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Intelligence Handbook

Soviet Land Armaments

Secret

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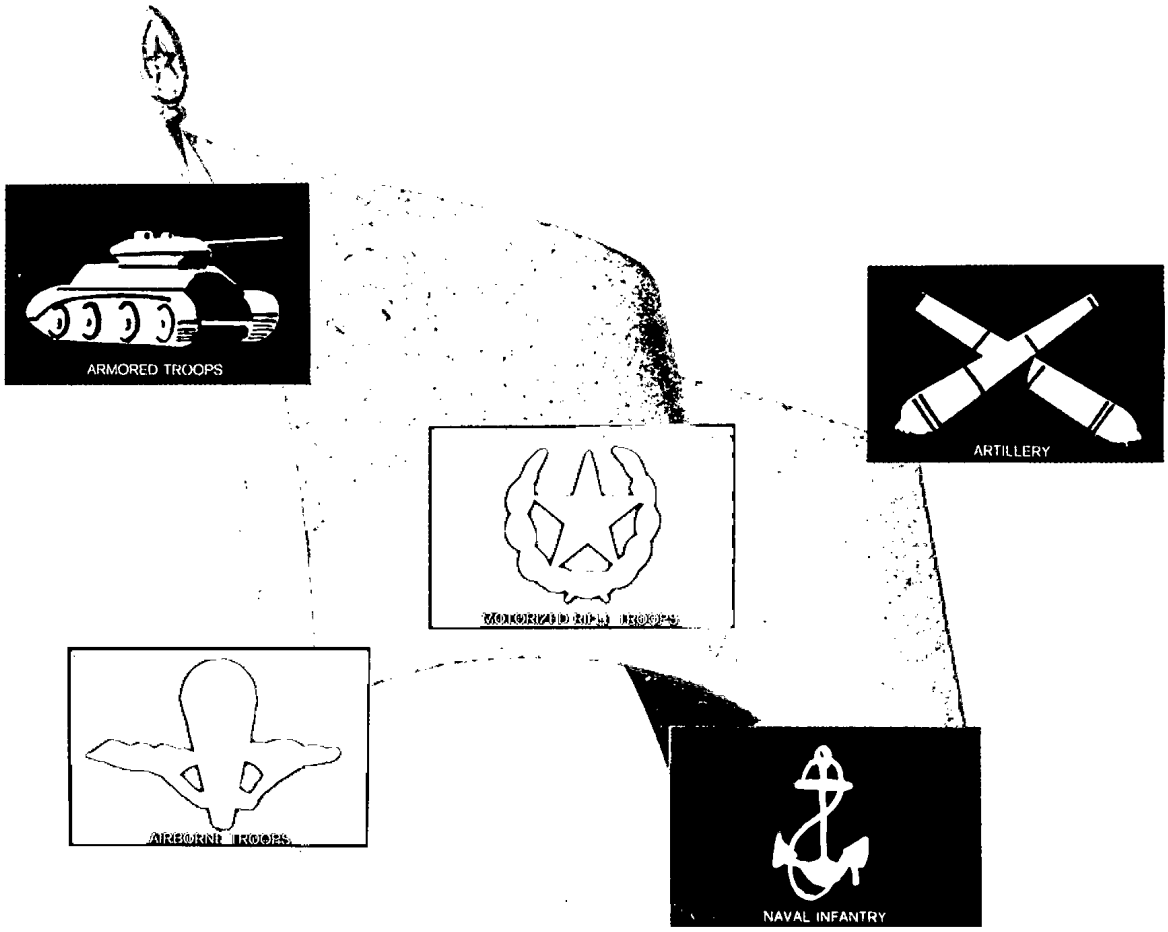
CENTRAL INTELLIGENCE AGENCY
Directorate of Intelligence
June 1976

Intelligence Handbook

Soviet Land Armaments



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This handbook describes selected weapons used in the ground forces of the Soviet Union, its allies, and countries that have received Soviet aid. It is not a complete catalog of all Soviet weapons nor a compilation of the modifications to each type. Some of the weapons are no longer being produced but are still widely used. Others, found only in limited numbers in the Soviet forces, have been exported in quantity. The USSR's East European allies also produce weapons—some are exact copies of Soviet models while others are modifications of basic Soviet designs.

Because this handbook was prepared for printing before the Intelligence Community began reporting weights and measures in both metric and conventional units, all data are expressed in the conventional units only.

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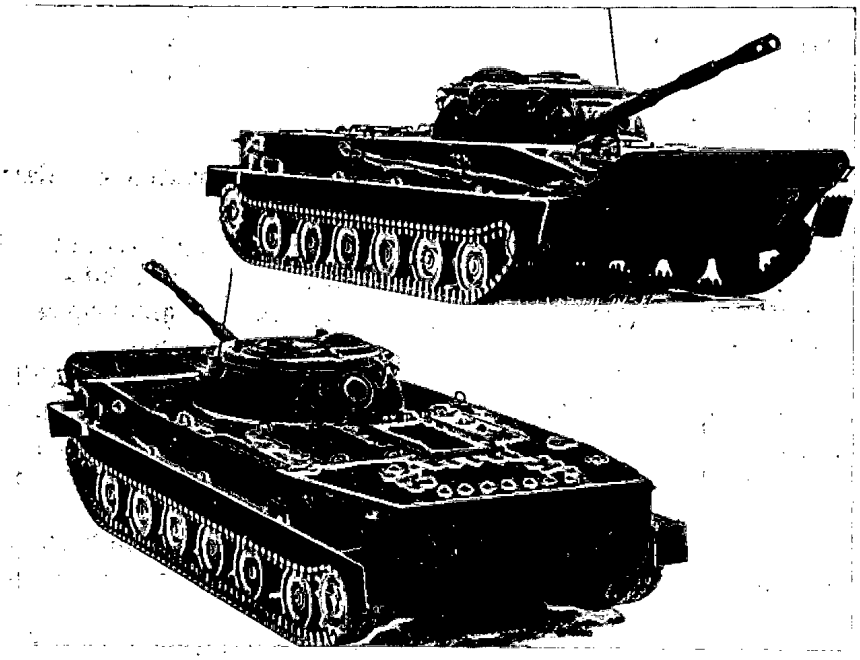
Tanks

PT-76 Light Amphibious Tank



Characteristics

Main armament	76mm tank gun
Weight	15.4 tons
Speed, land	27 miles per hour
water	6.3 miles per hour
Cruising range	160 miles
Crew	3

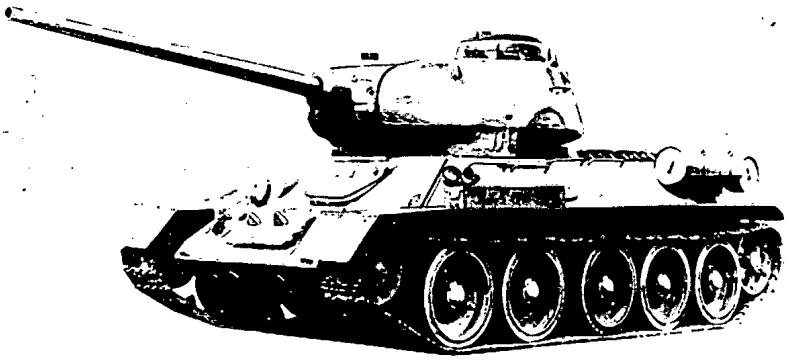
Remarks

Standard reconnaissance tank in Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid. Introduced in 1952. Used by Communist forces in Southeast Asia. Lightly armored and undergunned by present Soviet standards. Chassis is used for BTR-50P APC and FROG-2, 3, 4, and 5 rocket launchers.

25X1

Tanks

T-34/85 Medium Tank



Characteristics

Main armament	M-1944 85mm tank gun
Weight	35.3 tons
Speed	35 miles per hour
Cruising range	190 miles
Crew	4

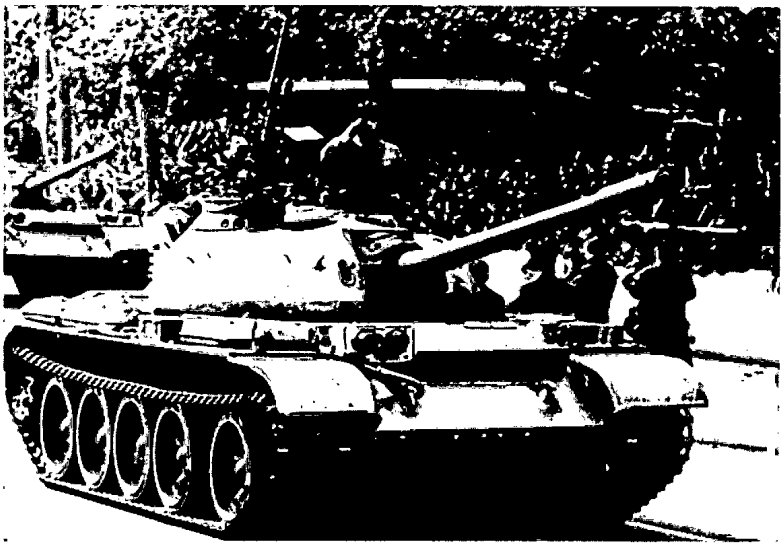
Remarks

First observed in 1944. Replaced in first-line Soviet units by T-54/55 series, but still retained in stockpiles and used by other Warsaw Pact forces and in countries which have received Soviet military aid.

25X1

Tanks

T-54 Medium Tank



Characteristics

Main armament	100mm tank gun
Weight	40 tons
Speed	30 miles per hour
Cruising range	250 miles
Crew	4

Remarks

First observed in 1949. Distinguishable by hemispherical turret, low silhouette, and 100mm gun. Standard Soviet medium tank until late fifties, now largely replaced in first-line units by T-55 and T-62. Used by other Warsaw Pact forces and in countries which have received Soviet military aid. A Chinese-produced version, T-59, has been exported to Pakistan.

25X1

Tanks

T-55 Medium Tank

Characteristics

Main armament	100mm tank gun
Weight	40 tons
Speed	30 miles per hour
Cruising range	300 miles
Crew	4

Remarks

Introduced in 1959. Distinguishable from T-54 by flush hatch replacing loader's cupola, and infrared devices mounted on turret and hull front. Czechoslovak version has AA machine gun. Used in Warsaw Pact countries, Middle East, India, and Peru.

25X1

Tanks

T-62 Medium Tank

Characteristics

Main armament	115mm smoothbore gun
Weight	40.2 tons
Speed	30 miles per hour
Cruising range	310 miles
Crew	4

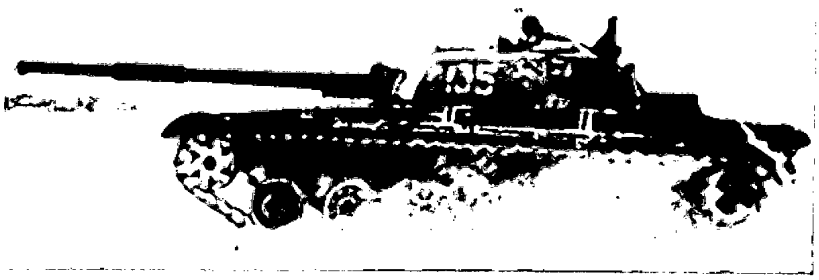
Remarks

First observed in 1961. Distinguishable from T-54/55 series by spacing of road wheels, larger, more circular turret, longer hull, and 115mm smoothbore gun with bore evacuator mounted in middle of tube. Used by Soviet and other Warsaw Pact armies. Has been exported to Middle East, India, and Afghanistan.

25X1

Tanks

T-72 Medium Tank



Characteristics

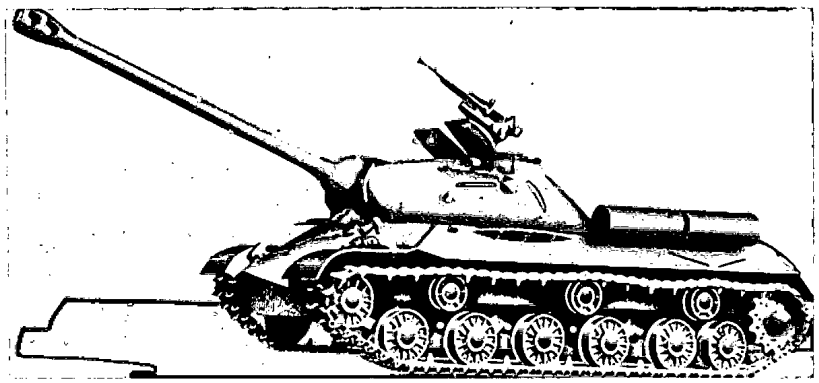
Main armament	smoothbore gun, 115mm or larger
Weight	about 40 tons
Crew	3

Remarks

Early prototypes first observed in May 1970. Substantial numbers of a variety of prototypes produced and extensively tested from the mid-sixties through the early seventies. Has new suspension system and probably improved armor protection. Mounts a large caliber, smoothbore gun. Has an automatic loader, thus eliminating one crew member. Large-scale series production probably began in 1974.

25X1

JS-3 Heavy Tank



Characteristics

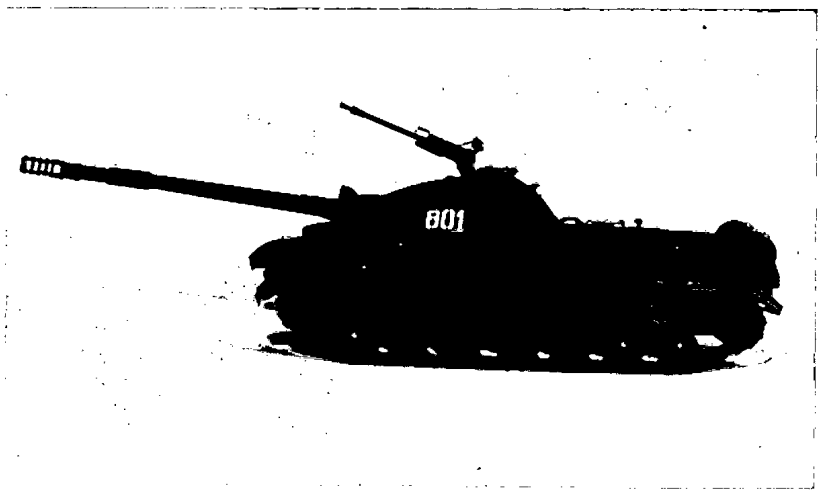
Main armament	122mm tank gun
Weight	50.6 tons
Speed	23 miles per hour
Cruising range	85 miles
Crew	4

Remarks

Features sloping, angular armor and low silhouette. Introduced in 1945. Largely replaced in Soviet units by T-10 heavy tank, but still in countries which have received Soviet military aid.

25X1

T-10 Heavy Tank



Characteristics

Main armament	122mm tank gun
Weight	55 tons
Speed	30 miles per hour
Cruising range	155 miles
Crew	4

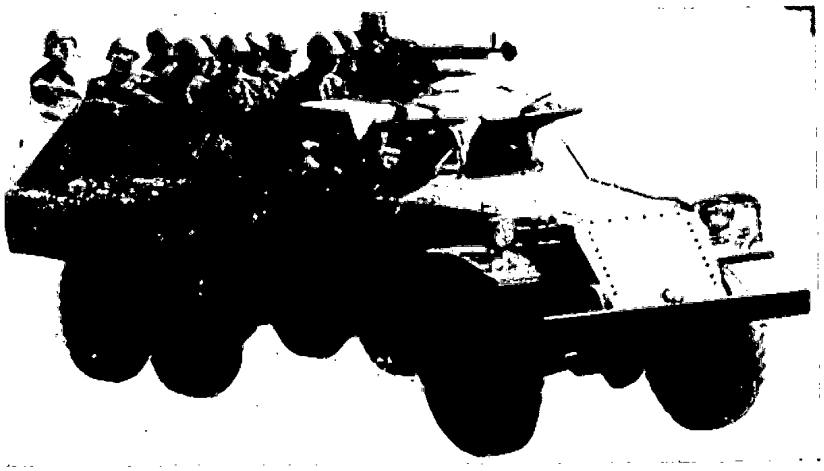
Remarks

Entered service in 1953. Resembles JS-3, which it has largely replaced. Distinguishable from JS-3 by more angular hull armor, 14 vice 12 road wheels, and bore evacuator mounted on gun. Improved version, T-10M, first seen in 1958, has overhang welded on rear of turret, longer gun, and night vision devices. Some later versions have longer gun, improved muzzle brake, and improved turret. Some have welded rear overhang.

25X1

Armored Personnel Carriers

BTR-152 Armored Personnel Carrier



Characteristics

Main armament	12.7mm machine gun
Weight	9.9 tons
Speed	40 miles per hour
Cruising range	490 miles
Capacity	1 driver, 18 troops

Remarks

Introduced in 1950 and produced in many different versions—covered, open top, and mounting AA guns. Not amphibious. Gradually being replaced by BTR-60PB and BMP armored personnel carriers. BTR-152 for years was standard armored personnel carrier in Soviet and other Warsaw Pact forces. Also used by Arab forces in the Middle East.

25X1

Armored Personnel Carriers

BTR-40 Armored Personnel Carrier

Characteristics;

Main armament	usually 7.62mm machine gun
Weight	5.8 tons
Speed	50 miles per hour
Cruising range	400 miles
Capacity	2 crewmen, 8 troops

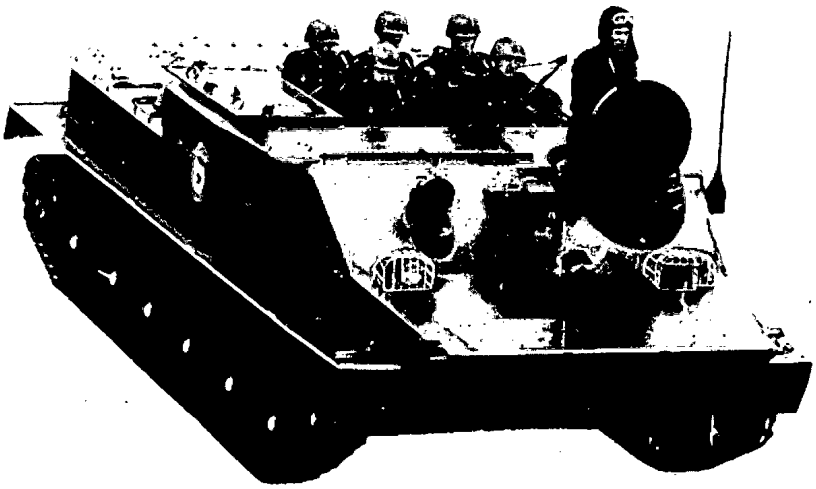
Remarks

Introduced in 1951. Used primarily as command and reconnaissance vehicle. Some versions mount twin 14.5mm antiaircraft heavy machine guns in open troop compartment. Replaced in Soviet and some other Warsaw Pact forces by BRDM. Used in countries which have received Soviet military aid.

