x2	2	250 each	ROF2, AI
Grenades	F	-	-	-	-	-1	x8	-	3	AI

VARIANTS Ausf B, TV: 32 Year in Service: 1940

Remove: 1 x LMG; Unstable, Random Shutdown, Exposed Crew; 2 x Battle Arms

Add: 1 x KwK77; +1 DM to all grenades; Glider Capable*; 2 x Manipulator Arms (R4, Punch)

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
1.8cm KwK77	F	2	4	8	16	0	x5	1	20	ROF1

Ausf C, TV: 32 Year in Service: 1941

Remove: 1 x LMG; Unstable, Random Shutdown, Exposed Crew; 2 x Battle Arms; Fuel Inefficient

Add: weapons as Ausf B; Glider Capable*; 2 x Man. Arms (R4, Punch); Reinforced Armor +1 Front

* NOTE: Remove Glider Capable and replace with Amphibious Perk for proposed invasion of Great Britain

GEAR KRIEG™

PZK V AUSF A "VALKURIE"
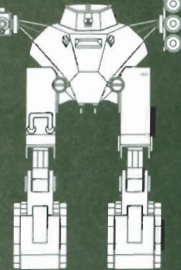
Year In Service:	1940	Maneuver:	-1	Armor:	8/16/24
Threat Value:	27	Fire Control:	-1	Movement:	Walk 2/4, Gr. 3/5
Size:	6	Sensors:	None	Deployment Range:	60km
Crew:	2	Communications:	-2/2km		

PERKS & FLAWS

2 x Battle Arms (R4), Inefficient Controls, Poor Towing, Random Shutdown (R1), Reinforced Armor (R2, Front), Unstable, Weak Point (R1, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
7.92mm LMG	F	1	2	4	8	0	x2	2	250 each	ROF2, AI
Grenades	F	-	-	-	-	-1	x9	-	3	AI

VARIANTS Ausf B, TV: 39 Year In Service: 1940

Remove: 1 x LMG; Battle Arms; Unstable

Add: 1 x 1.8cm KwK77; 2 x Manipulator Arms (R5, Punch); Glider Capable

	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
1.8cm KwK77	F	2	4	8	16	0	x5	1	20	ROF1

Ausf C, TV: 42 Year In Service: 1941

Remove: 1 x LMG; 2 x Battle Arms, Unstable, Random Shutdown

Add: 1 x 3.2cm KwK77; +1 DM to all grenades; 2 x Manipulator Arms (R5, Punch)

	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
3.2cm KwK77	F	2	4	8	16	0	x7	1	20	

Change: Communications -2/3km; Deployment Range 70km

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PZK VI AUSF E "DONNER"
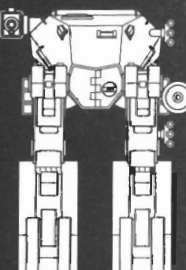
Year In Service:	1942	Maneuver:	-1	Armor:	9/18/27
Threat Value:	51	Fire Control:	-1	Movement:	Walk 3/5, Gr. 3/6
Size:	7	Sensors:	None	Deployment Range:	75km
Crew:	2	Communications:	-2/3km		

PERKS & FLAWS

Inefficient Controls, 2 x Manipulator Arms (R5, Punch), Overheating, Random Shutdown (R1), Reinforced Armor (R2, Front), Weak Point (R1, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
3.2cm KwK90C	F	2	4	8	16	0	x8	1	20	
7.92mm LMG	F	1	2	4	8	0	x2	1	250	ROF2, AI
Grenades	F	-	-	-	-	-1	x10	-	3	AI
Smoke	FF	0	0	0	0	0	-	1	3	Obcs:2

VARIANTS Ausf F, TV: 62 Year in Service: 1942

Remove: Random Shutdown

Add: 3 x GrPzFausts

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
GrPzFausts	F	1	2	4	8	-1	x16	-	3	HEAT

Change: Communications -2/4km, Deployment Range 95km

GEAR KRIEG™

PZK VII AUSF A "ULLER"
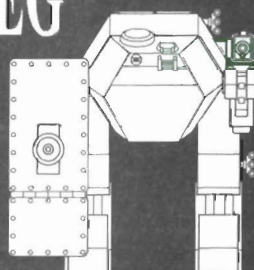
Year In Service:	1943	Maneuver:	-1	Armor:	11/22/33
Threat Value:	159	Fire Control:	0	Movement:	Walk 2/4, Gr. 3/6
Size:	7	Sensors:	-2/1km	Deployment Range:	110km
Crew:	2	Communications:	-2/4km		

PERKS & FLAWS

Defective FC (R1), Inefficient Controls, 2 x Manipulator Arms (R6, Punch), Overheating, Reinforced Armor (R3, Front), Reinforced Crew, Unstable, Weak Point (R1, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
GrPzShrek	F	2	4	8	16	0	x15	1	6	HEAT
1.8cm KwK30	F	2	4	8	16	0	x5	1	20	ROF1
7.92mm LMG	F	1	2	4	8	0	x2	1	250	ROF2, AI
Grenades	F	-	-	-	-	-1	x10	-	3	AI
Smoke	FF	-	-	-	-	0	-	1	3	Obcs:2
Frag. Dischargers	FF	-	-	-	-	-1	x3	4		AI, AEO

VARIANTS "Meulende Kuh," TV:123 Year in Service: 1943

Remove: 1 x GrPzShrek

Add: 1 x 32cm Wurfkorper

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
32cm Wurfkorper	FF	3	6	12	24	-4	x15	1	1	MR3, AEO, IF

* NOTE: This weapon can fire at Artillery Range.

GEAR KRIEG™

SDKFZ 312 "SPINNER"
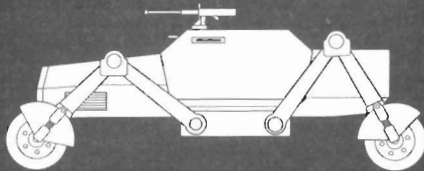
Year In Service:	1941	Maneuver:	-2	Armor:	4/8/12
Threat Value:	10	Fire Control:	-2	Movement:	Ground 5/10
Size:	5	Sensors:	None	Deployment Range:	140km
Crew:	2	Communications:	-1/3km		

PERKS & FLAWS

Exposed Crew, Exposed FC, Improved Off-Road, Inefficient Controls, Poor Towing, Reinforced Armor (R1, Front), Unstable

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
7.92mm LMG	F	1	2	4	8	0	x2	2	1100	ROF2, AI

VARIANT

"Spinner Zwei," TV:12   Year in Service: 1941

Remove: Unstable, Reinforced Armor, Exposed Crew, Exposed FC

Add: Buttoned Up

Change: Armor: 5/10/15

GEAR KRIEG™

SDKFZ 2 KLEINES KETTENRAD
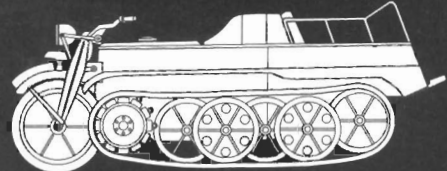
Year In Service:	1940	Maneuver:	-1	Armor:	3/6/9
Threat Value:	3	Fire Control:	-1	Movement:	Ground 5/9
Size:	4	Sensors:	None	Deployment Range:	200km
Crew:	3	Communications:	None		

PERKS & FLAWS

Exposed Crew, Inefficient Controls

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
None										

GEAR KRIEG™

SDKFZ 222 ARMORED CAR
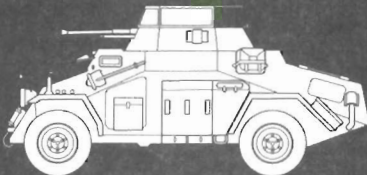
Year In Service:	1936	Maneuver:	-2	Armor:	6/12/18
Threat Value:	21	Fire Control:	-2	Movement:	Ground 5/9
Size:	6	Sensors:	None	Deployment Range:	300km
Crew:	3	Communications:	None		

PERKS & FLAWS

Exposed FC, Exposed Crew, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
2cm KwK30/38	T	3	6	12	24	0	x5	1	180	-
7.92mm LMG	T	1	2	4	8	0	x2	1	1050	ROF2, AI, Coax

VARIANTS   SdKfz 223, TV: 11   Year in Service: 1936

Remove: 1 x KwK30/38

Add: Communications: -1/5km

GEAR KRIEG™

SDKFZ 234 (8-RAD)
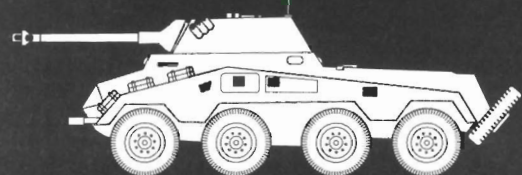
Year In Service:	1937	Maneuver:	-2	Armor:	8/16/24
Threat Value:	28	Fire Control:	-2	Movement:	Ground 5/10
Size:	7	Sensors:	None	Deployment Range:	300km
Crew:	4	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
2cm KwK30/38	T	3	6	12	24	0	x5	1	180	-
7.92mm LMG	T	1	2	4	8	0	x2	1	2100	ROF2, AI, Coax

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SDKFZ 250/1
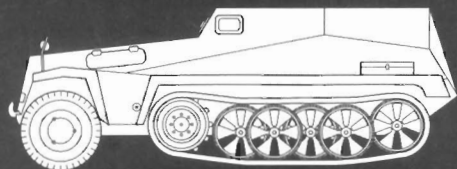
Year In Service	1940	Maneuver	-3	Armor	7/14/21
Threat Value	15	Fire Control	-2	Movement	Ground 3/6
Size	6	Sensors	None	Deployment Range	300km
Crew	6	Communications	-1/3km		

PERKS & FLAWS

Exposed FC, Exposed Crew, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
7.92mm LMG	F	1	2	4	8	0	x2	1	1200	ROF2, AI
7.92mm LMG	Rr	1	2	4	8	0	x2	1	1200	ROF2, AI

VARIANTS SdKfz 250/3, TV: 15   Year In Service: 1940

Change: Communications -1/8km

SdKfz 250/6, TV: 9   Year In Service: 1941

Remove: 2 x LMG

Add: 70 shots of 7.5cm Kwk 37 L/24 ammo

SDKFZ 250 VARIANTS

SdKfz 250/7, TV:19		Year In Service: 1941								—

Remove: 2 x LMG

Add: 1 x 8cm Mortar

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
8cm Mortar*	FF	3	6	12	24	-1	x6	1	50	MR3, AE0, AI, IF

SdKfz 250/8, TV: 16		Year In Service:1942								

Remove: 2 x LMG

Add: 1 x KwK L/24; Weapon Stabilization (KwK L/24)

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
7.5cm KwK L/24	FF	5	10	20	40	0	x6	1	40	-
7.92mm LMG	FF	1	2	4	8	0	x2	1	1200	ROF2, AI

SdKfz 250/9, TV: 35		Year In Service: 1942								

Remove: 2 x LMG

Add: 1 x Flak 38; 7x2cm 20 shot ammo clips

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
2cm Flak 38	T	6	12	24	48	0	x6	1	20	-

SdKfz 250/12, TV: 16		Year In Service: 1942								

Add: Forward Observer

Change: Sensors -3/2km; Communications -1/8km

* NOTE: This weapon may fire out to Artillery Range.

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SDKFZ 251/1

Year In Service	1940	Maneuver	-3	Armor	7/14/21
Threat Value	14	Fire Control	-2	Movement	Ground 3/6
Size	7	Sensors	None	Deployment Range	300km
Crew	2	Communications	-1/3km		

PERKS & FLAWS

Exposed FC, Exposed Crew, Inefficient Controls, Large Sensor Profile (R1), Passenger Seating (10)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
7.92mm LMG	F	1	2	4	8	0	x2	1	-	ROF2, AI
7.92mm LMG	Rr	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	2010	-

VARIANTS "Stuka-zu-Fuss," TV:42   Year In Service: 1940

Add: 1 x 32cm Wurfkorper

32cm Wurfkorper*	FF	3	6	12	24	-6	x15	1	1	MR3, AE1, IF

SdKfz 251/2, TV: 30		Year In Service: 1940								

Remove: 1 x LMG (Rr), Passenger Capacity

Add: 1 x 8cm Mortar

8cm Mortar*	FF	3	6	12	24	-1	x6	1	66	MR3, AE0, AI, IF

Change: Crew 8

* NOTE: This weapon can fire at Artillery Range.

