

Utilizing Tank Destroyers as Artillery

By Maj. Ernest C. Hatfield, Cav.

It was with full realization of the advantages and disadvantages of the tank, the most potent single weapon of World War II, that such units as Tank Destroyers were created and trained.

Original field manuals of the tank destroyers did not include as a secondary mission that of reinforcing artillery. The tank destroyer was created to destroy tanks and was conceived to be a direct fire weapon only, due to its high velocity and flat trajectory. Field Manual 18-5, dated 16 June 1942, paragraph 11, stated: "When tank destroyer units can be spared from this primary mission, they may be employed on secondary missions, such as beach defense, action against parachute and airborne troops, and the reduction of bunkers, pillboxes, and other weapon emplacements." Although the secondary mission of indirect fire was not included in the manual, this role was anticipated by many of the officers who possessed an artillery background. These officers realized that although tank destroyers were primarily designed for the exacting job of destroying tanks, they would at some time be called upon to use the fire power and characteristics inherent in their design for other purposes.

Modern axioms of warfare indicate that the commander who achieves the greatest superiority over the enemy at the decisive point will win the victory. In keeping with this concept, all weapons available to him should be capable of adding their weight to the power of his army when called upon. Therefore, all weapons able to fire should not be so specialized as to make them incapable of action except in certain narrow channels or under certain conditions. During the African campaign there arose a critical need for more weapons to increase the volume of fire on the enemy at long ranges. Commanders carefully scrutinized equipment available to them and realized the volume of fire that the newly equipped tank destroyer battalion could deliver. This unit, having nine firing platoons, was comparable in weapons to a regiment of field artillery and was available for use as field artillery when not engaged in its primary mission of destroying enemy tanks. Therefore, the tank destroyers were used in the role of reinforcing artillery.

Although initially crude, due to lack of precision instruments, the fire was effective and the tank destroyers accomplished many successful missions for the artillery. They were used to interdict roads, fire on enemy batteries, and knock out OPs at long ranges where organic artillery could not reach. Their fire became more and more effective with experience, and the mission of supplementing or supporting the fire of the artillery was accepted as a secondary role for tank destroyers.

As soon as this secondary role was confirmed as an effective mission, through combat experience, doctrine was



Mounting a 76-mm gun and a .50-cal. machine gun, the M18 tank destroyer has a road speed of 55 mph. Its turret has 360° traverse, both hand- and power-operated.

developed and training literature revised. All tank destroyer units not in combat were given additional training in preparation for this mission.

The revised tank destroyer Field Manual 18-5, dated 18 July 1944, paragraph 6, states: "Suitable secondary missions are: *a.* Direct or indirect fire to reinforce or supplement that of artillery units. *b.* Destruction of pillboxes and permanent defensive works. *c.* Support of landing operations. *d.* Defense of beaches against waterborne attack. *e.* Roving gun and roving battery mission."

In analyzing the excerpts from the two field manuals it is obvious that the original conception of the use of tank destroyers was somewhat different than is the present. This has come about through combat experience, as are all changes in doctrine during the war.

In combat the artillery continued to give instruction and used the tank destroyers as supplementary or supporting weapons. After the German defeat in Africa, units were re-equipped and trained for future battles to come. It was during this period that these units perfected the tank destroyer-artillery team whereby tank destroyers could supplement the organic and attached artillery of the divisions with their long range fire.

In the assignment of fire missions it was desirable to use the tank destroyers for long range targets because (1) due to the flat trajectory of the tank destroyer guns, there was always the danger of hitting trees and other objects short of the target and endangering our own troops; (2) the difference in range for a slight change in quadrant elevation is much greater with the tank destroyer gun than with lower velocity weapons; (3) its dispersion is much less than that of the 105-mm at long ranges; (4) the 3" HE shell makes a small crater that can easily be traversed by vehicles; (5) the high velocity of the shell allows surprise on a target, as it will burst on the target before it can be heard.

The following missions for tank destroyer units employed as reinforcing artillery were developed:

- a.* Reinforcing the fires of field artillery battalions.
- b.* Deepening and extending the zones of fire of the field artillery.
- c.* Targets of opportunity.
- d.* Counterbattery—to a limited extent.

- e. Harassing missions.
- f. Interdiction missions.

All tank destroyer units in the States were undergoing accelerated training in the field artillery role and were required to take a test to determine their qualification in this role prior to movement overseas.

Tank destroyer battalions are attached to the division, which attaches to the field artillery either the battalion or companies, depending upon the tank threat in that particular area. It has been normal in the infantry division to attach a company of tank destroyers to a light field artillery battalion. Missions may be called for and directed by the forward observers of the artillery battalion or by observation posts manned by tank destroyer personnel.

