

INSTRUCTOR TRAINING DIVISION  
GENERAL INSTRUCTION DEPARTMENT  
THE ARMORED SCHOOL  
Fort Knox, Kentucky

ADVANCED OFFICERS CLASS NO. 1

Date 1 May 1948

MILITARY MONOGRAPH

TITLE: Supply Procedure During Combat (Tank Battalion).

SCOPE: Principles that apply in the control and coordination of supply procedures of a tank battalion (Armored Division) during World War II.

41-77

Prepared by: JOSEPH W. JARVIS  
(Name)

Captain, Cavalry

## SUPPLY PROCEDURE DURING COMBAT

### (TANK BATTALION)

"A great deal of credit for the success of the campaign was due to the efficiency in the handling of supplies, fuel, and ammunition." This statement was made by Major General Alvin C. Gillem, Jr., in 1943, when commenting upon the success of the Invasion of SICILY.<sup>1</sup>

Supply reached its greatest height of perfection during World War II. Any future world conflict will create bigger problems with which we must cope.

In this account I will endeavor to bring out some of the more important considerations in the control and supervision of tank battalion supply in the European Theater of Operations. Main consideration will be given to Class III and Class V supplies during the combat operations of the 1st Battalion, 66th Armored Regiment of the 2nd United States Armored Division. However, pertinent remarks will also be made concerning Class I, Class II, and Class IV supply activities.

Although there were only three heavy type divisions in World War II, and their tables of organization were significantly different than those now planned, principles and techniques of supply operation should not change materially.

---

<sup>1</sup>A History of the Second United States Armored Division, 1940 to 1946, Lt. Colonel E. A. Trahan, G.S.C., Editor.

If it can be said that there is one phase of supply that is most important, then that phase might be supply control. However, a breakdown at any point will weaken the support that can be given. Normally, supply is not difficult when a unit is not in contact with the enemy.

I propose to bring out those principles, based on experience that helped to make our supply facilities provide maximum support to the combat elements during battle. It is necessary to approach this subject from the standpoint of control and supervision because of the manner in which the tank battalion with which I am familiar operated. Control and supervision involves reports, organization, supply discipline, personal liaison, and coordination.

In applying any lessons that may be brought out, it will be better to compare my duties as battalion S-4 with those of the combat command S-4 of the present type armored division. The reasons for this are that neither the combat command nor battalion S-4 were in the supply chain. However, the present tank battalion S-4 is in the regular supply channels, and it would be well to keep this in mind.

No system is a good system until it has been put to the test under varying conditions, and I will endeavor to bring out what I think are pertinent points by sighting instances where they occurred. Little attempt will be made to follow supplies after they reach company level, but I will emphasize some of the principles

that are necessary at battalion level in order to insure uninterrupted supply.

Officer personnel of battalion headquarters proper, consisted of the battalion commander, executive officer (S-2-3), and S-3 (Air). In actual practice the S-3 (Air) became the S-1-4, and operated the forward command post of the battalion. Hereafter whenever reference is made to the S-4, I will actually be talking of the S-3 (Air).

Channels of supply were from division to regiment, and regiment directly to the companies of the battalion. The battalion S-4 did not enter the supply picture other than in coordinating and supervising supply activities between combat command, regiment and companies. Troops within the battalion consisted of a headquarters and headquarters company, which contained the reconnaissance, mortar and assault gun platoons, and three (3) tank companies. Originally, the regiment consisted of two (2) medium tank battalions and one (1) light battalion; however, the regiment was reorganized after the SICILIAN CAMPAIGN so that each battalion had two (2) medium tank companies, and one (1) light tank company.

Reports sent to battalion from subordinate units were concerned with vehicular status, rations, major items of equipment, ammunition, and fuel and lubricants. These were in turn rendered to the regimental S-4 who had the additional duties of <sup>Command</sup> Combat S-4. These

reports were not consolidated at battalion before being forwarded, thus the requirements of individual units within the battalion, both organic and attached, did not lose their identity. It can be seen that battalion was a clearing, controlling, and expediting headquarters. The value of these reports at battalion and combat command levels was for operational planning and expediting.

Where it was necessary to render formal requisitions, mainly Classes II and IV, these went directly to the regimental supply office, which made the consolidation.

Coordinating through the battalion S-4, the headquarters company commander controlled the activities of the supply trucks from the time they were released by regiment or combat command to the battalion, until they were returned to regiment for resupply.

In offensive action, the forward command post usually operated within five hundred (500) yards to two (2) miles of the commander's echelon. During the only extended defensive action of the battalion, the forward command post and the commander's echelon were consolidated.

