Tanks and Armored Warfare Doctrine: World War II

Several of the belligerents used both tanks and armored cars in combat in World War I, but it was in World War II that the potential for mobility, firepower, and protection of tanks and other armored fighting vehicles came into its own. In World War I, armored vehicles supported infantry; in World War II, the tank became the centerpiece of armored warfare.

As World War II began, the structure of armored forces depended much on the philosophy driving a country's mechanization efforts. Germany had been particularly active in spite of treaty restrictions. Working secretly with the Soviet Union as early as 1922, Germany led the world in the development of an all-arms armored fighting force, with the role of other weapons subordinated to the requirements of tanks. An important part of emerging German armor doctrine was that offensive tanks should detour around the strong points of enemy defense.

Meanwhile, as late as the end of the 1930s, the British General Staff believed that breakthroughs would be accomplished by infantry supported by tanks and that tank units would be used only to exploit success. In France, although there was a move toward mechanization, most tanks were in separate tank battalions designed to support infantry. In the United States, progress was limited by both budgets and branch jealousy. Tanks were assigned to the infantry, and mechanization of the cavalry was slow. Having learned with the Germans the value of integrated mechanized arms, the Soviet army, initially developing a combined-arms armored force along with Germany, took a giant step backward with Josef Stalin's purge of most senior army officers. When war came, Germany's success in Poland and later in France brought widespread realization of the effectiveness of all-arms armored warfare.

During World War II, armored forces played a role in every theater, but the impact of armored warfare was most evident in Poland in 1939, in France in 1940, on the Eastern Front, in North Africa, and in Western Europe during 1944 and 1945. Difficult terrain limited the importance of armored forces in other theaters.

The German invasion of Poland on September 1, 1939 and its blitzkrieg tactics opened the eyes of the world. Germany attacked with a force of 54 divisions, six of them armored and four mechanized. With 3,195 tanks, as well as a supporting fleet of 1,538 combat aircraft, in a matter of a few weeks the German army overwhelmed Polish defenses. Learning from operations in Poland, the German army assigned each armored (panzer) division its own air force element. The Germans also learned that truck-mounted infantry could not accompany tanks cross-country or survive even infantry fire. Accompanying infantry required cross-country mobility and some armor protection.

In 1940, save for the Soviet Union, France had the strongest armored force in the world, but France failed to learn from German experience. Most French tanks remained dispersed among infantry formations. The British had created an armored division, but it was never deployed to France, where only one armored brigade joined the British Expeditionary Force (BEF). The Allied defensive strategy in the west was based on an assumption that Germany would attack through the Low Countries, and forces were deployed to meet that expectation. On May 10, 1940, however, Germany struck through the Ardennes toward the Meuse near Sudan, planning to then swing northwest in a wide arc toward the coast.
In spite of the superior armor and firepower of many British and French tanks, the combined-arms attack of the German *panzer* divisions, well supported by close air support, reached the English Channel by the end of May. By early June, following the evacuation of the BEF and some French forces from Dunkerque, the German army turned its forces south. By the end of June, Germany had defeated France. German armored forces—employed in mass, using surprise, aiming at weak points, and well supported by aircraft—had enjoyed rapid success.

Following the defeat of France, British leaders realized the necessity of building an armored force sufficient to counter German armor, especially as the war had then extended into North Africa when Italy attacked Egypt. British Prime Minister Winston Churchill directed a British goal of ten armored divisions by the end of 1941. The government quickly ordered 4,000 tanks from a variety of sources.

The focus of armored warfare next shifted to North Africa, where on September 13, 1940, Italian forces in Libya launched an offensive against British forces in Egypt. The weak British forces, including only one tank battalion and totaling 36,000 men, were pushed back, but the Italian force was exhausted after a 60-mile advance. By December the British were able to launch a successful counterattack, using speed and surprise, with a force that included the 7th Armored Division (only the second to form) and the well-trained Indian 4th Infantry Division. The Italian force was shattered. However, to save his ally from defeat in Libya, Adolf Hitler organized and dispatched the Afrika Korps under Lieutenant General Erwin Rommel. Outmaneuvering the British, Rommel drove them back to Egypt. Through 1941 and most of 1942, the war in the African desert swung back and forth.

German tanks were superior to British tanks, even when the British received tanks from the United States, but British tanks outnumbered German tanks. Rommel also used antitank guns as an integral part of his operations, especially the powerful 88-mm antiaircraft gun in a new role as a highly effective antitank gun. Logistics for both sides were difficult, particularly for Germany and Italy, given Britain's nearly complete control of the Mediterranean. Armored combat in Africa was characterized by rapid movement over long distances and close-in violent fighting when forces met.

Meanwhile, both the Soviet Union and the United States used the experiences of combat in France to rethink their armored forces. The Soviets stopped considering tanks to be useful solely for infantry support, and they started a rapid buildup of armored and mechanized units built on the German pattern. In the United States, the Armored Force was created in July 1940; it placed all armored units under one command. New tanks were designed, and production increased. Two all-arms armored divisions were formed, with three more soon to follow. Ambitious plans of the Armored Force, however, were greatly reduced by the commander of Army Ground Forces Lieutenant General Leslie J. McNair, who believed that infantry and artillery would be the key to success. The army planned for only about 10 percent of its divisions to be armored. Each corps would also have a group of tank battalions for infantry division support.

On June 22, 1941, Germany attacked the Soviet Union. The scale of armored warfare in this theater would dwarf other armored operations. The Germans attacked with 3,200 tanks; the Soviets defended with 20,000. But Germany planned to use the same *blitzkrieg* tactics of deep armored thrusts that had been successful in France, and it could select the points of attack. Although the attack was led by 25 *panzer* divisions, it is worth noting that the invading army also included 750,000 horses.

