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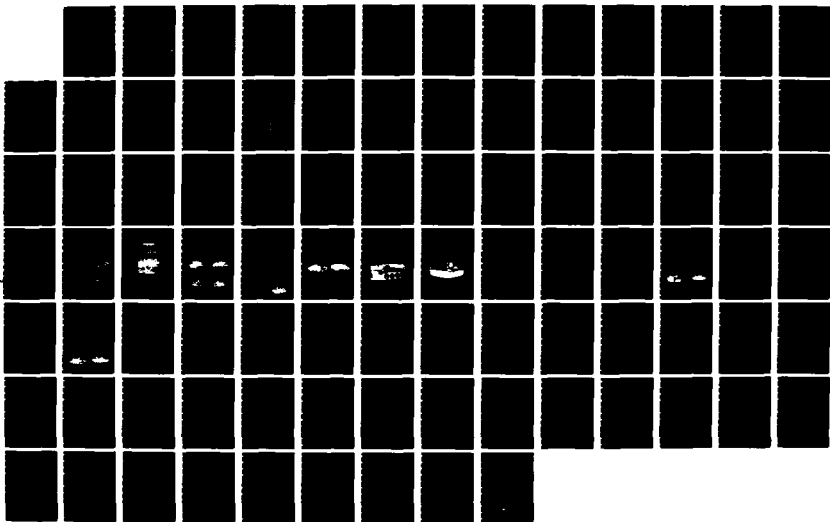
KNOW YOUR ENEMY: A COMPARISON OF A SOVIET MOTORIZED
RIFLE REGIMENT AND THE (U) ARMY COMMAND AND GENERAL
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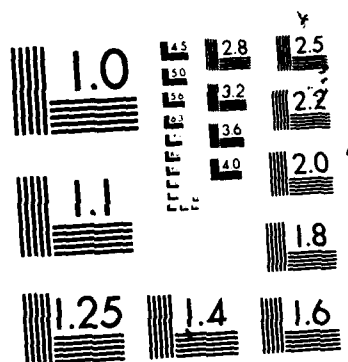
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KNOW YOUR ENEMY: A COMPARISON OF A SOVIET MOTORIZED RIFLE
REGIMENT AND THE OPPOSING FORCES (OPFOR) MOTORIZED RIFLE REGIMENT

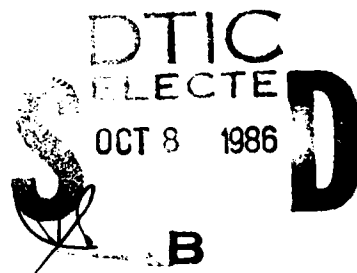
A thesis presented to the Faculty of the U.S. Army Command and
General Staff College in partial fulfillment of the requirements
for the

MASTER OF MILITARY ART AND SCIENCE

by

ROBERT L. JORDAN, JR., MAJOR, USA
B.S., Troy State University, 1979

Fort Leavenworth, Kansas
1986



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19. ABSTRACT

This study attempts to identify the major organizational and equipment differences between a Soviet Motorized Rifle Regiment and the OPFOR Motorized Rifle Regiment. Analysis also includes basic tactical doctrine at the regimental level.

Research indicates there are significant differences between the two organizations in regard to organizational structure and equipment appearance and capabilities. Analysis of tactical doctrine and employment does not reveal any significant differences.

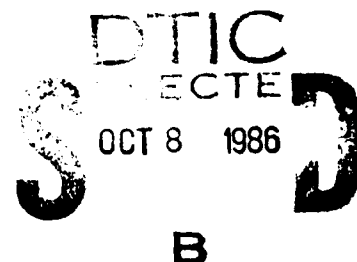
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MASTER OF MILITARY ART AND SCIENCE

THESIS APPROVAL PAGE

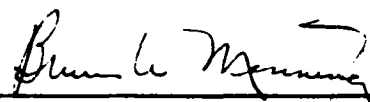
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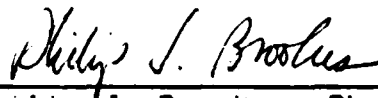
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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other government agency. (References to this study should include the foregoing statement.)

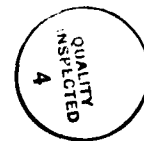
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by: Major Robert L. Jordan Jr.

This study attempts to identify the major organizational and equipment differences between a Soviet Motorized Rifle Regiment and the OPFOR Motorized Rifle Regiment. Analysis also includes basic tactical doctrine at the regimental level.

Research indicates there are significant differences between the two organizations in regard to organizational structure and equipment appearance and capabilities. Analysis of tactical doctrine and employment does not reveal any significant differences.



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CHAPTER 1

INTRODUCTION

1-1. **BACKGROUND:** The AirLand Battle doctrine for the United States Army, as outlined in Field Manual (FM) 100-5 FINAL DRAFT, dated 28 October 1985, outlines contemporary challenges facing the U.S. Army. One is training. Because training is truly the cornerstone of success, leaders at all levels must maximize every possible training opportunity. An important element of preparing for training and preparing for war is knowing the enemy.

AirLand Battle doctrine stresses ten combat imperatives, the third of which is to "direct friendly strengths against enemy weaknesses." In order to accomplish this, combat leaders must know the enemy. According to FM 100-5:

To determine the tactics to use commanders must study the enemy **ORGANIZATION, EQUIPMENT, and TACTICS** - how the enemy fights. More importantly they must understand strengths and weaknesses of the enemy force they are about to fight.¹ (emphasis added)

When tacticians analyze the factors of mission, enemy, terrain, troops available, and time (METT-T), in the conduct of planning offensive or defensive operations, they array their combat forces in accordance with doctrinal ratios. Brigade and battalion commanders and staffs array enemy battalion and company size elements when formulating courses of action. A realistic array calls for a thorough understanding of the enemy, especially at the regimental level and below.

The following quote from the Office of the Secretary of Defense Report, Soviet Military Power 1985, clearly describes the implications of the Soviet threat. "Since World War II, the primary security objective of the United States has been deterrence of Soviet aggression to ensure the freedom of the United States and all nations that cherish liberty." The Soviets currently have 199 active tank, motorized and airborne divisions, 98 of which are opposite the North Atlantic Treaty Organization (NATO), 30 of which are in Eastern Europe. The size of the Soviet ground forces seems overwhelming. The ground combat threat in Europe is clearly tank and motorized forces. Although this thesis is oriented on the tactical level, the above quote appropriately emphasizes the Soviet threat.

As a part of the Army training system outlined in Chapter 2 of Army Regulation, AR 350-1, change 1, dated 1 August 1983, the National Training Center (NTC) provides battalion task forces an environment applicable to Europe, Asia, and the Middle East. One of the realistic aspects of training provided at the NTC is a highly trained Opposing Force (OPFOR). The mission of the OPFOR is:

- A. Replicate the major combat elements of a Soviet BMP-equipped Motorized Rifle Regiment.
- B. Provide realistic force ratios and representation of current Soviet doctrine and tactics to rotational units, (brigades and battalions - task forces).

1-2. PURPOSE: The purpose of this thesis is to provide information about the Soviet and the OPFOR motorized rifle regiments (MRR). The primary focus is on the areas of organization, equipment, and tactics, with emphasis on identifying and analyzing the differences between the Soviet and the OPFOR MRRs. This study will serve as a training reference document for units scheduled to train at the NTC, and it will also provide commanders a better understanding of the OPFOR.

This study is not intended to detract from the value of Field Manuals, FM 100-2-1, -2, -3, which specify the current U.S. Army understanding of Soviet Army doctrine.

1-3. SCOPE: The intent of this thesis is to synthesize information from numerous sources regarding organization, equipment, and tactics. It does not address decision cycles, training, combat service support, or other areas normally associated with analysis of an enemy force. An additional limitation is the intentional restriction to analysis of a generic Soviet motorized rifle regiment.

Chapter 2 addresses the organizational structure of both the Soviet and the OPFOR MRRs. A Soviet MRR is a combined arms force with organic tanks, infantry fighting vehicles (personnel carriers), artillery, combat support, and combat service support forces. There are three motorized rifle regiments in a motorized rifle division, and there is one motorized rifle regiment in a tank division. Additionally, there are two types of motorized rifle regiments, BMP and BTR. The OPFOR MRR at the NTC is

designed to replicate the Soviet BMP-equipped MRR. Therefore, this study will address only the BMP regiment. Chapter 2 identifies and analyzes the significant differences between the two organizations.

Chapter 3 addresses the major items of equipment in a Soviet MRR and the OPFOR equipment used to replicate these items. The primary focus of chapter 3 is on the BMP and tank. Chapter 3 also identifies and analyzes the significant differences between the major items of equipment.

Chapter 4 addresses the tactical doctrine and employment of a Soviet MRR in the conduct of offensive and defensive operations, and compares the employment of the OPFOR MRR to that of the Soviet. Chapter 4 is limited in scope to a discussion of the combat missions most frequently portrayed at the NTC. Chapter 4 also identifies and analyzes the significant differences.

Chapter 5 provides a summary of the identification and analysis conducted in chapters 2, 3, and 4. Chapter 5 also contains some overall conclusions and recommendations.

CHAPTER 1

END NOTES

¹U.S. Army, FM 100-5, Operations (Final Draft), Washington, D.C., U.S. Army, 28 October 1985. page 2-26.

CHAPTER 2

ORGANIZATIONAL STRUCTURE OF COMBAT

AND COMBAT SUPPORT FORCES

2-1. INTRODUCTION: The purpose of this chapter is to analyze the organizational structure of both the Soviet MRR and the OPFOR MRR.

The Soviets have organized and equipped their ground forces to support their offensive doctrine. Moreover, Soviet organization and equipment are being strengthened and modernized constantly to improve their capabilities to fight either a nuclear or a nonnuclear war. A nuclear exchange in Europe could easily entail tremendous damage to the Soviet Union. Therefore, it would be clearly in the Soviets' interest to have the ability to fight and win a war in Europe quickly, before either side made use of nuclear weapons. The Soviets have determined that the only way to win such a war is by offensive operations. The Soviet concept of the offensive emphasizes surprise and high rates of advance combined with overwhelming firepower. At the heart of Soviet combat doctrine is the concept of combined arms.¹

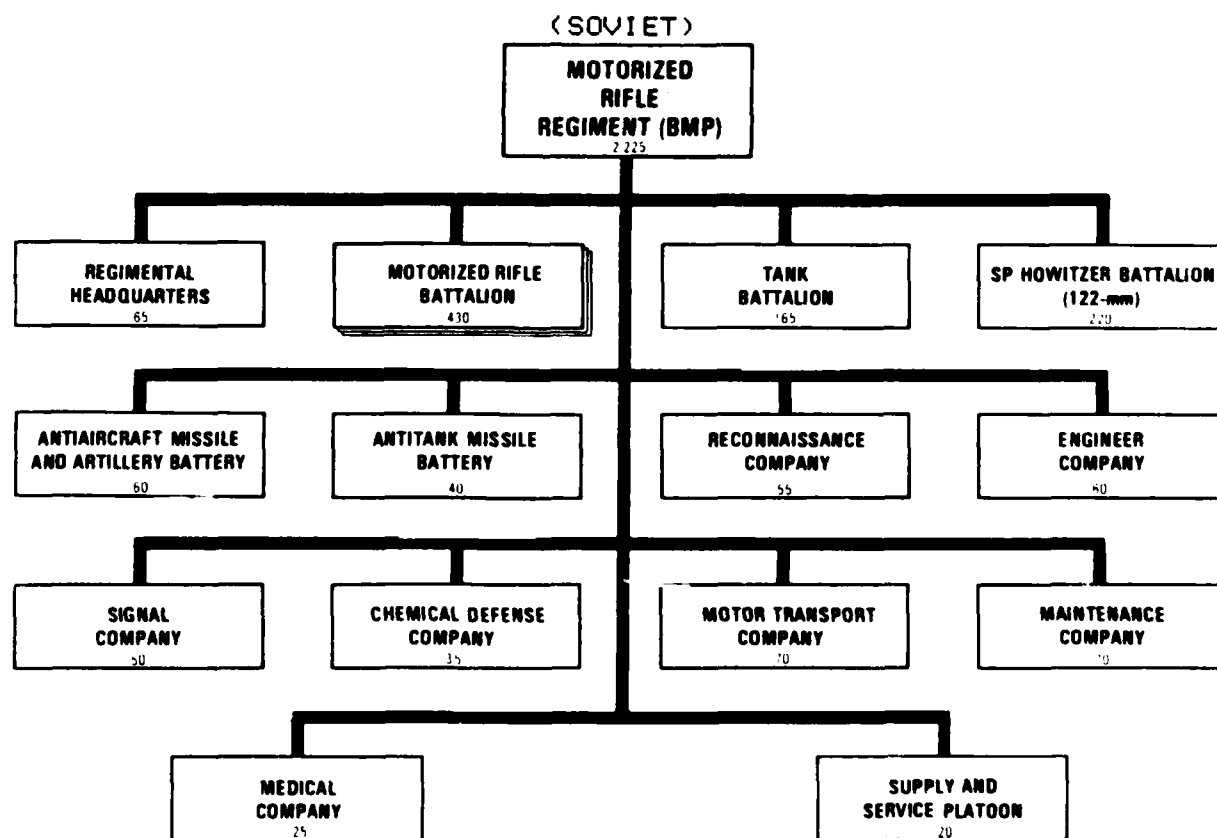
The OPFOR MRR at the NTC is designed to replicate the Soviet MRR's organization, equipment, and tactics.

2-2. THE SOVIET MRR: The MRR is the basic combined arms organization and the most common maneuver element of the Soviet ground forces. Motorized rifle, tank, artillery, antiaircraft, antitank, engineer, signal, and combat service support assets are organic to the MRR. Although the MRR normally operates as part of a division, based upon the combined arms organization and structure, it is capable of independent operations.²

The Soviet MRR structure is depicted in Figure 1. The force structure of the BMP regiment clearly provides a force composition with flexibility, firepower, mobility, and fire support.

