

Appendix L

Weapons and Equipment

MP must be rapidly deployable, versatile, and as lethal as the force that they support. MP are organized and equipped to provide functional battlefield capabilities that range from the deliberate attack (area security) to civil-disturbance control operations (L&O). Although not all inclusive, the listed data is intended to aid in planning MP operations. In any tactical situation, it is important that MP be able to properly identify threat weapons, vehicles, and aircraft. When threat is observed, MP report their location, activity, and direction of travel to higher HQ by the fastest means available.

FRIENDLY VEHICLES

L-1. *Table L-1, page L-2, gives MP leaders a quick look at the capabilities of the various vehicles in the Army inventory.*

Table L-1. Vehicle Capabilities

Vehicle Capabilities	M998	M1025/1026	M1114	M1117	Light Medium Tactical Vehicle (LMTV)
Weight (gross vehicle weight [GVW]) (in pounds)	4,950	5,250	12,100	29,500	16,500
Height (in inches)	69	73/73	73	102	112
Length (in inches)	180	180/185	190.5	237	251
Width	85	85/85	85	101	96
Fuel capacity (in gallons)	25	25	25	50	58
Maximum speed (in miles per hour)	55	55	55	63	58
Range (in miles)	350	300	275	440	400+

L-2 Weapons and Equipment

Table L-1. Vehicle Capabilities (Continued)

Vehicle Capabilities	M998	M1025/1026	M1114	M1117	LMTV
Fording Capabilities					
With kit (in inches)	60	60	60	NA	60
Without kit (in inches)	30	30	30	60	60
Pay load (maximum pounds)	2,500	2,500	NA	3,360	5,000

FRIENDLY WEAPONS

L-2. Table L-2 gives MP leaders a quick look at the capabilities of the weapons used by MP units.

Table L-2. Weapon Capabilities

Weapon Capabilities	M2	M4	M9	M16A2	MK-19	M136 (AT4)	M203	M249
Weight (in pounds)	84	7.5	2.6	8.7	76	14.8	11	15.5
Length (in inches)	66	29.75 closed, 33 open	8.5	39	43	40	39	41.1
Range								
Maximum (in meters)	6,765	3,600	1,800	3,600	2,212	2,100	400	3,600
Arming (in meters)	NA	NA	NA	NA	18 to 30	10	14	NA
Minimum safe (in meters)	NA	NA	NA	NA	28	NA	31	NA

Table L-2. Weapon Capabilities (Continued)

Weapon Capabilities	M2	M4	M9	M16A2	MK-19	M136 (AT4)	M203	M249
Effective Range								
Area target (in meters)	1,830	600	NA	800	2,212	NA	350	800
Point target (in meters)	1,200	500	50	580	1,500	NA	160	600
Moving target (in meters)	NA	NA	NA	200	NA	NA	NA	NA
Rate of Fire (in Rounds Per Minute)								
Cyclic	500	700 to 970	NA	700 to 800	375	NA	NA	800
Rapid	40*	NA	NA	NA	60	NA	35	200*
Sustained	40*	12/15	60	16	40	NA	35	85
*With barrel change.								

FRIENDLY NONLETHAL EQUIPMENT AND MUNITIONS

L-3. The following descriptions and illustrations describe nonlethal equipment and munitions that are currently available.

NONLETHAL EQUIPMENT

L-4. The following nonlethal equipment provides bodily protection for soldiers involved in a nonlethal operation and allows soldiers to capture the threat with a minimum of force.

Nonballistic and Ballistic Riot Face Shields

L-5. The riot face shield (*Figure L-1*) provides soldiers with improved facial protection from thrown objects. The face shield is lightweight, adaptable to the current helmet, transparent, and scratch-resistant. It is adjustable to up and down positions. The mechanism for attaching and removing the shield from the helmet is robust and simple and requires no tools in the field.



Figure L-1. Riot Face Shield

L-6. The ballistic riot face shield is similar in design, but it is heavier and provides facial protection up to a 9-millimeter full metal jacket (FMJ) or 124 grains at 1,400 feet per second. This face shield is primarily used by SRTs in force-entry scenarios and can also be used for MOUT operations.

Nonballistic and Ballistic Riot Body Shields

L-7. The nonballistic riot body shield (*Figure L-2*) is 24 inches by 48 inches by .157 inches. It provides soldiers with improved protection from frontal, side, and overhead assaults. This shield is lightweight, transparent, and scratch-resistant. The ballistic riot body shield (*Figure L-3, page L-8*) is 24 inches by 36 inches with a 4- by 16-inch window for viewing the threat. It is similar in design to the nonballistic shield but is heavier. It provides ballistic protection up to a 9-millimeter FMJ or 124 grains at 1,400 feet per second. This shield is primarily used by SRTs in forced-entry scenarios and can also be used for selected MOUT operations.



Figure L-2. Nonballistic Riot Body Shield



Figure L-3. Ballistic Riot Body Shield

Nonballistic and Ballistic Shin Guards

L-8. Nonballistic shin guards (*Figure L-4*) provide soldiers with improved protection from thrown objects. They are lightweight and black in color.

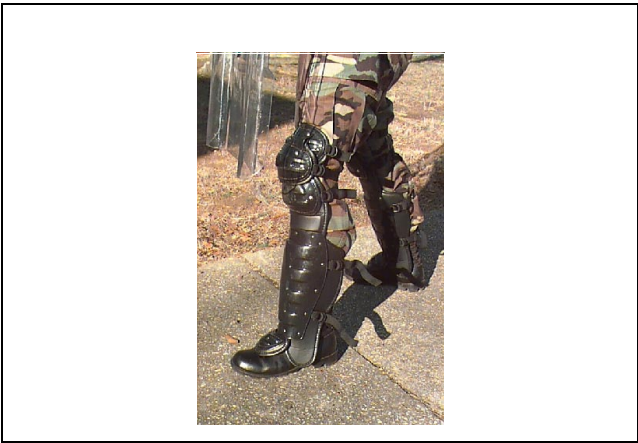


Figure L-4. Nonballistic Shin Guards

L-9. Ballistic shin guards are similar in design to nonballistic guards, but they are heavier and provide protection up to a 9-millimeter FMJ or 124 grains at 1,400 feet per second. They are primarily used by SRTs

in forced-entry scenarios and can also be used in selected MOUT operations.

Baton

L-10. The standard 36-inch wooden riot baton (*Figure L-5*) is currently in use for riot control. It is used for self-defense and to keep rioters out of arm's reach of the soldiers conducting crowd control tactics.



Figure L-5. Standard 36-inch Wooden Riot Baton

Portable Bullhorn

L-11. The portable bullhorn (*Figure L-6, page L-10*) is a critical communication device when conducting crowd control tactics. The bullhorn can facilitate communication with the crowd in conjunction with linguist or PSYOP support. It also assists in communicating commands to troops engaged in crowd control by projecting over the crowd's noise.

Individual Voice-Amplification System

L-12. The individual voice-amplification system (*Figure L-7, page L-10*) is a critical communication device for conducting crowd control tactics when using RCAs and wearing a protective mask. This device facilitates oral communications and increases the user's ability to be heard on radios and other devices.



