



Soviet Armor in Spain:

Aid Mission to Republicans Tested Doctrine and Equipment

by Colonel Antonio J. Candil, Spanish Army

For many years, the Spanish Civil War has been portrayed as a romantic episode of the 20th century, with defenders of freedom and democracy confronting the evil forces of totalitarianism and dictatorship. This is the picture that emerges from some of Ernest Hemingway's books and also to some extent in Hollywood's movies. In reality, the civil war was not simply a battle between defenders of freedom and evil Fascists. The truth was that those who rallied behind the flag of democracy and freedom were a mixture of romantic and idealistic people, while most of the conservative forces of the nation aligned with the Nationalist side.

Soon after the conflict began, the Republicans were being used as a tool of convenience by the communists, and ultimately by the Soviet Union, and the Nationalists had become easy prey for the rising Axis powers. In the end, the Spanish Civil War came to be a clash between Soviet communism and the Nazi and Fascist ideologies, resulting in the deaths of more than half a million people and the destruction of the country.

This article focuses on the role played by Soviet armored forces with the aim of examining the experience they obtained in the field of armored warfare.

By 1936, the year the Spanish Civil War started, the Soviet Army's mechanization doctrine was well advanced. The Red Army had established four mechanized corps, six independent mechanized brigades, and six independent tank regiments, putting them far in advance of some Western armies, where conversion to mobile warfare was much slower. It is generally agreed that this advantage was later squandered by Stalin, who, among other reasons, drew the wrong lessons from the Spanish conflict. As a result, he disbanded the mechanized corps and limited tanks to the role of infantry support. As events would later prove during World War II, the Soviet Army would pay dearly for this fateful decision.

Among Soviet military personnel fighting for the Republican side were a number of officers who rose to prominence during World War II and were still active



in the 1950s and '60s, among them Malinovsky, Koniev, Voronov, Batov, and Meretskov. All reached four-star rank or higher, and later contributed much to the shaping, role, and employment of the armored forces of the Warsaw Pact.

As a result of their studies of the war, Soviet leadership at the time believed that their own military doctrine, strategy, and tactics were seriously deficient. Major changes were made in the Soviet Armed Forces, based on their Spanish experiences — changes that subsequently, during the Russo-Finnish War and World War II, often proved to be ill-advised or wrong.

Organization and Structure

On July 18th, 1936, the day the state of war was officially declared, the Spanish Army's armored forces included two tank regiments, and a squadron of armored cars, the outdated tanks used at the only armor training center, the Central Gunnery School in Toledo, and various other armored vehicles in storage and considered unsuitable for combat operations. The standard battle tank was still the Renault FT-17, an obsolete model dating from World War I.

The Republican side had control of Tank Regiment 1, in Madrid, and the armored cars, and also controlled the Gunnery School and all depots. Almost without exception, this equipment was destroyed in combat between July and October 1936. The Nationalist forces, who moved into mainland Spain from Morocco, then a Spanish Protectorate, had no armor at all. Tank Regiment 2 in Zaragoza, in northeastern Spain, was loyal to the Nationalist side but the city was surrounded by Republican forces and, so it was employed only in defensive operations until late 1937.

After some armor was lost in combat, the Republicans attempted to provide the Army with improvised armored vehicles. Some armored cars were locally produced, generally with disastrous results.

Additional armored vehicles were imported under foreign aid programs, mainly from the Soviet Union, but also from France.

The first modern Soviet armor arrived at the Spanish naval base at Cartagena, on the southeastern coast, on October 15th, 1936 on board the Soviet vessel *Komsomol*. The shipment included 50 T-26B tanks and about 40 BA-6 armored cars for the Republican forces. The Soviet equipment came to Spain with full crews and auxiliary personnel, even though Spanish troops would also be trained to use the equipment. In contrast, the German equipment provided to the Nationalist forces was not operated by German crews, but was maintained by them as they trained Spanish crewmen to operate the vehicles.

The first Soviet tanks and armored cars came to Spain under command of Colonel Krivoshein, who had led the training department of the Soviet tank school at Olianovsky. The Germans knew immediately of the Soviet shipment because the unloading of the tanks was observed from a German Navy ship anchored at Cartagena harbor. (Germany was still officially a neutral country with effective diplomatic relations with the Spanish Republic.) The news of the ship's arrival was reported to Berlin and henceforth to General Franco, so the Nationalists knew very early about the arrival of the tanks and armored cars, and could begin to prepare to fight them.

Immediately after disembarking, Colonel Krivoshein established the main armor base and training center of the Republican Army at Archena, not far from Cartagena. He began training right away, recruiting mainly among truck and bus drivers from the cities of Madrid and Barcelona.

Nevertheless, before the end of the month, a reinforced tank company entered in combat against Nationalist forces South of Madrid, with all-Soviet crews and under Soviet command.

Officers review an armored regiment of the Spanish Popular Army, which was equipped with T-26 tanks, at left, and Soviet-built armored cars, right.