SDKFZ 251 VARIANTS

SdKfz 251/3, TV: 14	Year In Service: 1940

Change: Communications -1/8km, Crew 7

SdKfz 251/7, TV: 20	Year In Service: 1940

Add: Bridging Equipment: Useful Span 8m, Size Capacity 7, Size 4, Armor 4/8/12

Change: LMG Ammo to 4800

SdKfz 251/10, TV: 19		Year In Service: 1940								

Remove: 1 x LMG (F), Passenger Capacity

Add: 1 x PaK 35/36

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
3.7cm PaK 35/36	FF	3	6	12	24	-1	x7	1	168	-

Change: Crew 5, LMG Ammo to 1100

SdKfz 251/12, TV: 18		Year In Service: 1942								

Remove: Passenger Capacity

Add: Forward Observer

Change: Sensors -3/2km; Communications -1/8km, Crew 6

SdKfz 251/16, TV: 66		Year In Service: 1943								

Remove: Passenger Capacity

Add: 2 x Flamethrower

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Flamethrower	L	0	0	0	1	+1	x7	1	-	ROF1, SB
Flamethrower	Rt	0	0	0	1	+1	x7	1	-	ROF1, SB
Flame Fuel	-	-	-	-	-	-	-	-	80	-

Change: Crew 5

Sd Kfz 251/20 "UHU", TV: 7	Year In Service: 1943

Remove: 2 x LMG; Passenger Capacity

Add: 1R Searchlight, 400m Swivel

Change: Crew 4

GEAR KRIEG™

SDKFZ 330 AUSF A
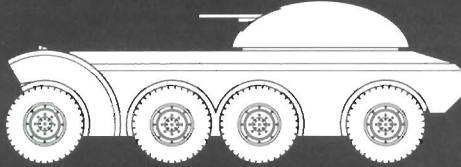
Year In Service:	1941	Maneuver:	-2	Armor:	7/14/21
Threat Value:	22	Fire Control:	-2	Movement:	Ground 4/7
Size:	7	Sensors:	None	Deployment Range:	250km
Crew:	5	Communications:	-1/3km		

PERKS & FLAWS

Amphibious, Buttoned Up, Inefficient Controls, Low Profile

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
3.7cm KwK L46.5	T	3	6	12	24	0	x6	1	66	-
7.92mm LMG	FF	1	2	4	8	0	x2	1	500	ROF2, AI

GEAR KRIEG™

BREN CARRIER
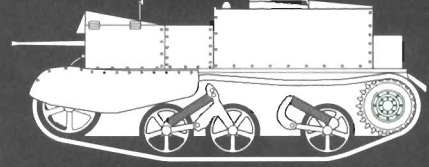
Year In Service:	1940	Maneuver:	-2	Armor:	5/10/15
Threat Value:	7	Fire Control:	-2	Movement:	Ground 3/6
Size:	5	Sensors:	None	Deployment Range:	250km
Crew:	2	Communications:	None		

PERKS & FLAWS

Exposed Crew, Exposed FC, Inefficient Controls, Passenger Seating (6), Pintle Mount (opt.)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
7.92mm LMG	T	1	2	4	8	0	x2	1	500	ROF2, AI

GEAR KRIEG™

CRUISER TANK MK III (A13)
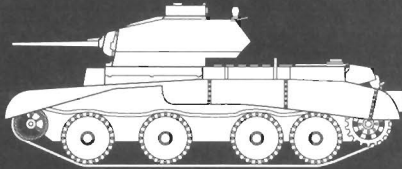
Year In Service:	1939	Maneuver:	-3	Armor:	7/14/21
Threat Value:	35	Fire Control:	-2	Movement:	Ground 3/6
Size:	8	Sensors:	None	Deployment Range:	145km
Crew:	4	Communications:	-1/3km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
2-pdr	T	3	6	12	24	0	x8	1	87	-
7.92mm LMG	T	1	2	4	8	0	x2	1	3750	ROF2, AI, Coax

VARIANT Mk IV (A13 MkII), TV:35 Year in Service: 1939

Add: Reinforced Armor (R4, Front); Brittle Armor

GEAR KRIEG™

INFANTRY TANK MK II "MATILDA (II)"
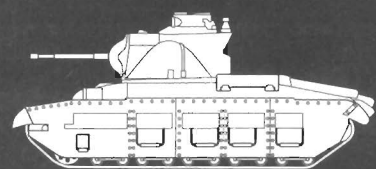
Year In Service:	1939	Maneuver:	-3	Armor:	15/30/45
Threat Value:	57	Fire Control:	-2	Movement:	Ground 1/2
Size:	10	Sensors:	None	Deployment Range:	145km
Crew:	3	Communications:	-1/3km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R2, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
2-pdr	T	3	6	12	24	0	x8	1	93	-
7.92mm LMG	T	1	2	4	8	0	x2	1	2925	ROF2, AI, Coax

VARIANTS "Matilda CDL," TV:80 Year in Service: 1940

Remove: All Weapons

Add: 1 x Canal Defense Light

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
CDL	T	2	4	8	16	+1	x7	1	30	ILL,WA10

"Matilda Scorpion", TV: 57 Year in Service: 1942

Add: Minesweeping Equipment

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CRUISER TANK MK VI "CRUSADER I"
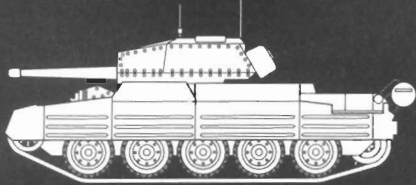
Year In Service:	1939	Maneuver:	-3	Armor:	10/20/30
Threat Value:	45	Fire Control:	-2	Movement:	Ground 3/5
Size:	9	Sensors:	None	Deployment Range:	205km
Crew:	5	Communications:	-1/3km		

PERKS & FLAWS

Brittle Armor, Buttoned Up, Ineff. Controls, Large Sensor Profile (R1), Random Shutdown (R1), Reinf. Armor (R1, F)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
2-pdr	T	3	6	12	24	0	x8	1	110	-
7.92mm LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
7.92mm LMG	F	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	4500	-

VARIANTS "Crusader II," TV:44 Year in Service: 1940

Remove: 1 x LMG (F)

Change: Reinforced Armor (R3, front)

"Crusader III", TV: 49 Year in Service: 1941

Remove: 1 x2-pdr; 1 x LMG (F), Add: 1 x 6-pdr

6-pdr	T	4	8	16	32	0	x9	1	65	-

Change: Crew 3; Reinforced Armor (R3, Front)

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ARCHER SP GUN
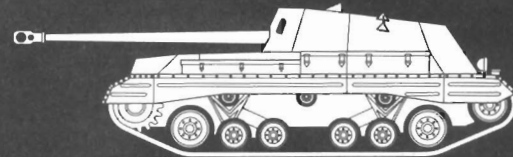
Year In Service:	1944	Maneuver:	-3	Armor:	15/30/45
Threat Value:	43	Fire Control:	-2	Movement:	Ground 1/2
Size:	9	Sensors:	None	Deployment Range:	145km
Crew:	3	Communications:	-1/3km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
17-pdr	FRr	5	10	20	40	0	x11	1	39	-

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INFANTRY TANK MK I I "VALENTINE I"

Year In Service:	1940	Maneuver:	-3	Armor:	15/30/45
Threat Value:	57	Fire Control:	-2	Movement:	Ground 1/2
Size:	9	Sensors:	None	Deployment Range:	145km
Crew:	3	Communications:	-1/3km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
2-pdr	T	3	6	12	24	0	x8	1	79	-
7.92mm LMG	T	1	2	4	8	0	x2	1	3150	ROF2, AI, Coax

VARIANTS

"Valentine II", TV: 57 Year in Service: 1940

Change: Deployment Range 180km

VALENTINE VARIANTS

"Valentine III", TV: 57 Year in Service: 1943

Change: Crew 4, Deployment Range 170km

"Valentine VII", TV: 55 Year in Service: 1943

Add: Reinforced Ammo/Fuel Storage

Change: Deployment Range 190km

"Valentine IX", TV: 58 Year in Service: 1943

Remove: 1 x 2-pdr

Add: 1 x 6-pdr, Reinforced Ammo/Fuel Storage

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
6-pdr	T	4	8	16	32	0	x9	1	53	-

Change: Deployment Range 190km, LMG Ammo 1576

"Bridgelayer", TV: 30 Year in Service: 1943

Remove: All Weapons

Add: Bridging Equipment: Useful Span 10m, Size Capacity 10, Size 5, Armor 5/30/5; Tool Arm R5

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INFANTRY TANK MK IV "CHURCHILL I"
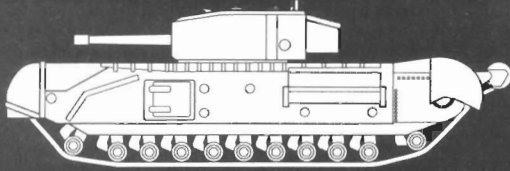
Year In Service:	1941	Maneuver:	-3	Armor:	18/36/54
Threat Value:	79	Fire Control:	-2	Movement:	Ground 2/3
Size:	11	Sensors:	None	Deployment Range:	145km
Crew:	5	Communications:	-1/3km		

PERKS & FLAWS

Buttoned Up, Improved Off-Road, Inefficient Controls, Large Sensor Profile (R1), Random Shutdown (R2)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
2-pdr	T	3	6	12	24	0	x8	1	150	-
7.92mm LMG	T	1	2	4	8	0	x2	1	4950	ROF2, AI, Coax
3" Howitzer	FF	3	6	12	24	0	x5	1	58	-
Smoke Discharger	FF	0	0	0	0	0		1	25	Obsc: 2

VARIANTS "Chruchill IV", TV: 85   Year In Service: 1942

Remove: 1 x 2-pdr; 1 x 3" Howitzer; Random Shutdown

Add: 1 x 6-pdr; 1 x LMG

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
6-pdr	T	4	8	16	32	0	x9	1	84	-
7.92mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI

Change: LMG Ammo 6925, Smoke Ammo 30

CHURCHILL VARIANTS

"Churchill VII", TV: 97   Year In Service: 1944

Remove: 1 x 2-pdr; 1 x 3" Howitzer; Random Shutdown

Add: 1 x 75mm; 1 x LMG; Reinforced Armor +4 Front Armor

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
75mm	T	4	8	16	32	0	x9	1	84	-
7.92mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI

Change: Armor 20/40/60; LMG Ammo 6925; Smoke Ammo 30

"Churchill AVRE", TV: 84   Year In Service: 1944

Remove: 1 x 2-pdr; 1 x 3" Howitzer; Random Shutdown

Add: 1 x Spigot Mortar; 1 x LMG

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
290mm Spigot Mortar	T	0	0	1	2	0	x12	1		26
AEO, Slow 2										
7.92mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI

Change: LMG Ammo 6925, Smoke Ammo 30

"Churchill Crocodile", TV:114   Year In Service: 1943

Remove: 1 x 2-pdr; 1 x 3" Howitzer; Random Shutdown

Add: 1 x 75mm; 1 x flamethrower; Reinforced Armor +4 Front Armor, Hazardous Ammo/Fuel Storage

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
75mm	T	4	8	16	32	0	x9	1	84	-
Flamethrower	FF	0	0	0	1	+1	x7	1	80	ROF1, SB

Change: Armor 20/40/60; LMG Ammo 6925; Smoke Ammo 30, Size 12

"Churchill Bridgelayer", TV: 44   Year In Service: 1944

Remove: All Weapons, Random Shutdown

Add: Bridging Equipment; Useful Span 10m, Size Capacity 13, Size 7, Armor 7/14/21; Tool Arm R7

Change: Crew 2

"Churchill Mat Layer", TV: 79   Year In Service: 1942

Add: Mat Laying Equipment

"Churchill w/Fascine", TV: 79   Year In Service: 1942

Add: Fascine Equipment

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INFANTRY WALKER MK VIIIA "CAVALIER I"
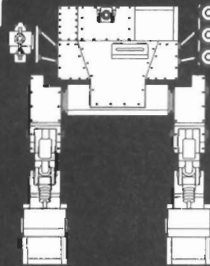
Year In Service:	1940	Maneuver:	-1	Armor:	8/16/24
Threat Value:	28	Fire Control:	-1	Movement:	Walk 2/4, Gr. 3/5
Size:	7	Sensors:	None	Deployment Range:	70km
Crew:	2	Communications:	-2/2km		

PERKS & FLAWS

2 x Battle Arms (R4), Decreased Maneuver (R1, Ground), Exposed Crew, Inefficient Controls, Poor Towing, Unstable, Weak Point (R1, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Vickers HMG	FF	1	2	4	8	0	x4	1	150	ROF1, AI
.30 LMG	F	1	2	4	8	0	x2	2	200	ROF2, AI
Grenades	F	-	-	-	-	-1	x8	-	8	AI

VARIANTS

Mk VIIIB "Cavalier II", TV: 31   Year in Service: 1940

Remove: Exposed Crew

Add: Reinforced Armor +1 Front

Change: Fire arc of HMG to F

CAVALIER VARIANTS

Mk VIIIC "Cavalier III", TV: 39   Year in Service: 1941

Remove: 1 x HMG; 2 x Battle Arms; Decreased Maneuver; Unstable; Exposed Crew

Add: 1 x 1.2 pdr; +1 DM to all grenades; Airdroppable; Reinforced Armor (R1 Front); 2 x Man. Arms (R4, Punch)

