APPENDIX A

BATTLE SUPPORT SCENARIO

The following scenario illustrates an example of maintenance support drawn from both divisional and nondivisional assets to a forward area, provided in a divisional area.

The division has been participating in a corps offensive operation. After heavy fighting, it has secured the division objective and expects to be ordered to resume the attack in 24 hours. One of the 2d Brigade's armor battalions, the 9/99th Armor, has reported loss of 24 of its 58 tanks during the assault on the final objective. The remainder of the division has also incurred heavy equipment losses as well as maintenance personnel losses in the forward support companies. The following events take place:

The 9/99th reports its losses to the chain of command. The BMO provides available information to the forward support maintenance company and requests assistance. The BMO takes stock of his personnel and equipment resources. The plan is to make an initial assessment of the overall damage so that when support personnel arrive an overall concept of operation can be quickly developed. Based on this initial information, the BMO plans to initiate on-site repair of the least damaged equipment. The BMO also plans to use self-recovery techniques and the battalion's recovery vehicles to begin recovery of the damaged items to the battalion UMCP or the BSA. Based on the initial damage reports and a review of the current tactical situation, the BMO decides to set up a new battalion UMCP at a more centralized location. The BMO selects the company trains location of one of the tank companies, organizes and briefs his MST on the plan of action, and dispatches them with instructions to report to the new UMCP location.

The forward support company commander reviews the requirement and resources. Most of the tank maintenance personnel are deployed with MSTs in the forward areas. While losses in the other brigade battalions are not as heavy as those of the 9/99th, the damage will require continued support. From the SOO, the company commander learns that a maximum number of tanks must be returned to operation within the next 24 hours to support continuation of the offensive, The company commander considers the situation and consults with the maintenance control officer (MCO). They agree that assistance must be requested. They also develop a plan of action for the work to be performed. The damage must first be accurately assessed. A plan can then be developed for each piece of equipment. The initial effort will be concentrated on the items which can be quickly repaired on site. The main effort will then move the UMCP. In order to repair the maximum number of tanks, the established time criteria may have to be modified for this operation. The work load from the UMCP will have to be distributed throughout the division to make maximum use of total resources. They decide to put the DS automotive maintenance technician in charge of the operation at the UMCP.

For assistance, they will also send the armament technician; inspectors from the inspection section; and the remaining available tank automotive, turret, and fire control personnel. When assistance arrives from the DSA, personnel will be directed to where

they can be used most effectively. The commander and MCO decide that items requiring lengthy repair should be identified early and recovered to the BSA for repair or evacuation to the DSA. Evacuation will have to be by HET since all recovery vehicles will be busy in the forward area.

The forward support company commander discusses the concept with the battalion SOO. The SOO agrees to request assistance from the Materiel Office in the DMMC. The Materiel Office tasks the SOO in the MSB to augment forward support company and authorizes direct coordination between the MSB SOO and the FSB SOO.

The materiel officer in the DMMC foresees a need for backup assistance from the corps support command (COSCOM) to prepare for continuation of the offensive and further estimates that it will take about 3 hours for DSA MSTs to be organized and equipment to arrive at the forward location. Also, the Materiel Officer feels that assistance from corps will take approximately 12 hours to arrive. Based on these estimates, the SOO and the company commander review their plan of action and the maintenance time criteria. It appears that the maximum immediate benefit can be obtained by concentrating the division resources at the UMCP and by evacuating time consuming jobs to the DSA to await corps support personnel. Extending maintenance time criteria to 12 hours at the UMCP and evacuating more extensively damaged items to the DSA appears to maximize the available time and resources. The SOO explains that HETs will be used to bring damaged equipment back to the DSA and that equipment identified as needing more than 12 hours to repair should be recovered directly to the BSA to await the HETs. While awaiting transportation, these items may be used as a source of repair parts through controlled exchange or cannibalization. The SOO instructs the company commander to initiate the plan. In the meantime, the SOO will brief the battalion commander, request assistance from the corps, clear the modification of the time criteria, and coordinate for MSTs and HETs from the DSA.