By the end of November 1936, the training center in Archena was under command of Soviet Major Greisser, Colonel Krivoshein's deputy. Colonel Krivoshein went to Alcala de Henares, a city 20 miles northwest of Madrid, where he started to organize a second training center for the Republican Army. At this stage of the war, the Republican Army had officially changed its name to Popular Army and added the red star to its uniform. The Nationalists never changed the original Spanish Army name, wearing neither swastikas nor fascist symbols on its uniforms.

With the first 50 T-26B tanks the Popular Army organized its first tank battalion, under command of Colonel Krivoshein, and started to organize a second battalion. Each battalion had three tank companies plus a headquarters company. Each company had ten tanks, with three platoons and three tanks per platoon. By mid-November 1936, two tank battalions were considered operational and were deployed for Madrid's defense, already threatened by General Franco's leading formations.

A month later, these two battalions were withdrawn from the front line for a major reorganization with more equipment that had arrived from the Soviet Union. Both Colonel Krivoshein and Major Greisser were called back to Russia. Krivoshein was later awarded the title of Hero of the Soviet Union for his participation in operations in the defense of Madrid. According to some sources, Greisser came under suspicion of conspiracy in one of Stalin's purges, and was shot. Other sources claim he died in the Volkhov sector of the Leningrad front early in 1943, fighting against the Germans and also against the Spanish volunteers of the Blue Division.

Krivoshein would later reappear as commanding officer of a Soviet armored brigade during the German invasion of Poland in September 1939. Later on, as a lieutenant general, Krivoshein commanded the III Mechanized Corps, one of the main Soviet armored formations destroyed during the very first moments of the Battle of Kursk, in July 1943.

By the end of 1936, the Soviets had delivered about 360 tanks to Spain. In command of all armored forces was Major General Pavlov, who had been commanding officer of the 1st Armored Division of the Soviet Army. (General Pavlov, nicknamed “Pablo” in Spain, would later be executed for negligence after failing to stem the German invasion of the Soviet Union in 1941.)

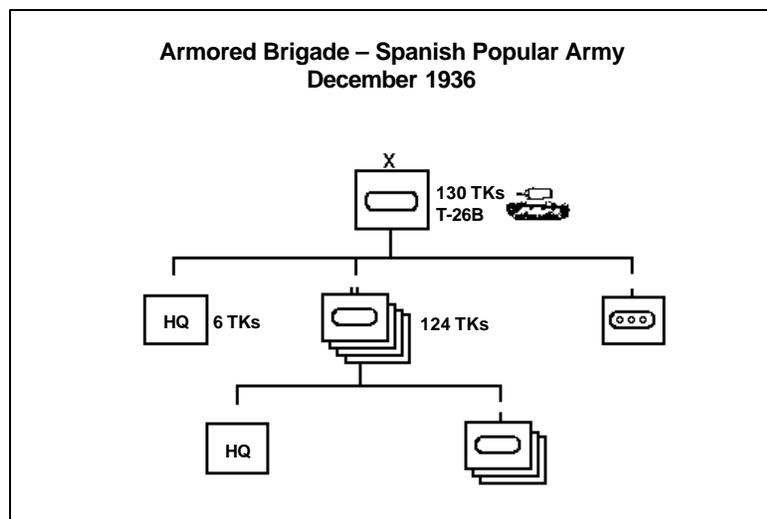
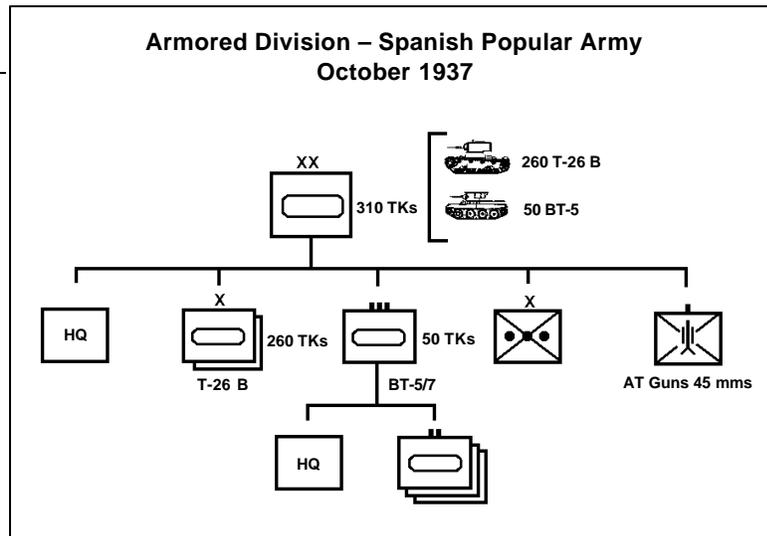
With the new tanks, General Pavlov created the 1st Armored Brigade of the Popular Army, the first major armored unit ever formed in Spain. The credit then for creating the first mobile force went to the Republican side. On the Nationalist side, Franco never employed anything larger than a battalion.

