MCWP 3-14
Coordinating Draft

Employment of the Light Armored Reconnaissance Battalion

U.S. Marine Corps

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DEPARTMENT OF THE NAVY
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FOREWORD

1. Purpose. Marine Corps Warfighting Publication (MCWP) 3-14, *Employment of the Light Armored Reconnaissance Battalion*, addresses the tactical employment of the LAR Battalion.

2. Scope. MCWP 3-14 provides guidance for the MAGTF commander, his staff, and his subordinate commanders in planning, preparing for, and conducting operations involving the LAR Battalion. It addresses the organization, fundamentals, and employment of the LAR battalion to include logistics, command and control, and air defense considerations.

3. Supersession. FMFM 6-30.

4. Certification. Reviewed and approved this date.

BY DIRECTION OF THE COMMANDANT OF THE MARINE CORPS

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MCWP 3-14 (DRAFT)
Employment of the Light Armored Reconnaissance Battalion

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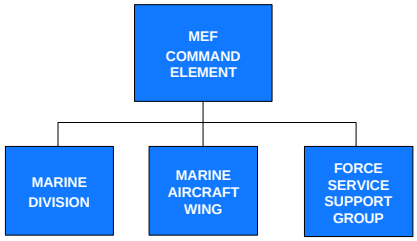
Chapter 1

Fundamentals of LAR Employment

1001. Marine Air-Ground Task Force Concept

a. Task Organization. The Marine Corps organizes for combat by forming Marine Air-Ground Task Forces (MAGTFs) which are combined arms warfighting organizations tailored to accomplish specific missions. MAGTFs are task-organized for rapid deployment by airlift and/or sea lift. They include a command element, a ground combat element, a aviation combat unit, and a combat service support element. They are readily available, self-sustaining, combined arms combat force capable of conducting amphibious operations and defense of advanced naval bases in support of a naval campaign. The MAGTF is also capable of sustained operations ashore in support of a land campaign. MAGTFs operate across the range of military operations.

b. Marine Expeditionary Force (MEF). Unless otherwise noted, all discussion of LAR Battalion employment should be considered within the context of a MEF. The Marine expeditionary force, the largest of the MAGTFs, is normally built around a Marine division, air wing, and force service support group all under a single commander. The LAR Battalion is under the command of the division commander or the ground combat element (GCE) when employed as detachments within smaller MAGTFs. The Marine Expeditionary Force is capable of conducting a wide range of amphibious operations and sustained operations ashore. It can be tailored for a wide variety of combat missions in any geographic environment. (Joint Pub 1-02)



1002. LAR Battalion Mission. The LAR battalion performs combined arms reconnaissance and security missions in support of the ground combat element (GCE). Its mission is;

"The LAR Battalion conducts reconnaissance, security and economy of force operations, and within its capabilities, limited offensive or delaying operations that exploit the unit's mobility and firepower."

The LAR battalion may function as an independent maneuver element or its subordinate companies may support other tactical units in the GCE of which it may the major component.

1003. The Fundamental Role of the Light Armored Reconnaissance Battalion (LAR Bn)

a. Shaping The Battlefield.
The fundamental role of LAR Battalion in the division is to ***shape*** the battle space. The LAR battalion performs this by conducting reconnaissance, security, and other operations In doing so, the LAR Battalion facilitates the

supported commander's ability to maneuver his forces and to concentrate superior combat power and apply it against the enemy at the decisive time and place. The LAR Battalion, helps reduce the "fog of war" by locating where the enemy is, where he is not, where he is strong and where he is weak.

b. Provide Information.

To successfully execute maneuver, the supported commander must have a high degree of situational awareness. The LAR Battalion possesses unique systems to gather and communicate information i.e., digital and mobile HF communications, thermal optics, scouts, and Secondary Imagery Dissemination System (SIDS) digital camera. The supported commander must make judicious, yet aggressive, use of his reconnaissance and intelligence assets. In building the Reconnaissance and Surveillance Plan (R&S Plan), the supported commander considers all collection assets at his disposal and assigns them tasks best suited to their abilities to accomplish these tasks. By employing his LAR battalion, he strives to reduce the enemy, terrain and friendly unknowns of the battlefield to allow him to fight effectively and to operate within the enemy's decision cycle. The successful execution of maneuver warfare continues to be the product of thorough reconnaissance and continual security. LAR greatly enhances this need and can be used to confirm or deny information gained from other collection assets or to fill in gaps in the R&S plan. LAR provides the supported commander increased reaction time and maneuver space using depth in zone.

c. Provide Reaction Time and Maneuver Space.

The commander thinks and plans in terms of the time and space required to maneuver and concentrate subordinate units against enemy weaknesses. The distance the LAR battalion operates from the GCE and the amount of combat power available determine how much time and space the commander will have to react to enemy actions. The mobility provided by the light armored vehicle (LAV) allows LAR units to seize or retain the initiative and to create or ruthlessly exploit opportunities as they occur in the course of other operations.

d. Preserve Combat Power.

The LAR Battalion, by its role, can perform economy of force missions. The flexible capabilities of LAR allow the GCE commander the ability to retain combat power of other tactical units for engagement where he desires.

1004. LAR in Operational Maneuver From The Sea (OMFTS).

The essence of OMFTS is the maneuver of naval forces at the operational level, focusing on operational objectives which are sustained by sea based logistics. Within this concept, OMFTS views the sea as the principal maneuver space and provides the Marine Corps the capability to rapidly project naval forces ashore faster than the enemy can counter them. OMFTS requires-

- Forces that can rapidly maneuver from the ship to the objective.
- Forces that are highly mobile and can move great distances with little logistical support.
- Forces that can be employed across the range of military operations.

Across the range of military operations LAR Battalion is exceptionally well suited to execute OMFTS today. The moderate fuel consumption, deep projection potential and relatively small logistical tail of the LAR battalion, provide the MAGTF a highly flexible force capable of a wide range of missions that can influence actions within the littorals supported by sea based logistics. As such, LAR units

embarked aboard naval shipping are ideal for conducting operations in the ship-to-objective maneuver (STOM) concept, into and beyond the littorals.

1005. The LAR Battalion in support of MAGTF operations.

The LAR Battalion normally operates as an independent maneuver element as part of the division to which it is assigned, MAGTF or as part of a Special Purpose MAGTF (SPMAGTF). However, the LAR Battalion may directly support other tactical units within the GCE with its subordinate companies.

a. MAGTF Offensive Operations.

The MAGTF undertakes offensive operations to destroy the enemy's ability and will to resist. While opposing forms, the offense and the defense are not mutually exclusive and cannot exist separately. The LAR battalion is well suited to conduct offensive or defensive operations within the framework of a MAGTF's offensive scheme. Within an offensive scheme, LAR units may conduct a variety of missions:

- Movement to contact
- Hasty attack
- Deception operations
- Defend
- Raids or other special purpose operations

As part of a MAGTF offensive operation, the LAR Battalion or one of its subordinate companies may perform a series of supporting missions such as-

- Reconnaissance in force, deep reconnaissance, counter reconnaissance, route reconnaissance, zone and area reconnaissance.
- Security: screen or guard* operations to the front, flanks and rear of moving or stationary units *(*Depending on the LAR battalion's task organization and the threat, guard missions may require augmentation).*
- Convoy and route security.
- Precision strike support and raids.

b. MAGTF Defensive Operations.

The primary purpose of defensive operations is to defeat enemy attacks and thrusts through or around its position. It may also be offensive in nature as to draw him into engagement areas. The defense is assumed as a temporary state that creates the conditions for MAGTF units to rest, re-arm, refuel or reinforce. It may not always be done due to superior enemy combat power. The MAGTF may transition to the defense at its culminating point when the offense loses momentum.

LAR Battalion as part of the GCE, supports MAGTF defensive operations by providing the MAGTF commander a wide array of employment capabilities. The speed, operational mobility and long range communication capability of the LAV provide the MAGTF commander a force that can exploit opportunities and rapidly transition to the offensive.

The LAR battalion may perform a series of missions within the defense. Security missions will predominate. Initially, the LAR battalion may screen or guard forward of the GCE. It may also serve as part of a covering force. Alternatively, the LAR battalion may screen or guard an exposed flank. Subsequently, the battalion may operate in the MAGTF rear area performing a variety of tasks that augment the MAGTF commander's scheme.

Finally, the LAR battalion may support commitment of the reserve. The battalion

facilitates movement as a reserve repositions or moves. Upon commitment, the LAR battalion may continue with the reserve performing reconnaissance or providing security.

c. MAGTF Deep Operations.

MAGTF deep operations are directed against enemy forces and functions to conduct operations beyond the close battle. They may be separated from the close battle in time and/or space. The MAGTF commander can execute deep operations with the LAR battalion provided that he dedicates suitable air, CSS, and communications assets to sustain it. Deep operations affect the enemy by--

- Nullifying his firepower
- Disrupting his C2
- Disrupting the tempo of his operations
- Destroying his forces
- Preventing reinforcing maneuver
- Destroying his installations and supplies
- Breaking his morale

The goals of deep operations include--

- Limiting the enemy's freedom of action
- Altering the tempo of operations in favor of the MAGTF
- Denying the enemy the capability to concentrate his forces
- Isolating the close fight
- Destroying the enemy's will to fight

Whether in the offense or defense, deep operations perform one or more of the following functions:

- Interdicting enemy LOCs
- Preventing the enemy's counterattack or his employment of follow-on forces
- Destroying units and critical targets
- Cutting off routes of withdrawal
- Providing the commander with information about enemy capabilities in depth

d. MAGTF Close Operations.

MAGTF close operations include the battles and engagements of its major maneuver and fire support units together with CS and CSS activities presently supporting them. MAGTF close operations usually include the deep, close, and rear operations of its committed GCE units. Not all activities that are part of close operations necessarily take place near the line of contact (LC). Close fights occur where, when, and against whichever enemy units commanders choose to commit assault formations. Concentrating the effects of combat power in support of ground forces becomes the commander's focus in close battles. Reconnaissance and security provided by the LAR battalion are critical to battles and engagements. LAR units conducting reconnaissance provide a degree of security. Units conducting security missions use reconnaissance techniques. Reconnaissance is the precursor to engagements with the enemy. Reconnaissance actions yield information on the disposition of an enemy's force and intent as well as environmental conditions. Effective reconnaissance allows the commander to gain and maintain contact with the enemy as well as to direct friendly units into the fight. LAR units orient their movement on the reconnaissance objective, which can range from an enemy force to the terrain. The LAR battalion and its subordinate companies may have to fight for information, but avoid decisive combat. Security, on the other hand, protects and conserves the combat power of friendly units. Security is an inherent part of all military operations. At the tactical level, security actions protect the command against surprise attack and hostile air and ground observation. All units conduct security actions while specific units

may be tasked to conduct security missions (such as screen, guard,).

e. MAGTF Rear Operations.

The MAGTF conducts rear area operations to assure freedom of maneuver and the continuity of operations, such as sustainment, clear C2 arrangements, and dedicated fire support.

While MAGTF S3s are responsible, overall, for terrain management, commanders of rear command posts (CPs) usually position supporting units in rear areas. Once in position, these units become a base (a unit or multi-unit position with a definite perimeter) or part of a base cluster (a mission grouping of bases and/or security requirements that lack a clearly defined perimeter).

The LAR battalion tasked with rear area security will conduct reconnaissance and security missions as described earlier. Prior to dedicating an LAR battalion to this role, the MAGTF commander assesses the threat levels present within the rear area to determine if it warrants LAR augmentation. He does this by evaluating the nature and scope of friendly actions within the rear area needed to defeat the perceived threat.

Continuous reconnaissance, security and timely information collection, as well as dissemination by the LAR battalion are essential for successful rear area operations. Rear area security operations planning for LAR should take advantage of the high mobility and optics capabilities inherent to all LAVs.