By December of 1942, elements of the division had been on many maneuvers during its training phase in the UNITED STATES, and had participated in the invasion of NORTH AFRICA. Personnel had been comparatively static, and little difficulty had been experienced in distribution of supplies after they were made available at battalion level.

In the SICILIAN campaign, the battalion landed on D-day at LICATA, and was in combat operations for approximately two weeks. No vehicles were lost in the landing, supply was not difficult, and fuel and lubricants constituted the bulk of all supplies. Headquarters company commander personally led resupply vehicles to the companies since the battalion was in reserve most of the time. Actually, we were not in combat long enough for any major problems of supply to develop.

During the period from 12 June 1944 until 6 July 1944, the battalion was fighting in the vicinity of CARENTON, FRANCE, first as part of Combat Command "A", 2nd Armored Division, which was supporting the 101st Airborne Division, and later attached to the 101st Airborne Division. Resupply was carried on in the usual manner, issuing installations were close, the battalion was fought as a unit, and elements of the command were in very close proximity to each other. The area over which this fighting took place could be measured in yards from one (1) hedgerow to the next, or perhaps the same hedgerow. In this entire action, the battalion advanced a total of four (4) miles. The most important items of supply were tanks and ammunition. Again no supply problem existed that was within the power of the battalion to control, since supply points were exceptionally close.

With the ST. LO' breakthrough, weaknesses that had failed to assert themselves in previous engagements were apparent. The reasons for this were: (1) Increasing length of resupply lines, (2) Dispersion of units within the battalion over a greater area. Consequently, the actual time available for supply distribution after the resupply vehicles reached the vicinity of the battalion was decreased considerably. These weaknesses were: (1) Failure of reports from lower units to reach battalion, and, in turn, failure of battalion reports to reach regiment and combat commands in sufficient time to be acted upon, (2) The slowness of supply vehicles in reaching the companies they were to resupply. Until this time, the entire burden of distributing supplies had been carried on personally by the headquarters company commander. After we analyzed the situation, recommendations were made to the battalion commander that the company 1st sergeants and supply sergeants, plus what vehicles and crew members they thought they needed, would work from the battalion forward command post instead of regimental trains. S-1 activities of the S-4 also warranted this change. In addition, they would take a more active part in the distribution of supplies, and in obtaining status reports from their companies. Prior to this time, company headquarters sections, not immediately necessary to combat operations, had habitually worked from regimental trains area to their companies. This did not lend itself to close enough liaison with the battalion. These

rather elementary changes accomplished the following: (1) Reports were gotten in on time, and were more accurate; thus eliminating guess work, uncertainty, and wasted effort, (2) Guides were always available for leading the supply vehicles to the proper organizations, doing away with the necessity for sending guides back from the combat elements. Under this arrangement, supply vehicles reported to the headquarters company commander who broke them down as to the companies they were to resupply, went over details, and assigned guides. Should the entire battalion be coiled in the same general area for the night, the headquarters company commander usually kept the entire supply train together until after arrival within the battalion perimeter.

Another change was indicated shortly after the above methods were instituted. There was a tendency on the part of the personnel of the supply vehicles, not organic to the battalion, to slacken their efforts in locating and resupplying every last combat vehicle of a unit when left to their own initiative, which was frequently necessary. In an effort to correct this situation, regimental supply vehicles were matched-up with the same companies whenever the situation permitted. The advantages of this arrangement were quickly noticed, and the validity of this teaming-up became increasingly important when individual companies were detached from the battalion.

A week after the ST. LO' breakthrough the battalion was heavily engaged with the enemy in the vicinity of VIRE, FRANCE. Here we had our first really difficult problem with supplying front line units. Enemy ground action had been so violent during one (1) forty-eight (48) hour period that resupply had been impossible during daylight with thin-skinned vehicles, and the situation remained far too fluid during the hours of darkness. Enemy forces succeeded in cutting the battalion combat trains away from the combat units. The trains had been brought up to within a mile or so of our forward positions in order to be available at a moment's notice. It was decided that the combat vehicles would be sent back to the trains area for resupply. Small groups of tanks infiltrated to the trains area for resupply, having to fight going and coming. The battalion was resupplied in this manner with ammunition, fuel and lubricants in six and one-half ( $6\frac{1}{2}$ ) hours.<sup>1</sup> This was accomplished during daylight hours, and while the battalion was fighting an offensive action against a very aggressive enemy. Prior to this action, resupply had most frequently taken place during darkness. The governing factor was that resupply was an ever continuing process, and if

---

<sup>1</sup>After Action Report, 66th Armored Regiment, 2nd Armored Division. Date covered 6 August 1944.

vehicles could use supplies of ammunition or fuel they were resupplied to combat load limits whenever conditions permitted. By this statement I mean to place emphasis on the necessity for keeping resupply activities going even if a medium tank will take only five (5) rounds of tank cannon ammunition and five (5) cans of gasoline. There are many instances where this can be done without interfering with or slowing down the operations. One example is where the unit may be temporarily in reserve or coiled off the road.

