Chapter 9
Maintenance Company

Contents

ORGANIZATION AND MISSION

The maintenance company is a critical component in fixing the force. To counter a potential superiority in weapon systems fielded, the separate brigade makes the most of each system it has. The maintenance company provides DS maintenance and common and missile repair parts service to supported units in the brigade area. Figures 9-1, 9-2, 9-3, and 9-4 show the organizations of the HSB, SIB/TDB, and ACR maintenance companies/troop.

The maintenance company performs the following functions:

- Provides personnel and equipment to perform DS maintenance on TOW and Dragon missile systems; radios, teletypewriter and telephone equipment; target acquisition surveillance radars, field artillery digital systems, and fire control instruments; tank turrets, artillery, and power generation equipment; and tracked vehicles, QM and chemical equipment, and wheeled equipment.
- Provides reinforcing recovery assistance to supported units.
- Provides technical assistance and PLL supply support to supported units that provide unit maintenance within the brigade.
- Maintains an ASL of common and missile repair parts for supported units.
- Provides reparable item management service for selected common repair parts.
- Provides DS maintenance capability, with augumentation, from tank and infantry system support teams. These teams provide an increased capability for support forward to maneuver elements. (HSB and SIB)
- Provides on-site and combat system oriented maintenance support for the ACS through the maintenance support platoons. (ACR only)

PRINCIPLES

Maintenance personnel within the separate brigade maintenance company perform DS functions using concepts such as forward support, centralized control, and BDAR. They also perform such functions as controlled exchange, cannibalization, and recovery and evacuation. DS maintenance includes end item repair by replacements of modules, components, piece parts, and assemblies on a return-to-user basis.

Although a significant number of mechanics are forward, others are located in the brigade support area. In either case, personnel classify, repair, cannibalize, or evacuate all equipment. In addition, the maintenance company provides the supported units with limited recovery assistance and technical assistance.

FORWARD SUPPORT

The support battalion maintenance company fixes the systems by providing timely maintenance and repair parts as required. The maintenance company operates forward near battalion combat trains areas with forward MSTs. Repairing equipment forward reduces transportation requirements and time. It maximizes the availability of equipment to users. Whenever possible, personnel repair equipment on site. However, this is not always possible and practical. The tactical situation, extent of damage, and availability of people, parts and tools may make recovery or evacuation more desirable. The maintenance company commander and the supported unit commander closely

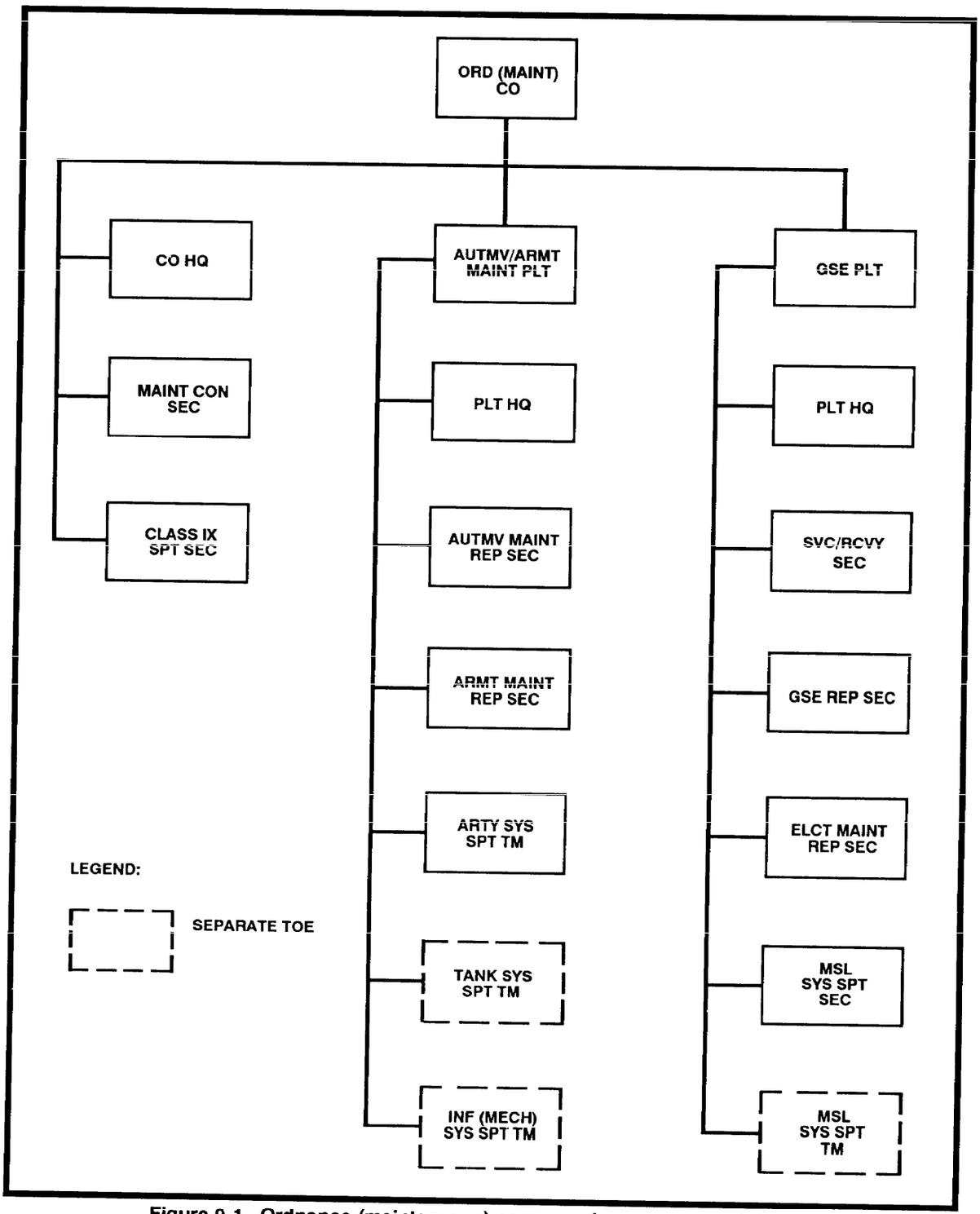


Figure 9-1. Ordnance (maintenance) company, heavy separate brigade.