Chapter 2
LAR Organization, Capabilities, and Limitations

2001. Organization. The LAR battalion's organization allows it to conduct the full range of command functions. Light armored vehicle mobility is maximized when the battalion is assigned independent missions for either the GCE or any of its subelements. The LAR battalion may also be assigned missions which require placing its subordinate companies in support of other MAGTF formations. A task-organized LAR company is the smallest LAR unit capable of conducting sustained independent operations. The LAR battalion and each of its companies have an organic maintenance and recovery capability as well as adequate communications equipment for sustained battlefield survival during independent operations. The LAR battalion and company tables of organization are depicted in figures 2-2 and 2-3.

2002. Light Armored Vehicle (LAV) Mission Role Variants (MRVs). Currently, each LAR battalion in the standing MEFs is equipped with 6 types of MRVs. The 4th LAR Battalion is also equipped with the LAV-AD, which features a 25mm Gatling gun and 8 Stinger missile launchers mounted in its turret. Figure 2-1 depicts the variants of the LAV family and their equipment.

VARIANT	ASSETS
LAV-25	25mm cannon 7.62mm coax MG 7.62mm pintle mount MG 2 VHF SINCGARS radios Carries three scouts
LAV-AT	M901 TOW turret 7.62mm pintle mount MG 2 VHF SINCGARS radios
LAV-M	81mm mortar 7.62mm pintle mount MG 2 VHF SINCGARS radios
LAV-C2	7.62mm pintle mount MG 4 VHF SINCGARS radios 1 UHF radio 1 HF radio
LAV-L	7.62mm pintle mount MG 2 VHF SINCGARS radios Carries logistics
LAV-R	7.62mm pintle mount MG 2 VHF SINCGARS radios 30,000 lb. winch Recovery boom
LAV-AD	25mm GAU-12/U Gatling Gun 2 Stinger Missile launchers 2 VHF SINCGARS radios 1 HF radio
LAV-MEWSS	EW/SIGINT (Radio BN)
LAV-JLNBCRS	NBC Recon (IOC '03; FOC '05)

Figure 2-1 Light Armored Vehicle Mission Role Variants

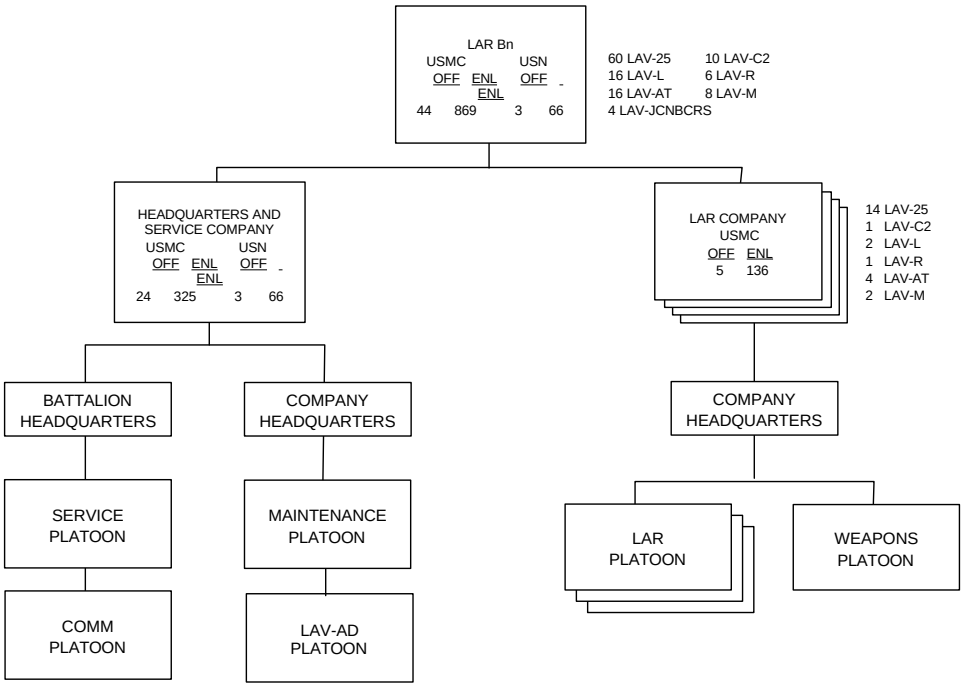


Figure 2-2. Light Armored Reconnaissance Battalion Organization

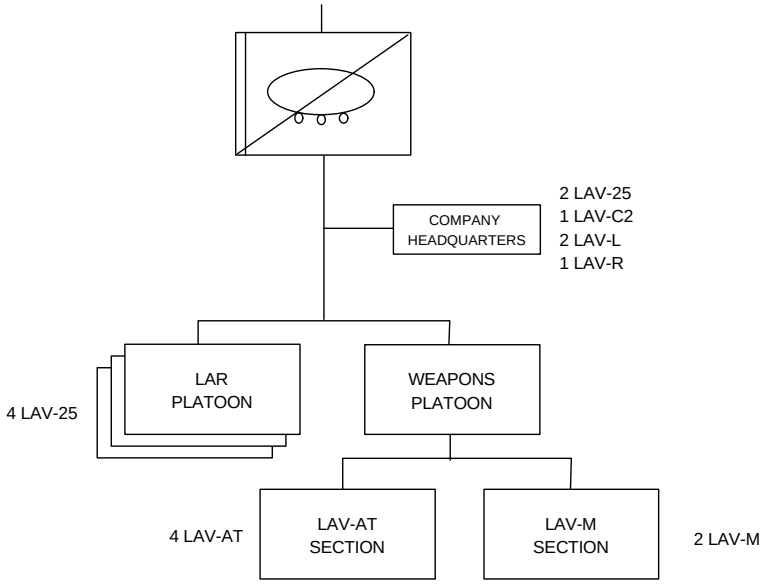


Figure 2-3 The LAR Company

2003. LAR Scouts. Marines with the MOS of 0311, rifleman, are assigned to the LAR battalion as scouts. Scouts receive their scout training from the LAR battalion. LAR scouts are not employed the same way as infantry or mechanized infantry. Each LAV-25 carries three scouts, who are trained and organized for employment in support of the LAV-25. LAR's scouts should be thought of as an integral part of the vehicle's employment. The vehicle/scout team is a complete system, with the vehicle and its scouts each dependent on the other for security, mobility and firepower. Scouts normally avoid decisive close engagement with enemy infantry. Scouts perform a wide range of tasks, to include:

- Providing local security for the LAVs
- Manning observation posts (OPs)
- Conducting dismounted reconnaissance of close terrain which cannot be bypassed
- Providing dismounted security at danger areas
- Performing obstacle reconnaissance e.g., locating and marking bypasses for follow on forces
- Performing NBC monitor/survey tasks
- Marking contaminated areas and bypasses
- Performing limited countermobility tasks and employing demolitions
- Conducting bridge/ford/route/area reconnaissance and evaluation (*Engineers are required to perform an accurate bridge "classification.")*
- Controlling supporting arms

2004. Troop Density. The LAV-25 carries 3 LAV crewmen and four infantry scouts per vehicle. The LAR battalion T/O accounts for only 168 scouts. Clearly, operations requiring large numbers of infantry favor employing mechanized infantry's greater troop density. This limitation can be offset by planning for reinforcements of LAR by helicopterborne or mechanized infantry units. The LAV should not be viewed as an infantry fighting vehicle nor as an armored personnel carrier. It lacks sufficient armor protection and troop density to perform missions normally assigned to a mechanized infantry unit.

2005. Operational Capabilities. Like other units, the LAR battalion has certain operational characteristics which impact on its employment. LAR units are highly mobile, possess a high degree of firepower, yet are light in infantry. LAR's flexibility allows the MAGTF commander to task organize its assets to meet mission requirements in the deep, close, and rear areas. For example, aviation in support of LAR can deliver firepower and reinforce with helicopterborne infantry, and sustainment. Conversely, the operational characteristics of LAR units enhance the capabilities and offset limitations of MAGTF aviation. LAR can develop situations on a battlefield that present opportunities for rotary and fixed wing attack aircraft as well as provide more detailed information and maintain a continuous, all weather presence on the battlefield.

AIRCRAFT	NUMBER of LAVs
C-141	2
C-17A	6
C-5A	6-9*

*depending on fuel capacity and runway length.

Figure 2-4. National Strategic Transportation Assets for LAVs.

2006. Mobility. Mobility is a quality or capability of military forces which permits them to move from place to place while retaining the ability to fulfill their primary mission. (Joint Pub. 1-02). LAR provides a very capable force that is mobile across the levels of war. Mobility equates to survival for the LAR battalion due to limited armored protection on the LAV.

a. Strategic Mobility. Strategic mobility is the capability to deploy and sustain military forces worldwide in support of national strategy (joint pub. 1-02). Light armored vehicles are strategically deployed by either airlift or sealift. Amphibious shipping can transport large numbers of LAVs. Maritime prepositioning ship squadrons (MPSRONs) currently have the following vehicle mix:

VARIANT	QTY
LAV-25	14
LAV-C2	1
LAV-M	2
LAV-AT	4
LAV-R	1
LAV-L	3

MPSRON-1, 2 and 3 all contain the same vehicle mix and quantity.

Figure 2-5 MPSRON LAV mix.

b. Operational Mobility. Operational mobility is the ability to move or be transported between engagements and battles within the context of the campaign or theater. (MCDP 1-1) Operational mobility may be a affected by the weight and physical dimension of the vehicle and/or the vehicle's cruising range, fuel consumption and sustained speed over distance. (Figure 2-6 compares operational characteristics). These attributes may also impact on strategic and tactical mobility.

	LAV-25	M1A1	AAV
Weight	14.2 tons	67.5 tons	28 tons
Cruising range	400 miles	275 miles	300 miles
Fuel	71 gal	495 gal	180 gal
Top Speed	60+mph	42 mph	40 mph

Type	LAV-25	M1A1	AAV
C130	1	0	0
LCAC	4	1	2
LCU	6	2	3
LCM-8	1	1	1
Railway car	2-4	2	2
Lowboy	1-2	1	1
CH-53E	1	0	0

Figure 2-6. Vehicle Operational Characteristics and Comparisons.

c. Tactical Mobility. Tactical mobility is the ability to move within an engagement or battle. Tactical mobility is a function of speed and acceleration over short distances and the ability to move cross-country over various terrain and weather conditions. The LAV can -

- Engage 8 wheel drive for cross-country driving.
- Operate on diesel fuel as well as JP 5 and JP 8.
- Climb 60-degree slopes and obstacles 19 inches high.
- Operate on 30-degree side slopes.
- Swim 6.5 mph with minimal preparation.
- Run on flat tires for 25 miles at 30 mph.

2007. Firepower. The LAR battalion has considerable firepower with its organic weapon systems. Figure 2-7 describes each vehicle's

weapons system. Each vehicle has an M-257 self-screening smoke grenade launcher system (eight ready and eight stowed). The organic capability of LAR to defeat enemy tanks rests exclusively with the LAV-AT. The 25mm cannon is very effective against light armor such as BMPs and BTRs.

Type	WEAPON	DEFEATS
All LAVs	*7.62 mm*	Troops at 900m
LAV-25	*25 mm chain gun*	BMPs at 1700m
		Trucks at 3000m
LAV-M	*81 mm mortar*	Troops/Light veh Fires HE, RP, ILLUM at 5650m
LAV-AT	*TOW missile*	Tanks at 3750m
LAV-AD	*25 mm Gatling*	Aircraft at 3200m

Figure 2-7 LAV Weapons Systems.

The LAV-25 is equipped with the DIM-36TH, 7x thermal Day/Night sight that provides the vehicle commander and gunner with vehicle detection capability past 4000 meters. The LAV-AT equipped with the AN/TAS-4, 12x thermal sight can engage enemy tanks during periods of reduced visibility out to the range of the TOW missile (3750m).

