

THE EVOLUTION AND DEMISE OF U.S. TANK DESTROYER DOCTRINE
IN THE SECOND WORLD WAR

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

THE EVOLUTION OF U.S. ARMY TANK DESTROYERS AND THEIR DOCTRINE IN WORLD WAR II by Major Bryan E. Denny, USA, 86 pages

This study examines the U.S. Army's use of tank destroyers in World War II, particularly the origins and evolution of tank destroyer doctrine, changes in training at the tank destroyer school at Camp Hood, and selection of weapons systems taken to the field. The author will punctuate these events with three distinct battles that tank destroyers played a predominate role in and evaluate their successes and failures.

Tank destroyers as a branch are unusual because they originated out of fear of an immense German armored threat, based on the early days of the war, particularly the German invasion of France in 1940. Once the U.S. Army found itself facing German armor, American forces found there was little practicality in using tank destroyers as the initial doctrine prescribed. This was not due to failures in the tank destroyers themselves or their doctrine, but changes in German armor and its employment. With the absence of large German armor formations, heavier German tanks, U.S. Army commanders at all levels, employed tank destroyers as they saw fit. Their nondoctrinal employment is usually interpreted as incorrect and a waste of tank destroyer assets. The author contends that this nondoctrinal employment was instead an evolution in the development of tank destroyers and necessary to allow the branch to grow from its peacetime concept to the realities of the battlefield.

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Lastly, I undertook this project out of the deepest admiration and respect for the tank destroyer crewman of World War II. We owe these men that spent their youth and sometimes their lives, attempting to forge a new path in the midst of conflict, our deepest gratitude. Their undaunted courage and audacity should serve as an example to us all.

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ACRONYMS

COL	Colonel
FM	Field Manual
LTC	Lieutenant Colonel
MG	Major General
TD	Tank Destroyer

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CHAPTER 1

OBSERVATIONS FROM FRANCE

. . . devoid of anti-tank weapons and forces to fight in the open terrain. The success of the enemy could only have followed.¹

Lieutenant Colonel Pierre Labarthe

The morning of 14 May 1940 had come all too soon for Lieutenant Colonel (LTC) Pierre Labarthe. His unit, the 213th Infantry Regiment, had gone through a whirlwind of moves since the German invasion of Luxembourg on the tenth. The regiment had been relieved of garrison duty on 6 May to participate in a much-anticipated training exercise. By the ninth the regiment had closed to about four kilometers west of Sedan and was prepared to begin training on the thirteenth. LTC Labarthe would soon have the opportunity to fight with his regiment, but the exercise would begin earlier than expected and the opposing force would be the German Army.

When word of the German invasion of Luxembourg reached him, LTC Labarthe reported to the headquarters of Xth Corps, his headquarters in the now defunct exercise, and received orders to put his regiment on the move north. As LTC Labarthe thought back the 213th had made several successful night moves, almost always against a steady stream of civilian traffic headed away from the front. Despite the volume of traffic on the highway LTC Labarthe had every reason to feel confident. The Germans Luftwaffe had made sporadic attacks against his regiment on the eleventh and thirteenth, killing two and wounding twelve, but those losses were much less than anticipated. He could almost allow himself to believe what the corps commander told him as he visited the 213th command post; the tactical situation was developing “normally.”²

At 1630 on the thirteenth, LTC Labarthe received orders to move his regiment forward along the line between Chehery and Bulson. At 1650 the 213th command post issued a warning order, and at 1730 the battalion commanders were assembled and receiving specific guidance on what was likely be their last move prior to making contact with the Germans. With any luck the regiment would be in its new position in about two hours and preparing for the Germans the next morning.

As LTC Labarthe and the gathered battalion commanders went over the details of the coming fight, a panic-stricken staff officer from his Division Headquarters entered the command post exclaiming that German armored vehicles had broken through the French lines. LTC Labarthe tried to calm the officer, but as he exited his headquarters what he saw shocked him. “A veritable panic reigned in the village.”³ He was overwhelmed at the mass of soldiers and vehicles heading south away from the front. He attempted to stop several of them but it was futile. The belief that German tanks were moving in the division’s rear proved too much. Frustration and inaction would consume the 55th Infantry Division that night. Unaware of actual German strengths and positions and fearful German tanks had already cut it off, the division was paralyzed. It was now early morning of the fourteenth, and LTC Labarthe had received orders requiring his regiment to conduct an attack at dawn, only thirty minutes away.

Exhausted and laboring under the belief that his division no longer controlled its own fate, LTC Labarthe was no longer optimistic at the thought of attacking the Germans. Regardless the 213th regiment started its attack at 0645 along three axes with its three battalions moving on line. The 213th was equipped with four 25-millimeter antitank weapons, from the 506th Antitank Company. Two of these went to 2nd Battalion

and two went to 1st Battalion. The 7th Tank Battalion was attached to the 213th and was task organized one company to each battalion. The French tankers led the battalions because of the threat of German armor. As the regiment pushed forward it made contact with German infantry. The regiment did well for the first two hours taking its intermediate objective. The rest of the day would prove more disappointing.

Unclear as to the general enemy situation, LTC Labarthe located on the heights at Chehery and moved his reserve infantry company to his position. At about 0900 his 2nd Battalion reported, "being attacked by heavy tanks," and he was dismayed to see three French tanks withdrawing to the vicinity of his headquarters.⁴ Concerned now for the safety of the 2nd Battalion, he deployed his reserve to the north of the Chehery. The leader of his motorcycle dispatch section reported that 1st and 3rd Battalions were continuing to progress northward. Feeling somewhat relieved that he committed the reserve in the right location, LTC Labarthe attempted to contact the commander of the 2nd Battalion. At 0930 the messenger reported that he could not locate the 2nd Battalion command post or the battalion commander.

As he stood on the heights overlooking Chehery, about 300 meters outside the city, LTC Labarthe was growing anxious. With his reserve committed to defensive positions and no contact from 2nd Battalion, should he attempt to slow 1st and 3rd Battalion to prevent a gap from opening in his line? The sight of the three French tanks withdrawing back into the town nagged at him. What was going on with 2nd Battalion? His question was soon answered as a "wave of enemy tanks breaks out in front of the 7th company," his reserve.⁵ The German tanks, quickly identified the dismounted infantry and opened fire. The reserve, "having not a single anti-tank weapon" could "do nothing

against these vehicles.⁶ LTC Labarthe watched in horror as German tanks moved down the main street of the village “blasting and machine gunning the few defenders that remain.”⁷ Now attempting to rally his soldiers LTC Labarthe moved into the eastern edge of the town. Moving along the streets attempting to find members of his reserve company, LTC Labarthe was startled by “an enemy tank, sitting sideways on a corner of the road.”⁸ LTC Labarthe recalled, the tank

Machine guns us at point blank range; my assistant and I fall. I have a bullet in my thigh. The tank fires its cannon again. He misses us and sets on fire several cans of gasoline against which we had fallen. Taking advantage of the smoke that is produced, I escape.⁹

Having made good his escape, LTC Labarthe ran into the commander his 2nd Battalion. The battalion commander reported the details of what he already suspected. Tanks, accompanied by 880-millimeter guns, had attacked 2nd Battalion. The French tankers accompanying his regiment had destroyed several of the enemy tanks with their 25-millimeter guns, but ultimately and rather quickly, the German armor had “annihilated” the French tanks.¹⁰ By 1600 LTC Labarthe and the rest of his staff had a ringside seat, back on the heights, as guests of the German Army, overlooking his regiment’s destruction. In essence 2nd then 1st Battalion would suffer heavy casualties at the hands of the 10th Panzer. The 7th Tank Battalion lost 50 percent of its personnel engaged in the action and 70 percent of its vehicles in only a few minutes. LTC Labarthe would later characterize the action by stating,

Our tanks, poorly armed, could not protect our infantry, devoid of anti-tank weapons and forced to fight in the open terrain. The success of the enemy could only have followed.¹¹

LTC Labarthe’s remarks echoed what most would identify as an underling problem of the French Army. Although they possessed a combination of both light and

heavy tanks, these weapons were built in accordance with French doctrine as infantry support weapons. To defeat enemy armor they relied on antitank guns of which they had neither the numbers nor the doctrine to effectively stop German armor.

Those American observers and journalist reporting on the war in Europe did not have to wait for LTC Labarthe's comments to draw the same conclusions. Although a few, such as Major Alexander P. de Seversky in his book *Victory Through Air Power* and William B. Ziff's book *The Coming Battle of Germany*, argue the secret behind German success lay not in its army but in its air force, these opinions were quite rightly in the minority. Even *Life* magazine in its 10 June 1940 issue, gave a simplistic but rather accurate depiction of the German army in the offense. In the thirteen-step account of a typical attack, the magazine points out that:

It is not one single weapon and its not even a new kind of warfare. It is simply a more ingenious development and use of every kind of modern weapon that has hitherto been seen.¹²

This success was a synchronization of new weaponry focused on penetration and exploitation. Simply put, German success now rested on a continuation of storm trooper tactics developed during the final years of World War I. The backbone of this team lay in the fast-moving German armor. Not coincidentally that same issue of *Life* magazine contained a biography of General Heinz Guderian, who did much to promote himself as one of the leaders of this new German armored force and the creator of the blitzkrieg.

For the army, perhaps the most important witness of these events was S. L. A. Marshall. By 1941, Marshall, who would later become the Army's chief historian in Europe, had written two books on the German armies blitzkrieg. In each of these books,

and particularly in the second, after the German army faced the Russians, Marshall warned against the notion of trying to out-tank the enemy.

Marshall somewhat frustrated by the army's lack of vision in developing suitable anti tank defenses claims:

The jargon of the schools supports the belief that the tank is unconquerable. There is no way of stopping the tank except to out-tank the enemy. Tank obstacles and mine fields, when covered by heavy anti-tank fire, may delay or reduce but cannot stop or turn the armored attack.¹³

He compares U.S. attitudes regarding tanks as parallel to the "same dogmatic view" as the British "that really nothing can be done about the tank."¹⁴ This view he warned was one that will doom the U.S. Army to failure before it even gets into combat. He surmises that German successful combined arms operations have been reduced, in the Allies eyes, to unbeatable German tanks. He stated,

The observer of things in the present has become so fascinated by Blitzkrieg's thundering chariots that he ignores, or discounts the extent to which the excellence of the co-operating services made possible victories seemingly won by the tank. The result is that tank doctrine tends to drive out all competitive ideas, not only among laymen trying to understand the war, but among soldiers engaged in doing something about it. Lectures in our army are to be heard enunciating the singularly incompatible ideas that (1) anti-tank troops must be endowed with the highest possible morale, and (2) they should understand that they have no chance to score a real success over the enemy.¹⁵

Marshall contended that,

It was not until the Russians stood on ground within the USSR proper that there was a defense against tanks in this war which did not warrant the term "makeshift."¹⁶

Marshall argued that the suddenness with the Germans struck and the brevity of the campaigns had not allowed, "anti-tank forces to obtain a sufficiency of tank-stopping weapons, perfect anti-tank vehicles and re-establish their principles of operation."¹⁷

Based on the analysis that German success lay in its tank fleet, the question the U.S. Army would have to address was, How did it plan to defeat German armor? With each branch still holding onto its own concept of tank defenses, little was being done to improve the army's antitank defensive doctrine as a whole. Army Chief of Staff General George C. Marshall had watched reports from Europe with interest and knew the army, as it was currently organized, was unprepared for war against German armor. With much determination he set out to transform the army into a force capable of stopping German tanks.

Conclusion

The German storm trooper tactics, developed during World War I, combined with the mobility of armored and motorized forces proved an almost unstoppable combination in 1939 and 1940. The battle for France in 1940 proved to be the most shocking because France maintained the sixth largest army in the world and because her defeat took less than five weeks. One of the reasons the German army was able to do this was because it could concentrate its armored forces against weaker, less mobile French forces. The French antitank defenses, being undergunned and less mobile, proved no match for the overwhelming numbers of tanks the Germans were able to quickly mass. These quick and decisive campaigns forced the U.S. Army to relook its antitank doctrine.

¹LTC Pierre Labarthe, Commander, 213th Infantry Regiment, upon seeing his regiment destroyed by German tanks, quoted in Robert Allan Doughty, *The Breaking Point, Sedan and the Fall of France, 1940* (Hamden, CT: Shoe String Press, Inc., 1990), 246.

²Ibid.

³Ibid., 248.

⁴Ibid., 258.

⁵Ibid., 259.

⁶Ibid.

⁷Ibid.

⁸Ibid.

⁹Ibid.

¹⁰Ibid.

¹¹Ibid., 260.

¹²Henry R. Luce, "The German Attack," *Life*, 10 June 1940, 35-36.

¹³S. L. A. Marshall, *Armies on Wheels* (New York: William Morrow & Company), 159.

¹⁴Ibid., 161.

¹⁵Ibid., 160-161.

¹⁶Ibid., 161.

¹⁷Ibid.