This first armored brigade included four tank battalions and a reconnaissance company mounted in wheeled armored cars. The brigade was actively employed at the battles of Jarama River and Guadalajara, during the first part of 1937, but it was limited to a defensive role, so it never achieved as much success as could be reasonably expected.

About 120 Soviet tanks were also delivered to northern Spanish ports. These were used to form the Northern Front Tank Regiment. This unit would be the first to be under command of a Spanish officer, Cavalry Lieutenant Colonel Anselmo Fantova. All these tanks were lost by October 1937, when the Northern front collapsed and the whole region was taken by the Nationalist forces. Most of these tanks were captured and put back into action, but this time with Nationalist crews.

During the first quarter of 1937, another batch of 300 Soviet tanks made possible the reorganization of the available armored force into two armored brigades, plus a light armored brigade with wheeled armored cars. The light armored brigade came under command of a Spanish officer, Colonel Enrique Navarro.

In addition, each of four Republican armies was assigned one independent tank battalion. So by mid-1937, the Popular Army had a total strength of 12 tank battalions, a force substantially superior



to the Nationalists, both in quantity and in technical quality.

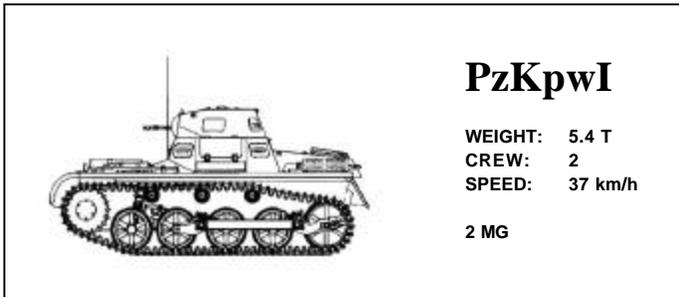
By the end of June 1937, General Pavlov had been replaced by Major General Rotmistrov, nicknamed “Rudolf” in Spain, who again reorganized the forces available, creating by the end of 1937 the first armored division of the Popular Army. This division integrated the two existing armored brigades, plus an independent tank regiment — as all Soviet armored divisions would do later on. The division was equipped with brand new BT-5 tanks received in August 1937. The division came under the command of Major General Sanchez Paredes, with General Rotmistrov acting as a kind of Inspector of Armored Troops at the Supreme HQ of the Republican Army.

The armored division of 1937 included two armored brigades, one motorized infantry brigade, one independent tank regiment, and one antitank company, equipped with towed 45mm antitank guns, plus combat and service support. In

spite of its apparent superiority, this unit failed to answer the tactical requirements of the Popular Army.

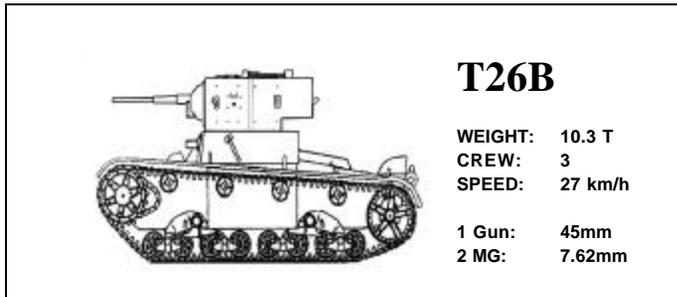
(General Rotmistrov later fought at the Battle of Kursk in the summer of 1943, commanding the Soviet Fifth Guards Army, with the rank of lieutenant-general. He opposed the powerful panzer forces of Colonel-General Hoth. His account of the impressive tank battles around the Prokhorovka hills remains among the best in modern Soviet military history. He ended the war as Marshal. His Guards Army had been one of the crack units, advancing inside Germany and reaching Berlin by April 1945.)

An additional 50 BT-5 tanks arrived from Odessa in August, 1937. They were organized into a tank regiment with Soviet crews, under the command of Colonel Kondriatev. By the end of the war in 1939, all but one of the BT-5s had been destroyed in combat. After the Spanish Civil War, the only surviving example was apparently presented as a trophy by



PzKpwI

WEIGHT: 5.4 T
CREW: 2
SPEED: 37 km/h
2 MG



T26B

WEIGHT: 10.3 T
CREW: 3
SPEED: 27 km/h
1 Gun: 45mm
2 MG: 7.62mm

General Franco to Mussolini. It is today somewhere in Italy preserved in a military museum.

More tanks and wheeled armored cars were delivered to replace losses, and by mid-April 1938, the Popular Army managed to reorganize its armored forces again, creating two armored divisions. The First was assigned to Army Group East, located in Catalonia, and the Second, subordinated to Army Group Center, fought around Madrid under command of another Spanish officer, General Parra Alfaro. In total, these forces accounted for between 360 and 400 tanks, a considerable force.