2008. Communications. The LAR battalion has an excellent communications ability. Each LAV has a minimum of two radios that can simultaneously monitor two nets and access up to twelve nets through VHF SINCGARS. Due to the dispersed nature of LAR operations, communications planning must focus on HF frequency selection, relay, retransmission sites, satellite communications (SATCOM) with the LAV C2 variant (with the fielding of the AN/PSC-5), or any other communication assets. Figure 2-8 lists the LAVs' communication systems.

SYSTEM	CAPABILITIES
SINCGARS	Secure/digital/voice 40km range
HF (PRC-104)	Secure/digital/voice 160km range
HF (MRC-138)	Secure/digital/voice 1700km (+) range
UHF radio	LOS

Figure 2-8. LAV Communications Systems

2009. Limitations. The following limitations may affect one or more of the different means of mobility:

a. Aerial. Although a single LAV can be transported externally by a CH-53E, minor variations in wind, weather, humidity, and altitude may prevent lifting. Lifting LAVs in the initial vertical assault may expose the aircraft to an unacceptable risk. There may not be enough CH-53Es to lift an LAR unit. Deck space, cycle time, etc., severely restrict the number of LAVs that can be moved by the CH-53E during amphibious operations.

b. Close terrain. In close terrain, the LAR battalion can be canalized along predictable routes through existing and reinforcing obstacles. The vehicles are subject to close-in attack by enemy infantry carrying light armor defeating weapons such as ATGMs, RPGs, assault grenade launchers, and heavy machine guns. In close terrain, LAR units are slowed to the speed of their dismounted scouts.

c. Water Operations. LAVs are capable of crossing bodies of water with a current less than 8.2 feet per second. LAVs can cross streams, lakes and slow running rivers. They usually conduct an amphibious assault along an ocean front without ship to shore sealift, usually provided by LCAC or LCU.

d. Off road soil composition. LAVs may be unable to negotiate certain types of terrain traversable by tracked vehicles--e.g., bogs, soft sand, or swamps. This fact must be considered when assigning routes, zones of action, or task-organizing for combat.

e. Weather effects. Arctic conditions may require the LAV to use snow chains to aid traction in ice, snow and muddy terrain. Wet climate conditions can seriously degrade off road trafficability.

f. Recovery. LAVs have an eight wheel drive capability and a 15,000 lb. winch for self recovery if they become mired in mud or snow. LAR units possess limited ability to recover or evacuate inoperable LAVs. LAVs are not ideally suited for performing long distance towing. Furthermore, LAVs dedicated as towing vehicles degrade the unit's mobility as well as its ability to perform tactical missions. The best platform for long-distance towing is the M870 lowboy trailer.

g. Armor Protection. Each LAV can withstand 7.62 mm x 39 mm ball (M1943 Soviet short) impact at 0 meters and 152 mm artillery air burst at 50 feet. The LAV relies on stealth, speed and agility for its survival rather than on its armor protection. It cannot survive the fires of heavy machine guns, antiarmor weapons or direct hits from indirect fire weapons. For this reason, the LAV should be employed in roles short of decisive close combat.

Chapter 3

i

Operations

3001. Fundamentals. The LAR battalion must be able to observe and, when necessary, fight the enemy across extremely wide frontages to shape the battlefield for the supported commander. LAR is best employed not as a substitute for infantry and armor in the attack or defense, but to perform reconnaissance and security missions that allow armor and infantry to close with the enemy decisively. The following fundamentals allow LAR units to be employed to their fullest potential.

a. Unit Integrity. LAR should be employed as one cohesive maneuver element in support of the MAGTF. Stripping away selected mission role variants (MRVs) from the LAR battalion for attachment to other MAGTF forces may make the battalion vulnerable to a particular enemy weapon system or tactic.

b. Task Organization. Company size or larger elements are the only task-organized element of the LAR battalion capable of conducting independent operations. Task organizations smaller than company-size significantly degrade tactical capability. This degradation is significant in terms of command and control as well as maintenance capability. Based on METT-T, the LAR battalion may be supported by and/or reinforced with other MAGTF assets, to include armor, aviation, infantry, engineers, etc.. Security operations in the offense and defense may require additional firepower and mobility that these assets can provide. This is particularly applicable against an enemy with a large mechanized force employing heavy armor. Attachments to an LAR unit must be of comparable mobility in order to maintain maximum capability and tempo. It is important to note that the LAV, tank and AAV should not be thought of as competing weapons platforms but rather that of complementary combat systems.

c. Forward Employment. Normally, the LAR battalion should be employed as far forward or to the flanks of the main body as possible to provide reaction time and maneuver space for the supported commander. LAR units often move back and forth across fire support coordination lines. This may require additional planning for the MAGTF and ACE to provide support out to and beyond the MAGTF's fire support coordination line (FSCL).

d. Flexibility. The LAR battalion relies primarily on mobility to accomplish assigned missions. Speed and mobility are the key to LAV survivability. Accordingly, LAR operations should not be inhibited by control measures or fire support coordination measures. Hence, these measures must be carefully planned and coordination made with all possible adjacent units to reduce risk.

3002. Amphibious Operations. During amphibious operations, the LAR battalion can enhance the success of the landing without diversion of the assault forces from the main landing. The unit can form part of a separate landing group to participate in preassault operations, subsidiary landings, demonstrations, or raids. LAR can isolate the landing area, reconnoiter coastal and inland defenses, deceive the enemy, neutralize or destroy targets invulnerable to other means, and deny areas to the enemy. The LAR battalion can participate in the main landing, moving ashore in scheduled waves to protect an open flank, or it

can remain on-call until needed to exploit success. Finally, LAR can serve as part of the covering force during an amphibious withdrawal.

MISSION	TYPE	LAR Bn	LAR Co	LAR Plt
RECON	Route	X	X	X
	Zone	X	X	X
	Area	X	X	X
	Recon-in-Force	X	0	0
SECURITY	Screen	X	X	X
	Guard	*	0	0
	Cover	0	0	0
	Area	X	X	X
	Route	X	X	0
	Convoy	X	X	0
ECONOMY OF FORCE	Hasty Attack	X	X	X
	Delib Attack	*	*	0
	Mvnt to Contact	X	X	0
	Def from BPs	X	X	X
	Def in Sector	X	X	0
	Delay	X	X	0
OOTW	As task organized in the scope of missions listed above	X	X	X
X =	Capable			
* =	Capable with augmentation			
0 =	Not independently capable			

Figure 3-1 LAR Mission Profiles.

3003. Reconnaissance Operations. Reconnaissance is a mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy; or to secure data concerning the meteorological, hydrographic, or geographic characteristics of particular area (Joint Pub 1-02).

a. LAR Employment in Reconnaissance Operations. The LAR battalion differs greatly from stealthy or dismounted reconnaissance units. LAR performs reconnaissance in force and other reconnaissance missions. The LAR battalion is particularly suited for highly mobile ground reconnaissance, deep reconnaissance, and counter-reconnaissance. LAR can support the MAGTF at the operational and tactical level of war by providing information that assists a commander to determine when and where to accept or refuse battle. LAR performs reconnaissance in accordance with the overall collection plan and does not supplant the contributions of other reconnaissance elements. The LAR unit operates overtly, relying on mobility, maneuverability, firepower and the mutual support of LAR mission role variants to accomplish reconnaissance missions. They may have to fight for information. Clandestine reconnaissance operations are best assigned to reconnaissance forces specifically tailored for clandestine tactical reconnaissance. LAR offers certain advantages in conducting reconnaissance. They possess the capability to further develop the situation after gaining enemy contact. They may perform security missions (screen, guard, and participate in a cover operations), concurrently with reconnaissance operations. During reconnaissance operations, LAR may conduct limited objective attacks to secure lightly defended terrain (bridges, road junctions, or mountain passes).

b. Collection Plan. When the LAR battalion is tasked with conducting reconnaissance missions, these missions should be integrated into the overall collection plan to avoid needless duplication, conflicting requirements and exchange of fire between friendly units. Control measures are

essential for mission accomplishment and, at a minimum, include lateral boundaries, contact points, route designations, limits of advance (if applicable), start and completion times, and reconnaissance objectives (normally given in the form of named areas of interest; *NAIs*).

c. Reconnaissance Fundamentals. There are six fundamentals common to all successful reconnaissance operations:

- Maximum reconnaissance forward
- Orient on the location or movement of the reconnaissance objective
- Report information rapidly and accurately
- Retain freedom to maneuver
- Gain and maintain enemy contact
- Develop the situation rapidly

d. Reconnaissance Planning. Complete, detailed reconnaissance instructions must contain-

- Pertinent information about the enemy and friendly troops.
- Plans of the higher commander.
- Specific, prioritized information requirements.
- Type of reconnaissance; i.e., route, zone, or area.
- How the LAR unit is integrated into the R&S plan of the supported commander.
- Control measures.

3004. LAR Reconnaissance Missions

a. Route Reconnaissance. A route reconnaissance is a directed effort to obtain detailed information of a specified route and all terrain from which the enemy could influence movement along that route. Route reconnaissance may be oriented on a road, an axis or direction of attack. It is faster than zone reconnaissance because effort is concentrated along the route and its controlling terrain.

(1) Critical Tasks.

- Find, report, and destroy within capability all enemy that can influence movement along the route.
- Reconnoiter and determine the trafficability of the route, to include locating and marking mines and obstacles.

Additionally, the LAR battalion will accomplish the following tasks, time permitting or if so directed:

- Reconnoiter all terrain that the enemy can use to dominate movement along the route.
- Reconnoiter all built up areas (BUAs) along the route.
- Reconnoiter all lateral routes.
- Inspect and evaluate all bridges on the route.
- Locate available fords or crossing sites near all bridges on the route.
- Inspect and evaluate all overpasses, underpasses and culverts.
- Reconnoiter all defiles along the route within the unit's capability; clear all defiles of the enemy and obstacles or locate a bypass.
- Locate, mark and when task organized with engineers clear the route of mines, obstacles and barriers.
- Locate a bypass around BUAs, obstacles, bridges, and contaminated areas.
- Report route information as required.
- Prepare a sketch map or route overlay.

(2) Planning Considerations for Route Reconnaissance:

- The LAR unit must know the start and termination points and requirements for marking and clearing the route.
- An LAR company can reconnoiter two or three routes if enemy contact is unlikely. Otherwise, it should be assigned only one major route.
- An LAR battalion should be assigned no more than three major routes if enemy contact is expected.
- Time allotted to complete a reconnaissance mission will determine the level of detail in accomplishing critical and optional tasks.
- Task organizing LAR with attack helos is especially effective when time is critical and speed is essential.
- IPB information on the route and enemy situation.
- Integration of the LAR unit into the R&S plan.
- Engagement, disengagement, and bypass criteria.
- One critical task should be designated as the priority.

b. Zone Reconnaissance. A zone reconnaissance is a directed effort to obtain detailed information concerning all routes, obstacles, (to include chemical or radiological contamination), terrain, and enemy forces within a zone defined by boundaries. A zone reconnaissance normally is assigned when the enemy situation is vague or when information concerning cross-country trafficability is desired (FM 101-5-1). It is a deliberate time-consuming process if not specifically focused by the MAGTF commander.

(1) Critical Tasks. In zone reconnaissance, the LAR battalion will accomplish both of the following critical tasks:

- Find and report all enemy in zone.
- Reconnoiter and determine trafficability of all terrain within the zone.

Additionally, the LAR battalion will accomplish the following tasks, time permitting or if so directed:

- Reconnoiter and determine the trafficability of all terrain within the zone, including BUAs.
- Inspect and evaluate all bridges within the zone.
- Locate available fords or crossing sites near all bridges in the zone.
- Inspect and evaluate all overpasses, underpasses and culverts.
- Within capabilities, locate and clear all mines, obstacles and barriers within the zone.
- Locate a bypass around BUAs, obstacles, bridges and contaminated areas.
- Report reconnaissance information. *(Radio reported with an overlay or a sketch map).*

(2) Planning Considerations. Unless otherwise specified, the LAR unit conducting the zone reconnaissance will accomplish all the tasks of a route reconnaissance.