25X1

Armored Personnel Carriers

BTR-50PK Armored Personnel Carrier



Characteristics

Main armament	usually 7.62mm machine gun
Weight	16 tons
Speed, land	27 miles per hour
water	6 miles per hour
Cruising range	155 miles
Capacity	2 crewmen, 18 troops

Remarks

Amphibious carrier on PT-76 tank chassis. Original version (BTR-50P), first observed in 1955, does not have overhead armor for troop compartment. Other versions, the BTR-50PU command vehicle and the Czechoslovak OT-62, have two cupolas in front. Used in Warsaw Pact forces and countries which have received Soviet military aid.

25X1

Armored Personnel Carriers

BTR-60PB Armored Personnel Carrier

Characteristics

Main armament	usually one 14.5mm and one 7.62mm machine gun
Weight	11 tons
Speed, land	50 miles per hour
water	6.2 miles per hour
Cruising range	310 miles
Capacity	1 driver, 10 troops

Remarks

Amphibious. Original version (BTR 60P), first observed in 1961, has open top. Another version (BTR 60PK) has overhead armor but no turret. Used in Soviet and other Warsaw Pact forces, and seen in Cuba, and Middle East. Similar vehicle, OT-64, is produced in Czechoslovakia.

25X1

Armored Personnel Carriers

BMP Amphibious Infantry Combat Vehicle

Characteristics

Main armament	73mm gun, Sagger antitank missile
Weight	about 14 tons
Speed, land	35 miles per hour
water	4 miles per hour
Cruising range	180 miles
Capacity	3 crewmen, 8 troops

Remarks

Amphibious armored vehicle first observed in 1967. Replacing armored personnel carriers in some Soviet and Warsaw Pact units. Also being produced in Czechoslovakia for distribution throughout the Warsaw Pact. Observed in Middle East.

Armored Personnel Carriers

BMD Airborne Amphibious Combat Vehicle

Characteristics

Main armament ..... 73mm gun and a Sagger antitank missile
Weight ..... about 7 tons
Crew 3-4

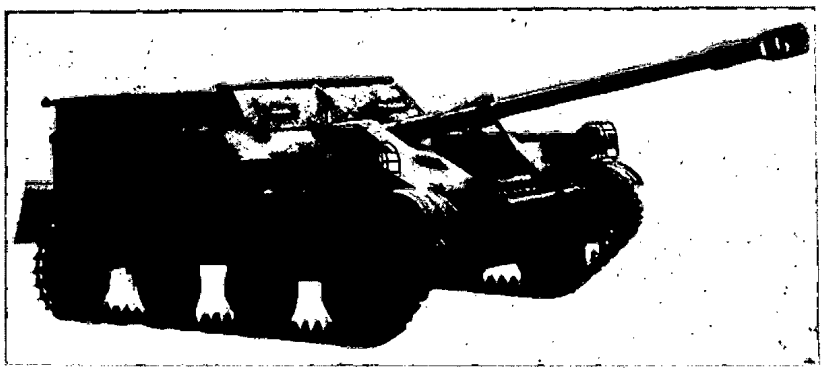
Remarks

First observed in 1970. It is amphibious and air droppable, and has a variable height suspension system. Has the same turret as the BMP combat vehicle, including the 73mm smoothbore gun and a launch rail for the Sagger antitank guided missile. Apparently is intended as replacement for ASU-57 and ASU-85 in airborne units.

25X1

Assault Guns

ASU-57 57mm Airborne Assault Gun



Characteristics

Weight . . . . . 3.7 tons
Speed . . . . . 28 miles per hour
Cruising range . . . . . 155 miles
Crew 3

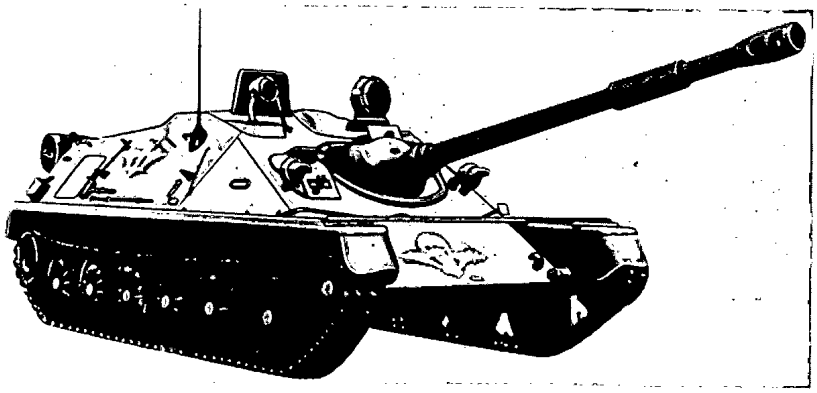
Remarks

Lightly armored with low silhouette and open top. Can carry three riflemen in addition to three-man crew. Assigned to Soviet airborne units. Can be air-dropped. Largely being replaced by BMD. Probably still used for training.

25X1

Assault Guns

ASU-85 85mm Airborne Assault Gun



Characteristics

Weight	14 tons
Speed	28 miles per hour
Cruising range	150 miles
Crew	4

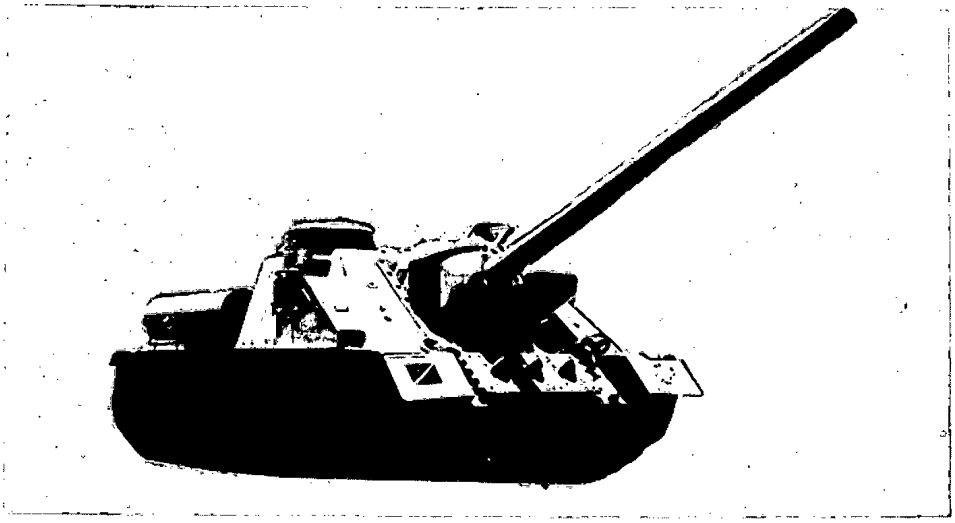
Remarks

Probably can be air-dropped by AN-22. Designed to provide antitank support for airborne forces. Full armor and larger gun make it an improvement over ASU-57. First observed in 1962. Used widely in Soviet forces and to a limited extent with Polish forces.

25X1

Assault Guns

SU-100 100mm Assault Gun



Characteristics

Weight	33.1 tons
Speed	35 miles per hour
Cruising range	190 miles
Crew	4

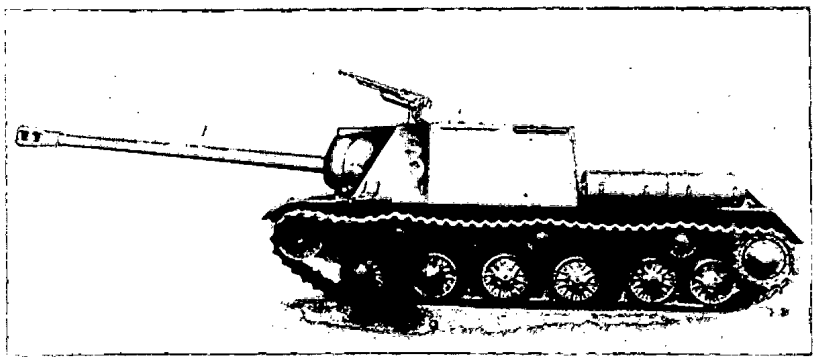
Remarks

Mounts 100mm gun on T-34 medium tank chassis. First observed in 1945. Still used in some Soviet units and other Warsaw Pact forces, as well as in countries which have received Soviet military aid.

25X1

Assault Guns

JSU-122 122mm Assault Gun



Characteristics

Weight . . . . . 50.6 tons
Speed . . . . . 23 miles per hour
Cruising range . . . . . 85 miles
Crew 5

Remarks

Consists of 122mm artillery piece mounted in armored superstructure on JS heavy tank chassis. First observed in 1944. Probably obsolete in Soviet forces but still in use in other Warsaw Pact countries.

25X1

Assault Guns

JSU-152 152mm Heavy Assault Gun

Characteristics

Weight	51.2 tons
Speed	23 miles per hour
Cruising range	85 miles
Crew	5

Remarks

Mounts 152mm gun with limited traverse and protruding mantlet on JS heavy tank chassis. Similar in appearance to JSU-122 but has shorter gun. First observed in 1944. Still used in some Soviet units and in other Warsaw Pact forces.

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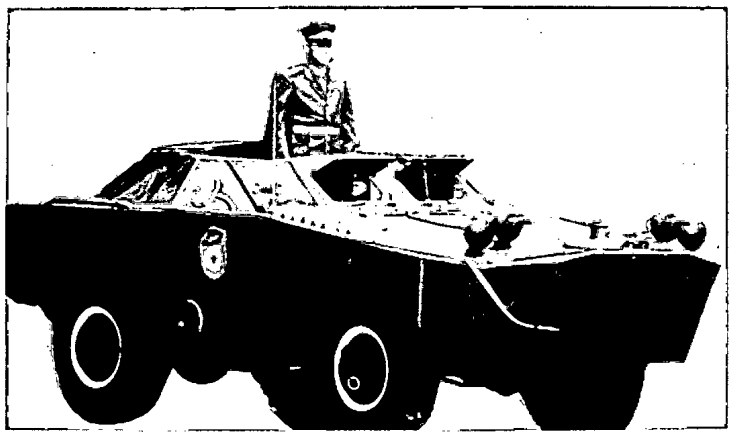
Reconnaissance Vehicles

BRDM Amphibious Armored Reconnaissance Vehicle



Characteristics

Main armament	usually 7.62mm machine gun, antitank missiles
Weight	6.17 tons
Speed, land	50 miles per hour
water	5.5 miles per hour
Cruising range	310 miles
Crew	5

Remarks

Has four main wheels. Four auxiliary wheels in belly can be raised or lowered as needed. First observed in 1959. Produced in three other versions, each specially designed to carry Snapper, Swatter, or Sagger antitank missiles. Used by Soviet and some other Warsaw Pact forces and in countries which have received Soviet military aid.

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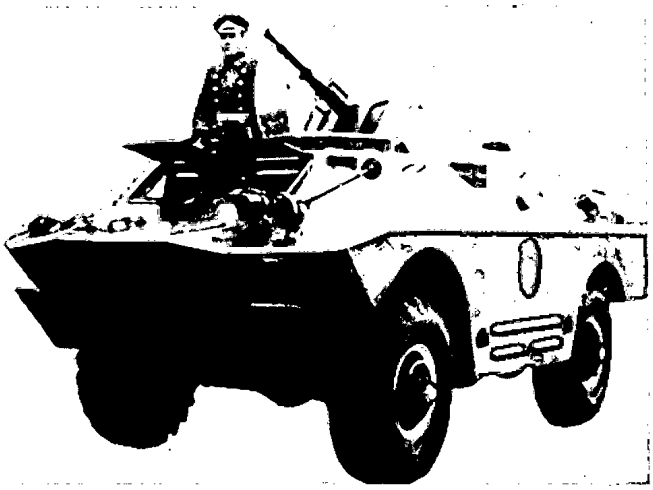
Reconnaissance Vehicles

BRDM-2 Amphibious Armored Reconnaissance Vehicle



Characteristics

Main armament	14.5mm machine gun, 7.62mm machine gun
Weight	about 7.5 tons
Speed	60 miles per hour
Cruising range	310
Crew	3-4

Remarks

First observed in 1966. Has been replacing original BRDM in reconnaissance role. Basically same type of vehicle with four road wheels and four auxiliary wheels in belly. BRDM-2 distinguishable by heavy machine gun mounted in conical turret. Another version, having no turret, has been fitted with Sagger antitank guided missiles.

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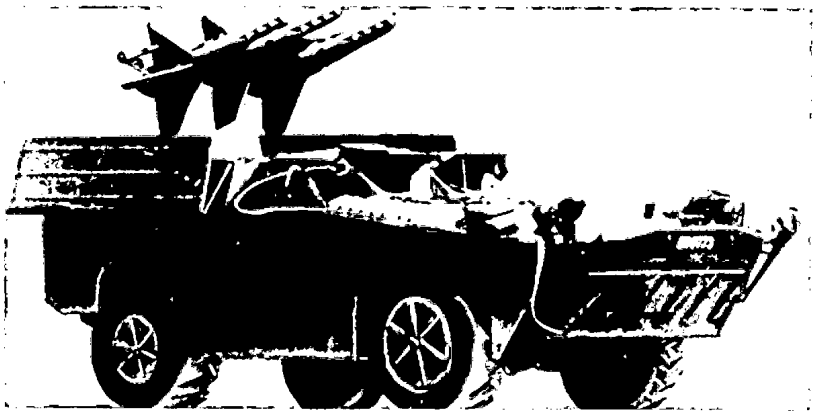
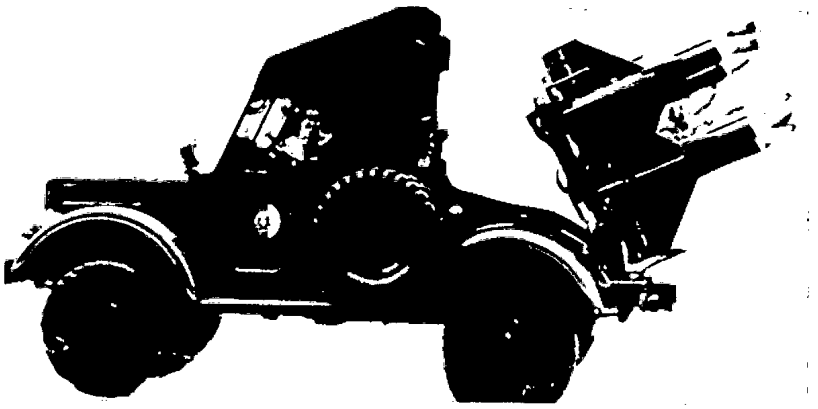
Antitank Guided Missiles

AT-1 Snapper





Characteristics

Range, maximum	2,500 yards
minimum	660 yards
Guidance	wire
Armor penetration	12 inches
Launch platforms	GAZ-69 and BRDM
Cruising range, GAZ-69	225 miles
BRDM	310 miles
Missile load, GAZ-69	4
BRDM	3

Remarks

Mounted on either GAZ-69 truck or more modern BRDM amphibious armored reconnaissance vehicle. GAZ-69 mounts four missiles in square. BRDM mounts three abreast on retractable pylon. AT-1 is distinguished from AT-2 and AT-3 by larger, more triangular fins. Introduced in early sixties, AT-1 has been exported to Warsaw Pact countries, Afghanistan, Cuba, and Egypt.

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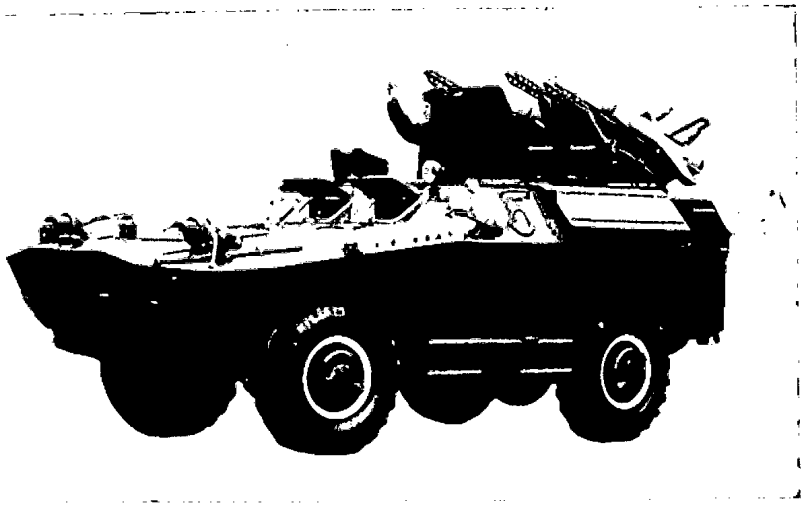
Antitank Guided Missiles

AT-2 Swatter



Characteristics

Range, maximum	3,300 yards
minimum	600 yards
Guidance	radio
Armor penetration	19 inches
Launch platform	BRDM
Cruising range	310 miles
Missile load	4

Remarks

Introduced in early sixties. BRDM amphibious vehicle mounts four AT-2s on retractable pylon. Used in Soviet and some other Warsaw Pact forces.

Antitank Guided Missiles

AT-3 Sagger

Characteristics

Range, maximum	3,300 yards
minimum	550 yards
Guidance	wire
Armor penetration	16 inches
Launch platform	BRDM
Cruising range	310 miles
Missile load	14

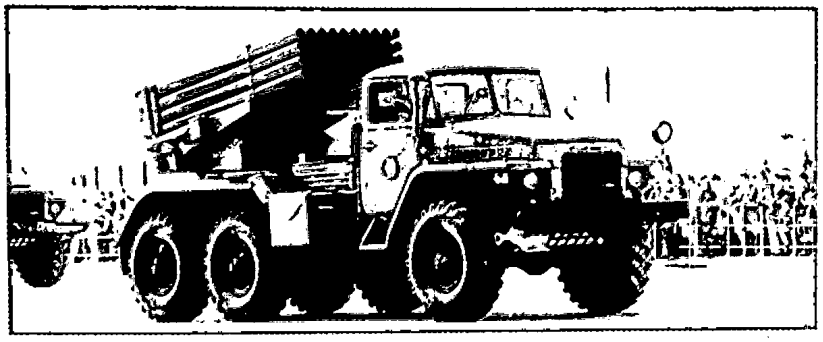
Remarks

Introduced in mid-sixties. BRDM and BRDM-2 amphibious vehicles can each mount a group of six AT-3s on retractable pylon with armored cover. Portable version of AT-3 can be carried and fired by one man. Used by forces of Warsaw Pact, Yugoslavia, Afghanistan, North Korea, North Vietnam, and Middle East.