CHAPTER 2

THE BEGINNINGS OF U.S. ARMY TANK DESTROYERS

Stopping enemy tanks and other mechanized vehicles is the biggest job confronting our army today.”¹

Brigadier General H.L. Twaddle
Assistant Chief of Staff, G3, War Department
14 July 1941

As word of the unfolding European tragedy reached the United States, Army Chief of Staff General George C. Marshall was already working to transform the Army's antitank defenses. Although most agreed that the U.S. Army, as it was currently organized, could do little to thwart the same type of German attack shown to be so effective in Europe, few knew how to transform the Army to meet this threat. General Marshall, as early as 14 April 1941, directed that immediate consideration be given to the creation of additional highly mobile antitank units at corps and army level. Additionally, the Assistant Chief of Staff G-3, War Department, Brigadier General H. L. Twaddle held on 15 April the first of several conferences focused on antitank operations. All branches present at the conference decided in favor of offense verses defensive antitank tactics. Unfortunately, because of an extremely limited budget, the Chiefs of Infantry, Artillery, and Cavalry each sought ownership of the development of antitank defenses to increase their sphere of influence. Armor branch stood out, however, as not wanting this mission fearing it would be counter to the offensive character of the fledging armored force. While the conference did create a divisional antitank battalion by transferring 37-millimeter antitank guns from the Field Artillery, its numbers were still to be relatively small. To the dismay of Brigadier General Lesley J. McNair, the General Headquarters

Chief of Staff, the infantry regiments were able to retain their antitank companies, in effect piecemeal rather than focusing antitank units. General McNair had developed strong attachment to the belief that you did not need a tank to beat another tank, calling it “poor economy to use a \$35,000 medium tank to destroy another tank when the job can be done by a gun costing a fraction as much.”² McNair had experimented with antitank organizations in 1937 in San Antonio and while presiding as the Commandant of the Command and General Staff School at Fort Leavenworth.³ His frustration at the Army’s inability to adopt or even discuss a solution to the German blitzkrieg is evident by a statement he made on 12 April 1941.

It is beyond belief that so little could be done on the [anti-tank] question in view of all that has happened and is happening abroad. I for one have missed no opportunity to hammer for something real in the way of anti-tank defense, but so far have gotten nowhere. I have no reason now to feel encouraged but can only hope this apathy will not continue indefinitely.⁴

His belief in confining tanks to infantry support and exploitation operations while utilizing antitank guns to destroy enemy armor contributed greatly to the development of Army antitank doctrine.

Marshall was not overly enthused about the results of the conference. He felt that rivalry between the branches would prevent a quick and effective solution to the problem the army faced. In an address on 14 May 1941, Marshall indicated that the defense against armored forces was a problem beyond the capabilities of any one branch and probably required the organization and use of a special force of combined arms, capable of rapid movement, interception, and active, rather than passive, defense tactics. Marshall also directed the Assistant Chief of Staff G-3 take “immediate action on anti-tank measures to include an offensive weapon and organization to combat armored forces.”⁵

The following day LTC Andrew D. Bruce was named as the head of the Anti-tank Planning Board. LTC Bruce quickly took over responsibility for the antitank conferences and began a campaign to unite all officers assigned to antitank units and share the developments in antitank organization, weapons, and doctrine.

One of LTC Bruce's first orders of business was in organizing the antitank units into elements that could train, deploy, and fight. In August 1941 he issued a directive to the Commanding General of the Third Army instructing him to organize his antitank units into groups with three battalions each.⁶ The new antitank groups would operate under the control of General Headquarters and would be committed as necessary, depending upon the armored threat. Brigadier General McNair's influence here is undeniable as he was the General Headquarters, Chief of Staff, and as early as August 1940, "expressed his preference for anti-tank 'groups' of three battalions, in order to afford a better control of large numbers of guns concentrating at a threatened point."⁷

The planning board also set about procuring the branch's first weapons system. With little time left before he expected we would be at war, LTC Bruce made the best use of the weapons systems available. He learned, from a French ordnance officer, that the 75-millimeter gun the army had on hand had been used effectively in combating German armored forces in Europe. The guns mounted on the army's M3 half-track would provide an intermediate antitank weapon to equip provisional units for field-testing, just in time for the upcoming Army maneuvers in September 1941. This improvisation resulted in the Army's first self-propelled antitank gun known as the M3, or 75-millimeter gun motor carriage, which would make its debut in the largest army maneuvers in the nation's history, the Louisiana maneuvers (figure 1).⁸

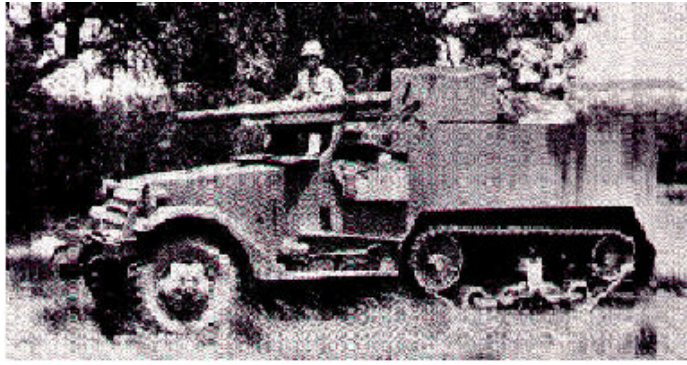


Figure 1. M3 Tank Destroyer. Reprinted from Dr. Christopher R. Gabel, *Seek, Strike, and Destroy: U.S. Army Tank Destroyer Doctrine in World War II* (Fort Leavenworth, KS: Combat Studies Institute Research Survey No. 12, 1985), 31.

The Louisiana maneuvers pitted Second Army, in control of I Armored Corps (two armored divisions), against Third Army, commanding three General Headquarters antitank groups. Leaving nothing to chance, Brigadier General McNair issued specific directives to the Commanding General of the Third Army on the organization and tactical employment of the groups. Each group was to consist of three antitank battalions with each having its own “headquarters company, ground and air reconnaissance elements, and intelligence, signal, engineer, and infantry units, all fully motorized.”⁹ Although both offensive and defensive operations were discussed, General McNair stressed “speedy and aggressive action to search out and attack opposing tanks before they had assumed formation.”¹⁰ This directive, dated 8 August 1941, would lay the foundation for tank destroyer doctrine. Despite the fact that only one group out of the three would participate in major antitank action during the two weeks of maneuver, strong opinions would form over the outcome of their commitment. The proponents of antitank units claimed the groups had performed well “except for a tendency” of higher headquarters “to dissipate

their strength and to commit them to positions prematurely.”¹¹ Brigadier General McNair, even remarked,

An outstanding feature of the maneuver was the success attained in anti-tank defense, due primarily to guns. While terrain hampered armored operations, it seems clear that the mobile anti-tank gun defense now being developed gives promise of marked success.¹²

These remarks did not echo the feeling of those that had met the tank destroyers on the playing field. Many opponents felt the rules had been rewritten to give tank destroyers an unfair advantage in both firepower and survivability. The tankers were especially bitter at being told that the only way they could destroy an antitank gun was by overrunning it, not by direct fire.¹³

The Carolinas maneuvers of November 1941 again ended in both proponents and opponents of tank destroyers forming separate opinions. While proponents could point to the fact that “983 tanks were ruled put out of action--91 percent by guns--and the 1st Armored Division was ruled by the umpire to have been destroyed,” during the six-day exercise, others were not so sure.¹⁴ The tanker’s lack of doctrine in dealing with massed tank destroyers and the tanks’ own piecemeal commitment by their higher headquarters were just as responsible for the success of the tank destroyers. It is understandable that the armor branch, having been created just a year prior, was working out doctrinal requirements of its own. Others, such as Major General Jacob L. Deavers, head of the Armored Force, simply stated, “We were licked by a set of umpire rules.”¹⁵

While skewed rule books and lack of armored doctrine in dealing with tank destroyers might have influenced the battlefield, General Marshall had seen enough. In a letter dated 27 November 1941, Marshall ordered the activation of a Tank Destroyer Tactical Firing Center to be commanded by LTC Bruce. The letter also activated fifty-

three antitank battalions and assigned them to General Headquarters, thus severing the link between battalion level, organic company antitank units, and the antitank battalions. In December 1941, the War Department further separated antitank units from the other branches by requiring all antitank units in cavalry divisions and field artillery battalions and regiments be inactivated. Antitank battalions in the infantry would be designated tank destroyer battalions and reassigned to General Headquarters.¹⁶ The aggressive antitank defense that Marshall, McNair, Bruce, and others had fought to transform officially took hold in this new tank destroyer force.

Based on guidance from the War Department, LTC Bruce was able to quickly organize his new department. His two primary missions were to develop the doctrine that tank destroyer forces would train and fight with and to establish liaison with the Ordnance Branch as well as the National Defense Research Committee and the Inventors Council in testing and developing future weapons.¹⁷

Field Manual (FM) 18-5, *Tactical Employment, Tank Destroyer Unit*, printed in June 1942, became the doctrinal basis for tank destroyer training and combat operations. The manual put into print the principles General McNair had already emphasized and continued to develop the aggressive offensive spirit already forming in the tank destroyers. The FM clearly states in its forward, “There is but one objective of tank destroyer units, this being plainly inferred by their designation. It is the destruction of hostile tanks.”¹⁸ The manual further defines tank destroyer units as being “especially designed for offensive action against hostile armored forces.”¹⁹ The FM was very specific in the general nature of tank destroyer deployment. It stated that the minimum number of tank destroyers should be left to cover obstacles, but the maximum number should be

held in reserve to increase their effectiveness once committed against the bulk of the enemy armor. The FM also characterized tank destroyer action by “rapid movements, sudden changes in the situation or brief but extremely violent combats separated by sporadic lulls.”²⁰ The manual admitted that the light armor protection made the crews vulnerable, but offset this with the fact that the vehicles were mobile and could move into and out of firing positions rapidly. To meet the massive German armored formation, FM 18-5 also prescribed that tank destroyer battalions be the basic tactical unit of operation against the enemy, in conjunction with or in support of infantry, cavalry, motorized, or armored divisions. In order to ensure the battalion remained decisive, yet an independent element, it was organized around a headquarters and headquarters company with three tank destroyer companies and a reconnaissance company. The FM warned against “slugging matches” with German tanks, but stressed that tank destroyers must rely on mobility and superior observation to carry the day. This, according to the FM would require “vigorous reconnaissance to locate hostile tanks and movement to advantageous positions from which to attack the enemy.”²¹ In short the tank destroyer crewmen would have to know the ground from which they were expected to fight, identify likely firing positions along avenues German tanks would travel, move rapidly to those firing positions, and identify and strike the German armored column in the flank. Naturally, the Germans were expected to be at a disadvantage because of the limited visibility of the tank crew and the lesser mobility of the tank. The manual also served as a warning to division commanders that the “employment of small tank destroyer units” or their “distribution with a view to covering every possible avenue of tank approach” or

“affording immediate protection to all echelons of the forces leads to uncoordinated action and dispersion with consequent loss of effectiveness.”²²

The second major task ahead of the Tank Destroyer Tactical Firing Center was the development of the ultimate tank destroyer. With the M3 already in production as an expedient vehicle, serious consideration could be given to the procurement of a vehicle designed specifically for the new force. The board’s decision to procure an additional vehicle was also intended to correct deficiencies identified in the M3 during both the Carolinas and Louisiana maneuvers. LTC Bruce had given the overall requirements for the new weapon as being a “fast moving vehicle armed with a weapon with a powerful punch, which could be easily and quickly fired” and “having enough armor protection against small arms fire, so that the weapon could not be put out by a machine gun.”²³ With the designing, testing, and production of a completely new vehicle, LTC Bruce would be more specific outlining thirteen characteristics that the vehicle was to embody.

Of these characteristics mobility was singled out as the most important. The tank destroyer would have greater mobility than German tanks in all conditions. Unfortunately, no existing vehicle possessed these characteristics, meaning significant work needed to be done in bringing this “super duper” new tank destroyer to life.²⁴ The M3’s and their crews would pay for time spent at the industrial drawing board, unless another solution could be arranged. A second vehicle would bridge the gap between the hastily improvised M3 and the vehicle called for by LTC Bruce. The vehicle would have to embrace the characteristics already established by the Tank Destroyer Board, but would have to compromise some of those characteristics to utilize current production vehicle designs and equipment. This new vehicle would utilize the already proven M4A2

medium-tank chassis. For armor penetration the 3-inch (76.2-millimeter) antiaircraft gun would seem to do the job. The gun had already undergone sufficient testing to be fielded as an antiaircraft weapon and little would have to be done in the way of modification to place it on a self-propelled platform. Additionally, the gun fired a high-velocity round that allowed for direct fire operations and provided the kinetic energy to penetrate German armor.²⁵ The vehicle would also have to provide basic armored protection for its crew. The vehicle would be turreted, but the turret armor would provide protection only against small arms and machine guns. The light turret also allowed the gunner to traverse the turret easier since it was entirely manually operated. Additionally, the turret top would be open, a controversial decision that many tank destroyer crewmen would question throughout the war. The board's official reason for keeping the tank destroyer topless was to create the maximum observation in which to seek out enemy tanks. The topless, lightly armored turret also minimized the weight of the vehicle, increasing its mobility, which remained important. Lastly, as tank destroyer crewmen would attest, the topless turret gave the crewmen the feeling of vulnerability and served as a constant reminder that they were not in a tank and tank tactics would not work. The resulting combination of equipment and ideas produced the 3-inch gun motor carriage M10 and the M10A1--Wolverine. The only difference between the M10 and the M10A1 was in the engine. A 375 horsepower twin 6 diesel engine would power the M10, while a 500 horsepower Ford V-8 would power the M10A1. Differences between the two were negligible, as both vehicles weighed around 32 tons, primarily from adopting the Sherman hull, and had a maximum speed of 39 miles per hour.