- The MAGTF commander should identify the reconnaissance objective, control measures, and time allotted to complete the reconnaissance mission.
- Integration of the LAR unit into the R&S plan.
- Task organizing LAR with attack helicopters is especially effective when time is critical and speed is essential.
- Engagement, disengagement, and bypass criteria.

c. Area Reconnaissance. An area reconnaissance is a directed effort to obtain detailed information concerning the terrain or enemy activity within a prescribed area such as a town, ridge line, woods, named area of interest (NAIs), or other feature critical to operations. An area reconnaissance is a specialized form of zone reconnaissance, and proceeds faster than a zone reconnaissance since the effort is focused on specific terrain feature(s) or enemy force(es). LAR may be required to reconnoiter one large area or several small areas.

(1) Critical Tasks. Both critical tasks must be accomplished during an area reconnaissance unless otherwise directed:

- Find and report all enemy in area.
- Reconnoiter and determine trafficability of all terrain within the area.

Additionally, the LAR battalion will accomplish the following tasks, time permitting or if so directed:

- Reconnoiter and determine the trafficability of all terrain within the area , including BUAs.
- Inspect and evaluate all bridges within the area.
- Locate available fords or crossing sites near all bridges in the area.
- Inspect and evaluate all overpasses, underpasses and culverts.
- Within capabilities, locate and clear all mines, obstacles and barriers within the area.
- Locate a bypass around BUAs, obstacles, bridges and contaminated areas.
- Report reconnaissance information.

The LAR battalion will reconnoiter the area thoroughly, including dominant terrain both within and outside the area. An area reconnaissance conducted as a separate, exclusive mission is usually a much faster one. This is because the zone to the area or routes that lead to it may not need to be reconnoitered or prior information has already been attained. For example, other collection assets such as UAVs have located where the enemy force is and the LAR battalion is tasked to conduct further ground reconnaissance to confirm or fix the enemy. The LAR battalion will try to reach the area quickly; enemy situations encountered en route are developed only enough to ensure that reconnaissance elements can bypass. Normally, an LAR battalion or company is required to conduct area reconnaissance.

3005. Security Operations. Security operations are conducted to obtain information about the enemy, provide reaction time, maneuver space, and protection to the main body. Security operations are characterized by aggressive reconnaissance to reduce terrain and enemy unknowns, gaining and maintaining contact with the enemy to ensure continuous information, and providing early and accurate reporting of information to the protected force.

LAR battalion security forces may operate to the front, flanks or rear of a moving or stationary main body. Security operations include the following operations:

- Screen
- Guard
- Cover
- Area security

a. Fundamentals. The LAR battalion conducts security operations according to five fundamentals.

- Orient on the friendly main body

- w Perform continuous reconnaissance
- w Provide early and accurate warning
- w Provide reaction time and maneuver space
- w Maintain enemy contact

3006. LAR Security Missions

a. Screen. A screen is a security element whose primary task is to observe, identify and report information, and which only fights in self-protection (Joint Pub 1-02). The screen provides the protected force with the least protection of any security mission. This mission is appropriate when operations have created extended flanks or gaps that cannot be secured in force, or when early warning is required. A screen may be performed for a stationary force to the front, flanks or rear of the friendly main body. A screen is performed for a moving force to the flanks or rear of the friendly main body. A screen mission is not performed forward of a moving force. Zone reconnaissance, movement to contact, or advance guard are missions more suited for operations forward of a moving force.

(1) Critical Tasks. To achieve the intent of a screen mission the following critical tasks are accomplished:

- w Maintain continuous surveillance of all battalion-size avenues of approach into the sector under all visibility conditions.
- w Destroy or repel enemy reconnaissance units within capability.
- w Locate the lead enemy unit of each suspected advance guard formation and determine its direction of movement.
- w Gain and maintain enemy contact and report enemy activity.

(2) Planning Considerations. The MAGTF commander provides the following broad guidance to the LAR battalion:

- w METT-T will dictate organic and non-organic task organization.
- w General trace of the screen and time the screen must be established.
- w Graphics indicating the width and depth of the screened sector.
- w The force to be screened.
- w The time which the screen should be established.
- w Control measures between LAR and adjacent units.
- w Fire support coordination with all adjacent FSCs.
- w Battle hand over/ passage of lines procedures.
- w Any special requirements and constraints.

Requirements for observing specific named areas of interest (NAI) or targeted areas of interest (TAI) identified during the IPB are stated. If the screened force is to engage or control engagement of a threat at a TAI, the main body commander provides adequate resources.

b. Guard. A guard is a security element whose primary task is to protect the main force by fighting to gain time, while also observing and reporting information (Joint Pub 1-02). Guard operations may be conducted by LAR units to the front, flanks or rear of a stationary or moving force. A guard operation is normally conducted within artillery range of the protected force, if not within range of artillery the LAR unit must have dedicated air support. A guard force reconnoiters, screens, attacks, defends and delays as required to prevent enemy ground observation of and direct fire against the main body. A guard

force will normally be deployed along a more narrow front than a screen due to its requirement to fight and provide physical protection. Depending on the threat, the LAR battalion may require reinforcement with tanks or other mechanized forces as well as attack helicopters and fixed-wing aircraft.

(1) Critical Tasks. Unless otherwise directed the guard force accomplishes all the following critical tasks:

- Perform reconnaissance along the friendly main body's axis of advance.
- Maintain continuous surveillance of all enemy avenues of approach.
- Destroy or repel enemy reconnaissance and security elements.
- Defeat, repel, or fix enemy ground forces before they can engage the friendly main body with direct fire.
- Reconnoiter the zone between the main body and the guard force battle positions.
- Maintain contact with the friendly main body.

(2) Planning Considerations. The supported commander provides the following broad guidance to the LAR battalion:

- Provide adequate combat and combat support assets to the guard force.
- Ensure responsive fire support to the guard force.
- Engagement, disengagement, and bypass criteria.
- Duration of the guard mission.

c. Cover. A type of security operation that protects the force from surprise, develops the situation, and gives commanders time and space in which to respond to the enemy's actions. A covering force operates apart from the main body for the purpose of intercepting, engaging, delaying, disorganizing, and deceiving the enemy before he can attack the force covered. It is an independent, tactically self-contained maneuver unit that operates at considerable distance to the front, flank, or rear of a moving or stationary force in an offensive or defensive role. If it cannot defeat the enemy force, then the covering force deceives, delays, and disorganizes the enemy until the main body can effectively react. A covering force implies the capability of close decisive combat. It requires significant firepower against a mechanized and mobile opponent, and considerable troop density against a dismounted opponent. Usually, the LAR battalion lacks the necessary organic firepower and troop density to function independently as a covering force. A task-organized LAR force with its own attached tanks, artillery, CSS, along with dedicated air in direct support is usually necessary to operate as a covering force.

(1) Critical Tasks. A covering force accomplishes all of the following critical tasks:

- Conduct reconnaissance along the friendly main body's axis of advance.
- Deny enemy information about the size, strength, composition, and objective of the friendly main body.
- Destroy or repel enemy reconnaissance and security zone forces within capability.
- Develop the situation to determine enemy strengths, weaknesses, and dispositions.
- Defeat, repel, or fix enemy forces as directed by the supported commander.

- w Exploit opportunities until friendly main body forces are committed.

(2) Planning Considerations.

- w The LAR battalion normally requires reinforcement to perform a covering force operation.
- w LAR battalion can be teamed with the ACE to act as a MAGTF covering force.
- w Operates beyond the range of artillery of the main body.

d. Area Security. Area security operations neutralize or defeat enemy operations in a specified area. The LAR battalion can conduct area security of designated personnel, airfields, installations, unit convoys, routes, lines of communication (LOC), equipment, and critical points. The LAR battalion must be assigned a mission and intent in relation to an area of operations (AO).

(1) Critical Tasks. Unless otherwise directed, area security units will accomplish the following tasks:

- w Protect installations and units.
- w Protect LOCs.
- w Deny enemy access to critical areas.
- w Find, fix, and destroy stay-behind, infiltration, and guerrilla forces.
- w Counter enemy penetrations.
- w Perform damage control operations, chemical agent detection, or radiological monitoring and survey.

(2) Planning Considerations.

- w Natural defensive characteristics of the terrain.
- w Existing roads and waterways for LOCs.
- w Control of avenues of approach surrounding the area to be secured extending beyond that of enemy indirect fire.
- w Control of airspace.
- w Proximity to critical sites.
- w Movement of tactical units and civilian traffic should be rigorously controlled to avoid confusion, obstruction of LOCs and fratricide.

3007. Offensive Operations. LAR offensive operations penetrate or envelop the enemy, outflank his movement, disrupt and destroy his LOCs and logistics, disrupt his command and control (C2), and also destroy and disorganize remnants of an enemy force. LAR most often conducts offensive operations in support of or as part of reconnaissance, guard, or cover missions. Offensive operations include deliberate attack, hasty attack, movement to contact. They also include limited objective operations performed for a specific purpose, such as a raid or spoiling attack. LAR offensive operations can be used to-

- w Conduct reconnaissance-in-force.
- w Identify or create a weak point.
- w Suppress enemy fires.
- w Isolate the enemy and maneuver against his weak point.
- w Exploit success.
- w Pursue enemy forces.
- w Deceive or divert the enemy.

a. Planning Considerations

- w Task organization based on METT-T
- w Position and commitment of the reserve
- w Allocation of FS assets
- w Control measures must account for LAR's mobility
- w Deception plan

3008. Defensive Operations. LAR defensive operations are temporary measures to identify or create enemy weaknesses to be exploited at the earliest opportunity by offensive action. The defense seeks to defeat enemy attacks by destroying substantial parts of the attacking force while holding own losses to a minimum.
LAR most often conducts defensive operations in support of or as part of screen, guard, cover, and area security missions. Defensive operations include defend from a battle position, defend in sector, and delay. LAR units in the defense can be used to-

- w Gain time.
- w Concentrate forces elsewhere.
- w Wear down enemy forces as a prelude to offensive operations.
- w Control key terrain.
- w Retain political, strategic, or tactical objectives.
- w Deceive the enemy as to the location and intention of friendly forces.

a. Planning Considerations

- w Proper engagement area development to delay the enemy, strip his command and control systems, reconnaissance units, combat support, and vulnerable supporting forces.
- w Allocation of weapons and space.
- w Coordination of obstacles and fire support.
- w Enemy avenues of approach.
- w Length of delaying operations.
- w Size of sector.

3009. Passage of Lines and Battle Handover (POL and BHO). A passage of lines is an operation in which a force moves forward or rearward through another force's combat positions with the intention of moving into or out of contact with the enemy (Joint Pub 1-02). A battle hand over is a cooperative process between a stationary and passing unit during a passage of lines in which one unit transfers to the other unit the responsibility for fighting an enemy force. This event normally occurs at a designated point on the ground, normally depicted as a phase line (PL) designated as the battle hand over line (BHL). The BHL is a control feature, usually following easily definable terrain features, at which responsibility for the conduct of combat operations is passed from one force to another. In fast-paced, mobile operations on a nonlinear battlefield, LAR units must frequently conduct forward and rearward passage of lines. MAGTF units that conduct tactical missions must routinely plan, coordinate, rehearse, and execute this complex operation. A POL and/or BHO are often integral parts of MAGTF offensive and defensive operations. (For more information on passage of lines and battle hand over, see appendix a of this manual).

a. Planning Considerations

- w Coordination, liaison, and clear delineation of responsibilities between passing and stationary units.
- w Unit SOPs to be used.
- w Clear identification of control measures and trigger for BHO.
- w Handover of fire support coordination responsibilities.
- w Follow-on missions for LAR unit.
- w CSS reconstitution for the LAR unit.
- w As the stationary unit, LAR can reposition rapidly to the flanks and open a wide lane for passing unit.