The true strength of the MRR organizational structure lies in the fact that all of the assets of the regiment are organic. Therefore, the habitual relationships between the motorized rifle, tank, artillery, air defense and other forces facilitate a coordinated and cohesive effort toward the accomplishment of the MRR mission.

FIGURE 1
MOTORIZED RIFLE REGIMENT



SOURCE: FM 100-2-3, The Soviet Army: Troops, Organization, and Equipment. page 4-26.

The MRR structure depicted in Figure 1 represents a vast amount of combat power. What size of force does this equate to on the ground? What quantity and type of combat vehicle systems will be arrayed against a U.S. Army brigade or battalion task force? A Soviet MRR, at 100% strength, would equate to approximately 209 combat vehicle systems on the battlefield. The breakout of the subordinate elements of the Soviet MRR are shown in Figure 2.

FIGURE 2

SOVIET MRR SUBORDINATE UNITS

SOVIET MRR UNITS	VEHICLE TYPES	QUANTITIES
MRR.....	TOTAL.....	209
MRR HEADQUARTERS.....	BMP.....	3
MRB (3, Motorized Rifle Bns).....	BMP.....	93
MRB (120mm Mortars).....	GAZ-66 (Truck).....	18
TANK BATTALION.....	TANK.....	40
ARTILLERY BATTALION.....	122mm SP Howitzer.....	18
ANTI-AIR & ARTILLERY BATTERY.....	BMP or BRDM.....	3
ANTI-AIR & ARTILLERY BATTERY.....	ZSU-23-4.....	4
ANTI-TANK MISSILE BATTERY.....	BMP or BRDM.....	9
RECON COMPANY.....	BMP.....	4
RECON COMPANY.....	BRDM.....	4
RECON COMPANY.....	MOTOR CYCLE.....	3
ENGINEER COMPANY.....	BTR-60.....	3
ENGINEER COMPANY.....	MTU/MT-55 (bridge).....	1
SIGNAL COMPANY.....	BMP.....	3
SIGNAL COMPANY.....	MOTORCYCLE.....	3

The numbers, types, and organizational structure of an MRR are important factors for numerous reasons. Intelligence preparation of the battlefield (IPB) is an important aspect of all combat operations. Step one of the IPB process, threat evaluation, requires knowledge and identification of enemy forces in order to accurately apply the technique of doctrinal templating.³ Additionally, knowledge of the size and structure of an MRR is important when considering the strength level of the enemy unit. Frequently intelligence information is provided from a higher headquarters to a subordinate unit in the form of percentages. As an example, an intelligence report might estimate the strength of an attacking motorized rifle regiment at 85%. For the intelligence report to have meaning or relevance the staff must be able to relate the intelligence report to the combat strength of the enemy unit at 100%. The S-2 (intelligence officer) should be able to describe to the commander the relevance of the intelligence report in terms of percentages, numbers and types of combat systems, and possible enemy courses of action. An additional factor to consider when assessing the organizational structure and combat power of the enemy is target priority. When a tactical commander establishes a priority of targets the situation will dictate which enemy combat system has a higher or lower priority. In an assessment of the 209 combat systems depicted in Figure 2, many variations of target priorities could be established based on the situations or circumstances. As an example, the reconnaissance motorcycle or BRDM might have a higher priority than an enemy tank. Additionally, if the enemy were attacking a defensive position

reinforced by an antitank ditch, the MTU/MT-55 (bridge) might have a higher priority than another system. Therefore, it is important for leaders at the battalion and company level to understand the organizational structure and composition of an MRR.

2-3. THE OPFOR MRR: The OPFOR is comprised primarily of units stationed at Fort Irwin, California, which is the location of the NTC. The units which constitute the OPFOR are:

a. The 6th Battalion (Mechanized), 31st Infantry. The 6-31 IN is a Forces Command (FORSCOM) unit organized under the J-Series TOE. The 6-31 IN is permanently stationed at the NTC and provides approximately 60% of the OPFOR regiment's combat forces (Figure 3).⁴

b. The 1st Battalion, 73d Armor. The 1-73 AR is also a FORSCOM unit organized under the J-Series TOE. The 1-73 AR is permanently stationed at the NTC and provides approximately 20% of the OPFOR regiment's combat forces (Figure 3).

c. The Support Battalion of the NTC is also a FORSCOM unit. The Support Battalion provides both combat support and combat service support to the OPFOR regiment.

(1) The flight detachment provides crews for UH1 series helicopters which are visually modified (VISMOD) to replicate a HIND-E helicopter.

(2) The electronic warfare detachment provides crews for the ground surveillance radars and communications jammers.

(3) C Company, 203d Military Intelligence Battalion, provides operators and support for all actual Soviet equipment which is used to transport dismounted infantry and engineers.

d. The OPFOR MRR also receives augmentation forces from other sources.

(1) FORSCOM provides augmentation of two infantry companies and one engineer company.

(2) Reserve component units frequently augment the OPFOR MRR with individual soldiers, (the number varies significantly from 5 to 50, based upon personnel availability and military occupational specialty).

(3) The United States Air Force (USAF) provides ground based forward air control (FAC) teams to control attack aircraft.

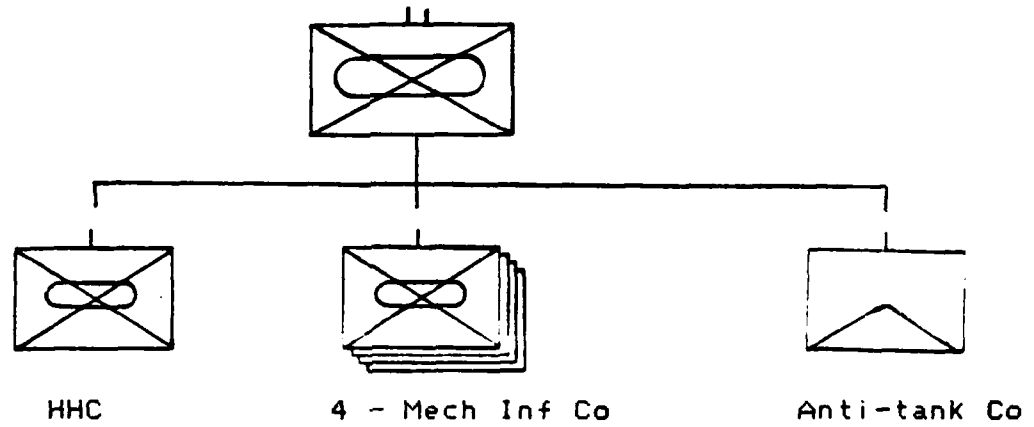
The command and control responsibility of the OPFOR regiment alternates between the two major maneuver battalions. All forces assigned or attached to the OPFOR are subordinate to the MRR headquarters.⁵ The organization and structure of the OPFOR regiment is depicted in Figure 4.

FIGURE 3

NATIONAL TRAINING CENTER (NTC)

J - SERIES BATTALIONS

6th Battalion (Mechanized) 31st Infantry



1st Battalion 73d Armor

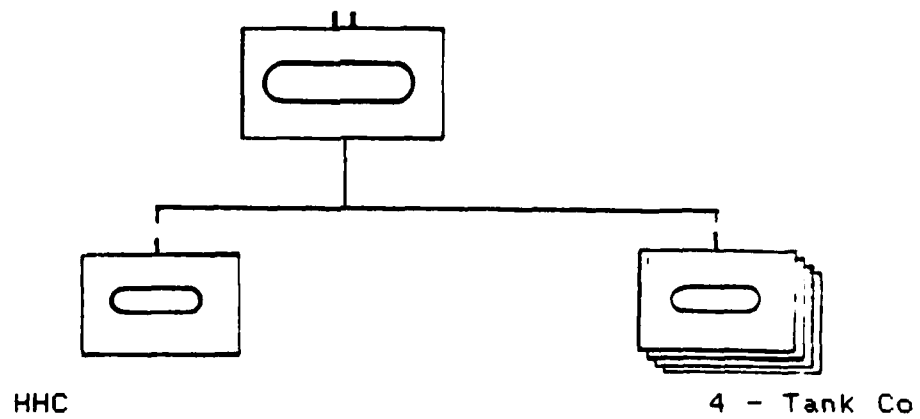
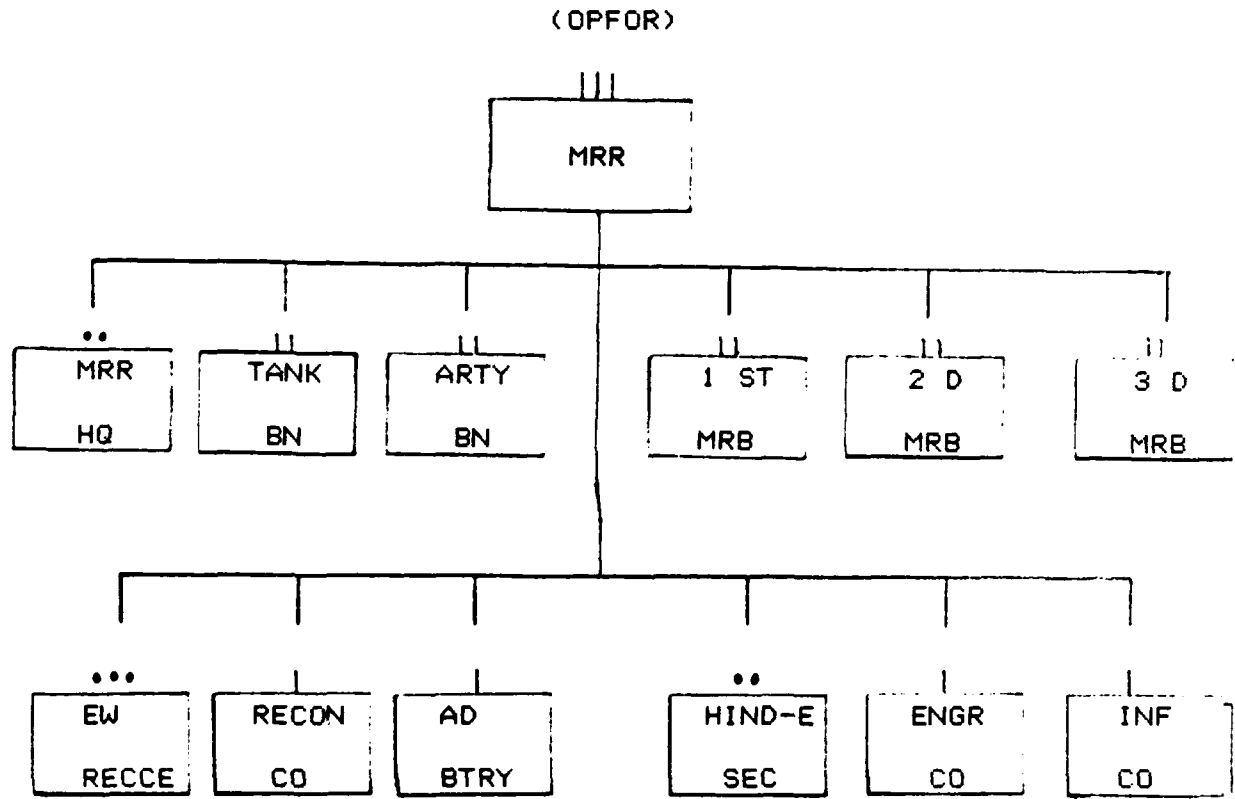


FIGURE 4

MOTORIZED RIFLE REGIMENT



The OPFOR MRR depicted in Figure 4 represents a vast amount of combat power. What size of force does this equate to on the ground? What quantity and type of combat vehicle systems will be arrayed against a U.S. Army brigade or battalion task force training at the NTC? The OPFOR MRR, at 100% strength would equate to approximately 201 combat vehicle systems, on the battlefield. The breakout of the subordinate elements of the OPFOR MRR are depicted in Figure 5.

FIGURE 5

OPFOR MRR SUBORDINATE UNITS

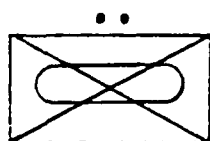
OPFOR MRR UNITS	VEHICLE TYPE(VISMOD)	QUANTITIES
MRR.....	TOTAL.....	201
MRR HEADQUARTERS.....	BMP.....	3
MRB (3, Motorized Rifle Battalions)...	BMP.....	93
TANK BATTALION.....	TANK.....	40
ARTILLERY BATTALION.....	122mm SP Howitzer.....	12
ARTILLERY BATTALION.....	BMP.....	2
ANTI-AIR & ARTILLERY BATTERY.....	ZSU-23-4.....	4
ANTI-AIR & ARTILLERY BATTERY.....	BMP.....	4
RECON COMPANY.....	BMP.....	4
RECON COMPANY.....	BRDM.....	4
EW RECCE.....	BRDM.....	2
ENGINEER COMPANY.....	BTR-60 *.....	6
ENGINEER COMPANY.....	AULB.....	1
INFANTRY COMPANY.....	BMP.....	12
INFANTRY COMPANY.....	MT-LB *.....	10
AVIATION SECTION.....	HIND-E.....	4

* These are not VISMODs, they are actual Soviet vehicles.

The OPFOR MRR headquarters consists of the command and staff elements of the maneuver battalion (6-31 IN or 1-73 AR) exercising command and control of the MRR. The only portions of the MRR headquarters portrayed on the battlefield are the combat vehicles of the MRR commander, the S-3 operations officer, and the S-3 air. The S-3 air performs the duties of the Soviet air direction officer (ADO). The ADO controls the HIND-E aircraft as a forward air controller (FAC) would control close air support (CAS) aircraft. Additionally, the MRR headquarters has two messenger motorcycles. For safety purposes these motorcycles are not employed in the offense. Figure 6 depicts the structure of the MRR headquarters.

FIGURE 6

OPFOR MRR HQ



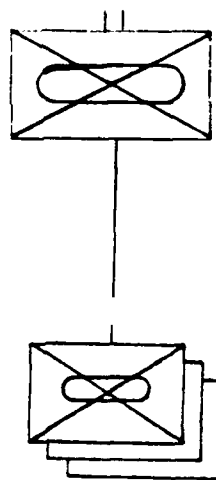
3 - BMP

2 - Motorcycles

The OPFOR MRR has three motorized rifle battalions (MRB). Prior to task organization of MRR assets, (tanks, air defense, etc), the MRB consist of 31 BMP. There are three motorized rifle companies (MRC) in each MRB, and there are three motorized rifle platoons (MRP) in each MRC, and there are three BMP in each MRP. The structure of the MRB is shown in Figure 7.