After the summer of 1938, there are no records of any more tanks delivered to the Spanish Popular Army. Tank strength started to decline quickly, due to combat losses and the capture of equipment by the Nationalists. Nevertheless, the total number of tanks delivered by the Soviet Union between 1936 and 1938 was 900, of which about 600 were recovered and repaired by General Franco's forces. No less than 250 remained in service within the Spanish Army after the war, until the late 1940s and early '50s, when they were replaced by new M-24 Chaffees, M-41 Walkers, and M-47 Pattons supplied by the United States.

Equipment

In 1933, the Soviet Army had six types of tanks in service: the T-26 for tank battalions of infantry divisions; BT-5 and BT-7 for mechanized cavalry; T-35 for heavy tank brigades; and amphibious T-37/T-38, and T-27 light tanks for recon and scout purposes. Of these, only the T-26 and BT-5 tanks saw service in Spain. All these tanks varied in firepower and mobility, but none offered protection against anything more than small arms — armor piercing bullets all round and heavy machine gun fire at the front.

The experience gained in Spain gave new impetus to tank design and to a point sparked some revolutionary thinking. During the period of the war, from 1936 to 1939, we saw the adoption of armor capable of keeping out shell splinters, the development of electric welding for armor plate, introduction of a special tank engine, the C2, which was a forerunner

for the engine of the T-34, and of new types of running gear, including the excellent Christie suspension, which was invented in the United States and adopted by the Soviet Union after all other tank-producing countries had rejected it. The intense activity of the second half of the Thirties culminated in the introduction, in 1940, of the T-34/76, an outstanding tank that could be considered the archetype of all successful tanks so far introduced, starting with the Wehrmacht's Panther, the British Centurion, the M60 series, certainly the Soviet T-54, and to a certain extent even the German Leopard 1.

As a general rule, Soviet tanks have distinguished themselves by their reliability in the field, their low unit cost, and their ease of manufacture. They have proved to be simple, robust vehicles, requiring a minimum of daily maintenance, and well suited to the average mechanically naive tank crewman, as was the case for both Russian and Spanish soldiers in 1936. Soviet tanks have been generally designed with a ruthless, no-frills philosophy that leaves them with a very rough-edged finish but without compromising any of their key performance requirements. The welding, for example, might have appeared crude, but it never compromised the level of protection. Exterior machining, too, seemed unfinished, except at key joints and interfaces where it was quite good.

The main battle tank of the Spanish Civil War was clearly the T-26; it was the most widely used and the most successful of any used by the warring parties. As was the case with many other Soviet tanks of the early 1930s, the T-26 was developed from a British design purchased from the Vickers-Armstrong company. As a matter of fact, it was commonly referred to as the "Vickers tank" by Spanish soldiers, rather than by its Soviet designation.

The Soviets built more than 12,000 vehicles of the T-26 series between 1931 and 1940, and at the time of the German invasion in 1941, it still formed the backbone of Soviet armored troops. The T-26 saw action not only in Spain and Russia but in Manchuria against the Japanese in 1939 and in the Russo-Finnish War in 1940. Against the Japanese, its weak-

nesses in armor were clearly revealed, and a newer version with improved armor was introduced.

Next to the T-26, the BT-5 fast tank was the other main battle tank also employed by the Soviets during the Spanish Civil War. The BT (Bistrokhodny Tank = Fast Tank) was derived from the American Christie design and was intended for large, independent, long-range armored and mechanized units. Originally, one of its basic attributes was its ability to run on either its tracks or its road wheels, but this advantage was never actually exploited by the Spanish Popular Army. As a matter of fact, the system proved unreliable, and due to mechanical failures and bad employment, all tanks of this type were lost by mid-1938 and never replaced. BT series tanks also saw service during the battles against the Japanese in Manchuria and during the Russo-Finnish War. They were employed during the early months after the German invasion in 1941, but they were obsolete by then, resulting in their total destruction by technically superior German forces. Nevertheless, the experience gained with the BT series was of great help to the designers of the T-34 later on.

The main armament of both the T-26 and BT-5 was the standard Soviet 45mm antitank gun M-1932/35, which fired an AP round with a muzzle velocity of 820m/sec. It also fired HE shells at a slower muzzle velocity in an arcing flight path.

As secondary armament, both types of tanks were armed with one coaxial DT machine gun of 7.62 x 54mm. Sometimes an additional machine gun was externally mounted for use by the tank commander. The T-26 carried 169 main gun rounds while the BT-5 carried 144.

Armor protection was certainly a weakness in both tanks. Maximum thickness was 15-16 mms of RHA, and its inadequacy led to some improvement. By 1940, the latest version of the T-26, the T-26C, had an equivalent of some 25 mms of RHA, but was still no match for almost any German antitank gun in service.