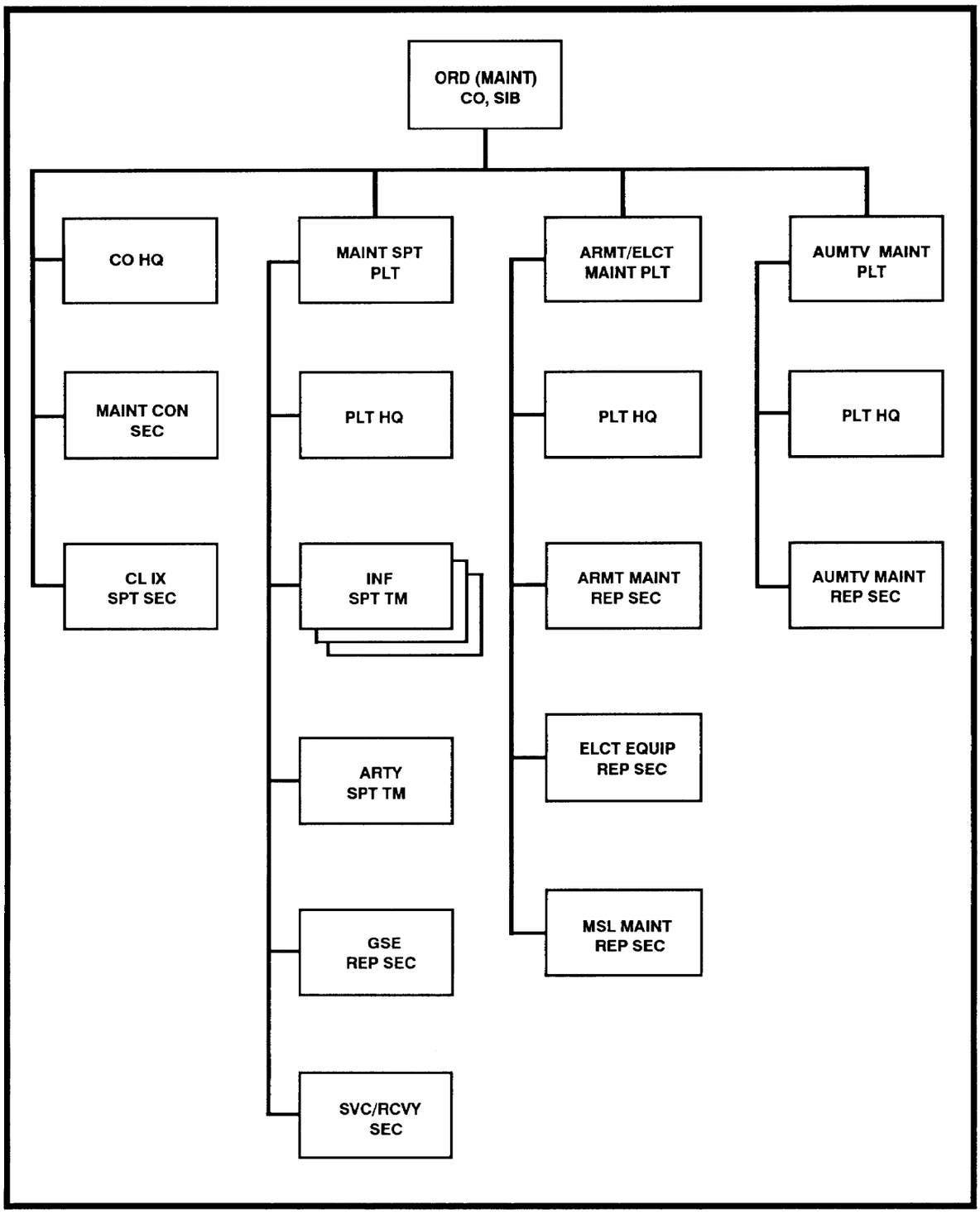


Figure 9-2. Ordnance (maintenance) company, separate infantry brigade.

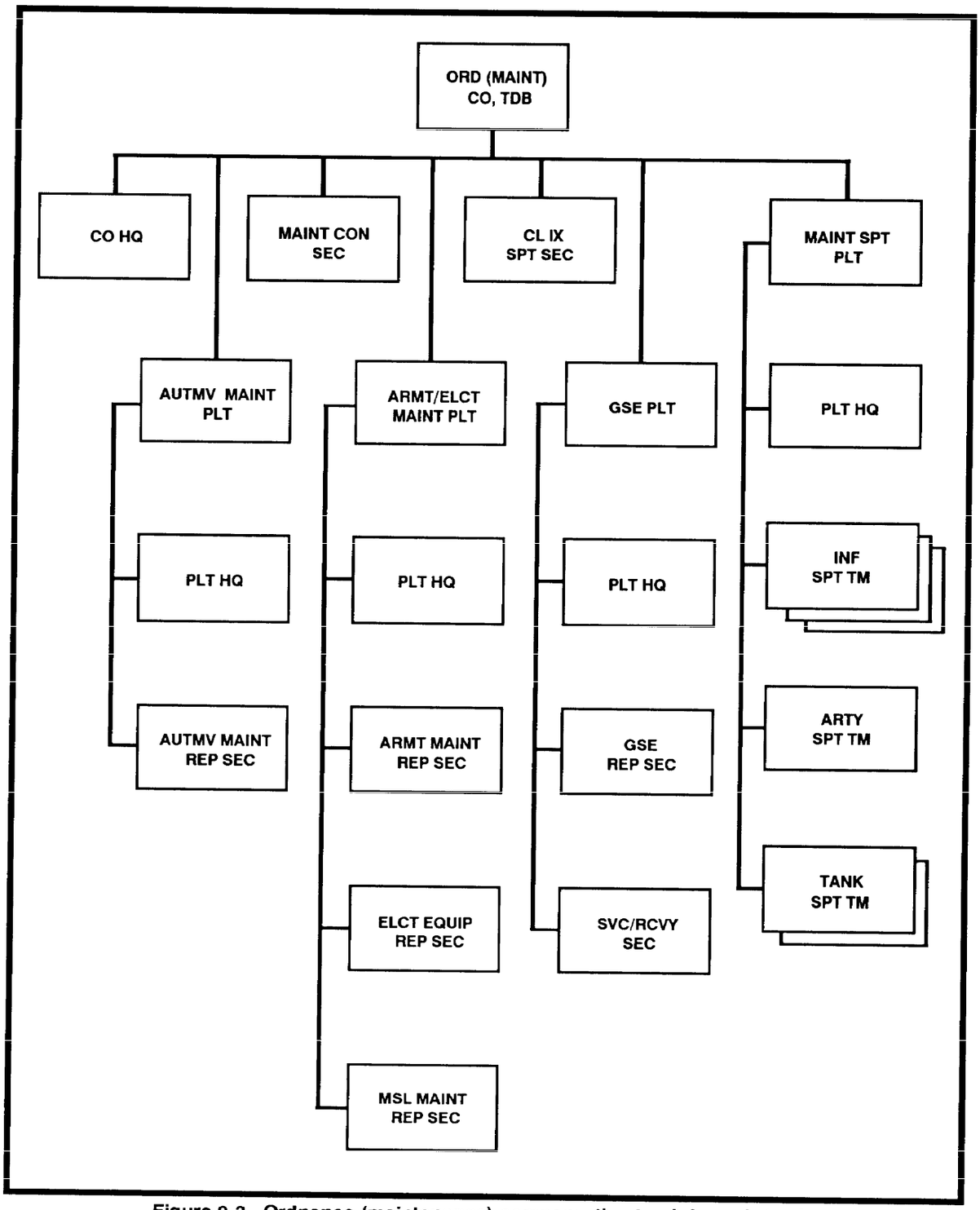


Figure 9-3. Ordnance (maintenance) company, theater defense brigade.