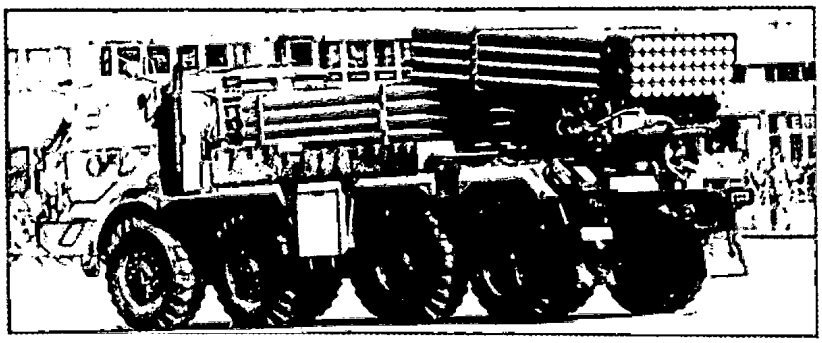
25X1

Unguided Rockets

BM-21, RM-70 122mm Rocket Launcher



BM-21



RM-70

Characteristics

	BM-21	RM-70
Vehicle	Ural-375 truck	Tatra-813 truck
Weight (with full rocket load)	14.5 tons	28.6 tons
Cruising range	470 miles	560 miles
Rocket load	40	80
Range of rocket		
maximum	22,400 yards	same
minimum	330 yards	same
Propellant	solid	same

Remarks

BM-21 first observed in 1964. Smallest caliber postwar Soviet rocket launcher. Four banks of 10 launchers. First launcher to be mounted on Ural-375 truck. Air transportable. In 1972 BM-21 was seen mounted on Tatra-813 truck in Czechoslovakia. Czech version—designated RM-70—has mechanized reloader with salvo of 40 additional rockets mounted between cab and rear. Reloading can be accomplished within 3 minutes.

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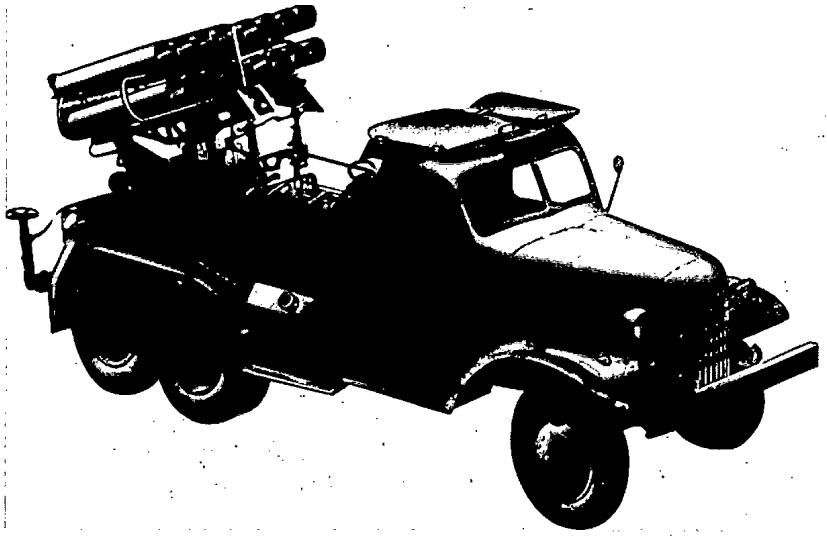
Unguided Rockets

BM-14-16
140mm Rocket Launcher



Characteristics

Vehicle	ZIL-151 truck
Weight (with full rocket load)	9.1 tons
Cruising range	470 miles
Rocket load	16
Range of rocket	
maximum	10,700 yards
minimum	440 yards

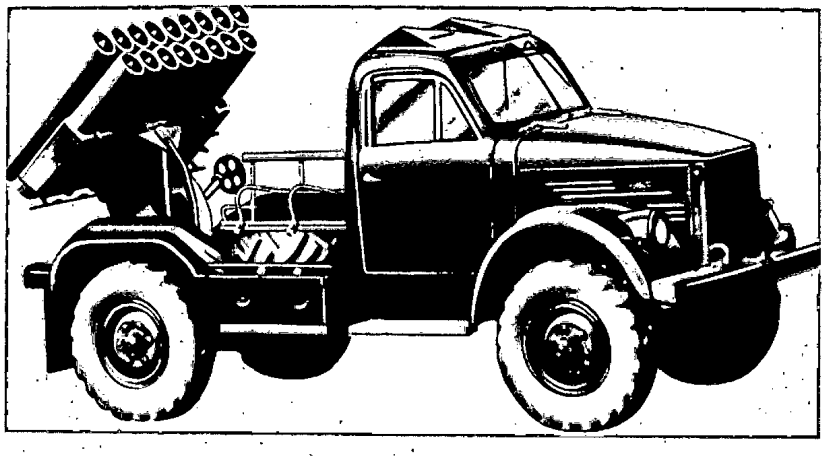
Remarks

Mounted in two banks of eight launchers. BM-14 is replacement for 16-round BM-13. First observed in 1954. Used in Warsaw Pact forces, China, and Indonesia.

25X1

Unguided Rockets

BM-14-17
140mm Rocket Launcher



Characteristics

Vehicle	GAZ-63 truck
Weight (with full rocket load)	4.7 tons
Cruising range	400 miles
Rocket load	17
Range of rockets	
maximum	10,700 yards
minimum	440 yards

Remarks

Mounted on much lighter truck than BM-14-16. Lacks stabilizing jacks of heavier 140mm systems. First observed in 1959. Used by Soviet and Polish forces.

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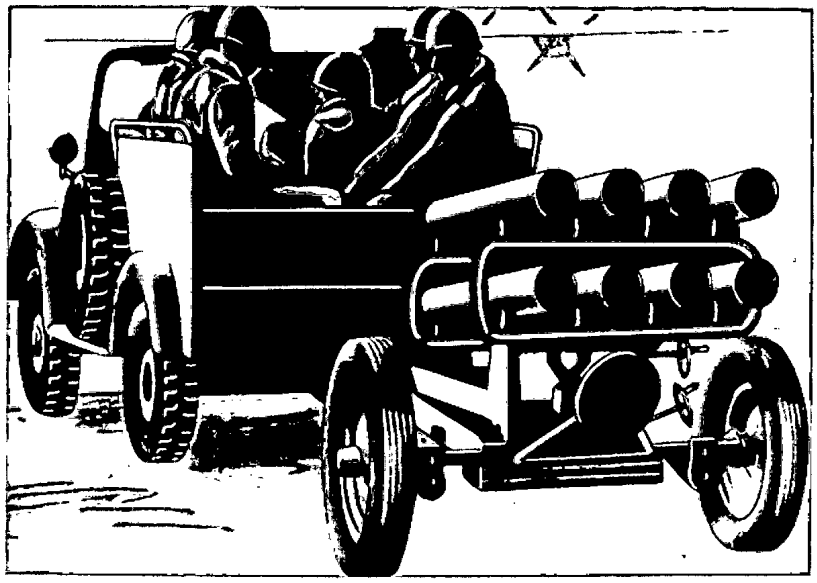
Unguided Rockets

140mm Airborne Rocket Launcher



Characteristics

Weight (with full rocket load)	1,500 pounds
Rocket load	8
Range of rockets	
maximum	10,700 yards
minimum	440 yards

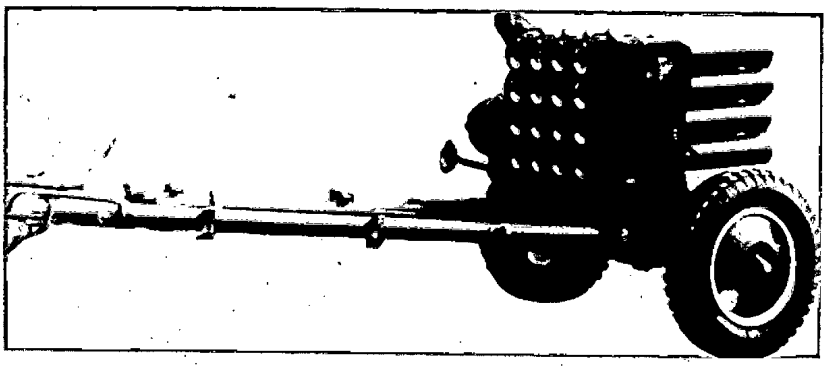
Remarks

One of two towed rocket launchers used by Soviet and other Warsaw Pact forces. Well suited for airborne operations because of light weight. First observed in 1962.

25X1

Unguided Rockets

M-1965 140mm Airborne Rocket Launcher



Characteristics

Weight (with full rocket load)	4,400 pounds
Rocket load	16
Range of rockets	
maximum	10,700 yards
minimum	440 yards

Remarks

Sixteen tubes arranged in square. Well suited for airborne operations. First observed in 1964.

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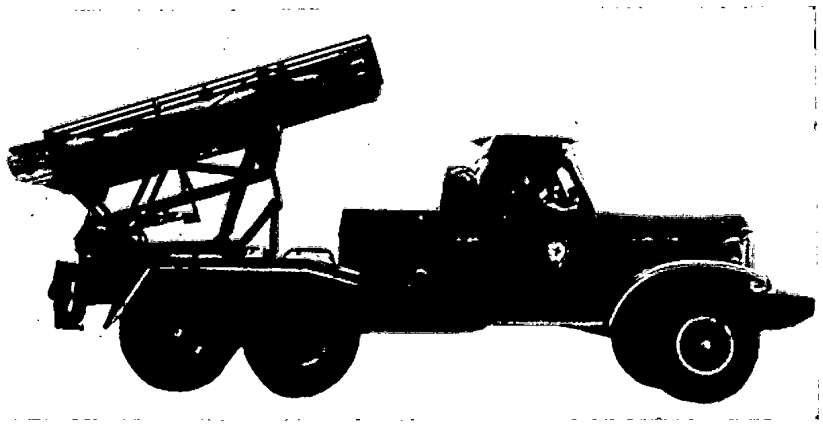
Unguided Rockets

BMD-20 200mm Rocket Launcher



Characteristics

Vehicle	ZIL-157 truck
Weight (with full rocket load)	9.6 tons
Cruising range	370 miles
Rocket load	4
Range of rocket	
maximum	22,200 yards
minimum	2,930 yards
Propellant	solid

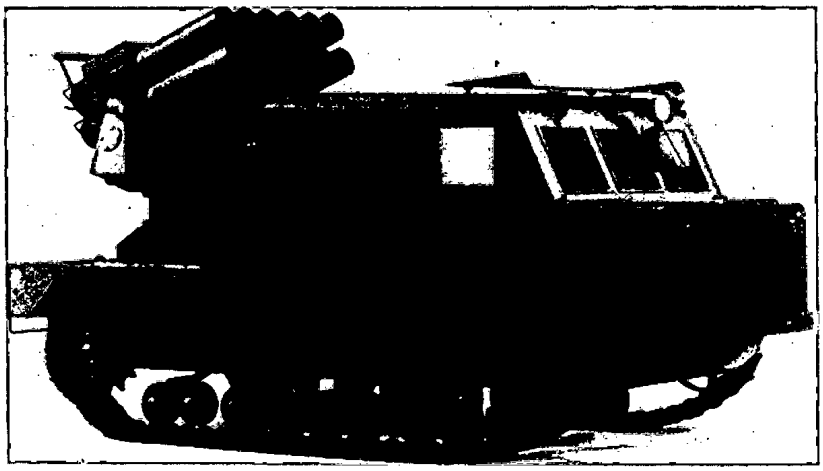
Remarks

First seen in 1954 on ZIL-151 truck, later on ZIL-157. Mounted in single bank of four open-frame launchers. Has been seen in Cuba and may be in use in some Warsaw Pact forces.

25X1

Unguided Rockets

BM-24 240mm Rocket Launcher



Characteristics

Vehicle	AT-S medium tracked artillery tractor
Weight (with full rocket load)	16 tons
Cruising range	155 miles
Rocket load	12
Range of rocket	
maximum	8,000 yards
minimum	4,820 yards
Propellant	solid

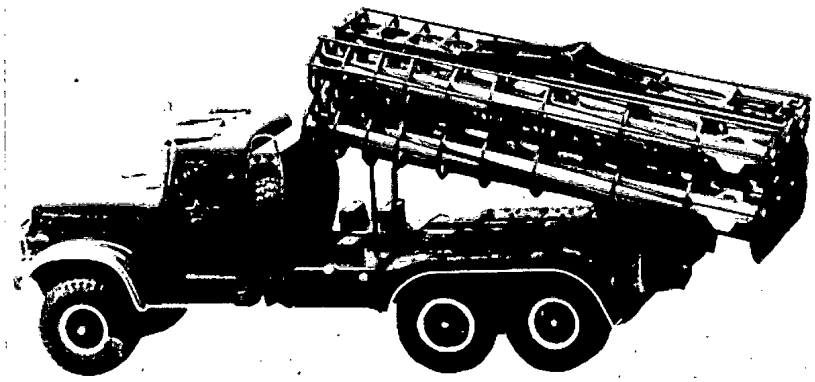
Remarks

Introduced in mid-fifties. Vehicle has excellent mobility and can carry entire firing crew of six.

25X1

Unguided Rockets

BM-25 250mm Rocket Launcher



Characteristics

Vehicle	KRAZ-214 general purpose truck
Weight (with full rocket load)	18.7 tons
Cruising range	330 miles
Rocket load	6
Range of rocket	
maximum	61,000 yards
minimum	19,700 yards
Propellant	liquid

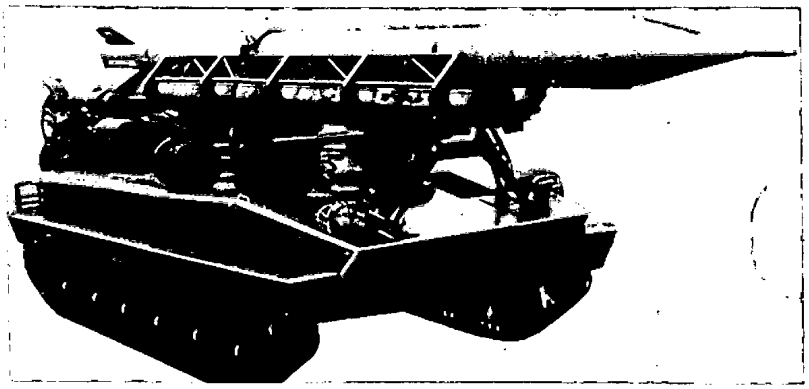
Remarks

Largest multiple rocket launcher in Soviet army. First observed in 1957. Has six rockets in two banks of three open-frame launchers. Warhead slightly more effective than 8-inch artillery round.

25X1

Unguided Rockets

FROG-3, 4, 5



Characteristics

	FROG-3	FROG-5
Launcher weight (with rocket)	15.7 tons	15.7 tons
Launcher cruising range	155 miles	155 miles
Rocket weight	4,890 pounds	4,700 pounds
Warhead weight	1,100 pounds	900 pounds
Warhead diameter	21.1 inches	15.7 inches
Maximum range		
HE and nuclear warheads	18 nautical miles	18 nautical miles
CW warhead	33 nautical miles	33 nautical miles
Propellant	solid	solid

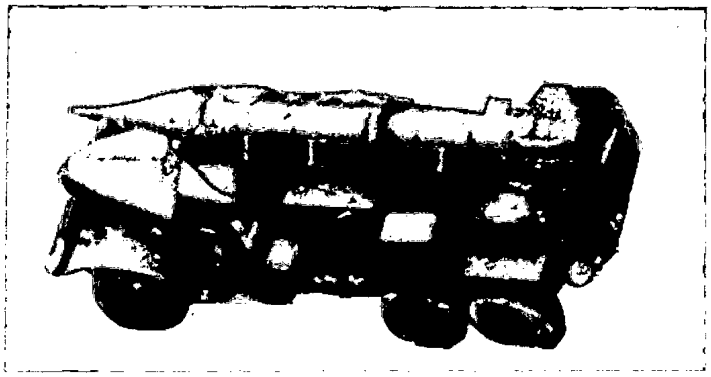
Remarks

All are mounted on chassis of PT-76 light amphibious tank, but none is amphibious. They differ only in the size and contents of their warheads. FROG-3 carries a nuclear warhead, and could also carry tactical CW and HE warheads. FROG-5 is a trainer which carries a concrete-filled dummy warhead and a mass-fill HE warhead. Another version, the FROG-4, has not been seen in recent years, and its operational status is unknown. FROG-3 and FROG-4 were first observed in 1960, and FROG-5 in 1964. FROGs have been seen with Soviet and other Warsaw Pact forces and in Cuba. Being replaced with FROG-7 in Soviet and other Warsaw Pact forces.

25X1

Unguided Rockets

FROG-6



Characteristics

Vehicle ..... ZIL-157 truck
Launcher weight
(with rocket) ..... 8.7 tons
Rocket weight ..... 2,000-2,500 pounds

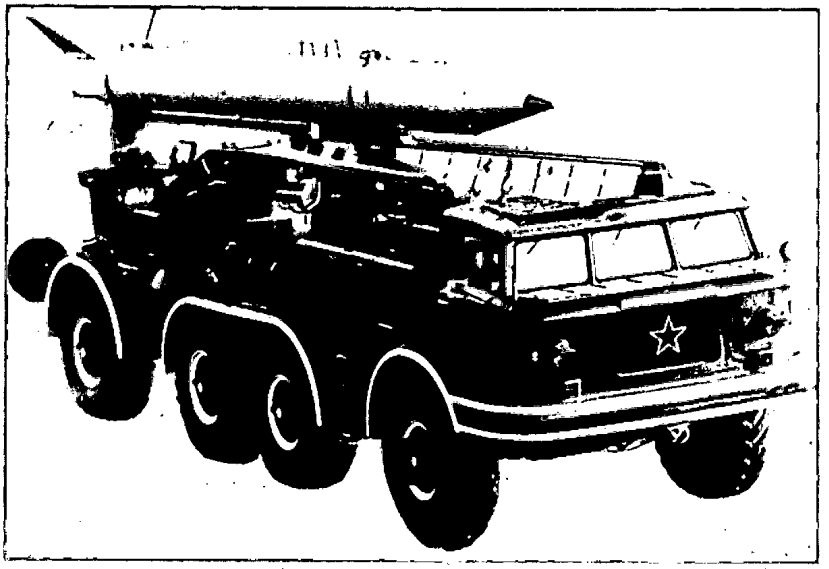
Remarks

A nonfiring training system. First observed in 1965. Seen with Soviet and East German forces.