Figure L-6. Portable Bullhorn



Figure L-7. Individual Voice-Amplification System

Individual Oleoresin Capsicum and M36 Individual Chlorobenzyl Malononitrile Dispersers

L-13. These individual RCA dispersers (*Figure L-8*) are used primarily for self-defense and to keep rioters out of arm's reach of soldiers conducting crowd control tactics or engaged in missions where noncombatant threat exists.

Midsize Riot Control Dispersers of Oleoresin Capsicum and Chlorobenzylidene Malononitrile

L-14. This RCA disperser (*Figure L-9*) is primarily used by formations conducting crowd control tactics, law



Figure L-8. Individual OC and CS Dispensers

enforcement, and I/R operations. It is lightweight, can be operated by one person, and is easily refilled and pressurized with available maintenance equipment or 2½- or 5-ton truck compressors. It is intended to provide a small unit with self-defense capabilities from large crowds out to 10 meters (more range is possible based on the wind) or offensively to clear crowds from critical areas (toward preplanned escape routes).



Figure L-9. Midsize Riot Control Dispensers of OC and CS

M33A1 Riot Control Dispenser Filled With Chlorobenzylidene Malononitrile or Dibenz (B, f)-1, 4-Oxazepine (CR)

L-15. This RCA dispenser (*Figure L-10*) is primarily used by formations conducting crowd control tactics. It is twice as heavy as a mid-sized dispenser, carries a larger payload, and dispenses powdered CS or liquid CR. One individual can operate it, and it can be refilled and pressurized with available M4 compressors. It is intended to provide a small unit with self-defense capabilities from large crowds out to 15 meters (100 meters is possible based on wind speed and direction). Use the M33A1 offensively to clear crowds from critical areas.



Figure L-10. M33A1 Riot Control Dispenser Filled With CS or CR

L-16. Some training is required to operate the dispenser. The unit NBC NCO may conduct this training. The device requires up to 2,000 pounds per square inch of pressure to function properly, and it is maintained with an M254 maintenance kit.

High-Intensity Xenon Searchlight

L-17. Use this individual, handheld searchlight (*Figure L-11*) for illumination in crowd control operations during darkness. Use it for general illumination of the operational area; to pinpoint agitators or threat, to reduce the ability of rioters to see troop formations and actions, and to enhance tactical deception techniques for units conducting crowd control operations.



Figure L-11. High-Intensity Xenon Searchlight

Lightweight Disposable Restraints

L-18. Lightweight disposable restraints (*Figure L-12, page L-14*) are also known as flex cuffs. Individual soldiers can carry large quantities of these restraints to immobilize individuals being detained. When freeing a detainee, cut the restrains off him with the safe cutting device supplied with the restraints or with utility shears. A reusable, red restraint training device is available.

Shotgun Munitions Carrier

L-19. The shotgun munitions carrier (*Figure L-13, page L-14*) is a 12-gauge ammunition carrier that straps to the stock of the M12 shotgun. It allows the firer to carry nonlethal ammunition that is readily available.

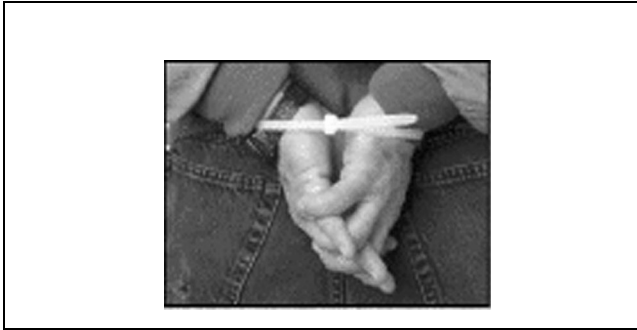


Figure L-12. Lightweight Disposable Restraints



Figure L-13. Shotgun Munitions Carrier

Portable Vehicle-Arresting Barrier (PVAB)

L-20. The PVAB (*Figure L-14*) is designed to assist with short-term physical security of critical facilities and for use at checkpoints. Use the PVAB to augment a vehicle checkpoint. It adds the ability to stop any light vehicle (up to 7,500 pounds) that attempts to flee without killing the occupants. This device may be set up by 2 or 3 soldiers in less than an hour.

L-21. When emplaced, the PVAB resembles a standard speed bump. When armed, the device operates within 1.5 seconds and deploys a high-tensile net that catches the vehicle and slows it to a stop with internal braking.



Figure L-14. Vehicle Entrapped in a PVAB

mechanisms. The net and other features prevent occupants from fleeing the vehicle. The PVAB is best suited for mobile, short-term vehicle checkpoints in areas under US control where there is a threat of terrorist-type activity and where the threat uses the cover of noncombatants to infiltrate US AOs.

NONLETHAL MUNITIONS

L-22. The following munitions provide soldiers with a nonlethal way to break contact, enforce a buffer zone, or stun an individual.

12-Gauge Nonlethal Point Target Cartridge Round (M1012)

L-23. The point target cartridge round (*Figure L-15, page L-16*) stuns individuals by delivering a strong blow to the body without penetrating it. This munition allows soldiers to enforce a buffer zone (standoff distance) with a violent crowd, break contact, or stun an individual target for possible detention by snatch teams. Fire the round at the center mass of an adult subject at ranges of 10 to 30 meters. Beyond 30 meters, the projectile loses

accuracy and may no longer have the velocity required to stun an individual. This round has applications in law enforcement, I/R facilities, and US military detention facilities.

DANGER
Shots fired at subjects closer than 10 meters or shots to the head or groin may cause serious injury or even death.



Figure L-15. 12-Gauge Nonlethal Point Target Cartridge Round

12-Gauge Aerial Diversionary-Device Round

L-24. The aerial diversionary-device round (*Figure L-16*) provides multishot nonlethal capability to distract individuals or crowds. In crowd control, it delivers a flash bang projectile over the heads of a violent or potentially violent crowd, and is used to distract the crowd (in combination with other distraction devices and troop maneuvers). It allows other troop formations to maneuver to positions that are more advantageous

L-25. The round is designed to be fired at ranges of 75 to 100 meters and is placed about 5 meters above the crowd.

DANGER

Shots fired directly at subjects or in enclosed areas may cause serious injury.



Figure L-16. 12-Gauge Aerial Diversionsary-Device Round

12-Gauge Nonlethal Area Target Cartridge Round (M1013)

L-26. The area target cartridge round (*Figure L-17, page L-18*) provides the capability to stun or deter two or three threats by delivering a strong blow to the body without penetrating it. This round has a wide range of capabilities for tactical, law enforcement, I/R, and US military detention operations.

L-27. The round is designed to be fired at the center mass of an adult threat at ranges of 10 to 30 meters.



Figure L-17. 12-Gauge Nonlethal Area Target Cartridge Round

Shots fired closer than 10 meters may cause serious injuries. The projectile loses accuracy when shot beyond 30 meters and may no longer be effective.