Chapter 4

Command and Control

4001. Command and Control System. A command and control system is the facilities, equipment, communications, procedures, and personnel essential to a commander for planning, directing, and controlling operations of assigned forces pursuant to the missions assigned (Joint Pub 1-02). Understanding the command and control requirements when employing LAR, to include its inherent communication capabilities, will allow the supported commander to tailor his command and control arrangements to fully exploit the potential of the LAR battalion.

4002. Fundamentals. An effective command and control system possesses:

- Continuity
- Timeliness
- Clarity
- Flexibility
- Security

(a) Planning Considerations. An effective command and control system is best accomplished through:

- Clear, simple, and direct command lines
- Tailored communications
- Liaison
- Standardized reports
- Mission orders
- Clear and simple control measures
- Coordination and cooperation
- Anticipation of events

4003. Command Lines and Relationships. LAR units often move through areas controlled by different MAGTF elements and rapidly shift from one mission to another. For example, figure 4-1 illustrates an LAR battalion (-) conducting a stationary screen to the front of two main body battalions, as one LAR company conducts area security in the main body rear. Hence, clear, simple, and direct command lines are the foundation of an effective command and control system. The supported commander should always define:

- **What** the command relationship will be for current and follow-on missions,
- **When** command relationships will change based on event or time, and
- **Who** controls critical events such as POL and BHO.

Command relationships are derived from task organization.

4004. Mission Orders and Commander's Intent. Mission orders in LAR operations focus the LAR battalion on certain critical tasks associated with its task from higher headquarters. Commander's intent serves to ensure success of LAR in the absence of effective communications or in the fog and friction of war. Mission orders commonly include-

- A clearly stated LAR mission as well as the mission of the next higher echelon.
- The commander's intent and that of the next higher commander.
- Tentative follow-on missions.
- Liaison authority with higher, adjacent, and supporting forces.
- Tactical control measures.
- Engagement, disengagement, and bypass criteria.
- Time to start/complete the mission.
- Support available; e.g., supporting arms, communications, and logistics support.

4005. Communications. The LAR battalion has the communications assets to link into the communications systems of any MAGTF element. LAR often relies heavily on HF/SATCOM communications (both voice and digital) because of the large distances over which they operate. The supported commander must use compatible systems and techniques in order to ensure effective communications with LAR. The advent of future technology and improving communications hardware will dramatically increase the supported commander's command and control, information flow, and situational awareness. If such systems are organic to higher headquarters but not to the LAR battalion, then augmentation of these systems is required.

4006. Liaison. Liaison is that contact or intercommunication maintained between elements of military forces to ensure mutual understanding and unity of purpose and action (Joint pub 1-02). When directed, LAR will dispatch a liaison officer to the MAGTF COC.

4007. Reports. As in all reconnaissance and security units, reporting of information to higher headquarters is essential. The use of standardized report formats contribute to timeliness and accuracy of reporting. Tasking an LAR unit to collect essential elements of information (EEIs) , other information requirements (OIRs), or priority information requirements (PIRs) will focus LAR on what the MAGTF commander values as important. Most importantly, reporting by the LAR battalion should be integrated into the MAGTF commander's R&S plan.

Chapter 5

Intelligence

5001. Intelligence. Intelligence is the product resulting from the collection, processing, integration, analysis, evaluation, and interpretation of available information concerning foreign countries or areas (Joint Pub 1-02). Combat commanders are primarily concerned with combat intelligence, which is the immediate knowledge of the enemy, weather and geographical features required in the planning and conduct of present and future combat operations.

a. Intelligence Preparation of the Battlefield (IPB) is a systematic, continuous process of analyzing a threat and environment in a specific geographic area. LAR operations support and enhance the supported commander's staff estimate and military decision making process. IPB has four steps:

(1). Define the battlefield environment. LAR can confirm or deny initial assumptions as it is tasked as part of the overall collection effort to fill in information gaps.

(2). Describe battlefield effects. LAR is well suited to determine how the battlefield environment influences future operations and threat courses of action. This includes clarifying knowledge of terrain which a map analysis cannot satisfy. LAR can validate the effects of weather on mobility, equipment, and personnel.

(3). Evaluate the threat. LAR is able to quickly locate the enemy and fight for information. It can determine enemy size, location, and disposition. It is as equally important to determine where the enemy IS and where he IS NOT.

(4). Determine threat course of action. LAR's ability to fight for information gives it a distinct advantage over other assets in determining the enemy's course of action. LAR's mobility gives it the ability to maintain contact over long distances in order to give the supported commander a clear picture of the enemy's movement and intentions.

LAR is an integral part of the overall collection effort and is tailored to fight for information.

5002. Planning Considerations.

a. Reconnaissance and Surveillance Plan. (R&S) To be effective, the LAR battalion must be integrated into the MAGTF commander's R&S plan. This ensures all collection efforts are focused and efficient.

b. Reporting. Both the MAGTF commander and the LAR battalion must ensure that pertinent information flows in both directions. Future technologies, such as the **secondary imagery dissemination system (SIDS)** will enhance the timeliness and accuracy of information. SIDS is a digital camera capable of beaming real-time imagery derived from reconnaissance missions to other stations. SIDS interfaces with the intelligence analysis system (IAS) and other systems to disseminate information throughout the MAGTF.

c. Counterreconnaissance. In order to be effective in counterreconnaissance, LAR must locate enemy reconnaissance forces before they are able to find friendly forces. LAR is capable of destroying or repelling enemy mechanized reconnaissance forces.

d. Commander's Critical Information Requirements (CCIR). CCIRs identify what the commander must know about the enemy, weather, and terrain in order to accomplish his mission. CCIRs relating to the threat are priority information requirements (PIRs). It is **critical** that the LAR battalion knows the CCIRs/PIRs in order to ensure that they focus on finding and reporting this information.

Chapter 6

Fire Support

6001. General. Fire support (FS) is used to destroy, neutralize, or suppress enemy forces. FS is a key component of LAR operations because of its range and flexibility in shifting and massing fires.

6002. FS Planning Considerations. LAR operations often present the supported commander with unique requirements and conditions not common to most GCE units. The success of LAR operations often depends on the LAR battalion's ability to maintain contact with the enemy while avoiding decisive engagement. Use of supporting arms, when combined with the LAV's mobility and firepower, is essential for LAR to retain freedom of maneuver and accomplish its mission.

a. Location. Most LAR operations (especially reconnaissance and security) begin with LAR units widely dispersed to the front, flanks, or the rear of the main body. Initially, the supported commander may give LAR priority of fires in order to develop the situation. At times, LAR units will be out of range of artillery. In such cases, the MAGTF commander must consider alternate means of ensuring effective, responsive fires to LAR units. Options include direct support (DS) or other command relationships with elements of the ACE or DS artillery.

b. Tempo. LAR's mobility dictates that all supporting arms must be prepared to support a fast tempo of operations. Planning must focus on providing rapid, responsive fires across a widely dispersed battlefield.

c. Use of Fire Support Coordination Measures (FSCMs). Planning is enhanced by thorough understanding and use of FSCMs described in FMFM 6-18. The FSCL must be moved in advance of LAR operations in order to prevent fratricide. In deep operations, coordination must be made for RFA's that can moved in accordance with LAR's rapid mobility. Thus, proper assignment and coordination of FSCMs and maneuver control measures between LAR and adjacent units is essential to mission success and prevention of fratricide.

d. LAR FS Structure. Currently, the LAR battalion's fire support coordination center (FSCC) consists of one fire support coordinator (FSC) and one air officer (AirO). The battalion also has one FAC. When employing LAR units, the supported commander should address:

- The FS architecture to be used. Such considerations are communication nets (both digital and voice), FSCMs, who coordinates and controls fires during each phase.
- Support relationships between LAR and supporting arms agencies. Certain inherent responsibilities correspond to these relationships.

f. Advanced Field Artillery Tactical Data System (AFATDS). With the fielding of AFATDS, LAR's capability to conduct fire support coordination, speed fire mission processing, and report combat information will be increased dramatically. The AFATDS links the LAR battalion to its supported unit as well as all supporting arms agencies. It is also capable of

linking with the IAS to expedite accurate reporting.

6003. Artillery. The use of field artillery in support of LAR operations is limited by the lack of relative mobility of towed howitzers to the LAV. Depending on METT-T, artillery can operate and survive in direct support of LAR.

6004. Naval Surface Fire Support. Future battlefields will more likely be located in littoral areas. The high volume of fire, accuracy, and destructive nature of NSFS make it an excellent FS asset when terrain allows. Therefore, the availability and use of NSFS can enhance LAR's mission attainment.

6005. Marine Aviation. LAR may often operate at a significant distance from the other forces of the MAGTF. During such operations, aviation may be the sole source of fire support. It may prove beneficial to provide dedicated air support to LAR. When the LAR battalion is employed to develop the situation so that aviation can deliver decisive attacks, the MAGTF may subordinate LAR to the ACE to preclude coordination problems. All functions of Marine aviation have direct application to LAR operations. Marine aviation is able to provide support without diminishing the speed, mobility, and operating range of the LAR battalion. The MAGTF commander should consider how the following functions of Marine aviation can contribute to LAR operations:

a. Offensive Air Support (OAS). OAS is divided into two categories--deep air support and close air support.

(1) Deep Air Support. DAS is air action against enemy targets at such a distance from friendly forces that detailed integration of each mission with fire and movement of friendly forces is not required. DAS missions are flown on either side of the FSCL; the lack of a requirement for close coordination with the fire and movement of friendly forces is the qualifying factor. DAS missions may be used in support of LAR operations by attacking enemy formations or positions before they present a direct threat to the LAR battalion. LAR can move rapidly over long distances to assess the effectiveness of DAS.

(2) Close Air Support (CAS). CAS is defined as "air action by fixed- and rotary-wing aircraft against hostile targets which are in close proximity to friendly forces and which require detailed integration of each air mission with the fire and movement of those forces" (Joint Pub 1-02). CAS is used to destroy, disrupt, suppress, fix, or delay the enemy. It may be pre-planned or on-call. During LAR operations, the plan may include dedicated strip alert aircraft when enemy contact is possible and dedicated airborne alert aircraft when enemy contact is likely. Air strikes may be scheduled.

b. Aerial Reconnaissance. Integration of the onboard sensors of fixed- and rotary-wing aircraft will complement LAR reconnaissance capabilities.

c. Assault Support. Given the distances at which LAR units may operate from friendly forces, aviation can be used to provide casualty evacuation, refueling, and resupply.

d. Control of Aircraft and Missiles. Integration of the LAV-AD with the Marine or Theater Air Command and Control System.

e. AAW. Integration of the LAV-AD to engage enemy aircraft. Again, need to be tied in with the air command and control architecture.

f. Electronic Warfare. The MAGTF's LAV Mobile Electronic Warfare Support System (LAV-MEWSS) vehicles, located in 1st and 2nd Radio Battalions, can easily be augmented into the LAR battalion. The common automotive hull and identical mobility characteristics, allow the MEWSS to travel with the LAR battalion well forward while its security, logistics and maintenance support are provided by the LAR battalion.

6006. Marine Aviation as a Maneuver Element. As a combat element in its own right, the ACE can be given tactical missions in support of the MAGTF scheme of maneuver. In some situations, the MAGTF commander can task-organize elements of the ACE with an LAR unit to accomplish a mission. The inherent combat power of the ACE, coupled with the LAR unit's ground reconnaissance and fire support coordination capabilities, results in an effective combined-arms team. This enables the MAGTF commander to control the tempo, and rapidly develop the situation, while uncovering and destroying enemy formations and/or controlling key terrain.

