HEADQUARTERS
UNITED STATES ARMY, EUROPE
AND SEVENTH ARMY
APO New York 09403

USAREUR PAM
No. 30-60-1

1 March 1973

IDENTIFICATION GUIDE

PART ONE

WEAPONS AND EQUIPMENT
EAST EUROPEAN COMMUNIST ARMIES

VOLUME IV

ARMORED VEHICLES
SCOUT CARS, APC'S AND TANK RECOVERY VEHICLES

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FOREWORD

The purpose of this guide is to present the essential tactical, technical and recognition data on weapons and equipment presently employed in the armies and security forces of the Communist countries of Eastern Europe.

Every effort has been made to make this guide comprehensive, within the limits of an unclassified publication. Any discrepancies noted or any information on new or modified weapons or equipment should be forwarded to this headquarters for inclusion in future change sheets.

Part One of this guide supersedes the weapons and armored vehicles sections of the Identification Guide (Ordnance Equipment) Warsaw Pact Countries, USAREUR Pam 30-60-1, Seventh Revised Edition, 31 July 1968; and it also replaces the same section that appeared in the rescinded (6 Oct 69) Identification Handbook, Yugoslav Army Weapons and Equipment, USAREUR Pam 30-60-5, 31 March 1965.

Part Two of this guide (to be published at a future date) will replace the truck and tractor sections of the above mentioned publications and of the Identification Guide (Engineer Equipment) Warsaw Pact Countries, USAREUR Pam 30-60-8, Fifth Edition, 27 February 1970.

Part Three of this guide (also to be published at a future date) will cover all other equipment, thus completing the replacement of the older guides mentioned.

The date of information for Part One, Volume Four, of the new guide is October 1972.

Harold R. Aaron

HAROLD R. AARON
Major General, GS
Deputy Chief of Staff, Intelligence

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85mm and 88mm Antiaircraft Guns
90mm and 94mm Antiaircraft Guns
100mm and 130mm Antiaircraft Guns

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Surface-To-Air Guided Missile SA-3 "GOA"
Surface-To-Air Guided Missile SA-4 "GANEF"
Surface-To-Air Guided Missile SA-6 "GAINFUL"

VOLUME THREE

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Typical Assault Gun
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VOLUME FOUR

ARMORED VEHICLES: SCOUT CARS, APC'S AND TANK RECOVERY VEHICLES

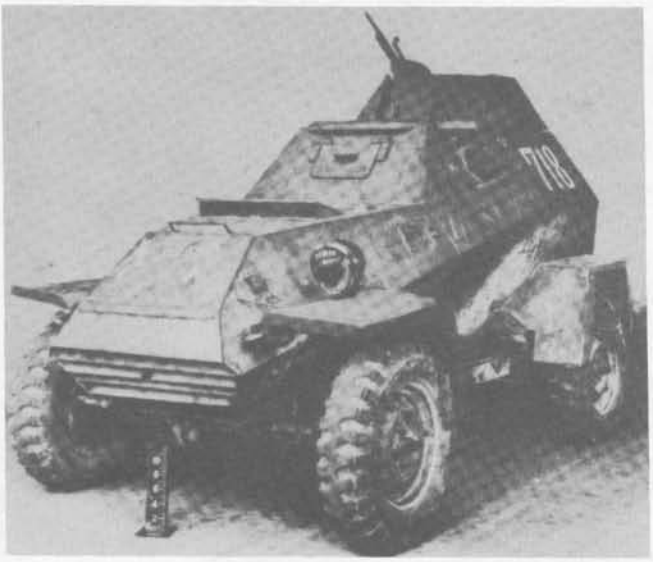
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ARMORED

RECONNAISSANCE

VEHICLES

ARMORED CARS



BA—64

SK—1





SK—2 ARMORED WATER CANNON

SOVIET AND EAST GERMAN ARMORED CARS AND WATER CANNON

Armored car BA-64
Armored car SK-1
Armored water cannon SK-2

At the beginning of the German invasion in 1941, the USSR possessed large numbers of armored cars, which were all obsolete and lacked all-wheel-drive. Production was stopped during the first part of the war and not resumed until 1943. At this time, a new lightweight all-wheel-drive vehicle based on the chassis of the new Soviet GAZ-67B jeep was placed in production. This vehicle, the BA-64, was strictly a reconnaissance and liaison vehicle. Not only was it lightly armored, but it also had minimal armament--normally a single 7.62mm machinegun, although often a 14.5mm antitank rifle was carried instead. The crew was also very small, consisting of only a driver and a commander. Although the BA-64 found use in Soviet and other East European Communist armies as a reconnaissance vehicle into the early 1950s, it has since been withdrawn and now is found only in security forces.

As a result of their experiences with the riots in June 1953, the East Germans in 1954 began to produce two armored vehicles for security work. Both are based on standard East German-produced trucks. The smaller vehicle is the SK-1 armored car which employs the 4x4 version of the Robur Garant 30K light truck. The armament is a single machinegun. East German Army units have never employed the SK-1. Only police, security troops and workers' militia units use it. Although the SK-1 resembles the BA-64, the SK-1 is much larger.

The SK-2 armored water cannon is a riot-control vehicle built on the chassis of the East German G 5 (6x6) truck. The turret-mounted, high-pressure water cannon is placed between the driver's cab and the water tank in the rear. The cab and the water cannon operator's compartment are armored against stones and similar missiles, but the water tank is not. In order to fill the water tank, the vehicle is brought into position above a water main manhole. The operator opens the hatch in the floor, lowers a filler pipe, and makes the connection. Filling takes from five to eight minutes. It is not necessary to leave the vehicle during filling. The tank may also be filled during operation. Maximum range is 70 meters. Four different jets are provided.

		BA-64	SK-1	SK-2
Vehicle				
Weight cbt	t	2.4	5.4	9.1
Wheelbase	mm	2130	3770	3800+1250
Length	mm	3660*	4000	7500
Width	mm	1740	2000	2500
Height w/o MG	mm	---	---	---
w/turret	mm	1900	2800	4300
Track: front/rear	mm	1448	1500/1450	1800/1750
Clearance	mm	210	280	255
Tire size		7.00x16	7.50x20	8.25x20
Engine model		GAZ-MM	30K	EM 6
Horsepower		50	55	120 or 150
Cylinders		4 inline	4 inline	6 inline
Fuel		gasoline	Diesel	Diesel
Cooling		water	air	water
Speed: land	km/h	80	80	48
water	km/h	---	---	---
Cruising range: road	km	600	350	585
Fuel capacity	l	90	70	150
Fuel consumption	l/100 km	15	16	36
Trench	mm	450	480	690
Step	mm	400	400	500
Slope	°	30	28	23
Tilt	°	17		
Ford	mm	470	540	1050
Armor: maximum	mm	15	8	5
Crew		2	5	3
Passengers		---	---	---
Armament				
Main armament	mm	7.62	7.9	water
Model		DTM	MG34	Cannon
Basic load	rds	1070	900	4000 liters
Elevation	°			+45
Depression	°			-10
Traverse	°	360	360	360
Axis of bore	mm	1775		
Secondary armament	mm	---	---	---
Basic load	rds	---	---	---

*with spare tire



BA—64

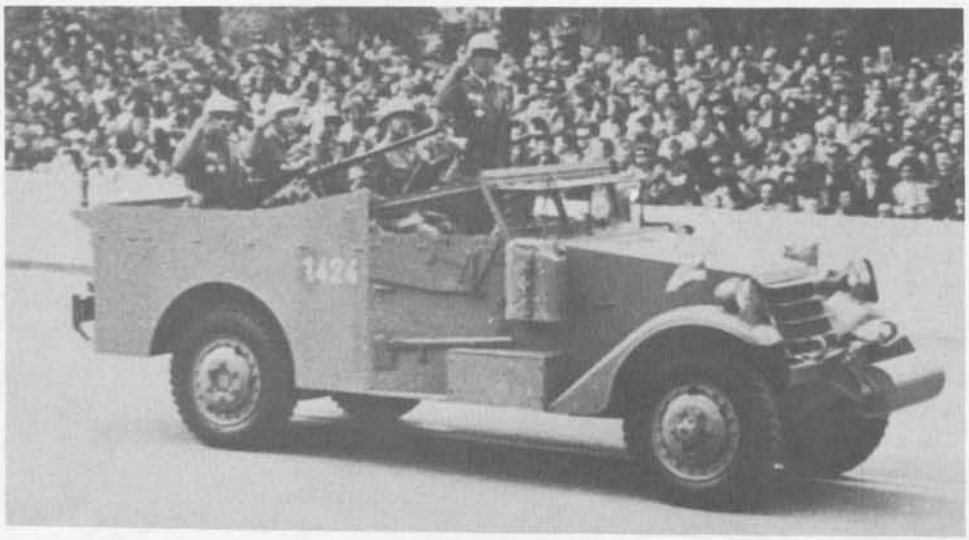




SK—2







SCOUT CAR M3A1



ARMORED CAR M8

Scout car M3A1
Armored car M8

The M3A1 four-wheel-drive scout car is a United States armored vehicle of World War II vintage. During the war, it was used by the Allies, including the Soviets, as a command and reconnaissance vehicle. In these roles it is still used in the Yugoslav Army. The M3A1 is open-topped, does not have a centralized tire pressure regulation system, and is not amphibious. Its usual armament is a single machinegun.

The M8 six-wheel-drive light armored car is also a United States World War II armored vehicle. It mounts an open-topped turret armed with a 37mm gun and a 7.62mm machinegun. Some vehicles also carry a 12.7mm antiaircraft machinegun on a ring mount on top of the turret. The M8, which is still used for reconnaissance purposes by the Yugoslav Army, has better cross-country ability than the M3A1 scout car, but it too is not amphibious.

		M3A1	M8
Vehicle			
Weight cbt	t	5.3	7.8
Wheelbase	mm	3327	2032+1219
Length	mm	5613	5004
Width	mm	1956	2540
Height w/o MG	mm	1208	---
w/turret	mm	---	2286
Track: front/rear	mm	1607/1657	1930
Clearance	mm	400	290
Tire size		8.25x20	9.00x20
Engine model		Hercules*	Hercules**
Horsepower		110	86
Cylinders		6 inline	6 inline
Fuel		gasoline	gasoline
Cooling		water	water
Speed: land	km/h	89	90
water	km/h	---	---
Cruising range: road	km	400	384
Fuel capacity	l	114.6	204
Fuel consumption	l/100 km	29	55
Trench	mm	550	550
Step	mm	305	305
Slope	°	31	31
Tilt	°		
Ford	mm	712	810
Armor: maximum	mm	12.7	50
Crew		2	4
Passengers		8	---
Armament			
Main armament	mm	varies	37 gun
Model			M6
Basic load	rds		80
Elevation	°		+20
Depression	°		-10
Traverse	°		360
Axis of bore	mm		1845
Secondary armament AA	mm	---	12.7 M2 HB
Coaxial	mm	---	7.62 M1919A4
Basic load 12.7mm	rds	---	420
7.62mm	rds	---	1575

AMPHIBIOUS SCOUT CARS



BRDM



BRDM—2

SOVIET AMPHIBIOUS WHEELED RECONNAISSANCE VEHICLES

Amphibious scout car BRDM (BTR-40P)
Amphibious scout car BRDM-rkh (BTR-40P-rkh)
Amphibious scout car BRDM-U (BTR-40PU)
Amphibious scout car BRDM-2 (BTR-40P-2)
Amphibious scout car BRDM-2-rkh (BTR-40P-2-rkh)
Amphibious scout car BRDM-2U (BTR-40P-2U)

The BRDM four-wheel-drive amphibious scout car first appeared in the spring of 1959 and rapidly became the standard light wheeled reconnaissance vehicle in most of the Warsaw Pact armies. It is now in the process of being replaced by the newer BRDM-2 and the Hungarian FUG scout cars. Resembling a cross between the GAZ-46 (MAV) amphibious jeep and the BTR-40 armored personnel carrier, the BRDM combines amphibious features with full armored cover. Cross-country ability is heightened by the use of a centralized tire pressure regulation system and through the use of two sets of small belly wheels which can be lowered to add flotation and assist in crossing gaps.

Four versions of the BRDM are in existence: the basic BRDM reconnaissance vehicle; the BRDM-rkh radiological-chemical reconnaissance vehicle with marking-flag dispensing devices; the BRDM-U command vehicle distinguishable only by extra radio antennas; and three different antitank guided missile carriers for AT-1 SNAPPER, AT-2 SWATTER, and AT-3 SAGGER antitank missiles. All versions of the BRDM are propelled in the water by a single waterjet. Recognition of the BRDM-rkh is facilitated by the presence of two canvas box-shaped devices mounted outboard on the rear deck. These are the marking-flag dispensers.

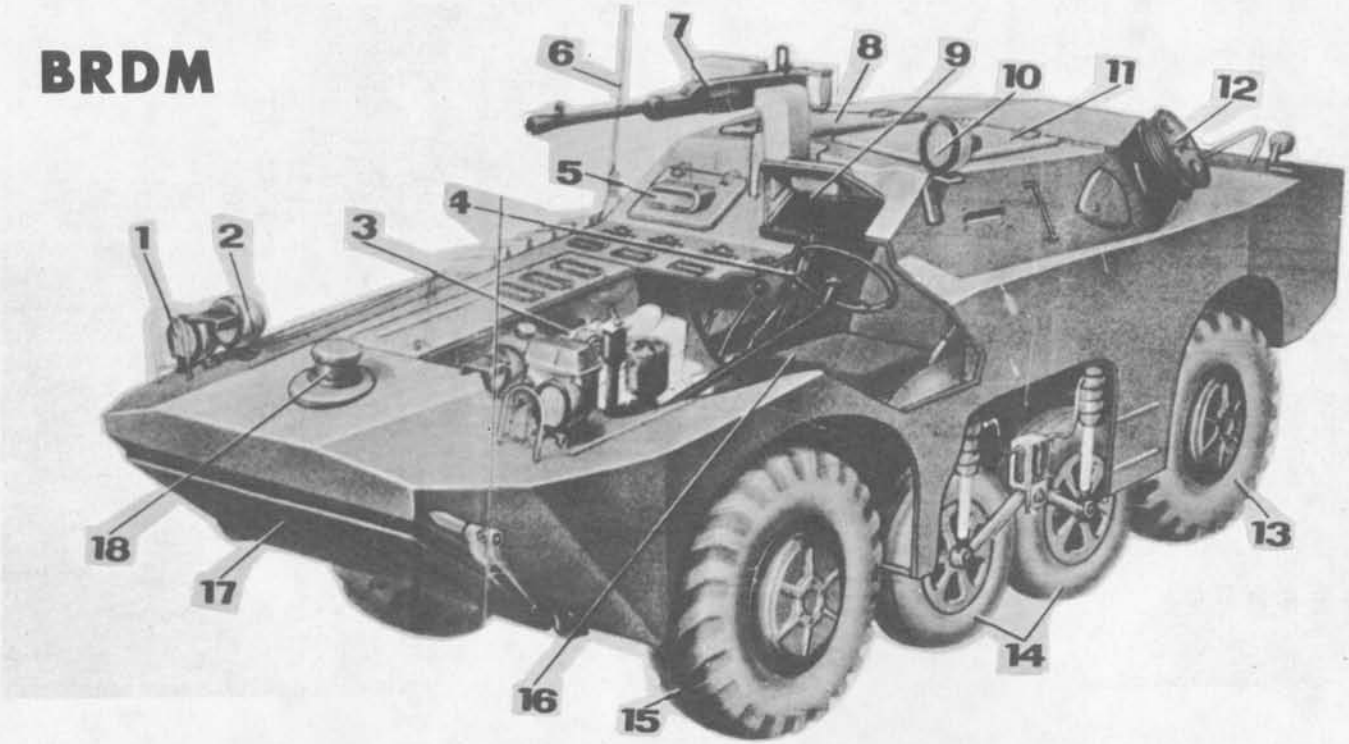
In an attempt to improve the amphibious characteristics and increase the combat power of their wheeled reconnaissance vehicles, the Soviets produced the BRDM-2. This vehicle differs from the original BRDM in that the powerplant has improved and moved to the rear of the vehicle, and that a small 14.5mm machinegun-armed turret has been fitted. This turret is identical to that found on the BTR-60PB armored personnel carrier.

Like the BRDM, the BRDM-2 comes in four versions: the basic reconnaissance vehicle; the BRDM-2-rkh radiological-chemical reconnaissance vehicle; the BRDM-2U command vehicle without turret but with generator and extra radios; and an antitank guided missile vehicle for the AT-3 SAGGER missile. All versions have water propulsion through a single waterjet like the BRDM. The reconnaissance versions have a land navigation system which gives coordinate readings.

The BRDM-2 has appeared in Soviet units and in many other Warsaw Pact forces such as the East German, Polish, Bulgarian and Romanian Armies. It has also been exported to Yugoslavia. Care must be taken to distinguish it from the Hungarian FUG (OT-65) and FUG-70 amphibious scout cars, which also have rear engines but have twin waterjets.

		BRDM	BRDM-2
Vehicle			
Weight cbt	t	5.6	7.0
Wheelbase	mm	2800	3100
Length	mm	5700	5750
Width	mm	2250	2350
Height w/o MG	mm	1900	---
w/turret	mm	---	2310
Track	mm	1600	1840
Clearance	mm	315	335
Tire size		12.00x18	13.00x18
Engine model		GAZ-40P	GAZ-41
Horsepower		90	140
Cylinders		6 inline	V-8
Fuel		gasoline	gasoline
Cooling		water	water
Speed: land	km/h	80	100
water	km/h	9	10
Cruising range: road	km	500	750
Fuel capacity	l	150	290
Fuel consumption	l/100 km	30	35-45
Trench	mm	1220	1250
Step	mm	400	400
Slope	°	30	30
Tilt	°	25	
Ford	mm	---	---
Armor: maximum	mm	10	10
Crew		5	4
Passengers		---	---
Armament			
Main armament	mm	7.62 MG	14.5 MG
Model		SGMB	KPVT
Basic load	rds	1250	500
Elevation	°	+23.5	+30
Depression	°	-6	-5
Traverse	°	90	360
Axis of bore	mm		2130
Secondary armament	mm	---	7.62 PKT
Basic load	rds	---	2000

BRDM



1. Headlight
2. Blackout light
3. Engine
4. Steering wheel
5. Commander's vision port
6. Antenna
7. Machinegun
8. Armored hatch
9. Driver's vision port
10. Searchlight
11. Armored hatch
12. Communication wire and reel
13. Left rear tire
14. Rough terrain wheels (in lowered position)
15. Left front tire
16. Driver's seat
17. Bow vane
18. Stanchion



BRDM with rough terrain wheels in lowered position.



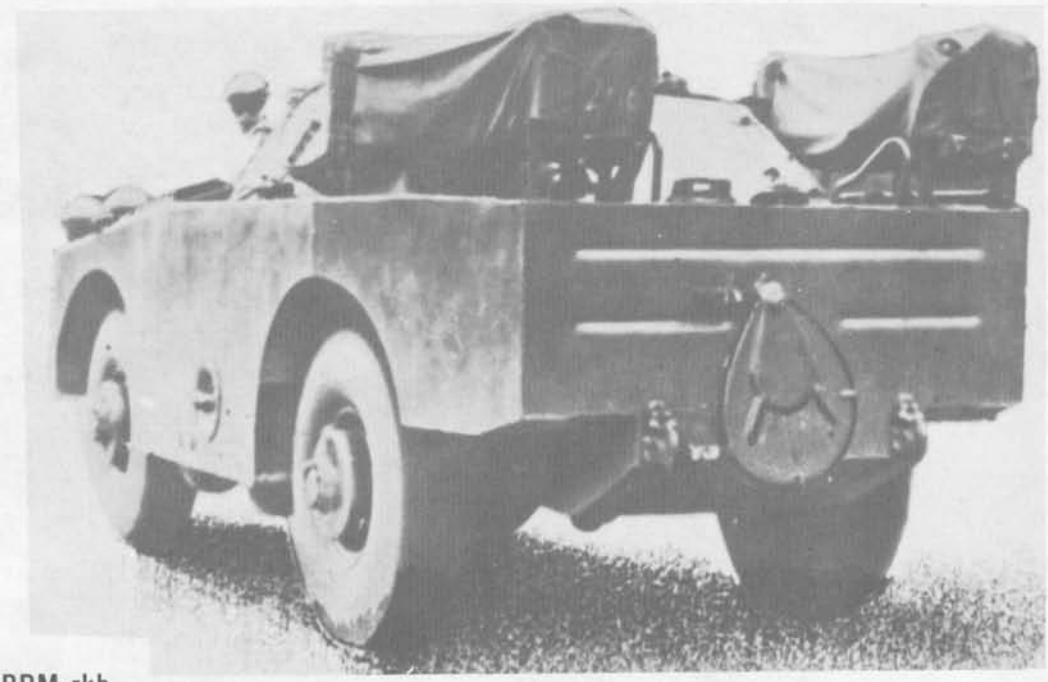
BRDM-U Command Vehicle (note extra antennas)



BRDM



BRDM-rkh



BRDM-rkh



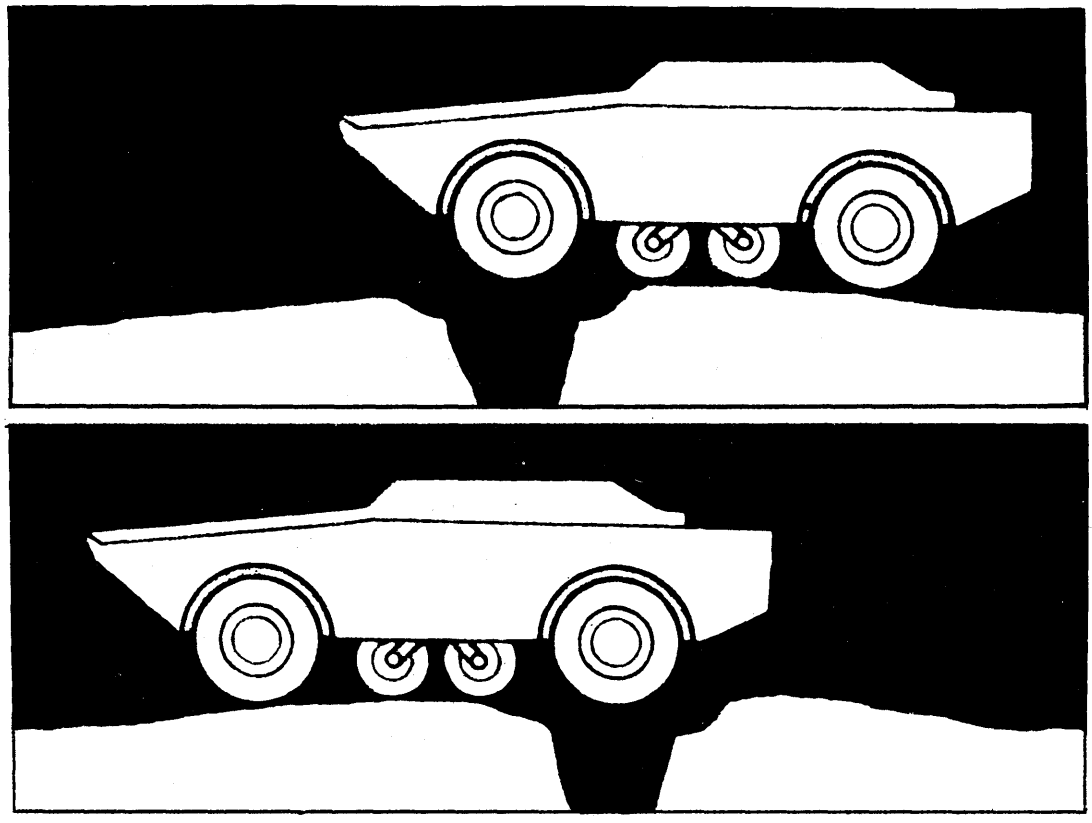
BRDM with "SNAPPER" ATGM



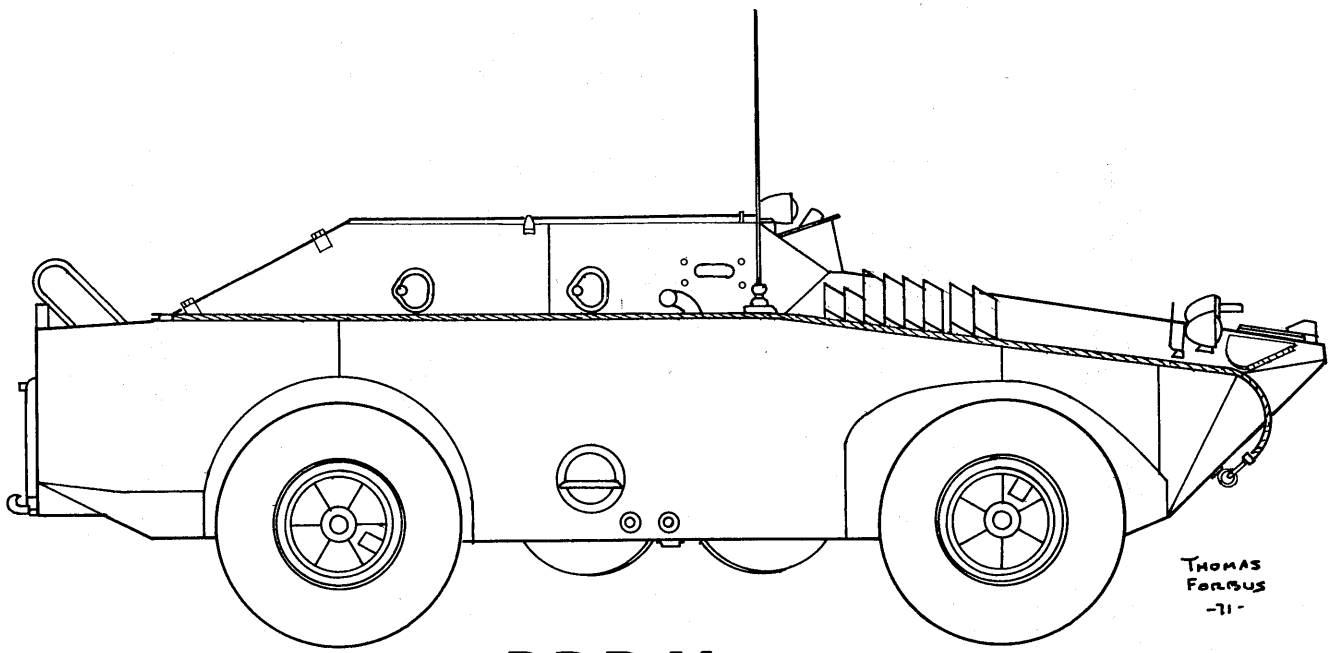
BRDM with "SWATTER" ATGM

BRDM with"SAGGER" ATGM





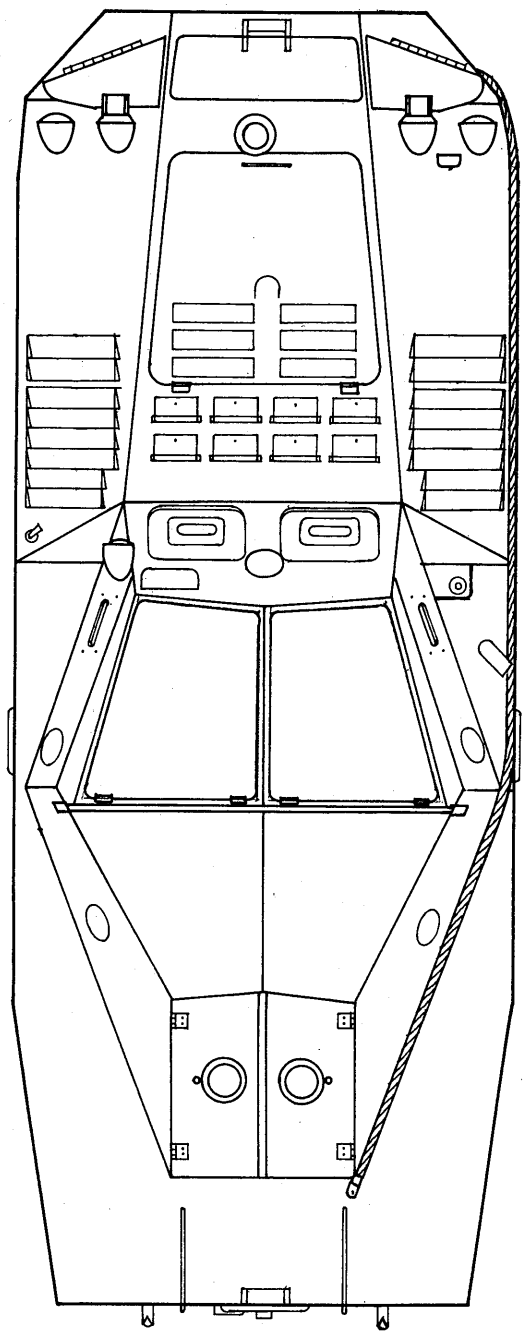
ROUGH TERRAIN WHEELS IN OPERATION.