Combat weight was around 10 tons for the T-26B while the BT-5 was slightly



With a weight of only 10 tons, the T-26 could actually be carried on a heavy truck

This is one of the T-26s captured by the Nationalists during the civil war, but the photo was actually taken in 1945, when the vehicle was still in Spanish colonial service in Northern Africa!

supported by two Italian field artillery batteries equipped with 65mm light howitzers.

The Popular Army concept of maneuver was to conduct an encircling movement of the Nationalist advance guard, penetrate in depth against the bulk of Franco's forces and recover the main town of Toledo, located 40 miles SW of Madrid. The main effort was carried out by the First Infantry Brigade of the Popular Army, supported by the tank company team of Major Greisser (15 T-26B tanks). Soviet General Batov was in overall command of the operation, and artillery support was commanded by Soviet Colonel Voronov. It was the first action really undertaken by the Soviet military in Spain, and it clearly shows the involvement and commitment of the Soviet Union at such an early stage of the war. (General Batov was commander of the Soviet 65th Army in 1941, subordinated to Marshal Budenny. All his forces were destroyed by the Germans in the first battle for Kiev, and after that nothing more was heard of General Batov.)

While the concept of maneuver was appropriate and well planned, the execution was poor. The Soviets failed in their mission because they failed to back up the tanks with equally mobile infantry and artillery, and because fuel resupply broke down.

Early in the morning of October 29th, 1936, after the initial attack started by the Republican Air Force — also Soviet-equipped and led — the T-26 tanks began to move, taking advantage of the morning fog that is typical of the southern Castile plains during the early autumn. At first, they managed to penetrate the Nationalist forces' deployment, creating some confusion and disorder, but soon, lacking infantry support and liaison with higher echelons due to poor communications, the tanks were brought to a halt. It is not difficult to imagine the feelings of the Soviet tankers in the middle of Spain, facing a completely new environment, not understanding a single word of Spanish, likely without adequate maps and without liaison with their superiors. They must have felt completely lost.

Still advancing but without clear references, they came under direct fire of the

heavier, about 12 tons; nevertheless, when the Germans invaded the Soviet Union in 1941, the bulk of Soviet armored forces still fielded T-26 and BT tanks. It took some time until more heavily protected tanks like T-34s and KV-1s appeared within frontline units.

Combat Operations

Soviet tanks first saw action in the Spanish Civil War on October 29th, 1936, when a tank company team led by Major Greisser met an advance guard detachment of General Franco's spearhead, then advancing at full strength towards Madrid.

The encounter took place about 25 miles southwest of Madrid, at the edge of the small town of Sesena. The outcome was disappointing for the Soviets and, in the end, served no purpose, apart from dra-

matically unveiling to the Nationalist forces the arrival of Soviet equipment and Soviet military "volunteers."

Franco's forces continued unhindered in their advance on the Spanish capital.

According to a witness who was then part of the Nationalist forces that took part in the encounter:

The advancing Nationalist forces, under command of General Varela, had Madrid as their ultimate objective, and were composed of eight infantry brigades with the fire support of 23 field artillery batteries, but no tanks at all, except for a single light FIAT tank company equipped with Italian FIAT L3 tankettes armed only with machine guns, recently supplied by Italy to General Franco. The advance guard was a mounted cavalry brigade under command of Colonel Monasterio

howitzers attached to the Nationalist cavalry. One tank of the leading platoon was destroyed by a direct hit, and a second was damaged but managed to find a hull-down position from where it continued firing on the Nationalist forces. The third tank in the platoon started to withdraw from combat but committed the mistake of entering the narrow streets of Sesena where it was soon destroyed by the Nationalist cavalymen with the help of improvised "Molotov cocktails." The rest of the tank company disengaged from the action and retired towards the Republican lines, putting an end to the planned operation.

The second tank of the unfortunate leading Soviet platoon became immobilized in its hull-down position but continued firing on the Nationalist forces with undoubted resolution and courage, its crew rejecting all Nationalist attempts to destroy it. The Nationalist cavalry commander decided to commit the Italian L3 light tanks, but they proved completely inadequate and soon one was damaged, being overturned by a direct hit from the T-26. Miraculously, its crew escaped alive. Another Nationalist L3, a flame-thrower version, was totally destroyed and its crew killed, also by a direct hit. After 40 minutes, the Soviet tank was finally destroyed by a direct hit from a Spanish 75mm field howitzer, and its entire Soviet crew was killed. Thus, at their first action the Soviets failed in their mission and lost three tanks out of 15 committed, destroying in exchange two light Italian L3 tanks. Not a very bright start.

Nevertheless, the action at Sesena had the effect of sounding the alarm among the Nationalist forces and convinced General Franco that Madrid was being defended with Soviet troops, both on land and from the air. But due to the failure of the Soviets in Sesena, Franco ordered his units to continue advancing towards Madrid. Not very soon afterwards, the Nationalists got proof that Sesena had been only the result of bad luck and some poor planning.