With no small amount of pride General Marshall Brigadier General McNair and Lieutenant Colonel Bruce could look to the work they had done with great satisfaction. They placed into being a new branch in the army, designed to destroy German tanks, and prevent the American Army from suffering the same fate as the British, French, and Belgian Armies of 1940. The 1st Tank Destroyer Group would accompany American troops to Africa and take with them the doctrine, training, vehicles, and mentality of an army setting forth to engage and destroy enemy armor in unprecedented numbers. The tank destroyers would take to the deserts of Africa and strike swiftly, against a committed or massing enemy that was too cumbersome, slow, and handicapped by being buttoned-up to fight back effectively. At least that was the plan.

Conclusion

Dissatisfied with the lack of progress on antitank defenses, Army Chief of Staff General George C. Marshal appointed Lieutenant Colonel Andrew Bruce, as the Head of the Anti-tank Planning Board. Together with General Lesley McNair, the Chief of Staff of General Headquarters, tank destroyers would flourish. Both McNair and Bruce embarked on an ambitious and aggressive campaign to create a separate branch within the army focused solely on killing tanks. Both were heavily involved with the doctrine, organization, and weapons procurement of the tank destroyers. As the threat was epitomized as the German armored force that entered France in 1940, tank destroyers were designed to be highly mobile and in effect, always able to outmaneuver their opponents. In an effort to keep the destroyers mobile above all else, compromises were made in lethality and survivability. While the Ordnance Board began work on a specialized vehicle for the tank destroyers, a number of expedient models would be built

and pressed into service. During this time period the most successful of these was the M3. Although several critics of the tank destroyers would emerge, much of this criticism would come from armor officers unhappy with the results of the Louisiana and Carolinas maneuvers. Regardless, with the speed that the branch was developed in and pushed into service, it was prepared as any combat arm in the U.S. Army to enter service in Africa.

¹LTC Emory A. Dunham, "Tank Destroyer History," Army Ground Forces Study no. 29 (Historical Section, Army Ground Forces, 1946), 2.

²Ibid., 3.

³LTC Kent Roberts Greenfield, "Origins of The Army Ground Forces," Army Ground Forces Study no. 1 (Historical Section, Army Ground Forces, 1946), 41-42.

⁴Ibid., 42.

⁵Dunham, "Tank Destroyer History," 2.

⁶Ibid., 4.

⁷Greenfield, "Origins of The Army Ground Forces," 42.

⁸Christopher R. Gabel, *Seek, Strike, and Destroy: U.S. Army Tank Destroyer Doctrine in World War II* (Fort Leavenworth KS: U.S. Army Command and General Staff College, 1985), 14.

⁹Dunham, "Tank Destroyer History," 4.

¹⁰Ibid.

¹¹Ibid.

¹²Gabel, *Seek, Strike, and Destroy*, 14.

¹³Ibid., 15.

¹⁴Greenfield, "Origins of The Army Ground Forces," 45.

¹⁵Gabel, *Seek, Strike, and Destroy*, 17.

¹⁶Dunham, "Tank Destroyer History," 4.

¹⁷Ibid., 6.

¹⁸U.S. War Department, FM 18-5, *Tank Destroyer Field Manual, Organization and Tactics of Tank Destroyer Units* (Washington, DC: U.S. Government Printing Office, 1942), iv.

¹⁹*Ibid.*, 7.

²⁰*Ibid.*, 7-8.

²¹*Ibid.*, 19.

²²*Ibid.*, 20.

²³Dunham, "Tank Destroyer History," 3.

²⁴*Ibid.*, 9.

²⁵Ian Hogg, *Tank Killing, Anti-Tank Warfare by Men and Machines* (New York: Sarpedon, 1996), 116-117.

CHAPTER 3

FIRST CONTACT, AFRICA

Outgunned, but not outgamed.¹

The Story of the First Division in World War II

As Operation Torch ushered the Allied army into Africa, the tank destroyers got their first taste of combat. While seven tank destroyer battalions fought in Africa, only one the 601st had the fortune to be massed at the right place at the right time to prove the tank destroyer concept. Although good fortune had much to do with it, in reality the seven tank destroyer battalions in the 1st Tank Destroyer Group, the 601st, 701st, 767th, 805th, 813th, 844th, and the 899th rarely operated as battalions. Although the desert of North Africa would provide the relative open terrain, which the battalions needed to deploy on, most would spend relatively little time together before being task organized to provide direct support to infantry companies.

With the lone exception of the 1st Infantry Division, all of the other American divisions continuously failed to employ their tank destroyers in accordance with the doctrine outlined in FM 18-5. This was done not necessarily out of malice, but for a lack of understanding of what the tank destroyers were supposed to do and because of the lack of firepower organic to the divisions. The fault cannot be placed on the division leadership alone as the tank destroyer battalion commander became the de facto division antitank officer and was, potentially, responsible for the task organization of the tank destroyer battalions. What is remarkable is the fact that the unit that committed the biggest infractions with their tank destroyers was the 1st Armored Division. From the Kasserine Pass through to the closing fight at El Guettar, the 1st Armored Division

routinely piece mealed the 701st and 767th into combat. Not surprising is that this typified how the 1st Armored Division employed its tanks as well, frittering away the armored battalions' combat power one platoon at a time. Neither Major General Orlando Ward, the 1st Armored Division Commander, nor his staff had learned much from the Louisiana and Carolinas maneuvers, where they were criticized for similar practices.

The largest boost for the tank destroyers came on 23 March 1943, almost five months after Allied forces had landed. Until this time tank destroyers battalions had yet to be employed against mass German forces. The 1st Infantry Division and the 601st were about to change that. The 1st Infantry was arrayed along the Keddab Ridge southwestward almost to Dj Berda, passing through El Guettar. Major General Terry Allen, the 1st Infantry Division Commander, deployed the 601st in its entirety into a position protecting the division's southern flank. The German 10th Panzer Division was assigned to attack along Highway 15 with the intent of regaining control of the road network at Gafsa, which had been taken by the 1st Infantry on 17 March. The slow-moving German formation crept steadily towards the American defenders. "Their tanks and self-propelled guns, interspersed with infantry carriers, rolled westward in a hollow square formation and [at] a slow but steady pace."² Behind the armored formation a column of trucks moved from point to point and unloaded more infantry. As the 10th Panzer neared the American lines their formation broke up into three separate attacks. One prong of the German attack turned northwards towards the division's two field artillery battalions. The second prong continued straight down Highway 15, the high-speed avenue of approach into the center of the division line. The third and largest prong turned south and attempted to flank the 601st Tank Destroyer Battalion.

At first look it seemed the Germans would succeed in retaking Gafsa. The attacking 10th Panzer infantry-tank teams, northern and center prongs, succeeded in overrunning several infantry companies, part of the 5th Field Artillery Battalion and the entire 32nd Field Artillery Battalion.³ These successes led to hand-to-hand fighting and resulted in severe losses in American life and equipment.

In the south, however, the 10th Panzers luck changed for the worse. The tank destroyers reconnaissance company detected the approaching 10th Panzer, and the 601st was able to adjust its position to better engage the German tanks. The tank destroyers chose their ground well and anchored their southernmost platoon to the dry lakebed Chott el Guettar. Additionally, they employed a belt of mines along their direct front preventing the Germans tanks from overrunning their position. The M3s of the 601st stood almost alone against the 10th Panzer, except for remaining division artillery, which they were able to maintain communication. Reports placed the 10th Panzer's strength at over one hundred vehicles, fifty-seven tanks, and a like number of armored cars and half-tracks to conduct its attack.⁴ In a fight that lasted most of the morning, the tank destroyers knocked out thirty tanks, and their minefield was credited with eight more, defeating the 10th Panzer's main effort and forcing it to retreat.⁵ By noon "the battalion had fired nearly 3,000 75mm shells and almost 50,000 machine gun rounds."⁶ British war correspondent Alan Moorehead witnessed the 23 March Battle of El Guettar and noted:

It requires great nerve and training for anti-tank gunners to meet a tank charge, you must hold your fire until, as a rule, you are yourself being shelled. General Allen's gunners fought the Mark IV tanks down to a distance of several hundred yards-indeed, some of the enemy tanks were already abreast and slightly behind American positions. Then the Germans broke. More than half of them turned back and groped for the paths through their own minefields. The rest--about forty--

were either smashed with direct hits or damaged and left burning on the battlefield. It was as rounded and complete a victory as you could well hope for.⁷

The victory was not without cost as the 601st lost twenty-four of thirty six of its M3s. Likewise, A company of the 899th, which had been ambushed on the valley floor as it rushed in to support the 601st, lost seven new M10s.⁸

Despite the success of the 601st at El Guettar, tank destroyers had not fared equally well on other operations. Tank destroyer critics, most notably tankers, were often outspoken. General Patton “pronounced the tank destroyers unsuccessful in the conditions of the theater.”⁹ Additionally, Patton refused to acknowledge the success of the 601st at El Guettar because of the battalion’s high losses.¹⁰ General Devers in a report to the War Department stated, “The separate tank destroyer arm is not a practical concept on the battlefield.”¹¹ While some criticism is warranted, the comments made by two officers of the armored corps should be weighed against the rivalry that already existed between armor and tank destroyer proponents. The rivalry that was born in the Louisiana and Carolinas maneuvers had not died. General McNair was quick to fire back comments further defining the tactics of tank destroyers. In a letter to the Secretary of War, General McNair wrote, “Since the tank must advance, the TD need only to maneuver for a favorable position, conceal itself thoroughly and ambush the tank.”¹² He further clarified that what was meant by acting offensively was not sitting passively, waiting on the chance a tank may come by, but the tank destroyer “on the contrary seeks out the tank and places itself where it can attack the tank effectively.”¹³ He also attempted to differentiate between tanks and tank destroyers stating that if tank destroyers acted offensive in the “same manner” as tanks, “such tactics would place the destroyer at a disadvantage, and would sacrifice unnecessarily the advantages which the destroyer has

by the very nature of things.”¹⁴ Likewise the *Training Notes from Recent Fighting in Tunisia*, dated 15 May 1943, LTC Tincher the 899th Tank Destroyer Battalion Command stated, “Tank destroyers must not be taught to go out to hunt tanks with the idea of getting behind them and hitting them. They must be taught to dig in, conceal themselves and wait for the tanks to come up. When this is done the tank destroyers are easier to keep concealed, and there is less chance of giving the position away.”¹⁵ LTC Tincher also points out the fact that tank destroyers were employed incorrectly. What is more disturbing is his observation that this is not a problem specific to Africa. LTC Tincher states,

During our training at Camp Hood, the battalion was very often badly split up--our guns or part of them in one place, the machine gunners in another, and usually a company or two off somewhere else. As a result never had a chance to work with them all together.¹⁶

General McNair had to wonder what was being taught at the Camp Hood Tank Destroyer School, as he had been very specific that tank destroyers were to fight in at least battalion-size formations. LTC Tincher also identified another problem that thwarted the tank destroyers attempts to strike German armor. He pointed to the fact that the organic reconnaissance company in the tank destroyer battalion “had no idea of the problem involved out here [Africa]. They never had to operate over such extended distances in any of their training.”¹⁷ This again eats away at the fundamental principles the tank destroyers were required to operate within. In order to place the lightly armored tank destroyers at a position of advantage with German armor, reconnaissance was necessary to strike the German armored formations while they were forming up or in their flank. The inability of the battalion’s reconnaissance company to effectively provide such information required changes in the way tank destroyers were employed.

Based on the experiences in Africa, the Tank Destroyer Board began a revision of Field Manual 18-5 in May 1943. Cooperation with other combat elements and more flexible methods of employment were emphasized.¹⁸ Although FM 18-5 had clearly stated that tank destroyers should not engage in “slugging matches” it had emphasized offensive action. This offensive action was now going to have to be more carefully defined. In Africa tank destroyers had been accused of “maneuvering too freely during combat.”¹⁹ In short, tank destroyers were behaving like tanks. Tank destroyers, instead of utilizing reconnaissance to identify good covered and concealed positions to move quickly into and strike the enemy from an exposed flank, were attacking the tanks head on. The M3s and M10s with their light armor and high silhouette were no match for the German tanks in head-to-head fights. The tank destroyers had to clarify their position quickly before more costly mistakes were made. In March of 1943 Allied Force Headquarters at Algiers made an attempt to make clear tank destroyer doctrine. Training Memorandum No. 23 put “emphasis on rapid reconnaissance, thorough concealment in prepared positions and the avoidance of premature fire.”²⁰ Additionally, Ground Forces Headquarters directed the Tank Destroyer Center rewrite FM 18-5 incorporating lessons learned from the fighting in Africa. This, however, proved difficult as most of the board members believed the problems associated with tank destroyers in Africa lay in their application by nontank destroyer personnel and not from the doctrine itself. In any event, the revised FM would not be seen until June 1944.