BRDM

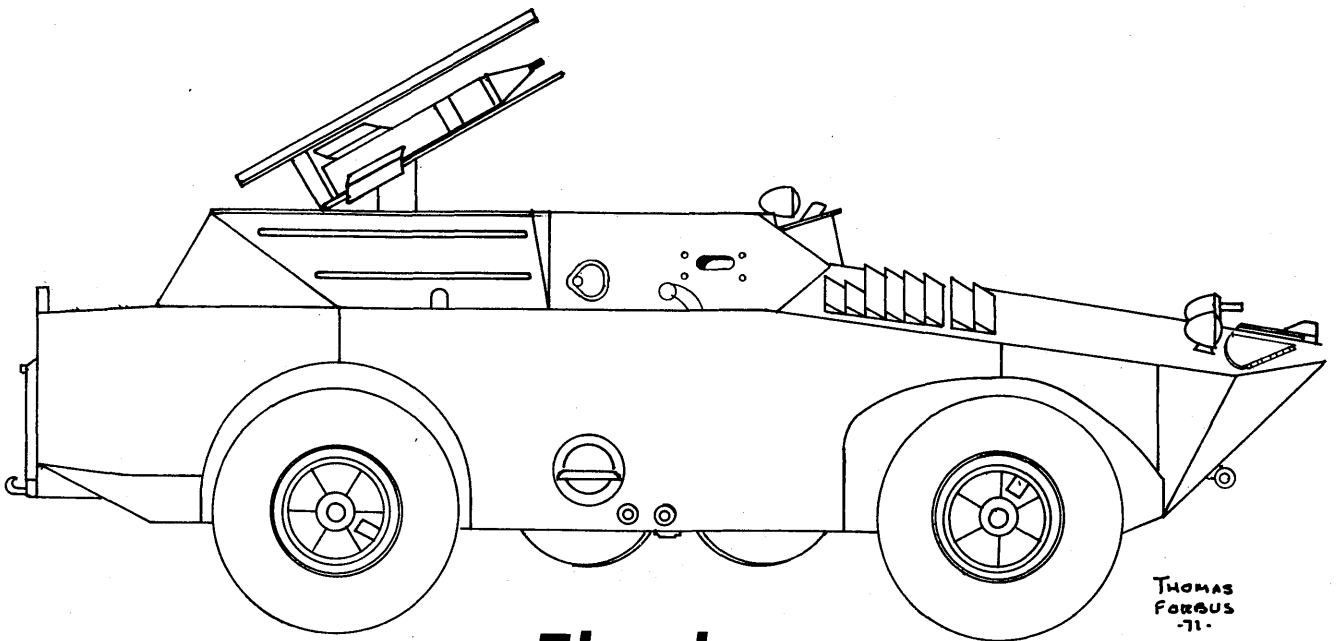
Flank

BRDM



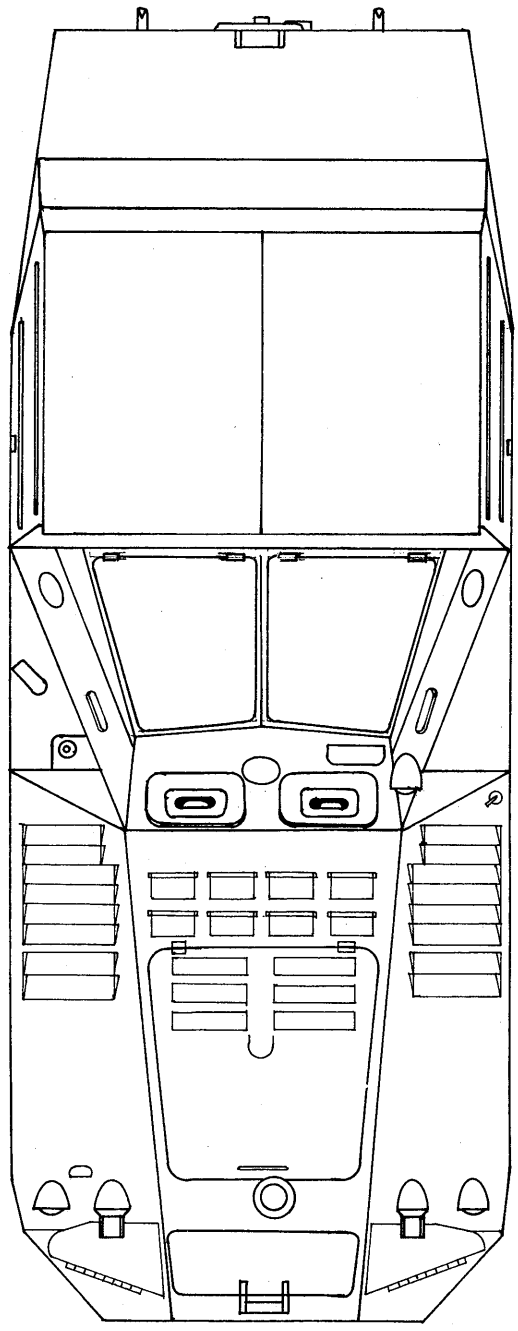
Top

BRDM ATGM Carrier

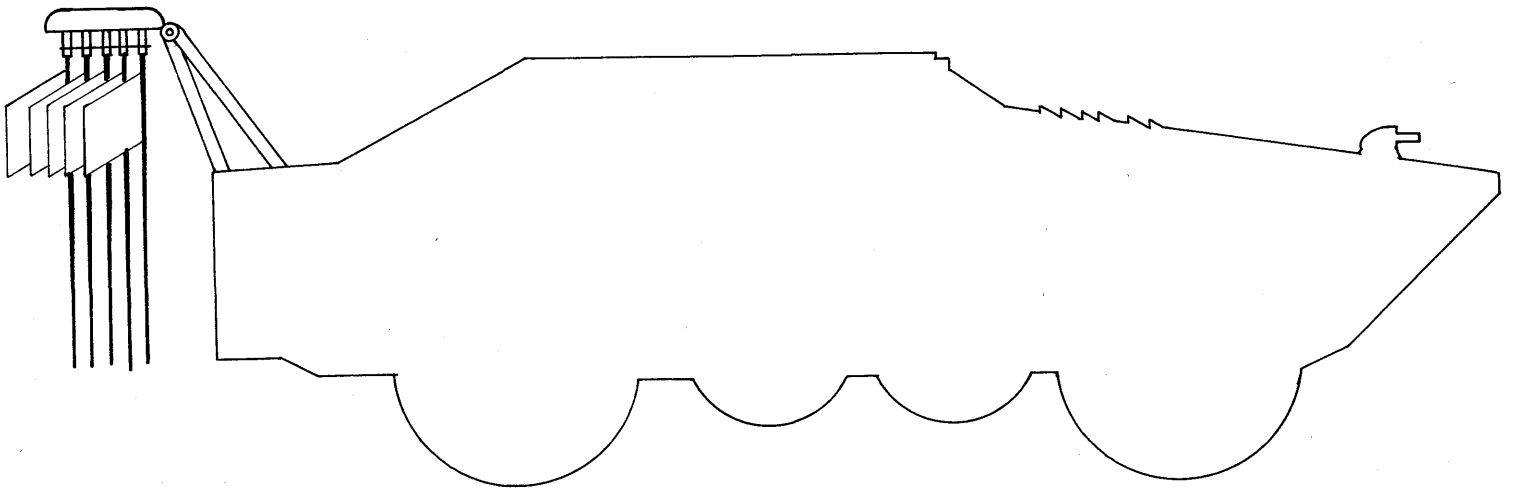


Flank

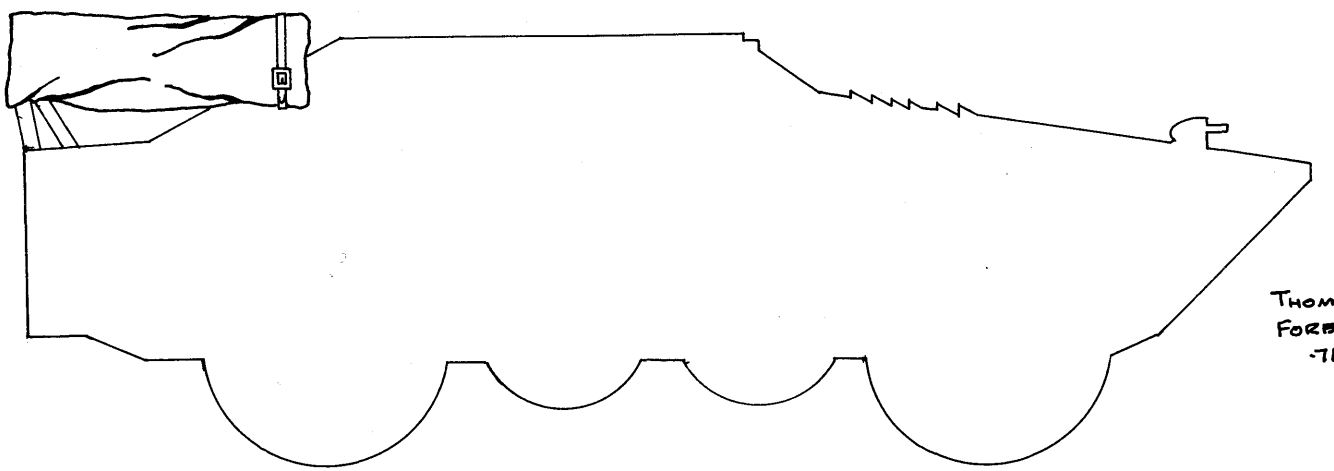
Top



BRDM ATGM Carrier



BRDM rkh

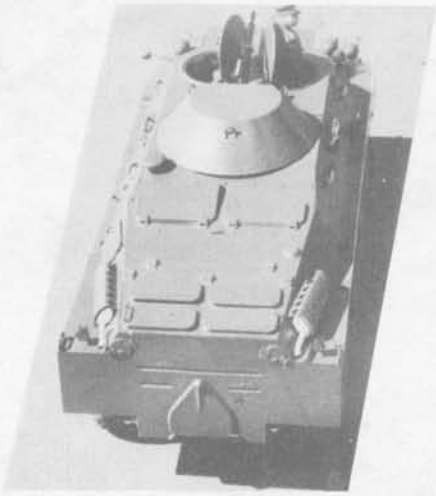


THOMAS
FORBUS
-71-



BRDM-2 Scout Car

BRDM-2 Scout Car





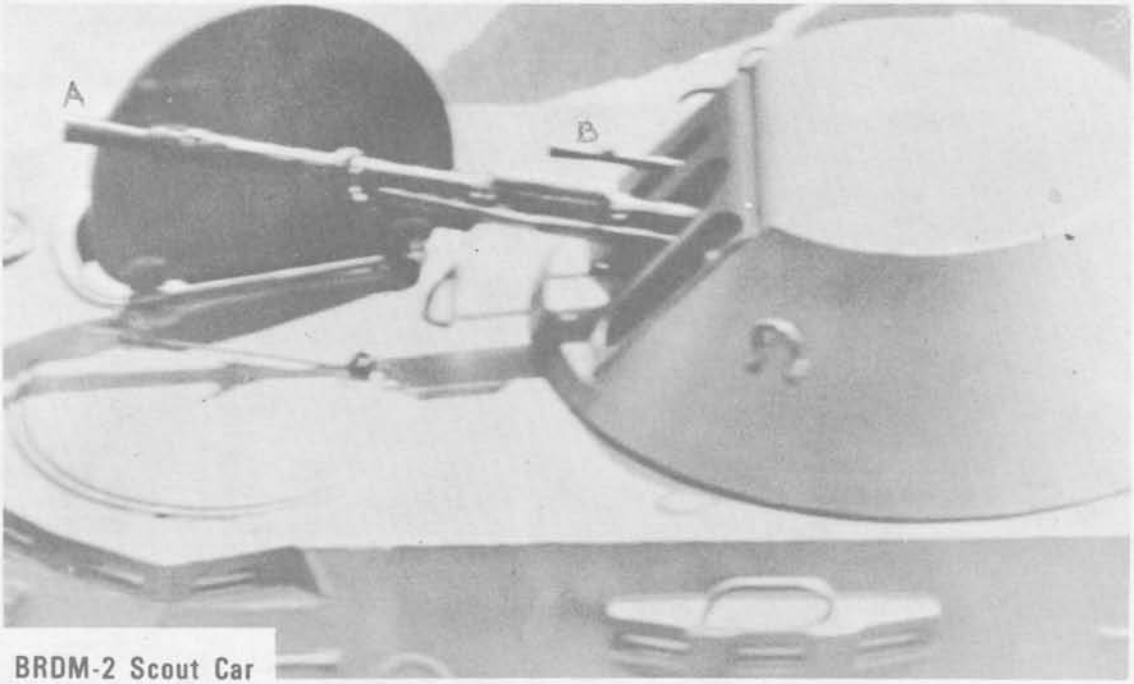
BRDM-2 Scout Car



BRDM-2 Scout Car

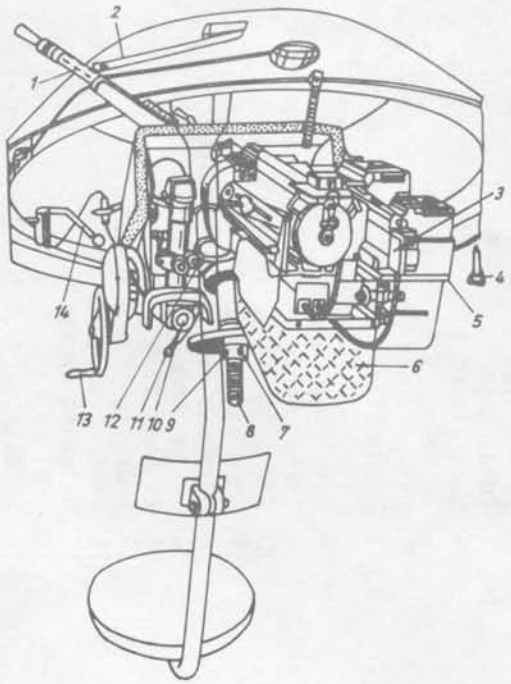


BRDM-2 Scout Car



BRDM-2 Scout Car

14.5mm MG Turret



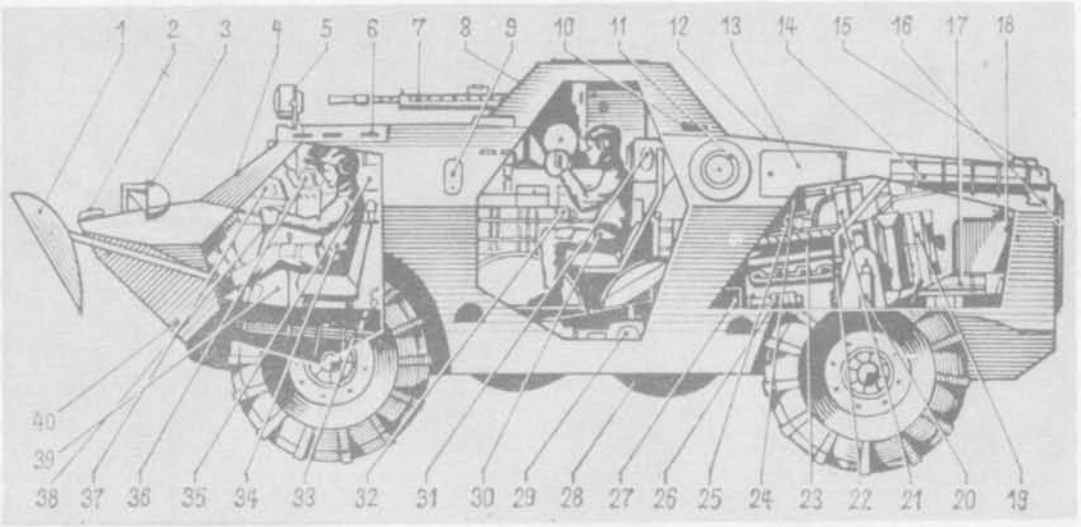
(used on BRDM-2,
BTR-60PB and OT-64C(1)).

Top Photo

A. Tank machinegun 14.5mm KPVT
B. Tank machinegun 7.62mm PKT

Bottom Photo

1. Tank machinegun KPVT
2. Vertical stop for machineguns
3. Tank machinegun PKT
4. Turret lock
5. Latch for ammo belt box holder
6. Bag for empty cartridge cases
7. Firing switch for PKT machinegun
8. Traversing mechanism
9. Firing switch for KPVT machinegun
10. Telescopic sight
11. Elevating mechanism lock
12. Cocking lever for KPVT
13. Elevating mechanism
14. Traversing mechanism lock



BRDM—2

1. Bow vane
2. Towing eyes
3. Headlights
4. Observation slit
5. Commander's IR headlight
6. Driver's and commander's periscope
7. Armament: 14.5mm KPVT machinegun
   7.62mm PKT coaxial machinegun
8. Revolving turret
9. Firing ports for small arms of crew
10. Air intake for filter system
11. Drum with winch cable
12. Covers of engine air intake
13. Engine compartment hatch
14. Exhaust pipe
15. Rear lights and towing eyes
16. Protective hatch for waterjet system
17. Waterjet system
18. Fuel tank
19. Ventilator, water and oil cooler
20. Hydraulic shock absorber
21. Air compressor
22. Generator
23. Engine
24. Carburetor with air filter
25. Ignition coil and distributor
26. Starter
27. Clutch
28. Belly wheels
29. Propulsion system
30. Gunner
31. Filter ventilation system
32. Ammunition for machineguns
33. Front-axle suspension
34. Driver
35. Radio
36. Commander (partly concealed by driver)
37. Navigational instruments
38. Steering system
39. Steering system
40. Cable winch



BRDM-2U Command Vehicle



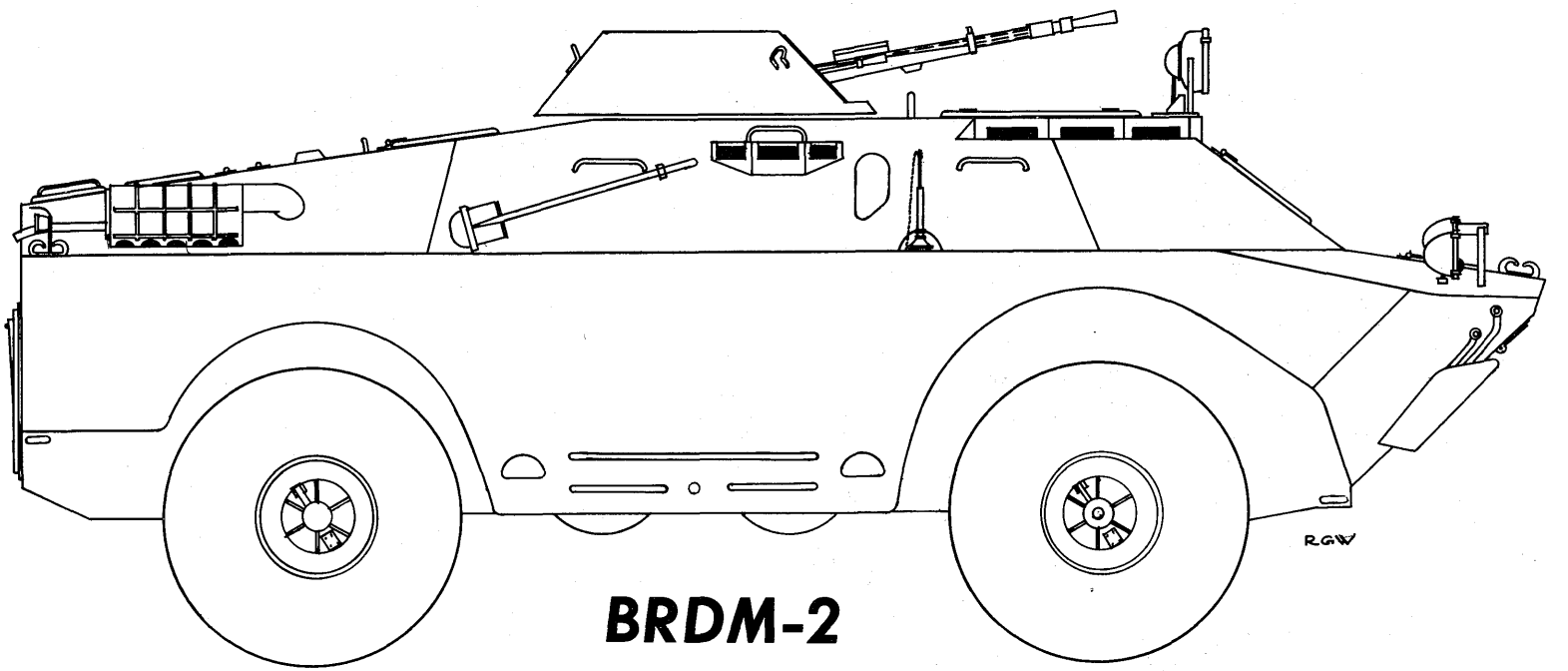
BRDM-2U



BRDM-2 rkh

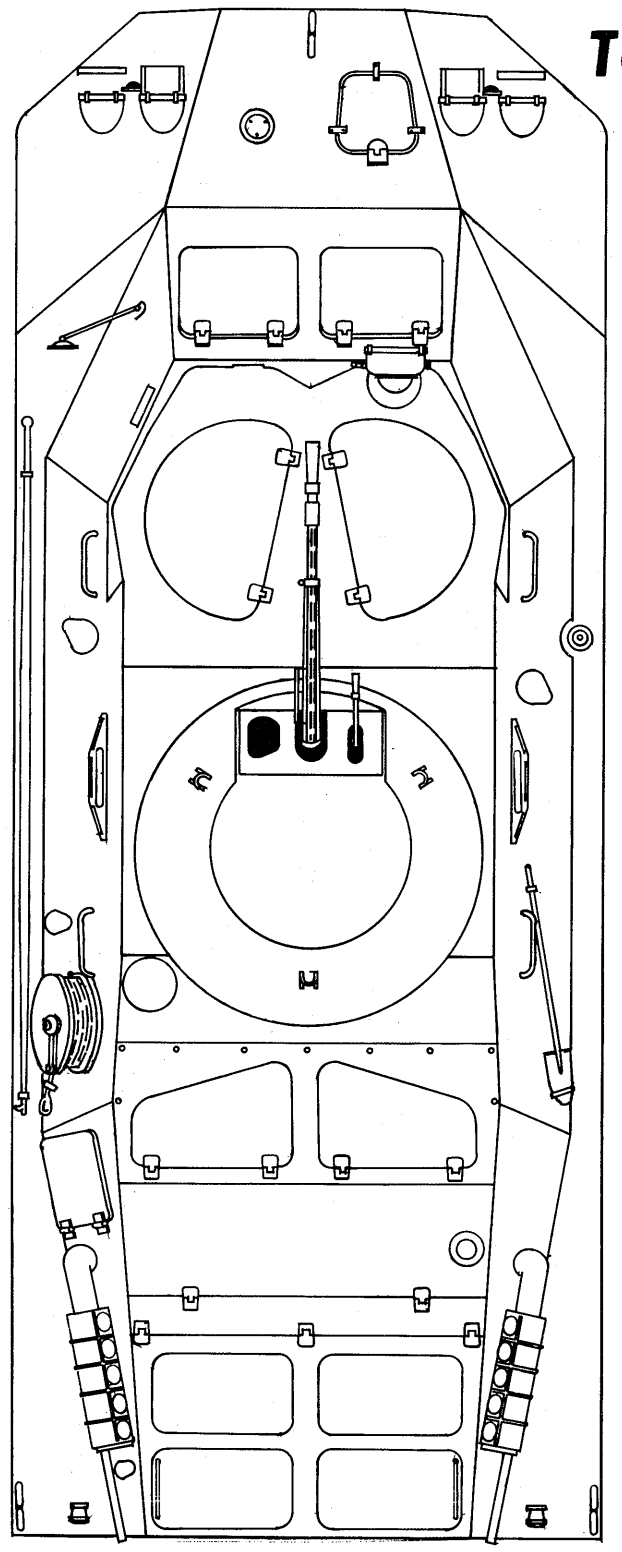


BRDM-2 with "SAGGER" ATGM

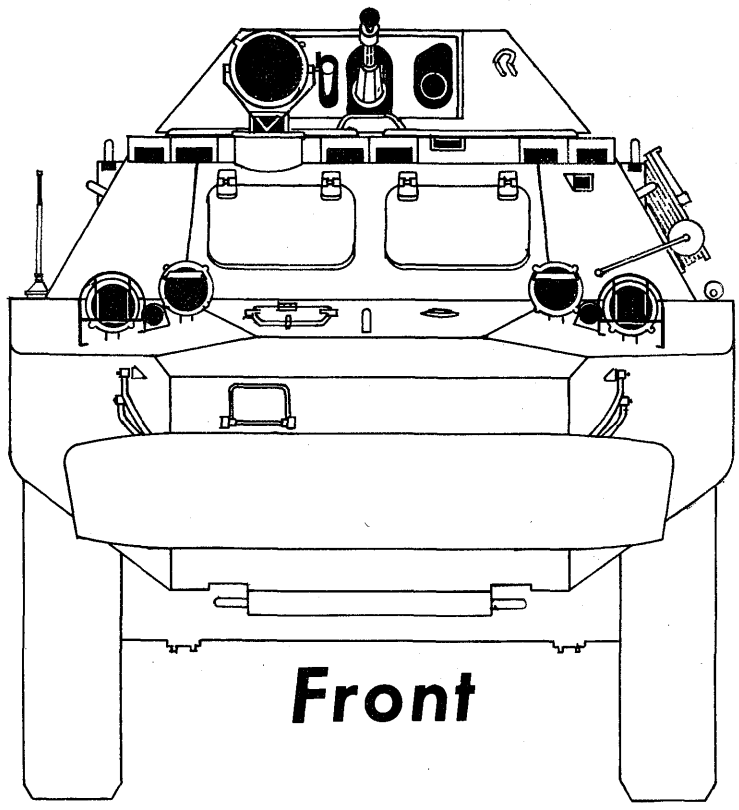


BRDM-2

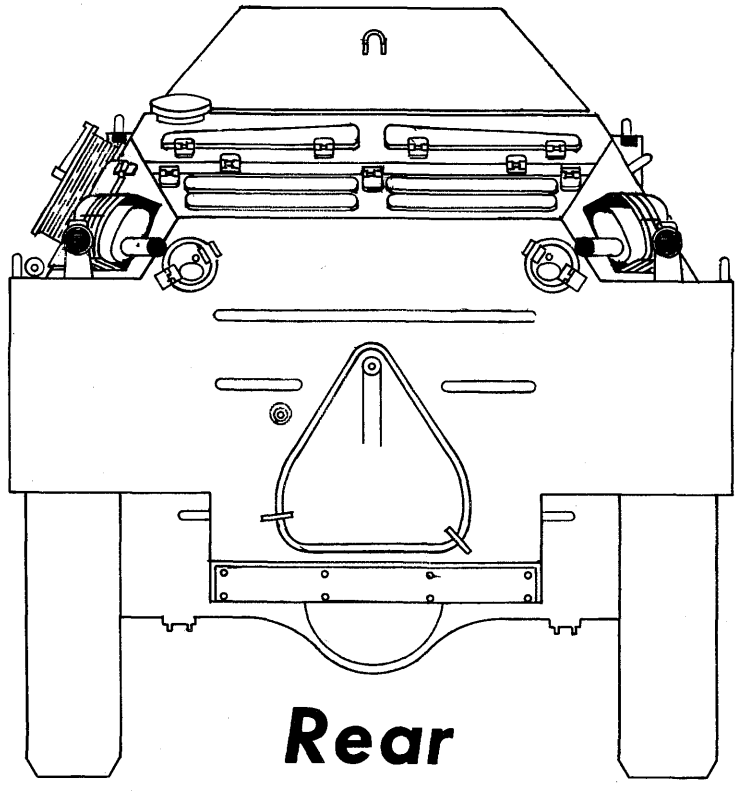
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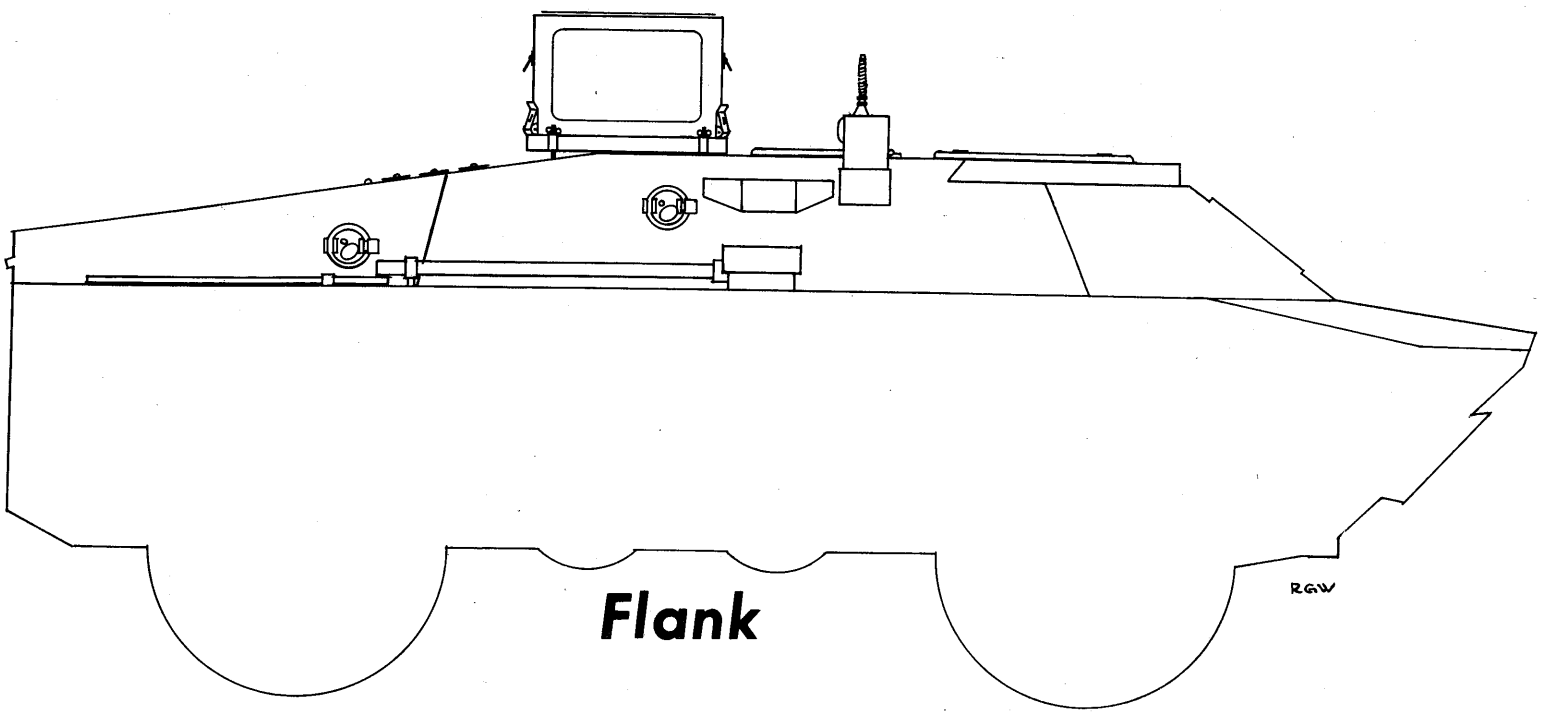
BRDM-2



Front



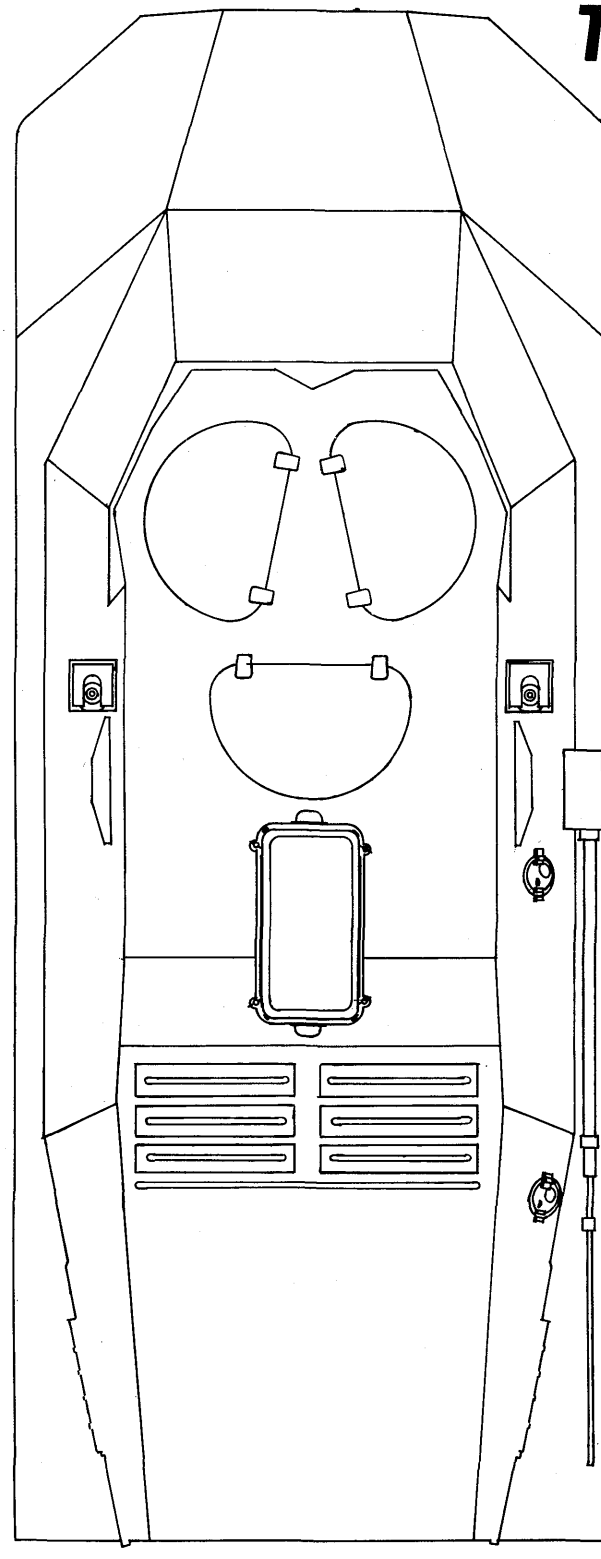
Rear



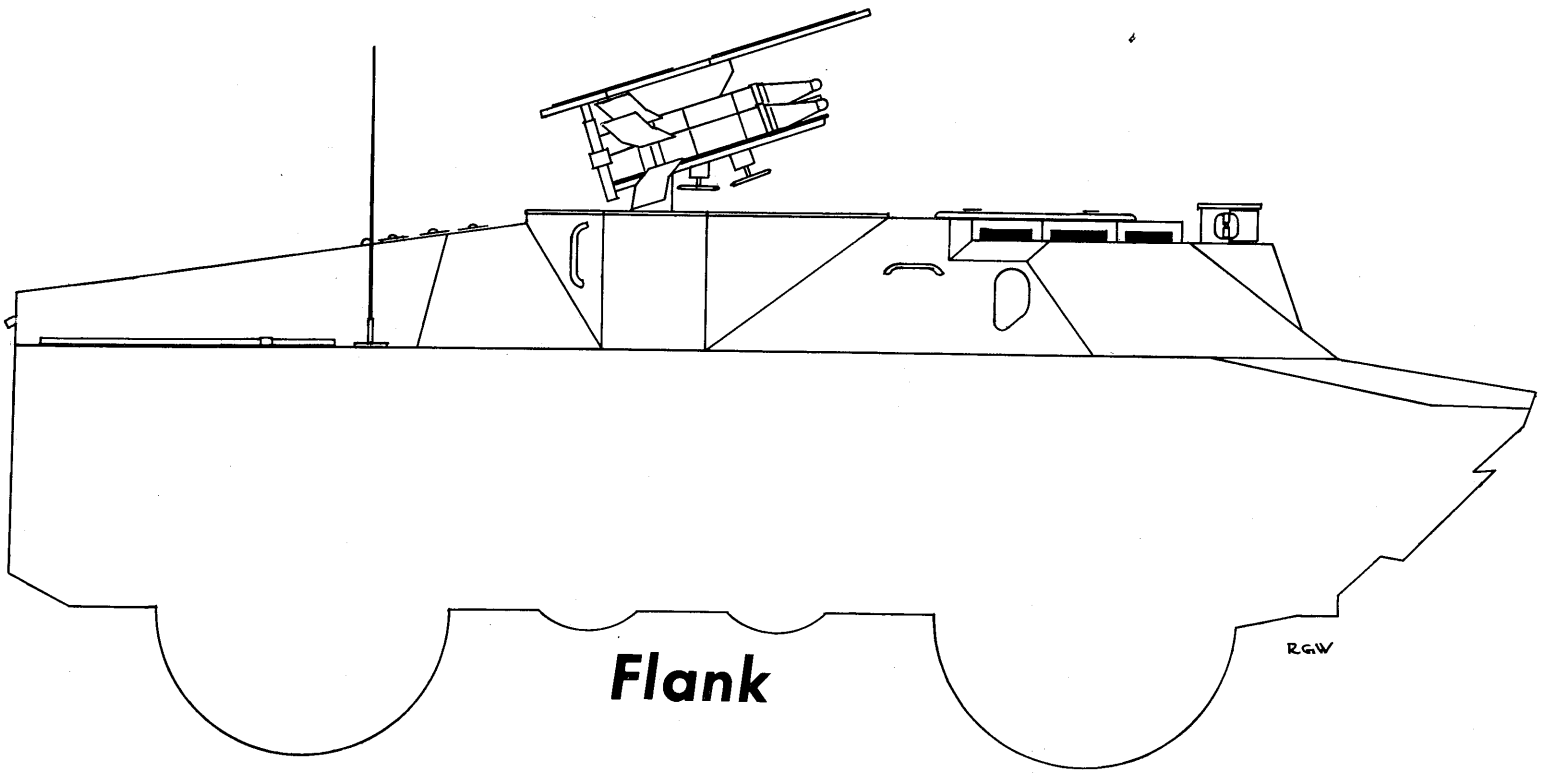
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BRDM-2 Command Vehicle