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
1.2-pdr	F	2	4	8	16	0	x7	1	9	

Change: Communications -2/2km

Mk VIIID "Cavalier IV", TV: 37   Year in Service: 1941

Remove: 1 x HMG; 2 x Battle Arms; Decreased Maneuver; Unstable; Exposed Crew

Add: 1 x M4B; +1 DM to all grenades; Airdroppable; Reinforced Armor (R1 Front); 2 x Man. Arms (R4, Punch)

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
M4B Cannon	F	2	4	8	16	0	x5	1	40	ROF1

Change: Communications -2/2km

GEAR KRIEG™

INFANTRY WALKER
MV12A "ROUNDHEAD I"
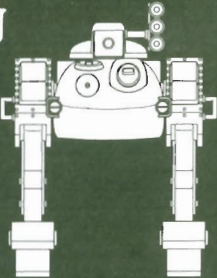
Year In Service:	1941	Maneuver:	-1	Armor:	9/18/27
Threat Value:	43	Fire Control:	-1	Movement:	Walk 3/5, Gr. 3/6
Size:	7	Sensors:	None	Deployment Range:	80km
Crew:	2	Communications:	-2/2km		

PERKS & FLAWS

Inefficient Controls, 2 x Manipulator Arms (R4, Punch), Overheating, Reinforced Armor (R1, Front), Weak Point (R1, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
.50 HMG	F	1	2	4	8	0	x4	1	150	ROF1, AI
.303 LMG	F	1	2	4	8	0	x2	1	250	ROF2, AI
Grenades	F	0	0	0	0	-1	x9	-	3	AI

VARIANTS

MV12B "Roundhead II", TV: 47   Year in Service: 1941

Remove: 1 x HMG

Add: 1 x 1.2-pdr cannon

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
1.2-pdr	F	2	4	8	16	0	x7	1	9	-

Change: Communications -2/3km; 2 x Manipulator Arms (R5, Punch)

ROUNDHEAD VARIANTS

MV12C "Roundhead III", TV: 76   Year in Service: 1941

Remove: 1 x HMG

Add: 1 x Flamethrower; Hazardous Ammo/Fuel Storage

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Flamethrower	F	0	0	1	+1	x7	1	15		ROF1, SB

Change: Communications -2/3km; 2 x Manipulator Arms (R5, Punch)

MV12D "Roundhead IV", TV: 65   Year in Service: 1942

Remove: 1 x HMG; 2 x Manipulator Arms

Add: 1 x PVAT; 1 x M4B; +1 DM to all grenades; Hazardous Ammo/Fuel Storage; Battle Arms x2 R5

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
PVAT	F	0	1	2	4	-1	x13	1	5	HEAT
M4B Cannon	F	2	4	8	16	0	x5	1	40	ROF1

Change: Communications -2/3km

MV12E "Roundhead V", TV: 65   Year in Service: 1943

Remove: 1 x HMG; 2 x Manipulator Arms

Add: 1 x PVAT; 1 x M4B; +1 DM to all grenades; Sensors -2/1km; Hazardous Ammo/Fuel Storage; Battle Arms x2 R5, Defective FC

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
PVAT	F	0	1	2	4	-1	x13	1	5	HEAT
M4B Cannon	F	2	4	8	16	0	x5	1	40	ROF1

Change: Deployment Range 90km; Communications -2/3km

GEAR KRIEG™

INFANTRY QUADRUPED
MK I "WAGSWORTH"
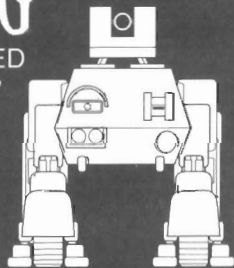
Year In Service:	1941	Maneuver:	-1	Armor:	13/26/39
Threat Value:	60	Fire Control:	-1	Movement:	Walk 2/3, Gr. 2/4
Size:	9	Sensors:	None	Deployment Range:	55km
Crew:	3	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Weak Point (R1, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
6-pdr	F	4	8	16	32	0	x9	1	30	-
7.92mm LMG	FF	1	2	4	8	0	x2	1	250	ROF2, AI

VARIANT

Mk II "Bulldog", TV: 73   Year in Service: 1942 (late)

Remove: Weak Point

Add: Reinforced Armor (R1, Front)

Change: Deployment Range 70km, Fire-arc of 6-pdr to T

WAGSWORTH VARIANTS

MkII "Barking Bulldog," TV: 59   Year in Service: 1943 (late)

Remove: Weak Point; Buttoned Up, 6-pdr

Add: 1 x 17-pdr; Reinforced Armor (R1, Front)

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
17-pdr	FF	5	10	20	40	0	x11	1	39	-

Change: Deployment Range 65km

Bulldog AWRE, TV: 36   Year in Service: 1943

Remove: 2 x 6-pdr; Weak Point; Buttoned Up

Add: Reinforced Armor (R1, Front); Light Mining Equipment (Front-loading Scoop)

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
PVAT	F	0	1	2	4	-1	x13	1	5	HEAT

Change: Deployment Range 70km

GEAR KRIEG™
HUMBER MKII ARMORED CAR
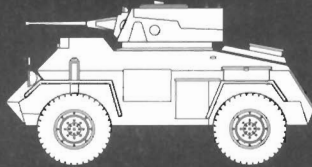
Year In Service:	1940	Maneuver:	-2	Armor:	6/12/18
Threat Value:	17	Fire Control:	-2	Movement:	Ground 4/8
Size:	6	Sensors:	None	Deployment Range:	405km
Crew:	3	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
15mm HMG	T	1	2	4	8	0	x4	1	150	ROF1, AI
7.92mm LMG	T	1	2	4	8	0	x2	1	250	ROF2, AI

GEAR KRIEG™
MARMON-HERRINGTON MKII
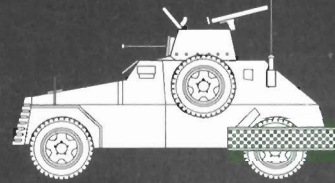
Year In Service:	1940	Maneuver:	-2	Armor:	5/10/15
Threat Value:	15	Fire Control:	-2	Movement:	Ground 5/9
Size:	5	Sensors:	None	Deployment Range:	322km
Crew:	4	Communications:	11/5km		

PERKS & FLAWS

Ammo Storage (29 x 5-shot 13.97mm clips), Buttoned Up, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
13.97mm ATR	T	1	2	4	8	0	x5	1	5	-
7.92mm LMG	T	1	2	4	8	0	x2	1	250	ROF2, AI

GEAR KRIEG™
DAIMLER ARMORED CAR
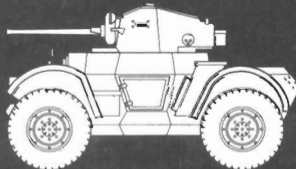
Year In Service:	1941	Maneuver:	-2	Armor:	7/14/21
Threat Value:	27	Fire Control:	-2	Movement:	Ground 5/9
Size:	6	Sensors:	None	Deployment Range:	330km
Crew:	3	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
2-pdr	T	3	6	12	24	0	x8	1	20	-
7.92mm LMG	T	1	2	4	8	0	x2	1	250	ROF2, AI, Coax

GEAR KRIEG™
"PINK PANTHER" L.R.D.G. TRUCK

Year In Service:	1940	Maneuver:	-3	Armor:	5/10/15
Threat Value:	7	Fire Control:	-2	Movement:	Ground 4/8
Size:	5	Sensors:	None	Deployment Range:	500km
Crew:	3	Communications:	-1/8km		

PERKS & FLAWS

Cargo Bay (12m³, Open Topped), Exposed Crew, Exposed FC, Hazardous Ammo/Fuel Supply, Inefficient Controls, Large Sensor Profile (R1), Pintle Mount (F), Ramplate, Weapon Link (LMGs)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Vickers HMG	FF	1	2	4	8	0	x4	1	150	ROF1, AI
Smoke	FF	-	-	-	-	-	-	1	4	Obsc: 2

Typical Pintle Weapons:

2 x .30 LMG (add +6 TV)

1 x Vickers HMG (add +6 TV)

1 x Bazooka (add +11 TV)

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"PINK PANTHER" S.A.S. JEEP
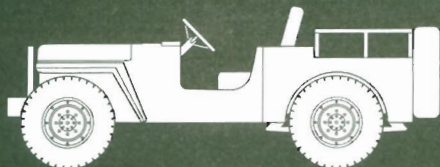
Year In Service:	1940	Maneuver:	-2	Armor:	4/8/12
Threat Value:	7	Fire Control:	-2	Movement:	Ground 4/8
Size:	4	Sensors:	None	Deployment Range:	500km
Crew:	3	Communications:	-1/8km		

PERKS & FLAWS

Cargo Bay (2m³, Open Topped), Exposed Crew, Exposed FC, Hazardous Ammo/Fuel Supply, Inefficient Controls, Pintle Mount (F), Ramplate

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Vickers HMG	FF	1	2	4	8	0	x4	1	150	ROF1, AI
Smoke	FF	-	-	-	-	-	-	1	4	Obsc: 2

Typical Pintle Weapons:

1 x Water Cooled .30 LMG (ROF 3, add +4 TV)
1 x Vickers HMG (add +6 TV)
1 x Bazooka (add +11 TV)

GEAR KRIEG™

TUCKER APC
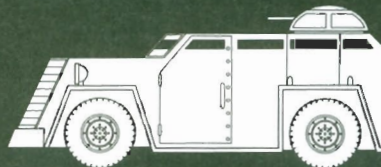
Year In Service:	1941	Maneuver:	-2	Armor:	6/12/18
Threat Value:	19	Fire Control:	-2	Movement:	Ground 5/10
Size:	5	Sensors:	None	Deployment Range:	300km
Crew:	3	Communications:	-2/3km		

PERKS & FLAWS

Large Sensor Profile (R1), Passenger Seating (6), Unstable, Weapon Link (.30 T1 LMGs)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
.30 LMG	F	1	2	4	8	0	x2	1	250	ROF2, AI
.30 T1 LMG	T	3	6	12	24	+1	x2	2	500 each	ROF2, AI
VARIANT		Tucker .50, TV 43		Year In Service: 1941						
Remove: 2 x .30 T1 LMG										
Add: 2 x .50 T1 HMG										
Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
.50 T1 HMG	F	1	2	4	8	+1	x4	2	350 each	ROF1, A

GEAR KRIEG™

M3A1 GENERAL STUART/MK IV
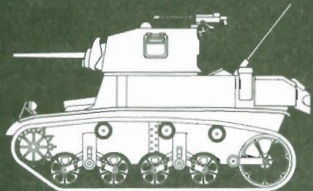
Year In Service:	1941	Maneuver:	-3	Armor:	11/22/33
Threat Value:	50	Fire Control:	-2	Movement:	Ground 3/6
Size:	8	Sensors:	None	Deployment Range:	115km
Crew:	4	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Hazardous Ammo/Fuel Supply, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R1, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
37mm M6	T	3	6	12	24	0	x3	1	116	-
.30 LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
.30 LMG	FF	3	6	12	24	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	7220	-

GEAR KRIEG™

M3A5 MEDIUM TANK/ "GRANT II"
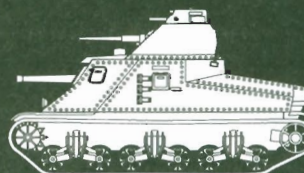
Year In Service:	1941	Maneuver:	-3	Armor:	13/26/39
Threat Value:	72	Fire Control:	-2	Movement:	Ground 3/5
Size:	10	Sensors:	None	Deployment Range:	193km
Crew:	6	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Hazardous Ammo/Fuel Supply, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R1, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
75mm M3	FF	5	10	20	40	0	x9	1	46	-
37mm M6	T	3	6	12	24	0	x3	1	178	-
.30 LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
.30 LMG	FF	3	6	12	24	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	9600	-
VARIANTS		"Grant CDL," TV: 103		Year in Service: 1943						
Remove: Turreted Weapons, Add: 1 x Canal Defense Light										
Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
CDL	T	2	4	8	16	+2	x7	1	50	ILL, WA10
		"Grant CDL II," TV: 104		Year in Service: 1944						
Same as "Grant CDL" except Canal Defense Light is Infrared										

GEAR KRIEG™

M4A1 MEDIUM TANK GENERAL SHERMAN

BY DREAM POD 9
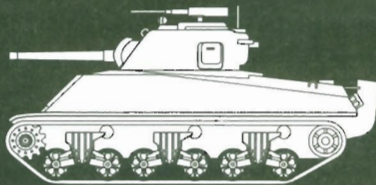
Year In Service:	1941	Maneuver:	-3	Armor:	14/28/42
Threat Value:	66	Fire Control:	-2	Movement:	Ground 3/5
Size:	11	Sensors:	None	Deployment Range:	160km
Crew:	5	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Hazardous Ammo/Fuel Supply, Inefficient Controls, Large Sensor Profile (R1), Pintle Mount (F), Reinforced Armor (R1, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
75mm M3	T	5	10	20	40	0	x9	1	97	-
.30 LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
.30 LMG	FF	3	6	12	24	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	4750	-

VARIANTS

M4A2, TV: 66   Year in Service: 1941

Change: Move G 3/6; Deployment Range 170km; Reinforced Armor +3 Front Armor

M4A3, TV: 66   Year in Service: 1942

Remove: Hazardous Ammo/Fuel Storage

Change: Deployment Range 170km

SHERMAN VARIANTS

M4A6, TV: 74   Year in Service: 1942

Remove: 1 x 75mm; Hazardous Ammo/Fuel Storage

Add: 1 x 76mm; Defective FC (R1)

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
76mm M1	T	5	10	20	40	0	x11	1	76	-

Change: Move G 3/6; Deployment Range 170km

T10 Mine Exploder*, TV: 66   Year in Service: 1943

Add: Minesweeping Equipment (large metal wheels), Reinforced Location +2 Movement

Change: Movement Ground 2/3; Large Sensor Profile -2

* NOTE: This vehicle must have a controlling vehicle as well. One vehicle must be purchased and designated the controller. Activating the T10 costs that vehicle an Action in addition to any other Actions performed by the controlling vehicle or the T10.