The tank destroyer crewman also had much to learn with regards to employment on certain terrain. The high-silhouetted M3 and M10 were hard to conceal in the desert, making them easy targets. The open terrain that made their deployment easy also denied

them the unobserved rapid approach from the flank and denied them defensible positions from which to fight. Additionally, the open terrain did not necessarily canalize the German's along narrow corridors that would lend themselves to easy attack. The 601st at El Guettar stood out in stark contrast to most tank destroyer operations in Africa and bore out the necessity of these two terrain characteristics. The 601st had caught the 10th Panzer trying to move quickly down Highway 15, a dense narrow front. Furthermore, Keddab ridge where the 601st was employed behind, offered the tank destroyers a moderate level of protection from the German tankers.

While the M10 had taken to the field in Africa, it had not been the success that many at the Tank Destroyer Firing Center thought it would be (figure 2). While the fully traversable turret was a welcome feature with the three-inch, high-velocity gun capable of defeating most German armor, it lacked the mobility that General McNair had called for. With the M10 capable of only thirty miles an hour, work on the ideal tank destroyer would have to continue forward. Key leaders in Africa were quick to point out another option. Major General Omar Bradley, who would leave Africa as the last of several II Corps commanders during the campaign, advocated the return to the towed gun battalions. Although the towed gun had not been written off entirely, most proponents of the tank destroyers felt the towed gun deprived the new force of the speed and offensive spirit, which was to characterize its operation. The towed gun could, however, be dug-in up to its gun tube in relatively little time by its crew, and towed guns had been used very effectively by the British at Medenine where 6-pound antitank guns destroyed over forty German tanks.²¹ The Army Ground Forces Headquarters directed the Tank Destroyer Center to organize an experimental battalion of towed 3-inch guns. General McNair,

feeling the Tank Destroyer Firing Center had underestimated the towed gun, embraced this change and by November 1943 directed that half of all tank destroyer battalions would be towed.²²

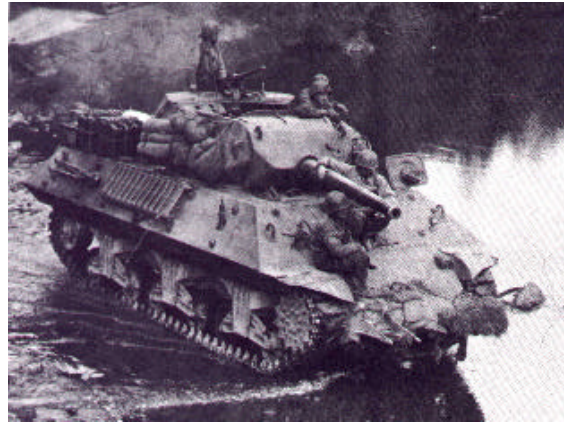


Figure. 2. M10 Tank Destroyer with Hedgerow Cutter. Reprinted from Charles B. MacDonald, *The Siegfried Line Campaign*, U.S. Army In World War II: The European Theater of Operations (Washington, DC: Office of the Chief of Military History, U.S. Army, 1963), xxii.

Based on combat observations in Africa, it was clear to General McNair that some changes in the overall numbers of tank destroyer battalions needed for future combat operations should be reevaluated. In 1942 General McNair had pushed for a total of 222 battalions, based on an army of 114 divisions.²³ He had based his numbers upon the initial reports of massive German armor formations and had envisioned the concentration of as many as twenty tank destroyer battalions at a time against the German formations. In light of the scarcity of massed German armor in Africa and of the reduction of infantry divisions to be activated, General McNair suggested that only 106 battalions would be needed, which was coincidentally the number already or in the process of activation.

With the changes in doctrine, equipment, and employment would also come changes in personnel. On 25 May 1943 General Orlando Ward, of 1st Armored Division fame, assumed command of the Tank Destroyer Center at Camp Hood. This placed the combat-harried tanker in charge of training all tank destroyer personnel in the Army. It also gave him latitude in training the tank destroyers as he saw fit, knowing experience gained on the training ground would make more of an impression on the new tank destroyer crewman than anything written in a book. Ironically, General Ward took command at Camp Hood at the same time that General Devers of Armor Branch was making an unsuccessful push to pull tank destroyers under the Armor Center at Fort Knox. This change of heart for General Devers, who had not concealed his belief that tank destroyers were at best a necessary evil, is questionable. Rather than seeing the usefulness of the tank destroyers, it is likely he reasoned that if the bulk of the Army was going to utilize them like tanks they might as well belong to Armor Branch. Although General Ward made few immediate changes to in the training of the tank destroyers, he did place emphasis on the training of the crewman in their secondary role of firing indirect. This again is symbolic, as the belief that the Army would face massive German armored formations was diminishing. Additionally, to further stress the importance of terrain appreciation, he saw that “signs were placed at and near all ranges indicating good and bad combat positions.”²⁴

The Tank Destroyer Center was right in its assertion that some of the tank destroyer’s problems were in its poor usage by those who were unfamiliar with its vulnerabilities and capabilities and who failed to understand what were appropriate missions for the tank destroyers. With the Germans having withdrawn to nearby Sicily,

the next campaign was sure to follow close on their heels. With that the tank destroyers must have felt a little uneasy about their prospects. The constant word play in their doctrine, the fine line between offensive aggressiveness and seeking good positions from which to fight, must have been somewhat unnerving. Regardless more and more M10s were arriving and the tank destroyers had had several minor successes and one major victory, even if it was costly. At El Guettar the 601st had proven the concept could work and German tanks could be beaten, if only the Germans would comply by massing their armor and trying to force their way along a narrow front. Italy and Sicily would be next, and the experiences would be different. The desert and small wadis would be gone and in their place would rise terraces, rugged mountainsides, and narrow roads. Fighting the German tanks would mean fighting the terrain; you would have to be successful in the terrain in order to be successful against the Germans.

Conclusion

As with most first battles the U.S. Army engages, the lessons were many and the cost was high. Early operations in Africa caught the U.S. Army still unsure of itself in both doctrine and equipment. Lack of experience in training, combined with an unproven doctrine, led to the misuse of several of the combat arms. Tank destroyers suffered this misemployment as much as any arm. With their new doctrine and the lack of antitank defense in infantry regiments, the tank destroyers found themselves consistently task organized below their ideal doctrinal level. Although several tank destroyers platforms would take to the field in Africa, the most important were the M3 and the M10 and its variant the M10A1. Only the M10 series would continue in service after Africa. The 601st at El Guettar would emerge as the first and only tank destroyer battalion fight of the

war. Unfortunately, the success of this fight was dismissed because of the 601st high loss rate in defeating the 10th Panzer. Unlike armor and infantry standards, being a tank destroyer meant winning at low cost, rather than at any cost. To lessen combat losses it was decided that towed tank destroyers would now fill half of the tank destroyer force.

¹Commentary on the 601st action with the 10th Panzer at El Guettar, 23 March 1943, H.R. Knickerbocker, *The Story of the First Division in World War II* (Atlanta, GA: Albert Love Enterprises, 1947), 67.

²George F. Howe, *Northwest Africa: Seizing the Initiative in the West*, U.S. Army in World War II: The Mediterranean Theater of Operations (Washington, DC: Office of the Chief of Military History, U.S. Army, 1957), 560.

³Ibid.

⁴Rick Atkinson, *An Army at Dawn: The War in North Africa, 1942-1943* (New York: Henry Holt and Company, 2002), 441.

⁵Howe, 560.

⁶Atkinson, *An Army at Dawn*, 441.

⁷Alan Moorhead, *The Desert War: The North African Campaign, 1940-1943, Comprising Mediterranean Front, A Year of Battle, the End of Africa* (New York: Penguin, 2001)

⁸Atkinson, *An Army at Dawn*, 441.

⁹Robert R. Palmer, "Organization and Training of New Ground Combat Elements," Army Ground Forces Study no. 9 (Historical Section, Army Ground Forces, 1946), 29.

¹⁰Charles M. Baily, *Faint Praise: American Tanks and the Tank Destroyers during World War II* (Hamden, CT: Archon Books, 1983), 56-57.

¹¹Palmer, "Organization and Training of New Ground Combat Elements," 29.

¹²Ibid.

¹³Ibid.

¹⁴Ibid.

¹⁵Allied Forces G-3 Training Section, "Training Notes From Recent Fighting in Tunisia: Experiences, Observations, and Opinions Collected from Officers and Men of Front Line Units, March 18-30, 1943," 71, Combined Arms Research Library, Archives, Fort Leavenworth, Kansas.

¹⁶*Ibid.*

¹⁷*Ibid.*, 71-72.

¹⁸LTC Emory A. Dunham, "Tank Destroyer History," Army Ground Forces Study no. 29 (Historical Section, Army Ground Forces, 1946), 29.

¹⁹U.S. War Department, FM 18-5, *Tank Destroyer Field Manual, Organization and Tactics of Tank Destroyer Units* (Washington, DC: U.S. Government Printing Office, 1942), 19.

²⁰Palmer, "Organization and training of New Ground Combat Elements," 30.

²¹Baily, *Faint Praise*, 59.

²²Palmer, "Organization and training of New Ground Combat Elements," 30.

²³Baily, *Faint Praise*, 59.

²⁴Dunham, "Tank Destroyer History," 31.

CHAPTER 4

CONTINUING THE FIGHT IN ITALY

In every battle plan weapons must be fitted to the ground as well as distributed according to an idea.¹

S. L. A. Marshall, *Armies on Wheels*

If Africa was not the proving ground either side of the tank destroyer question would have liked it to be, Italy was to be no better. No single action took place that would align a battalion of tank destroyers with a substantial enemy armor threat. Although there are many reasons for this, none serve to prove or disprove the tank destroy doctrine as it was initially written. What did emerge was an emphasis on small unit operations, platoon to company, and a reemphasis on the tank destroyers' use as an indirect fire weapons system. If anything, this campaign serves to illustrate how commanders at the tactical level best utilize a given piece of equipment in accordance with the task at hand and the terrain. Lessons learned in Italy would prove beneficial in the fighting yet to come in Europe.

As more and more tank destroyer battalions poured into England and Africa in preparation for the invasion of Sicily and Italy, General Ward continued to make improvements to the training taking place back at the Tank Destroyer Center at Fort Hood. General Ward's training was subtle in its efforts to improve the tank destroyer personnel at the individual and crew level. Ward, who had been largely responsible for the nondoctrinal employment of tank destroyers in 1st Armored Division, rightly believed the tank destroyers would have to earn respect one platoon at a time, rather than a complete battalion. Ward continued to improve the gunnery skills of the crews, by

making a correlation between gunnery and combat firing.² Realistic scenarios were added against tank targets to challenge the tank destroyer crews, instead of simply firing in a controlled atmosphere for a score. Additionally, he wanted to give the tank destroyers “battle plays--maneuvers which could both be practiced on the drill field and in actual combat.”³ By the end of August Ward had recommended a series of battle plays, which included basic formations for unit movement and maneuvers for entry into action, to Army Ground Forces Headquarters. Although significant to a new branch that had a somewhat convoluted doctrine, the battle plays were neither officially recognized by the Army Ground Forces nor taught at the Tank Destroyer Center as official doctrine, but as a sort of tactics, techniques, and procedures.⁴ Ward also directed the preparation of four other field manuals unique to tank destroyer operations. These manuals included the self-propelled gun platoon, the towed gun platoon, the reconnaissance platoon, and pioneer platoon. The inclusions of these manuals indicate a more independent level of operations for platoons within the tank destroyer battalions, again indicating an emphasizing on platoon independent operations. Additionally, General Ward won incorporation of 1st Battalion, 51st Armored Infantry, 4th Armored Division, into the tank destroyer school as well as the 264th Field Artillery Battalion.⁵ The addition of these units insured the integration of combined arms training at the schoolhouse. General Ward also emphasized training for the tank destroyers’ secondary roles, such as firing indirect and pillbox destruction.

In October 1943, Major General John H. Hester took command of the Tank Destroyer Center from General Ward. Hester, “a veteran of two combined operations in the Southwest Pacific,” continued the training programs established by his predecessor.⁶

He “stressed perfection in gunnery and teamwork” and renewed an “emphasis on initiative and leadership.”⁷ With less and less German armor materializing on all fronts, Army Ground Forces issued guidance further reducing the number of tank destroyer battalions to seventy-eight.⁸

Operations in Italy themselves proved to be teacher. Terrain as well as more conservative approaches to German offensive operations limited German armor attacks to “streams, ditches, fences, and embankments limited tank action to small areas, the Germans used tanks offensively in groups of from 5 to 10.”⁹ This continued absence of massed German armor and the hilly, terrace covered, restrictive nature of the terrain ensured that the tank destroyers were going to have to shift their role. This shift meant broadening their engagement criteria to something other than tanks and becoming proficient at other tasks, primarily their secondary as artillery support.