Chapter 7

Combat Service Support Planning

7001. Combat Service Support System

All resupply and services must be planned to support LAR despite the nonlinear nature of battle, rapid transition from one mission to another, and extended lines of support. Logistics must be planned in advance and aggressively pushed forward without delay imposed by reacting to requests. Coordination with logistics staffs must be constant to maintain the flow of support throughout extended operations and changing support relationships.

a. Principles of Logistic Support. Sustainment enables the LAR commander to accomplish the wide range of tasks he may be assigned. CSS leaders are guided by these principles:

- Responsiveness
- Simplicity
- Flexibility
- Economy
- Attainability
- Sustainability
- Survivability

b. Logistics Functional Areas. The LAR battalion has limited capabilities in the six functional areas.

- **Supply:** The headquarters can perform the six basic subfunctions of supply. This includes determination of requirements, procurement, storage, distribution, salvage, quantities of class III,V, and IX supplies.
- **Maintenance:** 1st and 2nd echelon maintenance is performed at the company level while the battalion can perform 3rd echelon maintenance.
- **Transportation:** Generally, the LAR battalion can provide for most of its surface transportation requirements organically.
- **General Engineering:** The LAR battalion does have a small organic engineering capability. Equipment includes light sets, generators, and reefers for a field kitchen all for use in the field trains. There is an engineer officer assigned to the battalion as a special staff officer.
- **Health Service:** The battalion is capable of all echelon I care with unit corpsman and a fully functional battalion aid station.
- **Services:** The battalion has limited capability to perform the 8 subfunctions of services and requires support from the CSSE. These services include disbursing, postal, exchange services, security support, information systems, legal services, civil affairs support, and graves registration.

7002. Logistics Planning. The following considerations are critical to successful CSS operations.

- Standardization
- Anticipation
- Situational factors
- Centralization
- Expenditure and consumption
- Alternative planning
- Echelonment
- Logistic reserve assets
- Redundancy
- Conservation
- Austerity
- Throughput

Chapter 7

Combat Service Support Planning

Knowledge and understanding of LAR units, principles and functions of CSS, and of the close liaison required between all MAGTF elements are essential when planning and executing LAR operations. Because LAR units are structured for highly mobile operations, they cannot be encumbered with large quantities of supplies and the associated transportation, hence reducing mobility. LAR units with large concentrations of vehicles operating over great distances and consuming large amounts of fuels require a responsive logistics system to sustain operations. This system requires greater reliance on non-organic logistics capabilities and extensive coordination between the LAR unit, the supporting CSSE, and the ACE. When organic logistics assets are inadequate to support LAR operations, additional resources must be obtained to accomplish the mission. Personnel planning must include provisions for replacing vehicle crew members who become casualties. The focus of this planning is to prevent the degradation of crew effectiveness.

a. Planning Considerations. Logistics planning is the primary responsibility of the MAGTF and LAR battalion S-4s. It is fully integrated into all operations planning. The concept of operations must be synchronized with logistics support. Logistics planning is continuous and concurrent with ongoing support executions. To provide effective support, logistics planners must understand the mission statement, intent, and concept of the operation, and is conducted to ensure support during all phases of an operation. To predict support requirements, Logistics planners must determine the following:

- What type of support is required.
- What quantities of support are required.
- The priority of support, by type and unit.

With these support requirements determined, logistics planners assess the following information:

- What logistical resources are available (organic and supporting).
- Where the logistic resources are.
- When logistic resources can be made available.
- How they can be made available.

With this information, the planners develop the support plans for the operation. At the LAR battalion, logistical planning is more informal. It is normally formulated in terms of the following considerations:

- Current and projected unit maintenance status, to include vehicle readiness.
- Current supply status and projected operational requirements, primarily concerned with class III, V and IX.
- Transportation availability and will non-organic assets be required, to include aerial transportation.
- When needed.
- What displacement of logistical assets is required.
- Availability of host-nation support.
- Projected shortfalls and impact on the operation.
- Medical evacuation and treatment procedures.

b. Frequent Resupply. LAR operations usually occur in a rapid, nonlinear environment where missions are routinely shifted. Since LAR units cannot and do not carry sufficient supplies to sustain operations for extended periods, sustaining supplies must

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be delivered when and where needed. To accomplish this, LAR frequently uses the "push" concept of resupply. Under this concept, standard loads of supply are brought forward to the battalion unless a specific request is made otherwise. Commitment of LAR implies the commitment of a significant portion of the MAGTF's assets to sustain and support it in accomplishing its mission.

(1) When LAR operates in close proximity to friendly ground forces, frequent resupply of LAR units can be accomplished primarily through conventional surface transportation.

(2) When LAR is operating at great distances from friendly ground forces, the burden of resupply operations will be carried by MAGTF helicopter units. This is a major consideration when determining where LAR will operate. Figure 7-1 shows some basic data used in logistic planning.

c. Supporting Reconnaissance Operations. Maintaining the momentum of the operation is the overriding consideration in supporting reconnaissance. Certain general considerations guide planning and preparation. These considerations also apply to offensive security missions and offensive operations when conducted as an economy of force. The emphasis on any particular consideration varies with the mission assigned. Emphasis, priorities, and requirements may also shift as the operation is underway. Main supply routes lengthen, communications are strained, and requirements for repair and replacement of weapon systems increase.

d. Supporting Security Operations. Defensive-oriented security missions and defensive missions assigned as economy of force have similar general planning considerations. These missions tend to be dynamic in nature, involving substantial maneuver. As they become more dynamic, certain planning considerations for reconnaissance apply. The most important consideration for security operations is best use of available preparation time and front-loading of the CSS effort. As with reconnaissance, emphasis on any particular consideration varies with the mission assigned and shifts during mission execution.

7003. LAR Logistical Capabilities. The LAR battalion has enough organic assets to be self-sufficient for limited periods of time. The LAR company is the smallest unit with organic logistic capabilities. The following functions of CSS have the greatest impact on LAR unit employment.

a. Supply. The battalion can carry 1 day of supply class I (rations), III (fuel), and V (ammunition) at the company level (including H&S company). Two extra days of supply class I, V, VIII (medical), IX (repair parts) are carried in the battalion trains. The battalion is limited in its ability to refuel itself as it carries approximately 1 extra day of class III supply at the battalion level.

b. Transportation. The LAR battalion can transport the combat, command and control, and essential sustainment elements of the battalion with its trucks and LAVs. The battalion will require lift augmentation to transport the remainder of its organic support elements, primarily the field trains.

c. Maintenance. The LAR battalion can perform organizational maintenance (first/second echelon) on all its organic equipment, including vehicle recovery, and limited intermediate maintenance (third echelon) for LAV and TOW equipment and VHF communications equipment.

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d. Medical. The battalion can field one battalion aid station and four company medical teams. The extended distances in which LAR units operate require that medical planning provide for helicopter support for timely emergency medical evacuation and for evacuation of less critical casualties.

7004. LAR Logistics Organization. The basic logistics tactical organization is the trains. Trains are any grouping of personnel, vehicles, and equipment organic or attached to a unit that provides CSS. Trains are under unit control. They can be employed in two basic configurations: in one location as unit trains, or echeloned into combat and field trains. The LAR battalion normally echelons trains into company combat trains, battalion combat trains, and battalion field trains. Unit trains at the battalion level are appropriate when the battalion is performing rear operations, during reconstitution, and during major movements. Figure 7-1 identifies logistic train symbols for the LAR battalion.

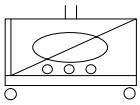

Figure 7-1. Train Symbol.

a. Unit Trains. Unit trains are used when it is feasible to group all organic and supporting CSS assets into a single body. Because of the larger amount of CSS support at the LAR battalion level, unit trains are used less frequently.

b. Echeloned Trains. Normally, the LAR battalion commander echelons his organic and reinforcing CSS assets into combat trains and field trains to improve responsiveness, flexibility, and survivability against enemy actions. This option is preferred because of the wide dispersion of LAR units.

(1) Combat Trains. Combat trains provide the CSS required for immediate response to the needs of forward tactical elements of the battalion. Combat trains provide immediate recovery, maintenance, medical, and emergency resupply. They are normally located well forward and remain mobile.

(2) Field Trains. Field trains are the logistics elements not required to respond immediately. Field trains include those assets not forward with the combat trains and higher echelon support teams. They also facilitate the movement of service support forward and rearward. The field train normally does not move with the LAR battalion but is positioned closer to the most forward element of the CSSE. The field train coordinates the movement of required CSS supplies and services forward to the LAR battalion with the CSSE and ACE.

(3) LOGPACs. The most efficient resupply of forward battalion units is accomplished by LOGPAC. LOGPACs are organized in the field trains by the field trains OIC. The S4 plans and coordinates the operation to ensure that LOGPACs contain requested or required supplies. Additionally, the S4 determines which logistics release point (LRP) best supports the mission and notifies all units. LAR company commanders control the LOGPAC for their unit. Attached combat support units may have a separate LOGPAC if assets are provided by the parent unit on attachment. If not, they resupply from another LOGPAC. The S4 ensures no organic or attached unit is left unsupported.

c. Unit Maintenance Collection Point (UMCP). LAR battalions normally organize a UMCP out of maintenance assets in the combat trains. The UMCP becomes the focal point of ground systems maintenance support. It is normally collocated with or

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positioned in the immediate vicinity of the battalion combat trains. The UMCP is placed where the company combat trains recover damaged equipment. The battalion maintenance officer devises the exact composition of the UMCP based on METT-T.

d. Forward Arming and Refueling Point (FARP**).** LAR units operating with helicopters far forward of MAGTF supply areas may be required to establish a FARP. The LAR battalion is capable of performing this resupply function and providing security to the helicopters during resupply operations but will require augmentation from MWSS, HST, and MWSS maintenance detachment to accomplish this resupply function.

7005. Command and Control

LAR command and control of logistics capabilities link the distribution system to the planning and execution of operations. A critical task of logistics is to *facilitate the effective use of limited resources* to support operations. Command and control of logistics aid the commander in accomplishing three essential tasks: anticipating future requirements, allocating resources, and dealing with uncertainty.

a. LAR Logistics Command and Control Environment. The environment of LAR battalion logistics is very different from the environment of other maneuver units. This environment is characterized by longer distances, higher operational tempo, more dispersion, and fluid situations. LAR logistics are normally more vulnerable than logistics of other maneuver units. This is because LAR combat units are often more dispersed and the battle is much more fluid. LAR logistics often require more planning, coordination, and detailed SOPs than other units' logistics. Because the LAR battalion operates over wider frontages with significantly longer lines of communications, LAR must be fully capable of conducting long range HF voice and data communications.

b. Logistics Command and Control Facilities. Logistics command and control facilities are the field trains command post (FTCP) and the combat trains command post (CTCP). The CTCP may be located at the battalion main command post, combat trains, field trains, or unit trains. It is the primary service support planning center. The CTCP controls combat trains operations, including emergency resupply. When located at a trains site, the CTCP serves as the trains element command post. All CSS operators must provide reports and support requests to the CTCP as established in unit SOP. Additionally, the CTCP serves as the "alternate" battalion command post should the battalion main command post be destroyed or during reconstitution. The field trains command post controls all assets in the field trains.

c. Logistics Communications. At the battalion level, the CTCP operates the administrative/logistical net. This net is used for battalion service support operations. All service support leaders and sites also operate on the net to respond to requests and to coordinate CSS execution. The administrative /logistics net is used to control movement of support assets during displacement and movement of LOGPACs until turned over to company gunnery sergeants at the logistics release point (LRP).