40-Millimeter Sponge Round (Point) (M1006)

L-28. The 40-millimeter sponge round (*Figure L-18*) delivers a strong, stunning blow to a threat's body without penetrating it. This round has a wide range of capabilities for tactical, law enforcement, I/R, and US military detention operations.



Figure L-18. M1006 40-Millimeter Sponge Round

L-29. The round is designed to be fired at the center mass of an adult threat at ranges of 10 to 50 meters.

WARNING
Shots fired closer than 10 meters may cause injuries.

40-Millimeter Crowd Dispersal Round (Area) (XM1029)

L-30. The 40-millimeter crowd dispersal round (*Figure L-19*) delivers a strong, stunning blow to a threat's body without penetrating it. This round has a wide range of capabilities for tactical, law enforcement, I/R, and US military detention operations. In crowd control, it provides a nonlethal capability that can be used to break contact and enforce a buffer zone (standoff distance) with a violent crowd.

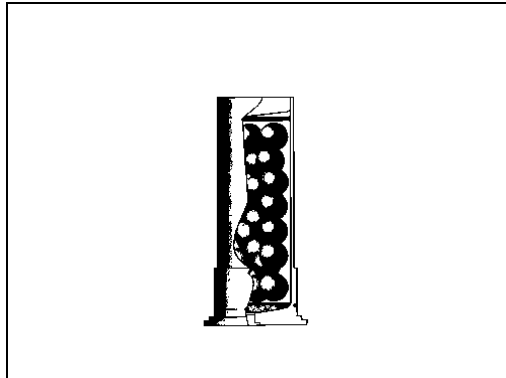


Figure L-19. 40-Millimeter Crowd Dispersal Round (Area)

L-31. The round is designed to be fired at the center mass of an adult threat at ranges of 10 to 30 meters. The projectile loses accuracy when shot beyond 30 meters and may not stun or deter the threat.

WARNING
Shots fired closer than 10 meters may cause injuries.

40-Millimeter Carrying Pouch

L-32. The 40-millimeter carrying pouch is slung over the shoulder of a soldier. It provides the ability to carry nonlethal ammunition separate from lethal rounds.

M84 Stun Grenade (Diversiónary Device, Hand-Thrown)

L-33. The M84 (*Figure L-20*) is a hand-thrown, flash bang, stun device used primarily by SRTs in forced-entry scenarios. It is used for selected MOUT or crowd control operations.



Figure L-20. M84 Stun Grenade

L-34. The M84 is designed to be thrown into a room (through an open door, a standard glass window, or other opening). It delivers a loud bang and a brilliant flash that temporarily disorients and detracts the occupants. Because of its reusable metal body, do not

throw it into a crowd, as it may be returned to friendly troops in the form of a projectile. Instead, throw it into a controlled area in conjunction with other deception and distraction techniques.

NONLETHAL, TURRET-MOUNTED, 66-MILLIMETER GRENADE LAUNCHER (M315) AND LIGHT VEHICLE OBSCURATION SMOKE SYSTEM, 66-MILLIMETER, NONLETHAL GRENADE (L96/97 XM98/99)

L-35. The LVOSS/M315 (*Figure L-21*) is a 66-millimeter smoke grenade-launching platform designed to give HMMWVs ASV M1117 the ability to obscure their position in the same manner as armored vehicles. These launchers can launch any of the smoke or nonlethal 66-millimeter munition.

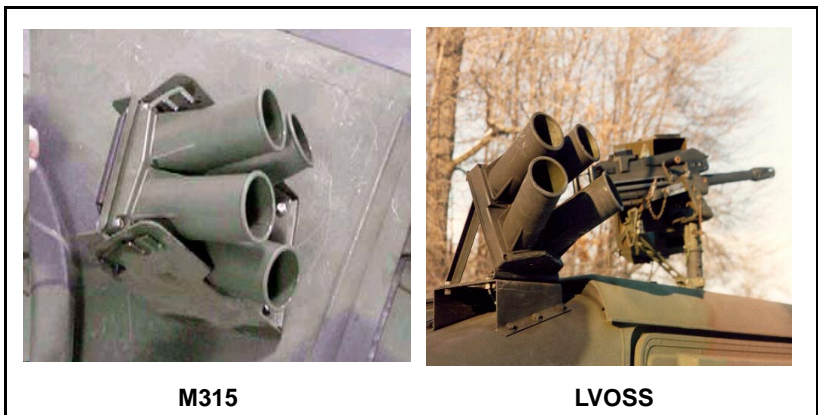


Figure L-21. LVOSS and M315

L-36. The M315 turret-mounted, 66-millimeter, multipurpose, adjustable grenade launcher installation kit was developed to provide a vehicle-mounted nonlethal platform. The system is capable of delivering nonlethal payloads to support a variety of mission requirements and can be mounted on various vehicles (M1025, M1026, M966, M114, or ASV M1117) equipped

with a machine gun or a TOW II missile system mount. The system electronically fires 66-millimeter cartridges from four adjustable firing tubes.

L-37. The LVOSS, 66-millimeter, nonlethal grenade (L96/97 XM98/99) is an area target munition that can be fired from the standard LVOSS/M315 launcher (*Figure L-22*). It can be mounted on selected armament carrier HMMWVs and can be fired from any 66-millimeter, smoke-launching system found on most armored vehicles.



Figure L-22. LVOSS/M315 66-Millimeter Nonlethal Grenade

L-38. These rounds are designed to be fired from 80 to 100 meters. They deliver a flash bang diversionary warning (M98), a payload of rubber nonpenetrating projectiles (M99) (affecting a 10- to 20-meter circular area), or CS/cinnamic acid (CA) practice below the point of burst (L96A1/L97A1). These munitions lack the ability to be precision-delivered and are meant to affect a large number of people at long standoff ranges. This provides convoys and crowd control formations a long range support weapon to affect crowds beyond the range of shoulder-fired nonlethal weapons. Use the rounds to

provide supporting nonlethal fires to crowd control formations.

M5 Modular Crowd Control Munitions

L-39. The M5 MCCM (*Figure L-23*) munition is similar in operation to a claymore mine, but it delivers nonlethal effects to the threat by delivering a strong, nonpenetrating blow to the body with multiple submunitions (600 rubber balls). This round has a wide range of capabilities for tactical, law enforcement, I/R, and US military detention operations. In crowd control, it provides a nonlethal counterpersonnel capability that can be used to break contact, enforce a buffer zone (standoff distance), or demonstrate a show of force.