Top

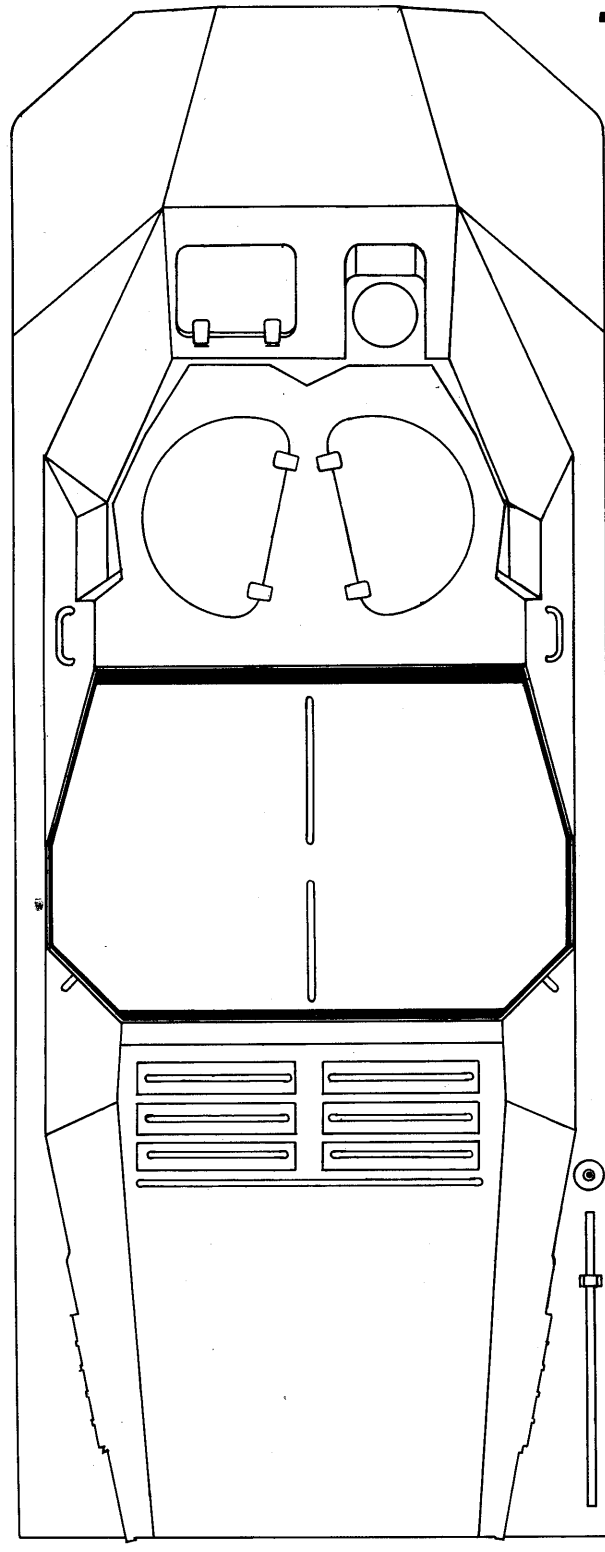


BRDM-2
Command Vehicle



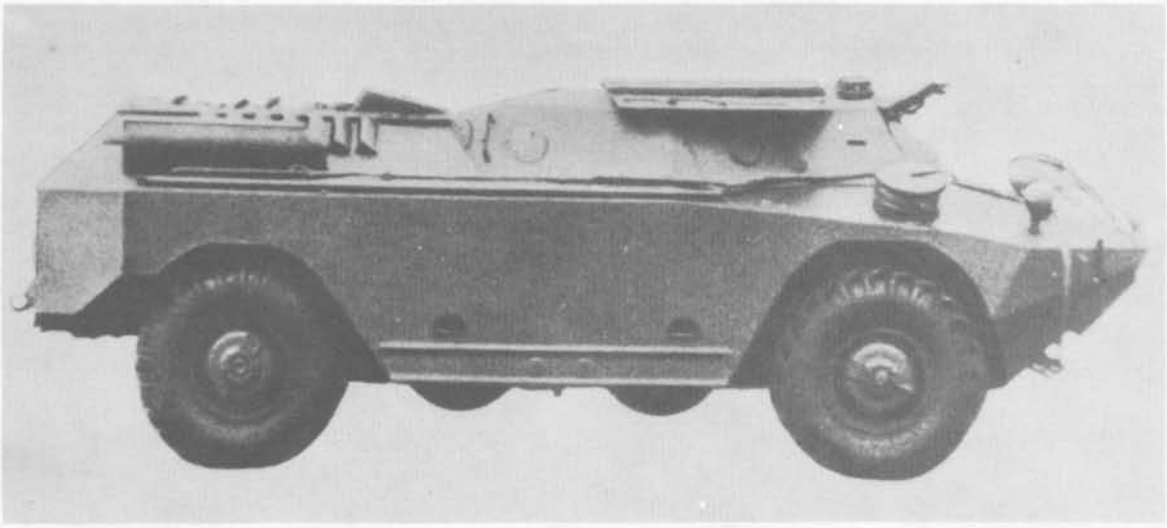
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BRDM-2 ATGM Carrier



BRDM-2 ATGM Carrier

HUNGARIAN
AMPHIBIOUS SCOUT CARS



FUG (OT—65)



FUG—70

HUNGARIAN AMPHIBIOUS WHEELED ARMORED RECONNAISSANCE VEHICLES

Amphibious scout car FUG (OT-65)
Amphibious scout car FUG (OT-65) (CBR version)
Amphibious scout car OT-65A
Amphibious scout car FUG-70

The FUG is a Hungarian amphibious scout car which is also employed in the Czechoslovak Army as the OT-65, and to a limited extent in the Polish Army. It resembles a Soviet BRDM-2 scout car without turret, but has two waterjet exhausts instead of one. Like the Soviet BRDM vehicles the FUG has a centralized tire-pressure regulation system and two sets of belly wheels. The powerplant, however, is a Hungarian diesel engine. In addition to its basic version, it has been observed in an ambulance role and as a radiological-chemical reconnaissance vehicle. The Czechoslovak Army has modified its OT-65 by adding the small turret from the OT-62B armored personnel carrier. This turret mounts a 7.62mm machinegun internally and an 82mm recoilless gun T-21 externally. This significantly increases the firepower of the vehicle which in the past had nothing more than an unmounted 7.62mm light machinegun.

In attempting to improve the FUG scout car, the Hungarians have developed a new FUG, which was first paraded in Budapest on 4 April 1970.* This FUG-70, which is very similar to the older FUG, has extensive alterations on the front of the vehicle and mounts a 14.5mm machinegun armed turret. Further changes include the elimination of the belly wheels (which lowers the cross-country ability) and the addition of personnel hatches and firing ports on both sides of the vehicle. The new turret is larger than the Soviet turret on the BRDM-2, but is similarly armed. The FUG-70 appears to be a combination scout car and half-squad armored personnel carrier. Some FUG-70's are issued to the East German border troops. A turretless version of the FUG-70 has been seen. It is not clear yet what its role will be, but it will most likely be a command vehicle.

*A prototype vehicle (identified as the FUG-66) was paraded in September 1966, and was mistakenly believed to be the production model. Only a limited number of these vehicles were ever produced, and none have been sighted since the late 1960s.

		FUG	FUG-70
Vehicle			
Weight cbt	t	6.1	7.0
Wheelbase	mm	3200	3200
Length	mm	5790	5790
Width	mm	2362	2362
Height w/o MG	mm	1900	---
w/turret	mm	2250*	2525
Track	mm	1900	1900
Clearance	mm	305	305
Tire size		12.00x18	30.00x18
Engine model		Csepel D-414.44	Raba-MAN D-2156
Horsepower		100	
Cylinders		4 inline	6 inline
Fuel		Diesel	Diesel
Cooling		water	water
Speed: land	km/h	87	100
water	km/h	9	10
Cruising range: road	km	500	500
Fuel capacity	l	140	
Fuel consumption	l/100 km	24	
Trench	mm	1300	600
Step	mm	400	400
Slope	°	32	30
Tilt	°		
Ford	mm	---	---
Armor: maximum	mm	10	10
Crew		5	3
Passengers			6
Armament			
Main armament	mm	7.62 MG	14.5 MG
Model		SGMB	KPVT
Basic load	rds	1250	500
Elevation	°	+23.5	+30
Depression	°	-6	-5
Traverse	°	90	360
Axis of bore	mm	---	2050
Secondary armament	mm	***	7.62 PKT
Basic load	rds	---	2000

*OT-65A
**82mm rcl gun T-21 for OT-65A
***7.62mm machinegun M59T for OT-65A

FUG (OT-65)

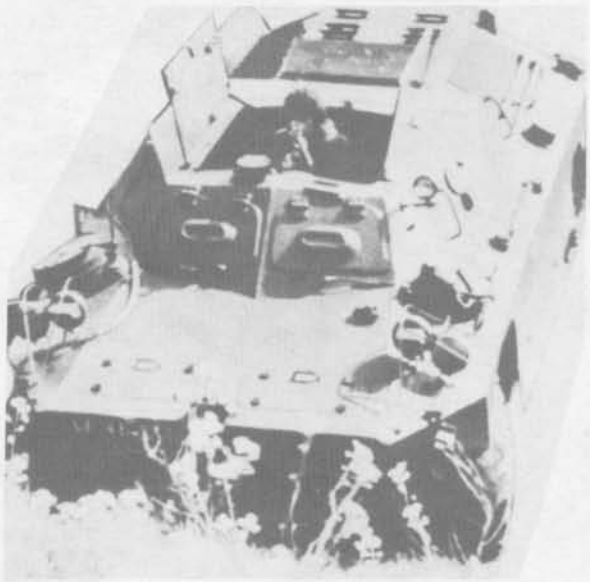




FUG (OT-65)



FUG (OT-65)



FUG (OT-65)



FUG (OT-65)

(NOTE: Vehicle to left rear is the FUG--66. This was a prototype of the FUG-70.)

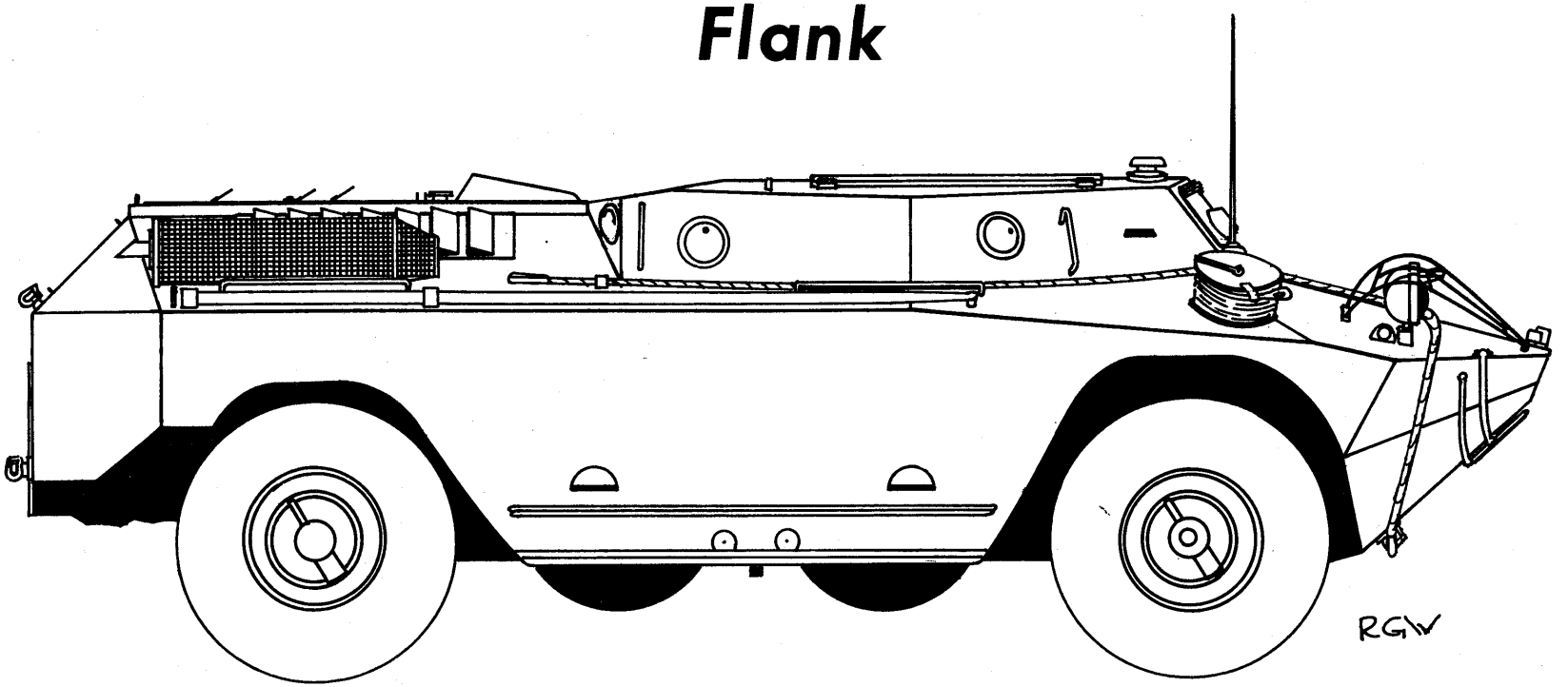


FUG (OT-65) CBR Recon Vehicle



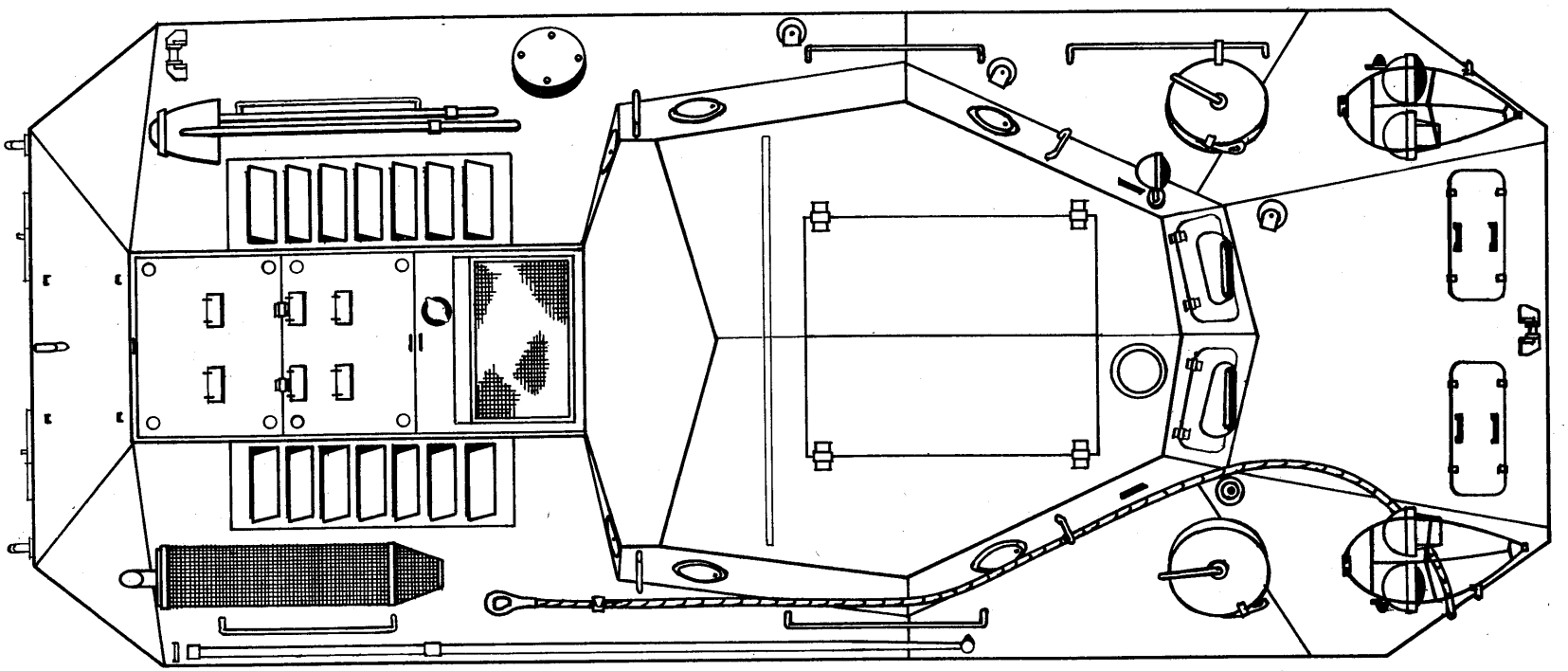
OT—65A

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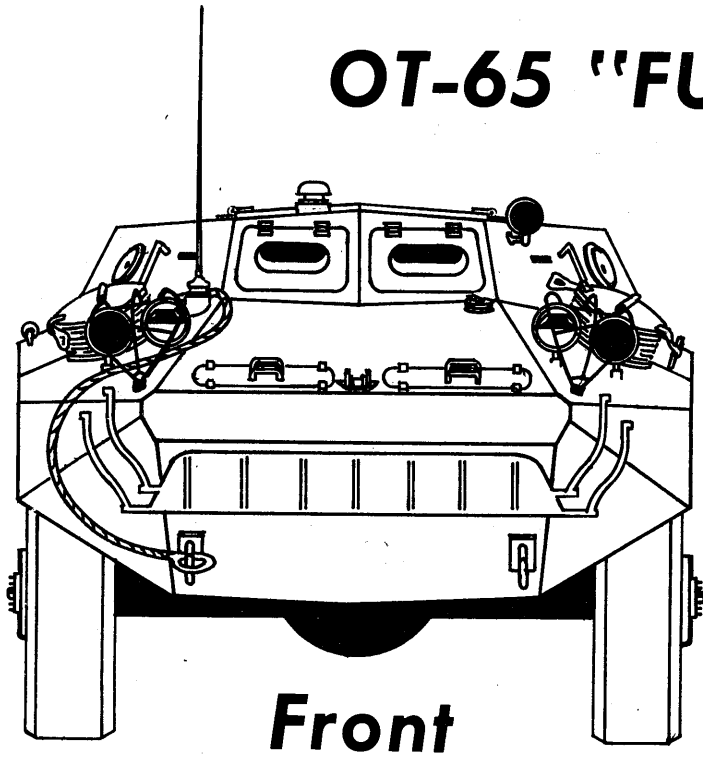
OT-65"FUG"

Top

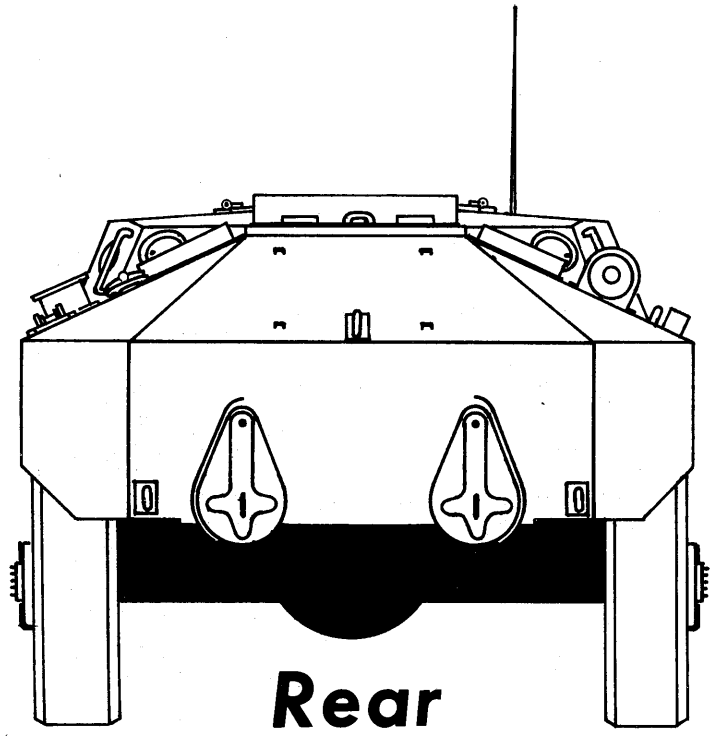


OT-65 "FUG"

OT-65 "FUG"

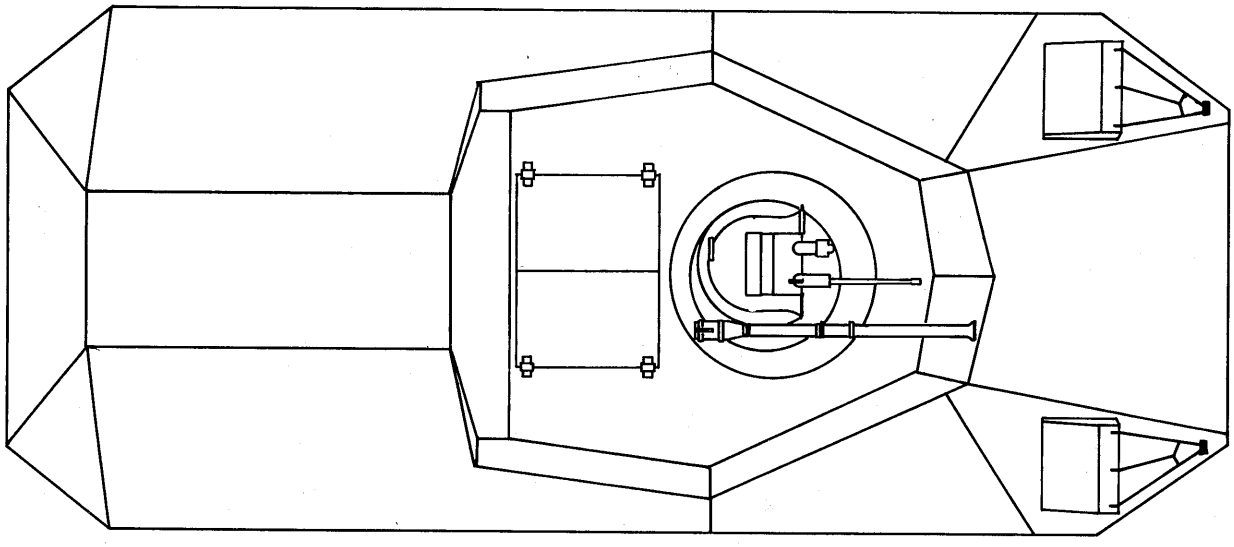


Front

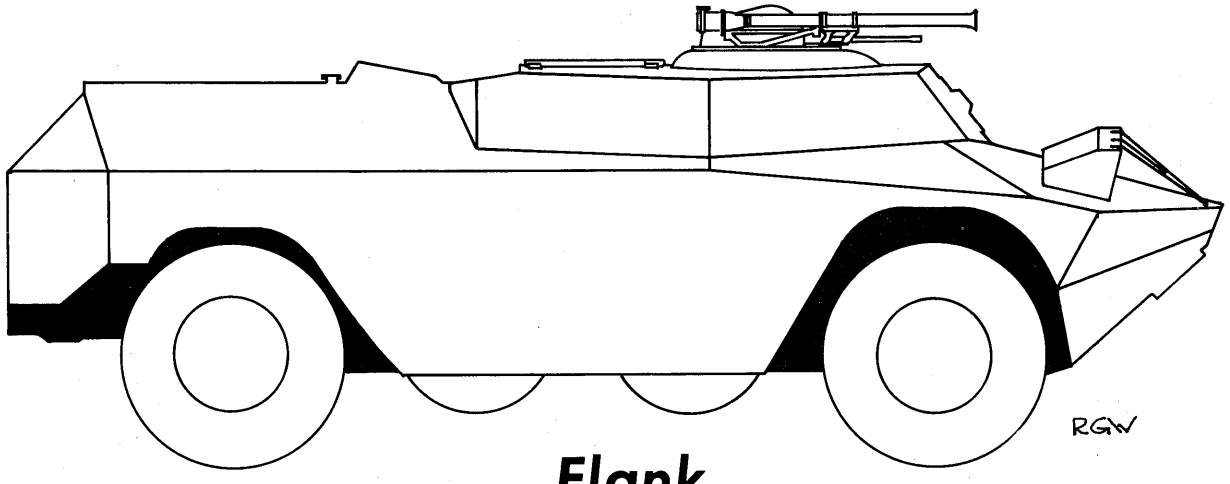


Rear

Top



OT-65A



Flank

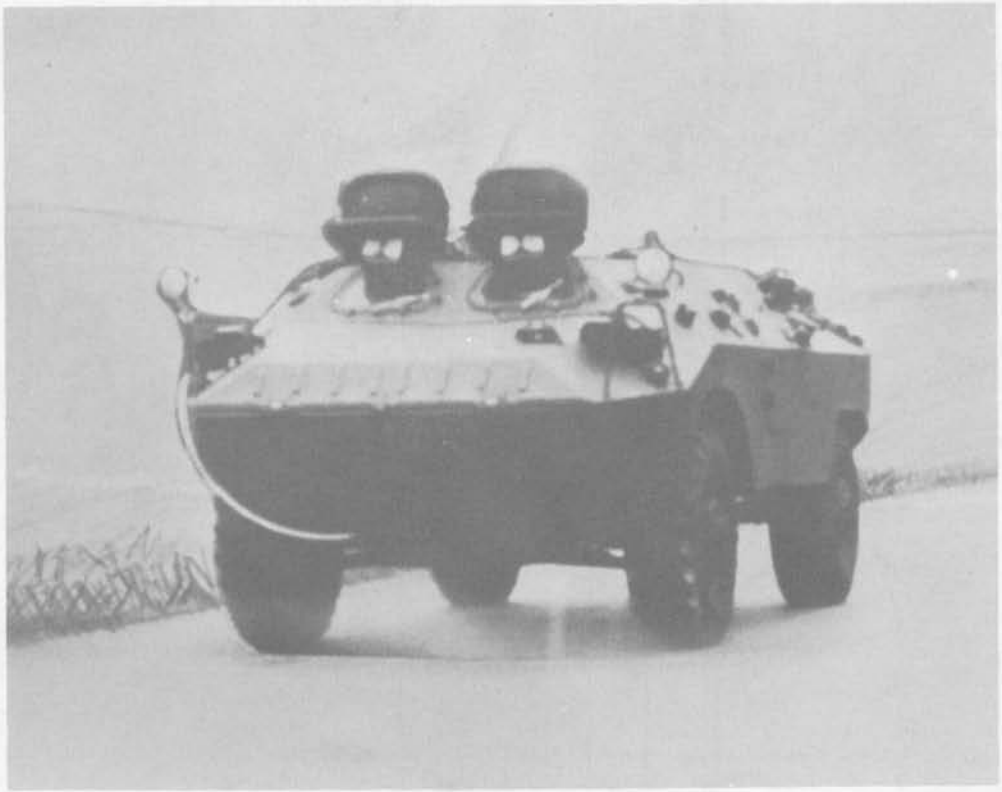
FUG—70



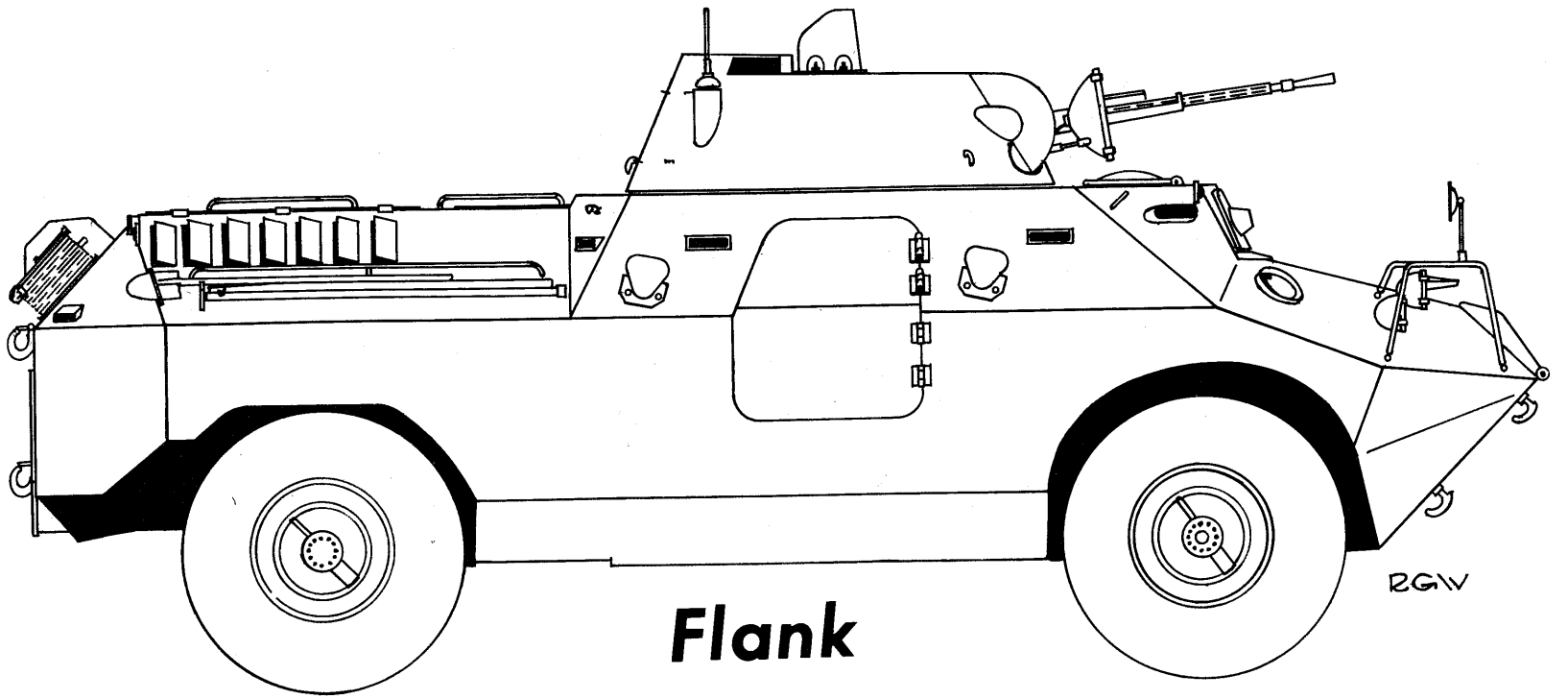
NOTE: FUG-70 is an APC/Scout Car combination.