From the latter part of August until the last week of September, the 2nd Armored Division was in an exploitation and pursuit phase across FRANCE, BELGIUM, HOLLAND, and into GERMANY. Essential fuel and lubricant, and ammunition trucks traveled close up on the battalion, and resupplied along the highway or coiled off the road as the situation permitted. Gasoline became the major problem. All vehicles were supplied so that they would have approximately the same number of operating miles. During these operations, the necessity for keeping resupply loads consolidated at all times became most important. Very close coordination and supervision was required so that no time was wasted by not refueling at every opportunity, thus allowing for load consolidation and release of supply vehicles for the long resupply lines.

On 1 September, in the vicinity of ALBERT, FRANCE, the battalion got on the road to continue its advance, with fifteen (15) minutes of gasoline left. Fortunately, supply vehicles reached our positions in column along the axis before the battalion was forced to halt. Had not close supervision at all levels of supply been existing all of the time, this unit may have been forced to remain in place for many hours. Loads were consolidated on a battalion basis, but not on a company level. To have done the latter would have meant too much loss in transportation.

During the last two (2) weeks of November, trafficability cross-country was very poor, and it was impossible for 2½-ton trucks to cross cultivated fields. Light tanks, (M5's), and half tracks were used for supply delivery off roads. During this same period, the battalion or units of it were frequently attached to armored infantry. Here personal liaison between the tank battalion S-4 and the infantry S-4 became very vital. Upon receiving warning orders to the effect that our tank battalion or parts thereof were to be attached to an armored infantry unit, I immediately reported to the S-4 of that unit. Our plans were coordinated to the last detail. In an earlier operation in which we were attached to this same unit, they had attempted to take over the actual supply of our tank battalion with their own organic transportation. This was during an operation that took place while in division reserve, and even though we were never

committed while in this status, it became apparent that such a plan would not work satisfactorily, and for the following reasons:

(1) The armored infantry did not have the transportation for the added burden of a tank battalion, (2) Personnel of the armored infantry were neither acquainted with the type and quantities of supply that a tank battalion requires, nor were they acquainted with the personnel of the tank units. As a result of this previous experience, our regular supply vehicles accompanied us, and continued to resupply through normal channels. All status reports were sent to the armored infantry for planning purposes, and to our own regiment for resupply and information.

By the end of November, 1944, the 2nd Armored Division had seen considerable action. Coordination and cooperation had become habit, everyone was supply conscious, down to the last crew member.

Until the ARDENNES counter-offensive, little attempt had been made to feed hot meals to tankers, through operation of unit kitchens. Ordinarily, kitchens were not with their companies while a division combat operation was in progress other than while their battalion was in division or corps reserve. Tankers provided their own hot meals through the use of an inadequate vehicular stove or stoves of their own making. This method had proven adequate until below-freezing weather set in. Working and fighting under the extreme conditions encountered in this

period brought out the importance and necessity for serving hot meals to the command, especially the combat elements. Higher headquarters prescribed that a minimum of one (1) hot meal per day, preferably supper, was to be fed all troops whenever possible.<sup>1</sup> Meals were prepared either in combat command or battalion combat trains area, or in some cases, independently by the company somewhere along the battalion route of advance. These hot meals were then delivered in thermos containers to the forward elements as soon as possible in the evening when the situation permitted. Through these winter operations, tankers learned, what the infantry already knew, that unit kitchens could successfully operate far closer to the front lines than hitherto had been thought feasible. Results were very gratifying to the entire command. Morale alone was bolstered to a high degree, and the overall health of the command was assured. There was considerable wastage in rations, inasmuch as food was prepared in the kitchen on the premise that they could reach the company that night. Naturally, this wasn't always possible. In other cases, parts of companies could be fed, whereas perhaps one (1) tank platoon might be in such a situation that it could not possibly be reached. In many cases tank crews would use their reserve rations only to have their

---

<sup>1</sup>After Action Report, 66th Armored Regiment, 2nd Armored Division. Dates covered 1 January 1945 to 30 January 1945.

hot chow reach them later. In any event, this operational waste was insignificant based upon the results obtained in keeping the health, morale, and fighting efficiency of the command at a maximum level. From this lesson learned in the ARDENNES, it became standing operating procedure for kitchens to operate during combat, and under conditions that prior to this we had thought impracticable.