Sherman Crab, TV:66   Year in Service: 1944

Add: Minesweeping Equipment

M4 w/M1 Bulldozer kit, TV:66   Year in Service: 1942

Add: Light Mining Equipment (Earthmoving Blade)

M4 "Calliope", +109 TV   Year in Service: 1944

Add: 1 x M8 Rocket Launcher

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
M8 4.5in**	T	5	10	20	40	-2	x8	1	1	MR5, AE2, IF

** NOTE: This weapon may fire out to Artillery Range.

GEAR KRIEG™

M10 TANK DESTROYER

BY DREAM POD 9
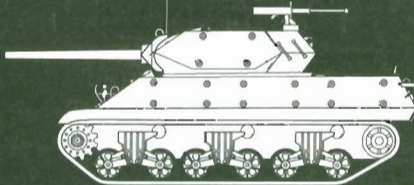
Year In Service:	1942 (late)	Maneuver:	-3	Armor:	11/22/33
Threat Value:	45	Fire Control:	-2	Movement:	Ground 3/5
Size:	19	Sensors:	None	Deployment Range:	320km
Crew:	5	Communications:	-1/5km		

PERKS & FLAWS

Exposed Crew, Hazardous Ammo/Fuel Supply, Inefficient Controls, Large Sensor Profile (R1), Pintle Mount (R4), Reinforced Armor (R3, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
3" M7 Gun	T	5	10	20	40	0	x10	1	54	-

GEAR KRIEG™

M11A1 GENERAL EARLY

BY DREAM POD 9
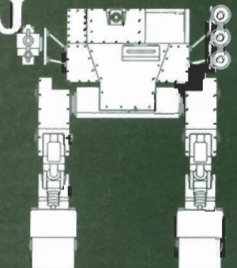
Year In Service:	1939	Maneuver:	-1	Armor:	8/16/24
Threat Value:	30	Fire Control:	-1	Movement:	Walk 2/4, Gr. 3/5
Size:	7	Sensors:	None	Deployment Range:	75km
Crew:	2	Communications:	-2/2km		

PERKS & FLAWS

2 x Battle Arms (R4), Decreased Maneuver (R1, Ground), Exposed Crew, Fuel Inefficient, Inefficient Controls, Overheating, Poor Towing, Unstable, Weak Point (R1, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
.50 HMG	FF	1	2	4	8	0	x4	1	150	ROF1, AI
.30 LMG	F	1	2	4	8	0	x2	1	200	ROF2, AI
Mk3W Grenades	F	-	-	-	-	-	x8	-	3	AI

VARIANTS   M11A2, TV: 31   Year in Service: 1940

Remove: Exposed Crew

Add: Reinforced Armor +1 Front; Fire arc of .50 HMG to F

M11A3, TV 52   Year in Service: 1941

Remove: 1 x HMG; Exposed Crew; Battle Arms; Unstable

Add: 1 x M4B; +1DM to all Grenades; Reinforced Armor (R1, Front); 2 x Manipulator Arms (R4, Punch); Glider Capable

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
M4B Cannon	F	2	4	8	16	0	x5	1	8	ROF4

GEAR KRIEG™

M12A1 GENERAL LONGSTREET
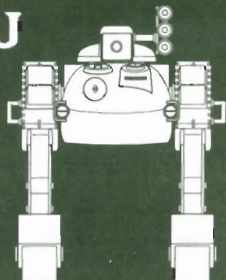
Year In Service:	1941	Maneuver:		-1	Armor:		9/18/27
Threat Value:	47	Fire Control:		-1	Movement:	Walk 3/5, Gr. 3/6	
Size:	7	Sensors:		None	Deployment Range:		85km
Crew:	2	Communications:		-2/3km			

PERKS & FLAWS

Inefficient Controls, 2 x Manipulator Arms (R4, Punch), Overheating:Light Dam. If moves & fires 3+ turns, Reinforced Armor (R1, Front), Weak Point (R1, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
M8B Cannon	F	2	4	8	16	0	x7	1	9	ROF1
.30 LMG	FF	1	2	4	8	0	x2	1	200	ROF2, AI
Mk4W	F	-	-	-	-	-1	x9	-	3	AI

VARIANTS	M12A2, TV: 74	Year In Service: 1941								

Remove: 1 x M4B Cannon

Add: 1 x Flamethrower

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Flamethrower	F	0	0	0	1	+1	x7	1	20	ROF1, SB

LONGSTREET VARIANTS

M12A1 w/T72E2 Launcher, TV: 67	Year In Service: 1941							

Add: 1 x M8 Rockets

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
M8 4.5" Rockets*	FF	5	10	20	40	-3	x8	1	1	MRS, AE1, IF

* NOTE: This weapon may fire out to Artillery Range.

Longstreet Artillery Mate, TV: 42	Year In Service: 1941		Nationality: USSR-Lend lease

Remove: 1 x M8B Cannon

Change: 2 x Manipulator Arms (R6, Punch)

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M14A1 GENERAL JACKSON
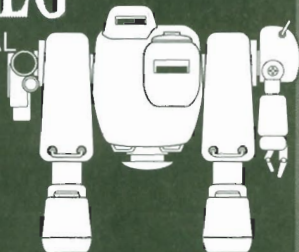
Year In Service:	1943	Maneuver:		-1	Armor:		10/20/30
Threat Value:	164	Fire Control:		0	Movement:	Walk 3/5, Gr 3/6	
Size:	7	Sensors:		-2/1km	Deployment Range:		100km
Crew:	2	Communications:		-2/3km			

PERKS & FLAWS

Defective FC (R1), Inefficient Controls, 2 x Manipulator Arms (R5, Punch), Reinforced Armor (R1, Front), Weak Point (R1, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Walker Bazooka	F	2	4	8	16	0	x14	1	6	HEAT
M8D Cannon	F	2	4	8	16	0	x8	1	20	-
.50 HMG	F	1	2	4	8	0	x4	1	300	ROF1, AI
M50 Grenades	F	-	-	-	-1	x1G	-	3	AI	
Smoke	FF	-	-	-	-	0	-	3	Obcs:2	

VARIANTS	M14A2, TV: 180	Year in Service: 1943								

Remove 1 x M8D; 1 x HMG

Add: 2 x HMG 300 shots F; Weapons Link (HMGs)

Change: Move Walk 2/4, Ground 3/5; Deployment Range 85km; Reinforced Armor (R2, Front); Walker Bazooka ammo 10, Smoke ammo 4

GEAR KRIEG™

M3 HALFTRACK
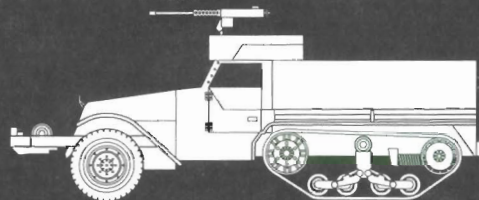
Year In Service:	1941	Maneuver:		-3	Armor:		7/14/21
Threat Value:	35	Fire Control:		-2	Movement:	Ground 4/7	
Size:	7	Sensors:		None	Deployment Range:		282km
Crew:	2	Communications:		None			

PERKS & FLAWS

Exposed Crew, Exposed FC, Inefficient Controls, Large Sensor Profile (R1), Passenger Seating (10)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
.50 HMG	T	1	2	4	8	0	x4	1	2000	ROF1, AI
.30 LMG	Rr	1	2	4	8	0	x2	1	2000	ROF2, AI

GEAR KRIEG™
M7 "PRIEST" HOWITZER
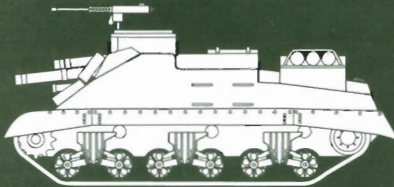
Year In Service:	1941	Maneuver:	-3	Armor:	13/26/39
Threat Value:	130	Fire Control:	-2	Movement:	Ground 3/5
Size:	11	Sensors:	None	Deployment Range:	201km
Crew:	5	Communications:	-1/5km		

PERKS & FLAWS

Exposed Crew, Hazardous Ammo/Fuel Supply, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
105mm Howitzer*	FF	14	28	56	112	-3	x12	1	69	MR10, AE0, IF
.50 HMG	T	1	2	4	8	0	x4	1	200	ROF1, AI

* NOTE: This weapon may fire out to Artillery Range.

GEAR KRIEG™
M8 "GREYHOUND"
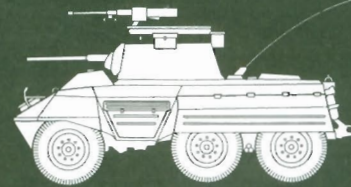
Year In Service:	1943	Maneuver:	-2	Armor:	7/14/21
Threat Value:	28	Fire Control:	-2	Movement:	Ground 5/10
Size:	7	Sensors:	None	Deployment Range:	563km
Crew:	4	Communications:	-1/5km		

PERKS & FLAWS

Exposed Crew, Inefficient Controls, Large Sensor Profile (R1), Pintle Mount (Rr), Reinforced Armor (R1, Front), Weak Armor Facing (Bottom)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
37mm M6	T	3	6	12	24	0	x7	1	80	-
.30 LMG	T	1	2	4	8	0	x2	1	1500	ROF2, AI, Coax

VARIANTS

	M20, TV: 9	Year in Service: 1943

Remove: All Weapons

Add: Passenger Seating (4)

Change: Crew 2; Pintle Mount (F)

GEAR KRIEG™
M29 STUDEBAKER "WEASEL"
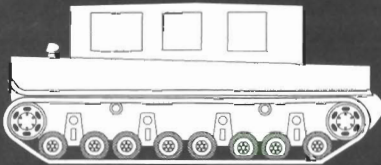
Year In Service:	1943	Maneuver:	-2	Armor:	4/8/12
Threat Value:	3	Fire Control:	-3	Movement:	Ground 4/7
Size:	5	Sensors:	None	Deployment Range:	248km
Crew:	1	Communications:	None		

PERKS & FLAWS

Exposed Crew, Inefficient Controls, Passenger Seating (3)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
None										

VARIANT

	M29C, TV: 3	Year in Service: 1943

Add: Amphibious

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D.U.K.W.
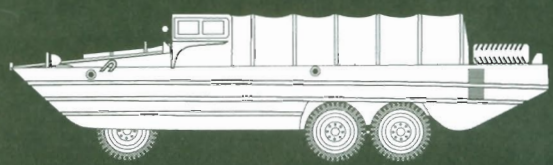
Year In Service:	1942	Maneuver:	-3	Armor:	5/10/15
Threat Value:	4	Fire Control:	-2	Movement:	Ground 5/9
Size:	7	Sensors:	None	Deployment Range:	500km
Crew:	2	Communications:	None		

PERKS & FLAWS

Amphibious, Cargo Bay (20m³, Open Topped), Exposed Crew, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
None										

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FIAT L6/40 LIGHT TANK
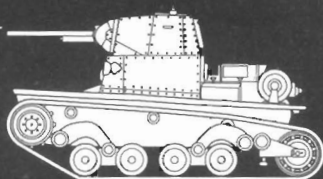
Year In Service:	1940	Maneuver:	-3	Armor:	10/20/30
Threat Value:	31	Fire Control:	-2	Movement:	Ground 3/5
Size:	7	Sensors:	None	Deployment Range:	201km
Crew:	2	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R1, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
20mm Breda M35	T	3	6	12	24	0	x5	1	296	-
8mm LMG	T	1	2	4	8	0	x2	1	1560	ROF2, AI, Coax