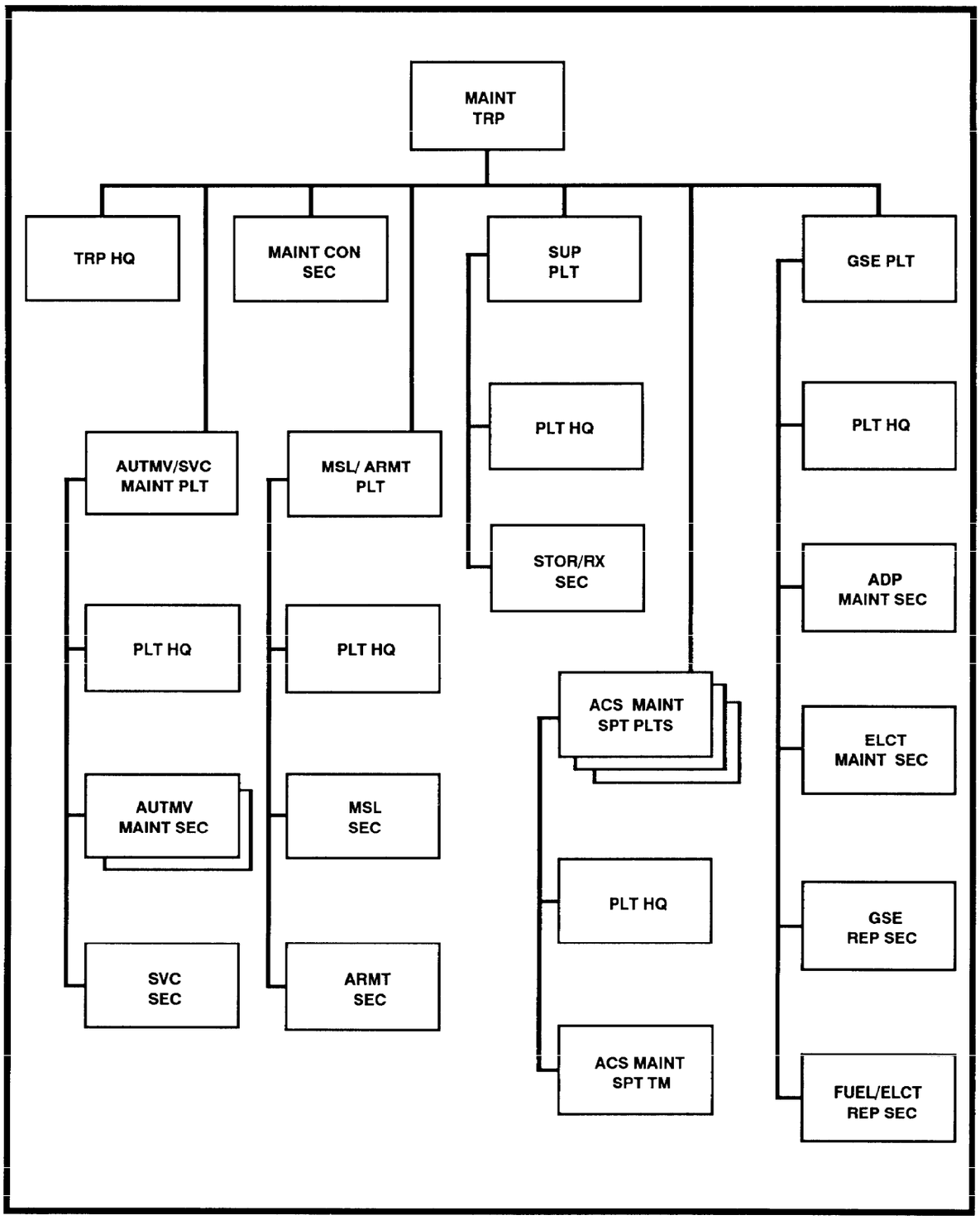


Figure 9-4. Maintenance troop, ACR.

cooperate to ensure that weapons employed in battle are always supported.

REPAIR TIMELINES

Maintenance operators make the decision on whether to repair or recover to a maintenance site on a case-by-case basis. Managers establish timelines as a tool to help make this decision. Table 9-1 shows sample timelines in the separate brigade AO. Table 9-2 shows timelines for the regiment AO. If the time to repair an item once all repairers, tools, and repair parts are on hand exceeds the specified time, recovery or evacuation is considered. Timelines are set by SOP or by logistics or combat commanders for specific operations. All personnel– users, maintainers, and maintenance managers — always bear in mind that these timelines are flexible. Personnel ensure that timelines are accomplishing their purpose, which is to maximize equipment available to the user. If they are not, the commander orders a change to the timelines based on the recommendation of the staff.

Table 9-1. Maintenance timelines for the separate brigade.

LOCATION	HOURS
On site	2
Battalion maint	4-6
BSA	24-36

Table 9-2. Maintenance timelines for the ACR.

LOCATION	TIME
On site	Less than 30 minutes
UMCP	30 minutes to 3 hours
Field trains	3 to 24 hours
RSA	24 to 48 hours

CENTRALIZED CONTROL

The maintenance company commander with assistance from the maintenance control officer and the MMC has control over all operations for which they are responsible even though support assets may be decentralized. They are aware of the total DS maintenance work load across the brigade area. They also are aware of the available assets and their locations. When the situation changes, the maintenance control officer shifts resources to minimize backlogs. Maintenance resources reorganize when combat units reorganize into task forces for specifie missions.

BATTLE DAMAGE ASSESSMENT AND REPAIR

BDAR techniques expedite return of a damaged piece of equipment to the current battle. Maintenance personnel use BDAR to determine the extent of damage to equipment. They classify equipment according to the type of repair required and plan for repair of each item. Priorities for repair of battle damaged items are usually–

- Most essential to immediate mission.
- Reparable in the least time.
- Reparable but not in time for immediate mission.

Battle damage repair involves use of emergency repair techniques to return a system to a full or partial mission capability. Maintenance personnel normally use BDR in combat at the direction of the commander. It includes —

- Taking shortcuts in parts removal or installation.
- Modifying components from other items.
- Using parts from a noncritical function elsewhere on an item to restore a critical function.
- Bypassing noncritical components to restore basic function capability.
- Using cannibalization.
- Making parts from kits or available materials.
- Using substitute fuels, fluids, or lubricants.