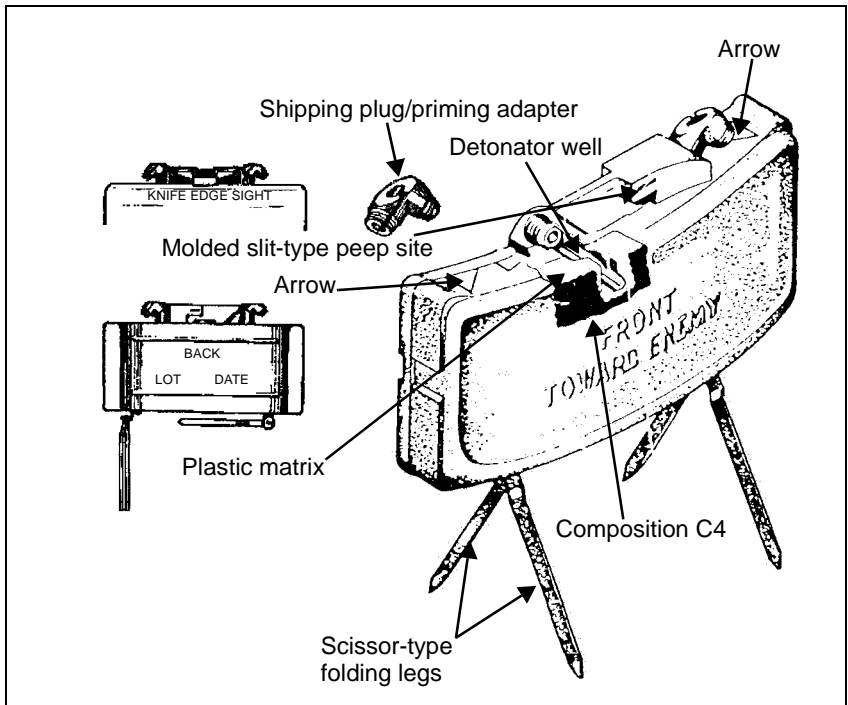


Figure L-23. M5 MCCM

L-40. This round is designed to be fired at the center mass of adult threats at ranges of 5 to 15 meters. It has a shot arc covering between 60 to 80 degrees (laterally).

WARNING
Shots fired at subjects closer than 5 meters may cause injury.

FRIENDLY COMMUNICATION, SINGLE-CHANNEL, GROUND-TO-AIR RADIO SYSTEM (SINGGARS)

L-41. SINGGARS is the primary communication system for MP. It is a series of 2-way FM radio sets that use an 18-element keypad for tuning 2,320 channels. This includes 8 preset channels in the single-channel mode and 6 preset channels in the jam-resistant, frequency-hopping mode. *Table L-3* and *Table L-4* provide the planning ranges for SINGGARS.

Table L-3. Voice Transmission Maximum Planning Ranges

Type of Radio	RF Switch Position	Planning Ranges
Manpack or vehicular	LO	200 to 400 meters
	M	400 meters to 5 kilometers
	HI	5 to 10 kilometers
Vehicular only	PA	10 to 40 kilometers

L-42. To increase the transmission range of SINGGARS, connect the OE-254 antenna group. It is an omnidirectional, biconical antenna designed for broadband operation, without field adjustment, from 30 to 88 megahertz, up to 350 watts. The following is the tabulated data transmission range of the OE-254:

- Between two OE-254 antenna groups–
 - Average terrain: 36 miles (57.9 kilometers).

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- Difficult terrain: 30 miles (48.3 kilometers).
- Between an OE-254 antenna group and a vehicular whip antenna–
 - Average terrain: 30 miles (48.3 kilometers).
 - Difficult terrain: 25 miles (40.3 kilometers).

Table L-4. Data Transmission Maximum Planning Ranges

Type of Radio	Baud Rate Used	RF Switch Position	Planning Ranges* (In Kilometers)
Manpack/ vehicular (short range)	600 to 4,800 baud per second (BPS)	HI	3 to 5
	16,000 BPS (16 kilobauds per second [KBPS])	HI	1 to 3
Vehicular (long range)	600 to 2,400 BPS	PA	5 to 25
	4,800 BPS	PA	5 to 22
	16,000 BPS (16 KBPS)	PA	3 to 10
<p>*Ranges are based on the line of sight and are average for normal conditions. Ranges depend on the location, the sighting, the weather, and the surrounding noise level, among other factors. The use of the OE-254 antenna increases the range for both voice and data transmissions. Enemy jamming and mutual interference conditions degrade these ranges. In data transmission, the use of a lower baud rate increases the range.</p>			

THREAT WEAPONS AND EQUIPMENT

L-43. In any tactical situation, it is important that MP be able to properly identify threat weapons, vehicles, and aircraft. MP report threat location, activity, and direction of travel to higher HQ by the fastest means available.

L-44. *Tables L-5 through L-12, pages L-27 through L-52, outline the most common features of threat weapons,*

equipment, and vehicles that MP may encounter in a hostile environment. Special operations forces and airborne assault, reconnaissance, and insurgent units often use these weapons.

Table L-5. Small Arms

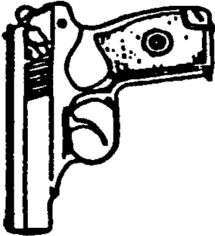
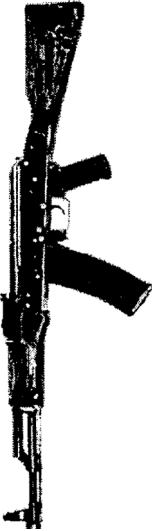
<p>Small Arms Characteristics</p>	 <p>9-Millimeter PM Pisto</p>	 <p>5.45-Millimeter AK-74 Assault Rifle</p>
<p>Range, effective and maximum (in meters)</p>	<p>50</p>	<p>500/1,000</p>
<p>Rate of fire, practical and cyclic (rounds per minute)</p>	<p>30</p>	<p>100/600</p>
<p>Ammunition type</p>	<p>9- by 18-millimeter ball</p>	<p>5.45- by 39-millimeter ball, ball tracer, incendiary T</p>
<p>Fire mode</p>	<p>Semiautomatic</p>	<p>Selective semiautomatic or fully automatic</p>

Table L-5. Small Arms (Continued)


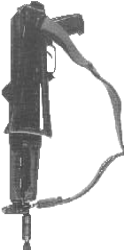

Small Arms Characteristics	 <p data-bbox="353 858 436 1177">5.45-Millimeter Squad Machine Gun (RPK)-74 Light MG</p>	 <p data-bbox="342 539 405 815">5.45-Millimeter AKSU-74 Submachine Gun (SMG)</p>	 <p data-bbox="350 161 412 491">7.62-Millimeter Soviet Sniper Rifle (SVD)</p>
Range, effective and maximum (in meters)	800/2,500	300/1,500	1,300 with scope, (800 without)/3,800
Rate of fire, practical and cyclic (rounds per minute)	150/600	150/600	30
Ammunition type	5.45- by 39-millimeter ball, ball tracer, incendiary T	5.45- by 39-millimeter ball, ball tracer, incendiary T	7.62- by 54R-millimeter light or heavy ball, steel core, tracer, AT, incendiary "rose" sniper bullet
Fire mode	Selective semiautomatic or fully automatic	Selective semiautomatic or fully automatic	Semiautomatic

Table L-5. Small Arms (Continued)



Machine Gun Characteristics	 <p style="text-align: center;">RPK-74</p>	 <p style="text-align: center;">PKM</p>
Range, effective and maximum (in meters)	800/2,500	1,000/3,800
Rate of fire, cyclic and practical (rounds per minute)	600/150	650/250
Ammunition type	5.45- by 39-millimeter, rimless	7.622- by 54-millimeter ball, ball tracer, API-T, incendiary
Fire mode	Selective	NA
Armor penetration (in millimeters)	NA	8 millimeters at 500