One of the Class I supply problems that gave me as S-4 considerable trouble was maintaining control of the vehicular emergency rations. Normally, three days' emergency rations were stowed in combat vehicles at all times. Very close control on the part of the company commanders was necessary during training and rest periods to insure that these supplies were not used in an unauthorized manner. Certificates were required from the company commanders, at the end of combat operations after resupply had been accomplished, to the effect that required emergency rations were on hand. These certificates served to make the company commanders exercise more strict supervision over these supplies, and a great saving in rations was thus accomplished.

Task organizations during the BULGE changed with rapidly changing situations, and here again the importance of timely reporting, close liaison, coordination, and supervision paid off. Particular reference is made to the advisability of organic supply support accompanying units of the battalion or the battalion regardless of the organization to which attached. Emphasis is

also placed on the importance of personal contact between the tank battalion S-4 and the headquarters to which attached as soon as warning orders have been issued. Within a matter of days the battalion operated under a number of different commands and without a hitch in supply support. As flexible as armor must be, anything that contributes to this requirement or characteristic must be employed if it affords continuous support.

These winter operations also served to further emphasize the value of personal liaison between the battalion S-4, the troops he serves, and the next higher agency from which he draws supplies. No hard and fast rule can be set for the frequency of these personal contacts, but they are a continuing process, and cannot be delegated by the S-4.

That period immediately following an operation is one in which the S-4 must initiate, supervise, and keep pressure on lower units to insure that resupply is effected without unnecessary delay; this, regardless of whether further operations are planned immediately or not. There is a tendency on the part of personnel, officer and enlisted, to let down immediately after a hard fight. Every effort must be made to avoid this. Added impetus must be given the supply picture by all personnel, and the battalion S-4 is in an ideal position to add this pressure through his personnel contact with using and issuing units. Only when resupply has been effected, and reports rendered, can there

be any relaxing in this supply phase.

I have attempted to cover some of the events in supply that are not generally discussed in manuals, yet are very important.

Tactical employment of combat and field trains is a more or less separate phase of supply, subject to the desires of battalion and higher commanders. Regardless of the manner in which trains are utilized tactically, basic principles that help to carry the plan into effect remain pretty much the same. Adherence to these principles allows for flexibility to the extent that a good supply plan can fit into any tactical situation or employment that may be desired.

In conclusion, I make the following recommendations:

1. That all reports must be adequate, reliable, and prompt.

Commanders must be kept informed of the supply situation affecting operational planning. During combat, tank battalion commanders are usually in such close contact, and liaison with their fighting elements that they require no particular edification on the part of the S-4. The job for the S-4 at this point is to get what is needed, not just know what is needed.

2. That combined teams of supply are every bit as important as combined arms teams. Switching supply facilities, personnel, and channels of supply due to variations in the make-up of combined arms teams is as inefficient as changing the composition of a tank-infantry team while fighting for an objective.

3. That supply alertness at all levels, from battalion commander down to and including the last newly arrived private, must become second nature through proper supply habits. I have used this all-inclusive term, because it appears to more nearly describe qualities that a supply plan must have. These would include supply pressure from the rear forward, supply discipline, consolidation and reconstitution of loads, resupply of combat vehicles whenever and wherever the situation permits, to mention only a few.

4. That supply requirements for distribution will be most nearly satisfied at battalion level if the officer responsible for distribution has no other major duties. This requirement seems to have been satisfied by the addition of the transportation platoon leader in headquarters and service company of the present medium tank battalion.

5. That personal liaison by the battalion S-4 with companies, issuing units, and combat command is an absolute necessity for maximum effectiveness.

6. That constant supervision results in coordination of effort at all echelons.

It is the unusual rather than the usual for the supply picture to ever become static. Adherence to the above will aid in the development of an effective supply procedure regardless of the variables invoked by that ever-present "situation" factor.

## BIBLIOGRAPHY

After Action Report, 66th Armored Regiment, 2nd Armored Division. Dates covered August 44 through May 45. AR # 586 U.

A History of the Second United States Armored Division, 1940 to 1946. Lt. Colonel E. A. Trahan, G.S.C., Editor.

Revised Tables of Organization Armored Force, dated Jan. 1, 42

---