The forward support company commander briefs the MCO on the arrangements coordinated with the SOO, The automotive technician takes charge of the forward maintenance operation in support of the 9/99th. Support is to be organized into a single MST under the automotive maintenance technician's supervision.

At the UMCP, the number of tanks damaged was higher than initially reported. Twenty-eight tanks were damaged by the enemy action. Battalion personnel, in coordination with the MST in the area, have conducted a hasty BDA. The initial assessment is that here are five catastrophic losses with no chance of repair. Thirteen may be fixed in the battalion area within the revised time criteria if parts and personnel are available. The remaining ten must be evacuated to the DSA. The senior member from the FSB MST explains that after the initial hasty assessment the senior member identified several prime candidates for battalion maintenance team repair, The BMO reports that battalion personnel have repaired three of the damaged tanks, but that further repairs will require DS level assistance.

The BMO has set up a maintenance control center, with a map and a status board, identifying the location of the damaged equipment and remarks on the damage and status of repair. The BMO has displayed the availability and status of the battalion's recovery equipment on another status board which is being used to control recovery operations.

The MST leader notes that one of the damaged tanks can be repaired by replacing the power pack and another by replacing the transmission. Both types of serviceable assemblies were brought forward from the BSA. He makes the power pack available to the BMO and dispatches two repairers to work with battalion personnel in changing the transmission. The MST leader takes stock of the inspection sheets already completed by support personnel and organizes inspectors to complete the BDA. The MST leader begins to develop an action plan for each piece of equipment. A sampling of the inspection sheets provided by the BMO reads:

"Tank MIA 1 USA Number 9B38477. Location: Tank is total loss. Round through turret. Turret and crew compartment burned and complete loss. Some fire damage and loss of cables in engine compartment. Some engine components may be serviceable. Track and suspension system OK."

"Tank, MIA 1, USA Number 9B84174. Location: Repairable at GS. Round through right rear final drive mounting bracket. May be other damaged assemblies in engine compartment. Turret undamaged. "

The MST leader establishes a work control log and records the identity and condition of the equipment as inspection reports are received from the MST. When the BDA is complete, the MST leader uses the triage process to identify disposition of each item and to organize the repair effort. In addition to the three tanks repaired by battalion mechanics,

MST personnel working with battalion mechanics were able to repair four more on site. Eight tanks have been identified for repair at the UMCP and eight more for evacuation to the DSA. Of the five catastrophic losses, three were determined to contain serviceable components and were designated for recovery to the BSA. As unserviceable major assemblies are identified, the MST leader reports repair parts requirements to the forward support company. MCO will fill the requirement or relay it to the battalion SOO. The main effort now shifts to recovery of vehicles to the UMCP and BSA.

The personnel from the heavy maintenance company arrive as unserviceable assets begin to accumulate at the UMCP. They bring with them additional serviceable assemblies. The MST leader organizes their effort and maintains a record of their progress. Repaired vehicles are promptly reported to the BMO who further notifies the weapons system manager (WSM),

The MST leader monitors the availability of HETs to support evacuation from the DSA. In coordination with the BMO, the MST leader controls the recovery effort to keep the personnel at the UMCP and the HETs at the BSA gainfully occupied.

The battalion SOO accomplishes the actions previously identified. The SOO briefs the battalion commander on the support plan and also requests from the DMMC extension of the maintenance time criteria at the UMCP to 12 hours and a 20-man tank MST from the COSCOM. Following coordination with the G4, the DMMC approves extension of the time criteria and informs the SOO that the requested MST should arrive in approximately 8 hours. The SOO informs the heavy maintenance company commander of the assistance being provided, and that the corps MST will be under the company commander's operational control. In the meantime, the materiel officer requests that the heavy maintenance company concentrate on evacuating the unserviceable tanks from the BSA to the DSA in preparation for the arrival of the corps MST.