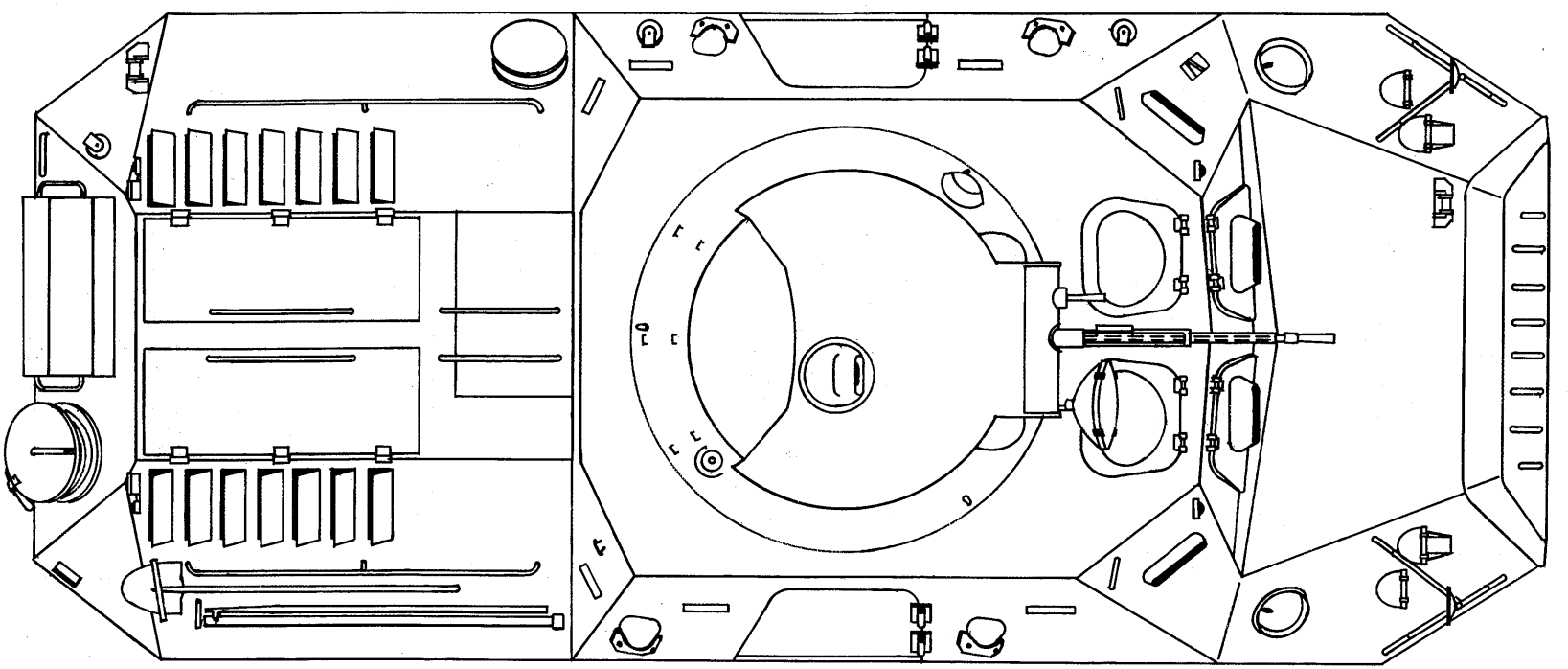
Turretless Version of FUG-70



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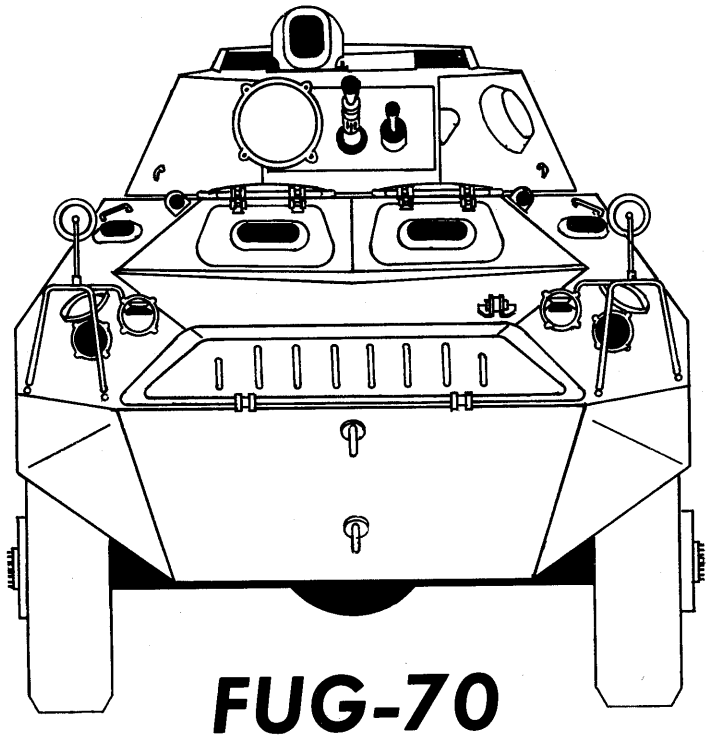
FUG-70

Top

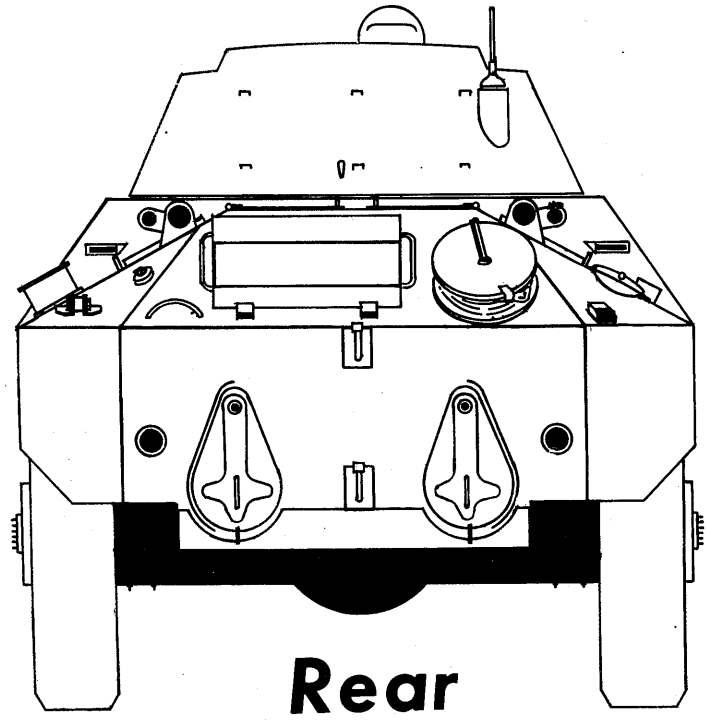


FUG-70

Front



FUG-70



Rear

ARMORED

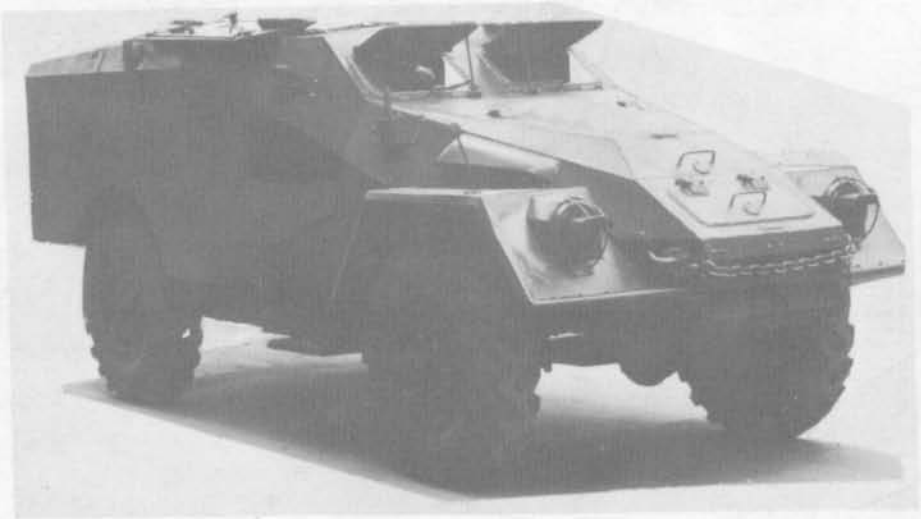
PERSONNEL CARRIERS

&

INFANTRY COMBAT

VEHICLES

WHEELED ARMORED PERSONNEL CARRIERS



BTR—40B



BTR—152

SOVIET NON-AMPHIBIOUS WHEELED ARMORED PERSONNEL CARRIERS

Armored personnel carrier BTR-40
Armored personnel carrier BTR-40A
Armored personnel carrier BTR-40B
Armored personnel carrier BTR-40kh
Armored personnel carrier BTR-152
Armored personnel carrier BTR-152V1
Armored personnel carrier BTR-152V2
Armored personnel carrier BTR-152V3
Armored personnel carrier BTR-152K
Armored personnel carrier BTR-152A
Armored command vehicle BTR-152U

Before and during World War II the Soviets did not employ any nationally-produced armored personnel carriers. Although the Soviets did produce armored scout cars, the only carriers used during the war were of United States, British or German origin. The first Soviet-produced carrier, which appeared around 1950, was the BTR-152, originally built on the chassis of the ZIL-151 truck, although a more powerful engine and larger single tires were used. Later versions, known primarily as BTR-152V, were built on the chassis of the ZIL-157 truck. They all use larger tires and are equipped with the now widely used centralized pressure regulation system.

Other variants are the BTR-152A, which mounts twin 14.5mm anti-aircraft machineguns (See Volume Three), the BTR-152K, which is a BTR-152V3 with overhead cover, and the BTR-152U, an armored command vehicle. For convenience a list of these variants is provided below:

BTR-152	no pressure regulation device, no winch
BTR-152V1	external air lines, winch
BTR-152V2	internal air lines, no winch (refitted BTR-152)
BTR-152V3	internal air lines, winch, infrared driving lights
BTR-152K	same as BTR-152V3, with overhead armor cover
BTR-152U	armored command vehicle, usually built on chassis of BTR-152V1 or BTR-152V3
BTR-152A	antiaircraft vehicle with twin 14.5mm AA HMG

Although being replaced by improved tracked and wheeled models, the BTR-152 series of armored personnel carriers is still widely used in all Warsaw Pact armies except that of Czechoslovakia. It has also been exported to the Middle East and North Africa.

The second Soviet armored personnel carrier, which went into production in 1951, was the BTR-40. It is a four-wheel-drive vehicle built on the chassis of the GAZ-63 truck with an armor layout resembling a cross between that of the United States M3A1 scout car and the German armored half-tracks. The primary role of the BTR-40 was that of command and reconnaissance. In this role, it is still encountered in the Warsaw Pact armies, although the various BRDM and FUG amphibious scout cars have replaced it in most units. One role remaining today is that of a transporter for traffic regulators.

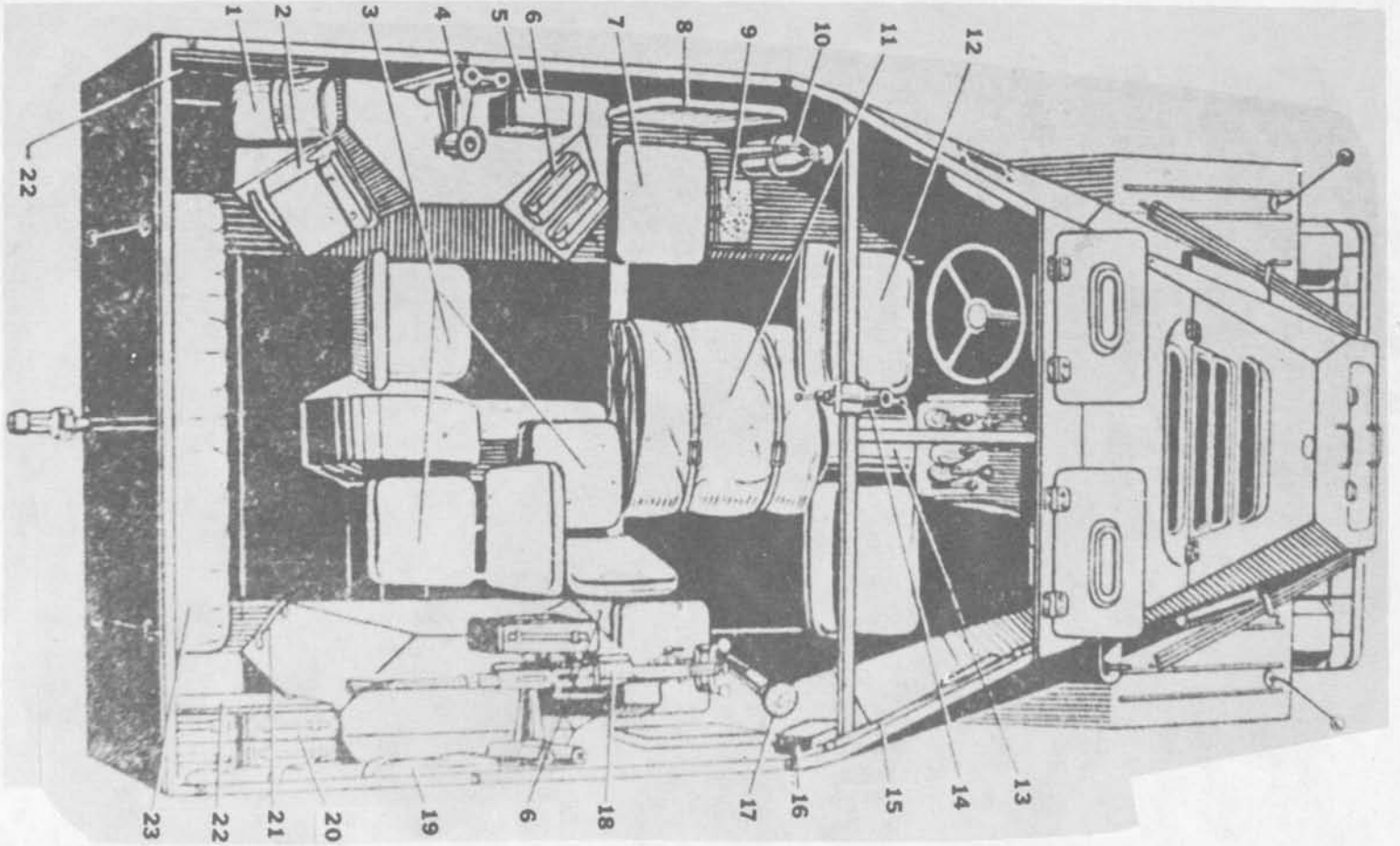
There are four variants of the BTR-40. The original vehicle was open-topped and usually armed with a pedestal-mounted 7.62mm SGMB machinegun. The second variant, the BTR-40A, is an anti-aircraft vehicle carrying twin 14.5mm machineguns. The BTR-40B third variant is like the original, but has overhead armor cover. The fourth, the BTR-40kh, is a chemical reconnaissance vehicle carrying a marking-flag dispensing device.

It should be noted that the BTR-40 is <u>not</u> amphibious and does not have the usual Soviet centralized tire pressure regulation system. It has been widely exported.

		BTR-40	BTR-152V1
Vehicle			
Weight cbt	t	5.3	8.95
Wheelbase	mm	2700	3300+1130
Length	mm	5000	6830
Width	mm	1900	2320
Height w/o MG	mm	1750	2050
w/turret	mm	---	---
Track: front/rear	mm	1588/1600	1742/1720
Clearance	mm	275	295
Tire size		9.75x18	12.00x18
Engine model		GAZ-40	ZIL-123
Horsepower		80	110
Cylinders		6 inline	6 inline
Fuel		gasoline	gasoline
Cooling		water	water
Speed: land	km/h	80	65
water	km/h	---	---
Cruising range: road	km	285	650
Fuel capacity	l	120	300
Fuel consumption	l/100 km	42	46
Trench	mm	700	690
Step	mm	470	600
Slope	°	30	30
Tilt	°	20-25	
Ford	mm	900	800
Armor: maximum	mm	8	12
Crew		2	2
Passengers		8	17
Armament			
Main armament	mm	7.62 MG	7.62 MG
Model		SGMB	SGMB
Basic load	rds	1250	1250
Elevation	°	+23.5	+23.5
Depression	°	-6	-6
Traverse	°	90	90
Axis of bore	mm	---	---
Secondary armament	mm	---	---
Basic load	rds		



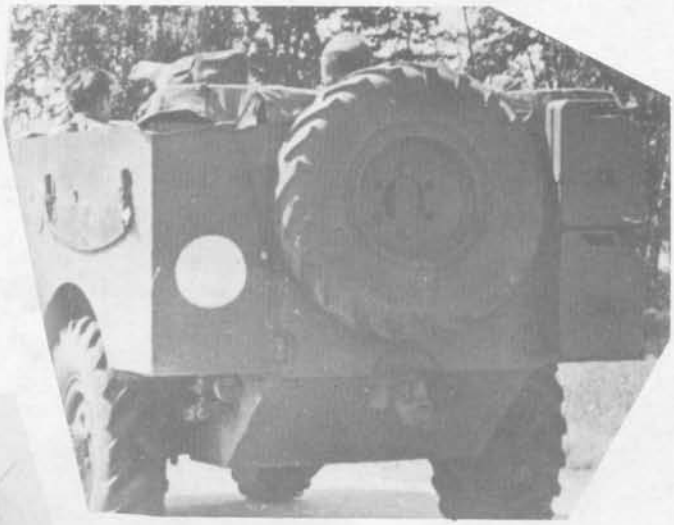
BTR—40B



1. Spare parts, tools and accessory kit for machinegun; 2. Antitank grenades; 3. Personnel seats; 4. Side machinegun mounts; 5. Spare panels for windshield vision slits; 6. Hand Grenades; 7. Personnel seat; 8. Back for seat; 9. Bag for driver's tools; 10. Fire extinguisher; 11. Canvas cover for vehicle; 12. Driver's seat; 13. Spare oil tank; 14. Front machinegun mount; 15. Antenna pack; 16. First aid kit; 17. Filling nozzle for rear gas tank; 18. Machinegun in carrying position; 19. Spare machinegun barrel; 20. Ammunition boxes; 21. Handrail; 22. Pack for windshield; 23. Three place seat for personnel.

BTR—40

BTR-40





BTR-40



BTR-40B



BTR—40A

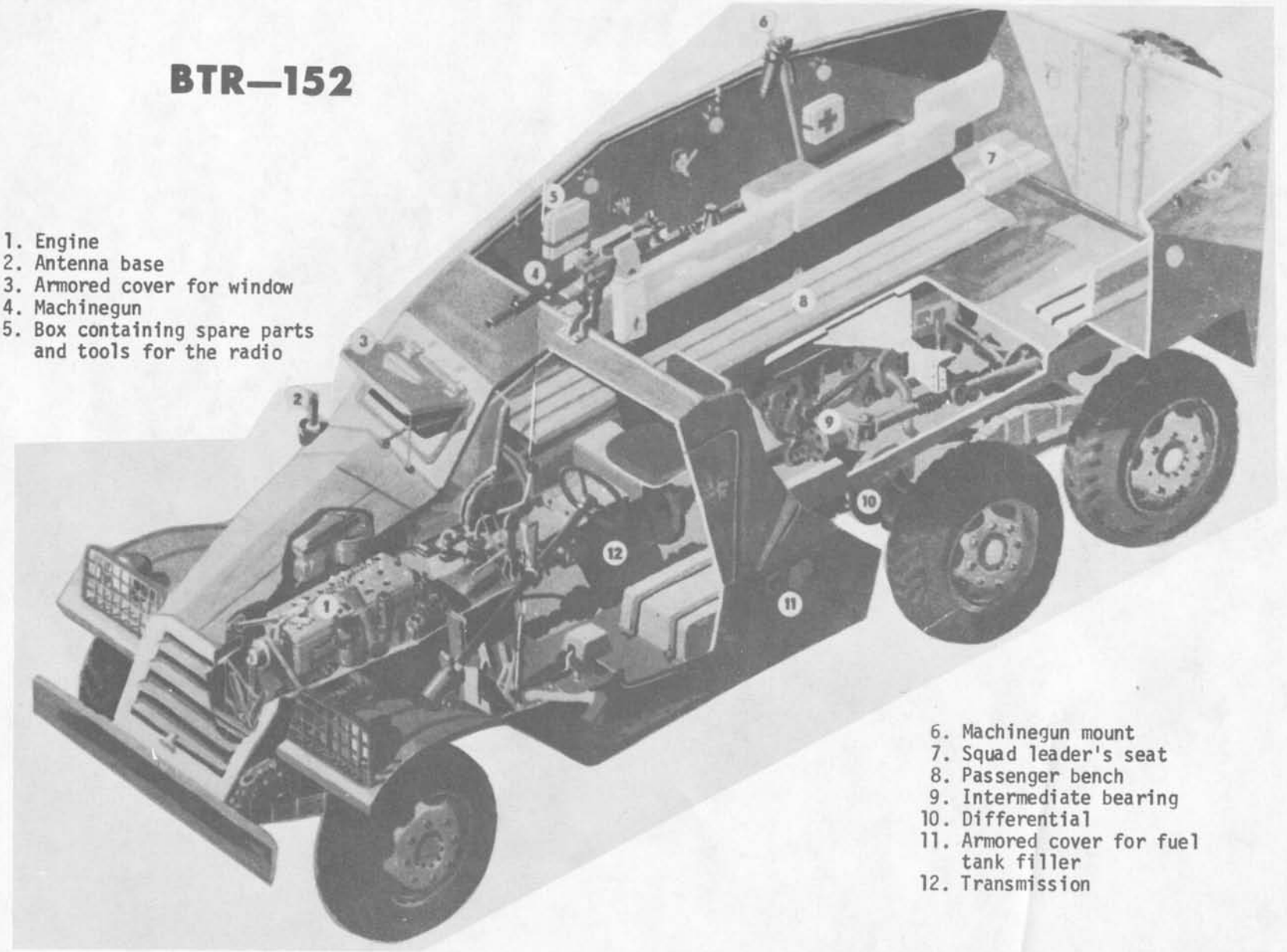
AA version with twin 14.5mm machineguns





BTR—152

BTR—152



1. Engine
2. Antenna base
3. Armored cover for window
4. Machinegun
5. Box containing spare parts and tools for the radio
6. Machinegun mount
7. Squad leader's seat
8. Passenger bench
9. Intermediate bearing
10. Differential
11. Armored cover for fuel tank filler
12. Transmission



BTR—152V3



BTR-152



BTR-152V2



BTR-152V3



BTR-152K



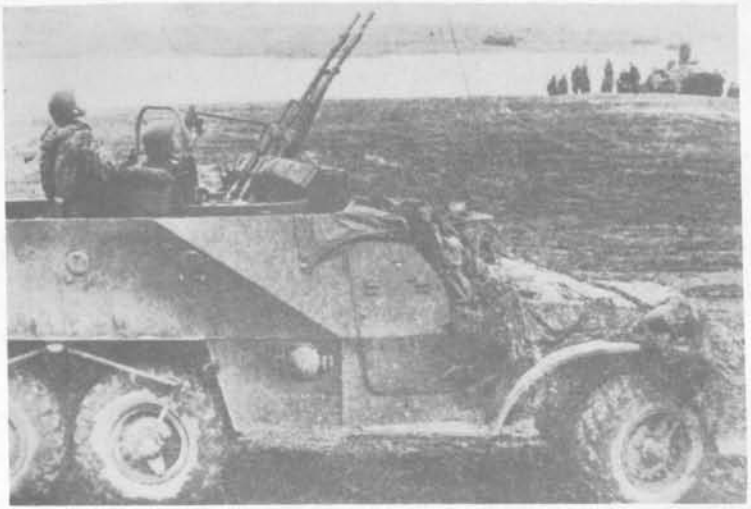
BTR-152K



BTR-152U Command Vehicle



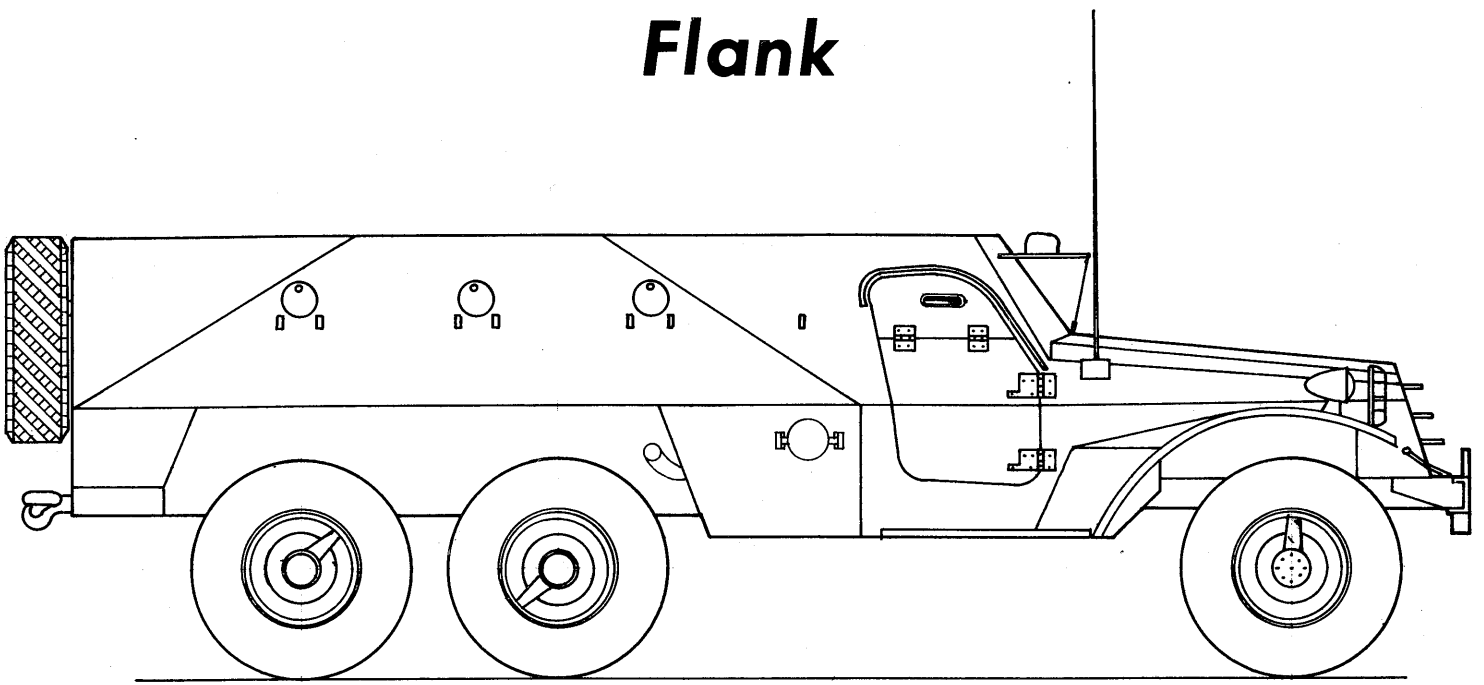
BTR-152U Command Vehicle



BTR—152A

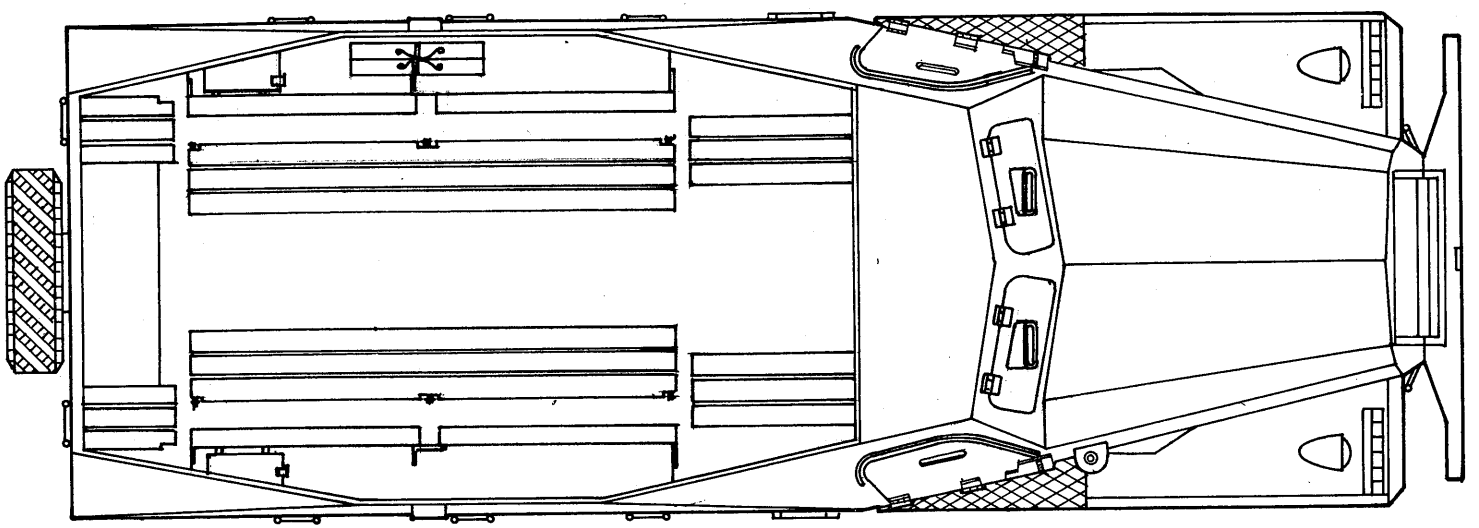


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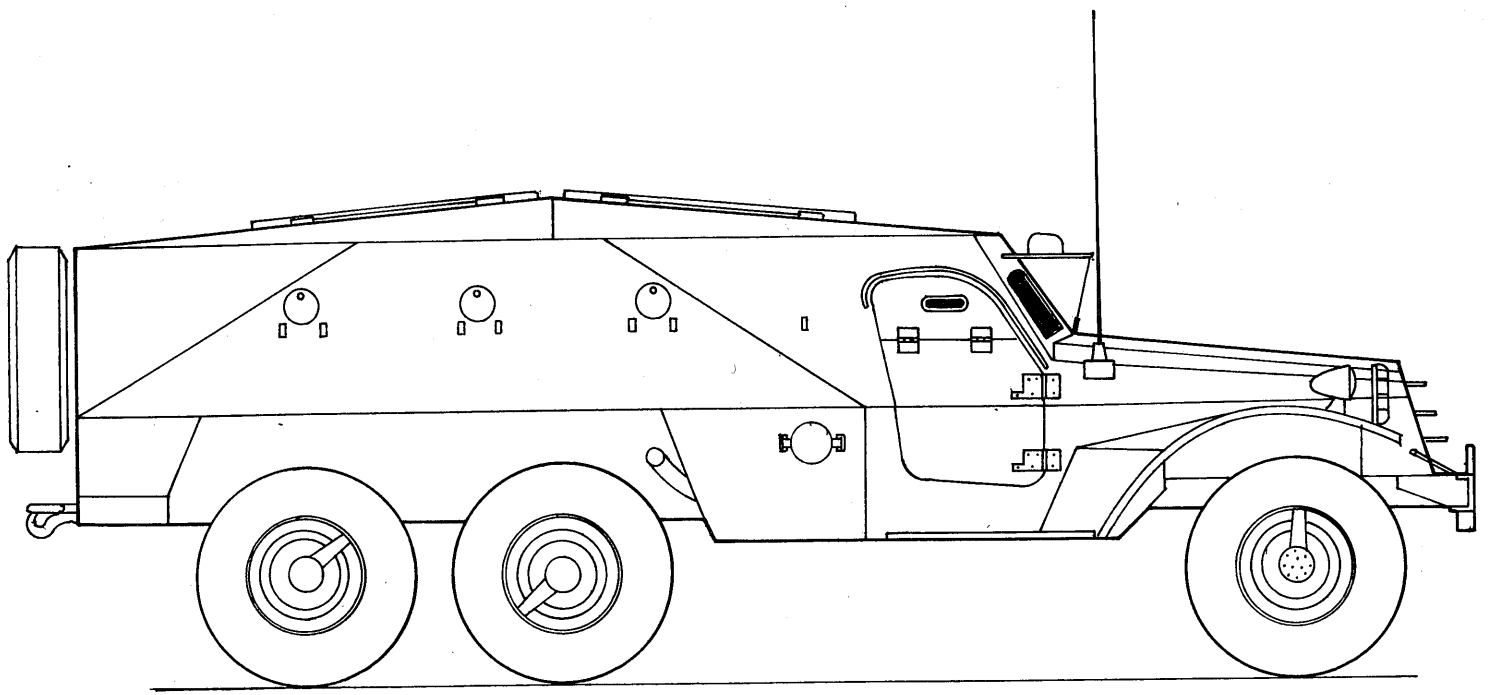
BTR-152