Within weeks, the Soviets had been driven back 200-400 miles; they suffered massive losses as units were surrounded and captured. By mid-July, however, the Soviet defenders began to employ special tactics to repel the invaders. If a German armored spearhead broke through the lines, the Soviets, instead of retreating, closed in on both flanks to try to halt the flow, while other units took up defensive positions to the rear. Large reserve armored units would then attack the German flanks. In addition, the Soviets set up antitank guns and sowed large minefields.
along expected axes of German advance.

Nevertheless, it was August before the German advance slowed. On November 19, the Soviets were able to launch a counteroffensive. Inexperienced in the use of mass tank offensive operations, Soviet commanders often failed in their attacks, but by the end of 1941 the Germans were on the defensive. By mid-January 1942, tactical defeats suffered by the Germans threatened to develop into a strategic disaster. Creating and holding a series of strong points, the Germans were able to stabilize the front by March. Several weeks of muddy conditions then held both armies in place. By then, the Soviets had realized any continued offensive would require large massed armored formations, which they created in the form of armored and mechanized corps.

Germany was able to launch offensives in the summers of 1942 and 1943, but the relative strength of the two combatants was changing. On July 4, 1943 German forces, having concentrated most of their Eastern Front armor, attacked the 50-mile-deep Kursk salient, hoping to eliminate it and to cripple Soviet offensive capability. The Soviets were aware of the German plans and prepared a defense in depth marked by an intricate system of minefields and antitank defenses. In the greatest tank battle of all time, the Soviets yielded ground skillfully and launched strong counterattacks. By July 23, the Soviets had defeated the German offensive.

Each winter, the Soviets countered German attacks with offensives aided by their adaptability to winter and their massive armies. Germany was losing tanks and experienced tank crews at an alarming rate. Meanwhile, the Soviets were able to increase their armor strength substantially because of their own huge ordnance industry and using aid from the United States. From 1942 to 1945, the Soviets manufactured some 30,000 tanks and self-propelled guns, and the U.S. provided 7,056 tanks. The Soviet T-34 medium tank and the IS-2 heavy tank also proved to be more than a match for most German tanks.

Although the Soviets for the most part did not accomplish the breakthroughs typical of German offensives, they were able to conduct a war of attrition. Overall, the Soviet Union, with its unending miles of difficult terrain, its huge population, its massive defense industry, and its terrible winters proved to be too much for the German military machine. By the spring of 1945, the Soviet army had reached the river Elbe and joined hands with U.S. forces.

Meanwhile, U.S. forces were also conducting successful armored operations. Indeed, the U.S. Army was the most highly mechanized military force to that point in history. On November 8, 1942, the United States committed its new Armored Force to battle with successful landings in North Africa. Moving east rapidly, the inexperienced American force was bloodied at the first major battle with the Germans at Kasserine Pass. Recovering, the Americans soon combined with British forces to encircle the Axis forces in Tunis and defeat them there by May 13, 1943. U.S. armor units continued to gain experience in Sicily and Italy, but terrain there made it impractical to use large armored forces. Besides, the Allies now placed their emphasis on building up a force to invade northwestern Europe.

The June 1944 landings at Normandy were accomplished by infantry, although a few tanks rigged as amphibians contributed to the effort. After a firm lodgement had been achieved, large armored forces could be committed. In late July, the highly mobile U.S. Third Army broke out of Normandy. Within a month, the Allies had advanced to the line of the Seine River and liberated Paris. Advancing on a broad front, by mid-September Allied forces had cleared Belgium and northern France. Although the Germans did not offer significant organized resistance, their Panther and Tiger tanks took a toll on the lighter and lesser-gunned—but more numerous—Allied tanks, especially the M-4 Sherman medium. Indeed, the United States did not have a heavy tank, the M-26, in combat until early 1945.

In a winter offensive, the Allies attacked the German West Wall on a broad front with the aim of breaking through to the Ruhr industrial district. Gathering his armored forces for a counteroffensive, on December 16 Adolf Hitler surprised the Allies with a mobile attack through the Ardennes. The Germans lacked the means to exploit their initial
breakthrough, and within a month, they were stopped. By March 1945, Allied forces had encircled and defeated German forces west of the Rhine and had crossed the river. Capitalizing on its highly mobile armored divisions and on weakening German defense, Allied forces then drove across Germany, which surrendered on May 8.

Clearly, in the 1930s, Germany had seized the initiative in the development of armored forces and the implementation of armored warfare. Its blitzkrieg tactics were highly successful until attrition and logistics problems began to play a part (particularly on the East European Front) and the Allies caught up in fielding effective armored forces. Whereas the Soviets defeated the German forces by overwhelming them, tactics played a greater part in the West. There the concepts of armored breakthroughs and exploitation were effective, especially in the American Third Army led by Lieutenant General George S. Patton Jr.

Tanks and other armored vehicles were used effectively in other theaters of the war, but in those areas they usually were used as infantry support rather than as highly mobile maneuver forces. Nevertheless, they played an important role in many Pacific campaigns.

From 1939 to 1945, Germany produced some 53,700 tanks, peaking at 22,100 in 1944. During the same period, Japan produced only 4,572, and Italy manufactured 3,054 through August 1943. Great Britain produced 28,296 tanks during the course of the war. The Soviet Union manufactured more tanks than any other power—105,232, more than 40,000 of which were T-34 tank variants. By December 1945, the United States had produced 88,479 tanks in 17 different plants. Production figures for supporting armored vehicle were similarly impressive. Clearly, armored warfare had come of age.

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Further Reading


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