Table L-6. Grenade Launchers

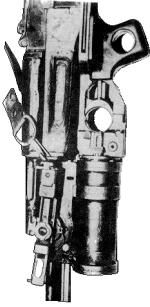
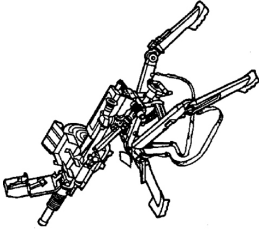
<p>Grenade Launcher Characteristics</p>	 <p>BG-15/GP-25</p>	 <p>Armored Gun System (AGS)-17</p>
	<p>4 to 400/400</p> <p>5</p> <p>NA</p> <p>NA</p> <p>Under barrel grenade launcher</p> <p>Single shot</p> <p>Muzzle loaded</p> <p>40-millimeter, HE fragment, bounding HE fragment</p> <p>40</p> <p>1</p> <p>Bounding HE fragment strikes the ground and "bounds" up 1.5 to 2 meters before exploding</p>	<p>1,200 indirect fire, 700 direct fire/1,730</p> <p>60 to 100/100 to 450</p> <p>7 to 87</p> <p>30</p> <p>Tripod, vehicle, or helicopter</p> <p>Selective, semiautomatic, or fully automatic</p> <p>29-round belt in drum magazine</p> <p>30-millimeter, HE fragment</p> <p>30</p> <p>3</p> <p>15-meter lethal area of burst</p>
<p>Range, effective and maximum (in meters)</p> <p>Rate of fire, practical and cyclic (rounds per minute)</p> <p>Elevation (in degrees)</p> <p>Traverse (in degrees)</p> <p>Platform</p> <p>Fire mode</p> <p>Feed</p> <p>Ammunition type</p> <p>Caliber (in millimeters)</p> <p>Crew</p> <p>Remarks</p>	<p>Armored Gun System (AGS)-17</p> <p>1,200 indirect fire, 700 direct fire/1,730</p> <p>60 to 100/100 to 450</p> <p>7 to 87</p> <p>30</p> <p>Tripod, vehicle, or helicopter</p> <p>Selective, semiautomatic, or fully automatic</p> <p>29-round belt in drum magazine</p> <p>30-millimeter, HE fragment</p> <p>30</p> <p>3</p> <p>15-meter lethal area of burst</p>	<p>BG-15/GP-25</p> <p>4 to 400/400</p> <p>5</p> <p>NA</p> <p>NA</p> <p>Under barrel grenade launcher</p> <p>Single shot</p> <p>Muzzle loaded</p> <p>40-millimeter, HE fragment, bounding HE fragment</p> <p>40</p> <p>1</p> <p>Bounding HE fragment strikes the ground and "bounds" up 1.5 to 2 meters before exploding</p>

Table L-7. Rocket-Propelled Grenades

AT Grenade Launcher Characteristics	Rocket-Propelled Grenade (RPG)-7V							RPG-16D
	PG-7	PG-7M	PG-VR	PG-VL	OG-7/7V	PG-16		
Projectile	300/500	NA	NA	NA	NA	NA	500/800	
Range, moving and stationary target (in meters)	330	330	>750	>PG-7M <PG-VR	NA	NA	375	
Armor penetration (in millimeters)	High-explosive, antitank (HEAT)	HEAT	Tandem HEAT	HEAT	HE fragment	HEAT	HEAT	
Ammunition type	85	72	105	93	NA	NA	58.3	
Warhead caliber (in millimeters)	6	6	6	6	6	6	6	
Rate of fire (rounds per minute)	NA	NA	NA	NA	NA	NA	2	
Crew	40	40	40	40	40	40	58.3	
Tube caliber (in millimeters)								



Table L-7. Rocket-Propelled Grenades (Continued)

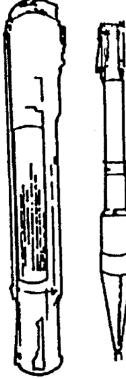
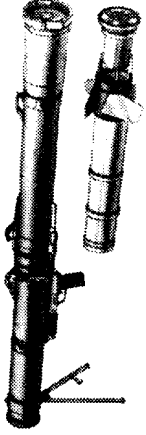
<p>AT Grenade Launcher Characteristics</p>	 <p>RPG-18 and 22</p>		 <p>RPO-A</p>	
	RPG-18	RPG-22	RPO-A	RPO-A
Projectile				
Range, moving and stationary target (in meters)	200	250	200 direct fire 1,000 indirect fire	
Armor penetration (in millimeters)	360	390	NA	
Ammunition type	HEAT	HEAT	FAE	
Rate of fire (rounds per minute)	NA	NA	2	
Crew	1	NA	NA	
Tube caliber (in millimeters)	64	73	93	

Table L-8. Recoilless Rifles

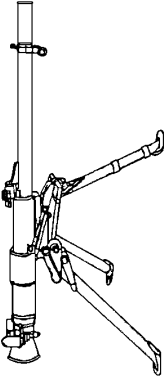
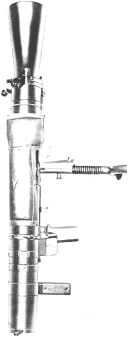
AT Gun and Rifle Characteristics		
Range, HEAT (in meters)	1,000	500
HEAT, rocket assist (RA)	NA	250
HE	NA	500
Indirect fire	NA	1,000 HE, 1,300-meter smoke, 2,300-meter illumination
Armor penetration (in millimeters)	400	500 HEAT, 900 HEAT, RA
Rate of fire, maximum and sustained (rounds per minute)	6	6
Fire control	Direct-view optics II (DVO)	3x DVO
Ammunition type	HEAT, HE, rocket-assisted projectile (RAP), armor piercing (AP) AT hollow charge	HEAT, HEAT RA, illumination, smoke, high explosive, dual purpose (HEDP), HE
Crew	3 or 4	

Table L-8. Recoilless Rifles (Continued)

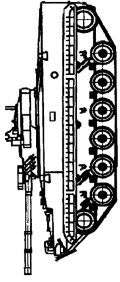
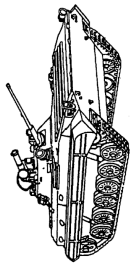
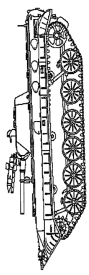
	<p>BMP-3 IFV</p>	<p>100-millimeter 2A70</p>	<p>HE fragment, HE</p> <p>4,000 HE fragment</p> <p>10/15</p>
	<p>BMP-2 IFV</p>	<p>30-millimeter 2A42 gun</p>	<p>High explosive incendiary (HEI), high explosive tracer (HET), APT</p> <p>1,500 light armor, 3,000 air, 2,500 ground</p> <p>300/500</p>
	<p>Bronevaya Maschina Piekhota, Armored Vehicle, Infantry (BMP)-1P IFV</p>	<p>73-millimeter 2A38 gun</p>	<p>HEAT FS, HE fragment</p> <p>800</p> <p>10</p>
<p>Infantry Fighting Vehicle (IFV) Characteristics</p>	<p>Main Armament (Caliber and Model)</p>	<p>Ammunition type</p>	<p>Range, effective (in meters)</p> <p>Rate of fire (rounds per minute) sustained/maximum</p>