The MST leader reviews the situation at the UMCP toward the end of the time criteria period. Five tanks were repaired on site in a joint battalion and maintenance company effort, Initial recovery concentrated on the eight tanks identified for repair at the UMCP. Also, the three catastrophically damaged tanks that still contained serviceable components were recovered to the UMCP for cannibalization. Following recovery of the eleven tanks to the UMCP, the effort switched to verifying the BDA done in the field. The MST leader discovers that due to lack of qualified personnel, the fire control component damage in the initial assessment had been seriously understated. The MST leader details one of his most experienced repairers to conduct a reinspection. The MST leader also alerts the MCO in the BSA that there will be a need for fire control components from the tanks scheduled for evacuation to the DSA. At the end of ten hours, six more tanks have been repaired at the UMCP. Of the remaining two repairable tanks, one is discovered to need GS maintenance. Repair requirements on the other have been reduced to an elusive hydraulics problem that cannot be identified. The BMO advises the MST leader that he plans to close out the forward UMCP location at the end of the time criteria period. The MST leader consequently directs recovery of the remaining unserviceable tanks to the BSA. The MST leader organizes a stay-behind team to remain after the close of the UMCP to remove the remaining serviceable components from the three catastrophically damaged tanks.

The evacuation effort from the BSA has been proceeding well. The heavy maintenance company commander has made three HETs available to support the evacuation. Evacuation was initially slowed by the MST requirement for additional fire control components. The MCO used this opportunity to evacuate some of the more heavily damaged weapon systems from the other brigade units. The BSA also alerted the MCO of the heavy maintenance company to expect a heavy requirement for fire control components and suggested that expediting action by the DMMC may be in order. At the end of the 12-hour period, the only 9/99th tank remaining at the BSA is the tank with the hydraulics problem. The work load from other units, however, has accumulated and, as the MST prepares to return from the UMCP location, the MCO is planning how best to use them against the new requirements.

At the DSA, the heavy maintenance company MCO has been preparing for the arrival of the COSCOM MST and the return of unit personnel from the forward area. The MCO's effort concentrates on verifying the BDA made at the forward location and on providing repair parts needed for each vehicle. An early recognition of a potential problem in the fire control component area was a result of the forward support MCO's call. Having checked balances on hand at the reparable exchange (RX) point and found them inadequate, the MSB SOO provided a list of anticipated requirements to the division Class IX officer and requested expediting action. The

Class IX officer checked the assets of the other forward support companies and, finding critical shortages there also, added their requirements to the list and requested expediting action from the COSCOM materiel management center (CMMC).

The COSCOM MST arrived 10 hours after the initial request. Team members were briefed by the heavy maintenance company commander and the MCO and organized into crews to work on the disabled tanks. The effort of the heavy maintenance company and the COSCOM MST was not dedicated only in support of the 9/99th, As explained by the company commander, the overall goal of the support was to repair the maximum number of damaged tanks within the next 14 hours. Following the closing of the 9/99th UMCP at the forward location, the COSCOM team is augmented by the company personnel returning from the forward location.

Within an hour of the initial request for assistance, the DMMC informs the MSB SOO that COSCOM assets are available for about 80 percent of the requested fire control components. The Class IX officer requests that a unit pickup be coordinated with the COSCOM MMC. The Class IX officer further explains that there will be unserviceable to exchange for only a portion of the requirement and that some of the components will have to be provided as an issue rather than exchange, The Class IX officer then contacts the division MMC and requests helicopter support for the unit pickup. Having made these arrangements, the RX section in the light maintenance company is tasked to obtain the unserviceable from the heavy maintenance company and to effect the unit pickup.

The serviceable assets are provided to the heavy maintenance company approximately two hours after arrival of the COSCOM MST.

At the end of the 24-hour period, the SOO summarizes the maintenance effort for the battalion commander. Of the 28 tanks initially damaged in the 9/99th, 18 have been returned to operation. Five reparable tanks remain at the heavy maintenance company, of which four will have to be evacuated to COSCOM maintenance activities due to the extensive damage. Also, the COSCOM MST has assisted in repair of six tanks belonging to other divisional units.