FIGURE 7

OPFOR MRB



HQ - 1 - BMP

MRC - 10 - BMP

(1 per MRC Cdr)

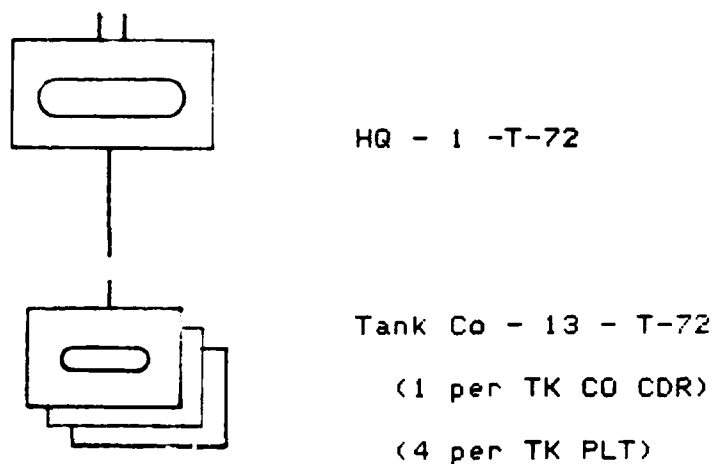
(3 per MRP)

(1 per squad)

The OPFOR MRR has one tank battalion. The tank battalion has three tank companies, which have three tank platoons per company. The tank companies have a habitual relationship with the motorized rifle battalions to form a combined arms team. There are 40 tanks in the tank battalion, 1 tank in the battalion headquarters, and 13 tanks in each of the three tank companies. Within the tank companies, there are four tanks per platoon and one tank in the company headquarters. The structure of the tank battalion is shown in Figure 8.

FIGURE 8

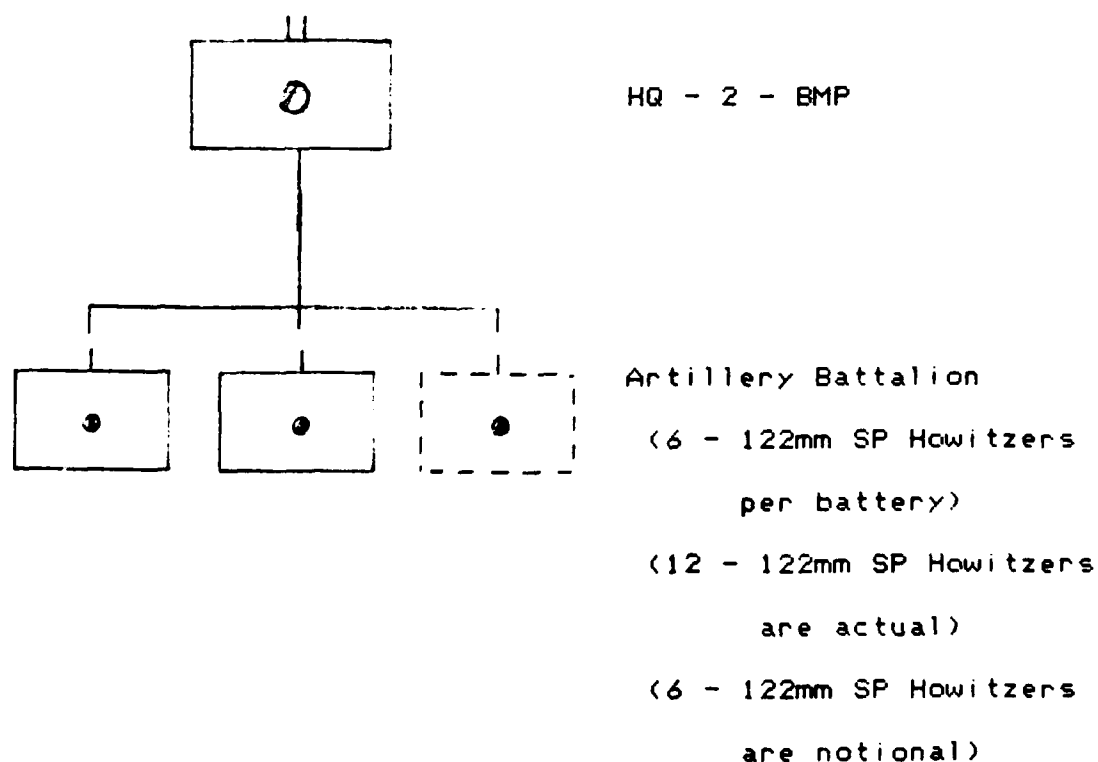
OPFOR TANK BN



The OPFOR MRR has one artillery battalion. The artillery battalion has three artillery batteries, which consist of six 122mm self propelled howitzers, (122mm SP Howitzers), and two BMPs in the battalion headquarters. Within the OPFOR regiment the two maneuver battalions' (6-31 IN and 1-73 AR) heavy mortar platoons each provide one-BMP and six-122mm SP Howitzer. The third battery of 122mm SP Howitzers is not available for manning; it is notional. The structure of the artillery battalion is shown in Figure 9.

FIGURE 9

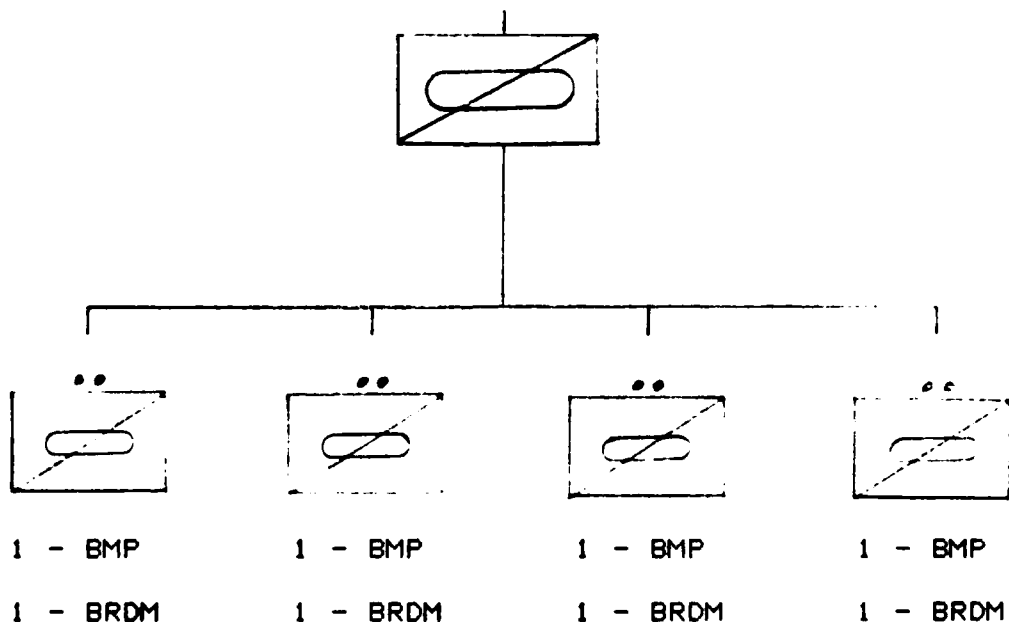
OPFOR ARTILLERY BATTALION



The OPFOR MRR has one reconnaissance company. The reconnaissance company consists of four BMPs and four BRDMs which are divided into four equal sections or teams of one BMP and one BRDM each. Within the OPFOR regiment the scout platoons of the two maneuver battalions (6-31 IN and 1-73 AR) form the reconnaissance company. During the early years of the National Training Center, the OPFOR also employed motorcycle scouts. However, for safety reasons the motorcycles are no longer used in a reconnaissance role. The structure of the OPFOR reconnaissance company is shown in Figure 10.

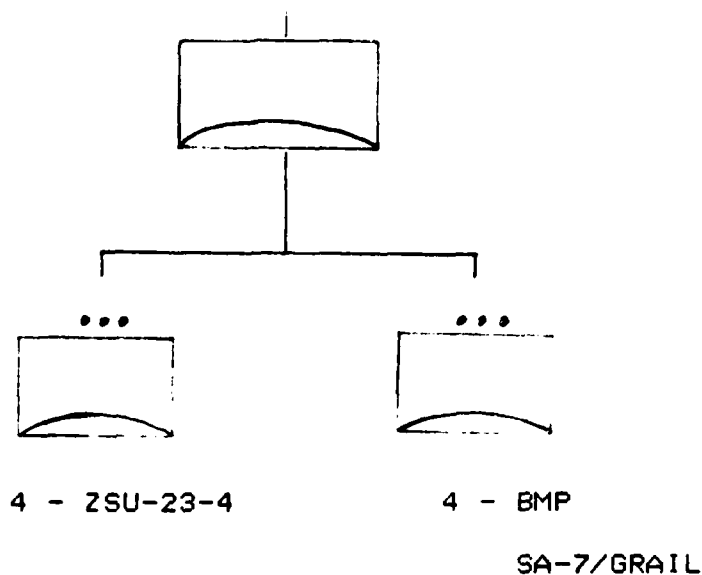
FIGURE 10

OPFOR RECONNAISSANCE COMPANY



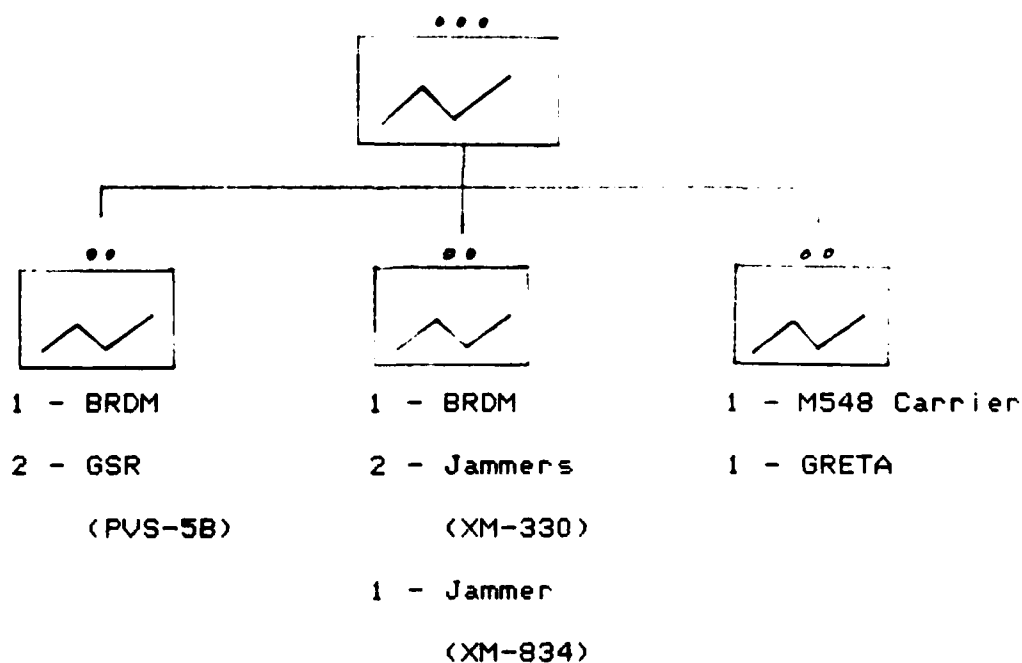
The OPFOR MRR has one air defense battery. The air defense battery consists of two platoons: one platoon of ZSU-23-4 anti-aircraft guns, and one platoon of SA-7/GRAIL, surface-to-air missiles. The SA-7/GRAIL is a man-portable ground to air missile similar to the U.S. Army redeye or stinger missile systems. Within the OPFOR regiment the 6-31 IN provides the four ZSU-23-4s and two of the four SA-7/GRAIL systems. The 1-73 AR provides the other two SA-7/GRAIL systems. The SA-7/GRAIL systems are transported in visually modified U.S. Army M113A2 and M106A2 carriers. Both systems have the outward appearance characteristics of a BMP, but they have no weapon system other than the SA-7/GRAIL. The SA-7/GRAIL is employed in lieu of the SA-9/GASKIN because there is no multiple integrated laser engagement system (MILES) available to replicate the SA-9. The structure of the OPFOR air defense battery is shown in Figure 11.

FIGURE 11
OPFOR AIR DEFENSE BATTERY



The OPFOR MRR has one electronic warfare platoon. The electronic warfare platoon consists of two BRDMs (without weapon systems), two ground surveillance radars, three radio jammers, and a ground radar emitter. The ground surveillance radars (GSR) are U.S. Army PVS-5-B models. There are two types of radio jammers: the XM-330 is an FM radio jammer and the XM-834 is a UHF and VHF radio jammer. The Ground Radar Emitter For Training Aviators (GRETA), is a system which provides radar lock-on signals to aircraft. The radar signals from the GRETA replicate the Soviet SA-6, SA-8, and the ZSU-23-4 weapons systems. The GRETA system is transported on a U.S. Army, M548 tracked carrier, and is not equipped with a VISMOD. The structure of the OPFOR electronic warfare platoon is shown in Figure 12.

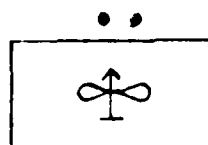
FIGURE 12
OPFOR ELECTRONIC WARFARE PLATOON



The OPFOR MRR is augmented with one section of HIND-E aircraft. The HIND-E aircraft are controlled by an air direction officer and employed in support of the MRR during the conduct of MRR attacks and defense of the main belt. They are not employed in support of motorized rifle battalions in an advance to contact or with units in the defense of a security zone. The aircraft are visually modified, and equipped with the air ground engagement systems (AGES), which interfaces with (MILES). The capabilities of each aircraft duplicate the AT-6, 57mm rockets, and the 30mm cannon. The OPFOR HIND-E section is depicted in Figure 13.