Table L-8. Recoilless Rifles (Continued)

IFV Characteristics	BMP-1P IFV (Continued)	BMP-2 IFV (Continued)	BMP-3 IFV (Continued)
Secondary Armament	AT-4a/5a ATGM	AT-4a/5a ATGM	AT-10 ATGM
Range, effective (in meters)	2,000/4,000	2,000/4,000	5,000
Rate of fire, cyclic and practical (rounds per minute)			
Penetration (millimeters at meter range)	600/650	600/650	660
Auxiliary Armament	7.62-millimeter PKT MG		30-millimeter 2A72 gun
Range, effective (in meters)			
Ammunition type			APT, HE, HET
Auxiliary Armament			
Model		7.62-millimeter PKT MG	3- by 7.62-millimeter PKT MG
Commander	IR	IR	IR
Speed, road and off road (kilometers per hour)	65/45	65/50	70/50

Table L-8. Recoilless Rifles (Continued)

IFV Characteristics	BMP-1P IFV (Continued)	BMP-2 IFV (Continued)	BMP-3 IFV (Continued)
Vehicle Characteristics (Continued)			
Range, road and off road (in kilometers)	600/570	600	600
Ground clearance (in millimeters)	390	420	190 to 510
Armor, hull/turret (in millimeters)	19/23	19/23	
Dimensions (length by width by height, in meters)	6.735 by 2.94 by 2.068	6.86 by 3.13 by 2.45	7.2 by 3.2 by 2.6
Crew and passengers	3/8	3/7	3/7

Table L-8. Recoilless Rifles (Continued)

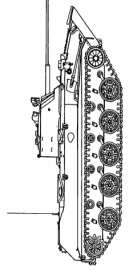
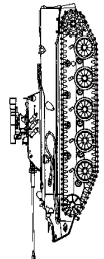
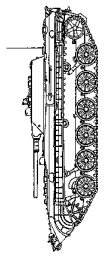
<p>IFV Characteristics</p>	 <p style="text-align: center;">BMD-2</p>	 <p style="text-align: center;">BMD-3</p>	 <p style="text-align: center;">BRM</p>
<p>Main Armament (Caliber and Model)</p>	<p>30-millimeter 2A42 gun</p>	<p>30-millimeter 2A42 gun</p>	<p>73-millimeter 2A38 gun</p>
<p>Ammunition type</p>	<p>APT, fragment T, HEI</p>	<p>APT, fragment T, HEI</p>	<p>HEAT FS, FE fragment</p>
<p>Range, effective (in meters)</p>	<p>1,500 light armor, 2,000 air, 4,000 soft skin</p>	<p>2,000 AP, 4,000 HE</p>	<p>800</p>
<p>Rate of fire (rounds per minute) sustained and maximum</p>	<p>240/600</p>	<p>240/600</p>	<p>10</p>
<p>Secondary Armament</p>	<p>AT-4/5 ATGM</p>	<p>AT-4a/5a ATGM</p>	<p>7.62-millimeter PKT MG</p>
<p>Range, effective (in meters)</p>	<p>2,000/4,000</p>	<p>2,000/4,000</p>	<p>1,000</p>
<p>Rate of fire, cyclic and practical (rounds per minute)</p>			<p>650/250</p>
<p>Penetration (millimeters at meter range)</p>	<p>600 at 650</p>	<p>600 at 650</p>	<p>8 at 500 meters</p>

Table L-8. Recoilles Rifles (Continued)

IFV Characteristics	BMD-2 (Continued)	BMD-3 (Continued)	BRM (Continued)
Auxiliary Armament		30-millimeter, AG-17 grenade launcher	
Model	2- by 7.62- millimeter PKT MG	7.62-millimeter PKT MG	
Vehicle Characteristics			
Night sights		Active IR	Second generation
Speed, road and off road (kilometers per hour)	60/35/10	70/45/10	70/10
Range, road and off road (in kilometers)	500/350	500	500
Armor, hull and turret (in millimeters)		16	10
Dimensions (length by width by height, in meters)	5.4 by 2.63 by 1.615	6.1 by 3.134 by 2.25	6.75 by 2.97 by 1.98
Crew and passengers	2/5	2/5	3/6

Table L-9. Armored Personnel Carriers (APCs)

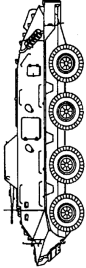
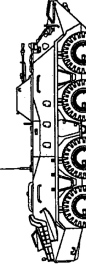

<p>APC Characteristics</p>		<p>BTR-60PB</p>		
<p>Main Armament (Caliber and Model)</p>	<p>14.5-millimeter Soviet 14.5-millimeter, heavy, MG (KPVT)</p>	<p>14.5-millimeter MG (KPVT)</p>	<p>14.5-millimeter MG (KPVT)</p>	<p>14.5-millimeter MG (KPVT)</p>
<p>Range, effective (in meters)</p>	<p>2,000 ground, 1,400 air</p>	<p>2,000 ground, 1,400 air</p>	<p>2,000 ground, 1,400 air</p>	<p>2,000 ground, 1,400 air</p>
<p>Rate of fire (rounds per minute) sustained and maximum</p>	<p>80/600</p>	<p>80/600</p>	<p>80/600</p>	<p>80/600</p>
<p>Secondary Armament</p>	<p>7.62-millimeter PKT MG</p>	<p>7.62-millimeter PKT MG</p>	<p>7.62-millimeter PKT MG</p>	<p>7.62-millimeter PKT MG</p>
<p>Range, effective (in meters)</p>	<p>1,000</p>	<p>1,000</p>	<p>1,000</p>	<p>1,000</p>
<p>Rate of fire, cyclic and practical (rounds per minute)</p>	<p>650/250</p>	<p>650/250</p>	<p>650/250</p>	<p>650/250</p>
<p>Penetration (millimeters at meter range)</p>	<p>8 at 500 meters</p>	<p>8 at 500 meters</p>	<p>8 at 500 meters</p>	<p>8 at 500 meters</p>

Table L-9. APCs (Continued)

APC Characteristics	BTR-60PB (Continued)	BTR-70 (Continued)	BTR-80 (Continued)
Vehicle Characteristics			
Commander	IR	IR	IR
Driver	IR	IR	IR
Range, road and off road (in kilometers)	500	450	800
Armor, hull and turret (in millimeters)		10/7	
Dimensions (length by width by height, in meters)	7.5 by 2.8 by 2.23	7.85 by 2.8 by 2.45	7.62 by 2.9 by 2.35
Crew and passengers	3/7	2/8	3/7

Table L-9. APCs (Continued)