Armored and fuel systems are primary candidates for BDR in combat. When the mission is over, maintenance personnel use standard maintenance procedures to repair the items.

CONTROLLED EXCHANGE

Controlled exchange involves the removal of serviceable parts, components, and assemblies from unserviceable, economically reparable equipment. Maintenance personnel immediately reuse these items in restoring a like item of equipment to combat, operable/serviceable condition. It is done in strict compliance with the brigade commander's published guidance. The goal is to restore a system to mission capable status.

CANNIBALIZATION

Cannibalization is the authorized removal of serviceable parts, components, and assemblies from uneconomically

reparable equipment. The support battalion maintenance company normally performs cannibalization during combat conditions at a collecting point. During combat, cannibalization is a valuable source of critical repair parts. Maintenance personnel make available these critical repair parts for immediate reuse. Commanders designate the conditions, items, and level of repair for cannibalization. The support battalion commander controls cannibalization operations based on cannibalization policies established by the brigade commander.

RECOVERY AND EVACUATION

Recovery involves retrieving or freeing immobile, inoperative, or abandoned materiel. Recovery also involves returning it to operation or to a place where it can be repaired, evacuated, or otherwise disposed of. The types of recovery include self-recovery to a secure area or collecting point and recovery by specialized recovery equipment. Such specialized recovery equipment includes wreckers and tracked recovery vehicles. When recovery requirements for a supported unit exceed its capability, the support battalion maintenance control officer provides assistance.

All units recover unserviceable equipment to an UMCP, MCP, or field trains/BSA. The UMCPs are near MSRs to allow HETs to pick up unserviceable equipment there. It is done in strict compliance with the brigade commander's published guidance.

Each support battalion recovery element contains recovery equipment compatible with the equipment supported. Personnel in the recovery element diagnose failures, determine reparable or maintenance repair category, or determine they cannot repair within the timelines.

Evacuation involves moving an item from a collection point to another logistics activity for repair, cannibalization, or other disposition. Evacuation is a coordinated effort between maintenance and transportation elements. If necessary, equipment is evacuated to the corps maintenance element in the nearest corps support group. Evacuation vehicles transport unserviceable assemblies and major end items. HETs also bring serviceable assemblies and end items from rear repair activities to the forward maintenance or supply elements.

Evacuation policies and procedures are set as a matter of SOP. Evacuation channels are streamlined to the extent possible to avoid intermediate handling. The maintenance company requests corps assistance through the transportation officer when separate brigade evacuation assets are overloaded. The maintenance company submits a request for evacuation support to the support battalion transportation officer. He either tasks the S&T company assets to provide support or submits the request to the MCC/MCT through the BTO.

Recovery and evacuation principles are covered in depth in FMs 20-22 and 43-5.

AMMUNITION

Corps ordnance units provide DS maintenance support for ammunition items. When possible, maintenance personnel perform maintenance in the corps area. Units holding ammunition stocks that require DS maintenance return such stocks to the nearest ASP.

AVIATION MAINTENANCE SUPPORT

RAS AVUM personnel intensively manage aviation unit maintenance to keep as many aircraft mission-capable as possible. In combat, there is a large increase in flying hours and a greater demand for operational aircraft. These increased requirements are complicated by higher attrition and battle damage rates. These requirements create shortages of repair parts and replacement aircraft. To offset these shortages, the rapid recovery and repair of Army aircraft systems and components are essential. A controlled exchange/cannibalization policy, rapid recovery of damaged or downed aircraft, and a flexible system of cross-leveling spares is an essential part of the transition into the rigorous demand of combat maintenance.

Prior to the onset of the operations, a COSCOM OPORD is forwarded to the CSG. The CSG OPORD tasks the aviation maintenance battalion to provide AVIM to the AVUM troop. The CMMC workloads the AVIM company. When the supporting AVIM company cannot provide timely AVIM support, the CMMC tasks another AVIM company to provide reinforcing support. The AVUM troop commander forwards requests for Class IX A items to the AVIM company. The AVUM troop keeps the RS4 and RMMC informed of the status of squadron aircraft and maintenance activities.

The corps aviation maintenance battalion normally provides an aviation maintenance contact team to the RAS. The contact team comes with appropriate diagnostic and test equipment and repair parts. Specific types of aviation maintenance which maybe suitable for

inclusion in a contact team are —

- Limited fire control.
- Some major component repair.
- Avionics and communications.
- Back-up sheet metal.

The contact team should also come equipped with communications gear (such as MSRT or DNVT). This equipment allows communications with the aviation maintenance battalion headquarters.

AIRCRAFT RECOVERY AND EVACUATION

Aircraft recovery includes repair of an aircraft on site for a one-time flight. It also includes preparation of an aircraft for movement directly to the first appropriate aircraft maintenance activity. Aircraft evacuation is the movement of an aircraft by another aircraft or surface vehicle between maintenance facilities. FM 1-513 has techniques and procedures for aerial recovery of aircraft.

The RAS is responsible for aircraft recovery. It uses its AVUM troop within the limits of the unit's organic lift capability. A recovery operation is a coordinated effort among the owning organization, its supporting AMCO, and the ground element where the operation is to take place. The AVUM troop has organic rigging equipment for aircraft recovery. If the recovery is beyond the AVUM troop's lift capability, AMCO support is requested. Division and nondivisional AMCOs have limited organic rigging equipment. The AVUM commander coordinates with the AMCO commander to conduct the recovery. The AMCO commander coordinates with the division or corps aviation brigade to provide aircraft and equipment.

SECTION FUNCTIONS

Each of the maintenance companies has platoons and sections/teams that provide similar functions. What follows here is a discussion of section functions regardless of which platoons the sections are in.

COMPANY HEADQUARTERS

The company headquarters provides command and control for accomplishment of the company's mission. It provides unit-level administrative, supply, and maintenance support to elements of the company. FM 10-14 provides information on supply operations. FM 10-63-1 covers unit mortuary affairs responsibilities. A particular concern for the maintenance company headquarters is C3 for MSTs operating at UMCPs. Another concern is other maintenance teams performing on-site repairs. As discussed below, the company commander normally retains command and control of these teams. He also ensures that headquarters maintains communications with the teams at all times.

The maintenance company commander receives missions from the support battalion commander. Assisted by information furnished by the BMMC, the company commander translates these into specific actions and orders for the maintenance company. The company commander establishes internal policies for accomplishment of the company mission in the following areas:

- Production control.
- Shop operations.
- Quality control.
- Technical assistance.
- Supply operations less supply management.
- Inspections.
- Publications and reports.