The field artillery provides the target area survey. The tank destroyer unit executes the position area survey, to include establishment of place marks near its fire unit and an orienting line by short aiming circle traverse from convenient control established by field artillery. Position areas are coordinated by the reinforced artillery unit. The tank destroyer unit establishes a fire direction center, and the artillery executes fire direction by designating targets and prescribing time of firing and number rounds to be fired. The artillery may be called upon, however, to perform such position area survey as the battalion either is not qualified to make or does not have time to perform.

Normally the communication system between the TD and FA consists usually of a wire line laid by the FA to the TD company and a party line laid by the TD company to each of its platoons. Radio communication is not considered as a normal means of intercommunication between TD-FA.

When the tank destroyer battalion is inexperienced and its ability to deliver accurate fire is questionable, each tank destroyer company is usually paired up with a field artillery battalion. The tank destroyer company maintains a FDC near its platoon positions and has wire communications to the field artillery battalion to receive missions and to enable the field artillery to make use of any tank destroyer observer who might be connected by either radio or wire to the company. As the division artillery commander recognizes an increase in efficiency of the battalion, through experience, he deals directly with the S-3 of the tank destroyer battalion headquarters, who in turn deals direct with the FDCs of the companies. Personnel operating the FDCs consists of the reconnaissance sergeants, corporals, and trained personnel from the security sections who act as instrument operators to lay the guns. The companies are tied in directly by telephone to the battalion to which they are attached and work directly under it for fire missions.

Tank destroyer units have had considerable difficulty in registering for indirect fire missions due to the small burst of the HE shell. This situation has been relieved through registration by platoon (1 round) and the use of smoke shells. The 630th TD Bn had very little difficulty in securing good registrations which were made by platoon (1 round).

Air observers have been used to adjust the fire of tank destroyers very effectively. The 776th TD Bn had an officer

who did full-time duty as an observer at the divisional air strip and, by placing the battalion channel crystal on one of the channels of the SCR-610 radio set of divisional artillery planes, the same observation facilities of the field artillery battalion were secured for the tank destroyer battalion. The battalion Air OP Officer took care of the duties of a divisional artillery observer, and flew his share of the daily air patrol, but he was also a tank destroyer officer flying over the assigned sector of his battalion. He had constant daily contact with the pilots and observers of the division and was in the best position to insure that the aerial observation and reconnaissance requirements of the tank destroyer battalion were immediately brought to the attention of the planes about to take off and already in the air. From his place in the operations room he could sift out and evaluate information from the patrol reports and radio traffic and phone it in immediately to his battalion. Before he flew he contacted his battalion and talked to the S-2 and S-3 to find out if they had any special instructions for him.

Tank destroyer companies have been organized in both six-gun and normal four-gun batteries. The companies of the 776th TD Bn were organized into two 6-gun batteries, and on one occasion it was necessary to revert to primary mission on very short notice. This was accomplished in a minimum of time.

Under special conditions tank destroyer units can be utilized in forward positions as roving batteries, thereby gaining range and obviating the probability of being neutralized by enemy firing.

In defensive positions the 803d TD Bn has employed a roving gun against the enemy. The gun was moved into position at night, with a small amount of artillery fire in the sector to hide the noise. It is necessary to stray from normal tactics in this type of employment, therefore the rewards must be great. After finding a target and destroying it, the gun was immediately pulled out and sent to another part of the sector the next night.

An example of the accuracy of the 3" gun was evidenced on the night of 14 January 1945 when "C" Company, 808th TD Bn, in the role of reinforcing artillery was called upon to deliver emergency fires on a troop concentration. The target was over 800 mils outside of transfer limits, requiring a shift of 1612 mils, and over 12,000 yards in range. A *K* of +78 yards per 1,000 was used. A check round fired at the target in the morning showed that the deflection was correct, range 100 short.

Tank destroyer guns of the 6th TD Group in indirect fire positions supported the assault crossing of the Roer River and establishment of the bridgehead. Targets selected were those suitable for harassing and interdiction fires, such as towns, roads, and road junctions. All fires were scheduled and coordinated by the reinforced field artillery. In this operation the tank destroyers also fired illuminating shells according to a scheduled fire plan for the purpose of illuminating and directing the movement of the assaulting infantry.

During a 24-hour period 21-22 March 1945, Company "A" of the 630th TD Bn fired 17 harassing missions, 1

registration mission, and 1 continuous harassing mission on a Rhine River bridge, a total of 4,180 rounds of HE being expended. A total of 2,830 rounds were placed on the Maximil Sau bridge over the Rhine River during the period in one continuous harassing mission. Air reconnaissance later reported the bridge was out, and the 13th FA Brig credited the company with destruction of the bridge. During this same 24-hour period Company "B" fired 1,569 rounds and Company "C" 450 rounds, for a battalion total of 6,199 rounds of HE. During an eight-day period the following missions were fired: 14 registration, 37 counterbattery, 160 harassing, 5 interdiction, 18 preparation, 6 enemy strong

points. Total expenditures were 9,220 rounds of HE. Supply of ammunition presented a considerable problem, so the ammunition trucks were running continuously. The supported artillery battalion aided in transporting the ammunition by using some of its trucks.