FIGURE 13

OPFOR HIND-E SECTION



4 - HIND-E Aircraft

Each armed with:

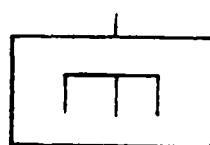
AT-6 Missile

57mm Rockets

30mm Cannon

The OPFOR MRR is augmented with one FORSCOM engineer company. The engineer units traditionally provide a mix of the following types of U.S. Army equipment (approximations, based upon availability at the time of attachment to the OPFOR): two D-7 bulldozers, two backhoes, two heavy equipment transport trucks with trailers (HETs), and four dump trucks. The engineer equipment described above is employed in support of defensive mission preparation, and is not employed in offensive operations. An additional engineer asset, the armored vehicular launched bridge (AVLB), is employed in offensive operations. The AVLB is provided by the 1-73 AR. When combat engineer forces are employed in support of offensive and defensive operations they are transported in Soviet BTR-60s. The BTR-60 is an eight wheel drive personnel carrier capable of transporting a crew of ten. The structure of the OPFOR engineer company is shown in Figure 14.

FIGURE 14
OPFOR ENGINEER COMPANY



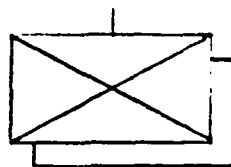
- 2 - D-7 Bulldozers
- 2 - Backhoes
- 2 - HETs
- 4 - 5 ton Dump Trks
- 1 - AVLB
- 6 - BTR-60 *

* The BTR-60s, used to transport engineer soldiers, are actual Soviet equipment.

The OPFOR MRR is augmented with two FORSCOM infantry companies. The companies, regardless of type - airborne, air assault, mechanized or light infantry - are employed to support the OPFOR in a dismounted role. The augmentation is tasked by FORSCOM because the infantry soldiers in 6-31 IN are required to crew 128 OPFOR VISMOD combat vehicles. The dismounted infantry companies are trained and supported by the 6-31 IN. The dismounted infantry are employed in both offensive and defensive missions. They are transported in BMP VISMOD M113A2 personnel carriers and Soviet MT-LBs which is a multipurpose amphibious armored tracked vehicle capable of transporting ten men. Figure 15 depicts the organization of the OPFOR augmentation infantry companies.

FIGURE 15

OPFOR AUGMENTATION
INFANTRY COMPANIES



12 - BMP (M113 VISMOD)

10 - MT-LB *

2 - Inf Companies

(approximate
strength of 116
men per co)

* The MT-LBs, used to transport dismounted infantry soldiers, are actual Soviet equipment.

2-4. SIGNIFICANT DIFFERENCES/ANALYSIS: The differences between the organizational structure of the Soviet and OPFOR MRRs are numerous. The intent here is to highlight the significant differences and analyze the relevance of those differences. As a result of comparing the organizational differences between the OPFOR and the Soviet MRR, the following significant differences and should be taken into consideration during the planning, preparation, and execution of training at the NTC.

Dismounted Infantry: The dismounted infantry capability within a Soviet MRR equates to approximately 567 personnel. The total of 567 is based upon the following computation:

(dismounted squad element of BMP = 7)6

(3 BMP per platoon = 21)

(3 platoons per company = 63)

(3 companies per battalion = 189)

(3 battalions per regiment = 567)

The dismounted infantry capability of the OPFOR MRR is approximately 232. The total number of 232 is based upon the dismounted infantry provided by augmentation described in Figure 15 page 2-19.

The difference represented by 335 dismounted infantry soldiers is significant from a training perspective at the battalion/ task force level. As an example, if a U.S. task force is defending against a Soviet MRR, the task force could expect 567 infantry soldiers to provide suppressive fire from the BMPs in a mounted or dismounted attack. However, the OPFOR can

replicate only 40% of the Soviet MRR dismounted infantry capability. Vehicle limitations also reduce the OPFOR's ability to replicate the capabilities of Soviet infantry, and this will be discussed in chapter 3.

The limited number of infantry does not have a significant impact when the OPFOR MRR subordinate elements perform defensive missions. The OPFOR frequently conducts MRB and MRC defensive missions. There is an adequate number of personnel to properly portray a Soviet MRB or MRC defensive position.

Engineer Company: The OPFOR engineer company organization closely parallels that of the Soviet MRR engineer company. The primary differences are in equipment capabilities and appearance, which are addressed in chapter 3.

Antitank Battery: The antitank (AT) battery of the Soviet MRR is not replicated by the OPFOR. Units training at the NTC need to be aware of the absence of this critical weapon system. The Soviet regiment has an AT battery which is organized as follows: three AT platoons, three AT detachments, equipped with a total of nine BRDM - 2 vehicles. The weapon system is the AT - 5/SPANDREL missile system which has a maximum range of 4,000 meters.⁷ Each vehicle has a total of 15 missiles, with five mounted in a traversable turret and ten available for reload inside the vehicle. Soviet tactical doctrine calls for the employment of antitank forces forward in the offense and in the defense.⁸ Therefore, the absence of these 135 missiles in the vast open terrain at Fort Irwin is especially noteworthy.

Air Defense: The Soviet air defense capabilities are closely replicated from a structural perspective. The major shortcomings of the OPFOR air defense weapons systems are those of capability and density. The Soviet MRR antiaircraft missile and artillery battery have two primary platoons. The ZSU-23-4 platoon of the Soviet MRR is closely replicated by the OPFOR MRR; the quantity and capabilities are almost identical. The Soviet SA-9/GASKIN platoon is not accurately portrayed. The SA-9/GASKIN is mounted on a BRDM-2 with four missiles in the launch cannisters and four additional missiles carried inside the vehicle. The range of the SA-9 exceeds that of the SA-7 by 1,500 to 2,500 meters.⁹

In addition to the two platoons described above, the Soviet MRBs each have an organic antiaircraft platoon equipped with nine SA-7 GRAIL transported in three BMPs.¹⁰

In total, the antiaircraft assets of a Soviet MRR would equate to 47 systems.

- 4 - ZSU-23-4
- 4 - SA-9/GASKIN (16 missiles)
- 27 - SA-7/GRAIL (9 per MRB)

Whereas, the OPFOR MRR assets equate to 20 systems.

- 4 - ZSU-23-4
- 4 - SA-7/GRAIL (16 missiles)

The unit training at the NTC faces a reduced air defense capability, thus providing greater latitude for the employment of U.S. close air support (CAS) and helicopter support.

122mm SP Howitzer Artillery: The Soviet 122mm SP artillery battalion has three batteries of six 122mm SP howitzers. Two of the three batteries are physically replicated by the OPFOR and the third battery is notional. The third (notional) battery is calculated and credited in the indirect fire control rules of engagement procedures at the NTC. The primary difference, from a training perspective, is the reduced vehicle density on the battlefield.

120mm Mortar Batteries: The Soviet MRR has three mortar batteries organic to each MRB. Each mortar battery has six mortars towed by a GAZ-66 truck.¹¹ The 18 120mm mortars within the OPFOR MRR are all notional. As with the 122mm SP howitzer (notional) battery, the mortars are credited through the rules of engagement, however, the impact on units training at the NTC is a reduced number of vehicles on the battlefield.

Motorcycles: The Soviet reconnaissance company has three motorcycles.¹² The organizational structure of the Soviet and the OPFOR reconnaissance companies are the same with the exception of the motorcycles. The OPFOR employed motorcycles in the reconnaissance role very successfully during the 1982 to 1984 time period. However, as a result of accidents, which resulted in injury to personnel and damage to equipment, the OPFOR no longer uses motorcycles for reconnaissance. Units training at the NTC need to be aware of this significant difference. Motorcycles obviously have excellent mobility, stealth, and speed. As a result of their size and mobility they are difficult to acquire and engage with direct and indirect fires.

2-5. CONCLUSION: There are significant organizational and structural differences between a Soviet and the OPFOR MRR. In the aggregate, the differences addressed above should indicate to a commander that the OPFOR MRR has definite organizational peculiarities.. As a result the commander and his staff need to be cognizant of these factors during the planning, preparation, and execution of training at the NTC. These differences should affect his training analysis of lessons learned upon completion of training at the NTC.

The primary differences include the shortage of infantry, the reduced number of air defense assets, and the absence of antitank assets, all of which limit the combat power of the OPFOR. The shortage of 122mm SP howitzer and 120mm mortar systems is a significant factor in regard to the number of vehicles on the battlefield. However, since these missing elements are replicated through the rules of engagement for indirect fires, their absence does not adversely affect lessons learned. Another factor worthy of note is the absence of motorcycles from the reconnaissance company.

A total assessment of the organizational differences noted between a Soviet and the OPFOR MRR reveals that the OPFOR MRR has a lesser degree of combat power.

CHAPTER 2

END NOTES

¹U.S. Army, FM 100-2-3, The Soviet Army Troops: Organization, and Equipment. Washington, D.C., U.S. Army, 1984. page 1-3.

²Ibid., pages 4-8.

³U.S. Army, Intelligence Preparation of the Battlefield. U.S. Government Printing Office, 1983. pages 1-5, 1-8, and 1-9.

⁴The author was assigned to the NTC during the period May 1982 thru June 1985, and performed duties as observer controller with TRADOC, Operations Group, and battalion S-3, and XO of 6th Bn, 31st Infantry.

⁵U.S. Army Headquarters National Training Center, OPFOR TACSOP. Office of the Deputy Commander for Training, 1985. page 2.

⁶FM 100-2-3, page 4-22. The dismounted squad element consist of seven personnel. The driver and assistant squad leader remain with the vehicle to provide fire support.

⁷Ibid., pages 4-16, 5-80, and 5-87.

⁸U.S. Army, FM 100-2-1, The Soviet Army: Operations and Tactics. Washington, D.C. U.S. Army, 1984. pages 10-1 thru 10-3.

⁹FM 100-2-3, pages 5-95, 5-101, and 5-103.

¹⁰Ibid., pages 4-24 and 4-25.

¹¹Ibid., pages 4-5, 4-24, and 5-60.

¹²Ibid., page 4-15.

CHAPTER 3

EQUIPMENT

3-1. INTRODUCTION: The purpose of this chapter is to compare the major items of OPFOR equipment to that of a Soviet MRR. A brief comparison and analysis are made of all types of vehicles used by the OPFOR; however, the primary focus is on the BMP personnel carrier and the T-72 tank. The OPFOR MRR at the NTC attempts to replicate the Soviet equipment by using limited quantities of actual Soviet vehicles provided by Company C, 203d Military Intelligence (MI) Battalion, and by using large quantities of visually modified (VISMOD) U.S. Army vehicles.

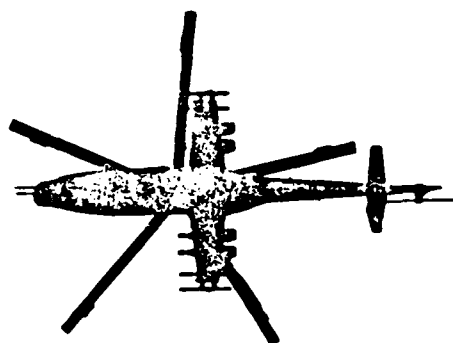
3-2. EQUIPMENT COMPARISONS: The following equipment comparisons indicate the degree of accuracy in which the OPFOR equipment actually resembles Soviet equipment. The photograph reproductions of OPFOR equipment are from an OPFOR Visually Modified (VISMOD) Vehicle Recognition Guide, prepared at the NTC.¹

The Soviet HIND-E is one of three versions of the Mi-24/HIND, which is a multipurpose helicopter, capable of carrying eight fully equipped combat soldiers and a basic load of armament. The armament consist of 32 57mm rockets, a 12.7mm machine gun or a 23mm cannon, and four, AT-6/SPIRAL missiles. The aircraft is vulnerable for two primary reasons, one is the large size and irregular shape which make the aircraft very easily recognizable. The other is the requirement for the

aircraft to remain stationary in line of sight with the target when employing the AT-6 missile.² The primary differences between the OPFOR HIND-E VISMUD and the actual HIND-E are that the Soviet version is much larger, has five main rotor blades, and - due to MILES-AGES equipment availability - has a 30mm cannon versus a 23mm cannon. The Soviet and OPFOR aircraft photos are shown in Figure 16 and 17.

FIGURE 16

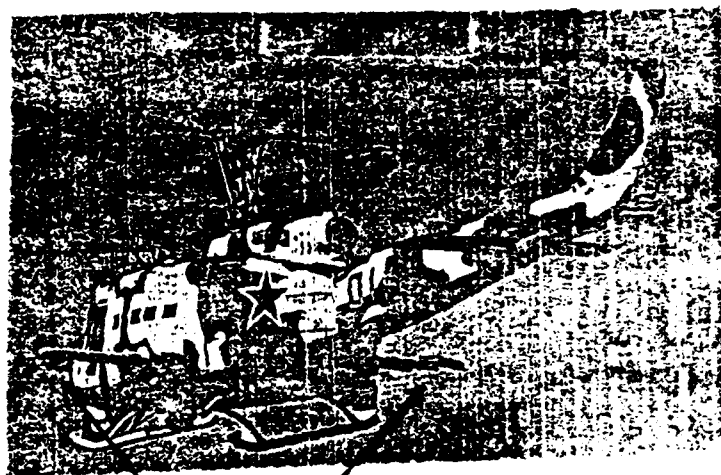
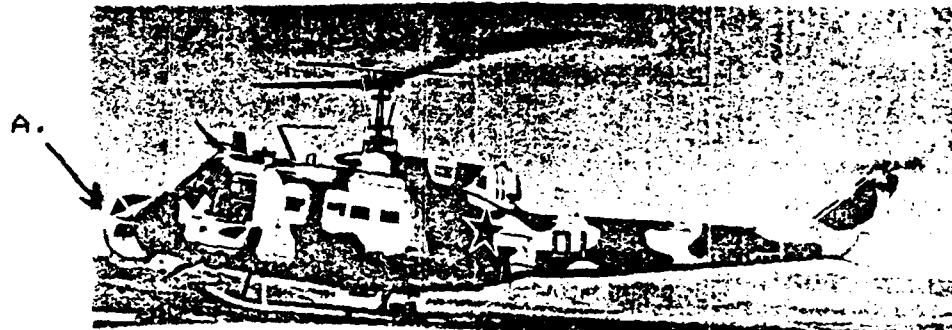
SOVIET Mi-24 HIND-E



SOURCE: FM 1-402, AVIATOR'S RECOGNITION MANUAL, page 1-48

FIGURE 17

OPFOR VISMOD HIND-E



A. Gunner's canopy.

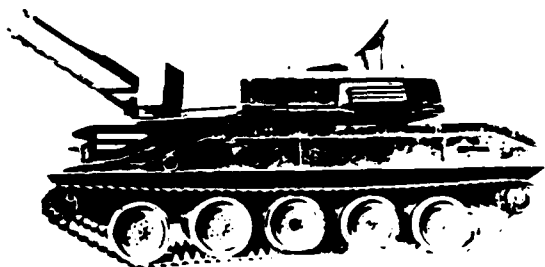
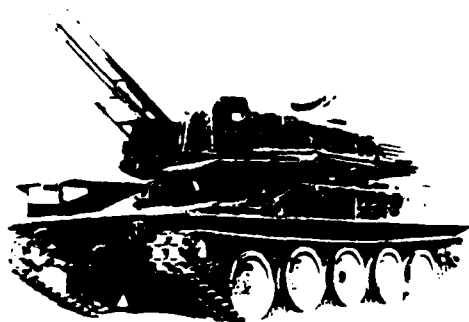
B. Short auxiliary wings.