MAINTENANCE CONTROL SECTION

The maintenance control officer is the main assistant to the company commander for DS maintenance support. With assistance from his section, he provides the control, coordination, and overall supervision of the maintenance shops. He provides the same for MCPs, recovery teams, and MSTs. The section performs job ordering and equipment accountability. It is also responsible for quality control. SAMS software supports the maintenance management function and runs on the TACCS device in this section.

The section includes an inspection element which is responsible to the maintenance company commander. The inspectors provide quality assurance, technical inspections, and quality control for all DS maintenance functions. The inspectors also serve as the nucleus for BDA teams. They go to on-site locations to make determinations on repair and evacuation.

CLASS IX SUPPORT SECTION/SUPPLY PLATOON

This section in the separate brigade provides Class IX supply support. It receives Class IX requests

from customers and fills them from on-hand assets. It passes requisitions to the BMMC for items not on hand. It also operates the reparable item service. The Class IX function of the ACR is in the supply platoon. This platoon performs functions similar to those performed by the Class IX support section for the HSB and SIB/TDB.

The Class IX support section and supply platoon also provide –

- Technical assistance to supported units.
- Receipt, storage, and issue of ASL and NSL items.
- Preservation and packaging. This function includes repair of containers to protect stocks from damage during storage and shipment.
- Heavy vehicle transportation. Drivers pick up and deliver repair parts.

This section contains the TACCS device to run SARSS-1 for Class IX.

MAINTENANCE SUPPORT PLATOON HEADQUARTERS

The platoon headquarters overall mission is to supervise platoon operations. It executes command and control responsibilities. It also implements the company commander's maintenance policies in accordance with the unit SOP. The platoon leader assisted by the platoon sergeant is knowledgeable of the current maintenance mission and the problems that affect the accomplishment of these missions. He issues concise operating directives to sections/teams. He monitors them for required maintenance support. The platoon leader also provides quality assurance and control in platoon operations. As a part of coordinating platoon operations, the platoon leader maintains all necessary records for maintenance support.

ARMORED CAVALRY SQUADRON MAINTENANCE SUPPORT PLATOON

The maintenance troop of the ACR has three ACS maintenance support platoons. Each 39-man platoon consists of a platoon headquarters and an ACS MST. The platoon provides DS and reinforcing unit maintenance to an ACS. It can repair the full range of equipment in the squadron including automotive, tracked vehicle, fire control, tank turret, power generation, small arms, and other items. The platoon typically operates out of the ACS UMCP. Depending on the tactical situation, elements provide on-site repair by working out of an MCP or the maintenance troop base. Employment considerations and C2 relationships discussed below for MSTs also apply to this platoon.

AUTOMOTIVE MAINTENANCE REPAIR SECTION

The automotive maintenance repair section provides automotive base shop support for equipment and augments the MSTs as required. It provides personnel for on-site DS maintenance and technical assistance to units in the brigade AO. It also provides personnel for operation of an MCP. The section repairs transmissions, engines, electronics items, hydraulics, and steering controls on tracked vehicles. It works on MHE and chemical/quartermaster equipment (less office machines). It also works on the engines, power trains, and chassis components of wheeled vehicles.

ARMAMENT MAINTENANCE REPAIR SECTION

The armament maintenance repair section provides armament base shop support for equipment not repaired on site. It augments the tank and infantry (mechanized) SSTs as required. In the ACR, it reinforces maintenance support to the squadron support teams. The section performs the following repairs:

- Fire control systems — laser rangefinders, electronic ballistic computers, tank thermal sights.
- Fire control instruments — binoculars, telescopes, aiming circles, rangefinders.

ARTILLERY SYSTEM SUPPORT TEAM

The artillery support team provides DS maintenance for the artillery battalion. The team functions as an MST with the capabilities for repairing the following components:

- Turret-mounted weapons.
- Wiring systems.
- Automotive and artillery repair.
- Power generator and communications repair.
- Loading, firing, and recoil mechanisms.

GROUND SUPPORT EQUIPMENT REPAIR SECTION

The GSE repair section performs DS maintenance on power generators, air conditioner units, and refrigeration equipment. It performs DS maintenance on heaters, utility packs, water purification units, and chemical equipment. It also performs DS maintenance on construction equipment which includes that used for earth moving, grading and compacting, and lifting and loading.

ELECTRONICS EQUIPMENT REPAIR SECTION

The electronics section provides DS maintenance on communications, electronics, and computer equipment. It repairs radio receivers and transmitters, teletypewriters, and facsimile machines. It also repairs switchboards and special electronics devices such as infrared weapon sights, searchlights, and mine detectors. In the ACR, this section reinforces maintenance support to the squadron support platoon. In the HSB and SIB/TDB, it reinforces the MSTs and provides on-site repair in the brigade trains area.

FUEL/ELECTRONICS REPAIR SECTION

The fuel/electronics repair section provides base shop operations for the repair of master cylinders, brake shoes, hydraulics, and engine electrical components. It performs corrective maintenance on fuel and electrical systems and assemblies. Some other components it performs repairs on are –

- Fuel pumps.
- Fuel injector pumps.
- Batteries
- Distributor wiring harness.
- Ignition systems.

ADP MAINTENANCE SECTION

The ADP maintenance section repairs the regiment ADP equipment. The section inspects, tests, and performs DS maintenance on TACCS computers, DAS3 computers, and related equipment.

SERVICE/RECOVERY SECTION

The service/recovery section provides capability for welding and metal body repair. It also provides the heavy lift capability for the shops and shop supply and recovery of organic equipment. It reinforces recovery capabilities of supported units and provides limited maintenance evacuation. It also performs fabrication, repair, and modification of nonmetallic parts.

TANK SYSTEM SUPPORT TEAM

The tank system support team provides DS maintenance support to a tank battalion. The maintenance control section uses it as a base to create an MST to work at the UMCP. The team has the capability to support small arms, power generation equipment, fire control systems, communication equipments, quartermaster/chemical equipment and wheeled vehicles. It also repairs tracked vehicles and tank turrets.

INFANTRY SYSTEM SUPPORT TEAM

The infantry system support team provides DS maintenance support to an infantry (mechanized) battalion. It serves as the core for an MST operating at the infantry battalion UMCP. It repairs automotive, C-E, small arms, track vehicles, and fire control systems. It also supports telephone central office systems, power generation equipment, and quartermaster/chemical equipment.

MISSILE REPAIR SECTION

The missile section provides DS maintenance for land combat missile systems and associated night sights. In the SIB, HSB, and ACR, it has the capability of using three MSTs simultaneously. (The HSB section may also be augmented with an additional team.) In the TDB, it has the capability of using four MSTs simultaneously. The missile systems support teams deploy forward to the field site as requirements are generated. They provide support that is predominantly repair by replacement. They return to the base company when they complete the repair. TOW/Dragon repairers perform limited DS maintenance on TOW and Dragon missile systems, trainers, night sights battery chargers, and system-peculiar test equipment.