VARIANTS L6/40 Flame, TV: 66   Year in Service: 1940

Remove: 1 x 20mm M35

Add: 1 x Flamethrower; Hazardous Ammo/Fuel Storage

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Flamethrower	T	0	0	0	1	+1	x1	1	80	ROF1, SB

L6/40 Command, TV: 31   Year in Service: 1940

Remove: Buttoned Up

Add: Exposed Crew

Change: Communications -1/8km

GEAR KRIEG™

L40 ANTI-TANK GUN
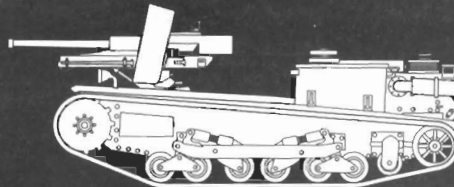
Year In Service:	1940	Maneuver:	-3	Armor:	10/20/30
Threat Value:	20	Fire Control:	-2	Movement:	Ground 3/5
Size:	7	Sensors:	None	Deployment Range:	201km
Crew:	2	Communications:	-1/5km		

PERKS & FLAWS

Exposed Crew, Exposed FC, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R1, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
47mm Cannon	F	3	6	12	24	0	x7	1	10	-

GEAR KRIEG™

FIAT M13/40 MEDIUM TANK
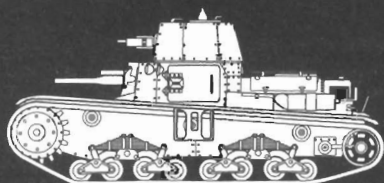
Year In Service:	1940	Maneuver:	-3	Armor:	12/24/36
Threat Value:	43	Fire Control:	-2	Movement:	Ground 2/4
Size:	8	Sensors:	None	Deployment Range:	200km
Crew:	4	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
47mm Cannon	T	3	6	12	24	0	x7	1	104	-
8mm LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
8mm LMG	F	1	2	4	8	0	x2	2	-	ROF2, AI
LMG Ammo Bin	-	-	-	-	-	-	-	-	2592	-

VARIANT

Semovante Commando, TV: 27   Year in Service: 1940

Remove: Turreted Weapons

Change: Communications -1/8km

GEAR KRIEG™

AUTOBLINDA 40 ARMORED CAR
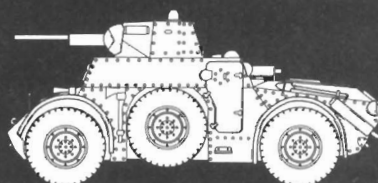
Year In Service:	1939	Maneuver:	-2	Armor:	7/14/21
Threat Value:	27	Fire Control:	-2	Movement:	Ground 4/8
Size:	7	Sensors:	None	Deployment Range:	400km
Crew:	4	Communications:	-2/3km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
8mm LMG	T	1	2	4	8	0	x2	1	3048	ROF2, AI
8mm LMG	Rr	1	2	4	8	0	x2	1	2460	ROF2, AI

VARIANT

Autoblina 41, TV: 31   Year in Service: 1940

Add: 1 x 20mm M35

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
20mm Breda M35	T	3	6	12	24	0	x5	1	296	-

Change: 8mm LMG T Ammo 2460, Coax

GEAR KRIEG™

LC1/40
LIGHT WALKER
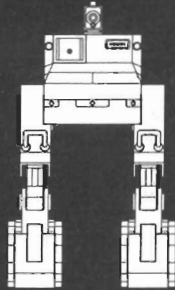
Year In Service:	1940 (Late)	Maneuver:	-1	Armor:	8/16/24
Threat Value:	40	Fire Control:	-1	Movement:	Walk 2/4, Gr. 3/5
Size:	7	Sensors:	None	Deployment Range:	60km
Crew:	2	Communications:	-2/2km		

PERKS & FLAWS

Exposed Crew, Inefficient Controls, Random Shutdown (R1), Weak Point (R2, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Breda M35 20mm	F	3	6	12	24	0	x5	1	30	-
8mm LMG	F	1	2	4	8	0	x2	1	520	ROF2, AI

GEAR KRIEG™

LC42 47/32
MEDIUM WALKER
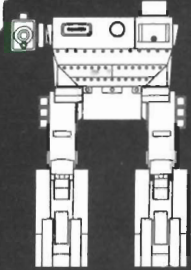
Year In Service:	1942	Maneuver:	-1	Armor:	9/18/27
Threat Value:	48	Fire Control:	-1	Movement:	Walk 3/5, Gr. 3/6
Size:	7	Sensors:	None	Deployment Range:	95km
Crew:	2	Communications:	-2/4km		

PERKS & FLAWS

Exposed Crew, Exposed FC, Inefficient Controls, Overheating, Weak Point (R2, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
47mm Cannon	F	3	6	12	24	0	x7	1	25	-

GEAR KRIEG™

CHAR B1-BIS
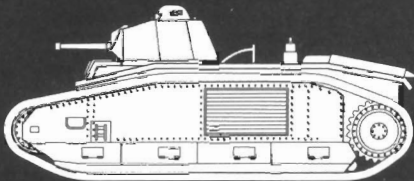
Year In Service:	1937	Maneuver:	-3	Armor:	15/30/45
Threat Value:	65	Fire Control:	-2	Movement:	Ground 2/3
Size:	13	Sensors:	None	Deployment Range:	180km
Crew:	4	Communications:	-1/3km		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Random Shutdown (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
47mm Cannon	T	3	6	12	24	0	x7	1	50	-
75mm Cannon	FF	4	8	16	32	0	x8	1	74	-
7.5mm LMG	T	1	2	4	8	0	x2	1	5100	ROF2, AI, Coax

VARIANT

Panzer B2(F), TV: 78   Year In Service: 1941

Remove: 1 x 75mm Cannon

Add: 1 x Flamethrower; Hazardous Ammo/Fuel Storage

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Flamethrower	FF	0	0	0	1	+1	x7	1	200	ROF1, SB

GEAR KRIEG™

CHAR AMX-42A "GROGNARD"
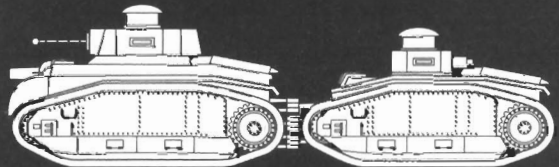
Year In Service:	1939	Maneuver:	-3	Armor:	25/50/75
Threat Value:	139	Fire Control:	-2	Movement:	Ground 2/4
Size:	19	Sensors:	None	Deployment Range:	100km
Crew:	9	Communications:	-1/5km		

PERKS & FLAWS

Buttoned Up, Hazardous Ammo/Fuel Supply, Inefficient Controls, Large Sensor Profile (R1), Random Shutdown (R1), Reinforced Armor (R2, Front), Weak Point (R2, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
AFE Tesla Gun	F	1	2	4	8	0	x15	1	30	Haywire, AD1, PH3
47mm Cannon	FF	3	6	12	24	0	x7	1	65	-
47mm Cannon	Rr	3	6	12	24	0	x7	1	65	-
7.5mm LMG	Rr	1	2	4	8	0	x2	1	2000	ROF2, AI
7.5mm LMG	T	1	2	4	8	0	x2	1	2000	ROF2, AI
7.5mm LMG	FF	1	2	4	8	0	x2	1	2000	ROF2, AI
7.5mm LMG	FRr	1	2	4	8	0	x2	1	2000	ROF2, AI
Frag Charges	F	0	0	0	0	-1	x3	1	12	AI

GEAR KRIEG™ ⭐

BT-7
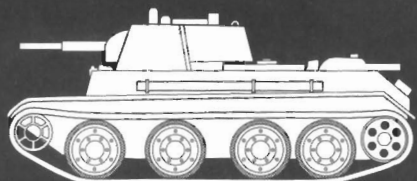
Year In Service:	1935	Maneuver:	-3	Armor:	7/14/21
Threat Value:	38	Fire Control:	-2	Movement:	Ground 5/10
Size:	8	Sensors:	None	Deployment Range:	250km
Crew:	3	Communications:	None		

PERKS & FLAWS

Buttoned Up, HEP: Cold Weather, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
45mm L/46	T	4	8	16	32	0	x8	1	188	-
7.62mm LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
7.62mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	2394	-

VARIANT

BT-7 Command, TV: 55   Year in Service: 1935

Add: Communications -1/3km

Change: 45mm Ammo 172

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T34/76A
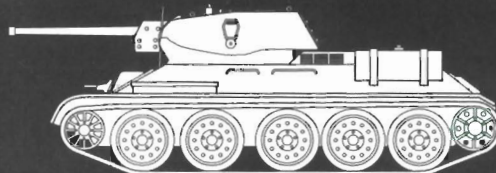
Year In Service:	1939	Maneuver:	-3	Armor:	14/28/42
Threat Value:	59	Fire Control:	-2	Movement:	Ground 3/6
Size:	10	Sensors:	None	Deployment Range:	400km
Crew:	4	Communications:	None		

PERKS & FLAWS

Buttoned Up, HEP: Cold Weather, Improved Off-Road, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
76.2mm L/30.5	T	4	8	16	32	0	x8	1	77	-
7.62mm LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
7.62mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	4725	-

VARIANTS   Command, TV: 55   Year in Service: 1939

Add: Communications -1/3km, Change: LMG Ammo 2898

T34/76B, TV: 65   Year in Service: 1941

Remove: 1 x 76.2mm L/30.5

Add: 1 x 76.2mm L/41.2 cannon; Reinforced Armor (R1, Front)

| 76.2mm L/41.2 | T | 5 | 10 | 20 | 40 | 0 | x9 | 1 | 77 | |

Command B, TV: 61   Year in Service: 1941

Add: Weapons at T34/76B; Communications -1/3km, Change: LMG Ammo 2898

GEAR KRIEG™ ⭐

KV-1C HEAVY TANK
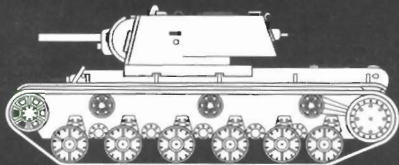
Year In Service:	1940	Maneuver:	-3	Armor:	19/38/57
Threat Value:	86	Fire Control:	-2	Movement:	Ground 2/4
Size:	12	Sensors:	None	Deployment Range:	250km
Crew:	5	Communications:	None		

PERKS & FLAWS

Buttoned Up, HEP: Cold Weather, Improved Off-Road, Inefficient Controls, Large Sensor Profile (R2), Reinforced Armor (R1, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
76.2mm L/41.2	T	5	10	20	40	0	x9	1	114	-
7.62mm LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
7.62mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI
7.62mm LMG	Rr	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	3024	-

KV-1 VARIANTS

KV-IIA, TV: 201   Year in Service: 1940

Remove: Turreted Weapons

Add: 1 x 152mm Howitzer

| 152mm Howitzer* | T | 16 | 32 | 64 | 128 | -3 | x15 | 1 | 36 | MR12, AEO, IF |

Change: Movement Ground 2/3; LMG Ammo 3087

* NOTE: This weapon may fire out to Artillery Range

KV-IIC, TV: 88   Year in Service: 1941

Remove: Turreted Weapons

Add: 1 x EUEA Tesla Model 40

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Tesla Model 40	T	1	2	4	8	0	x11	1	30	Haywire, AD1, PH2

Change: Move Ground 2/3; LMG Ammo 3087

GEAR KRIEG™
T-44 "N. LENIN" SUPERHEAVY TANK
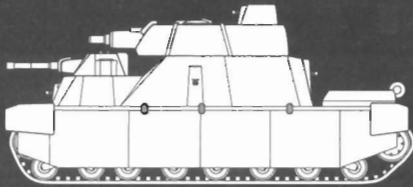
Year In Service:	1940	Maneuver:	-4	Armor:	20/40/60
Threat Value:	94	Fire Control:	-2	Movement:	Ground 2/4
Size:	12	Sensors:	None	Deployment Range:	80km
Crew:	7	Communications:	None		

PERKS & FLAWS

Buttoned Up, HEP: Cold Weather, Improved Off-Road, Inefficient Controls, Large Sensor Profile (R2), Overheating, Random Shutdown (R1), Reinforced Armor (R2, Front), Weak Armor Facing (Rear)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
76.2mm L/40.2	FF	5	10	20	40	0	x9	1	55	-
76.2mm L/40.2	FF	5	10	20	40	0	x9	1	55	-
47mm Model 40	T	3	6	12	24	0	x7	1	50	-
7.62mm LMG	T	1	2	4	8	0	x2	1	-	ROF2, AI, Coax
7.62mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI
7.62mm LMG	Rt	1	2	4	8	0	x2	1	-	ROF2, AI
7.62mm LMG	L	1	2	4	8	0	x2	1	-	ROF2, AI
7.62mm LMG	Rr	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	4000	-