Top



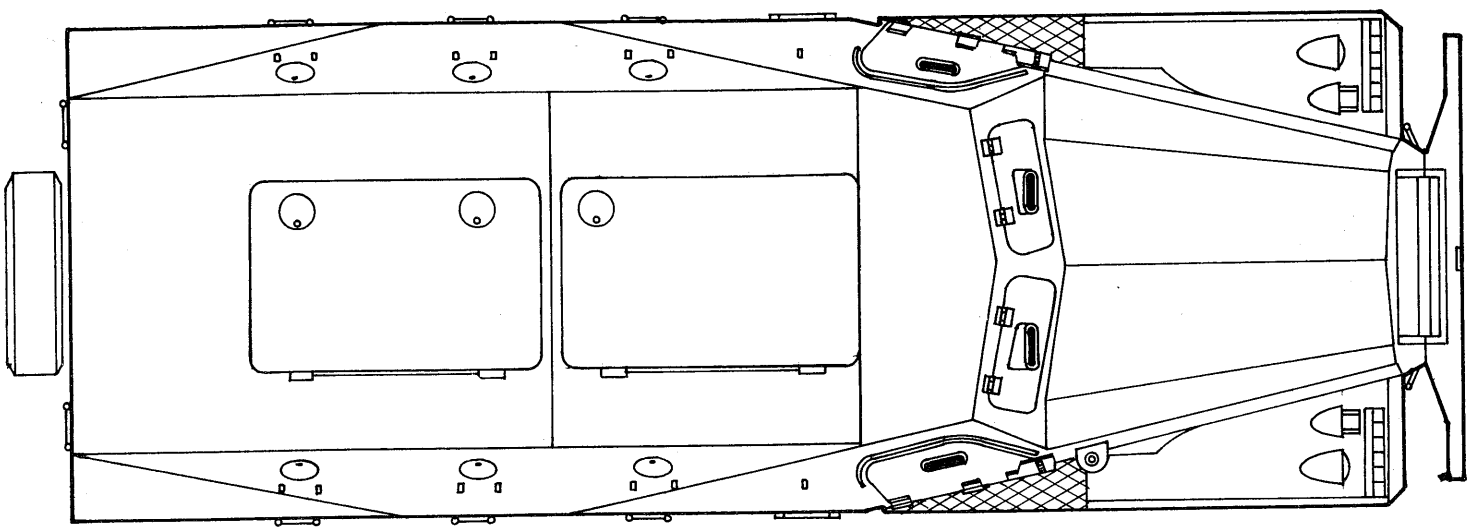
BTR-152

BTR-152



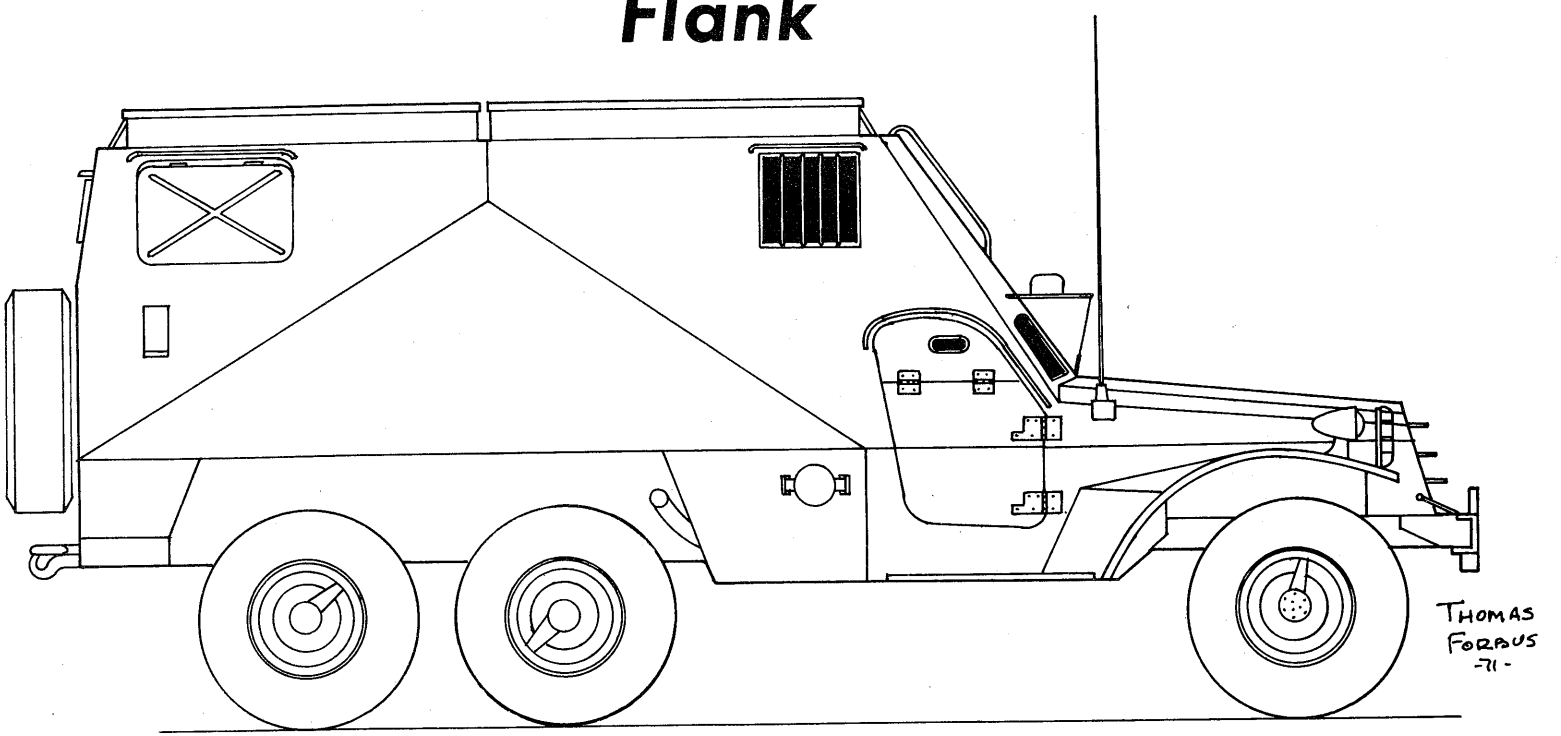
with armored roof

Top



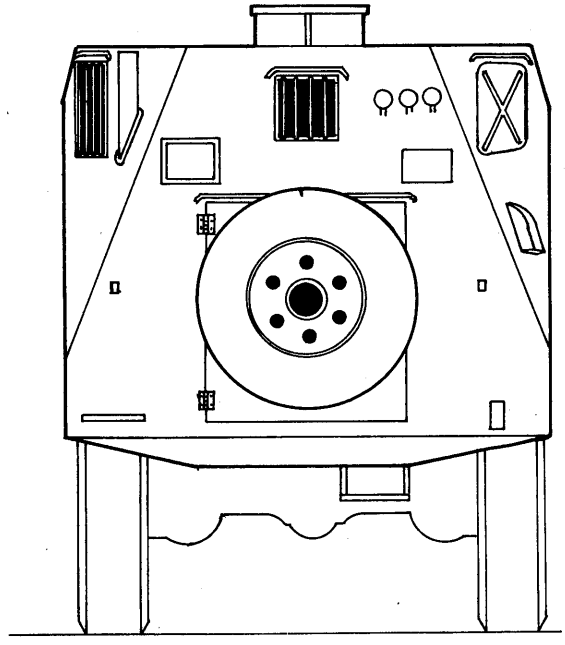
BTR-152 with armored roof

Flank



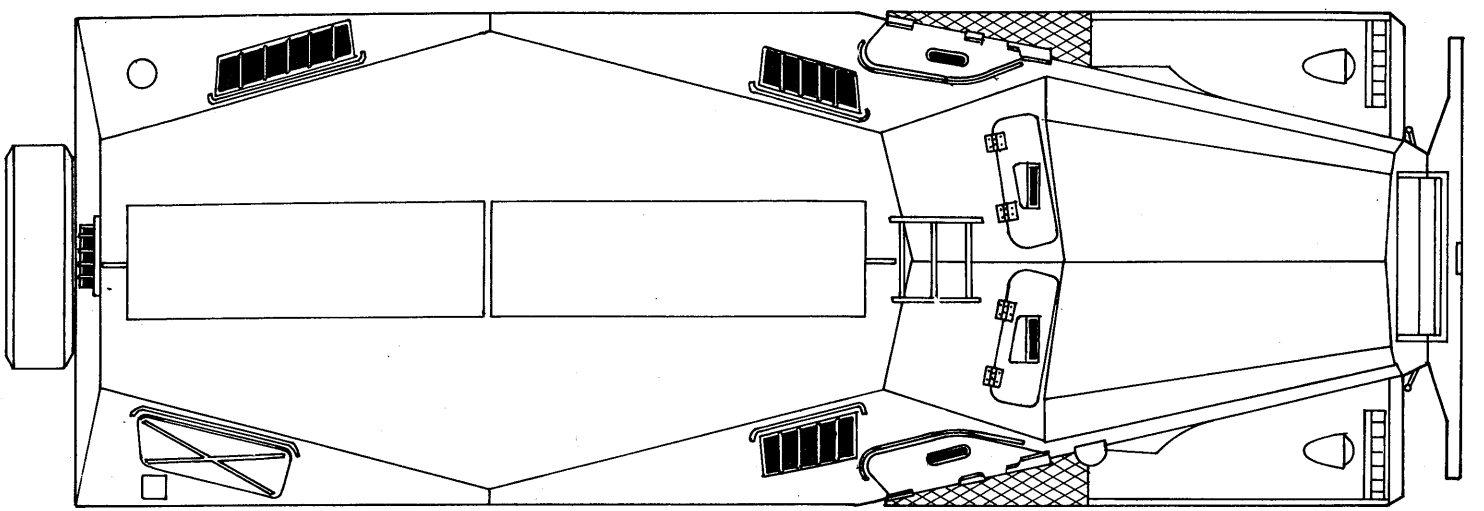
BTR-152 Command Vehicle

BTR-152 Command Vehicle



Rear

Top



BTR-152 Command Vehicle

BTR—60PB



SOVIET

AMPHIBIOUS WHEELED

ARMORED PERSONNEL CARRIERS

SOVIET AMPHIBIOUS WHEELED ARMORED PERSONNEL CARRIERS

Armored personnel carrier BTR-60P
Armored personnel carrier BTR-60PA
Armored personnel carrier BTR-60PB
Armored command vehicle BTR-60PU
Armored forward air control vehicle

The eight-wheel-drive amphibious BTR-60P armored personnel carrier was first paraded on 7 November 1961. Since then it has undergone at least four modifications and has been issued in quantity to the East German, Bulgarian and Romanian Armies. It has also been exported to Yugoslavia. Significantly, it is the standard armored personnel carrier of the Soviet Naval Infantry--the Soviet Marine Corps.

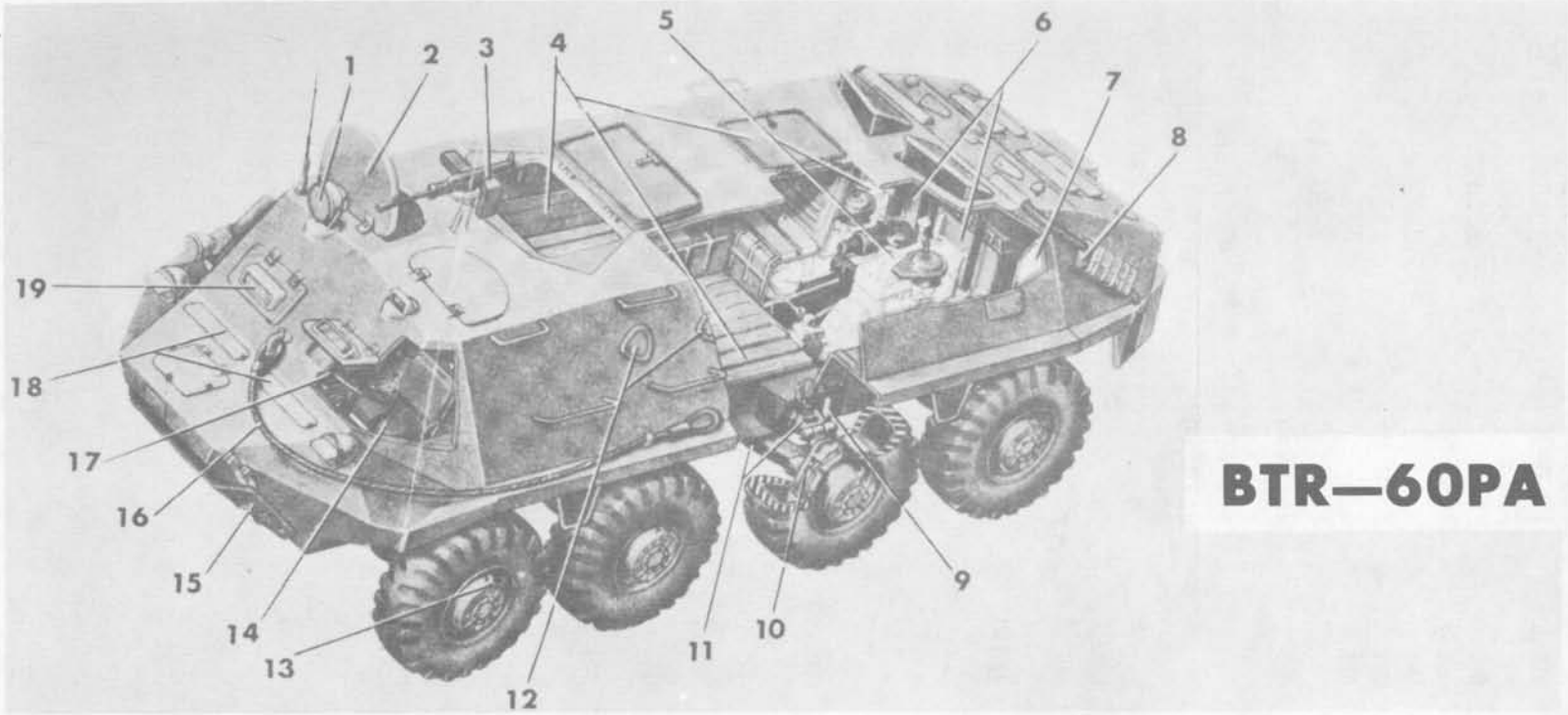
The BTR-60P is a large vehicle with a boatlike hull with well-sloped armor and a rear-mounted powerplant. All eight wheels are powered, and the forward two pairs steer the vehicle. Water propulsion is by waterjet similar to that used in the BRDM series of amphibious scout cars. The powerplant is unusual in that two six-cylinder inline gasoline engines of the type used on the BRDM are employed. The BTR-60P also carries infrared night driving equipment. The tires have the usual Soviet centralized pressure regulation system.

The first modification, the BTR-60PA, is largely notable through its overhead armor cover, lacking in the original BTR-60P. The second modification, the BTR-60PB, is also fitted with overhead armor cover, but in addition has a small conical turret on the forward half of the vehicle. This turret, which is identical to the one mounted on the BRDM-2 amphibious scout car, mounts both 14.5mm and 7.62mm machineguns.

The third modification is the BTR-60PU command vehicle which has a special canvas top and additional radios. The fourth variant, the Forward Air Control Vehicle, is a modified BTR-60PB with the armament removed from the turret which is then fitted with a plexiglass window. A large portable generator, similar to the one seen on the BRDM-2 command vehicle, is mounted on the rear deck.

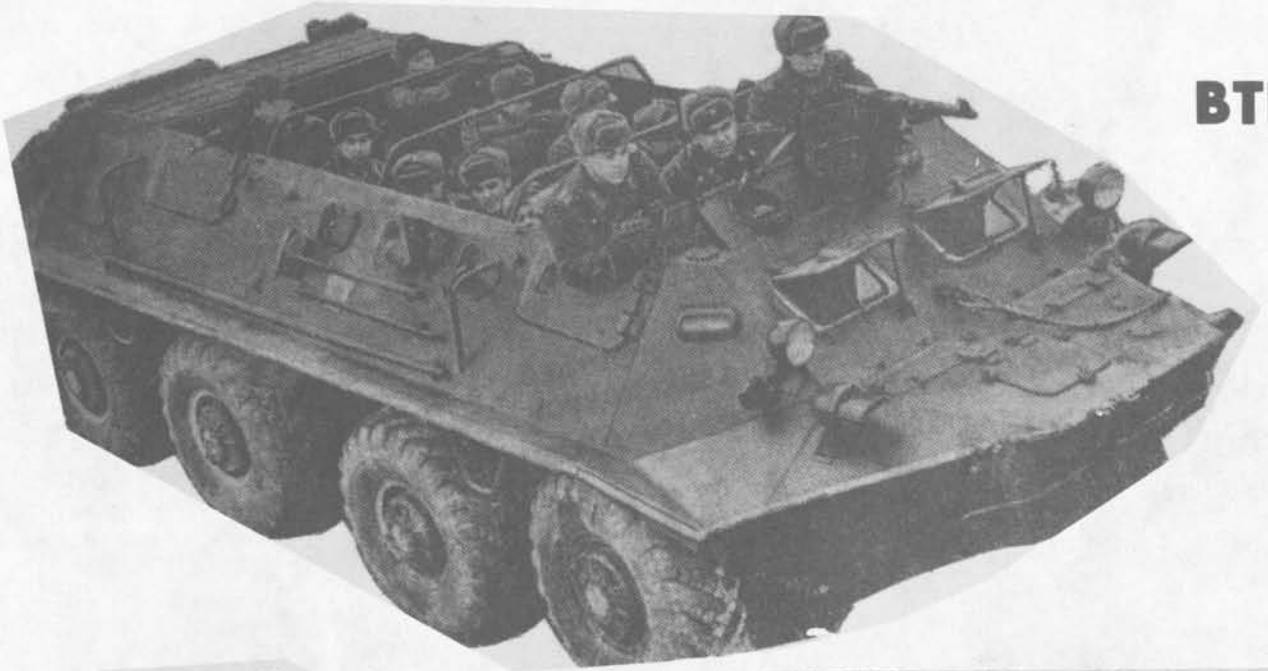
		BTR-60PA	BTR-60PB
Vehicle			
Weight cbt	t	9.98	10.3
Wheelbase	mm	1350+1525+1350	1350+1525+1350
Length	mm	7560	7560
Width	mm	2825	2825
Height w/o MG	mm	2055	
w/turret	mm		2310
Track	mm	2370	2370
Clearance	mm	475	475
Tire size		13.00x18	13.00x18
Engine model (2x)		GAZ-49B	GAZ-49B
Horsepower		90	90
Cylinders		6 inline	6 inline
Fuel		gasoline	gasoline
Cooling		water	water
Speed: land	km/h	80	80
water	km/h	10	10
Cruising range: road	km	500	500
Fuel capacity	l	290	290
Fuel consumption	l/100 km	58	58
Trench	mm	2000	2000
Step	mm	400	400
Slope	°	30	30
Tilt	°	25	25
Ford	mm	---	---
Armor: maximum	mm	10	14
Crew		2	2
Passengers		16	14
Armament			
Main armament	mm	7.62 MG	14.5 MG
Model		SGMB*	KPVT
Basic load	rds	2000	500
Elevation	°	+23.5	+30
Depression	°	-6	-5
Traverse	°	90	360
Axis of bore	mm		2130
Secondary armament	mm	---	7.62 PKT
Basic load	rds	---	2000

*or PK



BTR—60PA

1. Searchlight
2. Commander's hatch cover
3. MG
4. Hatches and seats for men
5. Engines
6. Radiators
7. Fuel tank
8. Silencer
9. Shock absorber
10. Wheel reduction gear
11. Suspension bars
12. Visor covers
13. Inflation valve
14. Driver's seat
15. Breakwater
16. Towing cable
17. Commander's seat
18. Air intake covers
19. Commander's vision slit



BTR—60P





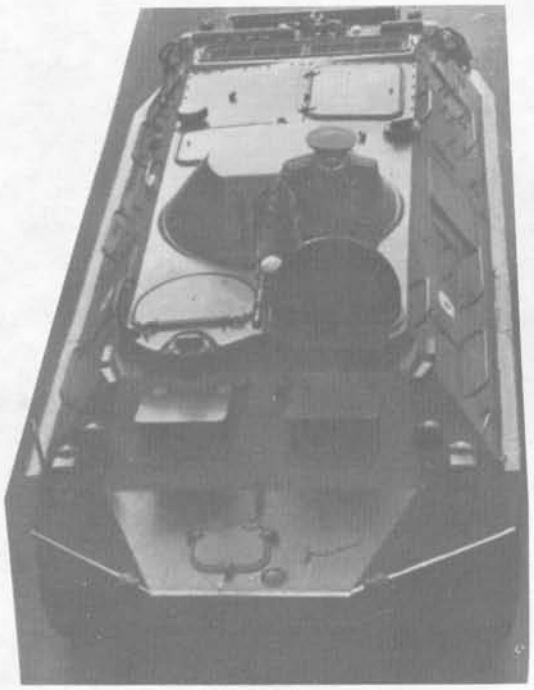


BTR—60PA

BTR—60PB







BTR-60PB



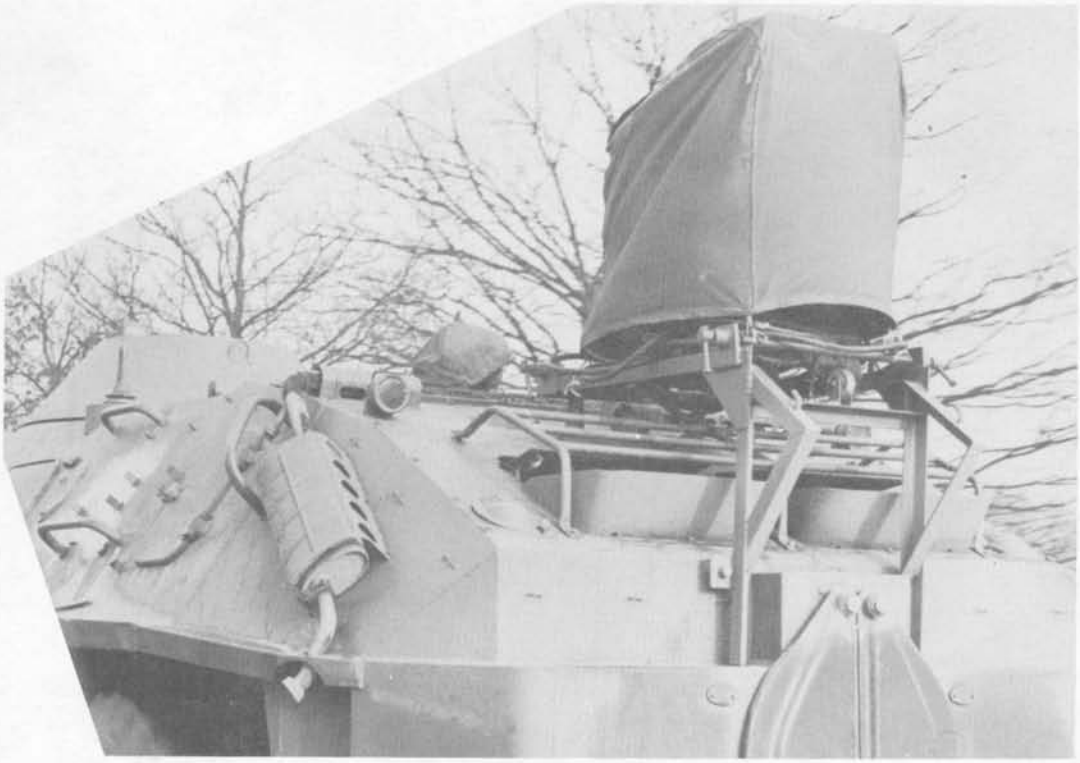
BTR-60PU Command Vehicle



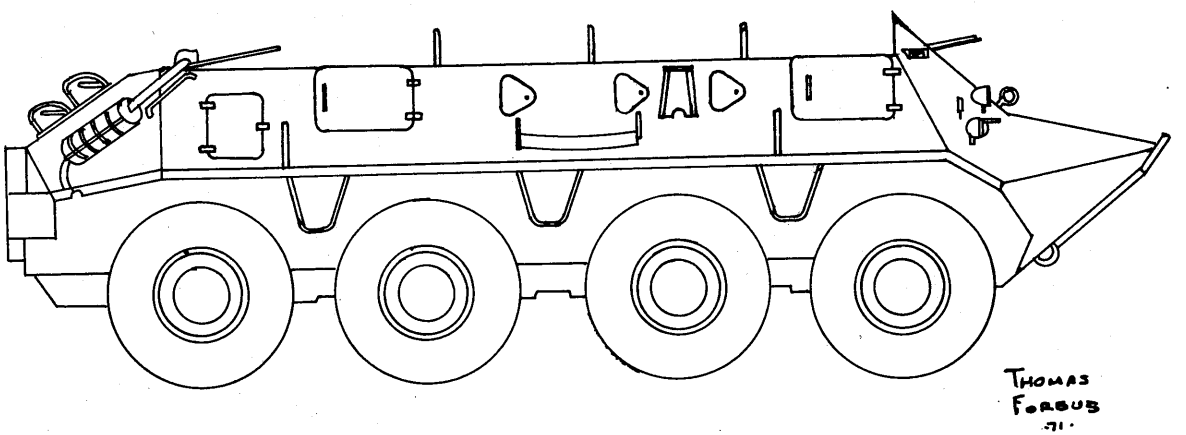
FORWARD AIR CONTROL

VEHICLE

NOTE: Turret window and portable generator.

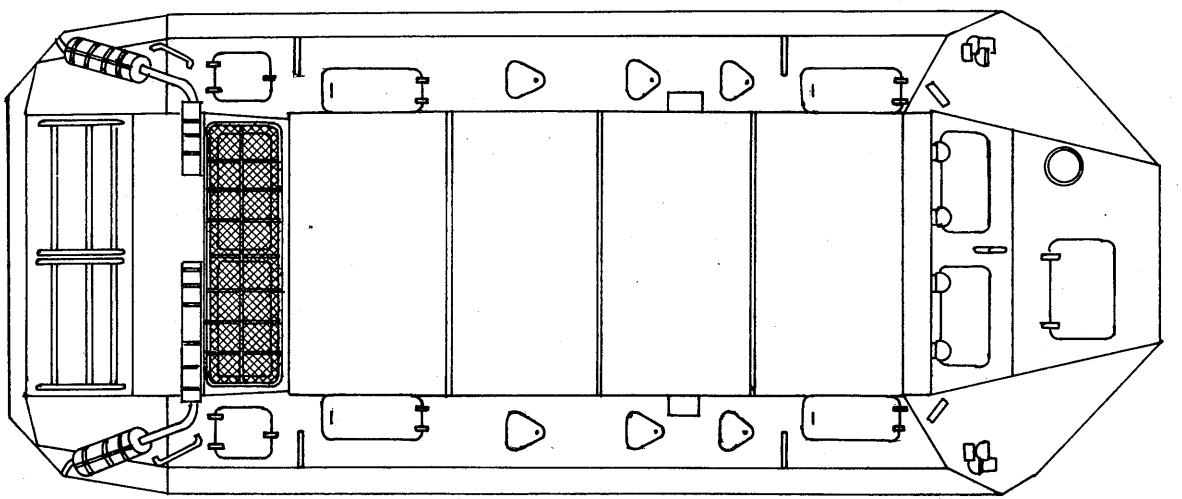


Top



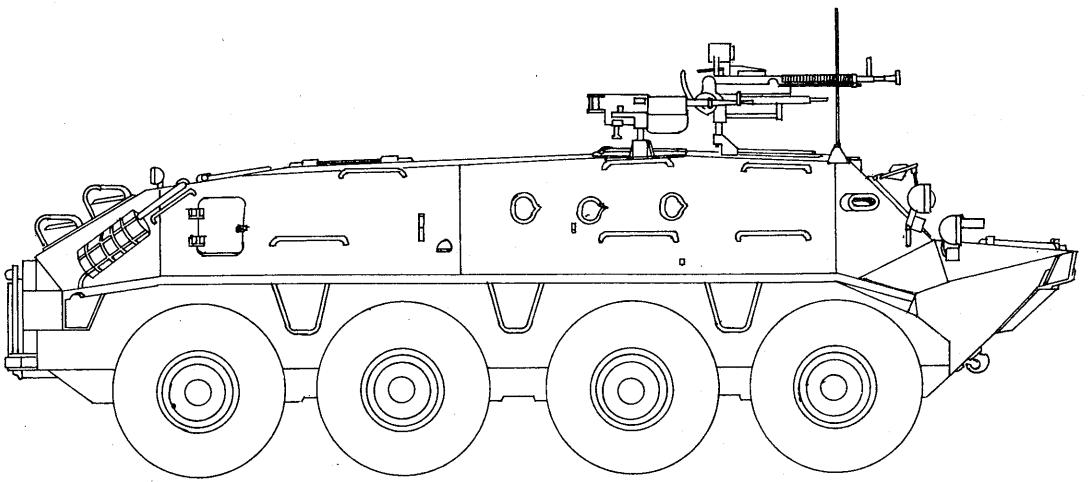
BTR-60P

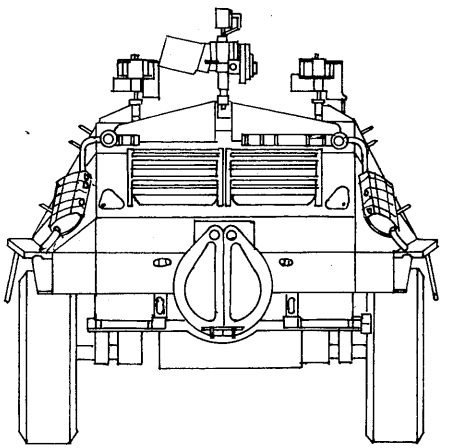
Top



BTR-60P

BTR-60PA



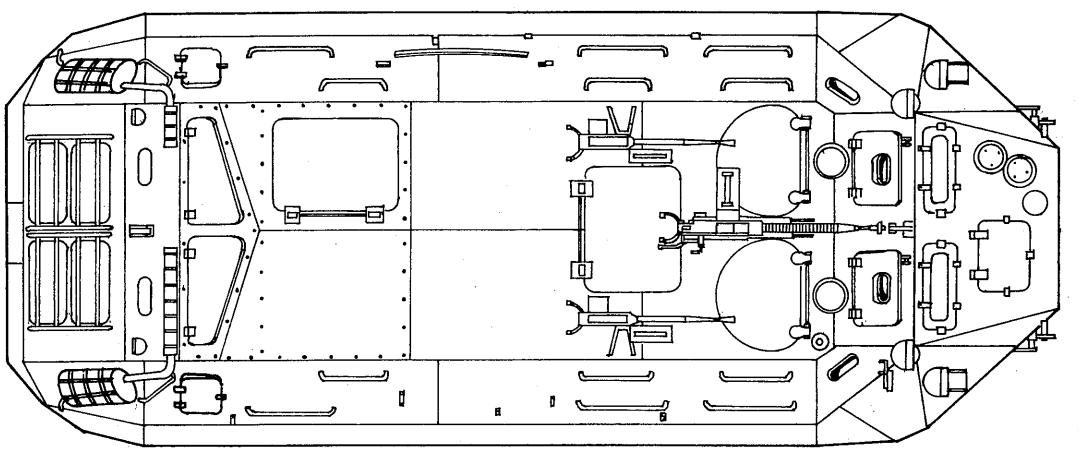


THOMAS FORBUS -71-

Flank

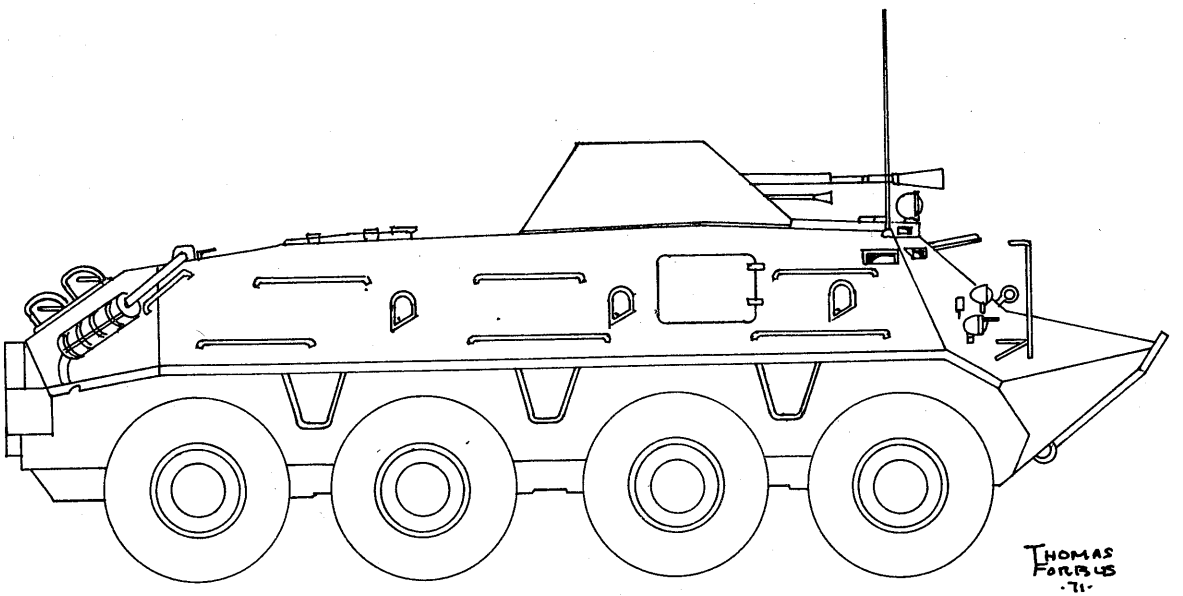
Rear

Top



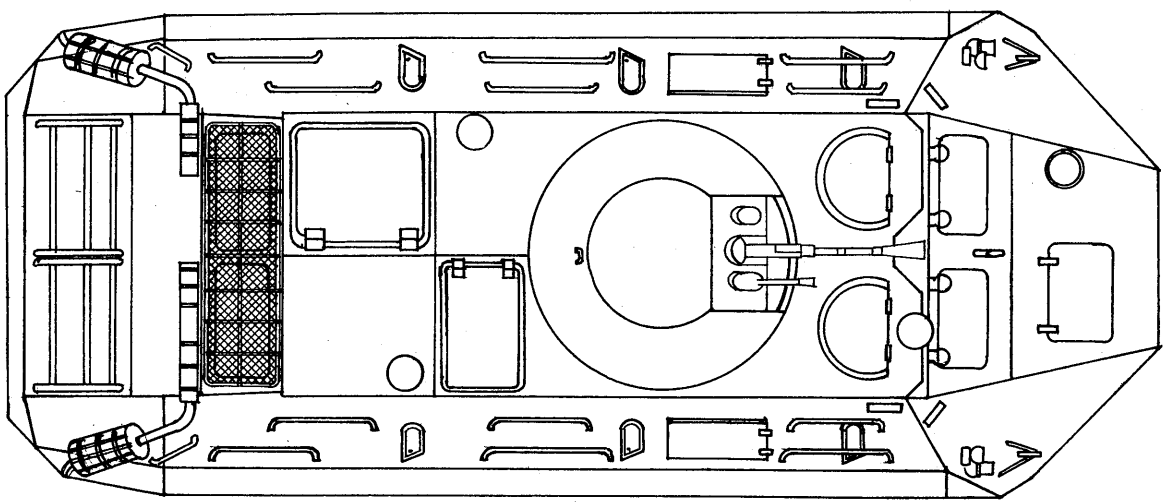
BTR-60PA

Flank



BTR-60PB

BTR-60PB



Top



CZECH/POLISH

AMPHIBIOUS WHEELED ARMORED

PERSONNEL CARRIERS...OT—64 SERIES

CZECHOSLOVAK AMPHIBIOUS WHEELED ARMORED PERSONNEL CARRIERS

Armored personnel carrier OT-64A (SKOT)
Armored personnel carrier OT-64B (SKOT-2)
Armored personnel carrier OT-64C(1) (SKOT-2A)
Armored personnel carrier OT-64C(2) (SKOT-2AP)
Armored command vehicle R-2
Armored command vehicle R-3

The OT-64 (SKOT) eight-wheeled amphibious armored personnel carriers are a joint Czechoslovak/Polish development which are used in both armies in place of the Soviet BTR-60P vehicles. In spite of similarities in basic concept, the design shows many differences. The wheels are spaced differently; the water propulsion is by propellor; the engine is forward allowing rear exit for the passengers; and the powerplant is a single air-cooled diesel engine in place of two water-cooled gasoline engines. The driver and commander are placed forward of the engine compartment, while the passengers are to the rear. The vehicle is fully sealed and employs an overpressure system allowing it to operate over contaminated terrain.

There are at least six versions of the OT-64. The first is the OT-64A (SKOT) which is the basic vehicle. The Polish version of this vehicle mounts 7.62mm machineguns on pedestals; the Czechoslovak version has no mounted armament. The second version, OT-64B (SKOT-2), was used in Poland only. It mounted a shielded 7.62mm or 12.7mm machinegun pending the delivery of turrets with the 14.5mm machinegun.