The Soviets lost about six more T-26 tanks in subsequent combats with the advancing Nationalist troops. The destroyed tanks were carefully examined and studied, and some of their main components were sent to Italy. Some of the experience obtained was used in developing the Italian M-13/40, a tank later employed in the North African campaign of 1941-1943 alongside the German Afrika Korps. On November 3d, 1936, the Nationalists captured the first Soviet T-26 tank, in almost mint condition. It was

recovered immediately and sent to the rear support services. It is interesting that the Germans offered the sum of 500 Spanish pesetas (about five dollars at today's rate of exchange!) for each T-26 tank captured intact. This reward, a clear proof of the German interest in Soviet equipment, attracted a lot of attention among colonial Nationalist troops, mostly of Moroccan origin, who on many occasions got killed in their efforts to capture the Soviet tanks at whatever cost.

In October 1936, almost at the same time as the initial Soviet tanks arrived, the first contingent of 33 German PzKpw I light tanks were shipped from Germany to General Franco. The tanks were under the supervision of Oberstleutnant Von Thoma, who later distinguished himself in WWII as a brilliant commander of the Afrika Korps and was captured by the British at El Alamein in November 1942. As mentioned earlier, German crews were sent to provide support services, and were not to engage in combat. By October 30th, panzers with Spanish crews were engaged in combat against Soviet armor at the outskirts of Madrid.

From the very beginning, Soviet gun-armed tanks were superior to German and Italian machine gun-armed light tanks. Nevertheless, during the first days of combat, the German Panzer Is equalized this disadvantage by using special armor-piercing ammunition whenever the Soviet tanks appeared. The Soviets quickly discovered that their tanks were being penetrated at ranges up to about 120 to 150 meters. Countermeasures against the ammunition used by the Nationalists were very simple and immediately applied: the Russian tanks no longer advanced to close the range. As soon as they noticed the panzers, they usually remained over 1,000 meters away, firing very accurately with their effective 45mm guns.

Another factor was that the gun sights in Russian tanks allowed targets to be engaged at up to 3,000 meters while sights on the Pak 37, the antitank gun supplied by the Germans to the Nationalist forces, were calibrated to only 900 meters. This forced the Nationalists to attach no less than five antitank guns to each light tank company to at least provide some protection against the Soviet guns. The effect was minimal; coordination of the new tanks and antitank guns proved extremely difficult for the Nationalists. In spite of all training, and to the dismay of the German instructors, the gunners normally started shooting at ranges far over 1,000 meters.

Soviet tank superiority was clearly shown in the combats around Madrid. By

the end of November 1936, the Nationalists had lost 28 Panzer Is plus several Italian L3s. This brought their efforts to a stalemate and forced them on to the defensive. At this point, the Popular Army made its main mistake, not going on the offensive.

Also, in the fighting around Madrid, the Nationalist forces first employed the 88mm antiaircraft gun in an antitank role, with great success. These guns, which were later developed into one of the most dreaded weapons of WWII, literally disintegrated the T-26s at the first hit. Luckily for the Soviets, the 88s were supplied to the Nationalists in very small numbers.

The front remained stabilized during the winter of 1936-37, but 1937 saw the employment of armor on a much bigger scale than in 1936. On February 13th, 1937, the Nationalist Army — in one more attempt to occupy Madrid — started an ambitious encircling maneuver from the southeast that led to the battle that has been called the Battle of Jarama. The campaign was pretty well described by Hemingway and perpetuated in many songs of the time, including some sung by Pete Seeger many years later. At the Battle of Jarama, the First Armored Brigade of the Popular Army, under the command of General Pavlov, managed to delay the advance of General Franco's troops precisely at the Jarama River, but as happened in Sesena, the Soviet tanks acted without infantry support and remained in a defensive attitude, not exploiting their success and technical capabilities. The Soviets lost 24 T-26s destroyed and captured against 17 Panzer Is destroyed and damaged.

At dawn on March 8th, 1937, ten field artillery battalions of the Italian expeditionary force opened fire on the lightly defended positions of the 12th Infantry Division of the Popular Army, which barred the avenues of approach to Madrid from the northeast. The battle for Guadalajara had started. Four motorized infantry divisions of the Italian Volunteer Corps attacked on a broad front. One of them was an elite division of the Italian regular Army, the "Littorio" Infantry Division under command of Major General Bergonzoli, who had served previously in the Ethiopian campaign under Marshal Graziani. The division acquitted itself very well later on in North Africa under Field Marshal Rommel, although it was ultimately defeated and annihilated by the British Eighth Army. The Italians committed a total of 35,000 men to the fight at Guadalajara, but armor was scarce, limited to a reinforced battalion-strength unit of FIAT L3 light tankettes.