7006. Push Vs. Pull Resupply. The push system provides resources without any action on the part of the unit receiving support other

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than normal reports. The pull system provides support when a unit generates a request. Each system has its own advantages and disadvantages. Push resupply is more responsive since an explicit request does not have to be received. The push system can lead to excesses that burden the using unit with more stocks than can be handled. This can lead to waste of supply and transportation assets. Pull resupply does not anticipate need and is not as responsive as push resupply. Pull resupply cuts down on waste since it only provides a unit what it needs. A combination of both systems is often the solution to high tempo operations and can be based on classes of supply. Tempo, operational distances, and the fluid nature of LAR operations demand a responsive CSS system.

a. Push Resupply. LAR operations will normally consume some classes of supplies at a consistent rate. Fuel, rations, and water lend themselves to scheduled resupply based upon usage reports. This is the preferred method of resupply in LAR operations. As in all mechanized units, fuel is a driving factor in planning LAR operations. During normal operating conditions, an LAV may consume most of the fuel carried in its fuel tank in a single day. Ideally, LAVs should be refueled prior to consuming approximately 50 percent of their fuel. This reserve is maintained so that, if fuel resupply is interrupted by weather or enemy contact, the LAV will have enough fuel to continue its mission.

b. Pull Resupply. Other classes of supply will only be consumed when a specific event occurs which cannot be predicted. These supplies will be replenished upon request by LAR. All other classes of supply including ammunition (class V), medical (class VIII), and repair parts (class IX) fall into this category and are normally requested on an *as occur* basis. Of specific concern is resupply of ammunition. Even though the LAR battalion carries a 2-day supply of class V at the battalion level, planning must include rapid replenishment of this critical item.

7007. Methods of Delivery. The methods of delivery must be flexible and responsive. The method employed will depend on METT-T. Methods of delivery will not vary from operation to operation but will vary within a single operation. CSS planning should consider using two or more of these methods in achieving responsive CSS support. Means of resupply may include a combination of ground resupply, aerial resupply, and prepositioned supplies forward.

a. Ground Resupply. This is the standard method of resupply for LAR operations close to friendly ground forces. Ground resupply for deep operations is hampered by time and distance factors, rapidly changing tactical situations, and the availability of secure LOC in a nonlinear battlefield.

b. Aerial Resupply. **(1) Helicopter Resupply.** Often, helicopters may be the only practical means of routine resupply. Forward arming and refueling points are established for these purposes. Fuel can be resupplied by-

- Rapid ground refueling (RGR) from the helicopter expeditionary refueling system (HERS).
- Expedient refueling system.
- JP5 and JP8 from CH-53 tip tanks.
- SIXCON fuel modules for the logistics vehicle system (LVS).
- 500 gallon bladders.
- Flexcells.

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(2) Air Delivery. GPADS air delivery has potential that can be tailored to support LAR missions. With proper planning, air delivery can be a responsive and effective means of resupply. All classes of supply, in large or small quantities, can be delivered in support of deep operations. Since LAR units do not have excess internal lift capabilities, fuel modules, bladders, pumps, and parachutes and other air delivery equipment can be retrieved by helicopter or other means after the resupply operation is completed.

c. Prepositioned Supplies Forward. A technique for increasing the sustainability of deep operations is to preposition selected supplies forward. When resupply is required, the LAR unit moves to the location where the supplies have been prepositioned. This would be particularly beneficial in operations of extended duration. Prepositioned supplies are often used during delay operations. This could also help compensate for insufficient organic LAR unit lift in the form of motor transport and LAV-logistics (LAV-L) vehicles. Known requirements such as class I and class III, and other bulky supplies; e.g. class V are logical candidates for prepositioning. The overriding criteria in employing this method is that supplies can be positioned without being detected by the enemy and that once emplaced they will not be discovered by the enemy.

7008. Vehicle Recovery. Each company is equipped with rigid tow bars to facilitate internal recovery of down LAVs. LAVs may be transported by helicopter or C-130 but this method of recovery depends on a combination of weather factors including wind, altitude, humidity, runway length (for C-130) and temperature. The LAR battalion is able to conduct long-range ground recovery of LAVs with the M870 trailer. The M870 is strictly limited to improved surface roads. Disabled vehicles should be towed to a link up point where they can be recovered utilizing the M870. This is the preferred method during deep operations.

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FUEL TYPES	AVG mi/gal (HIGHWAY) mi/gal	AVG mi/gal (CROSS-COUNTRY) mi/gal	IDLE SPEED CONSUMPTION gal/hr
DF II	**5.6**	**3.5**	**8.3**
DP I	**5.6**	**3.5**	**8.3**
JP 5	**6.1**	**3.1**	**9.1**
JP 8	**6.1**	**3.1**	**9.1**
DF M	**5.1**	**2.9**	**7.9**

LAV FUEL CAPACITY:

Internal fuel tanks = 71 gallons
Two external 30 gallon fuel bladders* = 60 gallons *(This is a SAC-III item)
TOTAL = 131 gallons

DESC	CRITICAL AMMO	DODIC #	ASSAULT	SUSTAINED	UNIT OF ISSUE	WEIGHT lbs	CUBIC ft
25mm	HEI-T	A975	86	28	55	0.5	:001
25mm	APDS-T	A974	24	9	55	0.3	:002
7.62mm	4+1	A131	340	120	800	0.1	:002
81mm A3	HE	C256	60	49	3	17	:555
81mm A3	WP	C276	21	12	3	18	:589
81mm A3	ILLUM	C226	21	16	3	21	:544
TOW IIA		PD62	15	4	1	80	4.9
RP	Smk Gren	G815/G826	16	8	4	5	100

Figure 7-2. LAR Logistic Planning Data.

NOTE: Fuel types are listed in order of preferred use. Environmental conditions will significantly affect averages.

Chapter 8

LAR Air Defense

8001. Air Defense Fundamentals. Air defense is all measures designed to neutralize or reduce the effectiveness of an enemy attack by aircraft or guided missiles in flight. There are two types of air defense-- active and passive.

a. Active Air Defense. Active air defense is a direct defensive action taken to destroy attacking enemy aircraft or missiles, or to nullify or reduce the effectiveness of hostile air action. It includes such measures as the use of aircraft, air defense weapons, weapons not used primarily in an air defense role, and electronic warfare. The LAR battalion possesses organic air defense assets with the LAV Air Defense variants (LAV-AD). The LAV-AD provides effective active air defense for the LAR battalion (see paragraph 8002 for capabilities). As with all tactical units, LAR's organic crew-served weapons can also provide active air defense against a threat. Augmentation of LAR with LAAD and other similar air defense units can increase the effectiveness of LAR's active air defense. Though this should been seen as a favorable consideration, the lack of relative mobility of these assets could degrade the LAR battalion's mobility.

b. Passive Air Defense. All measures, other than active air defense, taken to minimize the effectiveness of hostile air action. These measures include deception, dispersion, and the use of protective construction. All LAR battalions are responsible for these measures. These measures are continuous in nature.

8002. LAR Air Defense Organization. Currently, the LAV-AD platoon is under the operational control of 4th LAR Battalion in Marine Forces Reserve. Crewed and staffed by active duty 0313s and 7200s, the platoon has been fielded with 16 LAV-AD variants.

8003. LAV-AD capabilities. Figure 8-1 displays the LAV-AD capabilities. The LAV-AD platoon has the capability to receive an air picture via ground based data link (GBDL) from the tactical air command center (TACC). This is how the LAV-AD links into the Marine air command and control system (MACCS).

8004. Planning Considerations. LAR air defense assets can be integrated into the MAGTF air defense umbrella when operating inside the security area or in close proximity to the MAGTF's air defense assets. LAR often operates independently, outside of the overall MAGTF air defense umbrella. Ranges of organic weapons may extend from 1 to 2 kilometers. Small arms weapons, including the LAV-25mm chain gun, are just one integral part of the overall air defense effort. The LAV-AD provides LAR units with a close in, low altitude air defense capability.

a. Employment. LAV AD platoon employment is governed by four basic principles:

System	Range	Capabilities
Stinger RMP	5900m	all-aspect, passive IR with proportional navigation and lead bias, IR CCM, laser range-finder
25mm	3200m	auto tracking, TV/FLIR locking, laser range-finder
Ground Based Data Link	HF	TADIL-A, (TADIL-J under development), transmits air picture from senior air controll to AD section leader

- Mass
- Mix
- Mobility
- Integration.

b. Command and Control. The platoon commander recommends initial allocation of LAV AD assets and scheme of maneuver based on the LAR commander's guidance. Priority is normally given to those elements of the battalion at greatest risk of attack because of criticality, vulnerability, recoupability and threat. These high risk elements can include the following:

- Reserve
- Trains
- Support areas
- Command posts
- Assembly areas
- FARPs

The LAV-AD platoon operates with the standard and prescribed air defense warning conditions and weapons control status. Air defense warning conditions provide measures to alert, prepare, or increase unit readiness for air attack. Air defense warnings provide a degree of air attack probability (red, yellow, or white). Weapons control status (hold, tight , and free) provide gunners with engagement guidance. Both conditions and status are based on the senior air controller's assessment of the air threat.

The normal method of employing the LAV-AD platoon is under the command of the AD platoon commander. The platoon commander is responsible for creating the LAR air defense plan and coordinating the plan with the MAGTF. The platoon commander is integrated into the LAR command element as a special staff officer and is responsible for executing the air defense plan and all additional coordination as passed by the platoon commander.

LAV-AD weapons are positioned considering the following guidelines:

- Balanced fires
- Weighted coverage against the most likely approach
- Early engagement
- Defense in depth
- Mutual support
- Overlapping fires
- Observation and field of fire

LAV-AD weapons can consume large quantities of ammunition. Class V resupply should be well forward with the Battalion combat trains, or planned for with aerial resupply.

c. Integration. The LAV-AD platoon is capable of linking into the Marine air command and control system (MACCS). The Ground Based Data Link (GBDL) is the primary means of integration. The GBDL is limited to VHF communications range. When operating outside of VHF communications range, voice communications over HF nets are the primary means of obtaining information on friendly and enemy air movement.

Chapter 9

LAR Combat Engineer Operations

9001. Fundamentals. The LAR Bn can accomplish the combat engineer missions of mobility, countermobility, and engineer reconnaissance. The LAR unit may conduct many of these missions without assistance from any other unit. However, most of these missions are completed in a hasty manner and attachment of a combat engineer unit will greatly enhance LAR's ability to accomplish the mission.

9002. Capabilities. The LAR Bn has the organic capability to conduct limited mobility, countermobility, and engineer reconnaissance.

a. Mobility. These tasks allow the unit to obtain and maintain the freedom of tactical maneuver and operational movement. Usually, when encountering an obstacle, the LAR unit will attempt to find a bypass. If a suitable bypass is identified, LAR will report to higher, mark the obstacle, and provide guides for follow-on units. However, if bypass is not possible, LAR can perform the following tasks:

Task	Unit	Capability
In-stride breach	Bn	Requires attachment to reduce obstacles
	Co	Requires attachment
	Plt	No capability
Deliberate breach	All*	No capability
Assault breach	All*	Requires attachment to reduce obstacles
Counter mine	All*	Surface laid/ explosive reduction
Counter obstacle	All*	Explosive reduction of built up obstacles
Gap crossing	All*	Water gap, LAVs only

***Denotes that task can be accomplished at Bn/Co/Plt levels.**

b. Countermobility. Countermobility is mine warfare and obstacle development designed to disrupt, fix, turn or block enemy formations. LAR can perform the following tasks

Task	Capability
Employ mines	Capable*
Employ wire obstacle	Capable*
Disrupting obstacle	Simple obstacle only (wire/min combinations)*
Fixing obstacle	Simple obstacle only (wire/min combinations)*
Turning obstacle	Simple obstacle only (wire/min combinations)*
Blocking obstacle	Not capable (too complex/ equi ment intense)*

***Denotes that task can be accomplished at Bn/Co/Plt levels.**

Due to Class IV constraints, a battalion can employ obstacles across a company sized avenue of approach, while a company can cover a platoon sized avenue of approach. This does not reflect the amount of actual terrain that an LAR unit can defend (see Chapter 3).

c. Engineer reconnaissance. LAR can provide detailed information on routes, roads, fords, bridges and any obstacles the unit encounters. Additionally, LAR can provide recommendations on maneuver and the suitability of these areas to the supported commander.