“Lessons Learned From the Italian Campaign” compiled by Headquarters Mediterranean Theater of Operations, examined combat experience and lessons learned in the Italian Campaign from the Garigliano Line to the Gothic Line, 1 February to 30 September 1944.¹⁰ It is clear to see from the trends captured in this report that the tactical employment of tank destroyers was still the topic of much debate. Both the infantry and armor sections contain their respective views on how tank destroyers should be employed. The first quarter of the section on tank destroyers focused on the destroyer’s secondary roles, primarily fire support augmentation.

The evolution of the doctrine was by no means seamless. The published FMs, specifically 18-5, and the tank destroyers training to this date were contradictory to what

the destroyers were being asked to do in combat. This contradiction brought harsh criticism on commanders that deviated from the books:

One major lesson from the Campaign with respect to the employment of the two arms has been such misuse of destroyers by the infantry commanders to whom they have been attached.¹¹

During the planning stage for an attack it was found that practically without exception the infantry commanders were reasonable in their requirements and expectations of support by the tank destroyers. But once the battle was joined, the original plans with few exceptions were often discarded and the destroyers were ordered to go forward as tanks ahead of the infantry and overrun the points of resistance. At least nine such missions were assigned to this battalion, some of which were to flank strong points, seize and hold features until the friendly infantry came up.¹²

Field commanders, specifically armor and infantry officers, were criticized for their nondoctrinal use of the tank destroyers. It is easy to see how planning requirements and missions assigned to the tank destroyers did not mirror reality once combat operations had commenced. This friction created a gulf in the combined arms team. The tank destroyers argued they were losing their identity being used “as tanks for tank missions.”¹³ Although this type of employment is in contradiction to the mission of tank destroyers as originally published, it would be easy to see and justify the use of the tank destroyers for such roles in the absence of their intended targets, massed enemy armor.

The *Infantry School Mailing List*, in its monthly publication, published an article in 1944 entitled “Report From Italy.”¹⁴ In this report the author gives an excellent account of the tactical employment of tank destroyers:

The division’s anti-tank gunners (tank destroyers) kept their weapons concealed, and waited for the German tanks to move out in an attack.¹⁵

Tank destroyers were held to the rear of selected firing positions and moved up only for short periods when suitable targets were observed. The division knocked out 60 enemy tanks in this manner and lost only 7 of its own. Artillery fire was

also used to drive enemy tanks from concealed positions out into the open where anti-tank guns could get at them.¹⁶

Given the statement above, the argument that the commanders in the field did not know how to employ the tank destroyers is questionable. Through the efforts of senior leaders of the proponents of tank destroyer were getting their messages across. The doctrine was being heard and modified based on the tactical situation.

Armor officers received less criticism than the infantry primarily because they used tank destroyers to support tank operations. With the primary threat to tanks being enemy armor, this appears to be a logical marriage.

The mission of the destroyers in support of tanks is to provide protection from enemy armor and to provide direct fire support when needed. The destroyers should normally engage the enemy armor, but they may be called on to attack with their fire hostile anti-tank guns, self-propelled guns, and their secondary targets when necessary in support of friendly armor.¹⁷

Again this broadening of the tank destroyer targeting criteria is reasonable in light of the absence of large German tank formations and the Germans own good use of assault guns, tank destroyer, and self-propelled artillery.

The tankers were conscious of the survivability issues associated with the tank destroyers, having their own survivability issues as well, and cautioned,

The destroyers should not be employed in offensive action in advance of the supported tanks. An exception to this principle occurs when the destroyers are engaged in countering an enemy armored attack.¹⁸

Additionally, practical application of the tank destroyers continued to tear apart the tank destroyer battalions. The limitations of the terrain and the absence of large German armor formations forced the tank destroyers to be task organized in smaller and smaller units.

Reports from units of Fifth Army have all indicated that the most satisfactory proportion of tank destroyers to tanks when operation over terrain that permits their deployment is one platoon of destroyers to a company of tanks.¹⁹

Generally speaking, the destroyers have been attached to the armored units, usually a platoon to a company, or a company to a battalion.²⁰

Comments by the 701st Tank Destroyer Battalion commander indicate an understanding of this cooperative tank, tank destroyer organization.

In support of tank attacks the only policy we have been able to adopt has been that of attaching small units, companies or platoons to tank battalions or companies. In this situation the tank destroyers have followed closely behind the tanks until they found positions from which they could cover the advance. These positions have not been prepared, but wherever possible buildings have been used to afford some protection. This system works well only where there is close coordination and good communication between the tanks and tank destroyers. Planning must be done well in advance and all details agreed upon between the units concerned.²¹

The 636th Tank Destroyer Battalion reported the following task organization it employed with success during pursuits:

Cavalry reconnaissance platoon
Artillery forward observer
Tanks (Carrying from a platoon to a battalion of infantry)
Tank Destroyers²²

Likewise, the 701st reported that it organized into two types of forces depending on the mission. In each organization the central figure was armor, supported by as little as a section of tank destroyers, as well as infantry, forward observers, and engineers. As one officer put it,

It is always desirable that tank destroyers over watch the advance of our tanks. They are best placed in defilade positions, as their armor is not as heavy as that of our medium tank. . . . The attachment of a tank destroyer battalion to an armored group will provide the necessary high-velocity guns to destroy the enemy tank.²³

This organization places tank destroyers with the intended target of German tanks and created a mutually supporting relationship between the infantry, armor, and tank destroyers.

The report also comments favorably on the effectiveness of the 3-inch gun the M10 stating it is “The only comparable weapon at hand to the long-barreled German 75 and 88mm guns.”²⁴

The after-action report also highlighted the fact that tank destroyers were being used to both reinforce infantry antitank defenses and were pooled in the rear ready to move forward once targets were identified. The executive officer, 15th Infantry Regiment, noted,

There were not enough anti-tank guns to cover the frontage and still have depth. That left gaps in the AT defenses that were filled by bringing tanks and tank destroyers way forward. These were such big targets, since they could not be dug-in, that many of them were knocked out by German 88mm guns and Mark VI tanks. As a result we lost some ground to tank-led attacks. Then we put all our anti-tank guns right in the front line wherever they could be dug-in to cover the front. We placed the tanks and tank destroyers well back but ready to move up to reinforce the anti-tank guns. After we took this action, we stopped all the tank-led attacks cold.²⁵

Commanders were learning to use tank destroyers if not from the manuals from the cold reality of combat.

The report was critical of the overall situational awareness of the tank destroyers and their lack of understanding in evolving their own doctrine. In order to bring their guns to bear on enemy armor, the destroyers needed to be more understanding of the tactical situation their environment. The report states,

In the recent operations it was evident that the tactical use of the tank destroyers was in some instances not skillfully or properly conducted. The M10 vehicle, mounting its 3-inch gun, is the only truly dependable weapon to deal with the heavier armed and armored German tanks. At times the M10 vehicles were not in

position to lend their support. In some instances the crews of the M10's were not sufficiently abreast of the situation, nor did they show the aggressiveness needed. On occasions they stayed back too far and were not over watching the advance of the leading elements.²⁶

While these complaints highlight a general misunderstanding on behalf of the tank destroyer crews of what was expected of them, once committed to combat operations, comments were generally favorable.

The destroyers were brought up into position over almost impossible ground, literally crushing down houses, and then succeeded in knocking out by direct fire at over 2,000 yards a German 150mm self-propelled gun. The first shot delivered broke off a track from the enemy self-propelled, and succeeding shots destroyed the gun and vehicles by burning.²⁷

Additionally, much debate still persisted concerning towed versus self-propelled tank destroyers.

Battle experience throughout the period of the Campaign under present consideration indicates that the self-propelled anti-tank gun is tactically superior to the towed weapon. The chief advantages of the former weapon are mobility and armored protection for the crew while in action. Although it presents a higher silhouette and requires greater preparation for dug-in position, the other advantages have been found to outweigh these lesser disadvantages.²⁸

During the first three months of the period considered, one battalion in Italy employed towed three-inch guns. The use of these weapons was so limited that the battalion was converted at the first opportunity to the self-propelled 76mm gun motor carriage, M18. While equipped with towed guns, the battalion was primarily used for indirect fire, during operations on the Fifth Army front on the Garigliano where the enemy was on the defense in mountainous country, this battalion has practically no opportunity to engage enemy tanks. Later, after it had been transferred to the Anzio Beachhead, it deployed its guns in normal anti-tank positions, but in the relatively quiet southern sector where it was assigned, the battalion again had little opportunity to assume an active combat role.²⁹

The lessons learned also points to the British antitank operations at Anzio Beachhead in February 1944, as a lesson of the limited utility of the towed gun. The report highlights the fact that the self-propelled tank destroyers had "destroyed and disabled large number of enemy tanks, and maintained substantially defensible positions

during its withdrawal.”³⁰ Towed guns were simply overrun and destroyed because they lacked the time to withdraw.

The Italian campaign saw widespread use of the M10, as well as the introduction of the M18 Hellcat. Additionally the Ordnance Board began to work on a tank destroyer of its own. With the less than spectacular performance of the 76-millimeter gun which both the M10 and M18 had in some form, the Ordnance Board had begun to work on a 90-millimeter tank destroyer in November of 1943. The Tank Destroyer Board did not welcome this project because it utilized the modified M10A1 hull, which was a modified M4 Sherman tank hull, thus taking a step back in evolution. The Tank Destroyer Board did not see the improved lethality as an adequate trade for mobility.

While the M10 entered service as merely just another expedient weapons system to bridge the gap between the M3 and General Bruce’s purpose-built tank destroyer, the M10 found favor among its crews and those that it supported. Never accepted by General Bruce and his predecessors, sighting it was an “expedient” weapons system and too heavy and slow to execute tank destroyer doctrine, the tank destroyer proponents missed an opportunity to capitalize on the popularity of the M10.³¹ Although undergunned when it faced Panthers and Tigers, which were mercifully few in Italy, the M10 was a mechanically reliable and dependable weapon. In an article entitled “Report From Italy,” which appeared in the *Infantry School Mailing List* in 1944, the writer states,

The anti-tank weapons of the infantry units are not sufficient, particularly in an offensive operation. They are too slow, too vulnerable, and too dependent on roads. The best weapon for taking the enemy’s armored counterattacks under fire before they can reach the attacking infantry is the M10 tank destroyer.³²

The M18, which entered service in the summer of 1944, also proved to be a popular vehicle amongst its crews (figure 3). The M18 was General Bruce’s “super

duper” tank destroyer envisioned at last. The M18, Hellcat, was “designed specifically as a highly mobile, self-propelled gun for action against enemy armor.”³³ This was the tank destroyer built “from the ground up” for the purpose of executing tank destroyer doctrine.³⁴ Although relatively the same as the M10 in lethality and less than the M10 in survivability, the M18 bore the one characteristic that had eluded the previous expedient models. The M18, weighing only slightly less than twenty tons would emerge from the war as the fastest combat vehicle produced by any army. With speeds that could reach fifty miles an hour, the Hellcat was far quicker than its German opponents. The most widely produced German tank of the war, the Mark IV, could reach thirty miles per hour. The Panther was capable of thirty-five miles per hour, while the Tiger could only manage twenty-five miles per hour. This speed, however, did not come without a price. The M18, weighing a full thirteen tons less than the M10, had less than half of its armor. Being almost twice as fast as the M10 or its German competitors was simply not good enough in Italy.



Figure 3. M18, Hellcat, Tank Destroyer, with Camouflage. Reprinted from Charles B. MacDonald, *Three Battles: Arnaville, Altuzzo, and Schmidt*, U.S. Army In World War II (Washington, DC: Office of the Chief of Military History, U.S. Army, 1952), 199.

With the limitations on mobility imposed by terrain, the M18's survivability came into question. Its speed might allow it to move faster than other vehicles, but the nature of the terrain reduced this advantage, as it was generally restricted to movement along easily discernable and defensible routes. Massing tank destroyers on a single road or in the open against prepared German antitank guns was costly. The tank destroyers, unable to swiftly move to the flanks of their opponents, found that speed in a narrowly bounded frontal attack did not mean much. As Colonel (COL) F. H. Morse noted in his observations with Fifth Army, in the summer of 1944:

The M10 Tank Destroyer vehicles, with which most units in this theater are equipped, is considered by all to be very efficient and desirable. Preliminary tests and study of the new T70 (M18) Tank Destroyer vehicle results in unfavorable comparison and lack of desire on the part of anyone in this theater for units to be equipped therewith. Although no T71 (M36) Tank Destroyer vehicles have yet been received, it is felt by most of the personnel that not more than two battalions equipped with these vehicles will be needed or desired for this theater. All are thoroughly convinced that there is no need for towed tank destroyer units.³⁵

COL Morse's comments reflect the condition that the tank destroyers in Italy are working in. The battalions he spoke with preferred the more survivable M10 to the faster M18 or the more lethal M36. This seems rational based on the lack of heavy German armor and the restrictive terrain.