OPERATIONS

The maintenance company is the brigade's primary source of DS maintenance and Class IX supply support. Its base is located in the BSA near land lines of communications. The company repairs as far forward as possible inconsonance with effective maintenance practices and the tactical situation. Teams tailored to provide across-the-board DS maintenance support are available to the maneuver battalions, the artillery battalion, and the ACSs.

The maintenance company maintains a base maintenance operation in addition to the MSTs. The base maintenance capability provides across-the-board DS maintenance which is not accomplished by the teams due to time constraints, complexity, or tactical situation. The base company also provides supply support from this location. If personnel cannot repair the equipment on site, at the UMCP, or at the field trains, the using unit delivers the equipment to the base company's collection

point. However, whenever possible, units position UMCPs so they are accessible to HETs. In this way, the support battalion can evacuate heavy equipment directly from the UMCP. The collection point conducts a more detailed diagnosis to determine the proper disposition of the damaged equipment. Personnel conduct controlled exchange and cannibalization to maintain the maximum number of serviceable systems.

The base company receives, stores, and issues repair parts. Personnel process requests for repair parts, receive unserviceable reparable, and issue serviceable ones. The BMMC receives requests for parts which are not available. It manages the ASL which is warehoused by the base company.

PLANNING

Maintenance planning in the support battalion anticipates personnel, equipment, and repair parts requirements and matches them against available resources. The goal is to manage limited resources to return the maximum number of critical items to the battle. Planners recognize limitations in armor protection, mobility, and communications which influence the company's capabilities. Planning considerations include —

- Tactical situation.
- Time and distance factors.
- Reinforcing support responsibilities.
- Command support priorities.
- Critical weapon systems and repair parts.
- Proposed MCP locations.
- Maintenance timelines.
- Work load across the brigade area.
- Cannibalization and controlled exchange policies.

One of the key planning processes for the maintenance company is formation of MSTs. Teams to provide DS maintenance to maneuver battalions are task organized in most cases. The MST only has the number and types of repairers and equipment required to support the particular battalion task force. The company uses the SST assets not required to support that task force to augment base company capabilities. If an SST does not have all of a specific capability required to support the task force, additional assets to form the MST come from the base company or another SST.

In forming the optimal MSTs for his situation, the commander considers a variety of factors to include:

- Tactical situation.
- Supported task force repair capabilities.
- Repair assets available to the maintenance company.
- Length of LOCs.
- Recovery and evacuation capabilities.
- Specialized tool and test set requirements and availability.
- Time constraints.
- Parts availability.
- Risk assessment.
- Mobility requirements.
- Communications.
- Security requirements.

One point to emphasize is that the SST serves as the core for an MST. This minimizes the moving of personnel from one team to another. In particular, team leaders remain with the core of their associated SSTs. Further, each team habitually supports the same base battalion. This allows a team leader to develop a working relationship with one battalion HHC. Keeping the same core of an SST also leads to strong command and control lines within the MST.

Commanders plan other aspects of MST use besides the composition of the team. The commander, normally through the maintenance control officer, coordinates with the support battalion S2/S3, brigade S4, battalion S4s, and BMOs for employment of the teams. One detail they work out is how the team receives its required support. This includes administrative, unit logistics, and Class IX support. The team expects to be at the UMCP for an extended time. If so, the maintenance control section coordinates with brigade and battalion S4s to have the supported battalion feed the team. They also coordinate to provide Class III and V and limited Class II and IV support.

The maintenance control section also ensures production and quality control responsibilities are specified. Usually the maintenance control officer has work order control. The team chief is responsible for quality control.

BASE SHOP OPERATIONS

The base shop in the BSA consists of maintenance company elements not employed at MCPs, UMCPs, or battalion field trains. The shop receives, inspects, controls, repairs, and coordinates the evacuation of equipment received from supported units.

The shop is laid out to allow free flow of work and to minimize the required movement of repair parts, tools, and equipment. The company commander, whenever possible, tries to lay out the shop so that –

- Supply storage areas are accessible to trucks.
- The service section provides easy access from all shop locations.
- Electronics and instrument repair can be done in a dust-free area.
- Vehicles are dispersed near maintenance areas but located to facilitate control and security.
- The control and inspection elements are near the area entrance.
- The supply storage and customer areas are near the entrance to keep traffic out of the work area.

Figure 9-5 shows a sample base shop layout in a field environment. The same principles apply to shops in a built-up area. For example, the control, inspection, and supply activities are near the entrance to the shop area. Elements with related or complementary functions are near each other. Personnel use sound buildings and adequate road systems. They provide the best work areas and concealment.

The maintenance internal SOP outlines shop procedures which are based on guidance in DA Pamphlet 738-750. An external SOP for use by supported units should also adhere to those guidelines.

The management activities vary depending on the system available in the brigade. DA Pamphlet 738-750 describes the manual TAMMS system. SAMS-1 provides management reports for the company commander and MCS. It also provides a daily interface with SARSS-1. SAMS-1 procedures are in AISM 18-L21-AHN-BUR-EM.

MAINTENANCE COLLECTION POINTS

The support battalion maintenance company operates the MCPs receiving unserviceable equipment from supported units. The company operates up to two MCPs. One is at the base shop. A forward moving tactical situation makes another point forward of the BSA advisable to reduce recovery distances. The maintenance control officer assigns maintenance company personnel to perform large scale BDA at the MCPs. Personnel use controlled exchange and cannibalization to maximize operational systems. They segregate contaminated equipment within the MCP. When supported units cannot recover equipment to an MCP, they are instructed to recover items as close as possible to an MSR to await maintenance support. The unit provides or arranges security, and provides accurate location information to the MCS.

Units in the brigade area that find US equipment turn it in to the MCP. There, maintenance personnel inspect it and make decisions on whether to repair or evacuate. The BMMC provides the disposition instructions. It directs that the item be turned in to a supply unit or evacuated to a corps facility.