9003. LAR Combat Engineer Organization. The battalion is best supported by a platoon from the Combat Engineer Battalion when available.

This attachment allows LAR to enhance their ability to complete combat engineer tasks. The attachment is usually best utilized in general support of the companies. The LAR Bn can have a 1302 Combat Engineer Officer on the battalion staff. The Bn Combat Engineer Officer is an important link between the Bn S-3 and the supported unit commander's operations center on engineer reconnaissance, mobility, and counter-mobility operations.

9004. Planning Considerations. When employing LAR in engineer operations, the supported unit commander must consider the following:

- LAR typically performs combat engineer missions **in support of** their primary security or reconnaissance mission.
- LAR is best suited to assuming a role of obstacle reconnaissance/ support by fire in breaching operations.
- If task organized, the LAR unit can accomplish breaching missions. This requires attachment of a combat engineer platoon, MICLIC systems, and lane proofing vehicles (mine plows or ACEs).
- If task organized, LAR can conduct more intricate obstacle construction. This requires attachment of a combat engineer platoon, additional Class IV materials, earth moving equipment and operators, and additional mines.

Appendix A

Passage of Lines and Battle Hand Over

LAR Unit Commanders

Each commander has critical tasks which must be accomplished to achieve a smooth and efficiently executed operation. The three key players are the--

- Senior commander.
- Passing unit commander.
- Stationary unit commander.

Battle Hanover begins on order of the common senior commander. To sustain unity of command in the operation, the passing unit is usually placed OPCON to the stationary unit. OPCON by the stationary unit is limited to those actions necessary to get the passing unit through the stationary unit's area of operation as quickly as possible.

2. Senior Commander Responsibilities

The senior commander must--

- Ensure that command relationships, time, circumstances, and procedures for transferring of control for the zone or sector are specified.
- Designate where battle Hanover will occur by establishing a phase line forward of the FEBA and indicating it as the battle Hanover line (BHL). (The BHL should be located where combat maneuver forces of the stationary unit along the FEBA can effectively over watch and protect the passing unit as it withdraws behind or advances forward of the FEBA. The distance forward of the FEBA is limited to available fields of fire or effective range of weapons.)
- Designate a specific location (usually a line designated as the BHL) for responsibility shift.
- Ensure boundaries for the passing and stationary unit coincide.
- Designate an adequate number of passage points and passage lanes.
- Designate contact points for rearward passage so that lead units of passing and stationary units know where to establish initial contact.
- Delineate responsibility for furnishing guides.
- Designate routes through stationary units, assembly areas, priority of route use, and other movement control measures to preclude confusion and congestion.
- Ensure a coordinated communication plan that includes call signs, code words, primary and alternate frequencies, and authentication procedures is part of the overall passage order.
- Specify recognition signals and markings for both daylight hours and hours of darkness.
- Specify coordination responsibility for fire support during passage.
- Designate a follow-on mission for the LAR unit withdrawing behind friendly lines.
- Develop and disseminate contingency plans in the event of an enemy attack during the passage.
- Designate contact points just forward of the BHL where stationary and passing units are required to conduct physical coordination (defensive operations).
- Ensure that the passing unit is provided indirect fire support during battle Hanover and passage of lines while its artillery is displacing.

Appendix B

Glossary

AAV . . . . . assault amphibious vehicle
AAW . . . . . antiair warfare
AC/S . . . . . assistant chief of staff
ACE . . . . . aviation combat element
ADAL . . . . . authorized dental allowance list
ADCP . . . . . air defense communications platform
AE . . . . . assault echelon
AFOE . . . . . assault follow-on echelon
AMAL . . . . . authorized medical allowance list
ARG . . . . . amphibious ready group
ATC . . . . . air traffic control
ATF . . . . . amphibious task force
AVLB . . . . . armored vehicle-launched bridge

BAS . . . . . battalion aid station
BDA . . . . . battle damage assessment
BLT . . . . . battalion landing team
BSSG . . . . . brigade service support group

C4I . . . . . command, control, communications, computers, and intelligence
CA . . . . . civil affairs
CAG . . . . . civil affairs group
CAS . . . . . close air support
CATF . . . . . commander, amphibious task force
CE . . . . . command element
CI . . . . . counterintelligence
CINC . . . . . commander in chief
CIT . . . . . counterintelligence team
CLF . . . . . commander, landing force
COC . . . . . combat operations center
COMMARFORLANT . . commander, Marine Corps Forces Atlantic
COMMARFORPAC . . . commander, Marine Corps Forces Pacific
COMMARFORRES . . . commander, Marine Corps Forces Reserve
COMSEC . . . . . communications security
CONUS . . . . . continental United States
COTS . . . . . commercial off-the-shelf
CP . . . . . command post
CSS . . . . . combat service support
CSSA . . . . . combat service support area
CSSD . . . . . combat service support detachment
CSSE . . . . . combat service support element

DACG . . . . . departure airfield control group
DAS . . . . . deep air support
DASC . . . . . direct air support center
DF . . . . . direction finding
DOD . . . . . Department of Defense
DPD . . . . . diver propulsion device
DTAMS . . . . . Digital Terrain Analysis and Mapping System

EA . . . . . electronic attack
EOD . . . . . explosive ordnance disposal
EPW . . . . . enemy prisoner of war
EW . . . . . electronic warfare

FARP . . . . . forward arming and refueling point
FCSSA . . . . . force combat service support area
FEBA . . . . . forward edge of the battle area
FIIU . . . . . force imagery interpretation unit
FMF . . . . . Fleet Marine Force
FMFM . . . . . Fleet Marine Force manual
FMFRP . . . . . Fleet Marine Force reference publication
FOB . . . . . forward operating base
FSCC . . . . . fire support coordination center
FSSG . . . . . force service support group
FY . . . . . fiscal year

GCE . . . . . ground combat element
GMR . . . . . graduated mobilization response

H&HS . . . . headquarters and headquarters squadron
H&S . . . . . headquarters and service
HF . . . . . high frequency
HMH . . . . . Marine heavy helicopter squadron
HMLA . . . . . Marine light/attack helicopter squadron
HMM . . . . . Marine medium helicopter squadron
HMMWV high-mobility, multipurpose wheeled vehicle
HQMC . . . . . Headquarters, Marine Corps
HUMINT . . . . . human intelligence

IAS . . . . . intelligence analysis system
IMA . . . . . individual mobilization augmentee
IMINT . . . . . imagery intelligence
IRR . . . . . Individual Ready Reserve
ISO . . . . . International Organization for Standardization
ITG . . . . . initial terminal guidance

JCS . . . . . Joint Chiefs of Staff
JFC . . . . . joint force commander
JSIPS . . . . Joint Services Imagery Processing System
JTF . . . . . joint task force
JWICS . . . . . Joint Worldwide Intelligence Communications System

LAAD . . . . . low-altitude air defense
LAN . . . . . local area network
LAR . . . . . light armored reconnaissance
LAV . . . . . light armored vehicle
LBSR . . . . . lightweight battlefield surveillance system
LCAC . . . . . landing craft air cushion
LFSP . . . . . landing force support party
LSB . . . . . landing support battalion
LVS . . . . . Logistics Vehicle System

MACCS . . . . . Marine Air Command and Control System
MACE . . . . . MEF Augmentation CE
MACG . . . . . Marine air control group
MACS . . . . . Marine air control squadron
MAFC . . . . . MAGTF all-source fusion center
MAG . . . . . Marine aircraft group
MAG VF/VA . . . . . fixed-wing Marine air group
MAG VH . . . . . rotary-wing Marine air group
MAGTF . . . . . Marine air-ground task force
MALS . . . . . Marine aviation logistics squadron
MALSP . . . . . Marine aviation logistic support program
MARFOR . . . . . Marine Corps Forces
MARFORLANT . . . . Marine Corps Forces Atlantic
MARFORPAC . . . . . Marine Corps Forces Pacific
MARFORRES . . . . . Marine Corps Forces Reserve
MASS . . . . . Marine air support squadron
MATCD . . . . . Marine air traffic control detachment
MAW . . . . . Marine air wing
MCISU . . . . . Marine Corps Imagery Support Unit
MCRP . . . . . Marine Corps reference publication
MCSF . . . . . Marine Corps security forces
MCWP . . . . . Marine Corps warfighting publication
MEF . . . . . Marine expeditionary force
MEF(FWD) . . . . . MEF (forward)
METT-T . . . . . mission, enemy, terrain and weather, troops and support available-time available
MEU . . . . . Marine expeditionary unit
MEU(SOC) . . . . . MEU (special operations capable)
MEWSS . . . . . Mobile EW Support System
MGB . . . . . medium-girder bridge
MHE . . . . . materials handling equipment
MOOTW . . . . . military operations other than war
MP . . . . . military police
MPF . . . . . maritime prepositioning force
MPLAN . . . . . Marine Corps Mobilization Management Plan
MRAALS . . . . . Marine Remote Area Approach and Landing System
MSSG . . . . . MEU service support group
MTACS . . . . Marine tactical air command squadron
MWCS . . . . . Marine wing communications squadron
MWHS . . . . . Marine wing headquarters squadron
MWSG . . . . . Marine wing support group
MWSS . . . . . Marine wing support squadron

NBC . . . . . nuclear, biological, and chemical
NCA . . . . . National Command Authorities
NDI . . . . . nondevelopmental item
NGF . . . . . naval gunfire
NIMA . . . . . National Imagery and Mapping Agency
NSF . . . . . naval surface fires

OAS . . . . . offensive air support
OPCON . . . . . operational control

PIR . . . . . priority intelligence requirement
PLGR . . . . . precise lightweight Global Positioning

System receiver
PLRS . . . . . Position Location Reporting System
PP&P . . . . . packing, preservation, and packaging
RAS . . . . . regiment aid station
RSTA . . . . reconnaissance, surveillance, and target acquisition

SAM . . . . . surface-to-air missile
SAR . . . . . search and rescue
SASSY . . . . . Supported Activities Supply System
SAW . . . . . squad automatic weapon
SCAMP . . . sensor control and management platoon
SCI . . . . . sensitive compartmented information
SCUBA . . . . . self-contained underwater breathing apparatus
SEAD . . . . . suppression of enemy air defense
SI . . . . . special intelligence
SIGINT . . . . . signals intelligence
SIPRNET . . . . . Secret Internet Protocol Router Network
SMAW shoulder-launched multipurpose assault weapon
SMCR . . . . . Selected Marine Corps Reserve
SPMAGTF . . . . . special-purpose MAGTF
SSU . . . . . SIGINT support unit

T/E . . . . . table of equipment
T/O . . . . . table of organization
TACC . . . . . tactical air command center
TAOC . . . . . tactical air operations center
TAOM . . . . . tactical air operations module
TERPES . . . . . Tactical Electronic Reconnaissance Processing and Evaluation System
TMD . . . . . theater missile defense
TMDE . . . . . test measurement diagnostic equipment
TOW . . . . . tube-launched, optically tracked, wire command link guided missile
TRAP . . . tactical recovery of aircraft and personnel
TRCS transportable recompression chamber system
TRSS . . . . . tactical remote sensor system
TSCM . . . . . technical surveillance countermeasures

UAV . . . . . unmanned aerial vehicle
UHF . . . . . ultrahigh frequency
UNAAF . . . . . unified action armed forces

V/STOL . . . . . vertical/short takeoff and landing
VHF . . . . . very high frequency
VMA . . . . . Marine attack squadron
VMAQ . . . . . Marine tactical EW squadron
VMFA . . . . . Marine fighter attack squadron
VMFA(AW) . . . . Marine all-weather fighter attack squadron
VMGR . . . Marine aerial refueler transport squadron
VMU . . . . Marine unmanned aerial vehicle squadron
VTOL . . . . . vertical takeoff and landing

WAN . . . . . wide area network

XLWB . . . . . extra-large wide bed