25X1

Unguided Rockets

FROG-7



Characteristics

Launcher weight (with rocket)	about 13 tons
Launcher cruising range	310 miles
Rocket weight	5,000-6,000 pounds
Warhead weight	
HE	1,200 pounds
nuclear	1,200 pounds
chemical	850 pounds
Maximum range	37-43 nautical miles
Propellant	solid

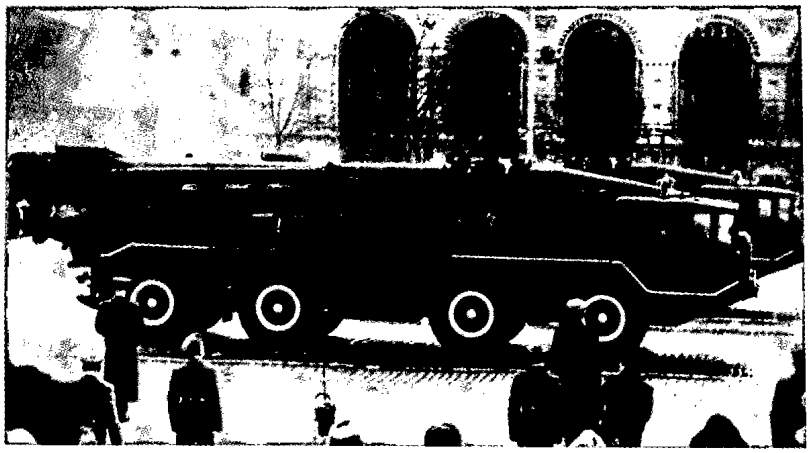
Remarks

First observed in 1965. Eight-wheel launcher provides greater mobility than tracked launcher. FROG-7 is distinguishable from earlier FROGs by single motor section as opposed to two in tandem. FROG-7 is replacing older FROGs in first-line Soviet and Warsaw Pact divisions and has been exported to the Middle East.

25X1

Short-Range Ballistic Missile Systems

Scud



Scud B

Characteristics

	Scud A	Scud B
Warhead type	HE/nuclear/CW	same
Warhead weight	1,500-2,800 pounds	2,200 pounds
Maximum range	86-118 nm	162 nm
Minimum range	30 nm	same
Maximum yield	40 kilotons	300 kilotons
Minimum yield	10 kilotons	5 kilotons
Transporter-erector-launcher	JS tank chassis	JS tank chassis MAZ-543

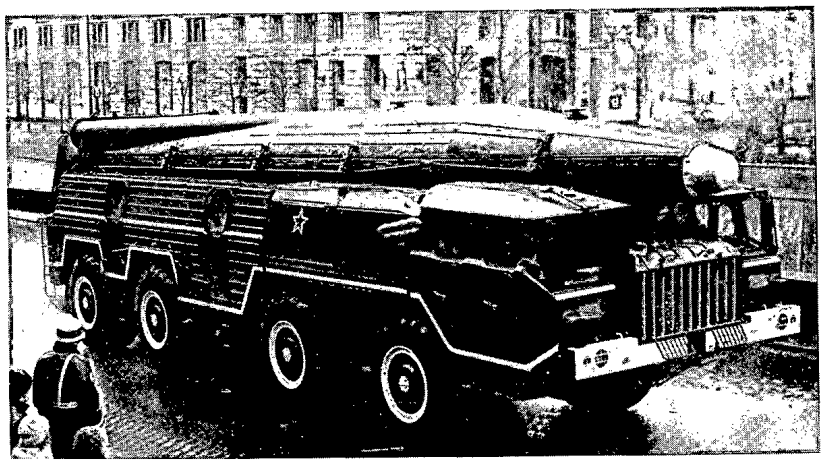
Remarks

Army- and front-level weapon. Uses liquid propellant. Inertially guided. Found with Soviet and Warsaw Pact forces, as well as those of other Soviet allies.

25X1

Short-Range Ballistic Missile Systems

Scaleboard



Characteristics

Warhead type	nuclear
Warhead weight	1,000-1,300 pounds
Maximum range	500 nm
Minimum range	unknown
Maximum yield	200 kilotons
Minimum yield	30 kilotons
Transporter-erector-launcher	MAZ-543

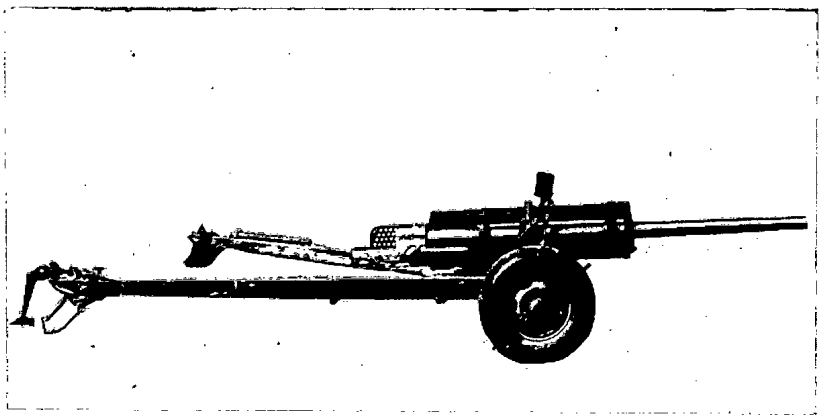
Remarks

Introduced in 1965. Front-level weapon. Inertially guided, two-stage, solid-propellant missile carried in environmental pod. Found only in the Soviet Union.

25X1

Artillery

M-1943 57mm Antitank Gun



Characteristics

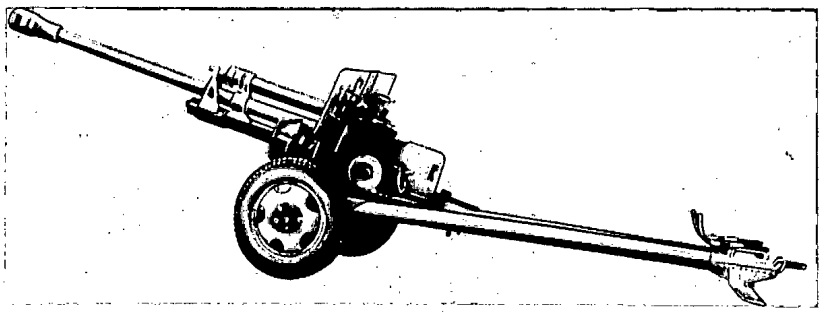
Weight	1.4 tons
Maximum rate of fire	25 rounds per minute
Maximum range (indirect fire)	9,200 yards

Remarks

World War II piece replaced in Soviet forces by larger caliber weapons and antitank missiles, but still widely used in countries which have received Soviet military aid.

25X1

M-1942 76mm Divisional Gun



Characteristics

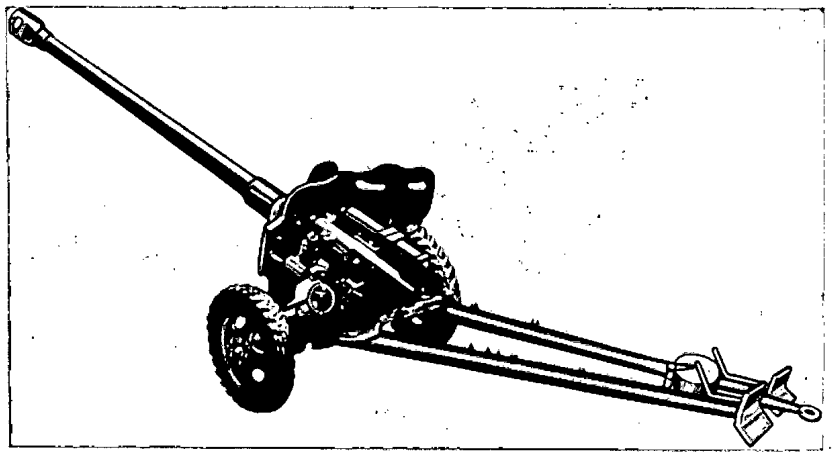
Weight .....2.75 tons
Maximum rate of fire ..... 15 rounds per minute
Maximum range
(indirect fire) ..... 14,550 yards

Remarks

World War II gun once widely used in Soviet forces as both field artillery piece and antitank weapon. Replaced by 85mm and 100mm pieces and now used primarily for training. Still standard equipment in many countries which have received Soviet military aid.

Artillery

D-44 85mm Field Gun



Characteristics

Weight ..... 1.9 tons
Maximum rate of fire ..... 10 rounds per minute
Maximum range
(indirect fire) ..... 17,120 yards

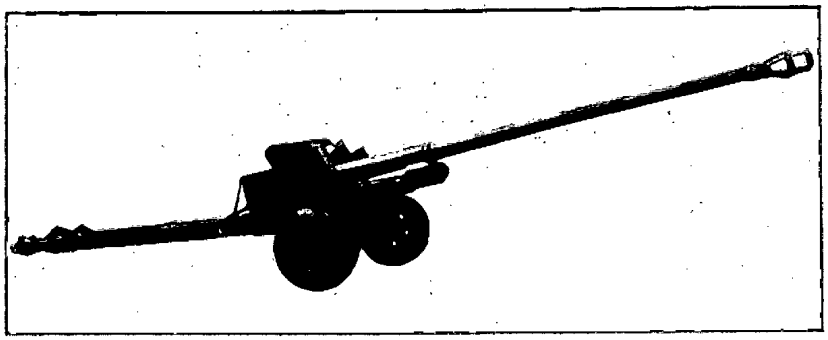
Remarks

Essentially the same as T-34/85 tank gun. Used as both field artillery piece and antitank weapon. Normally towed, but auxiliary-propelled version also in use. D-44 has largely been replaced in Soviet forces by M-1955 100mm field gun, but is still widely used in other Warsaw Pact forces and in countries which have received Soviet military aid.

25X1

Artillery

BS-3 100mm Field Gun (M-1944)



Characteristics

Weight	3.85 tons
Maximum rate of fire	8-10 rounds per minute
Maximum range (indirect fire)	23,000 yards

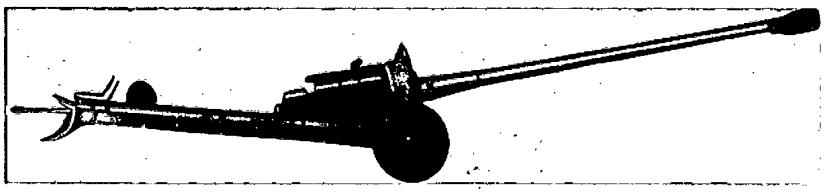
Remarks

Fires same ammunition as T-54/55 tank gun. Entered service near close of World War II. Used as both field artillery piece and antitank weapon. Largely replaced by M-1955 100mm field gun. BS-3 is distinguishable by dual tires and recoil mechanism which protrudes beyond shield below barrel. Obsolete in Soviet forces but still used in other Warsaw Pact forces and in countries which have received Soviet military aid.

25X1

Artillery

M-1955 100mm Field Gun



Characteristics

Weight	3.7 tons
Maximum rate of fire	7 rounds per minute
Maximum range (indirect fire)	23,000 yards

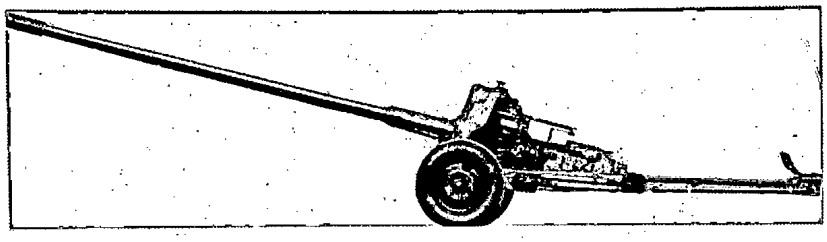
Remarks

Introduced in mid-fifties. Fires same shell as BS-3 but is lighter and distinguishable from BS-3 by recoil mechanism above barrel and behind shield and by single tires. A later version of M-1955 has longer barrel and smooth bore. Used as both field artillery piece and antitank weapon. Has largely replaced BS-3 in Soviet units and is used by other Warsaw Pact forces and countries which have received Soviet military aid.

25X1

Artillery

T-12 100mm Antitank Gun



Characteristics

Weight	4 tons
Maximum rate of fire	10 rounds per minute
Maximum range (indirect fire)	21,300 yards

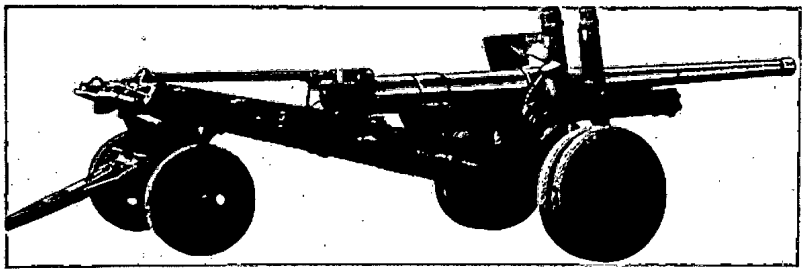
Remarks

Resembles the M-1955 field gun. A modified version, the T-12A, was first observed in East Berlin in 1972. The T-12 is also found in East Germany, Yugoslavia, North Korea, and Cuba.

25X1

Artillery

A-19 122mm Corps Gun (M-1931/1937)



Characteristics

Weight ..... 8.7 tons
Maximum rate of fire ..... 5-6 rounds per minute
Maximum range
(indirect fire) ..... 22,750 yards

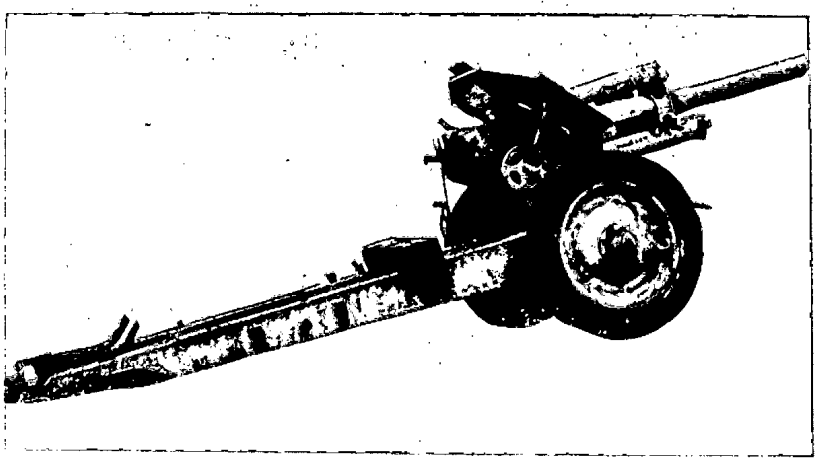
Remarks

Postwar versions have dual pneumatic or sponge-rubber-filled tires in place of spoked wheels with solid rubber tires on early models. Obsolete in Soviet forces but still used in other Warsaw Pact countries.

25X1

Artillery

M-30 122mm Howitzer (M-1938)



Characteristics

Weight . . . . . 2.7 tons
Maximum rate of fire . . . . . .6 rounds per minute
Maximum range . . . . . 12,900 yards

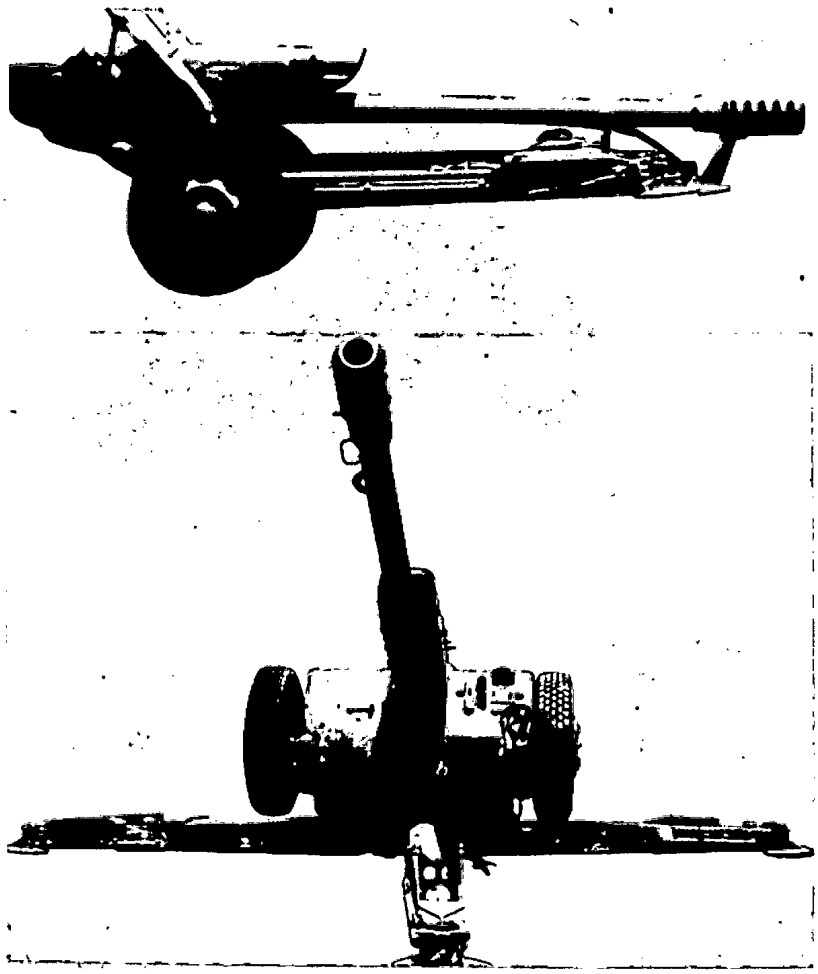
Remarks

Being replaced in Soviet and some Warsaw Pact forces by D-30 howitzer. Still standard equipment in other Warsaw Pact forces and countries which have received Soviet military aid.

25X1

Artillery

D-30 122mm Howitzer (M-1963)



Characteristics

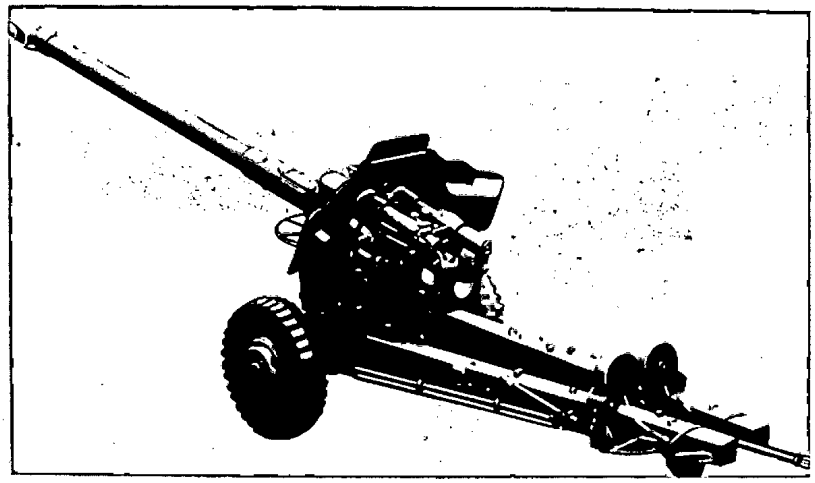
Weight ..... 3.5 tons
Maximum rate of fire .....6 rounds per minute
Maximum range ..... 16,740 yards

Remarks

Rests on three trails and central jack when in firing position. Towed by barrel with trails folded. Has direct-fire antitank capability. Replacing M-30 howitzer as standard equipment in Soviet forces. Has also been seen with Egyptian and Syrian units.