The comparative cheapness of 3" ammunition in tonnage and transport, and the fact that tank destroyers are highly effective in performing harassing and interdiction missions, were the reasons which caused a marked increase in their use as reinforcing artillery in Europe. As their experience and training have increased, so has their effectiveness in their performance in the role of reinforcing artillery.

Tank Destroyers in the Roer River Crossing

By Col. Paul B. Bell, FA

The Roer River Crossing Operation in Western Germany, by the XIX Corps, beginning on 23 February 1945, was a major military operation. It provided an excellent example of the complete utilization of all available fire support in the corps, in which the tank destroyers played a prominent part.

Assault crossings were made on a two-division front, with the 29th and 30th Infantry Divisions each attacking with two regiments abreast. To support the bridging operation, comprehensive and coordinated fire plans were made by both divisions and by Corps Artillery in which the fires of tank destroyer units in the corps were fully exploited. In addition to their primary mission of destroying enemy armor, tank destroyers were used on other direct and on indirect fire missions.

Indirect fires of tank destroyer battalions attached to the divisions were incorporated in the Division Artillery Fire Plans, with the indirect phase ending as the tactical situation developed and the battalions were required to assume their primary missions. Two tank destroyer battalions in Corps (the 702nd Tank Destroyer Battalion (90-mm SP) and the 801st Tank Destroyer Battalion (3" towed)) were attached to the 2nd Tank Destroyer Group for the crossing operation. The assigned mission was three-fold: to provide direct fire support to assault infantry; to neutralize suspected enemy positions by indirect fire; and to harass and interdict main routes of approach to the scene of the assault by long range indirect fire. The primary principle followed in siting of all tank destroyer guns was to be able to deny the use of flank approaches to the bridgehead by hostile armor, expressly ordered by the corps commander. His knowledge of a similar operation on the Volturno River in Italy, in which two battalions of Rangers were wiped out by enemy armored attacks from the flanks of the bridgehead, led to ordering these preventive measures to insure that a like occurrence would not arise in this operation.

Initially, six platoons (24 guns) of the 90-mm SPs were emplaced in direct fire positions on the west bank of the Roer River, so sited as to permit the delivery of fire upon targets and areas which were deemed most likely to require neutralization. Tank destroyer FOs with the leading infantry elements were in

radio communication with the guns, and afforded a rapid means of placing fire upon desired targets. These FOs remained with the assault infantry commanders in order to make recommendations and advise the commanders on the direct fire possibilities of the tank destroyers. When the infantry advanced to such an extent that direct fire was no longer feasible, the tank destroyers were moved to indirect fire positions. These positions had been previously prepared and surveyed, so no delay was encountered in the change of mission.

Fires of the tank destroyer battalions were utilized to the utmost to thicken and deepen the fires of Corps Artillery. Initially, the remaining three platoons of the 90-mm SPs were sited to deliver long range enfiladed interdiction fire upon each of three highways, firing at the rate of 100 rounds per platoon per hour, from H—45 to H+210, for the purpose of cutting and prohibiting the repair of wire communication and preventing enemy traffic from reaching the scene of the assault crossing.

The 3-inch towed guns maintained neutralization fire upon the Staatsforst, a woods east of the Roer River opposite the 30th Division sector, with one company (12 guns) firing 300 rounds per hour from H—45 to H+210. Two companies maintained neutralization fires upon a system of trenches opposite the 29th Infantry Division, on high ground east of the river. The rate of fire was 300 rounds per hour for each company for one hour, beginning at H—45. At H+15 the fire was lifted to three towns three to four thousand yards farther east, maintaining the same rate of fire.

At the end of the scheduled fires, both the 90-mm and the 3-inch guns were prepared to fire missions upon call from Corps Artillery Fire Direction Center. Control was accomplished by establishing a Tank Destroyer Fire Direction Center at the Corps Artillery FDC with direct wire communication to each Battalion Fire Direction Center through the Corps Artillery switchboard. During the ensuing four days call missions were handled in this manner, without undue difficulty or delay. Missions were interdictionary, harassing, and neutralizing. Because of the abundance of artillery tank destroyers were not called upon for TOTs,

although fully prepared to do the job. The Fire Direction Center was concerned only with fire control and those points directly connected with fire control. All decisions pertaining to reconnaissance, number of guns, siting, amounts of ammunition to be used, and movements were made and coordinated by the Group Commander.