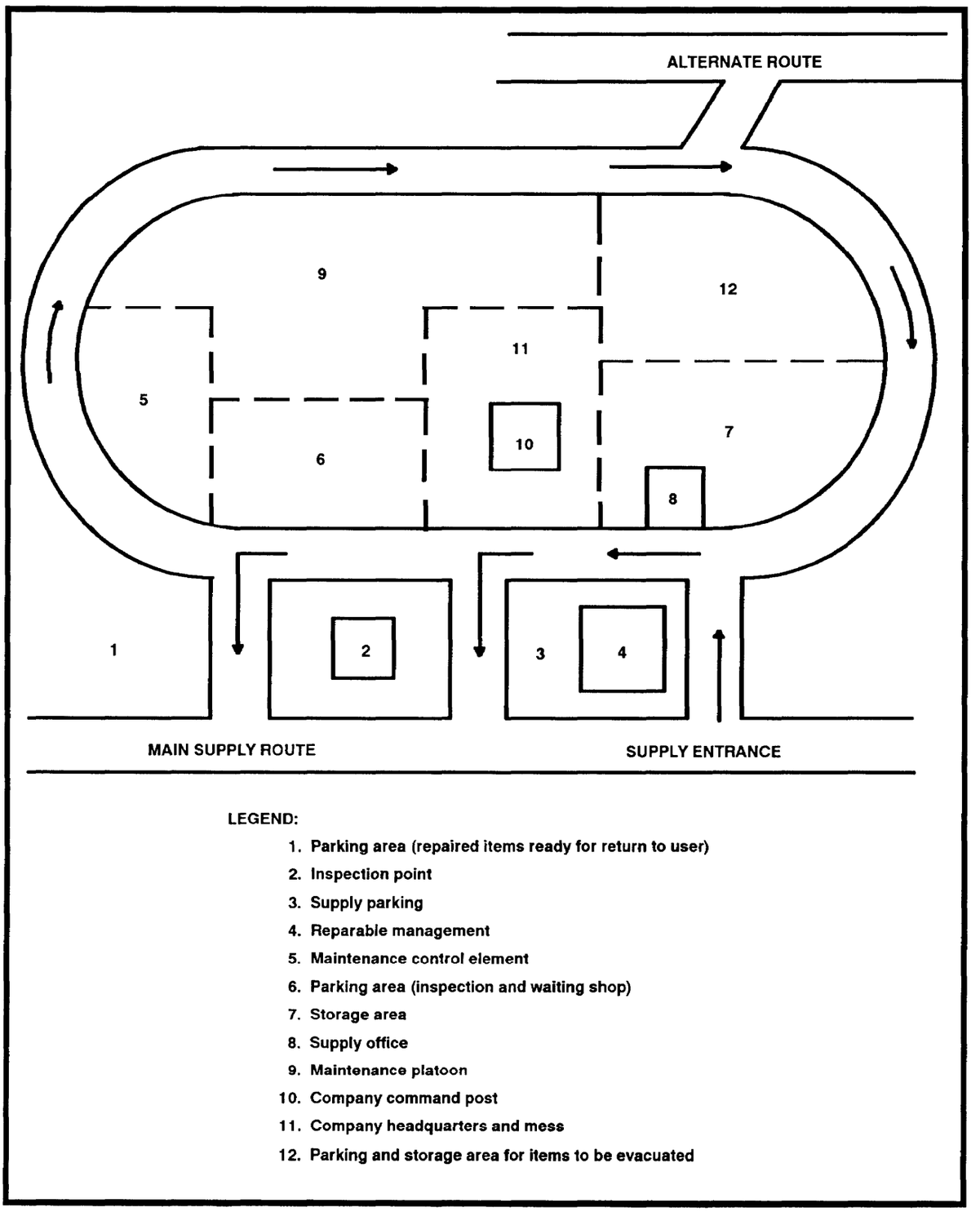
MAINTENANCE SUPPORT TEAMS

MSTs remain part of the maintenance company and are dispatched and withdrawn by the maintenance control officer. However, once the teams arrive at the UMCP, they tie into the defense plan under the control of the BMO. The BMO normally sets priorities for the equipment to be repaired. All elements involved in the operation are aware that the teams are groups of repairers with limited self-defense assets. Also, the time they spend in defense activities reduces maintenance mission time, SOPs exist and MSTs prepare to conduct independent operations when required.

MST operations present the company commander, maintenance control officer, and MST leader and members with the same challenges faced by any other small unit in a tactical environment. Besides performing the technical mission, the team needs the mobility to get to the repair site and move with the supported unit. It must have protection on the way to and from the site and while at the repair site. The team is proficient in self-protection techniques during a move.

MSTs require adequate communications capability to assist in security. They also need assets to report the DS maintenance situation to the MCS and request additional support or repair parts from the base shop. Whenever MST organic radio capability is inadequate, additional support should be available from the supported units. MSTs also carry a limited amount of repair parts with them. They carry parts based on past experience and work load.

The maintenance company SOP spells out MST procedures in detail to preclude having to develop them for each mission. SOPs cover organization of teams for recurring situations and command relationships. They also cover assignment of work order numbers, hand receipting and repair parts procedures, and recovery and evacuation guidelines.



LEGEND:

1. Parking area (repaired items ready for return to user)
2. Inspection point
3. Supply parking
4. Reparable management
5. Maintenance control element
6. Parking area (inspection and waiting shop)
7. Storage area
8. Supply office
9. Maintenance platoon
10. Company command post
11. Company headquarters and mess
12. Parking and storage area for items to be evacuated

Figure 9-5. Sample base shop layout.

ON-SITE OPERATIONS

MSTs or other maintenance contact teams perform on-site repairs when unit maintenance resources are inadequate. Maintenance requirements determine the team's composition. A platoon leader from the maintenance company selects the personnel when all of the required assets are in that platoon. The maintenance control officer tasks the platoon leaders involved to assign the required repairers should the team be composed of persons from different platoons.

Many of the considerations are the same as those identified for MSTs working out of an UMCP. They include mobility, security, adequacy of tools and parts, and communications. SOPs spell out procedures for requests for such support. Requests include the following information:

- Identification of unit and equipment.
- Pickup points for unit guides, if required.
- Location (grid coordinates).
- Nature and extent of damage.
- Repair parts required.
- Security and NBC considerations.
- Recommended route of approach.

Once the team arrives at the site, the team chief makes a BDA and decides whether to repair on site or recover to an MCP. Maintenance timelines and the tactical situation are primary determinants. If on-site repair is feasible, the team repairs the item and returns it to the user. If recovery is required, the team chief considers short-tracking or other expedient self-recovery and like-vehicle recovery before he commits a recovery vehicle.

REPAIR PARTS SUPPLY

The materiel section of the BMMC manages repair part supply. The Class IX support section of the HSB and SIB/TDB and the supply platoon of the ACR maintenance troop receive, store, and issue repair parts. The section or platoon maintains a QSS for customers to get low-dollar, high-demand, consumable parts (light bulbs, wiper blades, common bolts) without formal requests. It handles selected reparables as turn-ins of unserviceable and issues of serviceable items. A proper location system ensures that stored supplies are issued in an efficient way. Fewer warehouse denials and faster customer support result if personnel properly store repair parts. AR 710-2 lists the stockage parameters for DS units.

Supply personnel fill all requests when parts are available. They also notify the BMMC of the issue. If the part is not available, the section passes a requisition to the BMMC. The BMMC passes the requisition to the COSCOM MMC. The COSCOM MMC prepares an MRO to have the repair parts company provide the part or it passes the requisition to the theater army or NICP. The theater army directs its units to support forward if there is no COSCOM in the support structure. Critical items are transported by air whenever possible.