25X1

D-74 122mm Field Gun



Characteristics

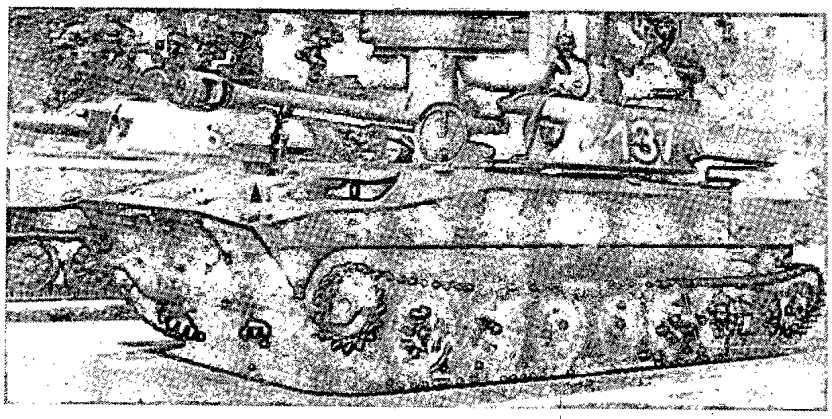
Weight	6.2 tons
Maximum rate of fire	6 rounds per minute
Maximum range (indirect fire)	26,000 yards

Remarks

Lighter and more mobile than M-1931/1937. Has double recoil cylinders mounted above barrel behind shield. First observed in 1955. Used by Soviet and some other Warsaw Pact forces and by Communist forces in Southeast Asia.

Artillery

M-1974 122mm SP Gun



Characteristics

Weight	17 tons
Main armament	122mm gun
Maximum range	17,000 yards
Rate of fire	unknown

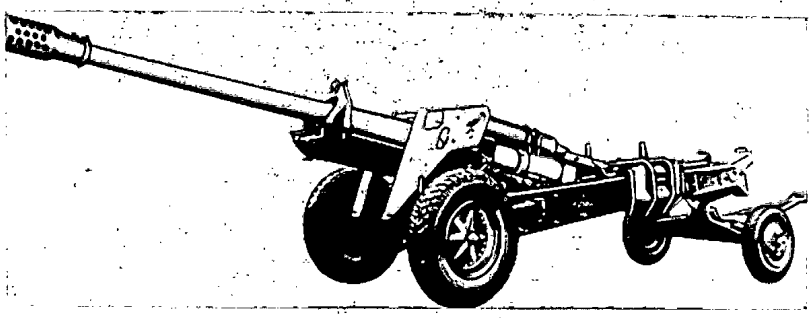
Remarks

Entered service in 1974. Chassis similar to that of PT-76 amphibious tank. Newest piece in the Soviet artillery inventory. Probably has an automatic loader.

25X1

Artillery

M-46 130mm Field Gun



Characteristics

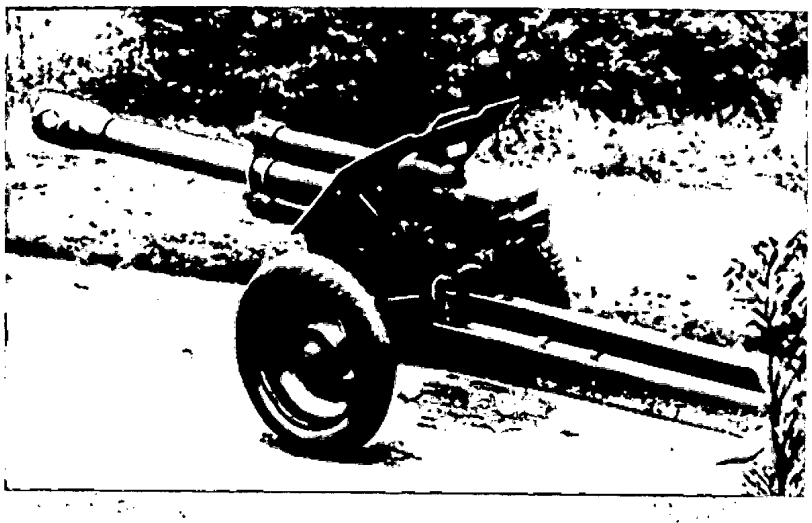
Weight .....9.4 tons
Maximum rate of fire .....5 rounds per minute
Maximum range
(indirect fire) ..... 29,500 yards

Remarks

Based on naval and coastal guns of same caliber. Features collar around barrel forward of shield and detachable spades on trails. First observed in 1954. Used by Soviet and other Warsaw Pact forces and in Middle East and India.

25X1

D-1 152mm Howitzer (M-1943)



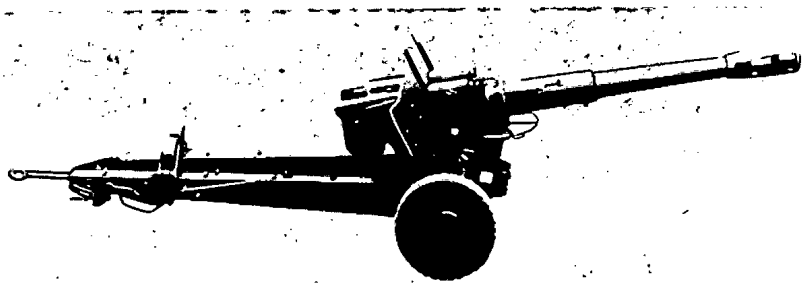
Characteristics

Weight .....4 tons
Maximum rate of fire .....4 rounds per minute
Maximum range ..... 13,560 yards

Remarks

Essentially the tube of the M-10 152mm howitzer mounted on the carriage of the M-1938 122mm howitzer. More mobile than M-10 because of lighter carriage. Now largely replaced in Soviet units by D-20, but still used in other Warsaw Pact forces and in countries which have received Soviet military aid.

D-20 152mm Howitzer



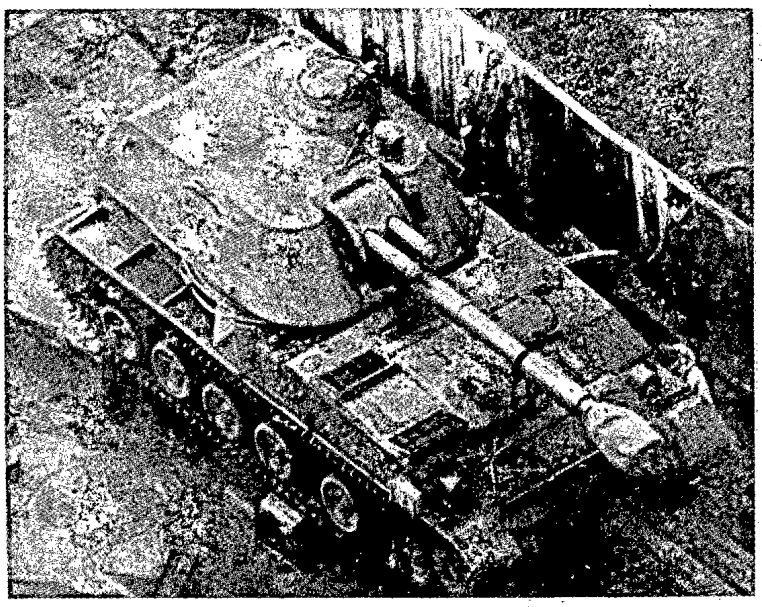
Characteristics

Weight ..... 6.5 tons
Maximum rate of fire .....4 rounds per minute
Maximum range ..... 19,000 yards

Remarks

First observed in 1955. Replacing D-1 152mm howitzer. D-20 is companion piece to D-74 122mm howitzer and distinguishable from it by shorter, thicker barrel and larger muzzle brake. Used by USSR and several other Warsaw Pact countries.

M-1973 152mm SP Gun



Characteristics

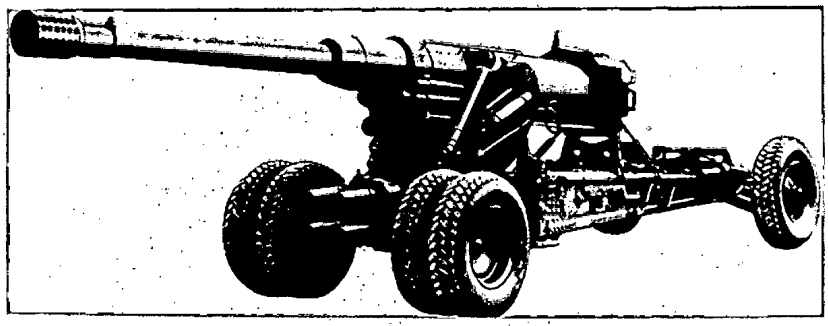
Weight	26 tons
Main armament	152mm gun
Maximum range	19,000 yards
Rate of fire	unknown

Remarks

Entered service in 1973. Uses modified version of the SA-4 chassis. Probably has an automatic loader.

Artillery

M-1955 180mm Howitzer



Characteristics

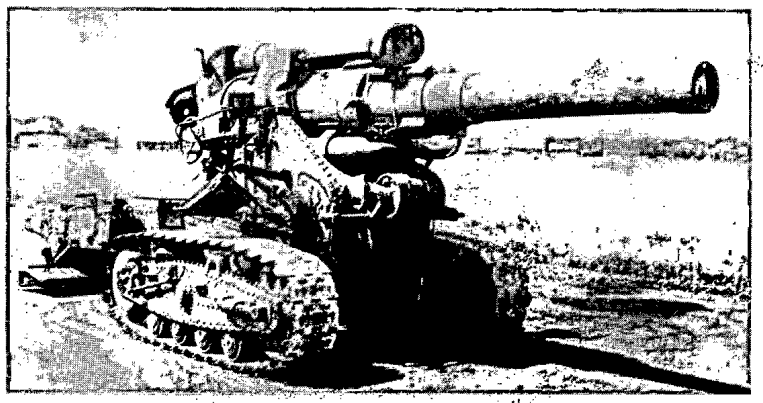
Weight	22.5 tons
Maximum rate of fire	1 round in 2 minutes
Maximum range	29,500 yards
Maximum range with rocket-assisted projectile	42,500 yards

Remarks

Largest of Soviet towed artillery pieces since World War II. Has dual-mounted wheels but no shield. Shown in Soviet parades but not observed with operational units. Observed in Middle East.

25X1

M-1931 203mm Howitzer



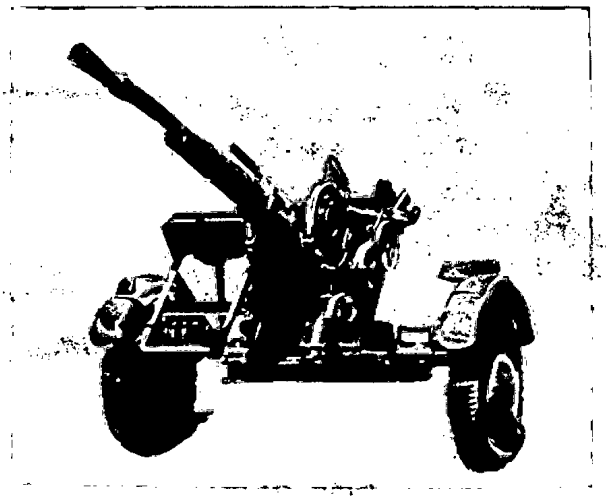
Characteristics

Weight ..... 19.5 tons
Maximum rate of fire ..... 1 round in 2 minutes
Maximum range ..... 19,712 yards

Remarks

Principal heavy howitzer of Soviet Army before and during World War II. Being reintroduced into service in heavy artillery/mortar brigades at front level. Tracked and wheeled versions.

ZPU-1 14.5mm Antiaircraft Heavy Machine Gun



Characteristics

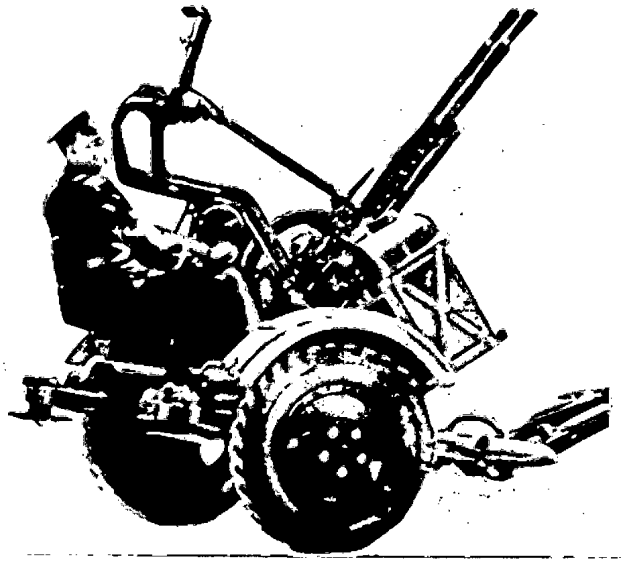
Maximum rate of fire	600 rounds per minute
Practical rate of fire	150 rounds per minute
Maximum effective range	
antiaircraft	4,600 feet
horizontal	2,200 yards

Remarks

Single gun mounted on light two-wheel towed carriage. Also effective against light armor and other ground targets. Introduced in mid-fifties. Apparently no longer used in Soviet forces. Seen in countries which have received Soviet military aid. Widely used in North Vietnam.

Antiaircraft Weapons

ZPU-2 14.5mm Antiaircraft Heavy Machine Gun



Characteristics

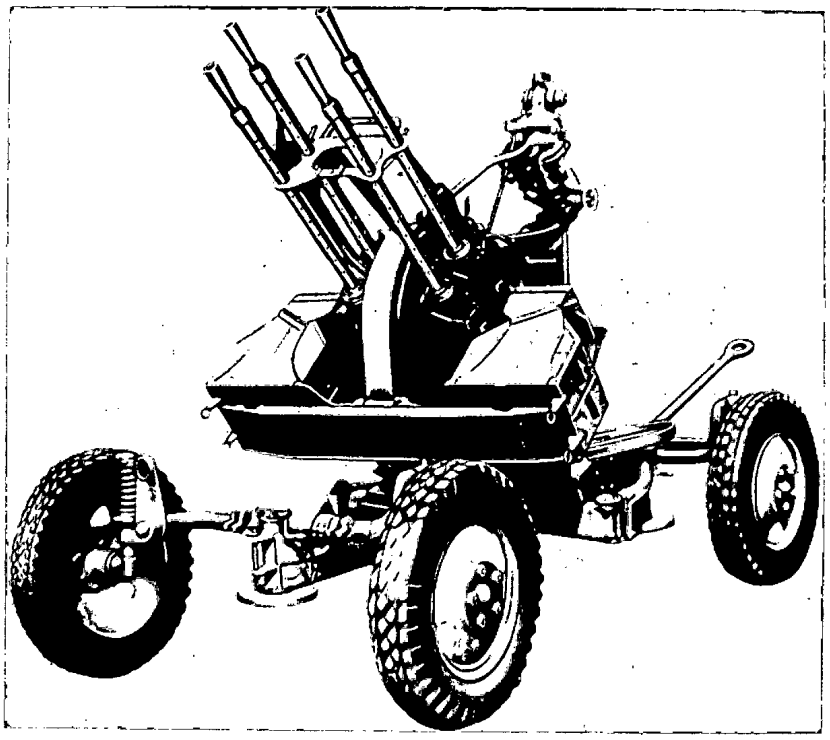
Maximum rate of fire	600 rounds per minute per barrel
Practical rate of fire	150 rounds per minute per barrel
Maximum effective range	
antiaircraft	4,600 feet
horizontal	2,200 yards

Remarks

Twin-mounted version of ZPU-1 on two-wheel towed carriage. This mount also seen on BTR-40 and BTR-152 armored personnel carrier chassis. Introduced in mid-fifties, ZPU-2 is used in Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid.

25X1

ZPU-4 14.5mm Antiaircraft Heavy Machine Gun



Characteristics

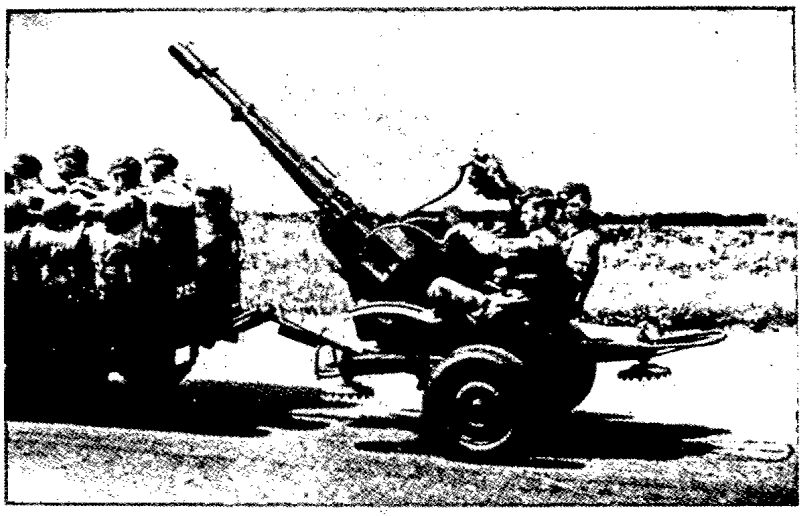
Maximum rate of fire	600 rounds per minute per barrel
Practical rate of fire	150 rounds per minute per barrel
Maximum effective range	
antiaircraft	4,600 feet
horizontal	2,200 yards

Remarks

Quad-mounted version of ZPU-1 on four-wheel towed carriage. Introduced in mid-fifties. Used in Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid.