T-44 SUPERHEAVY TANK VARIANT

T-44 Command, TV: 90	Year in Service: 1940

Add: Communications -1/3km; Change: LMG Ammo 2000

T-45 "Nikolai Tesla", TV: 78	Year in Service: 1941

Remove: 1 x 76.2mm L/40.2; 1 x 47mm Model 40
Add: 1 x EUEA Tesla Model 39; Hazardous Ammo/Fuel Supply

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Tesla Model 39	FF	2	4	8	16	0	x15	1	20	Haywire, AD1, PH3

T-45 Command, TV: 73	Year in Service: 1941

Remove: 1 x 76.2mm L/40.2; 1 x 47mm Model 40
Add: 1 x EUEA Tesla Model 39; Communications -1/3km; Hazardous Ammo/Fuel Supply

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Tesla Model 39	FF	2	4	8	16	0	x15	1	20	Haywire, AD1, PH3

Change: LMG Ammo 2000

GEAR KRIEG™
SU-76 TANK DESTROYER
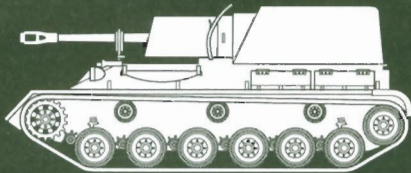
Year In Service:	1942	Maneuver:	-8	Armor:	9/18/27
Threat Value:	61	Fire Control:	-2	Movement:	Ground 3/5
Size:	7	Sensors:	None	Deployment Range:	450km
Crew:	4	Communications:	None		

PERKS & FLAWS

Exposed Crew, Improved Off-Road, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R2, Front), Stabilized Mount (76.2mm M1942)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Field Gun M1942*	FF	17	34	68	136	-3	x10	1	60	MR12, AE0, IF

* NOTE: This weapon may fire out to Artillery Range

GEAR KRIEG™
G-27 COMBAT WALKER
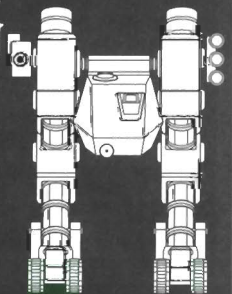
Year In Service:	1942	Maneuver:	-1	Armor:	9/18/27
Threat Value:	37	Fire Control:	-1	Movement:	Ground 3/6
Size:	7	Sensors:	None	Deployment Range:	100km
Crew:	2	Communications:	None		

PERKS & FLAWS

Buttoned Up, Hazardous Ammo/Fuel Supply, HEP: Cold Weather, Inefficient Controls, 2 x Manipulator Arms (R5, Punch), Overheating, Reinforced Armor (R1, Front), Weak Point (R1, Engine)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
18.2mm Model 1941	F	2	4	8	16	0	x5	1	9	ROF1
7.62mm LMG	FF	1	2	4	8	0	x2	1	250	ROF2, AI
Grenades	F	-	-	-	-	-1	x9	-	3	AI

VARIANT

G27-65, TV: 37	Year in Service: 1942 (late)

Remove: Overheating
Change: Deployment Range 120km

GEAR KRIEG™

BA-10 ARMORED CAR

Year In Service:	1937	Maneuver:	-2	Armor:	6/12/18
Threat Value:	25	Fire Control:	-2	Movement:	Ground 5/10
Size:	6	Sensors:	None	Deployment Range:	320km
Crew:	4	Communications:	None		

PERKS & FLAWS

Buttoned Up, HEP, Cold Weather, Improved Off-Road, Inefficient Controls

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
47mm Model 40	T	3	6	12	24	0	x7	1	50	-
7.62mm LMG	FF	1	2	4	8	0	x2	1	1500	ROF2, AI

GEAR KRIEG™

TYPE 95 "HA-GO"

Year In Service:	1935	Maneuver:	-3	Armor:	7/14/21
Threat Value:	27	Fire Control:	-2	Movement:	Ground 3/5
Size:	6	Sensors:	None	Deployment Range:	250km
Crew:	3	Communications:	None		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
37mm Type 94	T	2	4	8	16	0	x6	1	119	-
7.7mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI
7.7mm LMG	Rr	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	2970	-

GEAR KRIEG™

TYPE 97 "CHI-HA"
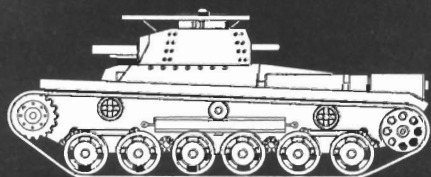
Year In Service:	1941	Maneuver:	-3	Armor:	9/18/27
Threat Value:	39	Fire Control:	-2	Movement:	Ground 2/4
Size:	8	Sensors:	None	Deployment Range:	210km
Crew:	4	Communications:	None		

PERKS & FLAWS

Buttoned Up, Inefficient Controls, Large Sensor Profile (R1), Reinforced Armor (R1, Front)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
47mm Type 1	T	4	8	16	32	0	x8	1	100	-
7.7mm LMG	FF	1	2	4	8	0	x2	1	-	ROF2, AI
7.7mm LMG	Rr	1	2	4	8	0	x2	1	-	ROF2, AI
MG Ammo Bin	-	-	-	-	-	-	-	-	2745	-

GEAR KRIEG™

SHIKI 38 WALKER
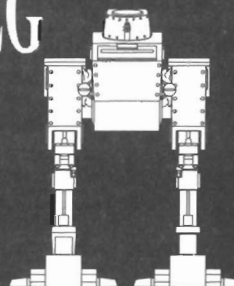
Year In Service:	1938	Maneuver:	-1	Armor:	8/16/24
Threat Value:	37	Fire Control:	-1	Movement:	Walk 2/4, Gr. 3/5
Size:	6	Sensors:	None	Deployment Range:	95km
Crew:	2	Communications:	None		

PERKS & FLAWS

Buttoned Up, Hazardous Ammo/Fuel Supply, Inefficient Controls, 2 x Manipulator Arms (R4, Punch), Poor Towing, Unstable, Weak Point (R1, Movement)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
Teppoyari	f	-	-	-	-	0	x12	-	1	-
7.7mm LMG	f	1	2	4	8	0	x2	1	100	ROF2, AI
7.7mm LMG	Rr	1	2	4	8	0	x2	1	100	ROF2, AI
Grenades	f	-	-	-	-	-1	x9	-	3	AI

VARIANT

| | Shiki 41, TV: 37 | Year in Service: 1938 | | | |

Remove: Unstable

Add: Amphibious; Reinforced Armor (R1, Front)

GEAR KRIEG™
TRUCK

Year In Service:	1939	Maneuver:		-3	Armor:	5/10/15
Threat Value:	6	Fire Control:		-3	Movement:	Ground 4/8
Size:	5	Sensors:		None	Deployment Range:	180km
Crew:	2	Communications:		None		

PERKS & FLAWS

Cargo Bay (16m³, Open Topped), Exposed Crew, Inefficient Controls, Poor Off Road

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
LMG	F	1	2	4	8	0	x2	1	200	ROF2, AI

GEAR KRIEG™
SMALL SCOUT CAR

Year In Service:	1940	Maneuver:		-1	Armor:	4/8/12
Threat Value:	7	Fire Control:		-3	Movement:	Ground 4/8
Size:	4	Sensors:		None	Deployment Range:	130km
Crew:	2	Communications:		None		

PERKS & FLAWS

Exposed Crew, Exposed FC, Passenger Seating (3)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
LMG	F	1	2	4	8	0	x2	1	300	ROF2, AI

GEAR KRIEG™
ARTILLERY TRACTOR/ PRIME MOVER

Year In Service:	1940	Maneuver:		-3	Armor:	6/12/18
Threat Value:	7	Fire Control:		-3	Movement:	Ground 3/6
Size:	7	Sensors:		None	Deployment Range:	200km
Crew:	2	Communications:		None		

PERKS & FLAWS

Cargo Bay (16m³, Open Topped), Exposed Crew, Inefficient Controls, Large Sensor Profile (R1)

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
LMG	F	1	2	4	8	0	x2	1	200	ROF2, AI

VARIANTS

	Heavy Version, TV: 7	Year in Service: 1940

Add: Double Towing Capacity

Tank Gun AP Ammo

The following guns may buy Armor-Piercing ammo, which uses the DM indicated. The gun's Base Range is one point lower than usual when AP ammo is fired.

AP ammo costs 2 additional TV points and co-verts 20% of the ammo the tank carries into AP shots. It is available in 1941 or the year the tank is introduced, which ever is later.

Weapon	DM
2cm KwK 30/38 AP40	x6
3.7cm KwK L46.5 AP40	x8
5cm KwK 38 L/42 AP40	x10
5cm KwK 39 L/60 AP40	x11
7.5cm KwK 42 L/70	x14
8.8cm KwK 36 L/56	x13
17-pdr APDS	x14
76mm M1 HVAP	x12

GEAR KRIEG™

BY DREAM POD 9

Year In Service:	Maneuver:	Armor:
Threat Value:	Fire Control:	Movement:
Size:	Sensors:	Deployment Range:
Crew:	Communications:	

PERKS & FLAWS

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec

GEAR KRIEG™

BY DREAM POD 9

Year In Service:	Maneuver:	Armor:
Threat Value:	Fire Control:	Movement:
Size:	Sensors:	Deployment Range:
Crew:	Communications:	

PERKS & FLAWS

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec

GEAR KRIEG™

BY DREAM POD 9

Year In Service:	Maneuver:	Armor:
Threat Value:	Fire Control:	Movement:
Size:	Sensors:	Deployment Range:
Crew:	Communications:	

PERKS & FLAWS

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec

Anti-Tank Guns

Weapon*	Nationality	Year	Range	DM	Cost	Size
37mm ATG	USA	1941	3/6/12/24	x7	13	6
3in ATG	USA	1942	5/10/20/40	x10	19	10
Ordinance, Q.F., 2-pdr	CW	1939	3/6/12/24	x8	15	6
Ordinance, Q.F., 6-pdr	CW, USA	1941	4/8/16/32	x9	17	7
Ordinance, Q.F., 17-pdr**	CW	1942	5/10/20/40	x11/x14	21	10
45mm	USSR	1932	4/8/16/32	x9	17	6
76.2mm AT Gun**	USSR, Gr	1939	6/12/24/48	x11/x12	22	9
3.7cm Pak 35/36**	Gr	1935	3/6/12/24	x7/x8	13	5
5cm Pak 38**	Gr	1940	4/8/16/32	x8/x11	15	7
7.5cm Pak 40**	Gr	1940	6/12/24/48	x11/x12	22	8
8.8cm Pak 43**	Gr	1943	6/12/24/48	x14/x16	29	12
2.8cm sPzB41	Gr	1941	2/4/8/16	x9	16	4
4.2cm lePak 41	Gr	1941	3/6/12/24	x10	18	5
7.5cm Pak 41	Gr	1941	5/10/20/40	x14	28	8
Skoda 47mm vz36	Cz, Gr	1936	4/8/16/32	x7	14	6
Bohler 4.7cm	Aus, Gr	1935	3/6/12/24	x7	13	5
47mm ATG Type 1	Jp	1941	4/8/16/32	x8	15	6
47mm Cannon	It	1938	3/6/12/24	x9	16	5

*All weapons have Accuracy 0, ROF 0, 50 shots.

** These guns may buy AP ammo, which uses the DM to the right of the slash. Purchasing AP ammo costs 2 additional TV points and provides 20 shots of AP ammo and 30 shots of normal ammo (replacing the normal 50 shots). The gun's Base Range is one point lower than usual when AP ammo is fired. The ammo is available in 1941 or the year the gun is introduced, which ever is later. Only the Germans may use AP shot in the 76.2mm T Gun.

GEAR KRIEG™
ANTI-TANK GUN CARRIAGE

Year In Service:		*	Maneuver:	-10	Armor:	3/6/9
Threat Value:		*	Fire Control:	-2	Movement:	Ground (Towed)
Size:		*	Sensors:	n/a	Deployment Range:	n/a
Crew:		4	Communications:	n/a		

PERKS & FLAWS

Reinforced Armor (R2, Front), Exposed Crew, Rugged Movement System, Exposed Fire Control

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
*										

*Pick one weapon from the table above.

GEAR KRIEG™
ANTI-TANK GUN CARRIAGE

Year In Service:		*	Maneuver:	-10	Armor:	3/6/9
Threat Value:		*	Fire Control:	-2	Movement:	Ground (Towed)
Size:		*	Sensors:	n/a	Deployment Range:	n/a
Crew:		4	Communications:	n/a		

PERKS & FLAWS

Reinforced Armor (R2, Front), Exposed Crew, Rugged Movement System, Exposed Fire Control

WEAPONS

Name	Arc	S	M	L	Ex	Acc	DM	#	Ammo	Spec
*										

*Pick one weapon from the table above.