The BMMC specifies the items and quantities of Class IX items to be located in the brigade area. The BMMC bases this decision on the PLLs of supported units and the mobility requirements. The supported units' source of replenishment for the PLL is the support battalion maintenance company. The support battalion maintenance company maintains an ASL which reinforces their MPLs. As the base of supply for Class IX items, the maintenance company coordinates its actions with the materiel section of the BMMC.

In the ACR, a supporting AVIM company provides Class IX A items to the RAS. As previously mentioned in the aviation maintenance support paragraph in this chapter, a CSG OPORD tasks the aviation maintenance battalion to provide AVIM to the AVUM troop. The AVUM troop commander forwards requests for Class IX A items to the AVIM company.

A separate brigade may operate with a division. Typically, the support battalion ties in directly to the COSCOM. However, if planners feel support is more responsive and the DISCOM has the capability, the battalion may tie into the division support system. In such cases, the BMMC passes requests to the DMMC. If the item is available in the MSB Class IX section, the DMMC passes an MRO to the MSB which provides the item to the support battalion. If the MSB does not have the item, the DMMC passes a requisition to the COSCOM MMC. The support battalion S2/S3 also coordinates with the DISCOM support operations section on the status of the separate brigade maintenance system.

Figure 9-6 shows the flows of Class IX requests and stocks for the separate brigade.

OFFENSE AND DEFENSE OPERATIONS

Personnel inspect equipment and perform required maintenance before an offensive operation. They eliminate shortages whenever possible and set up reserve

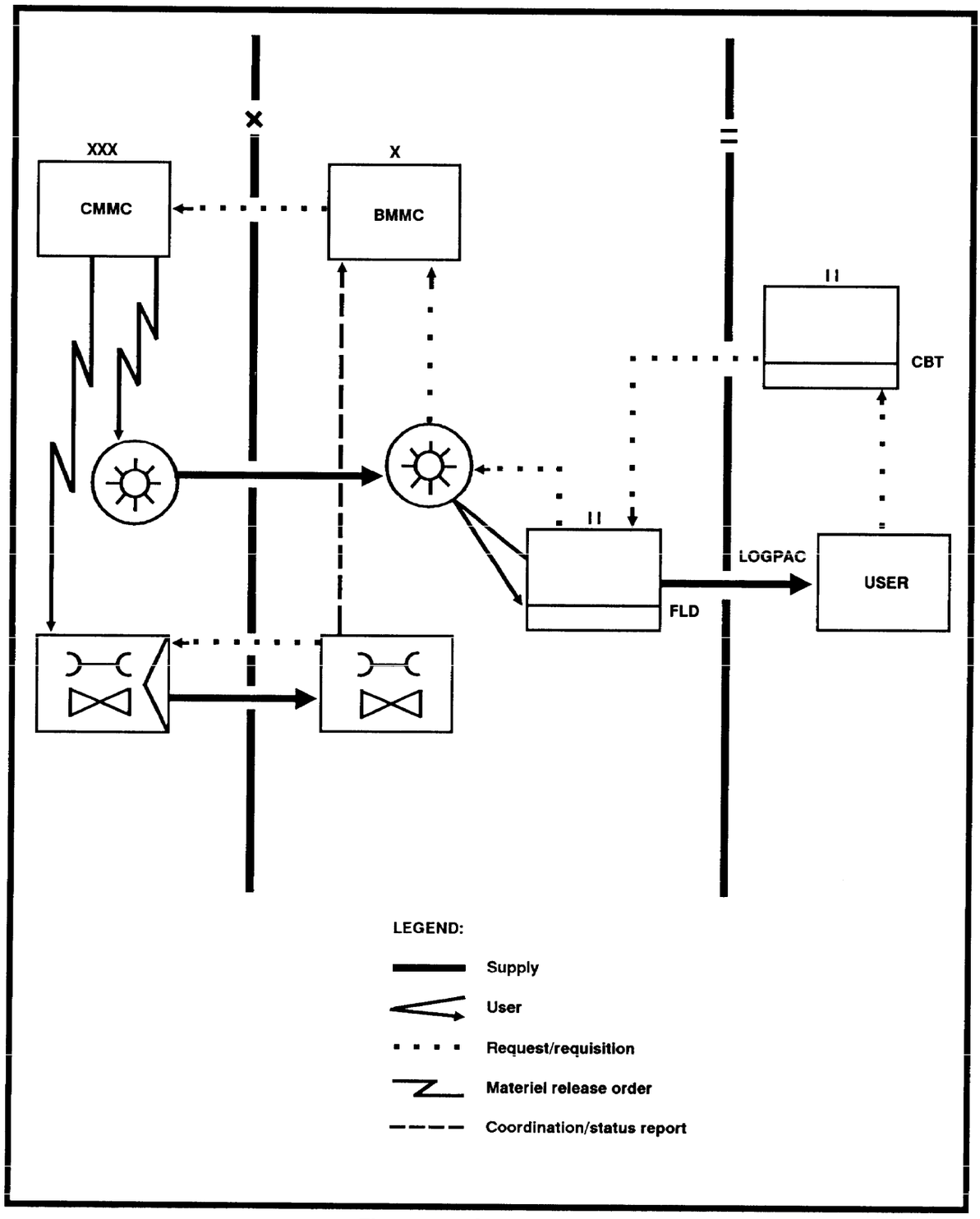


Figure 9-6. Class IX supply.

stocks. They increase the stockage of certain items on the basis of the operation, geography, terrain, and weather. For example, in many offensive operations, MSTs going forward increase the stockage of small, high-usage reparable, such as automotive subassemblies and fire control instruments.

As the tempo increases and distances lengthen, maintenance support assets move forward. However, planners considering such forward deployments take into account MST vulnerability, possible enemy counterattacks, and maneuver element requirements for space and roads. Maintenance elements require security assistance if they bypass pockets of enemy activity. Continuous movement forward also requires the commander to adjust the maintenance timelines. As lines continue to lengthen, expedient maintenance techniques as listed below are required:

- Having procedures to allow MSTs to draw parts and components expected to be required in large quantities.
- Setting up MCPs between UMCPs and the base shop.
- Increasing emphasis on evacuation, with repair in forward areas limited to component replacement, adjustments, and servicing.
- Using air transportation to move MSTs and repair parts.
- Having MSTs OPCON to maneuver units.

During a defensive operation, typically, supported units are not as widespread as in offensive operations. Therefore, the company commander centralizes the maintenance company assets more.

In a static defense, movement is less frequent. Therefore, more time is available for maintenance operations. The company commander increases the timelines for forward repair. He also builds up reserves of critical items consistent with mobility requirements and capabilities. He emphasizes more inspections and technical assistance.

A dynamic defense has many of the same maintenance implications as an offensive operation. For instance, maintenance sites move frequently and vehicle maintenance requirements rise.