It is felt that the use of tank destroyer guns for indirect fire on this operation was highly successful. Results were gratifying to all concerned. The establishment of a Tank Destroyer Fire Direction Center at Corps Artillery Fire Direction Center greatly facilitated the accomplishment of the tank destroyer missions and made it possible for the Artillery FDC to be completely and constantly informed on the tank destroyer fire capabilities, ammunition status, and other relevant matters. This eliminated any delay or confusion, and left nothing to be desired in the way of coordination. The Tank Destroyer Fire Direction Center was operated in the same manner as an Artillery Group Fire Direction Center; artillery procedure for fire control was followed throughout the period of operation. Comment by the Corps Artillery Deputy Commander indicated complete satisfaction with the set-up, and at no time was there anything but full cooperation between artillery and tank destroyers.

Personnel of the TD FDC consisted of one officer and three enlisted men, which was sufficient for this operation. It is felt, however, that for a period of more than five days an additional officer and enlisted man would be desirable, so that personnel could obtain necessary rest. A competent officer must be on the job at all times, to prevent any delay on matters demanding immediate attention.

All requests for tank destroyer fire missions must go through the Tank Destroyer Fire Direction Center in order that control is exercised at all times. This procedure should be made clear to any unit likely to request fires, and must be strictly followed. Proper coordination is speedily effected at Artillery Fire Direction Center and unnecessary or duplicated firing is avoided.

The communications in this operation proved to be adequate. Fire missions were called through two switchboards, however, which should be avoided, if at all possible, to provide for quicker transmission. The Tank Destroyer Fire Direction Officer should be able to call the Battalion Fire Direction Officer directly. This is a "must" if TOTs or other urgent missions are to be fired.

Employment of the tank destroyer guns in this manner on similar operations is highly recommended. The high rate of fire maintained on enemy-occupied positions by the 3-inch guns was, beyond doubt, a great deterrent to enemy fire from these positions, and their value on harassing and interdicting missions is too well known to require comment. The 90-mm guns were used mainly for long range missions. Because they can be sited well forward, their fire can be placed on targets beyond the range of most of the Corps Artillery. It should not

be assumed, however, that their value is limited to long range missions only. As an illustration, three 90-mm platoons were called upon to place interdiction fire upon roads leading to a junction at Stein-strass, approximately 11,000 yards distant. The mission was to deny its use to enemy traffic which was observed moving in that direction from the woods to the south. Interdiction for a distance of 2,000 yards north, south, and west of the junction was maintained at the rate of 300 rounds per hour. PWs from a horse-drawn 150-mm artillery battery, captured intact by the 30th Infantry Division, stated that they were unable to evacuate their materiel because of the terrific interdiction fire.

The versatility of the tank destroyer gun, especially the SPs, on both indirect and direct missions, has been amply proved in the past. A maximum degree of effect is obtained with tank destroyer ammunition, and the great saving in shipping weight and space (over heavier calibers) is evident. With the matter of communications and coordination having been adequately handled in a comparatively simple manner, it is felt that use of tank destroyer battalions in this way was a valuable addition to the corps' fire-power. With the benefits of past experience, tank destroyers under centralized control should anticipate no undue difficulties in future employment in this type role.

The planning phase for the crossing was long enough to allow for thorough attention to all aspects. Several days were devoted to reconnaissance of routes and positions, map and terrain studies, coordination with adjacent units, and pertinent administrative matters. The corps sector was entirely familiar to all concerned, as all units had occupied the area for sometime—a fact which greatly simplified the planning problems. Thorough orientation of personnel aided in reducing the problem of coordination to a minimum. This was especially true of the tank destroyer FOs and the assault infantry COs. It is necessary that sufficient contacts and meetings occur between these officers so that each thoroughly understands the other's capabilities and needs. Constant liaison between supported and supporting units maintained a high degree of cooperation; this is attested to by the smoothness which characterized the crossing operation from the start.

The variety of employment presented no new problems to the veteran tank destroyer battalions in XIX Corps. Their roles since the beachhead days have included almost every type of combat use. For this reason, they are entirely capable of carrying out assigned missions. However, placing two battalions under 2nd Tank Destroyer Group Control with the dual mission of bringing all available fire to bear on the enemy and of constituting a mobile Corps Reserve for such an operation, is believed to be a new use of Tank Destroyer Group. The facts that the tactical capabilities of the Group were used to present a powerful striking force against the enemy, and that all missions were successfully accomplished, are evidence of the usefulness of Tank Destroyer Groups.

Sighting and Fire Control equipment may be defective without personnel of the operating unit being aware of it. Therefore, the sighting and fire control equipment for each artillery weapon should be checked regularly and thoroughly.