The Soviet ZSU-23-4 is a self-propelled antiaircraft system equipped with four 23mm automatic cannons.³ There are virtually no differences between the actual Soviet version and the OPFOR VISMOD. The OPFOR VISMOD is mounted on an M551 Sheridan tank. The OPFOR and Soviet ZSU-23-4 are shown below in Figure 18.

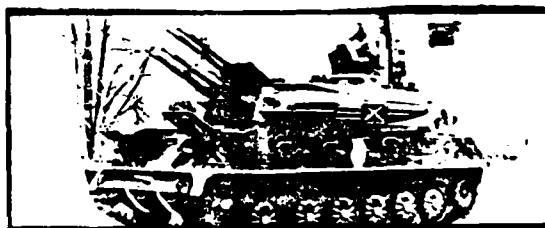
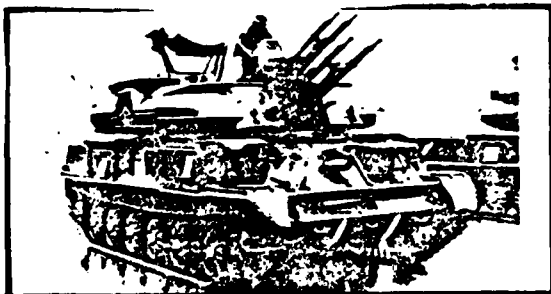
FIGURE 18

ZSU-23-4

OPFOR VISMOD ZSU-23-4



SOVIET ZSU-23-4



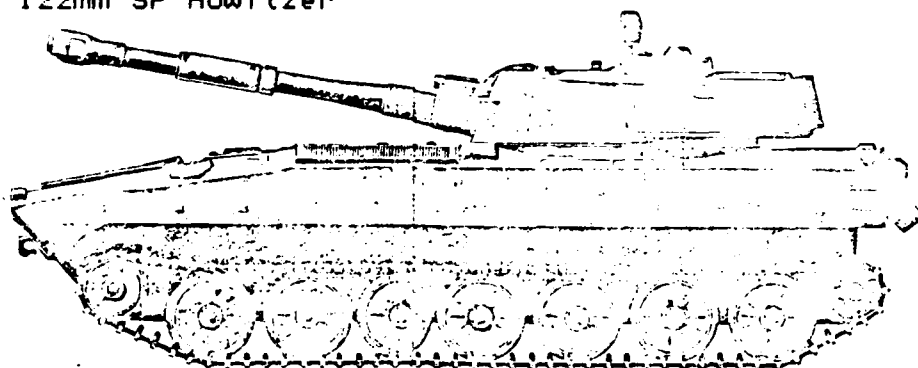
SOURCE: FM 1-402, AVIATOR'S RECOGNITION MANUAL, pages 3-48 & 49.

The Soviet 122mm self-propelled howitzer (2S1 or M1974) is an important part of the combined arms team of the Soviet MRR. It can be employed in the direct and the indirect fire mode. The vehicle characteristics of this howitzer provide the capabilities required to maneuver with BMPs and tanks on the battlefield.⁴ The OPFOR VISMOD version of the 122mm SP has the same basic characteristics as the actual Soviet vehicle. The two major differences are the position of the turret in relationship to the hull and in the overall height of the vehicle. The Soviet vehicle is lower and the turret is farther to the rear. The 122mm SP howitzer OPFOR VISMOD is also mounted on the M551 Sheridan tank. The Soviet and OPFOR 122mm SP howitzers are shown in Figure 19.

FIGURE 19

122mm SELF-PROPELLED HOWITZER

SOVIET 122mm SP Howitzer



SOURCE: WEAPONS OF THE MODERN SOVIET GROUND FORCES, page 64.

OPFOR VISMOD 122mm SP Howitzer

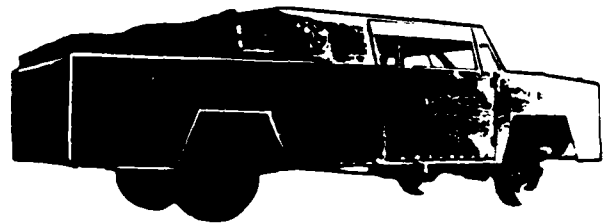
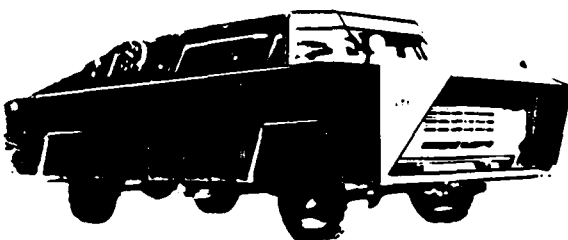


The Soviet BRDM has many applications; however, the vehicle is most commonly employed in a reconnaissance role. The actual Soviet BRDM-2 has a turret mounted 14.5mm machine gun and a 7.62mm machine gun. The vehicle is vulnerable to artillery fragments and .50 caliber machine gun fire.⁵ The primary differences between the actual vehicle and OPFOR VISMODO is that the OPFOR vehicle does not have the 14.5mm weapon system or turret. The OPFOR VISMODO BRDM is mounted on an M880 truck. The OPFOR and Soviet BRDM-2 are shown in Figure 20.

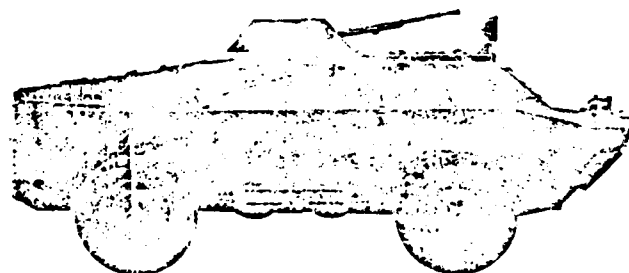
FIGURE 20

BRDM-2 AMPHIBIOUS RECONNAISSANCE VEHICLE

OPFOR VISMODO BRDM



SOVIET BRDM-2



SOURCE: WEAPONS OF THE MODERN SOVIET GROUND FORCES, page 41.

The Soviet amphibious armored personnel carrier BTR-60PB is an eight-wheel-drive vehicle, has a crew of three, and carries eight passengers. The vehicle armament consists of a 14.5mm machine gun and a 7.62mm machine gun. The BTR-60 is vulnerable to indirect and small arms fire.⁶ The BTR-60 series vehicles used by the OPFOR are actual Soviet vehicles. The OPFOR vehicles do not have any weapon systems; they are used for transport purposes only. The Soviet BTR-60PB is shown in Figure 21.

FIGURE 19

BTR-60PB

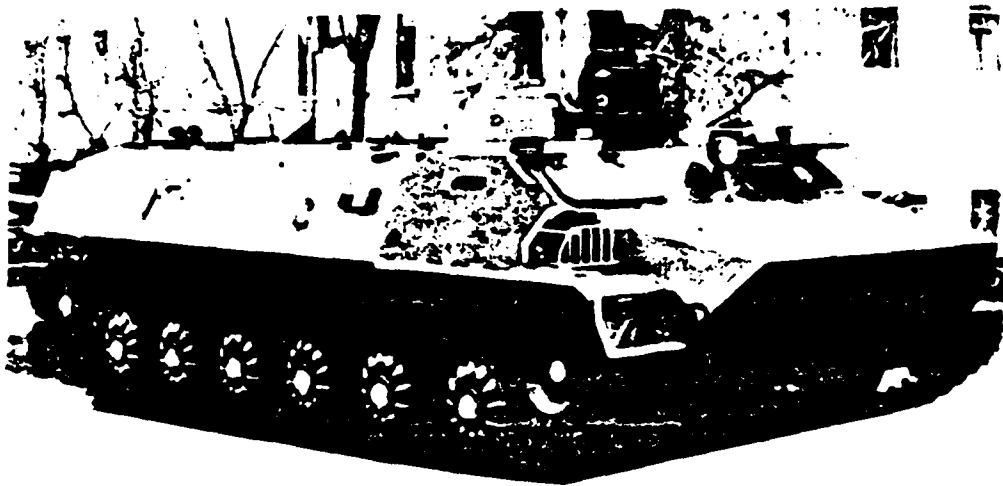


SOURCE: FM 100-2-3, THE SOVIET ARMY TROOPS, ORGANIZATION AND EQUIPMENT, page 5-16.

The Soviet MT-LB is an amphibious armored tracked vehicle, armed with a 7.62mm machine gun. When the MT-LB is employed as a personnel carrier it has a crew of two and can carry ten soldiers. The vehicle is vulnerable to artillery fragments and .50 caliber machine gun fire.⁷ The OPFOR MT-LBs are actual Soviet vehicles. As with the BTR-60 they are used strictly for transportation of soldiers, and have no weapon system. The Soviet MT-LB is shown in Figure 22.

FIGURE 20

MT-LB



SOURCE: FM 100-2-3, THE SOVIET ARMY TROOPS, ORGANIZATION AND EQUIPMENT, page 5-28.

There are numerous models of tanks in the Soviet force structure. The T-64 medium tank is deployed primarily in the Group of Soviet Forces, Germany and the Southern Group of Forces, Hungary.⁸ The T-72 appears to be a high production model designed to complement the T-64. "The T-72 has been deployed within the USSR and exported to non-Soviet Warsaw Pact armies and several other countries."⁹

The Soviet T-72 medium tank is replicated by a VISM00 at the NTC. The Soviet T-72 medium tank entered the service in 1974. As a result of an integrated fire control system and an automatic loader the Soviets were able to reduce the number of personnel in the tank crew from four to three.¹⁰ The armament on the T-72 tank is the 125mm smoothbore main gun and a 12.7mm machine gun.

Some of the primary recognition features of the Soviet T-72 are:¹¹ (The asterisk indicates those recognition factor which are the same with the OPFOR and the Soviet T-72).

- a. Six large die-cast, evenly spaced road wheels.
- b. Three track support rollers.
- c. Sharply sloped upper glacis with V-shaped guard.
- d. Single snorkel mounted on the left side of the turret.
- e. Rounded turret mounted midway on the tank. *
- f. Engine exhaust on top of the back deck. *
- g. Bore evacuator one-third distance from the muzzle. *
- h. Infrared light to the right of the main gun.
- i. Externally mounted and fired machine gun. *
- j. Optional, external fuel cells. *

There are several differences between the OPFOR VISM00 T-72 and the Soviet T-72 tank. The height of the OPFOR tank is two feet and three inches greater than that of the Soviet T-72. The Soviet tank has a trench or ditch crossing capability, which exceeds the OPFOR tank by approximately two feet. Additionally, some items of special equipment are not replicated by the OPFOR VISM00. The Soviet T-72 tanks are equipped with the KM T-6 mineclearing plow. The basis of issue is one per tank platoon, three per company, for a total of nine within a MRR.¹² The Soviet T-72 is also equipped with a self-generating smoke and a grenade launched smoke capability. A comparison of Soviet and OPFOR T-72 tank characteristics is shown in Figure 23. The Soviet and OPFOR T-72 are shown in Figure 24.

FIGURE 23

T-72 TANK COMPARISON

VEHICLE CHARACTERISTICS	OPFOR13	SOVIET14
HEIGHT (turret)	9 ft 8 in	7 ft 5 in
LENGTH (hull)	20 ft 6 in	20 ft 6 in
WIDTH	9 ft 2 in	10 ft
ROAD WHEELS	5 each	6 each
SUPPORT ROLLERS	0	3 each
SPEED	43 mph *	50 mph
MAX GRADE (slope) ¹⁵	60%	58%
TRENCH CROSSING	7 ft	8 ft 11 in
VERTICLE STEP	33 in	32 in
TURRET ELEVATION (degrees)	-8 to +19	-5 to +18
CREW	four men	three men
SPECIAL EQUIPMENT	none	mine plow smoke

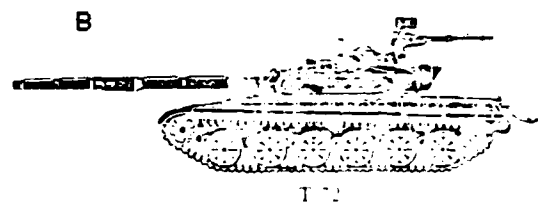
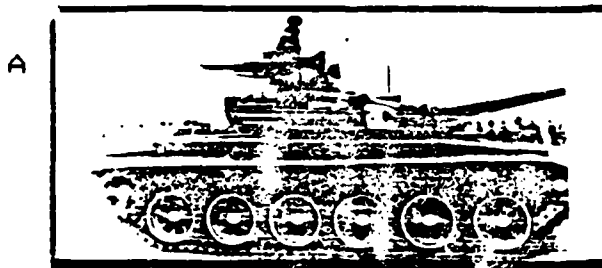
ARMAMENT: The MILES equipment on the OPFOR tank replicates the same type, basic load, rates of fire, probability of hit and kill as that of an actual Soviet T-72.