VEHICLES CAMPAIGN REPAIR AND SUPPLY THRESHOLDS

TANK GUNS

Name	'39	'40	'41	'42	'43	'44
37mm ATG	-	-	6/4	6/4	6/4	6/4
3in ATG	-	-	-	8/6	6/4	6/4
Ordinance, Q.F., 2-pdr	6/4	6/4	6/4	6/4	7/3	7/3
Ordinance, Q.F., 6-pdr	-	-	6/4	6/4	6/4	7/3
Ordinance, Q.F., 17-pdr	-	-	-	7/5	6/4	6/4
76.2mm AT Gun	6/4	6/4	6/4	6/4	6/4	6/4
3.7cm Pak 35/36	6/4	6/4	7/3	7/3	7/3	7/3
5cm Pak 38	-	7/5	7/5	6/4	6/4	6/4
7.5cm Pak 40	-	8/6	7/5	6/4	6/4	6/4
8.8cm Pak 43	-	-	-	-	6/4	6/4
2.8cm sPzB41	-	-	8/6	8/6	8/6	8/6
4.2cm lePak 41	-	-	8/6	8/6	8/6	8/6
7.5cm Pak 41	-	-	8/6	8/6	8/6	8/6
Skoda 47mm vz36	7/5	7/5	7/5	7/5	7/7	7/7
Bohler 4.7cm	7/5	7/5	7/5	7/5	7/7	7/7
47mm ATG Type 1	-	-	6/4	6/4	6/4	6/4
47mm Cannon	6/4	6/4	6/4	7/3	7/3	7/3

VEHICLES

NAME	'39	'40	'41	'42	'43	'44
PzKpfw I Ausf B	4/4	4/5	5/3	5/3	6/6	7/7
PzKpfw II Ausf B1	-	4/5	5/5	5/6	5/7	6/8
PzKpfw II Ausf C	-	4/5	5/6	5/7	5/8	6/8
PzKpfw II Ausf D	-	4/5	5/6	5/7	5/8	6/8
PzKpfw II Ausf E "Flamingo"	-	7/7	7/7	7/8	7/8	8/8
PzKpfw II Ausf F	-	4/6	5/6	5/7	5/7	5/8
PzKpfw 38(t) Ausf A	6/7	5/6	5/6	5/7	6/7	7/8
PzKpfw 38(t) Ausf D	6/7	5/6	5/6	5/6	6/7	6/8
Befehswagon	6/7	5/6	5/6	5/6	6/7	6/8
PzKpfw III Ausf E	-	6/7	6/7	6/7	7/8	7/8
PzKpfw III Command	-	7/7	7/7	7/7	7/8	7/8
PzKpfw III Ausf F	-	-	5/6	6/7	6/7	7/8
PzKpfw III Ausf J	-	-	-	5/6	5/7	5/7
StuG C	-	-	5/6	4/6	5/6	6/7
PzKpfw IV Ausf F	-	-	6/6	4/6	6/6	7/7
"PzKpfw V Ausf D "Panther"	-	-	-	-	4/6	5/6
PzKpfw V Ausf G	-	-	-	-	-	4/6
PzKpfw VI Ausf E "Tiger"	-	-	-	-	6/7	6/7
PzKpfw VI Ausf EXS	-	-	-	-	8/8	8/8
Wespe	-	-	-	6/7	4/6	4/6
Brummbär SP (Gr)	-	-	-	-	5/7	5/7
15cm Panzerwerfer 42 (SdKfz 4/1)	-	-	-	6/8	6/7	6/7
PzK IV Ausf A "Loki"	5/6	5/6	5/7	6/7	6/8	7/8
PzK IV Ausf B	-	6/6	6/6	6/7	6/7	6/8
PzK IV Ausf C	-	-	6/6	6/6	6/7	6/7

NAME	'39	'40	'41	'42	'43	'44
PzK V Ausf A "Valkurie"	-	5/6	5/6	6/7	6/7	7/8
PzK V Ausf B	-	-	6/6	6/6	6/7	7/8
PzK V Ausf C	-	-	6/6	6/6	6/7	7/8
PzK VI Ausf E "Donner"	-	-	-	6/7	6/7	6/7
PzK VI Ausf F	-	-	-	6/7	6/7	6/7
PzK VII Ausf A "Uller"	-	-	-	-	7/7	7/7
PzK VII Uller "heulende Kuh"	-	-	-	-	7/8	7/8
Schwimmwagen	5/4	5/4	5/4	5/4	5/4	5/4
SdKfz 2 kleines Kettenrad	-	6/5	5/5	6/5	7/5	8/6
SdKfz 222 Armored Car	6/5	6/5	6/5	5/5	5/5	6/5
SdKfz 223 Armored Car	6/6	6/6	6/6	6/5	6/5	6/5
SdKfz 231 (8-Rad)	5/7	5/6	5/6	5/7	6/7	6/8
SdKfz 250/1	-	4/5	4/5	4/5	5/5	5/5
SdKfz 250/3	-	5/5	5/5	5/5	6/5	6/6
SdKfz 250/6	-	-	5/5	5/5	5/5	5/5
SdKfz 250/7	-	-	4/5	4/5	5/5	5/5
SdKfz 250/8	-	-	-	6/7	7/7	7/7
SdKfz 250/9	-	-	-	8/7	6/5	6/5
SdKfz 250/12	-	-	-	6/5	6/5	7/6
SdKfz 251/1	-	4/4	4/4	4/5	4/5	4/5
SdKfz 251/1 "Stuka-zu-Fuss"	-	7/7	7/7	6/7	6/7	6/7
SdKfz 251/2	-	5/5	5/5	5/5	5/6	5/6
SdKfz 251/3	-	5/5	5/5	5/5	5/5	5/5
SdKfz 251/7	-	6/5	6/5	6/5	6/5	6/5
SdKfz 251/10	-	6/5	6/5	7/6	7/6	7/6
SdKfz 251/12	-	-	-	7/6	8/6	9/6
SdKfz 251/16	-	-	-	-	8/8	8/7
Sd Kfz 251/20 "UHU"	-	-	-	-	8/7	8/7
SdKfz 312 "Spinner"	-	-	5/7	5/8	6/8	7/8
SdKfz 314 "Spinner Zwei"	-	-	5/7	5/7	5/8	6/8
SdKfz 330 Ausf A	-	-	6/7	6/6	7/6	7/6
Inf. Tank Mk II "Matilda (II)"	4/4	4/4	4/4	4/4	5/3	5/3
Inf. Tank Mk II "Matilda CDL"	-	8/7	6/5	7/6	8/7	8/7
Inf. Tank Mk II "Matilda Scorpion"	-	-	-	7/7	6/6	5/6
Inf. Tank Mk III "Valentine I"	-	4/4	4/4	5/4	6/5	6/5
Inf. Tank Mk III "Valentine II"	-	4/4	4/4	5/4	6/5	6/5
Inf. Tank Mk III "Valentine III"	-	-	-	-	5/5	5/5
Inf. Tank Mk III "Valentine VII"	-	-	-	-	5/5	5/5
Inf. Tank Mk III "Valentine IX"	-	-	-	-	6/5	6/5
Inf. Tank Mk III "Valentine B-layer"	-	-	-	-	8/7	8/7
Archer SP Gun	-	-	-	-	-	6/6
Inf. Tank Mk IV "Churchill I"	-	-	6/5	5/6	6/7	7/7
Inf. Tank Mk IV "Chruchill IV"	-	-	-	5/5	4/5	5/6
Inf. Tank Mk IV "Churchill VII"	-	-	-	-	-	5/5
Inf. Tank Mk IV "Churchill AVRE"	-	-	-	-	-	6/7
Inf. Tank Mk IV "Crocodile"	-	-	-	-	7/8	7/8

NAME	'39	'40	'41	'42	'43	'44
Inf. Tank Mk IV "Churchill B-layer"	-	-	-	-	-	8/7
Inf. Tank Mk IV "Churchill Mat"	-	-	-	6/7	5/6	5/6
Inf. Tank Mk IV "Churchill Fascine"	-	-	-	6/7	5/6	5/6
Cruiser Tank Mk III (A13)	7/7	8/8	8/8	9/8	9/8	10/9
Cruiser Tank Mk IV (A13 MkII)	6/5	6/5	7/5	7/6	8/6	8/7
Cruiser Tank Mk VI "Crusader I"	4/4	5/5	5/5	6/5	7/5	7/6
Cruiser Tank Mk VI "Crusader II"	-	5/4	4/4	5/4	6/4	6/5
Cruiser Tank Mk VI "Crusader III"	-	-	5/4	4/4	5/4	5/5
Bren Carrier	-	5/4	4/4	5/4	6/4	7/4
Inf. Walker Mk VIIIA "Cavalier I"	-	5/7	5/6	5/7	6/8	7/8
Inf. Walker Mk VIIIB "Cavalier II"	-	5/7	5/6	5/7	6/8	7/8
Inf. Walker Mk VIIIC "Cavalier III"	-	-	6/6	6/6	6/7	7/8
Inf. Walker Mk VIIID "Cavalier IV"	-	-	6/6	6/6	6/7	7/8
Inf. Walker MV12A "Roundhead I"	-	-	5/6	5/6	6/7	6/7
In. Walker MV12B "Roundhead II"	-	-	6/6	6/6	7/7	7/7
Inf. Walker MV12C "Roundhead III"	-	-	7/7	7/7	7/8	8/8
Inf. Walker MV12D "Roundhead IV"	-	-	-	6/7	6/6	6/7
Inf. Walker MV12E "Roundhead V"	-	-	-	-	7/8	7/7
Inf. Quadruped Mk I "Wagsworth"	-	-	6/8	6/7	6/7	6/8
Inf. Quadruped Mk II "Bulldog"	-	-	-	7/7	6/7	6/7
Inf. Quadruped Mk II "B. Bulldog"	-	-	-	-	7/8	7/8
Bulldog AWRE	-	-	-	-	6/8	6/8
Humber MkII	-	6/6	5/5	5/5	6/5	7/5
Marmon Herrington Car MkII	-	6/5	7/5	7/6	8/7	8/8
Daimler Armoured Car	-	-	6/6	5/5	5/5	4/5
"Pink Panther" LDRG Truck	-	5/5	5/5	5/5	5/5	5/5
"Pink Panther" SAS Jeep	-	5/5	5/5	5/5	5/5	5/5
M3A1 Stuart/Mk IV "Honey"	-	-	4/4	4/4	5/5	6/5
M3A5 Medium Tank/ "Grant II"	-	-	4/4	4/4	5/5	6/5
"Grant CDL"	-	-	-	-	7/6	7/6
"Grant CDL II"	-	-	-	-	-	8/7
M4A1 Sherman	-	-	4/4	4/4	4/4	4/4
M4A2	-	-	4/4	4/4	4/4	4/4
M4A3	-	-	-	5/5	5/5	5/5
M4A6	-	-	-	6/6	6/7	7/7
T10 Mine Exploder Tank	-	-	-	-	8/8	9/9
Sherman Crab	-	-	-	-	-	8/7
M4 w/M1 Bulldozer Kit	-	-	-	6/7	5/6	5/6
M4 "Calliope"	-	-	-	-	-	7/7
M10 Tank Destoyer/"Wolverine"	-	-	-	5/6	5/6	5/6
M11A1 General Early	6/8	5/7	5/6	5/7	6/8	7/8
M11A2	-	6/7	6/6	6/7	6/8	7/8
M11A3	-	-	6/6	6/6	6/7	6/7
M12A1 General Longstreet	-	-	7/7	6/7	6/7	7/8
M12A2	-	-	8/8	7/7	7/8	8/8
M12A1 with T72E2 Launcher	-	-	-	-	-	8/8
Longstreet Artillery Mate	-	-	-	6/8	6/8	7/8
M14A1 General Jackson	-	-	-	-	8/8	7/7