Antiaircraft Weapons

ZU-23 23mm Antiaircraft Gun



Characteristics

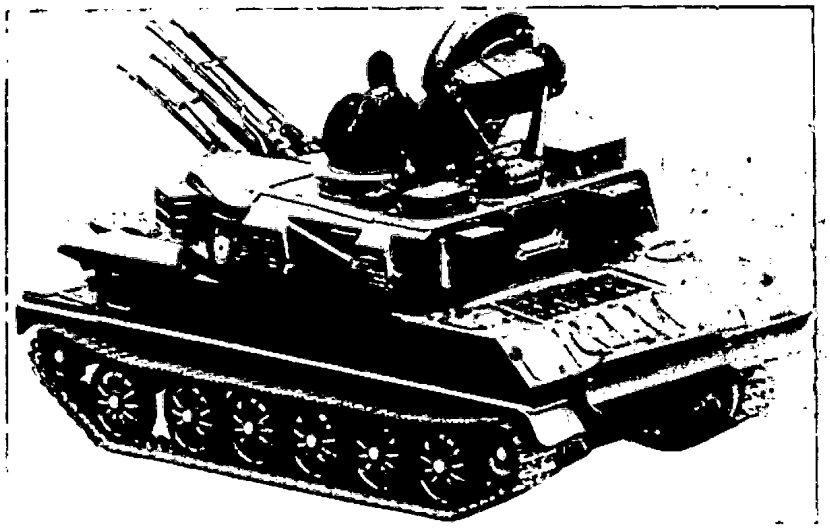
Maximum rate of fire	800-1,000 rounds per minute per barrel
Practical rate of fire	200 rounds per minute per barrel
Maximum effective range	
antiaircraft	8,200 feet
horizontal	7,655 yards

Remarks

Twin-barrel machine cannon mounted on light two-wheel carriage similar to that of ZPU-2. Cylindrical muzzle brakes distinguishable from conical type on ZPU-2. ZU-23 also effective against light armor and other ground targets. Introduced in early sixties. Will probably replace ZPU series of heavy machine guns.

25X1

ZSU-23-4 23mm Self-Propelled Antiaircraft Gun



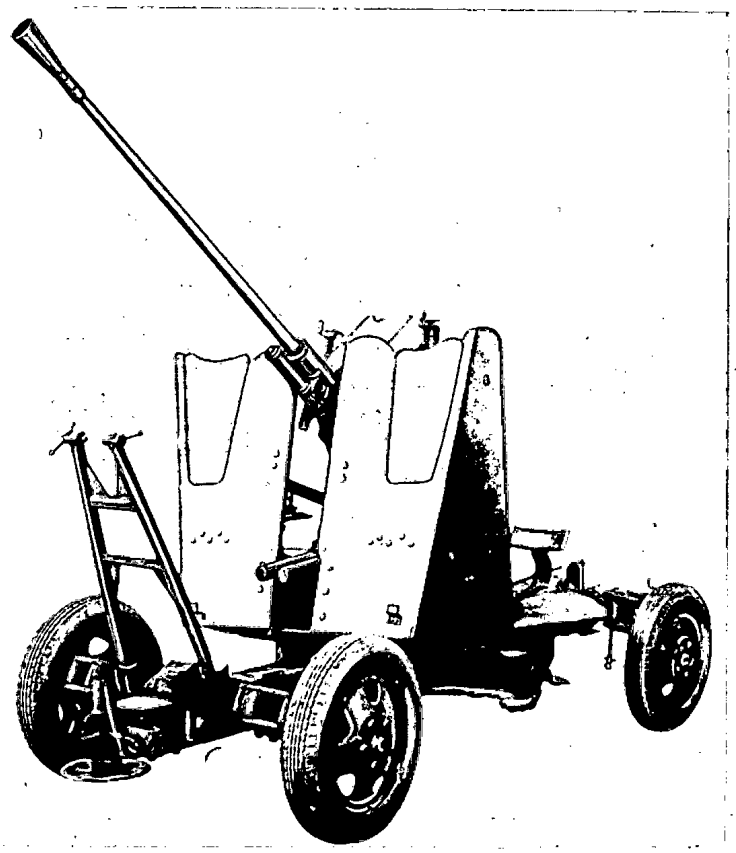
Characteristics

Maximum rate of fire	800-1,000 rounds per minute per barrel
Practical rate of fire	300-350 rounds per minute per barrel
Maximum effective range	
antiaircraft radar mode	9,850 feet
antiaircraft optical mode	8,200 feet
horizontal	7,655 yards
Maximum vehicle speed	30 miles per hour
Cruising range	150 miles
Weight	15.4 tons
Crew	4

Remarks

Four liquid-cooled guns in very light armored turret mounted with fire-control radar on chassis similar to that of PT-76 light amphibious tank. Not amphibious. Designed to provide ground forces mobile protection against low-flying aircraft. Also effective against light armor and other ground targets. Infrared light enables it to engage ground targets at night. First observed in 1965. Has been seen with Soviet, Bulgarian, East German, Polish, and Middle East forces.

M-1939 37mm Antiaircraft Gun



Characteristics

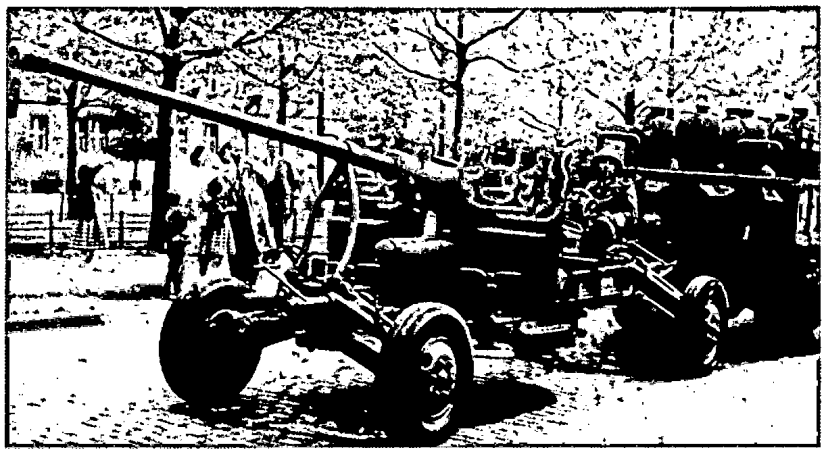
Maximum rate of fire	160-180 rounds per minute
Practical rate of fire	80 rounds per minute
Maximum effective antiaircraft range	8,200 feet

Remarks

World War II weapon mounted on four-wheel towed carriage. Not suitable for use against ground targets. Replaced in Soviet forces by S-60 but still used in other Warsaw Pact countries, Cuba, Middle East, and Southeast Asia.

Antiaircraft Weapons

S-60 57mm Antiaircraft Gun



Characteristics

Maximum rate of fire ..... 105-120 rounds per minute
Practical rate of fire ..... 70 rounds per minute
Maximum effective antiaircraft range
with off-carriage fire control ..... 19,700 feet
with on-carriage optical sight ..... 13,100 feet
Maximum horizontal range ..... 13,000 yards

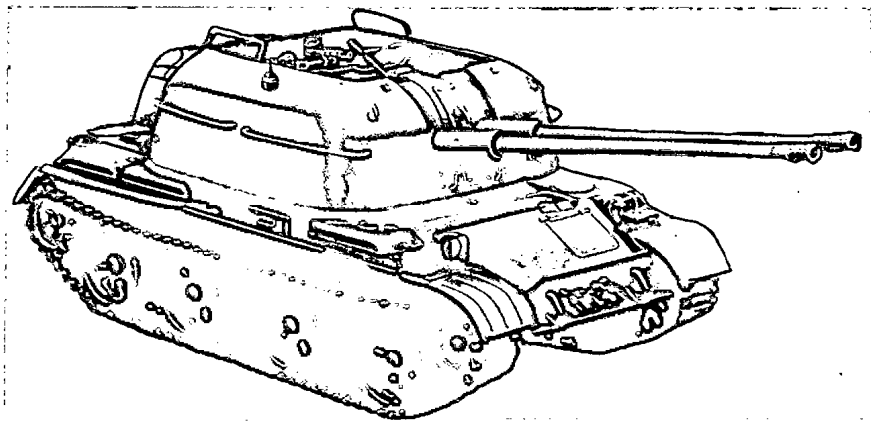
Remarks

Mounted on four-wheel towed carriage. Also effective against light armor and other ground targets. First observed in 1950. Has replaced M-1939 in Soviet forces. Used in countries which have received Soviet military aid.

25X1

Antiaircraft Weapons

ZSU-57-2 57mm Self-Propelled Antiaircraft Gun



Characteristics

Maximum rate of fire	105-120 rounds per minute per gun
Practical rate of fire	70 rounds per minute per gun
Maximum effective range	
antiaircraft	13,000 feet
horizontal	13,000 yards
Vehicle speed	31 miles per hour
Cruising range	260 miles
Weight	31 tons
Crew	6

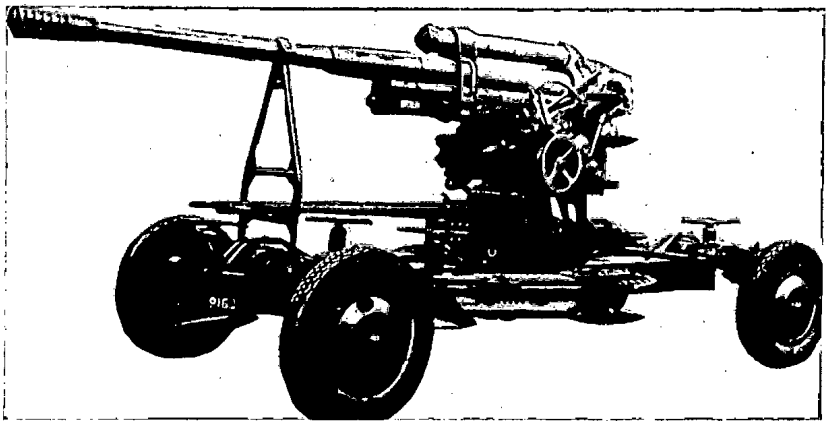
Remarks

Two S-60 guns in open turret mounted on modified T-54 tank chassis. Optical sighting and fire control. Designed to provide ground forces mobile protection against aircraft. Also effective against light armor and other ground targets. Introduced in 1957. Has been seen with Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid. Has largely been replaced in Soviet units by ZSU-23-4 and surface-to-air missile systems.

25X1

Antiaircraft Weapons

KS-12 85mm Antiaircraft Gun (M-1939)



Characteristics

Maximum rate of fire ..... 15-20 rounds per minute
Maximum effective antiaircraft range
with off-carriage fire control .....33,470 feet
with on-carriage optical sight .....9,840 feet
Maximum horizontal range ..... 17,000 yards

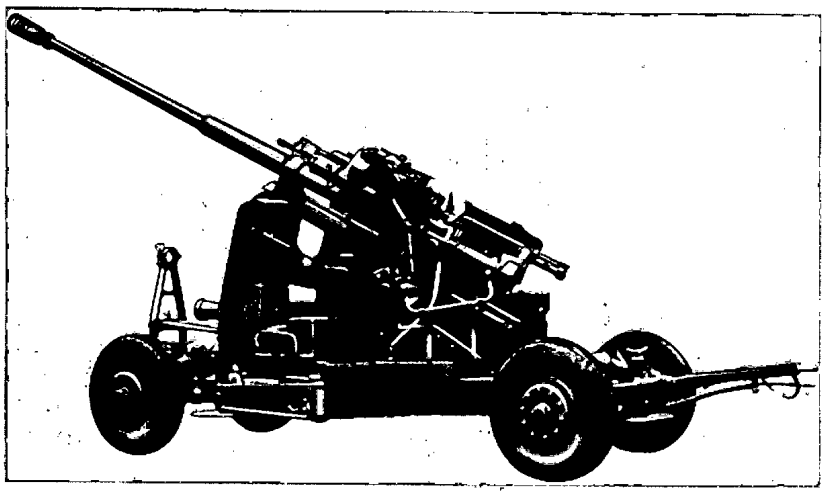
Remarks

World War II weapon mounted on four-wheel towed carriage. Uses on-carriage optical sight or off-carriage radar fire control. Essentially same gun as KS-18 but with longer tube. Both are also effective against light armor and other ground targets. Has been replaced by KS-19, but still used by Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid.

25X1

Antiaircraft Weapons

KS-19 100mm Antiaircraft Gun



Characteristics

Maximum rate of fire	15 rounds per minute
Maximum effective antiaircraft range	
with off-carriage fire control	41,340 feet
with on-carriage optical sight	11,480 feet
Maximum horizontal range	23,000 yards

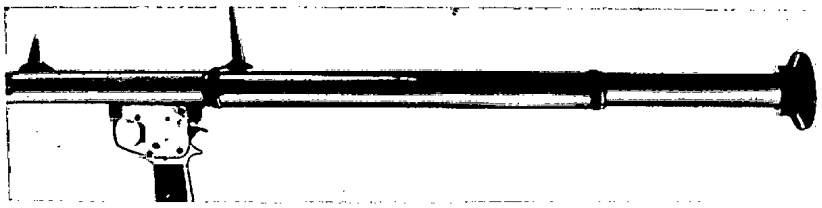
Remarks

First observed in 1949. Uses off-carriage fire control and director against aircraft. Designed to replace KS-12 and KS-18, it has in turn been replaced by SA-2 surface-to-air missiles. Also effective against light armor and other ground targets.

25X1

Recoilless Antitank Weapons

RPG-2 Antitank Grenade Launcher



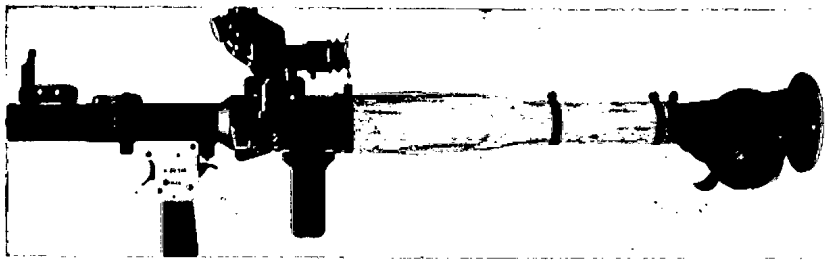
Characteristics

Weight	6.3 pounds
Length	37.5 inches
Caliber of projectile	80mm
Range	109 yards
Armor penetration	6-7 inches

Remarks

Light, recoilless, shoulder-fired rocket developed from German "Panzerfaust" in late forties. Effective against tanks at short range. Has been largely replaced by RPG-7. Used in most countries which have received Soviet military aid.

RPG-7 Antitank Grenade Launcher



Characteristics

Weight	15 pounds
Length	37.5 inches
Caliber of projectile	85mm
Range	608 yards
Armor penetration	12 inches

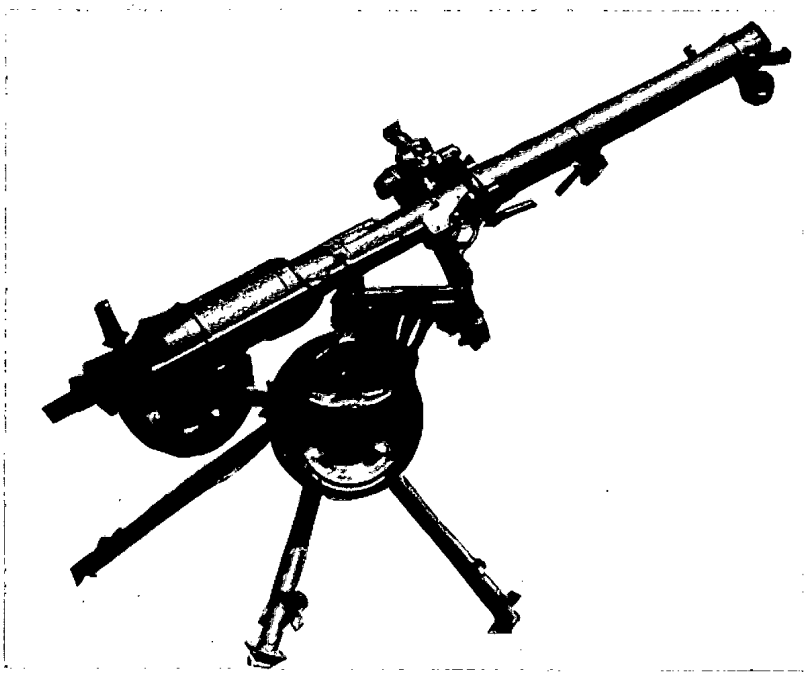
Remarks

Introduced in 1962. Essentially same type of weapon as RPG-2, which it is replacing. RPG-7 fires rocket-assisted projectile having greater range, penetration, and accuracy. Used in USSR and other Warsaw Pact countries, in Middle East, and in Southeast Asia.

25X1

Recoilless Antitank Weapons

B-10 Recoilless Gun



Characteristics

Weight	188 pounds
Length	6.4 feet
Caliber	82mm
Effective range	435 yards
Armor penetration	9.4 inches

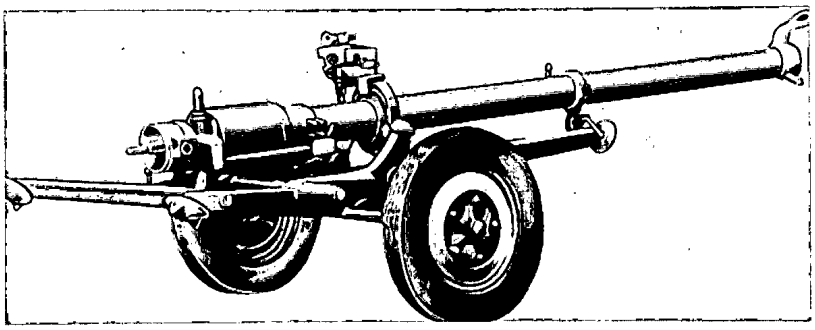
Remarks

Smoothbore recoilless weapon fired from two-wheel mount or tripod. Can be hand towed by bars on muzzle or mounted on truck. Introduced in early fifties. Used in Soviet airborne units and other Warsaw Pact forces.

25X1

Recoilless Antitank Weapons

B-11 Recoilless Gun



Characteristics

Weight	670 pounds
Length	11.1 feet
Caliber	107mm
Effective range	490 yards
Armor penetration	15 inches

Remarks

Largest Soviet recoilless weapon. Fired from wheeled mount or from tripod with wheels removed. Introduced in early fifties. Nearly obsolete in Soviet units but still used by other Warsaw Pact forces.