As Allied forces fought their way up the Italian boot the terrain would open up and provide suitable terrain for more open offensive operations. The focus on operations in Italy, if the army was ever really focused on Italy, would soon and irreversibly turn towards France and the coming invasion. With the coming of the new front, there would also come a new tank destroyer force tried in two theaters. France saw the emergence of a tank destroyer force that had fought in Africa and Italy; five veteran tank destroyer battalions were about to enter their third theater. However, even the inexperienced

battalions would land on the continent with a slightly different perspective than their predecessors had started with. The experiences gained in platoon and company level tank destroyer operations from the training ranges at Camp Hood to the muddy terraces of Italy had placed new emphasis on company and platoon operations, expanded engagement criteria, to include not just German tanks, but all armored vehicles and fortifications, and a better understanding of combined arms operations and how to use terrain. The one real question that still lay ahead was the potential benefit of towed versus self-propelled tank destroyers.

Conclusion

Tank destroyer action in Italy served as the catalyst for many doctrine changes. The evolving German threat, focused on linear defensive operations in optimal terrain, proved difficult for U.S. commanders to combat. The tank destroyers and the commanders that employed them were forced to expand their secondary roles in indirect fire and in the destruction of fixed fortifications. With these changes and on this terrain, tank destroyers were task organized as platoon and company size elements, forcing more independent actions by the small unit leaders. These methods of employment were not based on a lack of doctrinal knowledge, but were born of the characteristics of terrain and threat organization. This period also saw the continued use of the M10 and the introduction of the M18. While both vehicles found favor with their crews, the advantages of the M18, touted by the Tank Destroyer Center as the ultimate tank destroyer, were negated by both German defensive operations and the terrain. The M10, more survivable than the M18 based on its thicker armor, proved to be more suitable and the preferred tank destroyer in Italy.

¹S. L. A. Marshall, *Armies on Wheels* (New York: William Morrow & Company), 82-82.

²LTC Emory A. Dunham, "Tank Destroyer History," Army Ground Forces Study no. 29 (Historical Section, Army Ground Forces, 1946), 31.

³Ibid.

⁴Ibid.

⁵Ibid., 32.

⁶Ibid., 36.

⁷Ibid.

⁸Ibid., 37.

⁹"Report From Italy," *The Infantry Mailing List* 28 (27 December 1944): 9.

¹⁰U.S. Army, Headquarters Mediterranean Theater of Operations, Training Memo no. 2, "Lessons From the Italian Campaign," 15 March 1945.

¹¹Ibid., 35.

¹²Ibid., 35-36.

¹³Ibid., 35.

¹⁴"Report From Italy," 9.

¹⁵Ibid.

¹⁶Ibid.

¹⁷Training Memo no. 2, 38.

¹⁸Ibid.

¹⁹Ibid.

²⁰Ibid., 40.

²¹Ibid.

²²Ibid., 44.

²³Ibid., 39

²⁴Ibid.

²⁵Ibid., 69.

²⁶Ibid., 39.

²⁷Ibid., 39-40.

²⁸Ibid. 127.

²⁹Ibid.

³⁰Ibid., 128.

³¹MAJ D. L. McCaskey, "The Role of Army Ground Forces in the Development of Equipment," Army Ground Forces Study no. 34 (Historical Section, Army Ground Forces, 1946), 63.

³²"Report From Italy," 9.

³³Dunham, "Tank Destroyer History," 62.

³⁴Ibid.

³⁵COL F. H. Morse, Army Ground Forces, Observer Report (Training Group, G-3, June 1944), 31.

CHAPTER 5

NORTHERN EUROPE

The mobile, tactically agile, self-propelled, armored field artillery and tank destroyers are clearly traceable in the Ardennes fighting as over and over again influencing the course of battle. Their record should be pondered in the design of tactics and missiles.¹

Hugh M. Cole, *The Ardennes: Battle of the Bulge*

In June 1944, Major General Ernest J. Dawley, a veteran of the Mediterranean Campaign, took command of the Tank Destroyer Center. Like his predecessors in command, General Dawley “enunciated the value of teamwork, precision and realistic battle conditions in training.”² General Dawley stressed

speed in gunnery and hitting power. Precision came first with him but speed developed to the acme of swiftness, he felt, was essential to reduction of casualty attrition in tank destroyers.³

With limited survivability an unenviable feature of all the tank destroyers, General Dawley understood the importance of hitting first. General Dawley was also aware that with the tank destroyers now on French soil the time to clearly, once and for all, stress the doctrine of tank destroyers was rapidly fleeting. If the Germans were ever again to utilize massed armor formations, it would be soon or never. With concerning reports on the use of tank destroyers in combat still coming in, the Tank Destroyer Center held a Group and Division Commanders Conference at Camp Hood on 26 June 1944. The Tank Destroyer Center covered seven topics they hoped would broaden the understanding of the use of tank destroyers that 2 1/2 years had yet to bear. The conference covered:

- (a) organization of towed and self-propelled battalions
- (b) tank destroyers in secondary mission of indirect fire
- (c) direct fire at moving targets

- (d) destruction of pillboxes
- (e) direct fire at surprise targets simulation a tank attack
- (f) night firing and
- (g) preparation of tank destroyer direct fire positions⁴

The conference allowed the Tank Destroyer Center to highlight the revised FM 18-5 due to be published the following month, as well as introduce FM 18-21, *Towed Gun Platoon*, which was published in April 1944, and , FM 18-20, *Tank Destroyer Platoon, Self-Propelled*, which was published May 1944. Both the Tank Destroyer Center and those attending the conference deemed it a success, so an Army and Corps Commanders Conference was quickly arranged and held on the twenty-ninth.

The review of FM 18-5, *Tactical Employment Tank Destroyer Units*, which began just after the conclusion of combat operations in Africa, incorporated several changes to indicate a broader view in tank destroyer employment. Most of these changes reflected the manner in which tank destroyers were already being employed. The initial stance that tank destroyers were to be massed was watered down to read: “If the general location of the enemy armor is unknown, tank destroyer battalions must be distributed laterally.”⁵ Additionally, tank destroyers were given latitude in engaging smaller formations of German armor:

When the enemy’s capabilities are limited to small-scale employment of armor in support of attack or counterattack, tank destroyers should be distributed among forward units.⁶

The revised FM also acknowledged that tank destroyers could work to support organic antitank elements in the infantry battalions. “When ample tank destroyers are available, some may be used for reinforcing organic antitank units.”⁷

While these changes reflect modifications in distribution and in mission, other changes offered more reflective thinking in the actual engagement of German armor by tank destroyers.

The revised FM introduced four “fundamental principles” tank destroyers should employ when encountering German armor.⁸ Primary importance was placed on reconnaissance to determine the location of German armor and suitable positions from which to engage them. Secondly, the fundamentals stressed:

Movement to firing positions so as to intercept hostile tanks by arriving sufficiently in advance of the tanks to permit proper emplacement and concealment for tank destroyers. *Tank destroyers ambush hostile tanks, but do not charge nor chase them.*⁹

The third fundamental stressed tank destroyers holding their ground against advancing tanks. In principle this allowed the tank destroyers to continue to engage enemy armor at increasingly shorter ranges from chosen positions. The disadvantage of this would come to light at Mortain. The last fundamental dealt specifically with the employment of tank destroyers to “pursue by fire” enemy tanks when they withdraw.¹⁰

The FM still failed to take into account the realities born out by combat in Africa and Italy. The FM maintained, “The enemy frequently will mass his tanks for an attack and will endeavor to obtain surprise.”¹¹ Although the German army would like to have continued to do this, they were unable to easily mass their armored forces. The manual also warned, “Employment by separate company or smaller unit seldom gives good results, and frequently fails.”¹² This statement seems to go against both what was already being done in the field and against what the manual already stated with regards to the German “small scale employment of armor.”¹³

The revised manual also stated,

Towed guns are more suitable for advanced positions than self-propelled guns, since they are smaller and more easily concealed. If tank destroyers are committed to advance firing positions, it may be impracticable to maneuver them further thereafter.¹⁴

The truth of this statement would be brought to light at Mortain.

The Tank Destroyer Center also achieved a major goal in assuring combined arms training throughout the combat arms branches. The Tank Destroyer Center oversaw the assignment of a tank destroyer battalion to the Armored Center at Fort Knox and a tank destroyer battalion to the Infantry School at Fort Benning.¹⁵ By August there would be a platoon of tank destroyers at the Field Artillery School, and the Tank Destroyer School would have a platoon of 105-millimeter howitzers assigned to it.¹⁶ These new assignments were designed to ensure not only the synchronization of tank destroyers into the combined arms team, but allow those officers that would be largely responsible for their employment a better understanding of what the tank destroyers were capable of achieving.

General Dawley also sought to streamline the relationship between tank destroyers and their primary user the infantry division. General Dawley recommended that one tank destroyer battalion “be included as an organic component of the infantry division.”¹⁷ This would serve to eliminate the little-used tank destroyer group headquarters and would ensure that tank destroyer units would “be available to the divisions in training periods to establish cooperative and coordinated action.”¹⁸

General Dawley’s argument for habitual tank destroyer units within infantry divisions and FM 18-5’s observations concerning towed guns were soon to be put to the test.

The first real test for tank destroyers in Europe would come on the heels of Operation Cobra, the American penetration of German defenses in the Cotentin Peninsula. This test would pit towed tank destroyers against some of the best armor in the German inventory. Ironically, the towed guns' success would not be witnessed by one of their staunchest advocates. General Lesley McNair, who did much to put the tank destroyers into being, was killed by friendly bombs in the opening hours of Cobra.

In an effort to retake ground loss during the American offense, the Germans launched a counterattack against Mortain, France. The German attack on 6 August caught the American defenders completely off guard. The 30th Infantry Division was still in the process of relieving 1st Infantry Division of the area surrounding Mortain and did not bother to establish defensive positions, expecting to go back on the offense very soon. The 117th Infantry Regiment of the 30th Infantry Division, already weary from fighting in the hedgerow country around St. Lo, and in Operation Cobra, was given responsibility of defending in the vicinity of St. Barthelmy. The 823rd Tank Destroyer Battalion, towed, 3 inch, had an habitual relationship with the 30th Infantry Division, so when the 117th moved into St. Barthelmy, the tank destroyers of B Company, 823rd were not far behind.¹⁹ The 823rd had a working relationship with the 30th Infantry Division that started in their staging area in England in 1944 and, except for brief periods, lasted throughout the war.²⁰ This type of relationship between the two units brought about an understanding of what each could and would be expected to do in combat. Likewise, as the 120th Infantry Regiment moved into position around l'Abbaye-Blanche, A Company, 823rd joined them. As lieutenants from each of the companies scouted for firing positions, they found that the positions occupied by the 1st Infantry Division tank

destroyers were not well suited for their needs. The M10s of the 634th, supporting the 1st Infantry Division, were a much taller platform from which to fire and their tracks had broken up the soft ground enough that manhandling the 3-inch guns into position was a difficult job.²¹ As it was, when the platoons arrived between 21:00 and 24:00, the crews had to satisfy themselves with just digging in the wheels of their guns and hoping the positions would do, after all they expected to go back on the offense in a couple of days and did not expect a German offense.²²

Against the 30th Infantry Division the Germans threw four Panzer Divisions, the 2nd and 116th and the 1st and 2nd SS. The German tankers counted on fog and limited visibility to provide them concealment from the Army Air Corps and antitank defenses. They got half of what they asked for.

After initial success in overrunning an infantry antitank platoon at the le Fantny roadblock north of St. Barthelmy, the tank destroyers were alerted and ready. At about 0500 the Germans open an artillery barrage that lasted forty-five minutes, but produced no casualties within the 823rd.²³ At 0545 outposts reported about fifty tanks moving toward St. Barthelmy from la Sablonniere and another nine from Grande la Dainie.²⁴ A Company, 823rd, also reported German tanks had overrun the roadblock at le Bois du Parc.²⁵ German tanks were set to attack St. Barthelmy and the tank destroyers of B Company, from three directions.

Inside St. Barthelmy, 1st and 3rd Platoons, B Company, 823rd Tank Destroyer, were alert and ready for action. As night gave way to a heavy fog-laden morning, visibility for the two platoons was down to 4.5 to 6 meters.²⁶ Furthermore hedgerows that the M10s had used for concealment broke up the towed guns' field of fire, limiting them

to very narrow windows of opportunity. As the lead tank, a Mark V Panther from the First SS Panzer Regiment, made its way up the road towards the village and into the awaiting tank destroyers, the German tank crew, being equally blind in the fog attempted to feel out resistance with its machine guns.²⁷ The flashes from the machine gun provided enough of an aiming point. When the commander of the first 823rd gun to fire that morning ordered his gunner to “aim for these flashes and pull the firing lanyard,” it was as much of a surprise to him as it was to the hapless Panther crew when the round struck metal.²⁸ Nevertheless, the tank veered and rolled to a stop on fire and in the middle of the road.