The third version, the OT-64C(1) (SKOT-2A), uses a conical turret like that used on the Soviet BTR-60PB and BRDM-2 vehicles. This turret is armed with one 14.5mm KPVT machinegun and one 7.62mm PKT machinegun. It carries fewer passengers. The fourth version, used only in Poland, mounts a Polish 14.5mm machinegun turret of improved design which allows a maximum elevation of 89.5 degrees, permitting antiaircraft fire. This vehicle is known as the OT-64(2) (SKOT-2AP). In addition, there are two variants of a command vehicle, known as R-2 and R-3.

		OT-64A	OT-64C(1)
Vehicle			
Weight cbt	t	14.3	14.5
Wheelbase	mm	1300+2150+1300	1300+2150+1300
Length	mm	7440	7440
Width	mm	2500	2500
Height w/o MG	mm	2030	---
w/turret	mm	---	2680
Track	mm	1860	1860
Clearance	mm	460	460
Tire size		13.00x18	13.00x18
Engine model		T 928-14	T 928-18
Horsepower		180	180
Cylinders		V-8	V-8
Fuel		Diesel	multifuel
Cooling		air	air
Speed: land	km/h	94.4	94.4
water	km/h	9	9
Cruising range: road	km	710	710
Fuel capacity	l	320	320
Fuel consumption	l/100 km	45	45
Trench	mm	2000	2000
Step	mm	500	500
Slope	°	35	35
Tilt	°	23	23
Ford	mm	---	---
Armor: maximum	mm	10	10
Crew		2	2
Passengers		18	15
Armament			
Main armament	mm	7.62 MG	14.5 MG
Model		SGMB*	KPVT
Basic load	rds	1250	500
Elevation		+23.5	+30
Depression	°	-6	-5
Traverse	°	90	360
Axis of bore	mm		2500
Secondary armament	mm	---	7.62 PKT
Basic load	rds	---	2000

*or M59

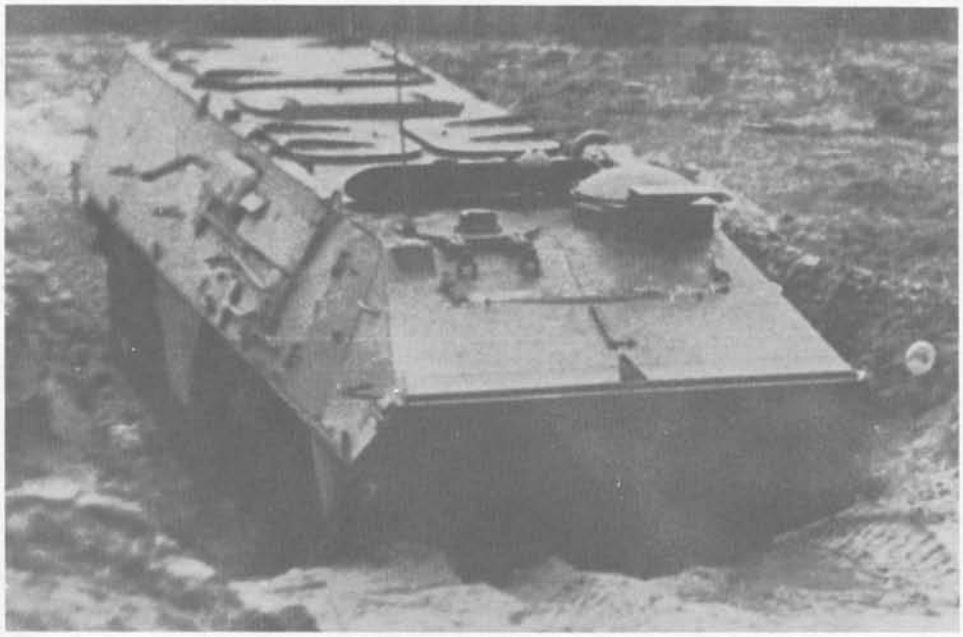
OT—64A



OT-64A



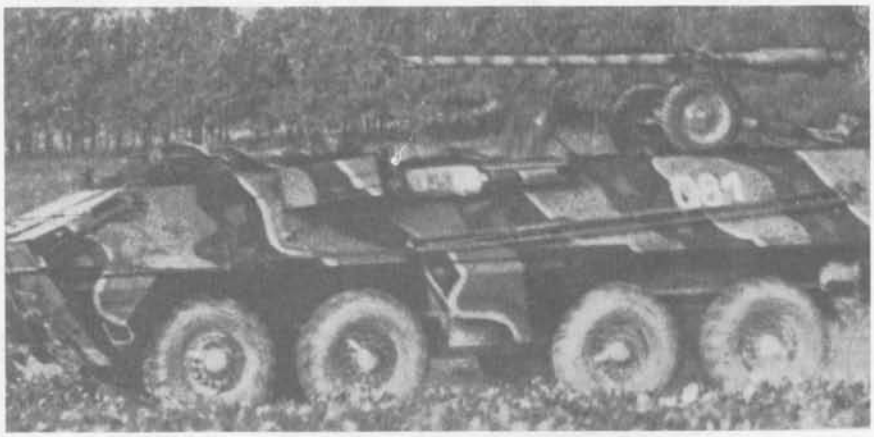
OT-64A



OT-64A



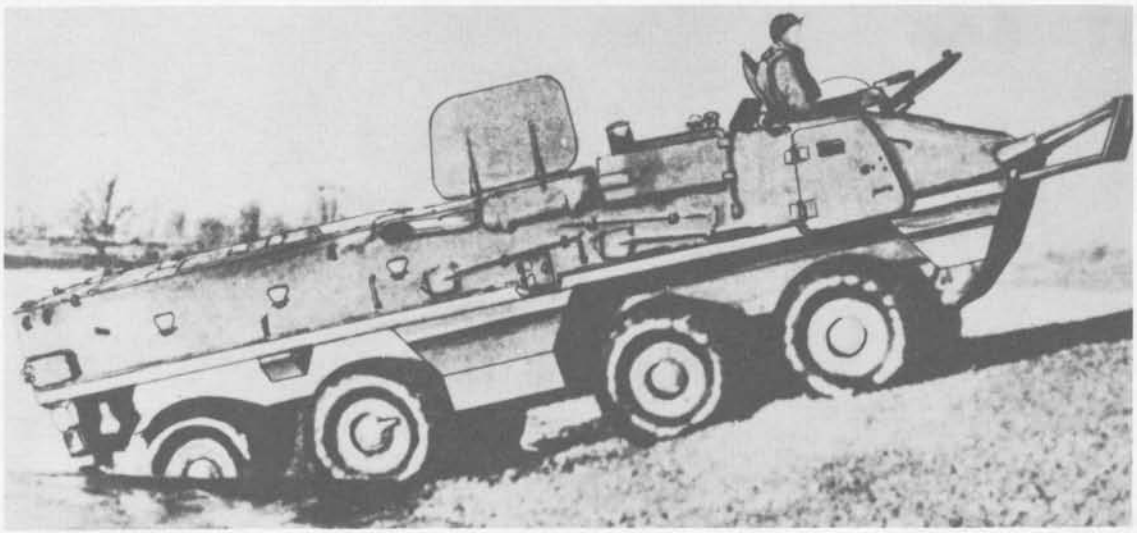
OT-64A Note bow vane.



OT-64A With recoilless gun.



OT-64A



OT-64A



OT–64C(1) (without turret)

OT—64B



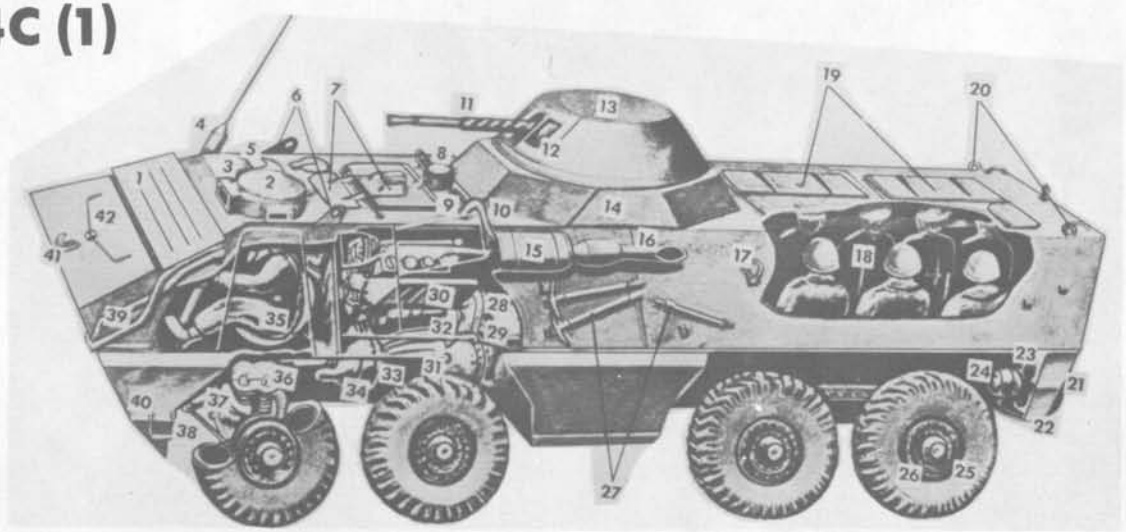
OT-64B

With 12.7mm shielded MG mount.



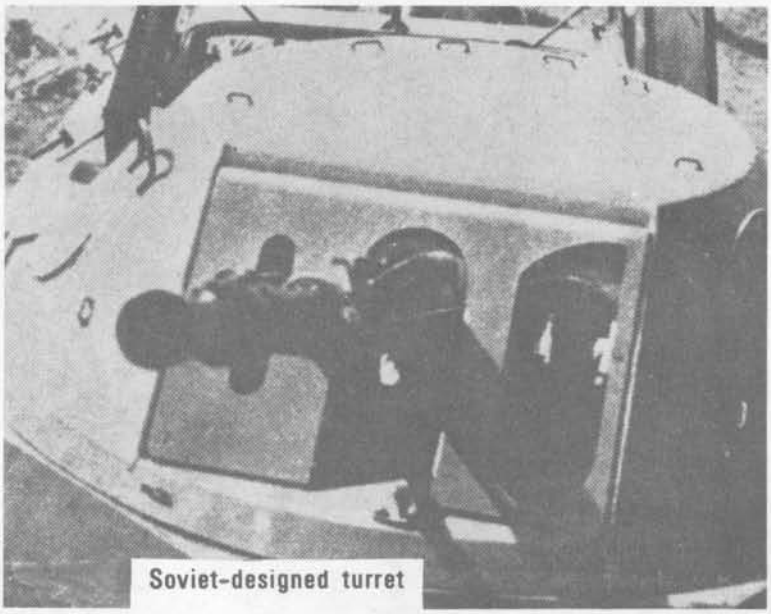
OT-64B

OT—64C (1)



1. Bow vane
2. Driver's hatch
3. Searchlight
4. Antenna
5. Entrance hatch for vehicle commander
6. Fastening of lifting hook
7. Engine hatch
8. Intake for engine
9. Intake for radiator and transmission
10. Bilge drain pipe
11. Turret machineguns
12. Sight
13. Turret
14. Turret base
15. Muffler
16. Exhaust
17. Firing ports
18. Troop compartment
19. Entrance hatches
20. Lifting eyes
21. Rudder
22. Protective cover for propellor
23. Propellor in travel position
24. Propellor drive housing
25. Line for tire pressure regulation system
26. Divided wheel rim
27. Entrenching tools (shovel, pick, etc)
28. Transmission
29. Clutch with acceleration drive (transmission)
30. Engine
31. & 32. Engagement/disengagement lever and drive shaft for winch (older series only)
33. Transfer case for transmission
34. Intermediate gear for front drive axle
35. Driver
36. Independent suspension
37. Flexible axle for suspension
38. Tie rod system for front steering and axle
39. Lifting system for bow vane
40. Stirrup
41. Front tow hook
42. Entrenching tool (saw)

OT—64C (1)



Soviet-designed turret



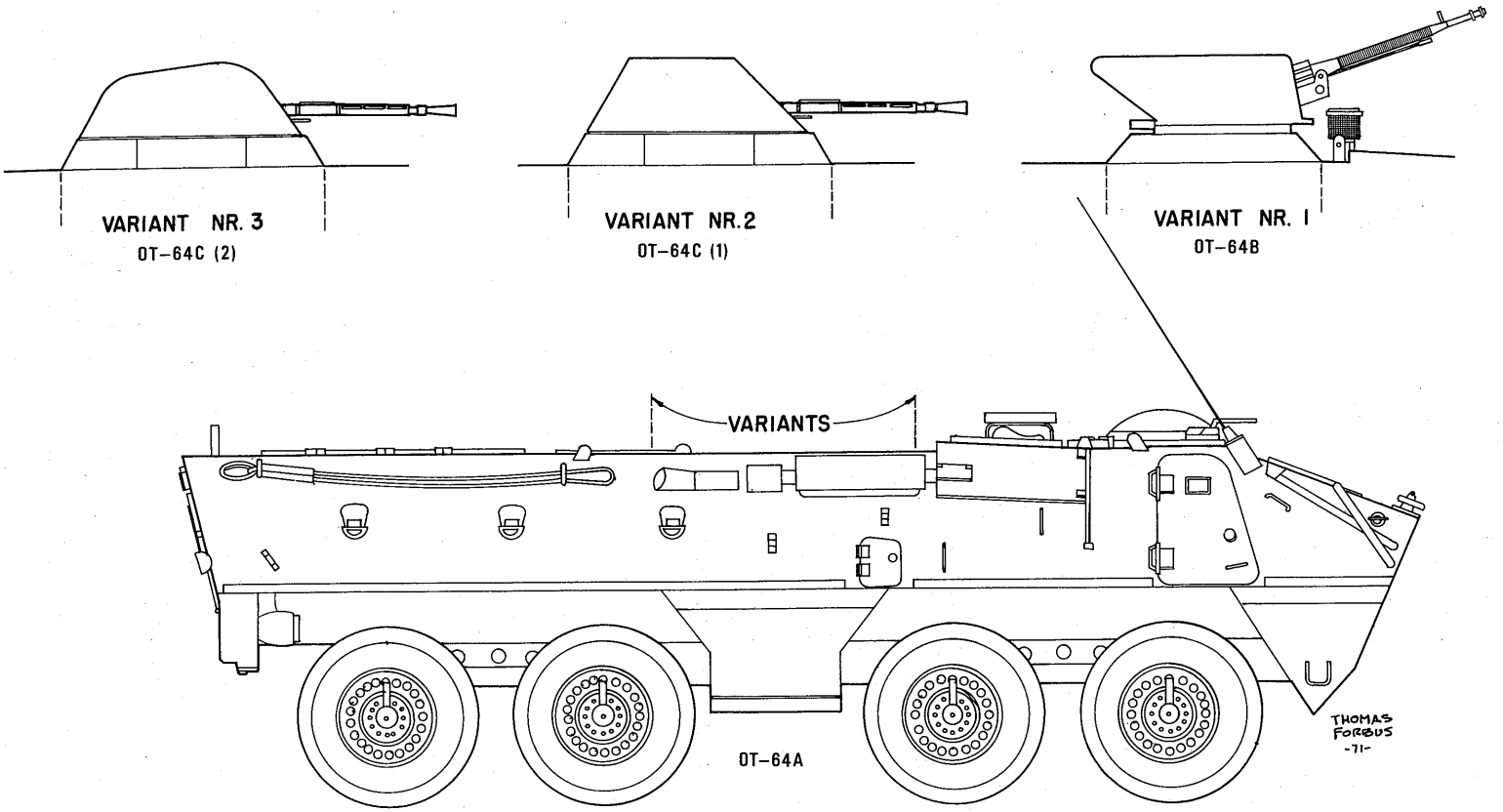




Polish-designed turret.

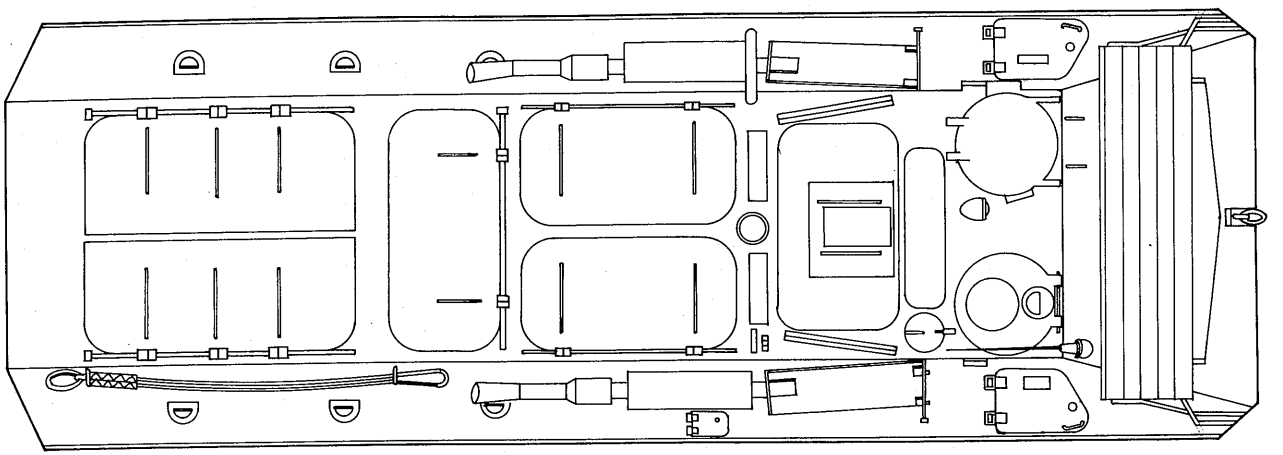
OT—64C(2)

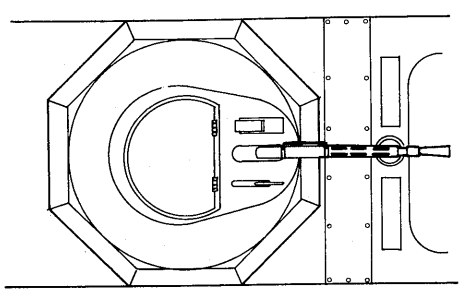



VARIANT NR. 3
OT-64C (2)
VARIANT NR.2
OT-64C (1)
VARIANT NR. 1
OT-64B
VARIANTS
OT-64A
THOMAS FORBUS -71-

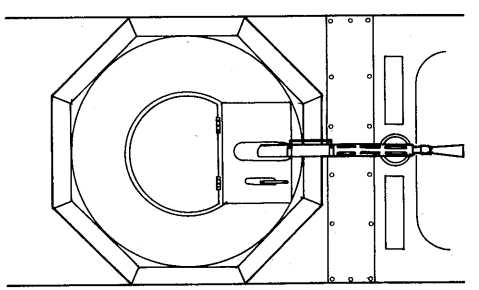
OT-64 Series

OT-64A

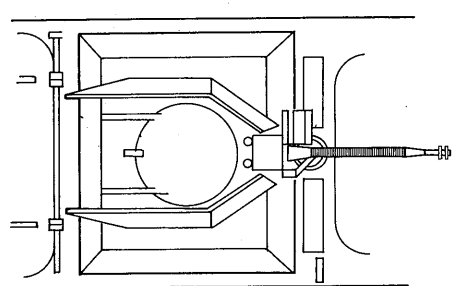




OT-64C(2)



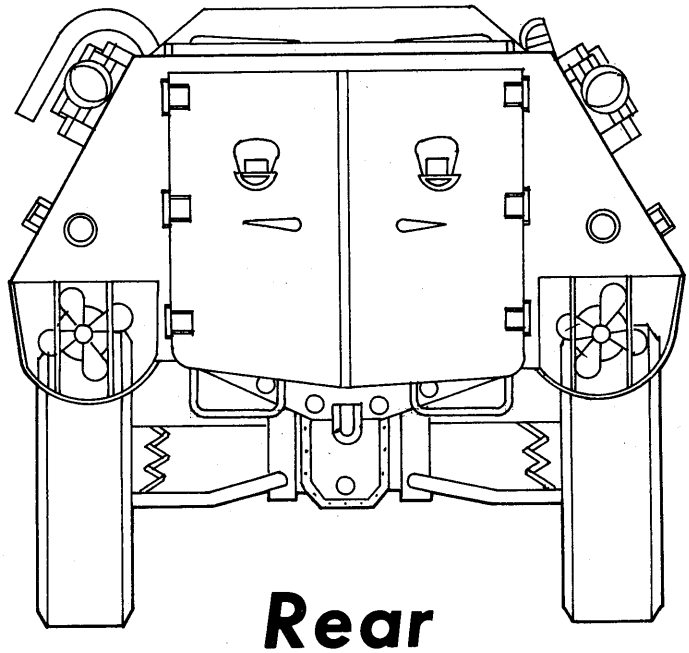
OT-64C(1)



OT-64B

OT-64 Series

OT-64 A



Rear

HALF—TRACK
ARMORED PERSONNEL CARRIERS



OT—810



M3

HALF-TRACK ARMORED PERSONNEL CARRIERS

Armored personnel carrier M3
Armored personnel carrier OT-810
Armored personnel carrier OT-810 (antitank version)

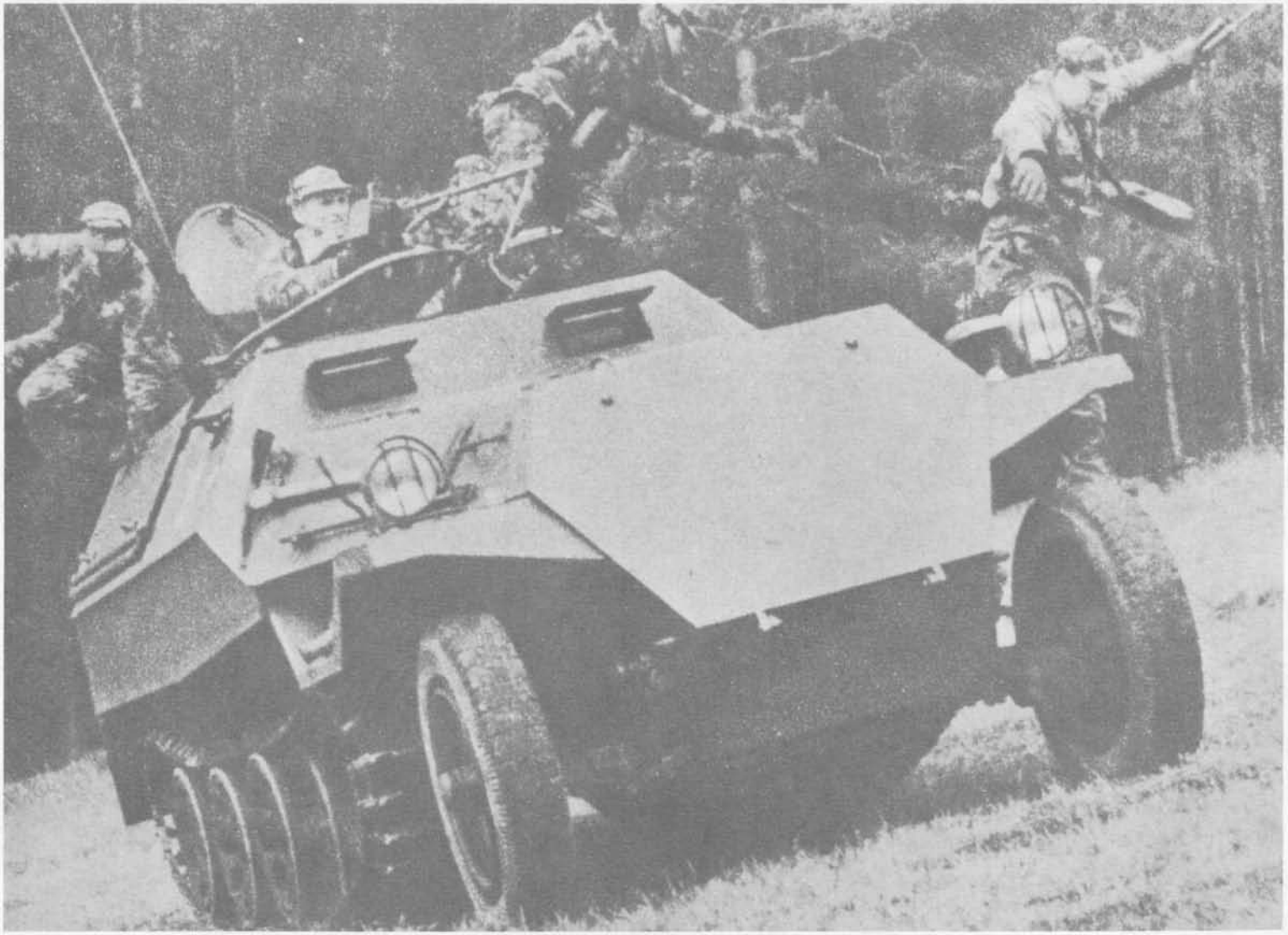
Although half-track vehicles dominated the armored personnel carrier field on both sides during World War II, the postwar period has seen the steady decline in their importance. Two East European Communist armies, however, still use half-track vehicles, Yugoslavia and Czechoslovakia. Yugoslavia employs a considerable number of United States wartime half-tracks, primarily M3's. In addition, some half-track mounted United States self-propelled automatic antiaircraft weapons are held. The United States half-tracks differ in appearance from the German models and have drive on the wheels of the front axle. The armor is less favorably shaped. No overhead armor is employed.

The Czechoslovak OT-810 half-track armored personnel carrier is a modified version of the German World War II medium carrier Sd.Kfz.251. Although the original vehicles, also used by the Czechoslovaks, were open topped and had gasoline engines, later modifications had overhead armor and used Czechoslovak diesel engines. With the widespread introduction of the amphibious eight-wheel armored personnel carrier OT-64 in the Czechoslovak Army in recent years, the OT-810 has been relegated to an antitank role. At first it was used as an armored prime mover for the 82mm recoilless gun M59A, but more recently it has been extensively modified to carry this gun. A large folding shield, folding side armor plates and a mount for the gun have been installed. Arrangements to carry the ammunition have been made. The M59A may be fired from the vehicle or dismounted and fired from the ground. The OT-810 is used only in the Czechoslovak Army.

		M3	OT-810
Vehicle			
Weight cbt	t	9.1	8.5
Length	mm	6172	5800
Width	mm	2477	2100
Height	mm	2261	1750
Track: wheels	mm	1626	1650
track	mm	1620	1600
Clearance	mm	485	300
Tire size		8.25x20	7.50x20
Track width	mm	305	300
Ground contact	mm	1187	1800
Engine model		White*	Tatra
Horsepower		127	120
Cylinders		6 inline	6 inline
Fuel		gasoline	Diesel
Cooling		water	air
Speed	km/h	72	52.5
Cruising range	km	336	320
Fuel capacity	l	227	160
Fuel consumption	l/100km	67	50
Ground pressure	kg/cm^2	0.87	0.843
Trench	mm	550	1980
Step	mm	305	255
Slope	°	31	24
Tilt	°		
Ford	mm	810	500
Armor: hull front	mm/°	12.7	12
hull side	mm/°	6.3	7
Crew/passengers		2/11	2/10
Armament			
Main armament	mm	varies	7.62 MG
Model			M59**
Basic load	rds		
Elevation	°		
Depression	°		
Traverse	°		
Axis of bore	mm		
Secondary armament	mm		---
Basic load	rds		---

*120 AX

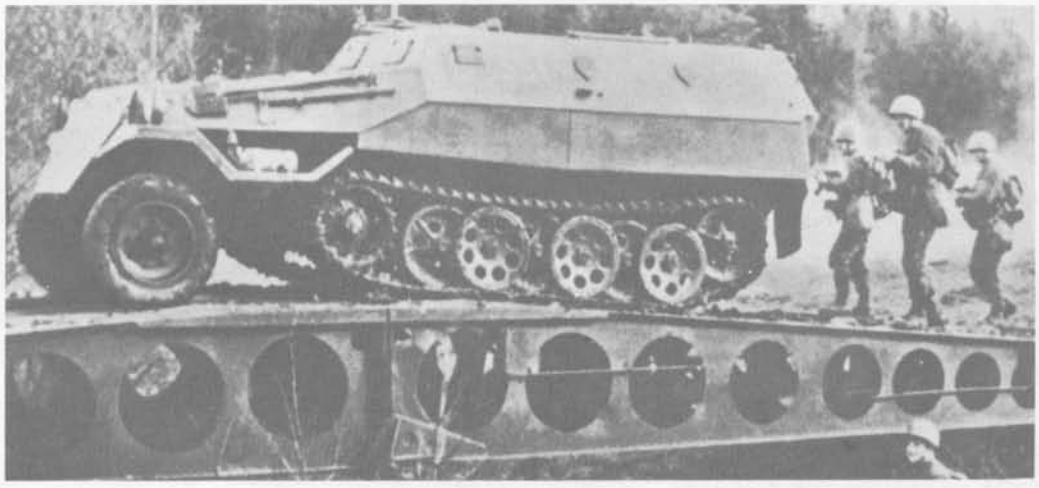
**antitank weapon carrier version mounts one 82mm recoilless gun M59A



OT-810



OT-810



OT-810



OT-810 Antitank version



OT-810 Antitank version

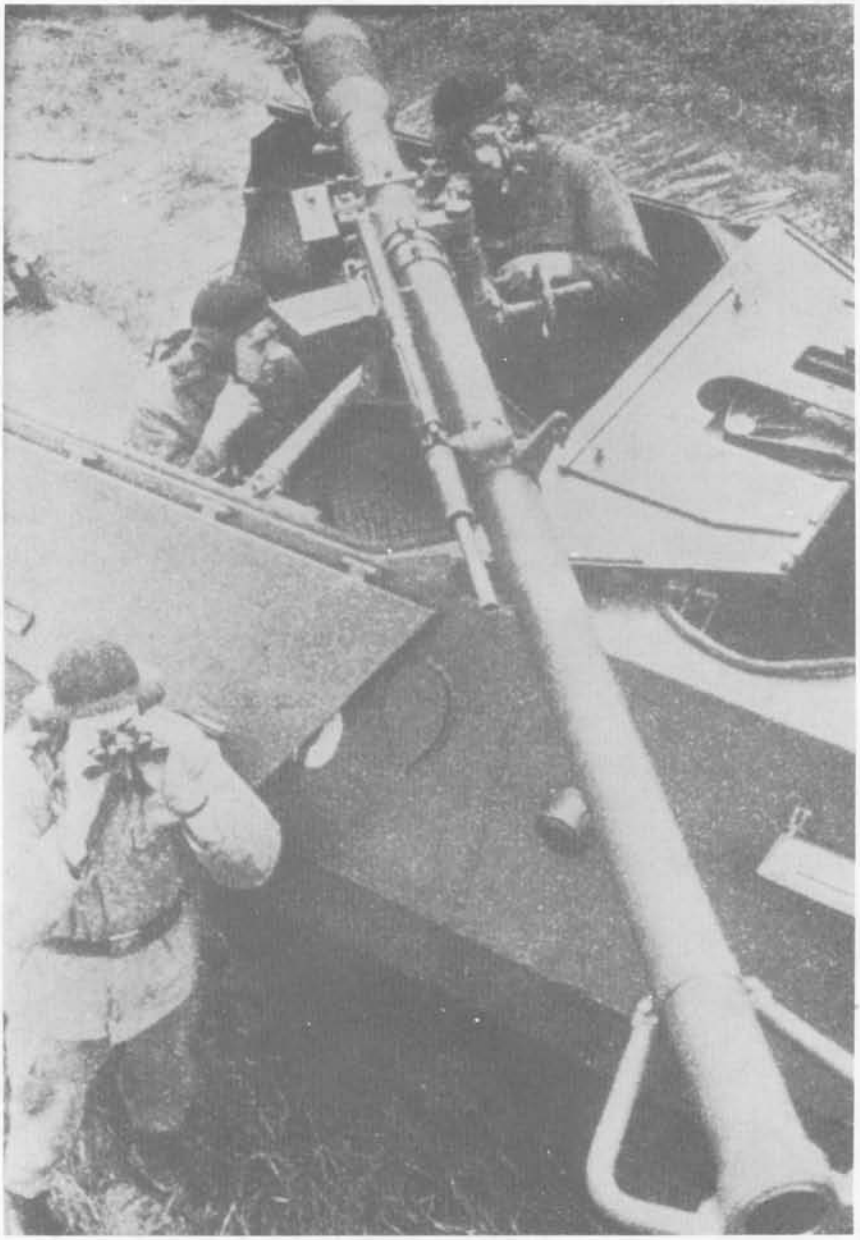


OT-810 Antitank version

OT—810



OT-810 Antitank version



OT-810 Antitank version



M3

AMPHIBIOUS TRACKED

ARMORED PERSONNEL CARRIERS



BTR—50PK



OT—62 "TOPAS"

SOVIET AND CZECHOSLOVAK AMPHIBIOUS TRACKED ARMORED PERSONNEL CARRIERS

Armored personnel carrier BTR-50P
Armored personnel carrier BTR-50PA
Armored personnel carrier BTR-50PK
Armored command vehicle BTR-50PU
Armored personnel carrier OT-62A (TOPAS)
Armored personnel carrier OT-62B (TOPAS)
Armored personnel carrier OT-62C (TOPAS-ZAP)
Armored Recovery Vehicle WPT-TOPAS

Armored personnel carriers of the BTR-50P series are currently issued to the motorized rifle regiment of tank divisions in the Soviet and East German Armies, and in a modified form as command vehicles in virtually all Warsaw Pact armies. They have also been exported to the Middle East. The BTR-50P, which was first shown in public on November 1957, has undergone a number of modifications. The original BTR-50P had an open-topped fighting compartment, and at first, carried no armament. There is provision, however, for transporting 57mm, 76mm or 85mm guns in the fighting compartment. The guns are loaded onto the vehicle from the rear using folding ramps attached to the rear deck of the vehicle. The guns can be fired from the vehicle on land or water, or can be dismounted and used in a normal fashion. When firing from the vehicle in the water, however, the waterjet system must be in operation.