* - OPFOR vehicles are restricted to a maximum safe speed of 20 mph.

FIGURE 24

T-72 TANK

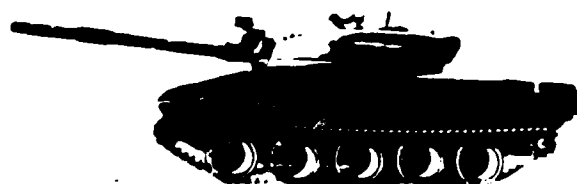
SOVIET T-72 MEDIUM TANK



SOURCE; A. FM 1-402, AVIATOR'S RECOGNITION MANUAL, page 4-37.

B. SOVIET TROOP CONTROL, page 21.

OPFOR VISMOD T-72 TANK



The Soviet BMP was first observed by the Western world in November 1967. The BMP (Bronevaya Mashina Pekhoty or armored infantry vehicle), provided the Soviet forces with the first infantry combat vehicle with cannon, antitank guided missile, and machine gun. The BMP brought combined arms integration to the lowest tactical level.¹⁶ The BMP-1 is the vehicle which is replicated by the OPFOR at the NTC with a VISMOD. Although the BMP-2 is not addressed here, it is significant to note that the BMP-2 is an improved version of the BMP-1. The improvements in the BMP-2 are extensive.¹⁷

Since the introduction of the BMP in 1967 there has been much debate about employment considerations of the system. Of primary concern to the Soviets was the basic question. Was the vehicle to be used as an armored personnel carrier or an infantry fighting vehicle? A 1976 research report from the U.S. Army Institute for Advanced Russian and East European Studies indicates a variety of training methods and philosophies of employment for the BMP in combat. The study indicated that commanders of BMP units need to be flexible, maintain freedom of maneuver, not become stereotyped, and consider new techniques for employment of the BMP.¹⁸

The 1973 Yom Kippur war proved to be a disastrous experience for the BMP. The doctrine at that time was to charge onto enemy positions with weapons systems firing, to include port fired small arms, while soldiers remained mounted.¹⁹

The following quote describes the current Soviet philosophy for the conduct of mounted and dismounted assaults.

Soviets prefer motorized rifle units to assault mounted. The factors favoring mounted assault are:

- NBC contamination.
- Open terrain.
- Reduced enemy antitank capability.
- Weak enemy defenses.

If a dismounted attack is planned, a dismount line is designated, within about 400 meters from the FEBA. With BTRs in defilade to protect riflemen from machine gun fire and vehicles from antitank fires. Factors favoring dismounted assault are:

- Strong enemy antitank capability.
- Well prepared enemy defenses.
- Fords or bridges.
- Obstacles or minefields.
- Rough terrain: no high speed avenues of attack.
- Maximum firepower needed.²⁰

The Soviet BMP has the following recognition factors which make it readily distinguishable from other tracked combat vehicles.²¹ (The asterisk indicates those recognition factors which are the same for the OPFOR BMP).

- a. Six road wheels.
- b. Three support rollers.
- c. Two rear doors.
- d. Four hatches on the top rear of the hull.
- e. Low silhouette.
- f. Sharp sloping front. *
- g. The short barrel of the 73mm cannon. *
- h. Distinctive positioning of the AT-3/SAGGER, mounted above the 73mm cannon. *
- i. Flat turret centered on the hull. *

A comparison of Soviet and OPFOR BMP characteristics is provided in Figure 25, and a comparison of photographs is shown in Figure 26.

FIGURE 25
BMP COMPARISON

VEHICLE CHARACTERISTICS	OPFOR22	SOVIET23
HEIGHT (turret)	9 ft 8 in	6 ft 6 in
LENGTH (hull)	22 ft 2 in	22 ft 2 in
WIDTH	9 ft 2 in	9 ft 9 in
ROAD WHEELS	5 each	6 each
SUPPORT ROLLERS	0	3 each
MAX GRADE (slope) ²⁴	60%	58%
TRENCH CROSSING	7 ft	6 ft 7 in
VERTICLE STEP	33 in	32 in
TURRET ELEVATION (degrees)	-8 to +19	-4 to +33
CREW	4	3 plus 7 infantry
SPECIAL EQUIPMENT	none	veh smoke

ARMAMENT: The MILES equipment on the OPFOR BMP replicates the same type, basic load, rates of fire, probability of hit and kill as that of an actual Soviet BMP.

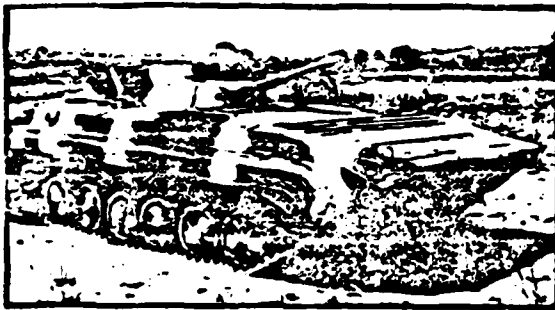
* - OPFOR vehicles are restricted to a maximum speed of 20 mph for safety purposes.

FIGURE 26

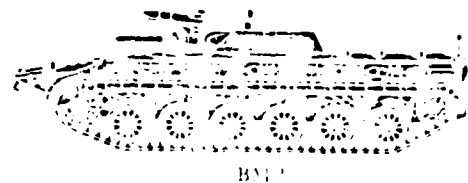
BMP INFANTRY COMBAT VEHICLE

SOVIET

A



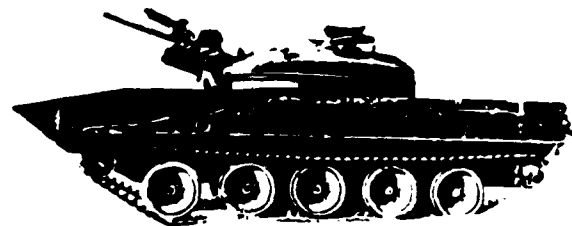
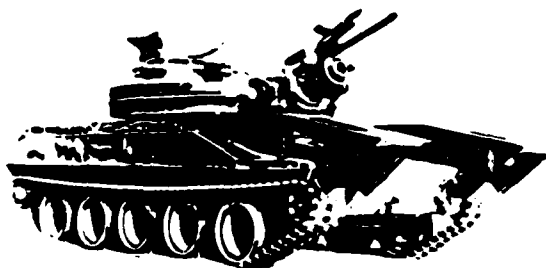
B



SOURCE: A. FM 1-402, AVIATOR'S RECOGNITION MANUAL, page 7-36.

B. SOVIET TROOP CONTROL, page 21.

OPFOR VISMOD BMP



3-3. SIGNIFICANT DIFFERENCES/ANALYSIS: The differences between the equipment of the Soviet and the OPFOR MRRs are numerous. As a result of comparing the equipment differences between the OPFOR and the Soviet MRR the following are significant and should be taken into consideration during the planning, preparation, and execution of training at the NTC.

HIND-E: The primary differences between the OPFOR VISMODO HIND-E and the actual Soviet aircraft are the size and the weapon system. The smaller size of the OPFOR aircraft will make it more difficult to acquire. The difference in the size of the cannon, (30mm versus 23mm) gives the OPFOR aircraft a slight advantage over the Soviet version. The pictures of both aircraft in Figures 16 and 17, clearly show the visual differences in regard to size, shape, and the number of rotor blades.

BRDM: The major difference between the OPFOR and the Soviet BRDM is the fact that the OPFOR VISMODO does not have a turret and weapon system. The absence of the turret detracts from the accuracy of replicating the true appearance of the Soviet vehicle. The lack of a 14.5mm machine gun makes the vehicle more vulnerable; however, when assessing the structure of the OPFOR MRR, there are only four in the reconnaissance company and two in the electronic warfare section. Neither of the two are employed to fight. The BRDMs employed by the reconnaissance company carry a MILES equipped 7.62mm machine gun. Regardless of the armament capabilities the BRDM is a vulnerable vehicle on the battlefield.

BTR-60 AND MT-LB: The actual Soviet BTR-60 and MT-LB vehicles employed by the OPFOR are used for transport purposes only. As the BRDM they also lack a MILES weapon system, and they are vulnerable to direct and indirect fires. The loss of firepower is more significant with the BTR-60 and the MT-LB because of the total quantity (BTR-60, maximum of six and MT-LB, maximum of ten).

T-72 TANK: The OPFOR VISMUD T-72 tank closely parallels the characteristics of the Soviet T-72. The three major differences are the size, mobility limitations and the lack of special equipment, all of which detract from the accuracy of performance of the OPFOR T-72. The OPFOR tank is two feet and three inches higher than the Soviet T-72. Because of the excess height the OPFOR vehicle will be more easily acquired and destroyed on the battlefield. Folds in the ground, in which a Soviet T-72 could obscure itself, would not adequately protect the OPFOR vehicle. Secondly, the OPFOR T-72 does not have an equal degree of mobility. The Soviet T-72's trench and gap crossing capability is almost 2 feet greater than the OPFOR VISMUD T-72. Countermobility obstacles which will restrict movement of an OPFOR T-72 may have less effect on an actual T-72. The last major difference is special equipment. The OPFOR MRR does not have a VISMUD device to replicate the nine mineclearing plows, (KM T-6), found in a Soviet MRR. This shortcoming reinforces the value of countermobility obstacles employed against the OPFOR. However, as with the Soviet T-72's superior

mobility mentioned earlier, countermobility obstacles which are effective against the OPFOR MRR will have less effect on an actual Soviet MRR. Another shortcoming in regard to special equipment is the OPFOR T-72's lack of smoke generating capability, both self-generating and grenade-launched. The inability to replicate the smoke capabilities of the Soviet T-72 makes the OPFOR T-72 more vulnerable to direct fire in both the offense and defense. Units training at the NTC need to take these weaknesses of the OPFOR tank into consideration when assessing the value of lessons learned from their training experiences. The OPFOR T-72 will be more easily defeated in training at the NTC than the actual Soviet T-72 will be in combat.

BMP: The OPFOR VISMOD BMP also has several noteworthy differences from the Soviet BMP. As with the OPFOR T-72 the OPFOR BMP is higher (by 3 feet and 2 inches). Additionally the OPFOR BMP has a reduced turret elevation capability, cannot carry dismounted infantry personnel, and cannot self-generate smoke. The additional height and the inability to self-generate smoke merit the same consideration as stated above in reference to the OPFOR VISMOD T-72. The other two major differences are the OPFOR VISMOD BMP's inability to carry infantry personnel and the degradation in turret elevation. The inability to transport infantry and to fight the vehicle as an infantry fighting vehicle inhibit the OPFOR from employing the Soviet doctrine stated on page 3-14 above. As noted in Figure 25 page 3-15, the Soviet BMP turret can elevate +33 degrees while the OPFOR VISMOD BMP can elevate only +19 degrees.

The 14 degree difference is an important factor because it precludes the OPFOR VISMODO BMP from engaging targets on high ground at close ranges, thus limiting it's self defense capability in much of the terrain at Fort Irwin. Units training at the NTC need to be aware of these significant shortcomings of the OPFOR VISMODO BMP because the actual equipment on a battlefield of the future will not be as easily defeated.

3-4. CONCLUSIONS: There are significant equipment differences between a Soviet and the OPFOR MRR. In an overall analysis of the equipment differences addressed above it should be clear that the OPFOR MRR has significant equipment shortcomings. As a result the commander and staff need to be aware of the differences and take them into consideration during the planning, preparation, and execution of training at the NTC. These differences should also affect conclusions drawn from lessons learned upon completion of training at the NTC.

The primary differences include shortcomings of the OPFOR VISMODO T-72 and BMP. When these major deficiencies are coupled with other problems addressed in regard to the HIND-E, BRDM, BTR-60, and MT-LB, the OPFOR MRR equipment is markedly inferior to that of a Soviet MRR.

CHAPTER 3

END NOTES

¹The OPFOR Visually Modified (VISMOD) Vehicle Recognition Guide is a pocket size document, 11 pages in length, designed to, "provide U.S. Army personnel with a readily available reference which will aid in identification of VISMOD vehicles used by the OPFOR at the National Training Center, California." The document probably achieved the desired purpose when it was first published in 1982. However, it is in dire need of revision.

²U.S. Army, FM 100-2-3, The Soviet Army: Troops, Organization, and Equipment. Washington, D.C., U.S. Army, 1984. pages 5-80 and 5-81.

³Ibid., page 5-93.

⁴Ibid., pages 5-49 and 5-53.

⁵Ibid., page 5-15.

⁶Ibid., page 5-16.

⁷Ibid., page 5-28.

⁸Ibid., page 5-39.

⁹Ibid., page 5-40.

¹⁰Ray Bonds, Weapons of the Modern Soviet Ground Forces, page 18.

¹¹U.S. Army, FM 1-402, Aviator's Recognition Guide, page 4-36.

¹²FM 100-2-3, page 5-129.

¹³U.S. Army, TM 9-2350-230-10, Operator's Manual (Crew), pages 1-1 thru 1-8.

¹⁴FM 100-2-3, pages 5-32, 5-33, and 5-40.

¹⁵The capabilities of the Soviet T-72 tank and the Soviet BMP, to ascend and descend a grade are expressed in degrees. To compare that capability with the M551 Sheridan tank, VISMOD BMP and T-72, the degree was converted to a percentage by use of the arithmetic tangent formula. (the tangent of 30 degrees = 57.735= 58%)

¹⁶David C. Isby, Weapons and Tactics of The Soviet Army, page 126.

¹⁷U.S. Army, Armor Magazine, "New Soviet BMP-2 Unveiled", January-February 1986, pages 24 and 25.