By 0700 the Germans had removed the burning Panther and were ready to try again. Again the same gun fired at the tank’s machine-gun flashes with the same success. Although this Panther had “gotten about 20 meters closer than the first and was only about 35 meter from the gun itself” the results were the same.²⁹ The German attack into the southern end of the town was stalled. The Germans, who had seen the M10s withdraw with the 1st Infantry Division, had not seen the towed guns move into town. Owing to the gun’s lethality, they incorrectly believed they were “facing 90mm guns not 3-inchers.”³⁰

By 0800 tanks were now attempting to enter the town from the northeast and southwest. German tanks, in uncharacteristically desperate moves, made headlong rushes at St. Barthelmy in an attempt to overwhelm the tank destroyers. With 50- and 60-meter shots, the tank destroyers were killing all German tanks that were unlucky enough to pass by them.³¹

Over the course of the day the 823rd destroyed fourteen enemy tanks, two trucks, a half-track, three full-tracked vehicles, two motorcycles, a staff car, and a machine-gun

position.”³² For their action at Mortain, both A and B company would receive the Presidential Unit Citation.³³ This victory, however, did not come without a price. Much of the battalion was overrun and had to fight its way back to U.S. units as individuals. The unit lost eleven of its guns and prime movers, most of the losses coming from B Company who bore the brunt of the attack.³⁴

While the 823rd was refitting from its fight against German armor, General Dawley was fighting off notions the War Department already had about the postwar army. On 19 October 1944, Army Ground Forces asked General Dawley to make a recommendation “regarding the status of tank and tank destroyer units.”³⁵ In short they wanted to know if tank destroyers should remain a separate branch. It is hard to imagine that this would have been an issue if General McNair had been alive and still in charge of Army Ground Forces. Nevertheless, General Dawley made his recommendation that tank destroyers should remain a separate arm.³⁶ His recommendation came with the original endorsement of the Chief of Armor back in 1941 and the short but distinguished list of those that had commanded the Tank Destroyer Center.³⁷ The report cited that “the mission and technique of the destroyers was divergent from that of other arms.”³⁸ Not entirely convinced, the Army Ground Forces directed a review and report on “tank destroyer achievements with respect to: material, equipment, doctrine and training, and organization.”³⁹ Even if tank destroyers survived the fight with German armor, they were not necessarily going to survive the fight with Army Ground Forces.

By 2 December the final report from the Tank Destroyer Center was delivered to Army Ground Forces. The report was basically an analysis of facts received from all

theaters and recommended improvements to better standardize tank destroyer operations throughout the army.⁴⁰

With regards to the mission of tank destroyers;

It was recommended that the present mission as defined in Field Manual 18-5 was so broad and so all inclusive that an extension thereof or change in the future could not be foreseen.⁴¹

The report also examined tank destroyer organization of both towed and self-propelled units, with much of the emphasis being placed on self-propelled battalions. The report explained that the towed type battalion was an expedient. Clearly, if the Army had learned one thing in Italy, it was that it did not want towed tank destroyers. Mortain and the struggle with the 823rd's lack of mobility verified that.

The organization of the self-propelled battalion, as it currently existed consisting of "a headquarters company, a reconnaissance company and three gun companies, was basically sound and would remain sound."⁴²

The report also took a look at the varied weapons platforms that had taken to the field as tank destroyers and detailed advantages and disadvantages of each. The report dealt with weapons carriages, armament, ammunition, fire control equipment, communications, and other particular features the platforms possessed.⁴³

The report made several suggestions with regards to providing overhead cover for the tank destroyers that still provided superior vision to tanks but protected against "aircraft and fragmentation."⁴⁴ The report also addressed the need for a stabilized gun, for firing on the move, and for blast deflectors, so the gunner's vision would not be obscured by smoke when a round was fired.

The most interesting aspect of the report was the analysis concluded on the tank destroyers themselves. The results of platform analysis showed a contrast in the tank destroyer vehicles. While the report praised the M18 as the “ideal type of gun motor carriage desired because of maneuverability and mobility,” its lethality was another matter.⁴⁵ The report characterized the 76-millimeter on the M18 as “the minimum ideal.”⁴⁶ While the M18’s gun was seen as the minimum, a more satisfactory armament would appear.

The M36 Jackson arrived in Europe September 1944 and proved to be an immediate success. Its 90-millimeter gun made it the most lethal armored vehicle in the American arsenal and more importantly, capable of defeating German heavy armor.

One of the lessons learned, however, through a study of past achievements and battlefield reports, was the necessity for more gun power which, considered from the standpoint of highest velocity possible, indicated that the ideal maximum caliber consistent with mobility, rate of fire and capacity for volume of fire, was the 90mm gun motor carriage, M36.⁴⁷

The only real limitation of the M36s, survivability notwithstanding, was their limited numbers (figure 4). Despite arriving with the troops in September, only 236 M36s were in combat by 20 December.⁴⁸

The third notable engagement made by tank destroyers during the war came in Belgium and Luxembourg appropriately with the last best chance the German Army was to have at achieving some sort of victory against the allies. In addition, as a final test, this last German offense would be fought by towed tank destroyers, as well as M10s, M18s, and M36s.



Figure 4. M36, Jackson, Tank Destroyer. Reprinted from Dr. Christopher R. Gabel, *Seek, Strike, and Destroy: U.S. Army Tank Destroyer Doctrine in World War II* (Fort Leavenworth, KS: Combat Studies Institute Research Survey No. 12, 1985), 31.

In December 1944, Army Group B launched an offense through the Ardennes with twenty-four divisions, ten of which were Panzer.⁴⁹ With combat power including 1,500 tanks and self-propelled guns this would culminate German armor offensive capability for the war. Tragically, the inexperienced 106th Infantry Division with its attached towed tank destroyer, battalion the 820th, and the veteran 28th Division recovering from its fight in the Hurtgen Forest with its towed tank destroyer battalion the 630th, bore the brunt of this penetration. The inability of the towed gun battalions to fight while continuing to maneuver again rose to the forefront of tank destroyer issues. Even the veteran 823rd Tank Destroyer Battalion did not fare well. The 823rd, still attached to the 30th Infantry Division, was in the process of transitioning to the M10.⁵⁰ Hastily committed on the 17 December, the 823rd entered combat with each of its companies equipped with two platoons of towed guns and one platoon of M10s. The 823rd recorded that: “Tank destroyer guns were one by one flanked by enemy tanks and personnel driven

from guns by small arms and machine gun fire.⁵¹ Additionally, the 801st Tank Destroyer Battalion, towed, was positioned along the key terrain of Elsenborn Ridge in support of the 9th Infantry Division. The conditions of the terrain, specifically the mud, caused the guns to become mired and fall prey to German artillery and infantry.⁵² The 801st lost “seventeen guns and sixteen half-track prime movers in two days.”⁵³

The consensus of opinions of the platoon leaders and the gun crews are that if it had not been for the fact of the non-mobility of the towed gun and the lack of armor protection for the gun crews and in most cases the over-running of the gun positions by the infantry many more tanks and vehicles could have been destroyed.⁵⁴

The towed guns again lacked the mobility to reposition once enemy contact was made (figure 5). The reality of towed gun limitations was again made clear “of the 119 tank destroyers lost by the 1st Army in December, eighty-six were towed.”⁵⁵



Figure 5. Three-Inch, Towed Tank Destroyer. Reprinted from Hugh M. Cole, *The Ardennes: Battle of the Bulge*, U.S. Army In World War II: The European Theater of Operations (Washington, DC: Office of the Chief of Military History, U.S. Army, 1965), 114.

Self-propelled guns would prove more successful in stopping the German advance. The 705th Tank Destroyer Battalion equipped M18s provided the much needed tank-killing capability sorely lacking in the 101st Airborne Division's organic equipment. Their placement around Bastogne served to strengthen that critical road junction and to fortify the lightly equipped airborne division's position.⁵⁶

The 644th with its M10s, which fought beside the 801st, towed, at Elsenborn Ridge, in support of the 2nd Infantry Division, fared much better than its towed counterparts. The M10 again found itself fighting effectively in restrictive terrain just as it had in Italy. The woody hilly terrain along the ridge provided excellent opportunities for the M10s to ambush enemy armor at ranges that made the M10 a very lethal vehicle. As in Italy the employment of the tank destroyers was in platoon and company strength.

The companies were attached to the infantry regiments. The platoons were attached to the infantry battalions. When working with infantry on the offensive, the battalion attempted to operate in units no larger than platoon strength. On the defensive the battalion operated where possible in company strength.⁵⁷

The 644th emerged from the fight with a good record. In a two-day period, 17-19 December, it destroyed "17 enemy tanks, two self-propelled guns, and damaged two more enemy tanks."⁵⁸

The tank destroyer that received the most publicity out of the Ardennes fight was the M36. Three tank destroyer battalions the 610th, the 703rd, and the 740th, each equipped with the M36, proved capable of stopping the best tanks the Germans could throw at them. The 1st Infantry Division moved into Butgenbach just south of Elsenborn Ridge, between 2nd Infantry Division and the 30th Infantry Division, with its habitual tank destroyer battalion, the 634th (M10s) as well as the 703rd and its M36s.⁵⁹ From 18

to 25 December the 703rd served at the mobile reserve in the 1st Infantry Division sector, covering approximately twelve miles.⁶⁰ As the after-action report from the 703rd states:

The entire situation proved conclusively that the fundamentals of many Tank Destroyer Doctrines are well founded.⁶¹

The advantages of a highly mobile reserve were brought out in the ability of the reserve units to take favorable positions in depth, and move quickly to threatened areas.⁶²

Exploiting their mobility of self-propelled TD's can effectively assist in stopping a tank attack.⁶³

With the defeat of German armor at the Ardennes, Germany forever lost the ability to mass armor against the Allies. The tank destroyers were relegated to executing secondary missions more and more frequently, never quite getting the fight General McNair envisioned.

Conclusion

Throughout Europe the tank destroyers proved time and time again their versatility on the battlefield. Although not always as lethal as they should have been, in light of heavier and heavier German tanks, their mobility and ability to strike targets with direct and indirect fire made them a valuable asset. By the end of the World War II both the towed and self-propelled tank destroyers proved their worth on the battlefield. As Hugh M. Cole cites in the Center of Military History's official account of the actions of tank destroyers in the Ardennes, "Tank destroyers are clearly traceable in the Ardennes fighting as over and over again influencing the course of battle." Although none of the tank destroyers rose to the initial level of expectations of the Tank Destroyer Branch, each platform had performed well, based on the users' knowledge of the weapons system and the situation in which it was employed.

Towed guns proved easier to conceal and allowed gun crews to wait until German tanks were within range before striking. Self-propelled guns allowed for the continuous mobility originally called for by General Bruce. Although both the towed and self-propelled guns' lack of lethality prevented them from pressing too hard against German tanks, if presented an assailable flank, they could find their mark. Additionally, the self-propelled guns were more than capable of providing support in operations against fixed strong points, such as bunkers and machine-gun nests. Essentially, the towed gun was relegated to more of a defensive role, while the self-propelled guns, because of their ability to move and shoot while under armor protection, could adopt more of an offensive role. Unlike prewar antitank defenses, the tank destroyers typically retained their ability to deploy to a position of advantage over the enemy. Although towed guns, because of the time needed to uncouple them from their prime mover and emplace them, were sometimes placed in static defensive positions, the gun crews were, given the time, likely to withdraw with their guns to reestablish defensive positions. The towed guns that seemed to be the fix in Africa had failed miserably in Italy and had quickly fallen out of favor in an offense-oriented army in Europe. As a result of recent combat experience, the War Department on 11 January 1945 approved the European Theater's request that all towed gun units be converted to self-propelled.

¹Fred C. Cole, *The Ardennes, Battle of the Bulge, U.S. Army in World War II: European Theater of Operations* (1965; reprint, Washington, D.C.: Office of the Chief of Military History, U.S. Army, 1994), 653-654.

²LTC Emory A. Dunham, "Tank Destroyer History," Army Ground Forces Study no. 29 (Historical Section, Army Ground Forces, 1946), 39.

³Ibid.

⁴Ibid.

⁵U.S. War Department, FM 18-5, *Tank Destroyer Field Manual, Organization and Tactics of Tank Destroyer Units* (Washington, DC: U.S. Government Printing Office, 1942), 4.

⁶Ibid.

⁷Ibid.

⁸Ibid., 5.

⁹Ibid.

¹⁰Ibid.

¹¹Ibid., 3.

¹²Ibid., 6.

¹³Ibid., 4.

¹⁴Ibid., 6.

¹⁵Dunham, “Tank Destroyer History,” 39.

¹⁶Ibid.

¹⁷Ibid., 41.

¹⁸Ibid.

¹⁹Allyn R. Vannoy, *Against the Panzers: United States Infantry Versus German Tanks, 1944-1945* (Jefferson, NC: McFarland & Company, Inc., 1996), 22.

²⁰Alwyn Featherston, *Saving the Breakout, The 30th Division's Heroic Stand at Mortain, August 7-12, 1944* (Novato, CA: Presidio, 1993), 16.

²¹Vannoy, *Against the Panzers*, 23.

²²Ibid.

²³Ibid., 25.