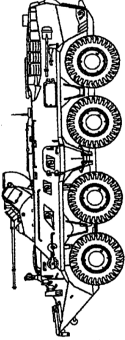
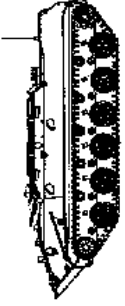
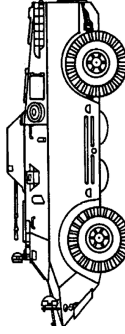
<p>APC Characteristics</p>	 <p>BTR-80A</p>	 <p>BTR-D</p>	 <p>BRDM-2 Reconnaissance</p>
<p>Main Armament (Caliber and Model)</p>	<p>30-millimeter 2A72 gun</p>	<p>2 by 7.62 PKT MG</p>	<p>14.5-millimeter KPVT MG</p>
<p>Range, effective (in meters)</p>	<p>2,000 APT, 4,000 HEI, 800 night</p>	<p>1,000</p>	<p>2,000 ground, 1,400 air</p>
<p>Rate of fire (rounds per minute) sustained and maximum</p>		<p>250/650</p>	<p>80/600</p>
<p>Secondary Armament</p>	<p>7.62-millimeter PKT MG</p>		<p>7.62-millimeter PKT MG</p>
<p>Range, effective (in meters)</p>	<p>1,000</p>		<p>1,000</p>
<p>Rate of fire, cyclic and practical (rounds per minute)</p>	<p>650/250</p>		<p>650/250</p>
<p>Penetration (millimeters at meter range)</p>	<p>8 at 500 meters</p>		<p>8 at 500 meters</p>

Table L-9. APCs (Continued)

APC Characteristics	BTR-80A (Continued)	BTR-D (Continued)	BRDM-2 Reconnaissance (Continued)
Vehicle Characteristics			
Night sights			
Range, road and off road (in kilometers)	800	500/350	750
Armor, hull and turret (in millimeters)			
Dimensions (length by width by height, in meters)		5.883 by 2.63 by 1.67	5.75 by 2.262 by 2.31
Crew and passengers	2/8	3/10	4
Remarks		Airborne assault. Can have AGS-17 grenade launcher. BTR-RD has 5 AT-4 antitank guided missiles (ATGMs), dismountable to 2 tripods.	

Table L-9. APCs (Continued)

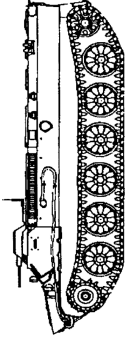
<p>APC Characteristics</p>	 <p style="text-align: center;">MTLB</p>
<p>Main Armament (Caliber and Model)</p>	<p>7.62 PKT MG</p>
<p>Range, effective (in meters)</p>	<p>1,000</p>
<p>Rate of fire (rounds per minute) sustained and maximum</p>	<p>250/650</p>
<p>Vehicle Characteristics</p>	
<p>Night sights</p>	
<p>Range, road and off road (in kilometers)</p>	
<p>Armor, hull and turret (in millimeters)</p>	<p>7/7</p>
<p>Dimensions (length by width by height, in meters)</p>	<p>6.45 by 2.85 by 1.87</p>
<p>Crew and passengers</p>	<p>2/11</p>
<p>Remarks</p>	

Table L-10. ATGM

ATGM Characteristics	AT-3c SAGGER 9K111 Malyutka	AT-4a/b SPIGOT 9K111/9K111M Fagot/Faktoriya	AT-5 a/b SPANDREL 9K133/9K133m Konkurs/ Konkurs-M	AT-6 a/b/c SPIRAL 9K114 Shturm
Range (in meters)	500 to 3,000	70 to 2,000/75 to 3,500	70 to 4,000/75 to 4,000	400 to 5,000/400 to 5,000/400 to 6,000
Flight time to maximum range (in seconds)	23 to 26	11/19.5	19	13.3/16/18.6
Guidance and command link	Wire MCLOS, 9M14-2: wire SACLOS	Wire SACLOS	Wire SACLOS	Radio frequency (RF) SACLOS
Warheads	HEAT, 9M14-2: tandem HEAT	HEAT	HEAT/tandem HEAT	HEAT or FAE
Remarks	The AT-3 continues to be improved and proliferated worldwide. The M14-2 missile is effective against reactive armor.	Thermal sight detection range is 3,600 meters, with identification at 2,000 meters.	Thermal sight detection range is 3,600 meters, with identification at 2,000 meters.	FAE ranges 400 to 5,000 meters.

Table L-10. ATGM (Continued)

ATGM Characteristics	AT-7 SAXHORN 9K115 Metis	AT-8 SONGSTER 9K112 Kobra	AT-9 9K120 Ataka	AT-10 STABBER 9K116-1/9K116 Bastion/Kastet
Range (in meters)	40 to 1,000	100 to 4,000	400 to 6,000	100 to 5,000
Flight time to maximum range (in seconds)	6	10	14.5	15
Penetration (rolled hardened armor (RHA)/behind extended range artillery (ERA), in millimeters)	500	800	1,000/800	660
Guidance and command link	Wire SACLOS	RF (30 gigahertz) SACLOS		Laser beam rider SACLOS
Warheads	HEAT	HEAT	Tandem HEAT, blast, FAE, antihelicopter	HEAT
Remarks	Thermal sight detection range is 3,200 meters, with identification at 1,600 meters. Emplace and displace times are 12/20 seconds.	Fired through the main gun tube.		Fired through the main gun tube. Off BMP-3 range is 100 to 4,000 meters, but it can fire on the move.

Table L-10. ATGM (Continued)

ATGM Characteristics	AT-11a/b SNIPER 9K119/9K119M Svir/Invar	AT-12 STABBER 9K116-2 Sheksna	AT-13 9K115-2 Metis-M	AT-14 Kornet
Range (in meters)	100 to 5,000	100 to 5,000	80 to 1,500	100-5,500
Flight time to maximum range (in seconds)	15	12 to 4,000	8.4	22
Penetration (RHA/behind ERA in millimeters)	770 AT-11a, 1,050 AT-11b	800	1,000/800	1,200/980
Guidance and command link	Laser beam rider SACLOS	Laser beam rider SACLOS	Wire SACLOS	Laser beam rider SACLOS
Warheads	HEAT/tandem HEAT	HEAT	Tandem HEAT, FAE	Tandem HEAT, FAE
Remarks	Fired through the main gun tube. T-72 variants have a 4,000-meter maximum range.	Fired from the halt through the main gun tube.	FAE has greater power than 152-millimeter artillery round.	Thermal sight range is 4,000-meter detection and 3,500-meter identification. Maximum altitude of engaged helicopters is 3,000 meters.

Table L-10. ATGM (Continued)

ATGM Characteristics	AT-16 9K121 VIKHR	Milan (France [FR]) 1/2/2T/3	Tow (US) 1/ITOW/ 2a/2b	HOT (FR/Germany [GE])
Range (in meters)	1,000 to 10,000	20 to 2,000	3,750/3,750/65-3,750/200 to 3,750	75 to 4,000
Flight time to maximum range (in seconds)	23	12.5	2a: 20, 2b: 21	16.5
Penetration (RHA/behind ERA in millimeters)	1,050/900	600/1,060/1,200/1200	500, ITOW:800, 2:920, 2a 1,000	850, 2:950
Guidance and command link	Laser beam rider SACLOS (lock on before launch)	1 and 2: SACLOS wire SACLOS IR	SACLOS wire	SACLOS wire
Warheads	Tandem HEAT			
Remarks	Maximum airborne target speed is 800 kilometers per hour.	Milan 3 medium range ATGM has IR command link resistant to jamming and tandem warhead.	TOW 2b is fly over, shoot down, top attack, with self-forming penetrant 2nd generation forward looking infrared (FLIR).	HOT 3 long-range ATGM has a tandem warhead, bispectral day and night sights, and may be mounted on posts, vehicles, or helicopters.