The slightly modified BTR-50PA differs from the BTR-50PK, which is fitted with overhead armor cover. It lacks the folding ramps for transporting the various light field pieces. The BTR-50PU armored command vehicles closely resemble the BTR-50PK in that they have overhead armor cover; however, the hatches on the top of the command vehicles are oval in shape. In addition, the most common version, the so-called Model-2, has two bays on the front of the superstructure. The BTR-50PU command vehicle is very elaborately equipped with a variety of radios and with a special land navigation system which includes a coordinate indicator and map course plotter. Great care must be taken to distinguish the BTR-50PU command vehicles from the Czechoslovak OT-62 armored personnel carriers which also have two bays, although, of different size.

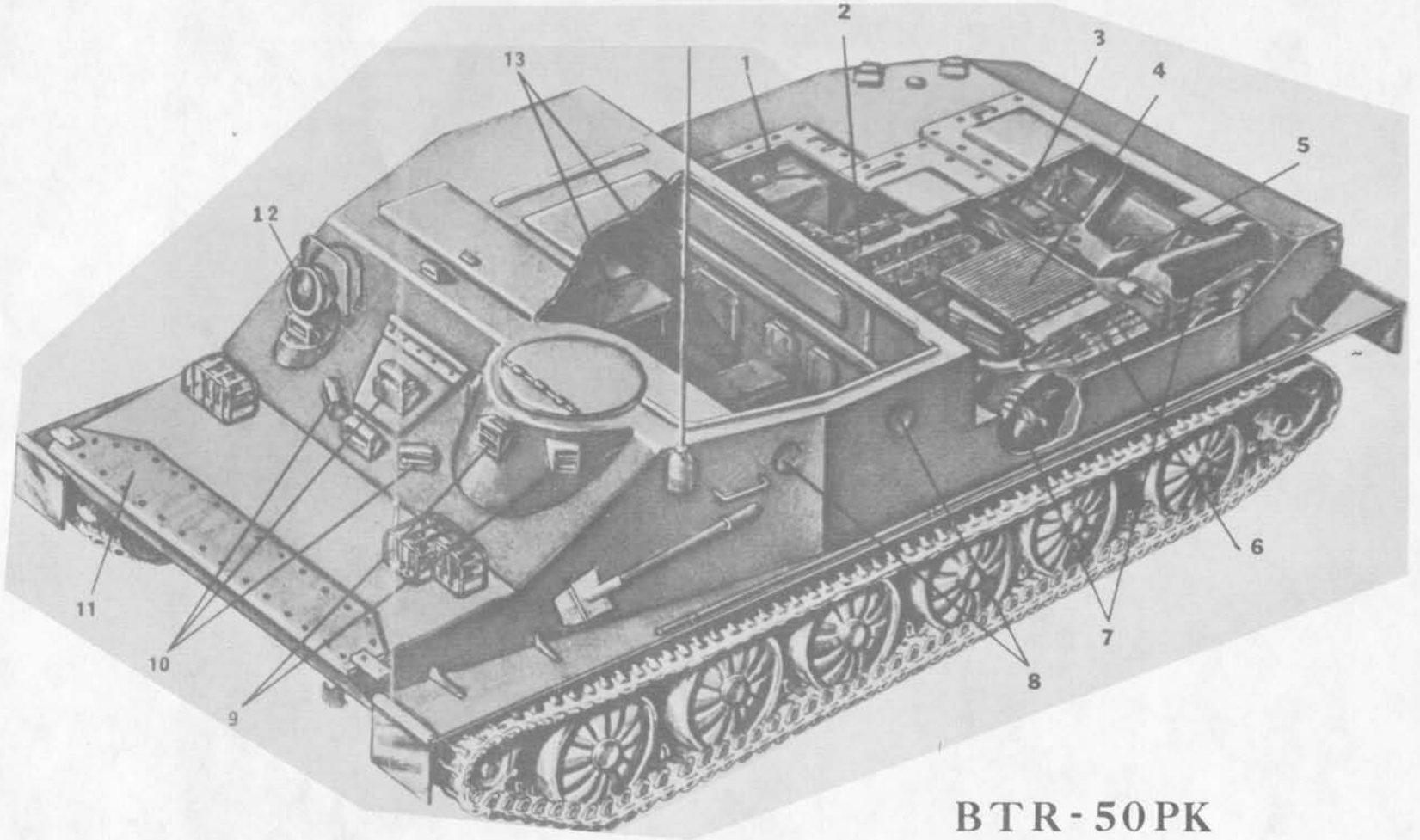
The Czechoslovak OT-62 (TOPAS) armored personnel carriers, based on the Soviet BTR-50PK, are used in both the Czechoslovak and Polish armies. In addition to a number of automotive improvements, which include a supercharged engine, the OT-62 is fully sealed and employs an overpressure system which allows it to operate over contaminated terrain. In appearance the OT-62 closely resembles the Soviet BTR-50PU command vehicle (Model-2); however, the right hand bay of the Czechoslovak vehicle is larger. The OT-62 also has doors on either side of the troop compartment for easier mounting and dismounting. The basic OT-62 has no fixed armament. The OT-62B, used only in the Czechoslovak Army, however, mounts a small turret on the right hand bay. This turret mounts a 7.62mm machinegun M59T internally, and an 82mm recoilless gun T-21 externally. The same turret is also mounted on the OT-65A amphibious scout car in the Czechoslovak Army. Both versions of the OT-64 have also been sighted with the towed 82mm recoilless gun M59A being carried on the rear deck from which it can be fired.

The OT-62C (TOPAS-ZAP) is a recent Polish modification which mounts the same turret as does the OT-64C (2) wheeled armored personnel carrier. This turret is armed with one 14.5mm heavy machinegun KPVT and one 7.62mm machinegun PKT. The weapons are capable of 78 degrees of elevation to engage air targets. In addition to these models, command vehicle and armored ambulance versions of the OT-62 also exist.

The Polish forces have a further modification of the OT-62, known as the WPT-TOPAS. It is the basic vehicle for recovery of TOPAS armored personnel carriers and PT-76 tanks involved in over-the-beach landings. It closely resembles the OT-62A (TOPAS) but is additionally equipped with a winch of 2.5-ton capacity, a hand-operated one-ton capacity crane and other specialized recovery and repair equipment. Armament consists of one vehicular-mounted 7.62mm PK machinegun in addition to an RPG-7 antitank grenade launcher and twelve F-1 fragmentation hand grenades. The overall weight of the WPT-TOPAS is 15 tons.

		BTR-50PK	OT-62B	OT-62C
Vehicle				
Weight cbt	t	14.2	15	16.39
Length	mm	7080	7080	7000
Width	mm	3140	3140	3225
Height w/o MG	mm	1970	1970*	**
Track	mm	2740	2740	2740
Clearance	mm	370	370	425
Track width	mm	360	360	360
Track on ground	mm	4080	4080	4080
Engine model		V-6	PV-6	PV-6
Horsepower		240	300	300
Cylinders		6 inline	6 inline	6 inline
Fuel		Diesel	Diesel	Diesel
Cooling		water	water	water
Speed: land/water	km/h	44/11	58.4/10.8	60/10.8
Cruising range	km	260	450	550
Fuel capacity	l	250	417	
Fuel consumption	l/100 km	96	90	
Ground pressure	kg/cm	0.51	0.53	
Trench	mm	2800	2800	2800
Step	mm	1100	1100	1100
Slope	°	38	38	38
Tilt	°	25	25	25
Ford	mm	---	---	---
Armor: maximum	mm	10	14	
Crew		2	2	3
Passengers		20	18	12/8***
Armament				
Main armament	mm	7.62 MG	82 rcl gun	14.5 MG
Model		SGMB	T-21	KPVT
Basic load	rds	1250	12	500
Elevation	°	+23.5	+20	+78
Depression	°	-6	-10	-5
Traverse	°	90	360	360
Axis of bore	mm		2100	
Secondary armament	mm	---	7.62 M59T	7.62PKT
Basic load	rds	---	1250	2000

*with turret 2230mm
**with turret 2725mm
***version I for infantry squad
version II for 2 82mm mortar squads



BTR-50PK

1. Fuel tank
2. Engine
3. Transmission
4. Radiator
5. Clutch
6. Exhaust
7. Hydrojet
8. Vision ports
9. Commander's vision devices
10. Driver's vision devices
11. Bow vane
12. Infrared headlight
13. Passenger's seats

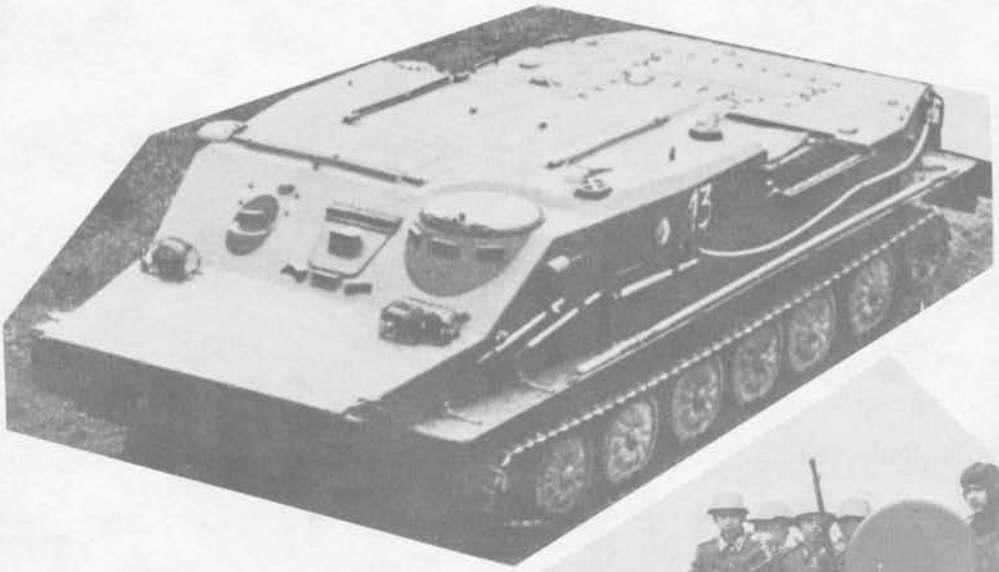
BTR—50P



BTR-50P



BTR-50P



BTR—50PK



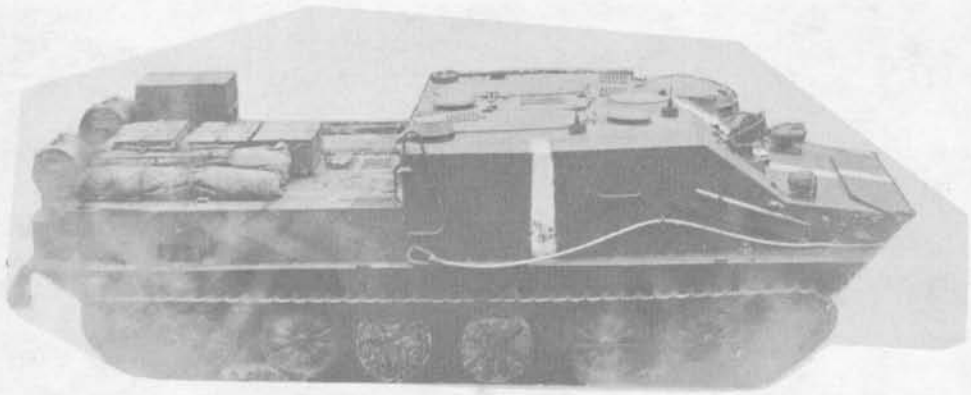




BTR-50PK



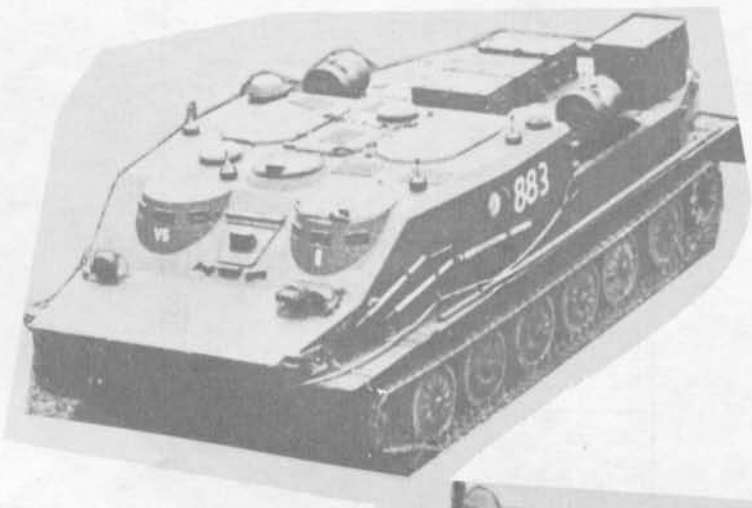
BTR-50PK



BTR-50PU (Model 1)



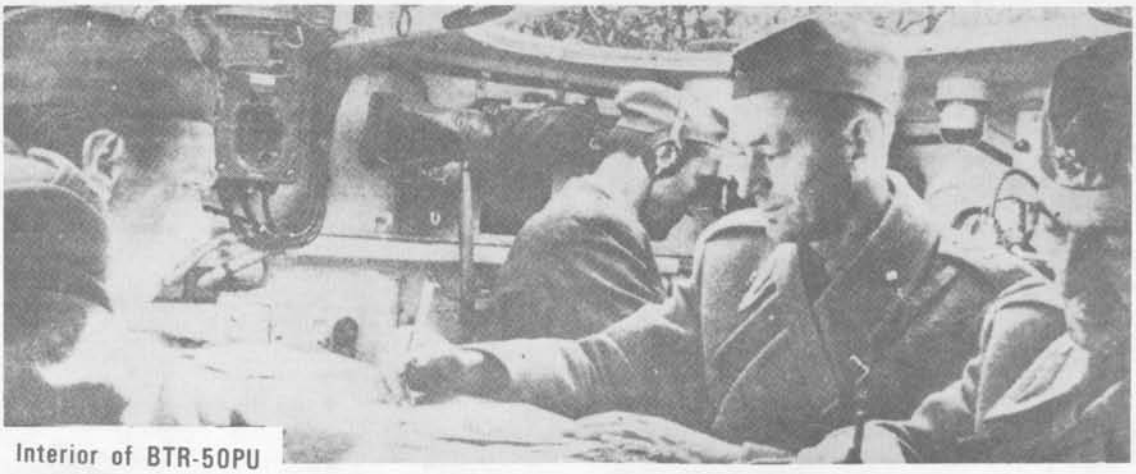
BTR-50PU
(Models 1 and 2)



BTR-50PU (Model 2)



BTR-50PU
(Model 2)

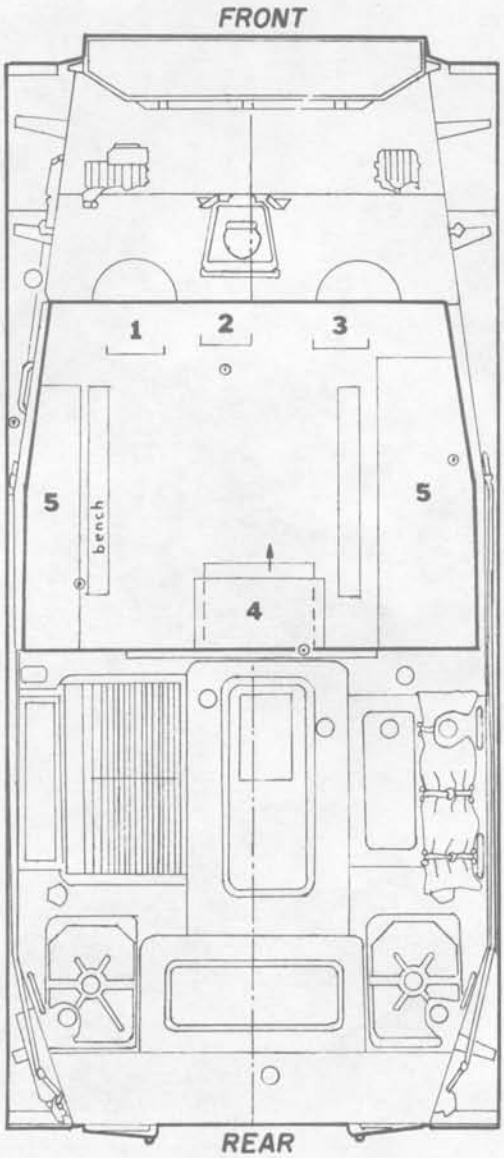


Interior of BTR-50PU

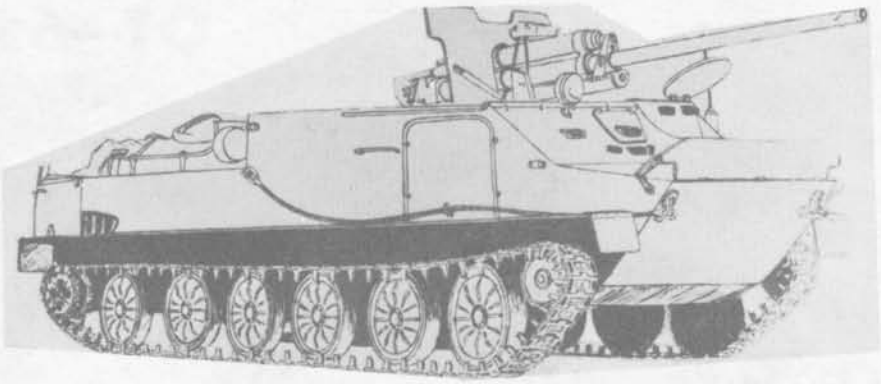
BTR—50PU

1. COMMANDER
2. DRIVER
3. NAVIGATION / NAVIGATOR
4. EXTENDING TABLE
5. COMMUNICATION EQUIPMENT

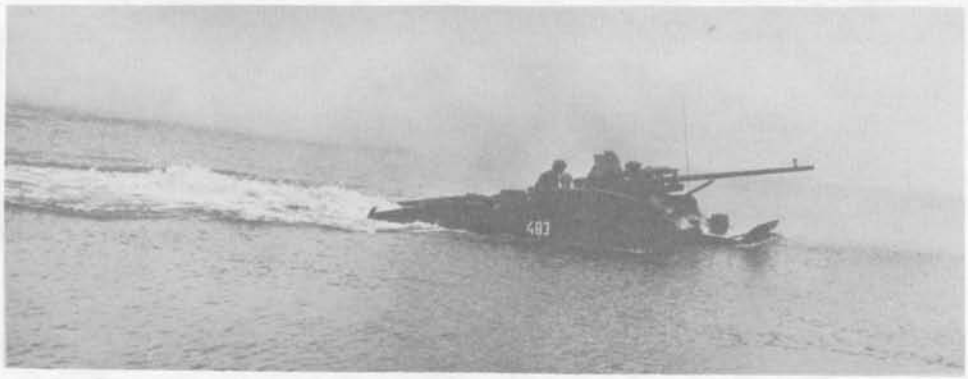
⊙ ANTENNA



INSIDE PLAN



BTR-50P with 57mm AT gun M1943



BTR-50P with AT gun



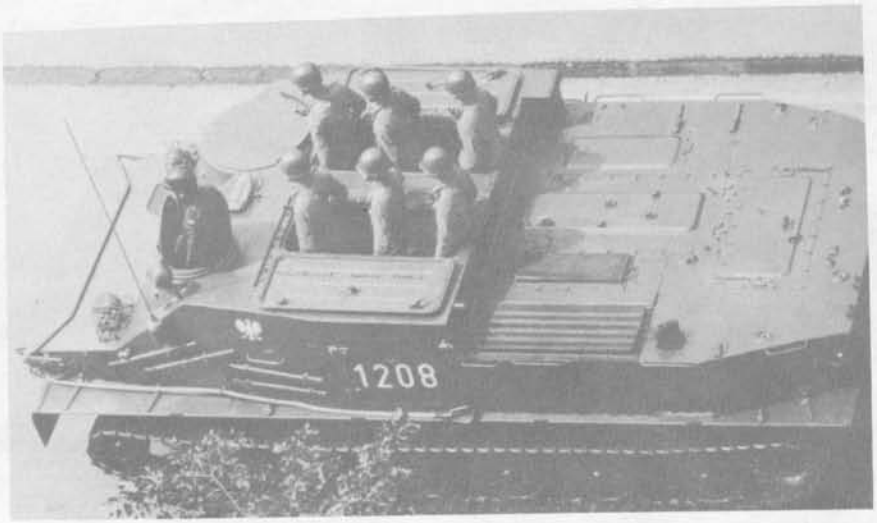
OT—62A



OT-62A

OT-62A

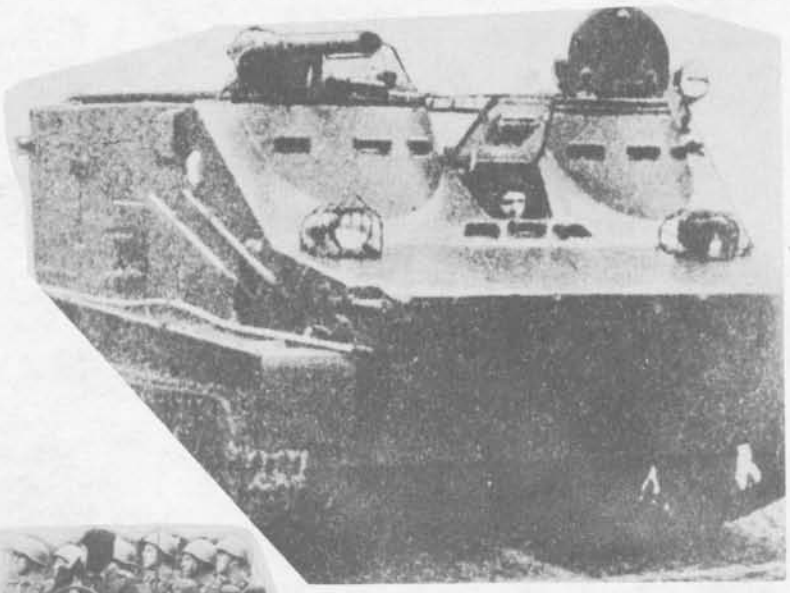


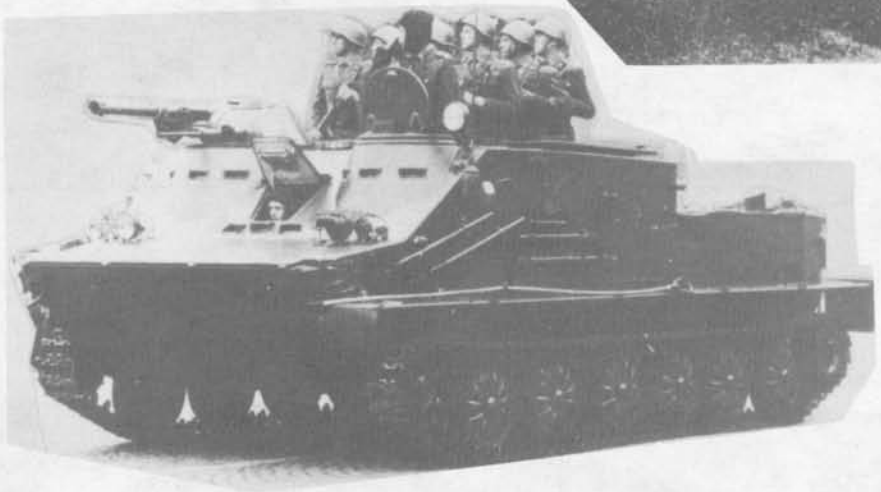


OT-62A

OT—62B

OT-62B





OT-62B

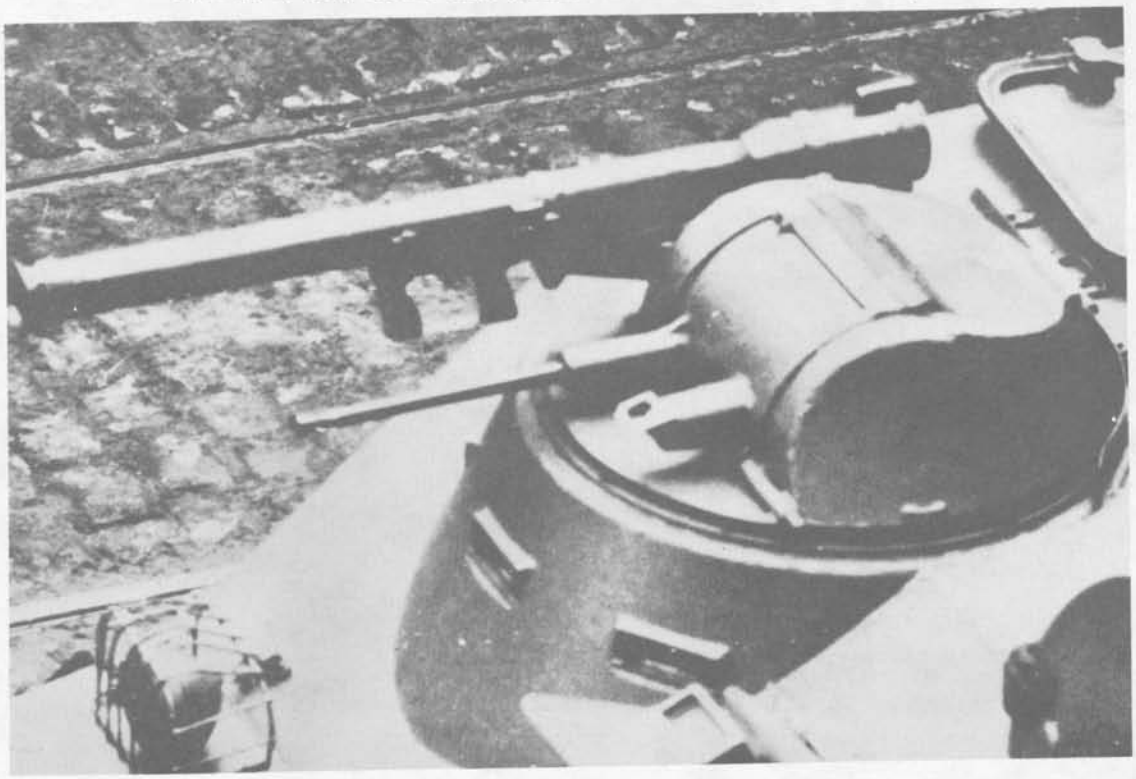


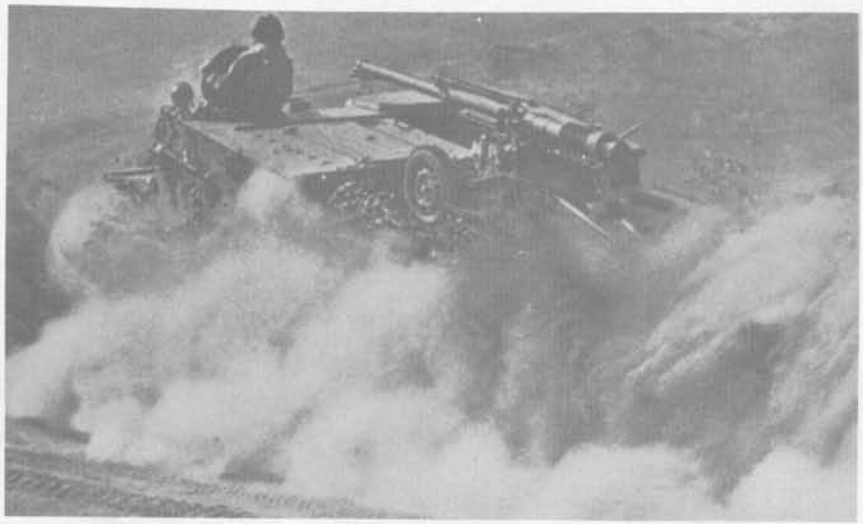
OT-62B



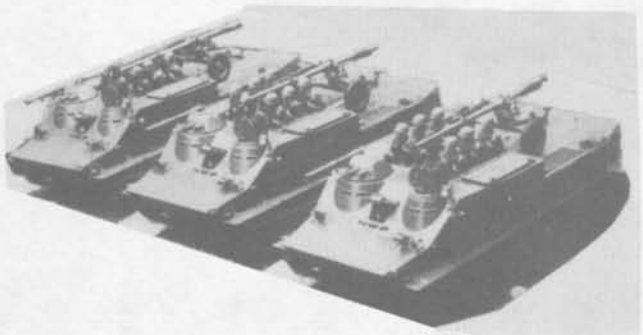
OT-62B

Closeup of mini turret with 7.62mm MG and 82mm recoilless gun.





OT-62B with 82mm recoilless gun mounted on rear deck.



OT-62B

OT-62B



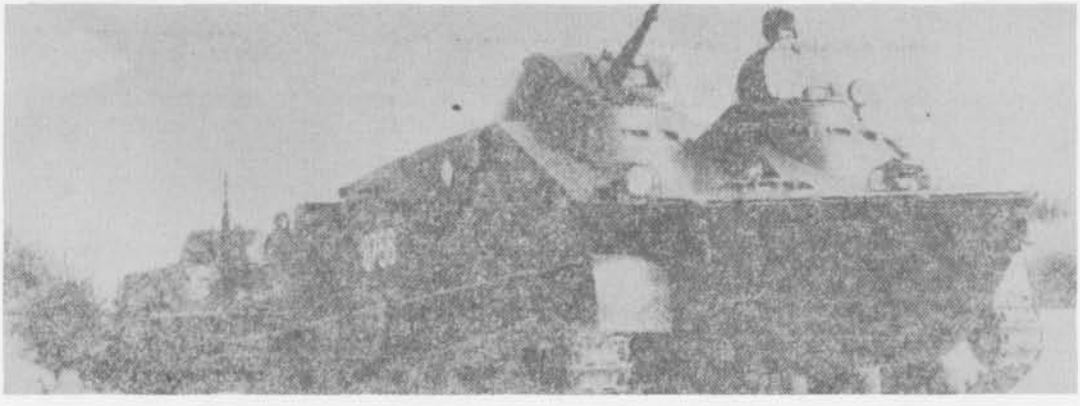


OT-62B with 82mm recoilless gun mounted on rear deck.

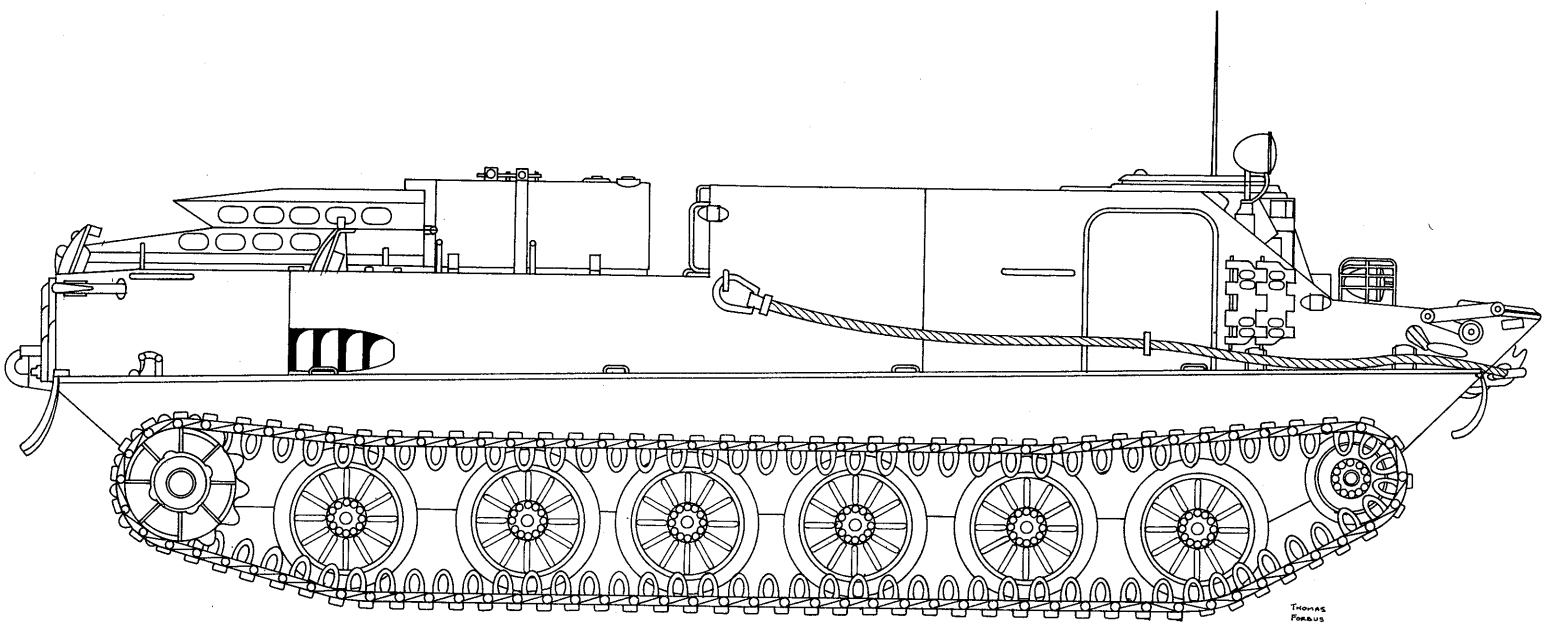
OT—62C



OT-62C with Polish-designed turret.