¹⁸Major James K. Mc Caslin, Jr., Student Research Report, Combat Infantry Vehicles (BMP) In Combat, 1976.

¹⁹Ray Bonds, Weapons of the Modern Soviet Ground Forces, page 47.

²⁰FM 100-2-1, page 5-27.

²¹FM 1-402, page 7-36.

²²TM 9-2350-230-10, pages 1-1 thru 1-8.

²³FM 100-2-3, pages 5-18, 5-19, and 5-21.

²⁴ibid., page 5-18.

CHAPTER 4

TACTICS

4-1. INTRODUCTION: The purpose of this chapter is to compare the tactical doctrine of a Soviet MRR, in the conduct of offensive and defensive operations, to that of the OPFOR MRR at the NTC. This chapter is limited in scope to an analysis of the combat missions most frequently portrayed by the OPFOR at the NTC.

The Soviet art of war includes three components: strategy, operational art, and tactics, each of which has its distinctive specific features for the conduct of armed combat on various scales.

Strategy is the highest domain of the art of war,...

Operational art includes the theoretical and practical aspects of preparation for the conduct of operations (actions) by the large formations...

Tactics is the theoretical and practical aspects of preparation for the conduct of combat by the subunits, units, and formations of the various services of the Armed Forces...¹ (emphasis added)

The structure of Soviet military thought is subdivided into three major categories; military doctrine, military science, and military art.² The focus herein is at the tactical level of war as it pertains to the Soviet MMR. Additionally, the intent is to analyze the tactics of the OPFOR MRR at the NTC to determine whether tactical employment accurately represents Soviet reality.

The Soviets categorize combat actions into two major forms of combat, offense and defense.³ The offense is further subdivided into three categories: attack against a defending enemy (conducted from the march or from a position in direct

contact), meeting engagement, and pursuit. This chapter addresses the attack against a defending enemy, (attack from the march), and the meeting engagement. This thesis is limited to these two forms of the offense because the majority of the scenario controlled offensive operations at the NTC take one or the other form.

The defense is also subdivided into three categories: hasty defense, prepared defense, and withdrawal. This thesis is limited to a discussion of hasty and prepared defensive operations because the NTC scenario does not emphasize withdrawal operations.

Three important areas, from a division tactical perspective, which are important when considering the Soviet or OPFOR MRR are echelonment, force ratios, and flexibility.⁴

In regard to echelonment, it is important to understand the tactical missions of the different echelons, and how they will be employed. The first echelon missions are:

- a. Penetrate or defeat enemy forward defenses.
- b. Continue the attack.
- c. Under nuclear conditions, exploit nuclear strikes on enemy defenses.⁵

The missions of the second echelon are:

- a. Exploit the success of the first echelon.
- b. Conduct a pursuit.
- c. Destroy bypassed forces.
- d. Replace or reinforce first echelon forces.⁶

Additional considerations in regard to the concept of echelonment are that the interval between forces is not rigidly fixed and that the second echelon should be used to exploit success, not reinforce failure.

Force ratio computations are based upon an aggregate comparison of combat power which results in a desired ratio of 3:1 or greater ratio for the conduct of offensive operations. When the Soviet commander computes his strength or combat power in order to establish a superior ratio over the defending force he considers all of his organic, attached, combat and combat support forces. Therefore, his actual strength at the forward edge of the battle area may be less than the overall desired ratio.⁷

The final area of consideration is that of flexibility. "The first level where any real tactical flexibility might be found is at the regiment, which is the smallest fully combined arms unit."⁸ It is difficult to speculate to what degree Soviet commanders will exercise flexibility in the execution of tactical plans. It is also difficult to postulate at what level or echelon Soviet unit commanders will be permitted to exercise flexibility. However, two factors have a very direct impact on the concept of flexibility: the Soviet concepts of norms and initiative, both of which are extremely dependent upon reconnaissance.

Norms are the performance standards which are related to combat tasks and conditions. "They are formulated by historical analysis, training exercises, requirements, and gaming models."⁹ The existence of norms provides the foundation for battle drills at the subunit level (battalion and lower). Tactical commanders can measure levels of combat readiness and accurately compute such factors as time and distance. This is very critical because of the degree of synchronization required for employment of combat multipliers such as indirect fires (HE, smoke, and chemical), close air support (fixed and rotary), electronic warfare and other combat and combat support elements. Initiative is stressed and encouraged a great deal by Soviet military writings.

The decisiveness of offensive operations is even more pronounced in modern conditions....Aggressive and decisive operations make it possible for the attacking forces to frustrate the enemy's plans, impose their will on him, seize and keep the initiative, and act with the utmost determination.¹⁰

An article by a General Gerasimov's in Voyennyy Vestnik, (Military Herald), stresses the basic concepts of planning, surprise, diversionary actions, and a continuous offensive. One of the most relevant passages in his article states, "Therefore the most important and indispensable condition guaranteeing the holding of the initiative is constant, active reconnaissance."¹¹ Reconnaissance provides the information to support planning based upon norms. Consequently good reconnaissance will allow the Soviet or OPFOR commander the

opportunity to seize the initiative in the offense or the defense. Closely related to initiative is the concept of flexibility. A highlight of some of the concepts of flexibility are:

- a. The need to attack on multiple axes.
- b. Swift transfer of combat power.
- c. The achievement of surprise.
- d. Speed in the attack.
- e. Independent action by commanders.
- f. The need to carry the battle deep.¹²

"These concepts are not descriptive of a rigid offensive doctrine, but of one that is both mobile and flexible."¹³ The above concepts appear to be related more to the operational level of war than the tactical level. However, the degree of flexibility, initiative, or latitude permitted at the tactical level remains to be seen and should not be disregarded.

Intelligence collection efforts are indispensable aspect of Soviet combat operations. The value of intelligence is stressed throughout the Soviet text Taktika (Tactics) by Major General Reznichenko (1984 edition) as evidenced by this quote:

Reconnaissance is especially important in modern combat. It is the most important type of combat support, since without reliable intelligence on the enemy, the terrain, and the radiac and chemical situation, it is impossible to employ friendly forces and equipment correctly, to perceive the enemy's intention, and to forestall him in operations. Owing to the large volume of intelligence tasks, reconnaissance is conducted constantly and aggressively via the integrated employment of friendly forces and equipment to determine the coordinates and location of enemy targets with the greatest possible accuracy and provide the troops with these in good time, and to provide the commander with the timely intelligence data that he needs for planning and command and control during combat.¹⁴

4-2. OFFENSE: Chapter 5, FM 100-2-1, The Soviet Army Operations and Tactics, describes in detail the offensive tactics employed by a Soviet division and lower units. The OPFOR MRR at the NTC adheres to the tactical concepts and philosophy contained in chapter 5. Based upon scenario requirements, the OPFOR MRR conducting a regimental attack will attack primarily from the march but on occasion will attack from a position in direct contact. Additionally, the scenario prescribes the regiment's order of battle within the division, thus depicting the OPFOR Regiment as a main or supporting attack of the division effort. The scenario control cell at the NTC performs the duties of the U.S. Army division headquarters. It communicates intelligence indicators through the U.S. brigade tactical operations center (TOC), to the task forces. The intelligence provides adequate information to portray the attacking division's main and secondary efforts, possible boundary locations, and positions of combat and combat support units. This allows time for templating of forces and provides enough detailed intelligence for the brigade and task forces to determine the approximate time of attack.

The scenario guidance and orders to the OPFOR regiment outline three major areas in the planning process: first of all the boundaries for the regiment, second, the immediate and subsequent objectives, and last, an established line of departure and time for crossing. The scenario does not provide the OPFOR regiment with intelligence information regarding the opposing U.S. brigade or task force. As a result the regimental

planning process is initially driven by the considerations of METT-T (mission, enemy, terrain, troops available, and time). Refinement of the plan is derived from aggressive reconnaissance.

The OPFOR MRR adheres to the Soviet concept of reconnaissance. When the scenario permits, select elements replicate portions of the division reconnaissance company (or unit) which can operate as far forward as 50-100 kilometers (km) forward of the main body. The primary source of intelligence for the OPFOR is the MRR reconnaissance company which operates up to 25 km forward of the MRR. Separate reconnaissance patrols (squad size) are also employed as the situation dictates, up to 15 km forward.¹⁵

Reconnaissance efforts are key to the refinement of the OPFOR regiment's plan of attack. Forms of maneuver for the MRBs, echelonment and fire planning are all based upon intelligence collection efforts and time distance factors. Good intelligence determines the quality of the attack. The time sequencing of CAS and indirect fire preparations, are carefully synchronized with the movement of the regiment to allow the attacking echelons to deploy its battalions, companies, and platoons in accordance with prescribed norms. Slight deviations of the prescribed deployment norms are permitted by the regimental commander based upon the reactions of the unit being attacked.

When the OPFOR regiment conducts attacks the commander organizes for combat by task organizing the three motorized rifle battalions (MRBs). The three companies of the tank battalion support the MRBs and the artillery battalion operates as part of

the regimental artillery group or allocates separate batteries in support of the MRBs. The air defense battery is also assigned down to the three MRBs.¹⁶ The OPFOR adheres to the tactical procedures described in FM 100-2-1.¹⁷ The employment considerations discussed above, echelonment and norms, are rigidly followed by the OPFOR during the conduct of the attack.

Many factors or variables on both sides affect the success or failure of the OPFOR MRR attack. One of the most critical factors which determines the success of the OPFOR attack is the rigid compliance to battle drills contained in the OPFOR Tactical SOP. The primary source documents for the OPFOR Tactical SOP are FM 100-2-1, the OPFOR Maneuver Unit, Field Pocket Reference, Motorized Rifle Unit, Red Thrust, April 1985, and the Rules of Engagement.¹⁸ The OPFOR Tactical SOP conforms to the above stated references and is strictly adhered to. Battle drills performed by the OPFOR minimize the requirements for communications by leaders at all levels. Additionally, the speed of execution often decides the outcome of a critical phase of the battle.

In an article from International Defense Review, titled "Soviet Battle Drills, Vulnerability or Strength?", C.J. Dick addresses three advantages of Soviet battle drill. The first is speed of action; second, command and control is aided by rapid decisions; and third, subordinate leaders are able to react with greater confidence in the heat of battle.¹⁹ Battle drill is extremely critical in the conduct of a meeting engagement. The Soviet and the U.S. definitions of a meeting engagement are

similar, but not the same. Soviet tactics places a greater degree of emphasis on the meeting engagement because the Soviets frequently employ it in situations where U.S. doctrine would call for a hasty attack. The following Soviet definition applies to the meeting engagement.

A meeting engagement occurs when both sides strive to resolve assigned missions by attacking. Troops in a meeting engagement aim to rout the attacking enemy in a short time span, seize the initiative, and create favorable conditions for subsequent aggressive operations. A meeting engagement can take place on the march, in an offensive when repelling counterattacks and counterthrusts or when exploiting successes and engaging enemy troops, and in defense when making counterattacks and counterthrusts or eliminating enemy airborne or amphibious.²⁰

When the OPFOR MRR is given a mission to conduct a meeting engagement, the scenario generally establishes a situation which is vague for both forces. Intelligence is extremely limited and a battalion is moving as an advance guard for a notional regiment.²¹ The OPFOR MRB conducting a meeting engagement organizes its subordinate elements as an advance guard of a regiment. The lead element is the combat reconnaissance patrol (CRP). The CRP moves forward of the forward security element (FSE) which is deployed forward of the advance guard main body.²²

The CRP performs the following missions: (10 km forward of FSE)

- a. Conducts reconnaissance (Reports actions to commander).
- b. Reports contact.
- c. Attempts to penetrate main force.
- d. Attempts to bypass security elements.
- e. Performs chemical and engineer reconnaissance.

The FSE performs the following missions: (5-10 KM forward of the main body)

- a. Advances at maximum speed.
- b. Engages enemy lead elements.
- c. Develops the situation.
- d. Seizes/holds terrain favorable for the employment of main body.

The advance guard main body commander performs the following missions: (20-30 km forward of the MRR)

- a. Plans the fight.
- b. Issues orders to CRP and FSE.
- c. Coordinates fire support.
- d. Controls the assault.

In the conduct of the execution of the meeting engagement the MRB commander communicates with the command group of the notional regiment to coordinate close air support and indirect fire support. A comparison of the combat structure for the MRB conducting the meeting engagement appears in Figure 27.

FIGURE 27
MEETING ENGAGEMENT
FORCE STRUCTURE COMPARISON

SOVIET23	OPFOR24
BMP - 31	BMP - 31
T-72 - 13	T-72 - 13
ZSU-23-4 - 2	ZSU-23-4 - 2
122mm SP Howitzer - 18	122mm SP Howitzer - 6
120mm Mortars - 6	120mm Mortars - 0
BRDM/AT-5, ATGM - 4	BRDM/AT-5, ATGM - 0

REMARKS:

1. Four of the 31 BMPs will generally be BMP VISM0D, M113 with out BMP weapons, used to transport dismounted infantry.
2. Six of the 18, 122mm SP howitzers are actually replicated on the battlefield, the remaining 12 are notional.
3. 120 mm Mortars are notional.
4. BRDM/AT-5, ATGM are not replicated.

Analysis of Soviet tactics and the OPFOR TACSOP, in regard to the meeting engagement, indicate a direct parallel in concept and execution.

4-3. DEFENSE: Chapter 6, FM 100-2-1, The Soviet Army Operations and Tactics, describes the defensive tactics employed by Soviet divisions and lower units.²⁵ Taktika explains in great depth the strategic and operational concepts of defensive operations.²⁶ The OPFOR adheres to the tactical concepts and philosophy expressed in FM 100-2-1, chapter 6.