The objective of the Italian High Command was to take the cities of Guadalajara and Alcala, the latter only 20 miles from Madrid. They hoped the Republican forces would crumble, Madrid would be occupied, and a quick surrender would follow, bringing an end to the war. Such a victory would have been of immense propaganda benefit to the Italian Fascists, and would establish the claim of Mussolini's regime to leadership in Southern Europe. But the Italians made several mistakes: first, they underestimated the ability of the Popular Army and did not take into account the Soviet presence and reinforcements around Madrid. Secondly, they disregarded the weather forecasts, perhaps thinking that Spain was as sunny as the tourist brochures advertised. And they failed to do adequate terrain reconnaissance. The results were a disaster for the Italian forces, and the Nationalist forces as a whole. But even today, it is impossible to understand why the Popular Army and the Soviet forces never exploited their success.

The Italian attack began in the midst of a severe windstorm, freezing temperatures, and heavy snow. They were limited to a visibility of only 2 to 3 meters! Somehow, they managed to penetrate about 15 miles into the Republican deployment. Weather conditions did not permit the air support planned, which was to come from the entire Italian expeditionary air forces in Spain, some units of the German Luftwaffe's Condor Legion, and the Spanish Air Force. They were unable to take off to support the ground forces because of the weather. After two days, the Popular Army had managed to reorganize their front and stop the Italian offensive. The key to this was the employment of Pavlov's First Armored Brigade and the air support provided by Spanish Republican and Soviet aircraft who flew in from airfields that were not affected by the weather around Madrid.

The Italian casualties included 1,400 dead, 4,500 wounded, and 500 missing in action. While losses on the Republican side were even higher, the Italians were forced to withdraw to their original line of departure. But incredibly, the Popular Army that had done such a brilliant job of coordinating air support, artillery, tanks and infantry on the defense, lacked offensive spirit, and never exploited its success. This allowed the Littorio Division to make a neat and tidy withdrawal. Guadalajara, a defeat for the Nationalist forces, delivered a severe blow to Italian prestige, but never amounted to a real success for the Popular Army. The most impor-



tant strategic consequence of the battle was the abandonment of the Nationalist goal of conquering Madrid; the capital city remained in Republican hands until the end of the war, on April 1st, 1939.

Armor losses in the battle for Guadalajara were extremely moderate: the Soviets lost only seven T-26 tanks and the Italians 19 FIAT L3s.

The summer of 1937 brought one of the bloodiest battles of the Spanish Civil War: the Battle of Brunete. Brunete is a small town about 15 miles northwest of Madrid, and by mid-1937, it appeared to the Popular Army high command as a convenient spot to create a diversionary offensive. They hoped to attract the attention of General Franco and alleviate the pressure of Nationalist forces in Northern Spain, then committed to the conquest and occupation of the entire Basque region. The initial planning and full concept of the operation of the Brunete offensive is today attributed to the late Soviet Marshal Malinovsky.

On July 5th, 1937, three Army corps, supported by 250 artillery pieces and 300 aircraft, began an offensive against Franco's six divisions around Madrid. The attacking force, 125,000 men with 130 tanks, was the largest military force ever assembled in Spain. It faced a Nationalist force of 50,000 men and 50 light tanks. At first, the Republican forces managed to advance and penetrate between 10 to 15 miles inside the Nationalist lines but again, they moved with utmost caution, showing a lack of audacity and initiative. Their hesitancy allowed the Nationalists to react in strength. By July 7th, the Battle of Brunete had transformed itself into a battle of attrition. In this battle, General Franco maintained a good grasp of the situation and his logistics, repeatedly moving the Nationalist reserves to the right spot at the right time.

The Christie suspensions of the Soviet BT-5s were capable of running on both wheels and tracks. This one is in the wheeled configuration, which did not prove to be useful in the Spanish conflict.

The Battle of Brunete was called the "Battle for Thirst" because very hot summer weather played havoc with troops on both sides. Temperatures reached 102 degrees. By July 12th, the Republicans stopped the attack and assumed the defensive, trying to consolidate its lines.

In the skies over Brunete, the German Luftwaffe employed for the very first time Messerschmitt Me-109 fighters, Heinkel He-111 bombers, and Junkers Ju-87 Stuka dive-bombers that swept the once powerful Soviet-Spanish Republican Air Force from the sky. In total, the Republican forces lost near 30,000 dead and 61 T-26 tanks destroyed and captured while the Nationalists lost 20,000 dead and only two light tanks.

Armor had been very badly employed on the Soviet side. Tank units were broken up, and the individual tanks were employed like assault guns to provide fire support. A lack of initiative, combined with inability to exploit their initial success, led the Popular Army to a major disaster. Although at a much different scale, we can compare Brunete with Kursk. After Brunete, the Popular Army was never again a coherent force capable of matching the Nationalists. From that stage of the conflict, their superior armored forces were unable to present a real threat to the technically inferior armored forces of General Franco. By the last days of the battle, the Nationalists even dared to employ for the first time their captured T-26 tanks, a fully operational company-size unit of 16 tanks, but

they also employed their tanks in an infantry support role.