NAME	'39	'40	'41	'42	'43	'44
M14A2	-	-	-	-	8/8	7/7
Tucker APC	-	-	5/6	4/5	4/5	5/6
Tucker .50	-	-	5/6	5/5	5/5	5/6
M3 Halftrack	-	4/4	4/4	4/4	4/4	4/4
M7 "Priest" Howitzer Carriage	-	-	5/5	5/4	6/5	7/5
M8 "Greyhound" Armored Car	-	-	-	-	4/4	4/4
M20 Armored Car	-	-	-	-	4/4	4/4
M29 Studebaker "Weasel"	-	-	-	-	6/5	6/4
M29C	-	-	-	-	6/6	6/5
DUKW	-	-	-	4/4	4/4	4/4
Fiat L6/40	-	6/5	6/5	6/6	7/6	7/6
L6/40 with Flamethrower	-	8/7	8/7	8/8	9/8	9/8
L6/40 Command	-	7/6	7/6	7/7	8/7	8/7
Semovente L40 47/32	-	7/7	7/7	7/8	8/8	8/8
Fiat M13/40 Medium Tank	-	7/5	6/5	7/5	8/6	8/7
M40 Semovante Commando	-	7/6	7/6	8/6	8/7	8/8
Autoblinda 40 Armored Car	7/7	6/5	5/5	5/5	6/5	7/6
Autoblina 41 Armored Car	-	-	6/6	5/5	6/5	7/6
LC1/40 Light Walker	-	6/7	5/7	5/7	6/8	8/8
LC42 47/32 Walker	-	-	-	6/7	5/7	6/7
Char B1-bis	7/7	7/8	8/8	8/8	9/8	9/8
Panzer B2(F)	-	-	8/7	8/8	9/8	9/8
Char AMX-42A "Grognard"	9/10	10/10	11/11	11/11	11/11	11/11
BT-7	5/5	6/6	7/7	9/9	10/10	10/10
T34/76A	8/8	7/6	5/5	5/5	5/6	6/6
T34/76A Command	9/8	8/7	6/5	6/5	6/6	7/6
T34/76B	-	-	6/5	5/5	5/5	5/5
T34/76B Command	-	-	7/5	6/5	6/5	6/5
KV-1C	-	6/6	5/5	5/5	5/5	5/5
KV-IIA	-	6/6	6/5	7/6	7/7	7/7
KV-IIC	-	-	10/10	8/8	8/8	8/8
T-44 "Nikolai Lenin"	-	6/6	6/6	8/8	9/8	10/9
T-44 Command	-	7/7	7/7	9/9	10/9	10/10
T-45 "Nikolai Tesla"	-	-	9/9	8/8	9/9	10/10
T-45 Command	-	-	10/10	9/9	10/10	10/10
SU-76	-	-	-	7/6	6/5	7/5
G27	-	-	-	8/8	7/8	7/8
G27-65	-	-	-	7/8	7/7	7/7
BA-10 Armored Car	6/6	6/6	7/6	7/7	8/7	8/8
Type 95 "Ha-Go"	7/6	6/6	6/6	6/6	6/6	7/6
Type 97 "Chi-Ha"	-	-	6/5	5/5	5/5	6/5
Shiki 38 - main	7/8	6/7	6/7	6/8	7/8	7/8
Shiki 41	-	-	6/7	6/6	6/7	6/8
Truck	4/4	4/4	4/4	4/4	4/4	4/4
Small Scout Car (Jeep, etc.)	-	4/4	4/4	4/4	4/4	4/4
Artillery Tractor/Prime Mover	-	4/5	4/5	4/5	4/5	4/5
Tractor Heavy Version	-	4/5	4/5	4/5	4/5	4/5

Supply, Repair & Recruitment Chart

Force	Year	Africa	Atlantic	E. Europe	Middle East	N. Med	Pacific	Scandinavia	W. Europe
Germany	1939	-	0	1	-	-	-	-	2
	1940	-	1	1/2	-	-	-	-	2
	1941	1	2/1	1/2	0	-	-	0	1/2
	1942	0	1	1/2	-1/0	0	-	1	1/2
	1943	-1	0	1	-1	1	-	0	1/2
	1944	-	0	0	-2/-1	0	-	-1	0/2
Cwealth	1939	-	1	-	0/1	-	-	-	0/1
	1940	-1/0	0	-	0/1	-	-	-	0/1
	1941	-1/0	-1/0	0	-1/0	-	-	-	-
	1942	0	-1/0	0	0	-	0/1	-	-
	1943	1	0	-	0	0	1	-	-
	1944	-	0	-	0	0	1	-	-
USA	1939	-	-	-	-	-	-	-	-
	1940	-	-	-	-	-	-	-	-
	1941	-	-	-	-	-	-	-	-
	1942	2	1	-	-	-	1	-	-
	1943	1	2	-	0/-1	0/1	2	-	0
	1944	-	2	-	0	1/2	2	-	2
USSR	1939	-	-	0/1	-	0	0/1	0/1	-
	1940	-	-	0/1	-	0	0/1	0/1	-
	1941	-	-	0/1	0/1	0	0/1	0/1	-
	1942	-	-	1/2	-1/0	0	0/1	-1/0	-
	1943	-	-	1/2	-1/0	0	0/1	0/1	-
	1944	-	-	1/2	0/1	0	0/1	0/1	-
Japan	1939	-	-	-	-	-	2/3	-	-
	1940	-	-	-	-	-	2/3	-	-
	1941	-	-	-	0/1	-	1/2	-	-
	1942	-	-	-	0/1	-	1/2	-	-
	1943	-	-	-	0/1	-	0/1	-	-
	1944	-	-	-	-1/0	-	0/1	-	-
Italy	1939	-	0	-	-	-	-	-	-
	1940	1	0	-	-	0/1	-	-	-
	1941	0	-1	-	0	0/1	-	-	-
	1942	-1	-1	-	-1/0	-1/0	-	-	-
	1943	-2	-2/-1	-	-2/-1	-2/-1	-	-	-
	1944	-	-	-	-	-	-	-	-
Free French	1939	1	0	-	-	-/1	-	-	-1/1
	1940	0	0	-	-	0	-	-	-1/0
	1941	0	-1	-	-	0/-	-	-	-
	1942	0	-1/-2	-	-	-1/-2	-	-	-
	1943	1	-2/-1	-	-	-2/-1	-	-	-/-1
	1944	0/1	-/0	-	-	-/0	-	-	-/-1
Vichy French	1939	-	-	-	-	-	-	-	-
	1940	0	-/0	-	-	0	-	-	-/0
	1941	0	-1	-	-	0	-	-	-1/1
	1942	-1	-1	-	-	-1/0	-	-	0/1
	1943	-2	-2	-	-	-1/0	-	-	0
	1944	-	-	-	-	-1/0	-	-	-1/0

THE COMBAT TURN

Step Zero:	Set-up Phase
Step One:	Declaration Phase
Step Two:	Initiative Phase
Step Three:	Activation Phase
Step Four:	Miscellaneous Events Phase

Repeat Steps One to Four until each Combat Group has had the opportunity to move and act. A Combat Group may only move and act once per combat turn. If one Player no longer has any Combat Groups left to use, he skips his phases until the end of the combat turn.

ACTION EXAMPLES

Among possible combat Actions (Tactical Scale):

- Fire one weapon once
- Fire one set of linked weapons once
- Embark/disembark one (1) crewman
- Embark/disembark passengers equal to Size
- Perform a physical attack (ramming, kicking, etc...)
- Activate an auxiliary system (ECM, active sensors scanning, communication, etc.)

TERRAIN COSTS

Terrain Type	Infantry	Walk	Ground	Obsc.
Clear	1	1	1	0
Rough/Rubble	1	1	2	0
Sand/Dust	2	2D	2D	0
Woods	1	1D	2D	1
Jungle	2	2D	3D	2
Swamp	1D	3D	4D	1
Urban†	1	1	1	1
Dense Urban†	1	1	2	2
Water (Low)*	2	2	3	0
30° Slope**	+4	2	2	-

* = Only Amphibious units may enter. Others will automatically be put out of action. Amphibious units cannot enter or exit this terrain while moving at Top Speed.

** = Slopes add to the cost of the surrounding terrain. Units hull down are assumed to be located behind the elevation.

D = Terrain Marked 'D' requires a Dangerous Terrain Test.

†Damage Point Cap.: 80 for Urban, 100 for Dense Urban.

DETECTION MODIFIERS

Attacker's Detection Threshold

Passive Sensor Value:	Crew Skill + Sensor Rating
	or Visual Value 4 (day) / 2 (night)

Defender's Concealment Threshold

Terrain Obscurement:	See Terrain Table

Range Modifier:

Short (< or = Vehicle Size)	0
Medium (< or = Size x 2)	-1
Long (< or = Size x 4)	-2
Extreme (< or = Size x 8)	-3

(Walkers count as twice their Size when in Walk mode.)

If Concealment Threshold > Detection Threshold, the target is not detected.

ATTACK ROLL

Roll Gunnery Skill/Attribute plus these modifiers:

- Fire Control

The Fire Control Rating of the vehicle

- Weapon Accuracy

The Accuracy Rating of the weapon

- Range

Point Blank	+1	Long	-2
Short	+0	Extreme	-3
Medium	-1		

- Attacker's Movement

Stationary	+2	Combat Speed	+0
Half Combat Speed or less	+1	Top Speed	-3

- Minus the Obscurement Total

DEFENSE ROLL

Roll Piloting Skill plus these modifiers:

- Maneuver

The Maneuver Rating of the vehicle

- Defender's Movement

MUs Moved	Modifier	MUs Moved	Modifier
0	-3	7-9	+1
1-2	-2	10-19	+2
3-4	-1	20-99	+3
5-6	+0	100-999	+4

- Arc of Attack

Attack is from Front	-0	Attack is from Rear	-2
Attack is from Rear Flank	-1		

DAMAGE VS. ARMOR

Damage	Outcome	What happens
Dam. < Armor	No Effect	Nothing; armor is merely scratched
Dam. = or > Armor	Light Dam.	-1 Armor; Roll on Syst. Damage Table
Dam. = or > Armor x 2	Heavy Dam.	-2 Armor; Roll on Syst. Damage Table
Dam. = or > Armor x 3	Overkill	Vehicle Destroyed

INFANTRY HIT LOCATION

Die Roll	Start at Trooper#	Direction
1	1	Down
2	3	Down
3	5	Down
4	6	Up
5	8	Up
6	0	Up

INFANTRY ROF

Min. Number of Troopers w/Weapon	ROF bonus
1	0
2	+1
4	+2
8	+3

SYSTEMS DAMAGE

Die	System	Light Damage	Heavy Damage
1	Fire Control	SubTable A	Roll on SubTable A; add +1
2	Structure	SubTable B	Roll on SubTable B; add +1
3	Crew	Crew stunned*	10% Casualties, min 1.
4	Movement	-1 MP	1/2 remaining MP (round down) & -2 Maneuver
5	Auxiliary Syst.	-1 to 1d6 Aux. systems	1d6 Auxiliary systems destroyed
6	Roll Twice on this table		

*-1 Action for 1 turn

SUBTABLE A: FIRE CONTROL DAMAGE

1	-1 to a single Weapon
2	-2 to a single Weapon
3	-1 to all Weapons
4	Single Weapon destroyed
5	Fire Control system destroyed (-5 to attacks)
6	Roll Twice on this table
7	Ammunition/Fuel Hit — roll 1 die:
	1-3 Ammo Storage and Fuel Tank Ruptured (vehicle cannot more or fire weapons)
	4-6 Chain Reaction! Ammo and Fuel Explodes! (Vehicle Destroyed and Crew Killed)

SUBTABLE B: STRUCTURAL DAMAGE

1	-1 MP
2	1/2 remaining MP (round down)
3	-1 to Maneuver
4	-2 to Maneuver
5	Power transfer failure; No movement
6	Catastrophic crew compartment failure, 75% casualties, minimum 1
7	Complete structural failure; vehicle is destroyed, but crew survives

TACTICAL SYSTEM FUMBLE EFFECTS

Situation	Fumble Effect
Initiative	lose automatically; if both fumble, reroll
Attack	miss automatically
Defense	hit automatically unless attack also fumbles; for damage purposes treat roll as 0
Active Sensors	fail to achieve LOS automatically
High Speed 180° turn	crash; take Light (1-4) or Heavy (5-6) damage

RAMMING

Ramming Direction	Impact Speed
Head On	Attacker Speed + Defender Speed
Side	(Attacker Speed + Defender Speed)/2 (round up)
Rear	Attacker Speed - Defender Speed

IMPACT SPEED MODIFIERS

Impact Speed	Damage Modifier
1-2	-2
3-4	-1
5-6	+0
7-9	+1
10-19	+2
20-99	+3
100-999	+4

Campaign Record Sheet

Player Name:			Total Victory Points Awarded:	
TV:		Force:	Victory Points Spent:	
Year:		Theater:	Remaining Victory Points:	
Modifiers Supply/Repair:		Recruitment:	# of Scenario's in Campaign:	# Won:
Extra Supplies: OOOOOOOOOOOOOOOOOOOOOO				
Special Rules:				

Infantry

Type	Designation	Quality	TV	Command?	F.O.?	# of Scenarios

Vehicles

Type	Designation	Quality	TV	Command?	F.O.?	# of Scenarios

Support

Type	#	Quality	TV		Type	#	Quality	TV

Scenario Results Record Sheet

SCENARIOS											
Order	TV	Type	Objective	Time Limit	Ext. Condition	Scouting	Troops	Support	Win/Lose	VP	SupplyRoll

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