The scenario at the NTC requires the OPFOR to conduct battalion and company defensive missions. The defensive missions are both hasty and prepared and are conducted in the day and at

night. The scenario generated intelligence portrays the defending OPFOR as part of a security zone, forward of the main defensive belt or as part of the main belt. OPFOR procedures for planning, preparation, and execution of the defensive missions parallel Soviet doctrine.²⁷

Soviet doctrine for the hasty and prepared defense both requires the following in establishing the defense:

- a. The deployment and employment of a security echelon.
- b. The location and deployment of forces in a main defensive area.
- c. The location of "fire sacks" (kill zones) and ambush sites.
- d. Construction of minefields and obstacles.
- e. The location, composition, and employment of the reserve.²⁸

The Soviets expect the hasty defense to be more common than the prepared defense. The hasty defense will not allow time for detailed preparation. Other factors associated with the hasty defense are:

- a. The mission of hasty defense is more transitory.
- b. The enemy situation is clearer, and attack is imminent.
- c. The terrain may be unfavorable for organization of a defense; it may be better suited for the attacker.
- d. Time will be critical.²⁹

The OPFOR subordinate elements are required to establish hasty defensive positions more frequently than prepared ones. The principles and techniques outlined in Soviet tactics are applicable to battalion and company defensive missions as used by the OPFOR subunits.³⁰

4-4. SIGNIFICANT DIFFERENCES/ANALYSIS: Unlike chapter 2 (Organization) and chapter 3 (Equipment), the comparison of tactical doctrine has not revealed any major differences between Soviet and OPFOR tactical employment. The constraints which do exist result from organizational and equipment short-falls, and will be addressed in the aggregate in chapter 5. An analysis of the tactical concepts expressed in Taktika have revealed an extremely close parallel to those described in FM 100-2-1. Further analysis of tactical concepts of the OPFOR MANEUVER UNIT, (field pocket reference, motorized rifle unit) published by Red Thrust, FORSCOM and the NTC, OPFOR TACSOP has also shown a direct parallel and agreement with those expressed in FM 100-2-1.

4-5. CONCLUSION: There are no major differences in tactical employment between a Soviet and the OPFOR MRR. An overall analysis of the tactical missions performed by the OPFOR reveals that they accurately replicate the tactics of a Soviet MRR.

If it is logical to assume that the tactical philosophy described in Taktika by General Reznichenko will be followed by the Soviet Forces, it is fair to assume that the U.S. Army

will adhere to the doctrine in FM 100-5, Operations. Because the U.S. Army's interpretation of Soviet tactics in FM 100-2-1 closely mirrors Taktika, and because the OPFOR MRR uses the FM 100-2-1, -2, -3 series manuals as the foundation of its TACSOP, it is realistic to conclude that the tactics employed by the OPFOR are very similar to those employed by the Soviets. In so far as possible, the tactics employed by the OPFOR are valid and accurately replicate what might be expected on a future battlefield.

This analysis should serve as a positive indication to units preparing to train at the NTC. The tactical concepts and lessons learned at the NTC can be applied to the battlefield of the future.

CHAPTER 4

END NOTES

¹Reznichenko, V.G., LTG, Taktika, 1984. Translated by CSI Multilingual Section, National Defense Headquarters, Ottawa, Canada. Revised and processed for distribution by the Soviet Affairs Publications Division, Directorate of Soviet Affairs, Air Force Intelligence Service. page 3. An earlier edition of this book first appeared in 1966. The second edition of Taktika, 1984, is noteworthy because it is an excellent unclassified indication of the evolutionary changes in Soviet tactics.

²U.S. Army, FM 100-2-1, The Soviet Army: Operations and Tactics. Washington, D.C., U.S. Army, 1984, page 2-1.

³Ibid., page 2-5.

⁴Ibid., page 2-10 thru 2-12.

⁵Ibid., page 2-10.

⁶Ibid., page 2-10.

⁷Ibid., page 2-11.

⁸Ibid., page 2-12.

⁹Ibid., page 2-11.

¹⁰Reznichenko, Taktika, page 67.

¹¹General Gerasimov, as cited in Scott and Scott, The Soviet Art of War Doctrine, Strategy and Tactics. 1982, pages 277-279.

¹²FM 100-2-1, page 2-12.

¹³Ibid., page 2-12.

¹⁴Reznichenko, Taktika, page 55.

¹⁵FM 100-2-1, page 7-2.

¹⁶Ibid., page 5-22.

¹⁷Ibid., pages 5-9 thru 5-29.

¹⁸The Rules of Engagement establish the standards which all forces must obey during the conduct of force-on-force training at the NTC. The rules are applicable to all players on the battlefield, OPFOR, and rotational units.

¹⁹C.J. Dick, "Soviet Battle Drills, Vulnerability or Strength?" International Defense Review, 1985. pages 663-665.

²⁰Reznichenko, Taktika, page 135.

²¹The scenario forces a meeting engagement between a U.S. task force and a reinforced OPFOR MRB. The MRB replicates the advanced guard of a MRR main body. The MRR main body is notional and does not enter into the meeting engagement situation because portions of the regiment are employed elsewhere participating in MRB or MRC defensive preparation.

²²FM 100-2-1, page 5-32.

²³Ibid., page 5-34.

²⁴OPFOR TACTICAL SOP, pages 72-74.

²⁵FM 100-2-1, pages 6-1 thru 6-9.

²⁶Reznichenko, Taktika, pages 155 thru 196.

²⁷A thorough comparison of Taktika, (1984), FM 100-2-1, The Soviet Army, Operations and Tactics, the OPFOR Maneuver Unit by Red Thrust and the NTC, OPFOR TACSOP all revealed a direct parallel in tactical concepts and procedures.

²⁸FM 100-2-1, page 6-2.

²⁹Ibid., page 6-3.

³⁰The types of defensive missions conducted by the OPFOR are determined by the scenario. Time for preparation is the factor which most frequently restricts preparation.

CHAPTER 5

CONCLUSIONS AND RECOMENDATIONS

5-1. INTRODUCTION: In light of chapters 2, 3, and 4, the reader is reminded of the purpose and the intent of this thesis:

- A. Provide information about the Soviet and OPFOR MRR.
- B. Analyze the major differences in organization, equipment, and tactics.
- C. Provide commanders and staffs a better understanding of the OPFOR.

It is also significant to keep in mind the two primary training missions of the OPFOR regiment:

- A. Replicate the major combat elements of a Soviet, BMP equipped, motorized rifle regiment.
- B. Provide realistic force ratios and representation of current Soviet tactics to rotational units (brigade and battalion/task force).

However, the most critical aspect of this thesis relates to two basic questions: What impact will the differences between the Soviet and OPFOR MRRs have on the planning, preparation, and execution of training? How do these differences relate to the unit's combat mission?

5-2. SIMILARITIES: The approach used in this thesis emphasizes the differences between the two organizations. The negative form of comparison and analysis has been stressed throughout to identify weaknesses. However, there are numerous similarities which contribute to the successful accomplishment of the OPFOR training mission. There is no other place in the U.S.

Army where resources and time are devoted to the performance of an OPFOR mission on such a vast scale. Consequently, the U.S. Army has a highly trained and dedicated force capable of replicating the Soviet MRR. Some of the most important similarities are:

MRR Structure: The organizational structure of the OPFOR closely parallels that of a Soviet MRR. The major combat elements are replicated. Therefore, the OPFOR MRR is capable of representing the appropriate march and battle formations and the requisite vehicle density. An immediate training advantage is the opportunity to fight a numerically superior force. This factor truly tests a task force's ability to integrate and synchronize all aspects of combat, combat support, and combat service support.

Subunit Structure: The OPFOR subunit structure of the MRR can be tailored to provide accurate replication at the battalion and company level. During the 14-21 days of simulated combat conducted by each unit that rotates through the NTC approximately 60-75% of the training missions performed are against OPFOR battalion and company size forces. The training value lies in the opportunity to fight an enemy under conditions in which doctrinal force ratios are taken into consideration.

Tactics: The tactical employment of the OPFOR MRR and its subordinate elements are an accurate representation of the Soviet tactical concepts. The OPFOR adheres to the concepts described in FM 100-2-1: echelonment, norms,

reconnaissance, prebattle and battle formations, and unit dispositions and actions in the defense. The training value lies in the opportunity to test U.S. tactical doctrine against the Soviet.

Summary: In the aggregate, U.S. units training at the NTC experience a realistic exposure to Soviet organizational structure, equipment and tactics. Consequently the knowledge and experience of leaders and soldiers is enhanced to a great degree. They learn more about their potential enemy and are better prepared for combat in the future.

5-3. DIFFERENCES: The significance of differences must be viewed from the perspectives. First of all, to what degree will differences impact upon unit performance and lessons learned from the training experience at the NTC? Secondly, what relevance will the differences have upon preparing the unit for combat? The major differences are highlighted below.

Dismounted Infantry: The total number of dismounted infantry in the OPFOR falls short of the number available in a Soviet MRR by approximately 347. This adversely affects the OPFOR's ability to accurately replicate an attacking Soviet MRR. The 220 infantry soldiers in the OPFOR MRR represent some 567 infantry soldiers in a Soviet MRR. Units training at the NTC do not feel the tremendous impact of the capabilities of a Soviet MRR's suppressive fires during a mounted assault. Additionally, the potential of a dismounted assault is equally diminished. This shortcoming needs to be kept in mind during training at the NTC. Units training at the NTC need to be

prepared to fight a Soviet force with a significantly larger number of dismounted infantry personnel.

Air Defense: The total quantity of OPFOR air defense weapon systems is less than 50% of the total number available within a Soviet MRR. Therefore, units training at the NTC will experience less risk than against a genuine Soviet MRR when employing close air support (CAS) and helicopter support. Soviet doctrine calls for the employment of air defense assets well forward in all combat operations. The additional 27 air defense systems available to a Soviet MRR will severely reduce the synergistic effect accruing from U.S. air support. Therefore, the planning and execution of combat support elements to reduce Soviet air defense capabilities will have to be intensified.

122mm SP Howitzer and 120mm Mortar: The OPFOR does not physically replicate all of the indirect fire assets organic to the regiment. The indirect fires are portrayed through the rules of engagement. There are two problems with the OPFOR's inability to represent all 18 122mm SP howitzer and 18 120mm mortars. First, the density of vehicles or targets on the battlefield is reduced. A more important concern is the inability to portray the proper march and deployment formations. The positioning of howitzers and mortars are key indicators of Soviet unit disposition. Aviation and reconnaissance elements of units training at the NTC need to be aware of this shortcoming because of their ability to look deep in the task force area of operation

and area of influence. They will see large formations of vehicles, but the representations will not be totally accurate.

Motorcycles: The Soviet reconnaissance company is accurately portrayed at the NTC by the OPFOR with the exception of the three motorcycles. Units training at the NTC need to be aware of this shortfall and establish a unit standard operating procedure (SOP) which will enhance their counter reconnaissance plan to react to motorcycle reconnaissance.

Antitank Battery: The OPFOR cannot replicate the Soviet AT battery which has nine weapon systems equalling 135 missiles. The absence of this unit is extremely significant in the vast open terrain at the NTC. In any actual confrontation, the 4,000 meter range of the AT-5 will degrade the stand off capability of the U.S. Army's AT systems and increase the vulnerability of U.S. tanks. Units will have to identify and suppress the Soviet AT assets in order to negate the superior range and volume of AT fires which are not replicated at the NTC.

Equipment: There are numerous similarities and differences between the Soviet and OPFOR MRRs in equipment representation. Units training at the NTC need to analyze equipment aspects and in the light of analysis assess the value of lessons learned for future combat operations.

5-4. RECOMMENDATIONS FOR IMPROVEMENT: Based upon the differences noted the following recommendations are made:

a. That the AT battery be replicated. A possible solution would be to visually modify the HUMMV vehicle.

b. That additional dismounted infantry be provided to the OPFOR. A possible solution would be to transfer the responsibility of the M551 Sheridan tank, VISMODO BMP, from the 6-31 IN to the newly formed armor battalion of the 177th AR Brigade. This would allow the 6-31 IN to perform the dismounted infantry mission for the OPFOR.

c. That the motorcycles be used for reconnaissance.

d. That the SA-9 / GASKIN air defense system be replicated.

e. That the quantity of SA-7 / GRAIL air defense systems be increased.

f. That weapon systems be configured to the M113 VISMODO BMP, MT-LB, BTR-60, and the BRDM to provide a more accurate replication.

g. That equipment improvements/modifications be applied to the VISMODO T-72 and BMP fleet to give the vehicles a self-generating smoke capability.

h. That controllers at the NTC emphasize the information contained in this thesis in after action reviews as appropriate.

i. That a copy of this thesis be provided to units preparing to train at the NTC.

5-5. CONCLUSION: In the aggregate, the differences noted between the OPFOR and the Soviet MRR are substantial in the areas of organization and equipment but relatively minimal in the area of tactics. The value of training at the NTC should be viewed against the background of the differences noted.

Training adversaries have changed drastically in the U.S. Army over the past few years. In recent training history, when today's battalion commanders were junior officers, the enemy was most commonly the circle trigon. In those days one unit would oppose an other and roles would later be reversed. Both units used U.S. Army doctrine and techniques.

The current OPFOR MRR at the NTC is a quantum leap forward from the era of the circle trigon. The OPFOR MRR structure closely replicates that of the Soviet MRR. The OPFOR MRR equipment replicates that of a Soviet MRR to a greater degree than anything previously attempted. Additionally, the OPFOR MRR's greatest contribution to the quality of training in the Army is the OPFOR's replication of Soviet tactics.

It is obvious, however, from the differences noted in this thesis that the OPFOR MRR does not totally or exactly replicate a Soviet MRR. Organizational and equipment deficiencies seriously degrade the OPFOR MRR's ability to portray the full combat power of a Soviet MRR. Additionally, there are two compensating factors which should be viewed as combat multipliers for the OPFOR. The tactical experience of the OPFOR commanders, staff, and soldiers is overwhelming. They are fighting in excess of 200 days a year. They also have a very distinct advantage because of their knowledge of the terrain at the NTC. These two factors are difficult to quantify, but they definitely compensate for deficiencies noted in equipment and organization.

Units preparing to train at the NTC need to maximize the training opportunity by knowing the OPFOR. Of equal importance is the necessity to maintain focus on possible future adversaries.

Whatever the enemy, a unit that trains at the NTC will be better prepared for combat.

Therefore I say: Know the enemy and know yourself;
in a hundred battles you will never be in peril.

Sun Tzu

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