After Brunete, the Popular Army never employed its armored units to their full advantage, and never capitalized on the major armored units they had created. In October 1937, while trying to create another diversionary effort to alleviate the Nationalist pressure on all fronts, the Popular Army attacked in southern Aragon, employing there for the first time the heavy tank regiment that had been recently organized with the newly arrived BT-5 tanks.

The BT-5 tanks tried to take advantage of their speed and, to benefit from infantry support, also carried on their decks a full squad of infantrymen in the style later employed by the Soviets on the Eastern Front. Many of these infantrymen were killed by the combined fire of all weapons, but especially artillery. The tanks also lost the advantage of their speed when they got bogged down in an area of marshes and muddy soil near the small town of Fuentes de Ebro. The result was loss of 29 BT-5 tanks out of the 61 committed. The Nationalists succeeded because of well established fire planning and good employment of well positioned and well camouflaged antitank guns. The graveyard of wrecked BT-5 tanks was left in place for a long time afterward, and was shown frequently to the international media as a clear example of the extent of the Soviet intervention in Spain.

Tanks continued to be employed until the end of the war in a secondary role, mainly providing infantry support as mobile assault artillery. Generally speaking, the Popular Army assigned one tank battalion to each infantry division and to each army corps. Their armored brigades and divisions were never employed as such, and the war devolved into a series of infantry battles. The Nationalists also employed their armor mainly in support of infantry.

The main and final battle of attrition of the war began on July 24th, 1938, near the river Ebro. Armored units didn't play a key role in the four month battle, and when it was over, the Popular Army had ceased to exist as an organized combat force. From December 1938 until April 1939, the Republican forces were only capable of conducting a disorganized defense that ultimately resulted in their unconditional surrender and the end of the Second Spanish Republic.

Conclusions and Remarks

According to reports sent to Germany by Oberstleutnant Von Thoma, the experience obtained by the Germans from

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the Spanish Civil War ultimately helped them in speeding up the production of gun-armed tanks, especially the Panzer III and IV types, but the misleading results of the Nationalist victory probably gave them some false reassurance. When the invasion of Russia began, the bulk of the German armored force tanks were of the PzKpw I and II types. Only their PzKpw IV, with its 75mm gun, was at all capable of matching the soon-to-be-introduced T-34 and KV-I Soviet tanks.

Other conclusions about tanks were drawn by foreign observers, among them the British theoretician J.F.C. Fuller, who drew the lesson that light tanks were inadequate: *"The three types of tanks that I have seen in Spain — Italian, German, and Russian — are not the result of tactical study, but are merely cheap mass production. From the standpoint of mechanization, up to now this war has proven my opinion that the light tank is absolutely no combat machine."* Instead, Fuller advocated gun-armed tanks with full protection and high reliability.

The following major conclusions were also reached as a result of major operations during the war:

- Tanks need to be supported by motorized infantry. Failing to do that caused many of the Soviet mistakes. Only in rare cases, or against limited objectives, should tanks proceed alone.
- The speed of tanks complicated command and control and made timely assessments of a situation more difficult.
- A great advantage accrued to close cooperation with aircraft, which could aid command and control, provide combat support, and perform reconnaissance.

Sir Basil Liddell-Hart made some interesting comments about the employment of armor in the Spanish Civil War in his book, *Europe in Arms*. He said it was a great mistake to consider the war as proof of the inefficiency of mechanized forces. On the contrary, mechanized troops proved that they could move cross-country and across a wide front and that when employed in such a way they contributed a great deal to the achievement of success. They could also contribute to a defensive situation, he said, arguing that the mobile defense was more effective than a static, strongpoint defense.

Von Thoma noted that General Franco, as a typical general of the old school, always wanted to distribute his available tanks among infantry units. But most of the Nationalist victories, Van Thoma said, happened when tanks were employed in larger numbers. Franco and Von Thoma remained at odds on this issue, prompting Van Thoma to comment: "The Spaniards learned quickly, but also forgot quickly."

On the Soviet side, the mistakes made by the combined Soviet-Spanish leadership were not correctly understood. This led to the disbanding of existing large armored formations in Russia, which proved disastrous in 1941. The superiority of their equipment in the Spanish conflict also made the Soviets overconfident, and this dangerous peace of mind led to disaster in 1941, at least until the T-34 was introduced in sufficient numbers.

The Soviets also never understood the importance of close cooperation between air support and armor, nor the key role of mechanized infantry working together with tanks. But their solution to the organization of armored units proved more efficient and persists today — three tanks per platoon, ten tanks per company, thirty tanks in a regiment, and one independent tank regiment per division.

Not much has been written on the employment of armor during the Spanish Civil War. Certainly, in comparison with what happened in World War II, it is easy to overlook, but it certainly was in its way a foreword to what was coming, and many of the lessons learned just confirm what we know today as key principles of armored warfare.

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