25X1

Recoilless Antitank Weapons

SPG-9 Recoilless Gun

Characteristics

Weight	about 125 pounds
Length	about 7 feet
Caliber	73mm
Maximum effective range	1,090 yards
Armor penetration	13-15 inches

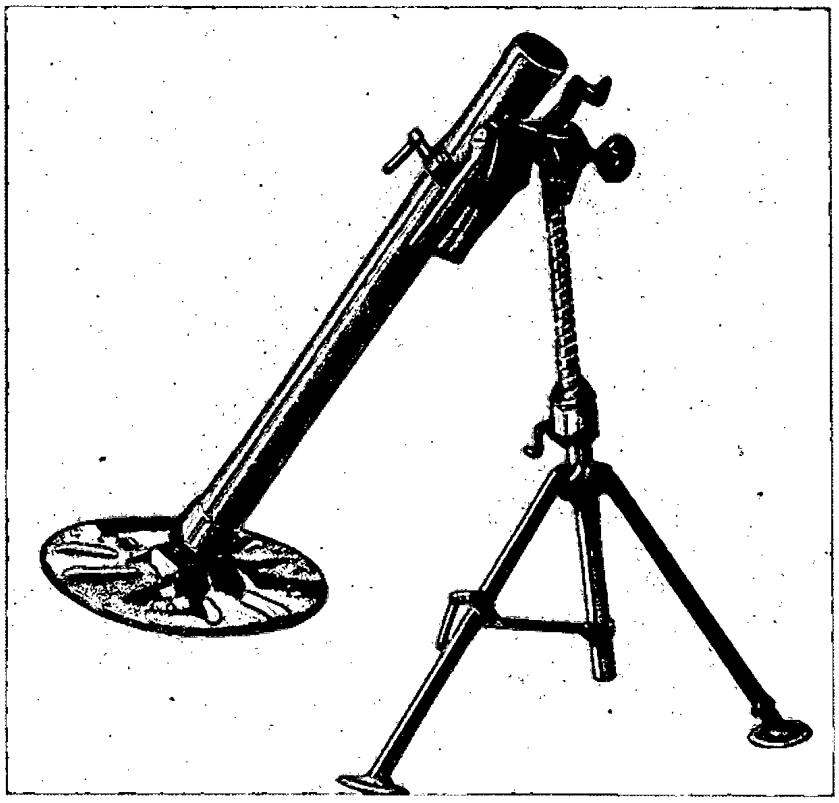
Remarks

Pictured in 1968 Soviet publication. First Soviet recoilless gun to mount a spotting rifle. Fires round similar to that of RPG-7 grenade launcher.

25X1

Mortars

M-1937, M-1941, M-1943 82mm Mortar



Characteristics

Weight	123 pounds
Length of tube	4 feet
Maximum rate of fire	24 rounds per minute
Maximum range	3,300 yards

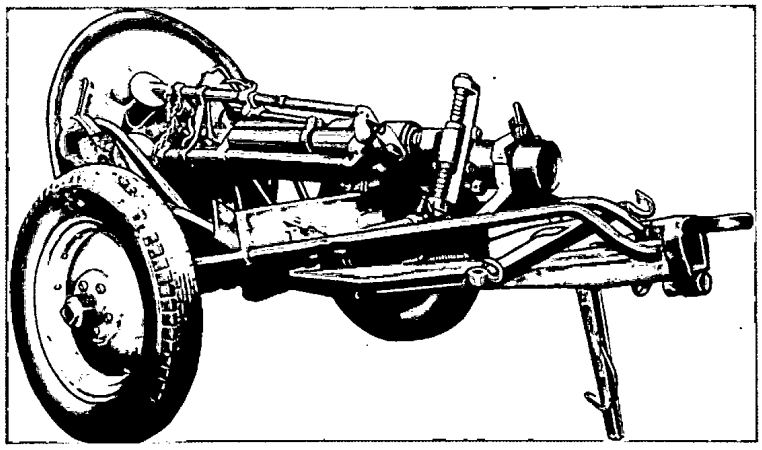
Remarks

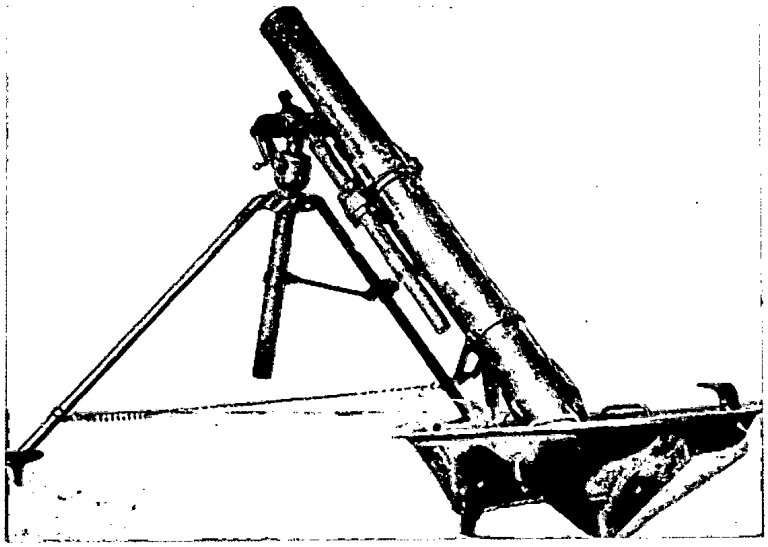
M-1937 (photograph above) has two short shock absorbers; M-1941 and M-1943, one longer shock absorber. Weapon can be carried by three men or one draft animal. Used by countries which have received Soviet military aid.

25X1

Mortars

M-1938, M-1943, 120mm Regimental Mortar





Characteristics

Weight	
with limber	1,100 pounds
without limber	606 pounds
Length of tube	6.2 feet
Maximum rate of fire	15 rounds per minute
Maximum range	6,230 yards

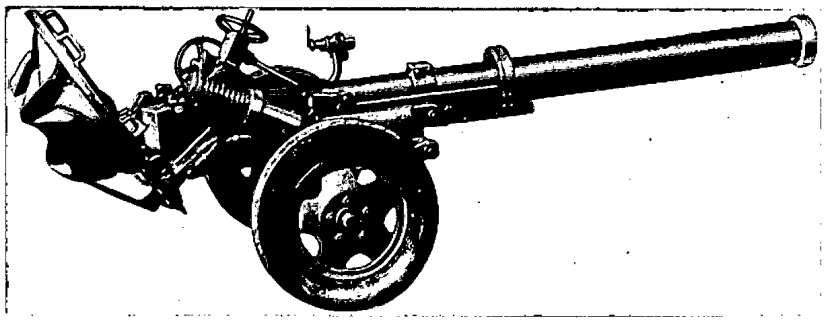
Remarks

Two versions—M-1943 (photographs above) and M-1938—are complementary to 82mm mortars. Despite its large size, 120mm mortar is highly mobile and can be towed on limber or broken down into three man-portable loads. Used by Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid. Widely used by Communist forces in Southeast Asia.

25X1

Mortars

M-1943, M-160 160mm Mortar



Characteristics

Weight	
with limber	1.61 tons
without limber	1.2 tons
Length of tube	14.9 feet
Maximum rate of fire	3 rounds per minute
Maximum range	8,825 yards

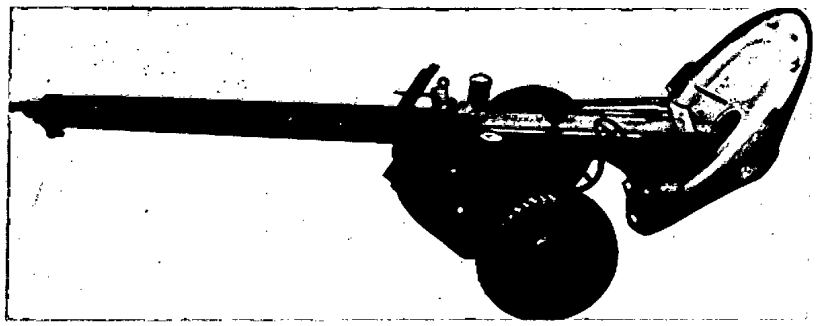
Remarks

Two versions—M-1943 and M-160—can be towed on limber. M-1943 being replaced by M-160 which has longer barrel and is breech loaded. Both versions are used by Soviet and other Warsaw Pact forces and in countries which have received Soviet military aid.

25X1

Mortars

M-240 240mm Mortar



Characteristics

Weight	
with limber	4.6 tons
without limber	4 tons
Length of tube	17.5 feet
Maximum rate of fire	1 round per minute
Maximum range	10,600 yards

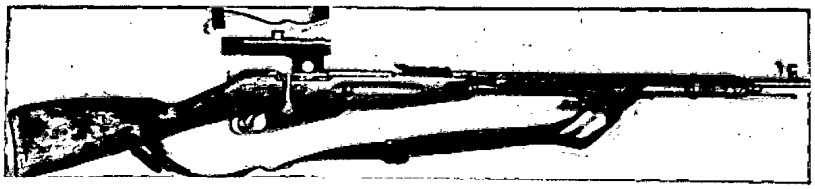
Remarks

Largest standard Soviet mortar. Breech loaded. Introduced in early fifties. Found in heavy howitzer/mortar brigades in USSR. Also used in some Warsaw Pact forces and in Egypt.

25X1

Small Arms and Machine Guns

M-1891/30 Mosin–Nagant Sniper Rifle



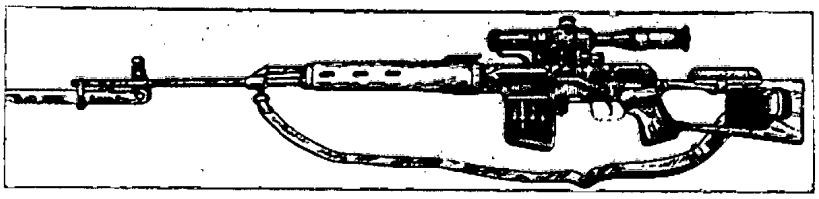
Characteristics

Weight	11.3 pounds
Ammunition	7.62mm M-1908 rimmed
Operation	turning bolt
Magazine capacity	5 rounds
Effective range (with scope)	875 yards

Remarks

Sniper version of M-1891/30, which was standard Soviet rifle from 1891 to 1944. Sniper rifle still used in USSR, Eastern Europe, and China, and by Communist forces in Southeast Asia. Being replaced in Soviet units by Dragunov.

SVD Dragunov Sniper Rifle



Characteristics

Weight	9.4 pounds
Ammunition	7.62mm M-1908 rimmed
Operation	gas, semiautomatic
Magazine capacity	10 rounds
Effective range (with scope)	1,100 yards

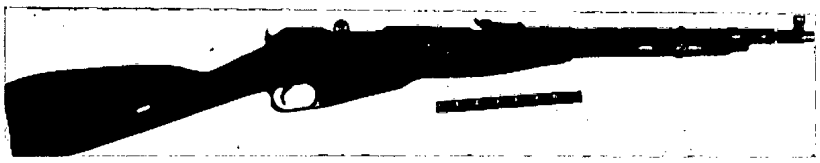
Remarks

Introduced in mid-sixties. Based on AK-47 but has longer barrel, redesigned trigger, and flash suppressor. Side-mounted 4-power scope with infrared viewing device.

25X1

Small Arms and Machine Guns

M-1944 Mosin—Nagant Carbine



Characteristics

Weight	8.6 pounds
Ammunition	7.62mm M-1908 rimmed
Operation	bolt
Magazine capacity	5 rounds
Effective range	440 yards

Remarks

Last of the Mosin-Nagant rifles. Replaced M-1891/30 as standard Soviet rifle. M-1944 is shorter and has folding bayonet. Was itself replaced in Soviet forces by SKS and AK-47, but is still used in some Warsaw Pact and Asian Communist countries.

SKS Simonov Carbine

Characteristics

Weight	8.5 pounds
Ammunition	7.62mm M-1943 short round
Operation	gas, semiautomatic
Rate of fire	35-40 rounds per minute
Magazine capacity	10 rounds
Effective range	440 yards

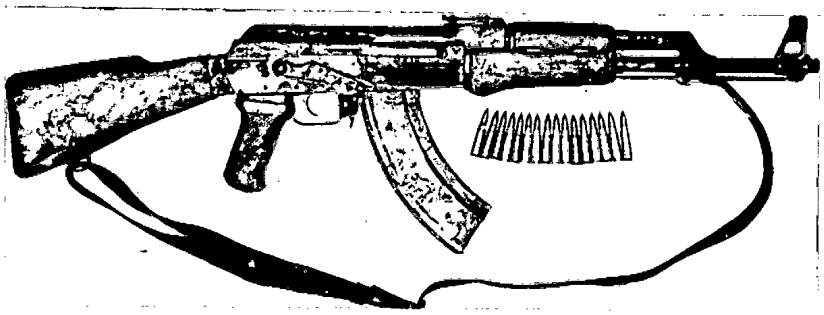
Remarks

Introduced in 1959. Replaced in Soviet forces by AK-47. Still used in other Warsaw Pact forces and in countries receiving Soviet military aid. Also manufactured and extensively exported to Asian and African countries by China. Chinese version distinguishable from SKS by bayonet which folds down under barrel.

25X1

Small Arms and Machine Guns

AK-47 Kalashnikov Assault Rifle



Characteristics

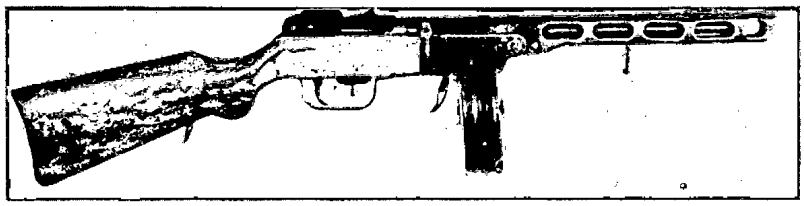
Weight	9.5 pounds
Ammunition	7.62mm M-1943 intermediate round
Operation	gas
Rate of fire	
automatic	100 rounds per minute
semiautomatic	40 rounds per minute
Magazine capacity	30 rounds
Effective range	330 yards

Remarks

Introduced in 1947. Being replaced by the AKM, which is nearly identical but almost a pound lighter. Versions with folding stock are used by special units such as artillery, airborne, and tank troops. AK-47 is used by Warsaw Pact forces, in countries which have received Soviet military aid, and extensively by Communist forces in Southeast Asia. China and North Korea produce version of AK-47.

25X1

PPSh Shpagin Submachine Gun (M-1941)



Characteristics

Weight (with empty drum)	10.8 pounds
Ammunition	7.62mm M-1930 pistol
Operation	blowback, automatic or semiautomatic
Rate of fire	
automatic	100 rounds per minute
Magazine capacity	
box	35 rounds
drum	71 rounds
Effective range	220 yards

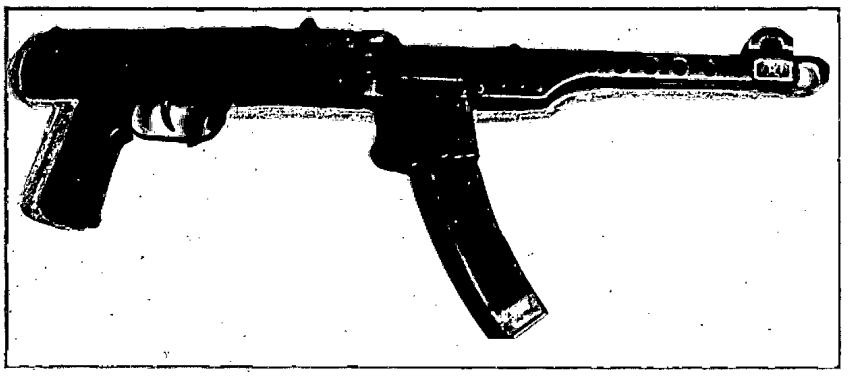
Remarks

Ruggedly and cheaply built. First models used drum magazine. Has been replaced in Soviet forces by AK-47. China manufactures version called Type 50 with about the same performance. Type 50 has pistol grip and folding stock but no barrel shield. PPSh and Type 50 are used in countries which have received Soviet and Chinese military aid.

25X1

Small Arms and Machine Guns

PPS Sudayev Submachine Gun



Characteristics

Weight (with empty magazine)	7.5 pounds
Ammunition	7.62mm M-1930 pistol
Operation	blowback, automatic or semiautomatic
Rate of fire	100 rounds per minute
Magazine capacity	35 rounds
Effective range	220 yards

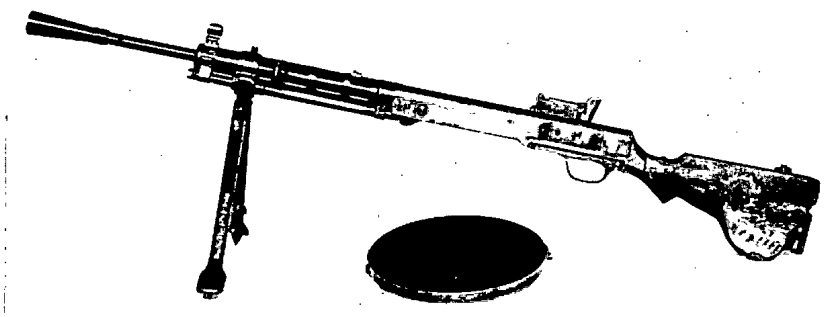
Remarks

Entered service in 1943. Like PPSh, has been replaced in Soviet forces by AK-47. PPS is lighter than PPSh, has folding stock, and operates only with box magazine. Used extensively in Southeast Asia.

25X1

Small Arms and Machine Guns

DP, DPM Degtyarev Light Machine Gun



Characteristics

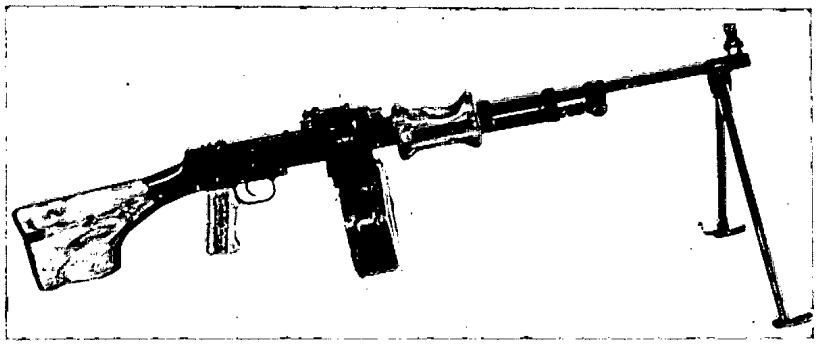
Weight	20 pounds
Ammunition	7.62mm
Operation	gas, automatic
Rate of fire	150 rounds per minute
Magazine capacity	47 rounds
Effective range	880 yards

Remarks

Introduced in late twenties. DP together with DPM modified version was standard Soviet squad light machine gun until introduction of RPD in 1949. DP and DPM have slotted barrel casing and pan-type magazine mounted on top of gun. Although obsolete in Soviet forces, they are used in countries which have received Soviet military aid. Similar RP-46 model uses belt feed and has handle on top.

25X1

RPD Light Machine Gun



Characteristics

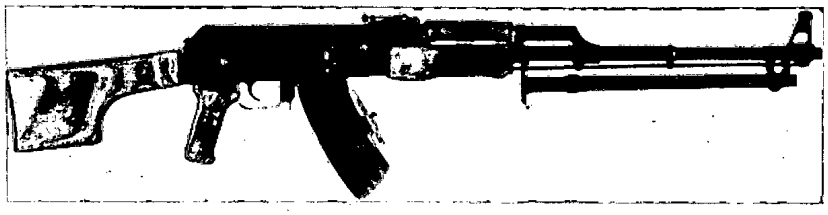
Weight (loaded)	15.6 pounds
Ammunition	7.62mm
Operation	gas, automatic
Rate of fire	150 rounds per minute
Magazine capacity	100 rounds
Effective range	875 yards

Remarks

First observed in 1948. Standard squad automatic weapon until replaced by RPK. Has drum magazine and bipod mounted near muzzle. Used in countries—particularly in Southeast Asia—which have received Soviet military aid.