Table L-11. Rotary Wing Aircraft

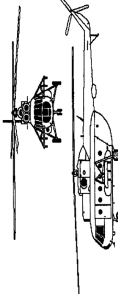
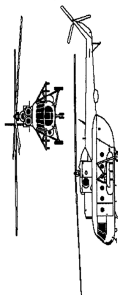
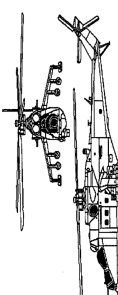
Rotary Wing Aircraft Characteristics	 <p>Mi-8 HIP</p>	 <p>Mi-17 HIP H</p>	 <p>Mi-24 HIND D/E/F</p>
Mission	Utility, transport	Utility, transport	Attack, close support
Gun	12.7 millimeter	12.7 millimeters	30-millimeter HIND F 12.7-millimeter HIND D/E
ATGM	AT-2c	AT-2c, AT-3c	4-16 AT-2c HIND D AT-6c HIND E/F
Rockets	57 millimeters	57 millimeters	57 millimeters or 80 millimeters
Bombs	250 kilograms, 500 kilograms	250 kilograms, 500 kilograms	250 kilograms, 500 kilograms

Table L-11. Rotary Wing Aircraft (Continued)

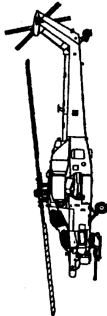
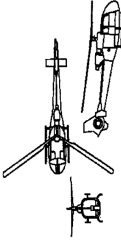
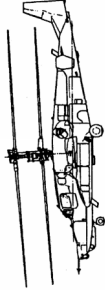
Rotary Wing Aircraft Characteristics	Mi-8 HIP (Continued)	Mi-17 HIP H (Continued)	Mi-24 HIND D/E/F (Continued)				
Range, normal payload (in kilometers)	460	495	480				
Crew	3	3	2				
Passengers	24	24	8				
Remarks	Troops can fire personal weapons through windows. It has four external hard points.	Improved version of Mi-8MT, have upgraded engines and six external hard points.					
	 <p data-bbox="723 935 774 1021">Mi-28N HAVOC</p>	 <p data-bbox="723 574 750 715">Gazelle (FR)</p>	 <p data-bbox="723 140 774 466">Ka-50 HOKUM "Black Shark" or "Werewolf"</p>				
				Mission	Attack, close support	Light attack utility	Attack, close support
				Gun	23 millimeters 30 millimeters	2 by 7.62 millimeters	2A42 30-millimeter cannon

Table L-11. Rotary Wing Aircraft (Continued)

Rotary Wing Aircraft Characteristics	Mi-28N HAVOC	Gazelle (FR)	Ka-50 HOKUM
ATGM	16 AT-6/9/16	AT-3, HOT	AT-16
Rockets	57 millimeters	5 millimeters 68 millimeters 2.75 inches	80 millimeters
Bombs	NA	NA	250 kilograms, 500 kilograms
Range, normal payload (in kilometers)	470 1,100 with drop tanks	710	455
Crew	2 or 3	1 or 2	1
Passengers	NA	2	NA
Remarks	This system is not operationally fielded in any armed force.	NA	The armored cockpit withstands 23-millimeter fire and the windscreens withstand 12.7-millimeter fire.

Table L-11. Rotary Wing Aircraft (Continued)

Rotary Wing Aircraft Characteristics	MD 500 (US)	UH-1H (US)	BO-105 (GE)	Lynx (UK)
Mission	General purpose, light attack	Utility	General purpose, light attack	General purpose, attack
Gun	7.62 millimeters	7.62 millimeters	20 millimeters	2 by 20 millimeters
ATGM	TOW	NA	HOT TOW	HOT Hellfire TOW
Rockets	70 millimeters	NA	NA	Sura, 80 millimeters
Range, normal payload (in kilometers)	540	465	318	540
Crew	2	2	2	2
Passengers	2	11	3	10

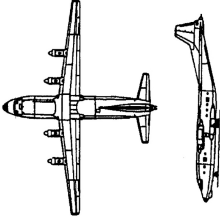
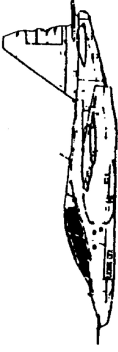
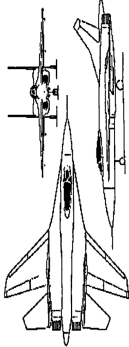
<p>Combat Aircraft Characteristics</p>	 <p>An-12 CUB</p>	 <p>SU-25 FROGFOOT</p>
<p>Mission</p>	<p>Medium transport aircraft</p>	
<p>Gun(s)</p>	<p>NR-23 23 millimeters in the tail turret</p>	
<p>ATGMs</p>	<p>16x AT-16 or AT-9</p>	
<p>Rockets</p>	<p>57-millimeter S-5 pod, 80-millimeter S-8 pod (up to 8 pods)</p>	
<p>Air-to-surface missiles</p>	<p>AS-7, AS-10, AS-11, AS-14, AS-17</p>	
<p>Bombs</p>	<p>100 kilograms, 350 kilograms, 500 kilograms (up to 4,000 kilograms)</p>	
<p>Combat radius (in kilometers)</p>	<p>1,500 to 1,800</p>	
<p>Payload, paratroops</p>	<p>90</p>	
<p>Remarks</p>	<p>It can operate from dirt strips.</p>	
<p>CAS</p> <p>GSh-30-2, 30 millimeters (250 rounds), AO-17a, 30-millimeter pods</p> <p>16x AT-16 or AT-9</p> <p>57-millimeter S-5 pod, 80-millimeter S-8 pod (up to 8 pods)</p> <p>AS-7, AS-10, AS-11, AS-14, AS-17</p> <p>100 kilograms, 350 kilograms, 500 kilograms (up to 4,000 kilograms)</p> <p>495</p> <p>SU-25M: AT, SU-25UB: trainer, ceiling 10,000 meters, 4,344 kilograms maximum payload, 6.5 gram limit.</p>		

Table L-12. Combat Aircraft (Continued)

Combat Aircraft Characteristics	 <p style="text-align: center;">SU-27 Flanker B</p>
Mission	Fighter/interceptor, fighter bomber variant
Gun(s)	GSh-301, 30-millimeter cannon
ATGMs	
Rockets	80-millimeter S-8 or 120-millimeter S-25
Air-to-air missiles	R-27, R-73, AA-10, AA-11
Bombs	100 kilograms, 250 kilograms, 500 kilograms
Combat radius (in kilometers)	1,125/1,950 with tanks