²⁴Ibid.

²⁵Ibid.

²⁶Ibid.

²⁷Ibid., 27.

²⁸Ibid.

²⁹Ibid.

³⁰Ibid., 30.

³¹Ibid.

³²Martin Blumenson, *Breakout and Pursuit*, U.S. Army in World War II: The European Theater of Operations (Washington, D.C.: Office of the Chief of Military History, U.S. Army, 1989; reprint, 1961), 473-474.

³³Featherston, *Saving the Breakout*, 209.

³⁴Blumenson, *Breakout and Pursuit*, 474.

³⁵Dunham, "Tank Destroyer History," 40.

³⁶Ibid.

³⁷Ibid.

³⁸Ibid.

³⁹Ibid.

⁴⁰Ibid.

⁴¹Ibid.

⁴²Ibid.

⁴³Ibid., 41.

⁴⁴Ibid.

⁴⁵Ibid.

⁴⁶Ibid.

⁴⁷Ibid.

⁴⁸Charles M. Baily, *Faint Praise: American Tanks and The Tank Destroyers during World War II* (Hamden, CT: Archon Books, 1983), 117.

⁴⁹Christopher R. Gabel, *Seek, Strike, and Destroy: U.S. Army Tank Destroyer Doctrine in World War II* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1985), 61.

⁵⁰Baily, *Faint Praise*, 116-117.

⁵¹*Ibid.*

⁵²Gabel, *Seek, Strike, and Destroy*, 62.

⁵³*Ibid.*

⁵⁴U.S. Army, Armored School, "The Employment of Four Tank Destroyer Battalions in the ETO" (student research report by Committee 24, Fort Knox, KY, May 1950), 56.

⁵⁵Baily, *Faint Praise*, 116.

⁵⁶Gabel, *Seek, Strike, and Destroy*, 62-63.

⁵⁷U.S. Army, Armored School, "The Employment of Four Tank Destroyer Battalions in the ETO," 58.

⁵⁸*Ibid.*, 59.

⁵⁹CPT E. H. Swett, "Tank Destroyer Operations" (Headquarters, 703rd TD BN, U.S. Army, 5 May 1945), 1.

⁶⁰*Ibid.*, 5.

⁶¹*Ibid.*

⁶²*Ibid.*

⁶³*Ibid.*

CHAPTER 6

CONCLUSION

They (tanks) grow bigger, more heavily armored and in the long run slower. They are invincible now in the sense that apparently nothing can stop a blitzkrieg column except another bigger and tougher armored force. But it is safe to say that the tank's present degree of invulnerability is at best and worst a passing phase.¹

Colonel S.L.A. Marshal, *Armies on Wheels*

During the Second World War, the United States Army activated 106 tank destroyer battalions. Of the 106, only 63 would finish the war. Although much would be done in the way of boards and analysis in organizing the postwar army, the fate of the tank destroyers was a forgone conclusion. The predominant view was that tank destroyers, although valuable in fulfilling their secondary roles in combat, had failed to prove their worth in their primary role of destroying enemy armor. In a postwar army quick to demobilize, the necessity of maintaining a branch with a questionable history was an unnecessary luxury. However, to term the tank destroyers as simply a failure is wrong and short sighted. While it is easy to dismiss the tank destroyer concept as failed doctrine, to do so would undermine the process by which army doctrine is formed. It would also label doctrine as a concrete end state rather than a piece of an evolutionary process. The army's development of tank destroyers represents a tactical revolution, as defined by Michael Howard in his article "Military Science in the Age of Peace" on par with the army transformation taking place today.² Tank destroyers fit Howard's definition of tactical revolution because of significant emphasis placed on the "triangular dialogue" between doctrine, resources, and technology.³ This triangular dialogue, however, does

not fully encapsulate the dialectic that forced the evolution of tank destroyers. To fully understand the evolutionary process you must apply the products, most notably doctrine and equipment, produced by the tactical revolution against terrain and the proposed enemy. This tactical revolution and dialectic are important to bear in mind as the army is again changing to face constantly evolving realities.

General Lesley McNair's prewar vision in developing antitank defenses into a separate arm was the basis for the tactical revolution. Stripping the organic antitank defenses away from most units, infantry being the exception, and focusing antitank defenses on offensive operations was a tremendous leap from static antitank defenses of the prewar period. The doctrine that evolved from this concept was theory related to how the U.S. Army believed it would fight World War II, and specifically the enemy, as envisioned, massed German armor. Doctrine, however, is only partially refined and must be continuously ratified through training and in combat to be considered valid. Even the successful doctrine of the last war is prone to failure in future conflict, if it is not regularly revised and updated. The tank destroyers possessed sound theory that arguably stood up to the test in training, during the Louisiana and Carolinas maneuvers and initially in combat. Regardless, only one fight in World War II, the 601st at El Guettar, 1942, stands out as the classic tank destroyer fight as envisioned in the prewar doctrine.

Likewise, the current army transformation has published no less than fifteen new field manuals on how the Stryker Brigade should conduct operations. The work on these field manuals, which began in 1999, has in itself been an evolutionary process. Outlines proceeded rough drafts, rough drafts preceded initial drafts leading ultimately to published field manuals that had yet to be tested in the field in larger than company-size

units. Although those field manuals incorporated suggestions and comments from the using units, changes based on realities encountered outside of simulations should be expected.

Technology also figures proximately in defining a tactical revolution. Utility and versatility of medium and lightweight vehicles sprang from the tank destroyer concept. While the towed tank destroyers ultimately emulated prewar antitank defenses, the self-propelled tank destroyers were truly revolutionary and served the army well. The expedient vehicles selected for fielding in the first tank destroyer battalions were quickly replaced by more advanced weapons platforms that would ultimately embody what the tank destroyer proponents saw as the perfect tank destroyer, the M18 Hellcat. The M18, which was not on the drawing board in 1941 when the branch was born, would enter combat in 1943. Despite the M18's lack of lethality against heavy German armor, it more than met the primary considerations laid out by the tank destroyer board for vehicle requirements. The M10, M18, and M36 emerged from the war as some of the best fighting vehicles ever produced. The M10 won fame and praise as the infantry support weapon of choice in Italy. The M18 was renowned for its speed and success in France and Germany, and the M36 emerged as the "only American weapon that could consistently be counted on to knock out a Tiger."⁴ As a testament of the success of the M36, a month after the landings in Normandy, "The European Theater of Operations requested that all battalions equipped with the M10 be converted to the M36."⁵

Likewise, the Stryker Brigade is equipped to take advantage of the newest equipment and technologies our army has to offer. It is focused on capitalizing technology to make smarter and better decisions than its opponents. It does this by

leveraging data collection and transmission to create a better understanding of where the enemy is and his likely weak points. Using this information and the mobility/maneuverability of the Stryker Brigade, U.S. forces will be, conceptually, able to strike swiftly and decisively at the enemy's weak points to achieve a desired end state. In order to achieve this kind of presence on the battlefield, the Stryker Brigade has combined branches, soldiers, and systems at unprecedented low echelons. Tank platoons operating at the lowest organizational or tactical level, organic to infantry battalions, and military intelligence companies within the cavalry squadron illustrate two of these changes.

Lastly, the triangle anchors itself in resources, without which nothing else is possible. The United States is the only remaining superpower in the world. Just as in World War II it is capable of calling on a vast amount of assets in raw materials, technology, and human resources. The United States possesses the vision and the ability to carry transformation through to fruition.

Apart from this tactical revolution, there are two other considerations that drive the dialectic: the terrain the organization is expected to operate in and the enemy it is supposed to face. As was discovered with tank destroyers, different weapons systems performed better or worse depending on the terrain they were deployed in. Terrain often negated the mobility prized by the new branch, and the tank destroyers' lack of lethality was often overcome by restrictive terrain. Ultimately, it could be said that each of the tank destroyers worked well if it was placed on the terrain that most negated its weaknesses.

Finally, the army must gauge the success of its efforts against the threat it was designed to face. The U.S. Army of 1941 prepared itself for a fight that would rarely

materialize. The German Army the Americans faced was not the same German Army that had thrust its way across France in 1940. German doctrine in 1940 was based on mobility created by “the combination of firepower, concentration, and surprise.”⁶ The French and British, who favored a more judicial approach in deploying tanks and antitank guns, had failed to understand German armor employment and effectively counter it. Likewise, the U.S. Army had not kept up in the interwar years with either tank or antitank doctrine, but was able to learn vicariously from the French and British experiences.

The observations the army gleaned from German operations in France in 1940 belied an almost unstoppable German army. Although the French and British were at times able to achieve tactical victories, they could not combat the massed penetrating German armor attacks. As the German armor drove deeper and deeper into French territory, the Allies lacked the mobile antitank defenses needed to stop German armor, which tank destroyers were supposed to provide. The massed and mobile German tanks, along with their commanders’ ability to attack with initiative, allowed the German tankers the freedom to do almost as they pleased.

However, the Germans soon changed their doctrine. The dispersion of armored units along two fronts, the losses of massed armor formations at the hands of the Army Air Forces, as well as limitations imposed by terrain, changed the way the German Army employed its armor. These changes, most notably indicated by a more cautious and decentralized approach in using armor, illustrate changes forced upon them. Perhaps, as LTC Emory A. Dunham points out, tank destroyers deserve more credit for forcing a change in German armor doctrine. In “Army Ground Forces; Tank Destroyer History,” Study No. 29, LTC Dunham suggests, “The aggressiveness of tank destroyers with their

mobility and maneuverability forces German armor to immobilize itself.”⁷ Ultimately, German armor doctrine changed because the Allies learned to combat it. The Germans sacrificed mobility for more lethal and more survivable tanks. Regardless of the reason, tank destroyers could never set idly by waiting to fight an enemy that never fully materialized.

The threat the Stryker Brigade is designed to operate against is broad based and difficult to define. The terms multispectrum and asymmetric are often used to describe this threat, denoting an enemy that is everywhere and ranges from dismounted to armored capabilities. Likewise the current operating environment is centered on an enemy that is unconventional and difficult to predict. The tank destroyers were designed to fight in well-defined circumstances that almost never materialized. The Stryker will take to the field against a broad-based threat in an uncertain environment.

As the army strives to transform the military today, it is pushing the pendulum back the other way. The army is again making concessions in the vehicles selected for the Stryker Brigade that might prove unwise in light of U.S. World War II experience. As the tank destroyers were designed to be more mobile than their heavier armed and more survivable opponents, the Stryker Brigade is designed to be more mobile and, most importantly, more deployable than its opponents. In order to achieve this, the army is again compromising on lethality and survivability. Not to say that the Stryker Brigade will be aimed at heavy armor formations as the tank destroyers were, the vehicle characteristics, however, bear out potentially troubling similarities. Both the tank destroyers and the new series of Stryker vehicles prize mobility and deployability above all. Just as learned with tank destroyers, however, more mobility is not always a good

trade for lethality and survivability. Whether the army prepares its soldiers to slug it out on equal footing or not they almost always will, at some point. The compromise between lethality and survivability has to be tempered, so that the most-prized characteristic offsets the limitations of the characteristics being surrendered. If the army compromises survivability for lethality, it must make sure that the increased lethality allows for the destruction of the weapon's primary opponent at distances outside of the opponent's ability to strike. With the Stryker's main armament being an M2, 50-caliber machine gun or a M19 grenade launcher, commanders must seriously consider the environment in which they employ the vehicles or plan to augment them with more lethal weapons systems. There is clearly a role for light vehicles in the army today, but not at the expense of reducing lethality to an unacceptable low level.

The final lesson taught to the army by the tank destroyers of World War II is that there is no perfect mix of vehicle characteristics for a weapons system. As demonstrated, each of the tank destroyers discussed proved successful in its own right. Each of the weapons systems brought unique capabilities with it that U.S. commanders were able to take advantage of. The commanders of the Stryker Brigade must understand the characteristics of their vehicles and the capabilities of the threat they are facing to determine the best way to use their new light vehicles. When those commanders deviate from the published doctrine, it should not see it as a failure, but an evolutionary advancement.

¹S. L. A. Marshall, *Armies on Wheels* (New York: William Morrow & Company, 1974), 157.

²Michael Howard, "Military Science in an Age of Peace," *Journal of the Royal United Services Institute*, March 1974, 3-9.

³Ibid.

⁴Allyn R. Vannoy, *Against the Panzers, United States Infantry Versus German Tanks, 1944-1945* (Jefferson, NC: McFarland & Company, Inc., 1996), 15.

⁵Christopher R. Gabel, *Seek, Strike, and Destroy: U.S. Army Tank Destroyer Doctrine in World War II* (Fort Leavenworth KS: U.S. Army Command and General Staff College, 1985), 53.

⁶MG F. W. von Mellenthin, *Panzer Battles, A Study of the Employment of Armor in the Second World War* (Great Britain: Cassell & Co., Ltd., 1955; reprint, Oklahoma: University of Oklahoma Press, 1971), 25.

⁷LTC Emory A. Dunham, "Tank Destroyer History," Army Ground Forces Study no. 29 (Historical Section, Army Ground Forces, 1946), 51.

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