Small Arms and Machine Guns

RPK Kalashnikov Light Machine Gun



Characteristics

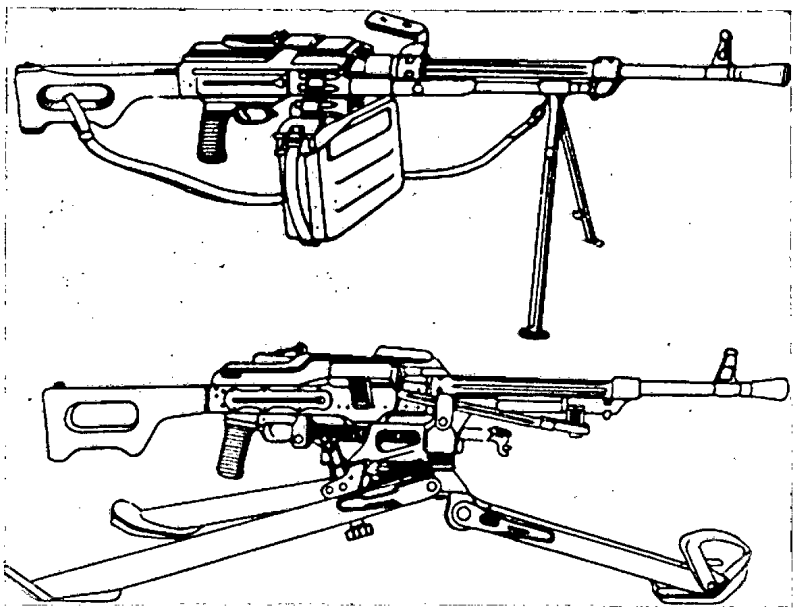
Weight (with empty drum)	12.3 pounds
Ammunition	7.62mm M-1943 short round
Operation	gas, automatic
Rate of fire	130-150 rounds per minute
Magazine capacity	
box	40 rounds
drum	70 rounds
Effective range	875 yards

Remarks

Standard Soviet squad light machine gun. Introduced in 1961. Essentially the AK-47 assault rifle with longer, heavier barrel, bipod, differently shaped stock, and larger capacity magazine. Some parts are interchangeable; for example, AK-47 magazine can be used on RPK. RPK is used in some Warsaw Pact and Southeast Asian forces.

25X1

PK Kalashnikov General Purpose Machine Gun



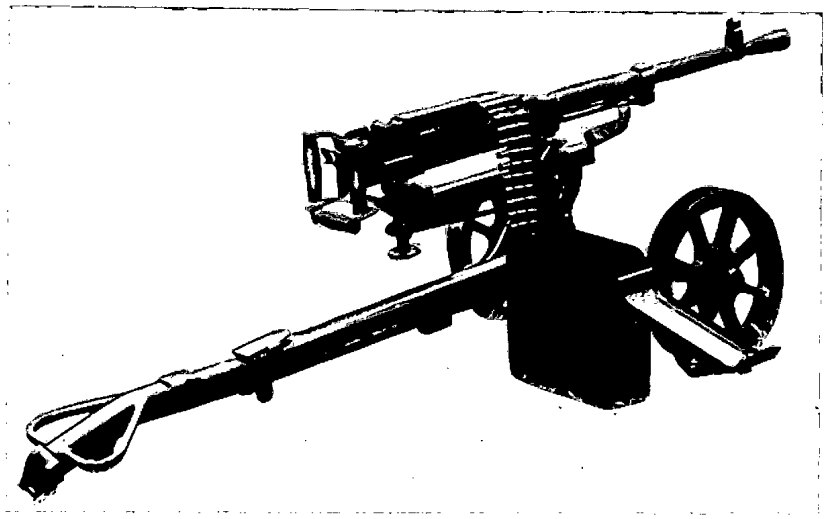
Characteristics

Weight (with empty drum)	12.3 pounds
Ammunition	7.62mm M-1943 short round
Operation	gas, automatic
Rate of fire	130-150 rounds per minute
Magazine capacity	
box	40 rounds
drum	70 rounds
Effective range	875 yards

Remarks

A further modification of AK-47 and RPK. PK uses rimmed cartridge, is belt fed, has different receiver and gas cylinder, and provision for mounting gun on tripod. First observed in mid-sixties.

SG, SGM Goryunov Machine Gun (M-1943)



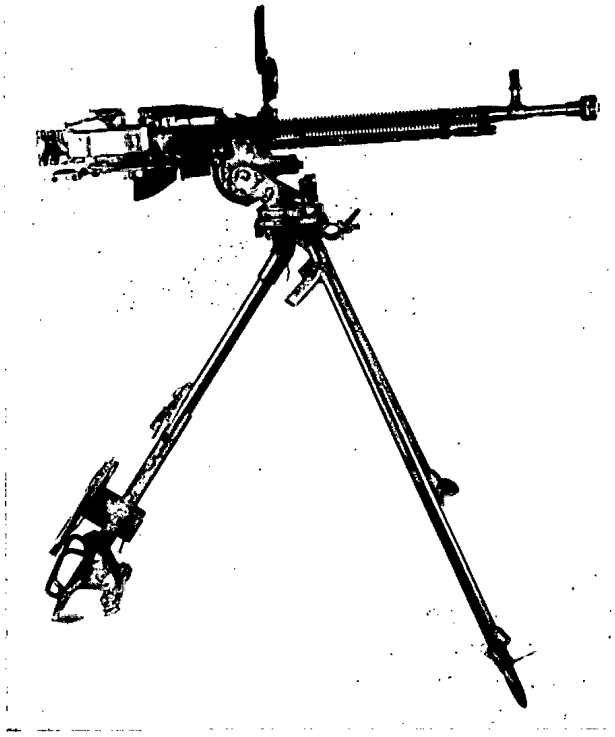
Characteristics

Weight (gun only)	29.8 pounds
Ammunition	7.62mm M-1930D
Operation	gas, automatic
Rate of fire	250-300 rounds per minute
Effective range	about 1,100 yards

Remarks

Has been modified for mounting on tanks and APCs, but usually found on two-wheel mount. SGM distinguishable by fluted barrel. Being replaced in ground support role by PK Kalashnikov general purpose machine gun. Used by countries which have received Soviet military aid.

DShK Degtyarev–Shpagin Heavy Machine Gun (M-1938/45)



Characteristics

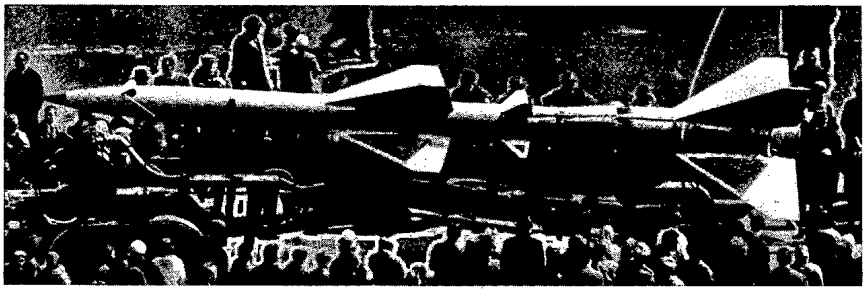
Weight (gun only)	75 pounds
Ammunition	12.7mm rimless
Operation	gas, automatic
Rate of fire	125 rounds per minute
Effective range	
ground targets	3,300 yards
air targets	3,000 feet

Remarks

Designed for use against aircraft and light armored ground targets, and adopted as primary AA machine gun on tanks and assault guns. Ground version is mounted on two-wheel carriage. Vehicle-mounted version is being replaced in Soviet units by KPV 14.5mm heavy machine gun, which is similar to ZPU-1. Used extensively and effectively by Communist forces in Southeast Asia as AA weapon, particularly against helicopters.

Surface-to-Air Missiles

SA-2



Characteristics

IOC	1958
Launchers per site	6
Maximum range	27 nm
Maximum effective altitude	90,000 ft
Minimum effective altitude	300 ft
Guidance	Radio command
Warhead	HE/nuclear probable

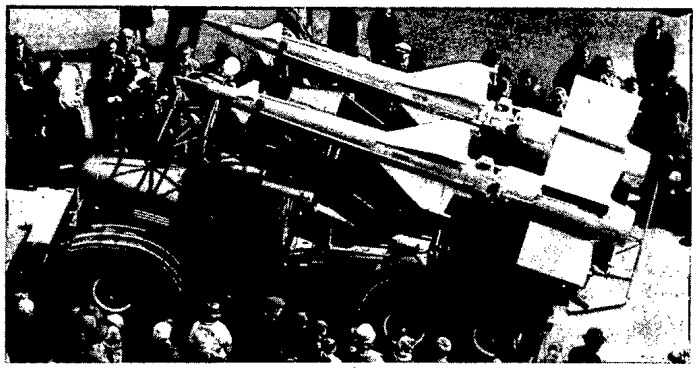
Remarks

Transportable. Used by East European countries and exported widely. Used against medium-to-high-altitude targets.

25X1

Surface-to-Air Missiles

SA-3



Characteristics

IOC	1961
Launchers per site	4 dual
Maximum range	13 nm
Maximum effective altitude	60,000 ft
Minimum effective altitude	150 ft
Guidance	Radio command
Warhead	HE

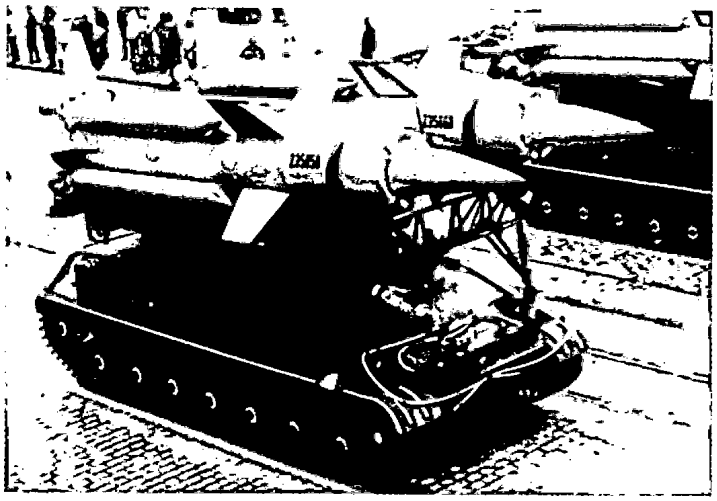
Remarks

Low-to-medium-altitude air defense system. Road transportable. Deployed widely in Eastern Europe, Cuba, and in the Middle East. Some sites also have new four-rail launcher.

25X1

Surface-to-Air Missiles

SA-4



Characteristics

IOC	1967
Missiles per vehicle	2
Maximum range	24 nm
Maximum effective altitude	50,000 ft
Minimum effective altitude	1,000 ft
Guidance	Radio command
Warhead	HE

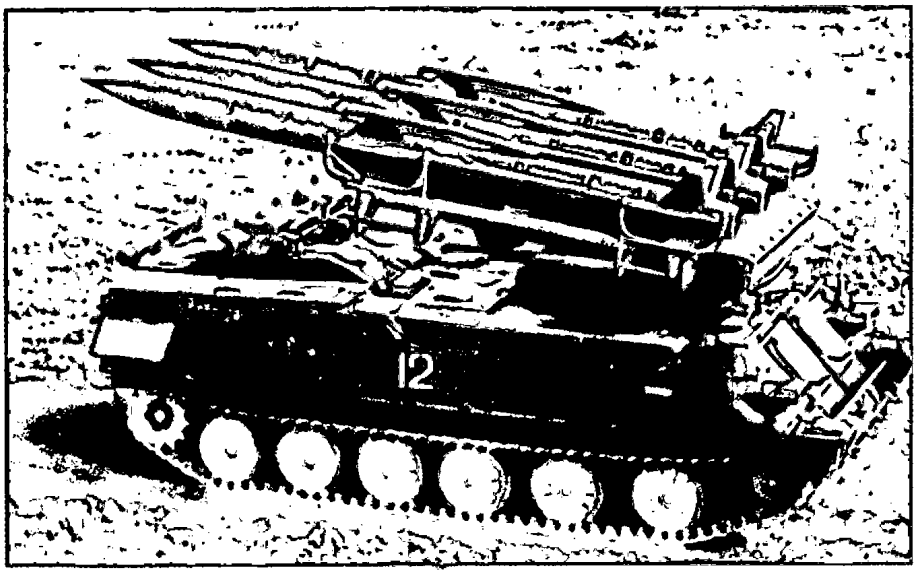
Remarks

Mobile system deployed primarily with Soviet field forces, but also exported to East Germany and possibly Czechoslovakia in limited numbers.

25X1

Surface-to-Air Missiles

SA-6



Characteristics

IOC	1970
Missiles per vehicle	3
Maximum range	12 nm
Maximum effective altitude	30,000 ft
Minimum effective altitude	100 ft
Guidance	Semiactive homing
Warhead	HE

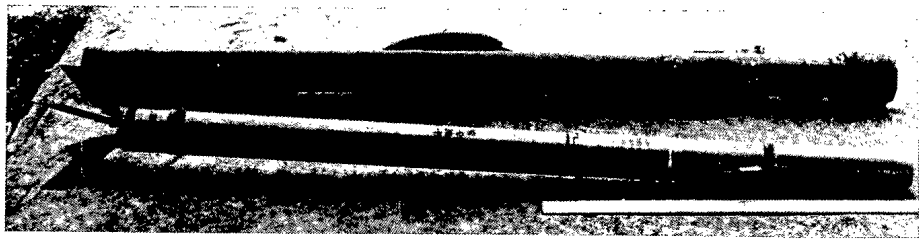
Remarks

Provides air defense for field forces. Effective as a low-to-medium-altitude air defense weapon. Deployed with Eastern European armies and with Arab forces in the Middle East.

25X1

Surface-to-Air Missiles

SA-7



Characteristics

IOC	1967
Maximum effective range	2.3 nm
Maximum effective altitude	7,500 ft
Minimum effective altitude	50 ft
Guidance	Infrared homing
Warhead	HE

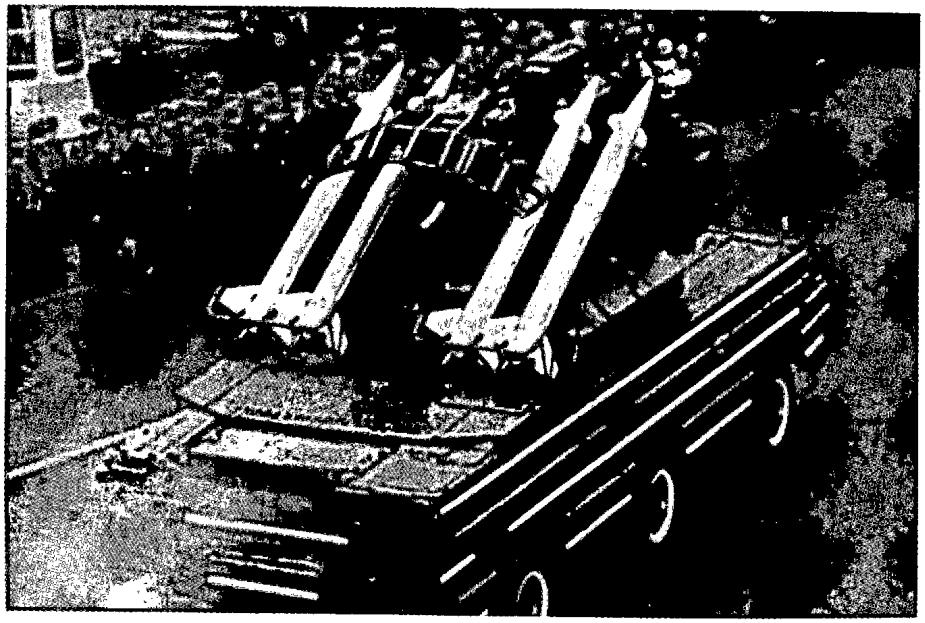
Remarks

Man-portable, shoulder-fired weapon. Effective against helicopters and slow-flying aircraft. Widely used by Communist armies and in the Middle East.

25X1

Surface-to-Air Missiles

SA-8



Characteristics

IOC	1974
Missiles per vehicle	4
Maximum range	6 nm
Maximum effective altitude	15,000 ft
Minimum effective altitude	150 ft
Guidance	Radio command
Warhead	HE

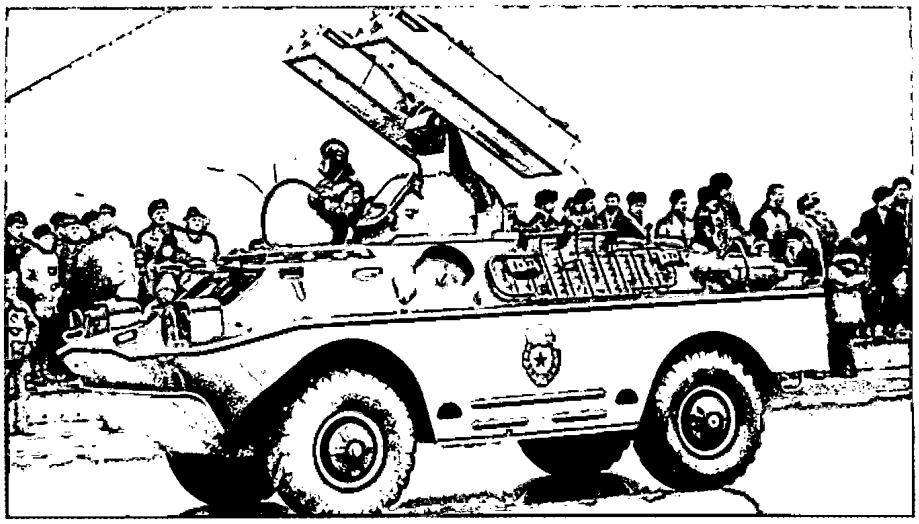
Remarks

Newest mobile tactical surface-to-air missile. Basic SA-8 vehicle contains acquisition and fire control radars as well as launchers. Only missile system with basic fire components on a single vehicle. Limited deployment within Soviet Union.

25X1

Surface-to-Air Missiles

SA-9



Characteristics

IOC	1968
Missiles per vehicle	4
Maximum range	2.3 nm
Maximum effective altitude	11,800 ft
Minimum effective altitude	50 ft
Guidance	Infrared homing
Warhead	HE fragmentation
Launch vehicle	BRDM-2 armored scout car

Remarks

System is replacing low-altitude antiaircraft guns in combat units. Deployed with Soviet forces. Missiles are similar to the SA-7, but are more effective against high-performance aircraft.

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