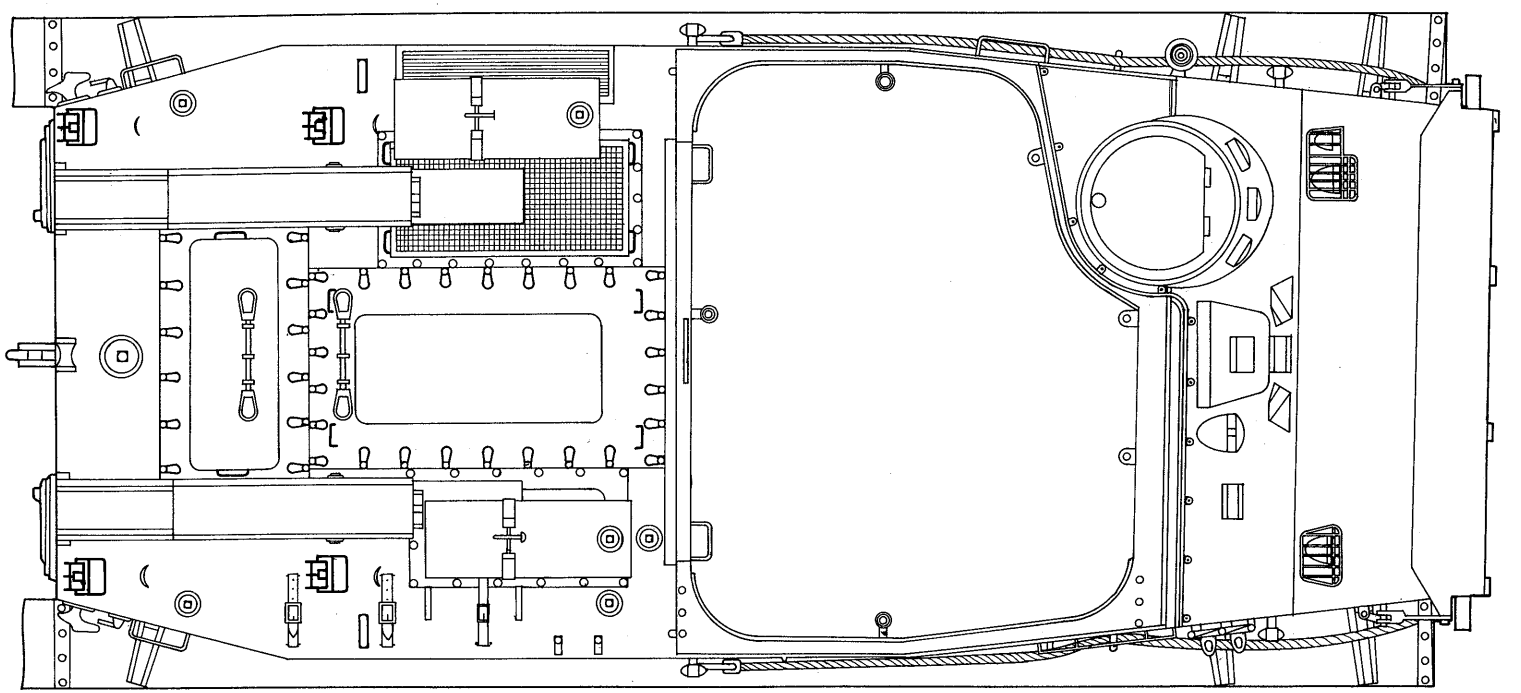


Flank



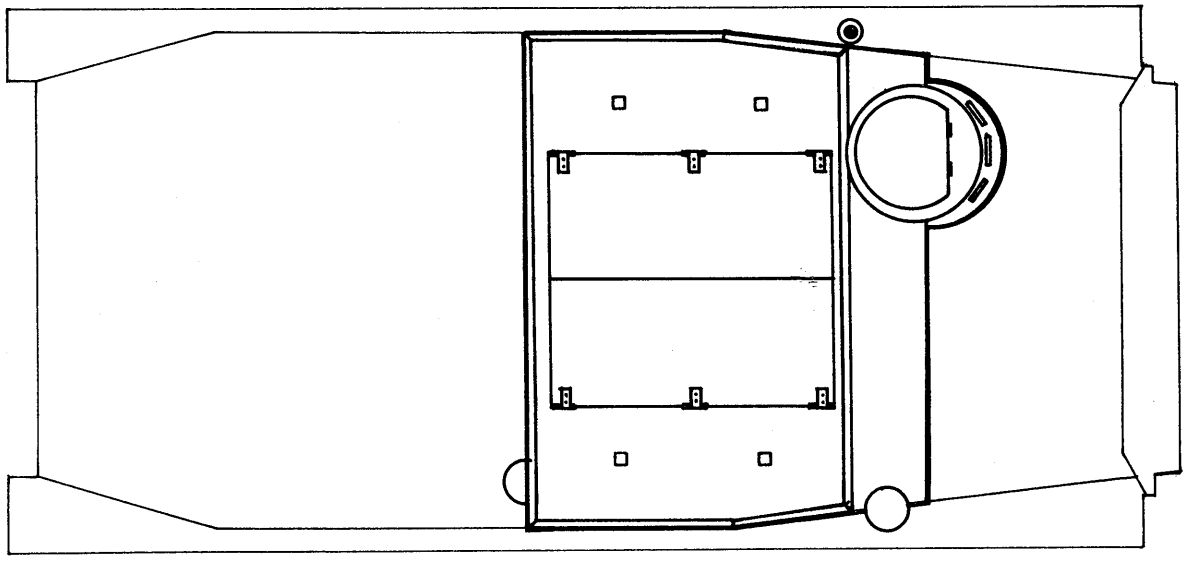
BTR-50P

Top

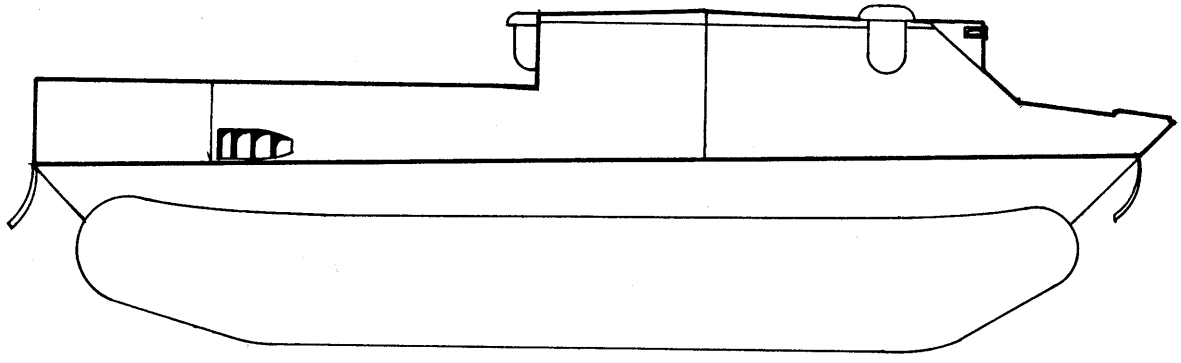


BTR-50P

Top

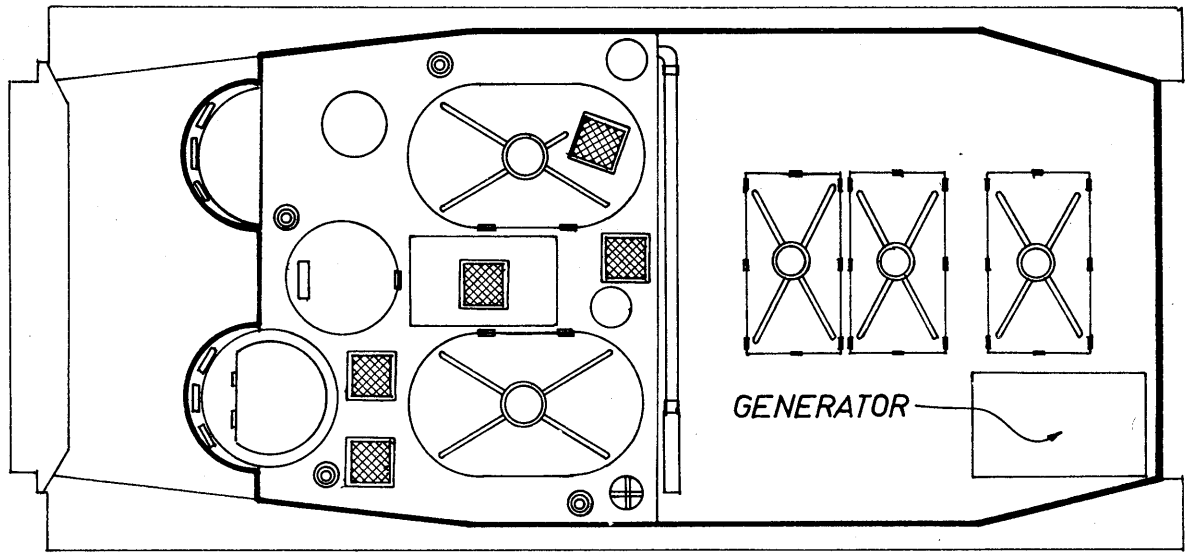


BTR-50PK

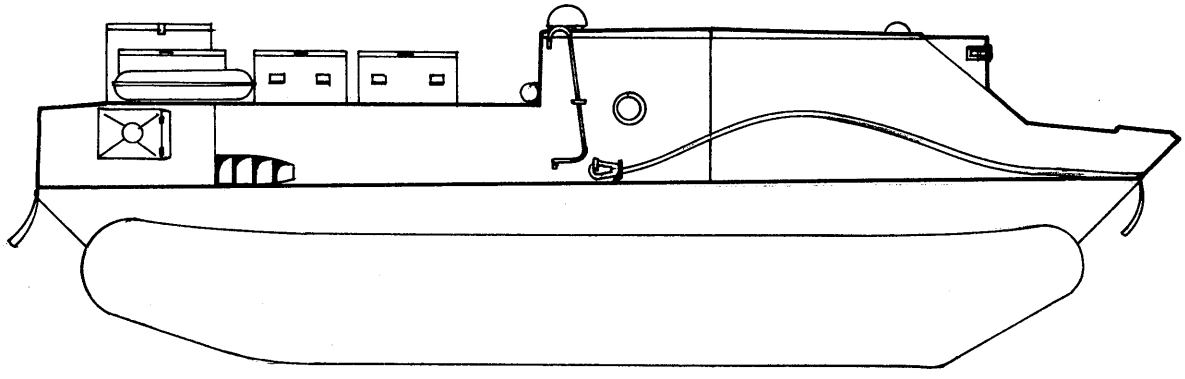


Flank

Top

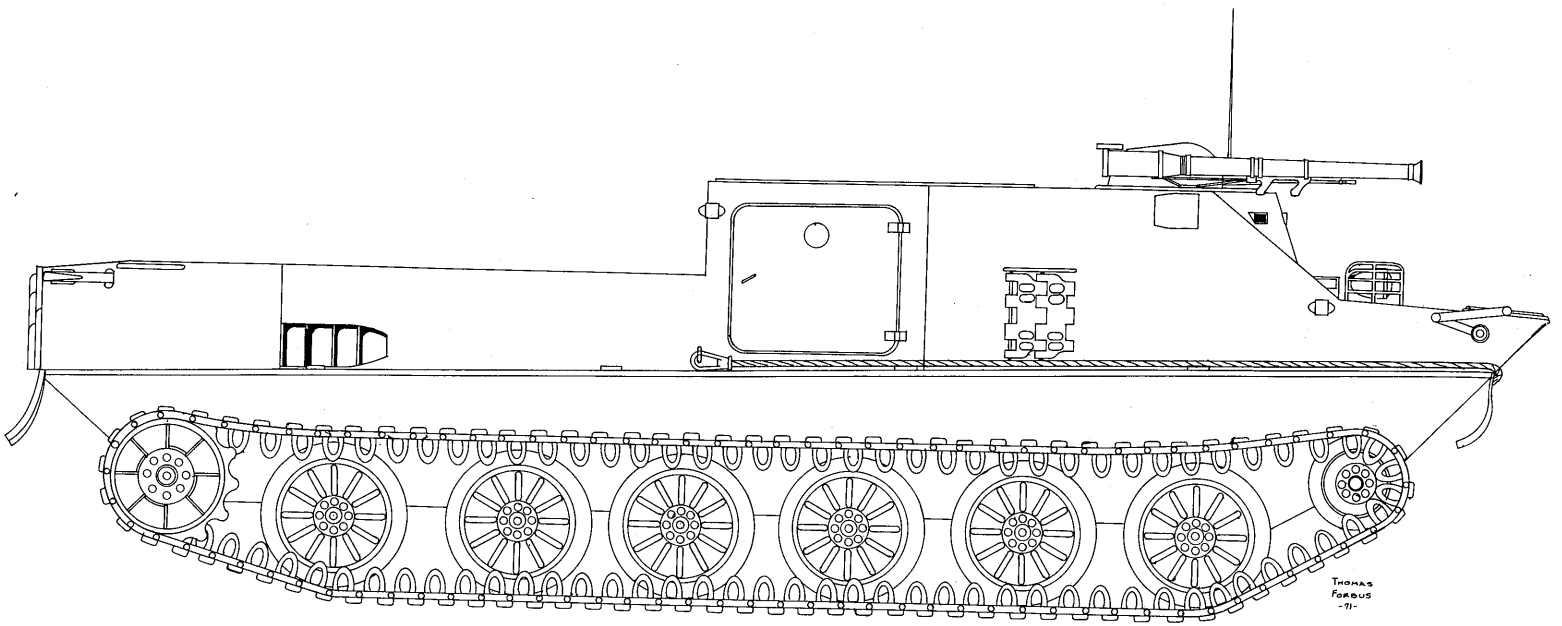


BTR-50PU



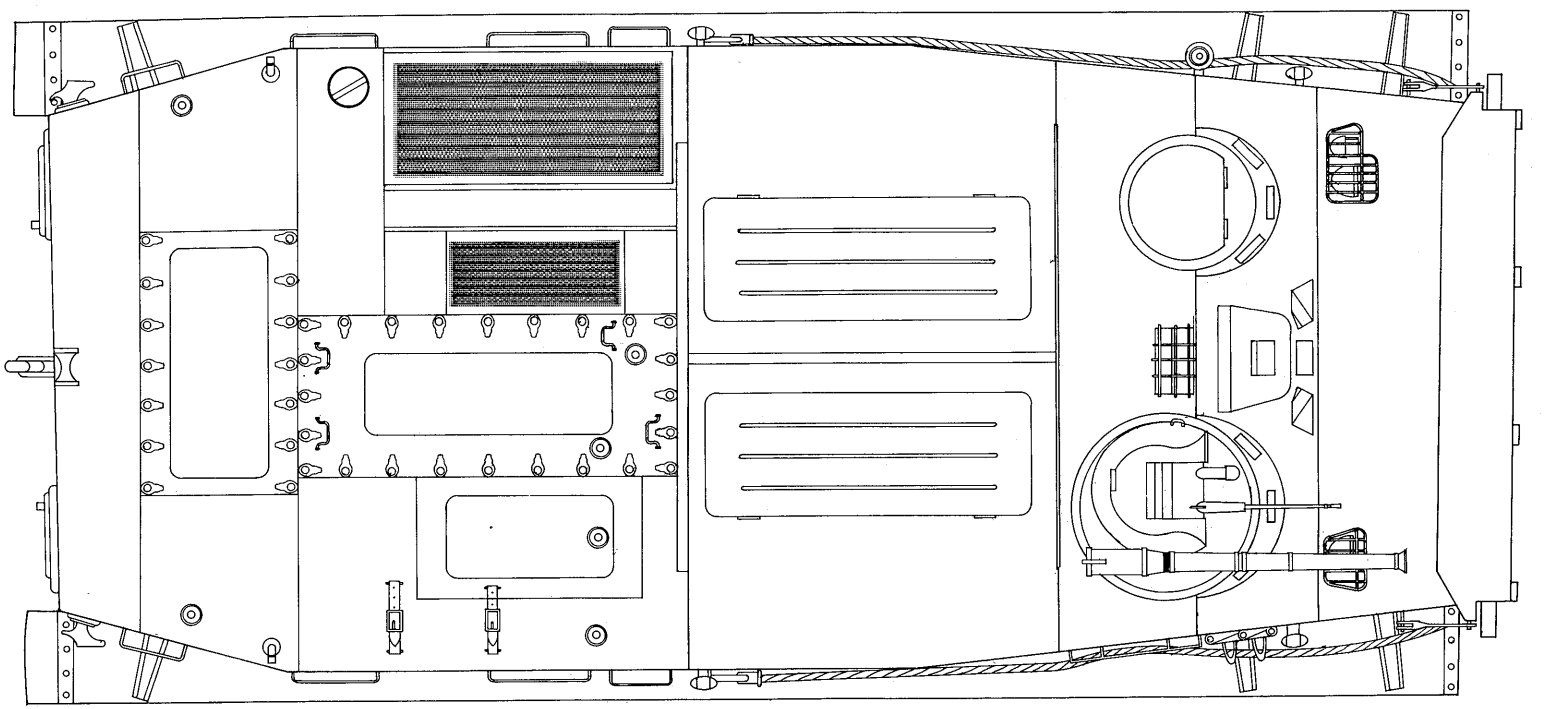
Flank

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OT-62

Top



OT-62

YUGOSLAV AND CHINESE COMMUNIST AMPHIBIOUS TRACKED ARMORED PERSONNEL CARRIERS

Armored personnel carrier M-60
Armored personnel carrier (Chinese Communist)

The Yugoslav amphibious tracked armored personnel carrier M-60 is a national development using components taken from other vehicles. The basic concept was inspired by the United States M59 carrier; the suspension was based on the Soviet SU-76 light assault gun; and the powerplant is a Yugoslav-made Austrian Saurer diesel engine which is used in the Hungarian K800 tracked artillery tractor and in a number of Yugoslav trucks. The K800 also uses a suspension derived from the SU-76. The main armament of the M-60 is a United States caliber .50 heavy machinegun, while the secondary armament is a Yugoslav M-53 copy of the German World War II MG 42 machinegun. The M-60 has not been produced in large quantities, and it has not been exported.

Among the variety of armored vehicles produced in Communist China is a tracked amphibious armored personnel carrier. Similar in design and configuration to the United States M113 carrier, the Chinese vehicle employs components of the PT-76 amphibious tank suspension, although the water propulsion is via track rather than waterjet. The normal main armament is a Chinese Type 54 copy of the Soviet 12.7mm heavy machinegun DShKM. The Chinese armored personnel carrier has been identified in use in the Albanian Army.

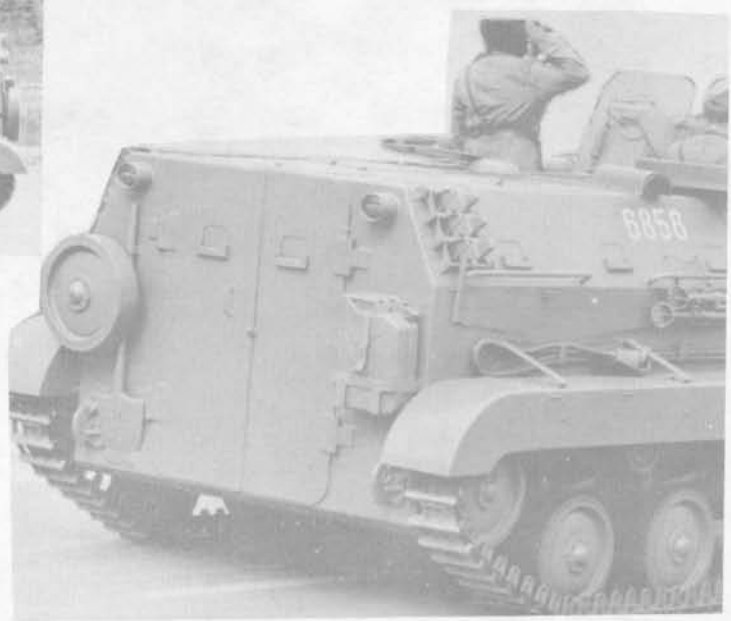
		M-60
Vehicle		
Weight cbt	t	9.5
Length	mm	5050
Width	mm	2750
Height w/o AA	mm	1800
Track	mm	2370
Clearance	mm	350
Track width	mm	300
Track on ground	mm	3000
Engine model		FAMOS
Horsepower		140
Cylinders		6 inline
Fuel		Diesel
Cooling		water
Speed: land/water	km/h	45/6
Cruising range	km	400
Fuel capacity	l	150
Fuel consumption	l/100 km	38
Ground pressure	kg/cm	0.6
Trench	mm	2000
Step	mm	600
Slope	°	30
Tilt	°	26
Ford	mm	---
Armor: maximum	mm	25
Crew		3
Passengers		10
Armament		
Main armament	mm	12.7 MG
Model		M2 HB
Basic load	rds	
Elevation	°	
Depression	°	
Traverse	°	
Axis of bore	mm	
Secondary armament	mm	7.9 M-53
Basic load	rds	

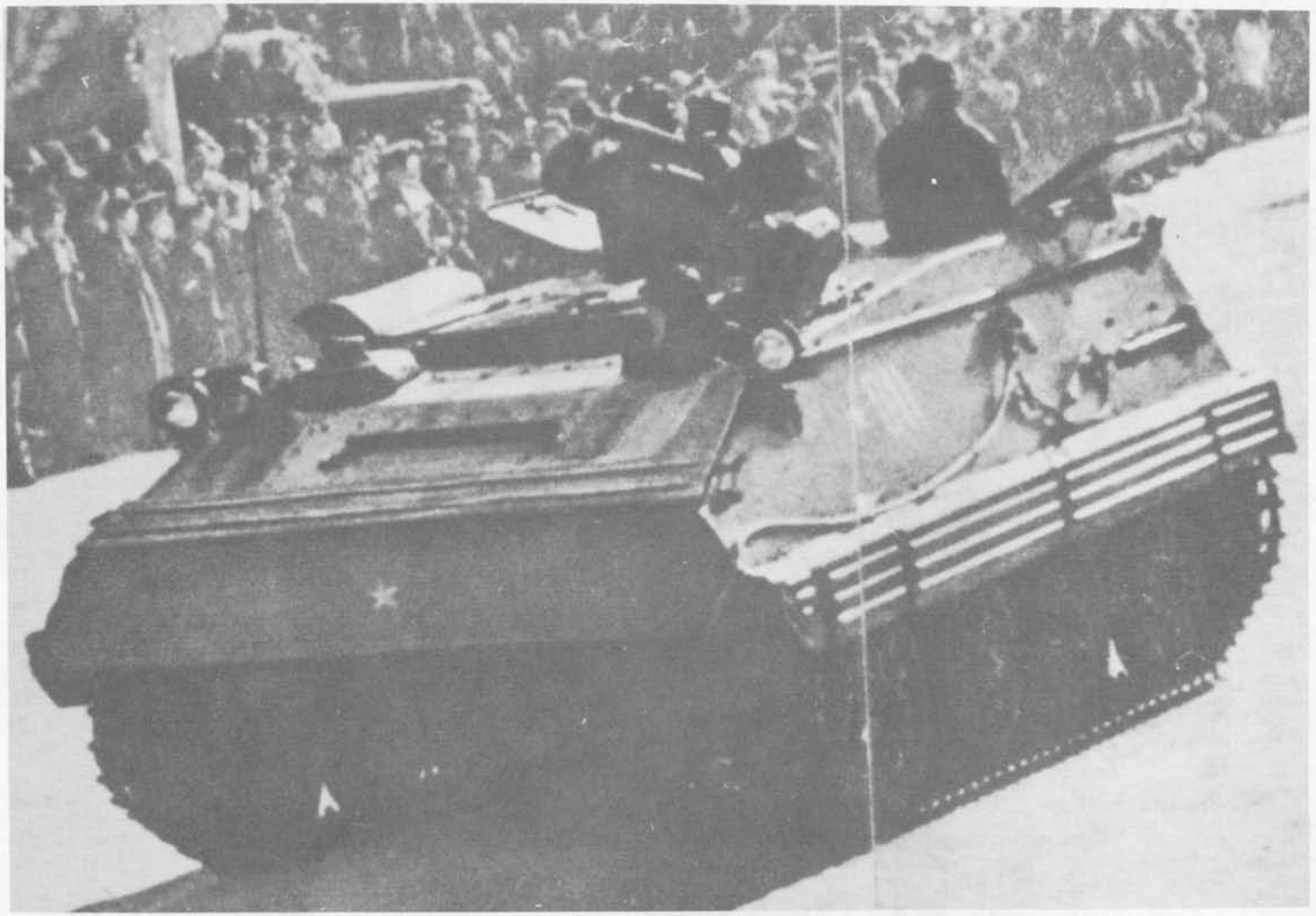
YUGOSLAV AMPHIBIOUS ARMORED PERSONNEL CARRIER M60





Yugoslav Armored Personnel Carrier M-60





CHINESE ARMORED PERSONNEL CARRIER

BMP

INFANTRY COMBAT VEHICLE





Infantry combat vehicle BMP
Infantry combat vehicle BMP-2

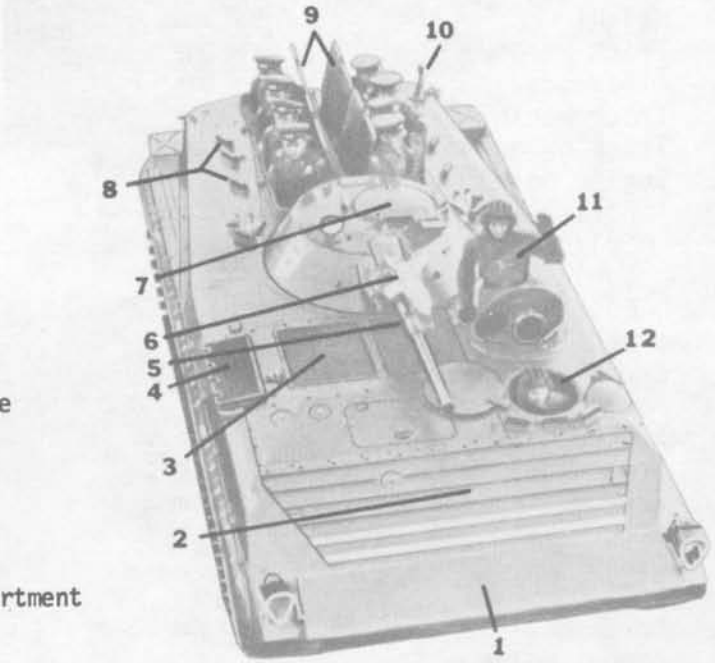
The Soviet BMP armored infantry combat vehicle is an entirely new type of light armored vehicle combining the features of a light tank, antitank guided missile carrier, and armored personnel carrier. It was first paraded in public on 7 November 1967 in Moscow, and since then has been issued to troop units of the Soviet Army in East Germany and to the Polish airborne division.

Although the chassis is new, it does incorporate some of the components of the PT-76 suspension. The BMP, however, does not use waterjet propulsion, and therefore, the tracks are different. In addition, track support rollers are used. Another innovation is that the powerplant is mounted on the right front of the vehicle, thus permitting rear access doors to the troop compartment. Since the original vehicle appeared a number of modifications have been made, the most obvious of which is the lengthening of the bow and the extension of the deflector shroud to the rear. These changes were made to improve the swimming characteristics which are inhibited by the forward placement of the powerplant.

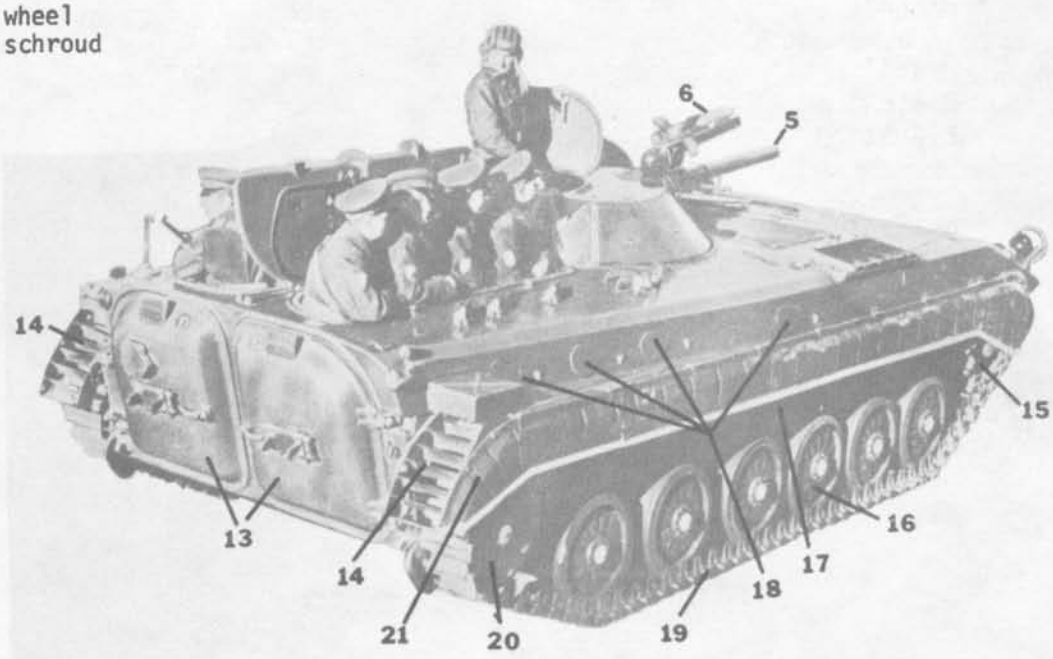
The main armament of the BMP is a 73mm smoothbore short-recoil gun mounted together with a 7.62mm coaxial machinegun in a small conical turret. The short-recoil guns fire fin-stabilized HEAT projectiles capable of successfully attacking medium tanks up to 1000 meters in range. In addition, a mount for a launch rail for the AT-3 SAGGER wire-guided antitank guided missiles is provided. Other arrangements for mounted combat of the passengers are also provided by the firing ports found on both sides of the vehicles. These, too, have been modified in the BMP-2 version.

		BMP-2
Vehicle		
Weight cbt	t	12.5
Length	mm	6750
Width	mm	3000
Height	mm	2000
Track	mm	2540
Clearance	mm	400
Track width	mm	300
Track on ground	mm	3600
Engine model		V-6
Horsepower		280
Cylinders		6 inline
Fuel		Diesel
Cooling		water
Speed: land/water	km/h	55/8
Cruising range	km	300
Fuel capacity	l	
Fuel consumption	l/100	
Ground pressure	kg/cm	0.57
Trench	mm	2700
Step	mm	900
Slope	°	30
Tilt	°	
Ford	mm	---
Armor: maximum	mm	14
Crew		3
Passengers		8
Armament		
Main armament	mm	73 ~~76~~ gun
Model		smoothbore
Basic load	rds	30
Elevation	"	+20
Depression	°	-5
Traverse	°	360
Axis of bore	mm	1410
Secondary armament	mm	7.62 PKT
Basic load	rds	1000
Supplemental armament		ATGM
Model		AT-3 SAGGER
Basic load	rds	4

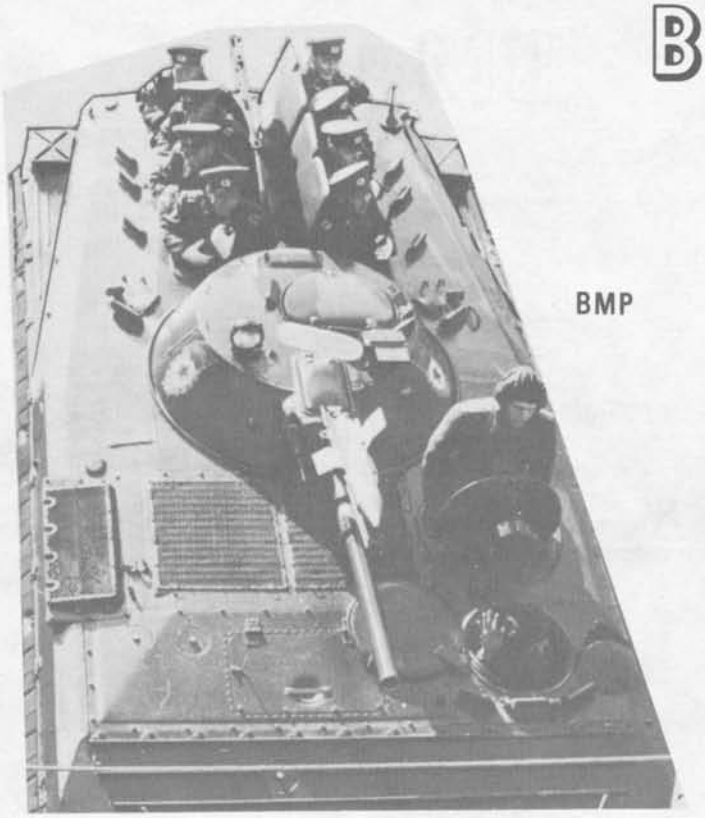
BMP



1. Bow vane
2. Engine compartment
3. Radiator
4. Exhaust
5. 76mm gun
6. SAGGER antitank guided missile
7. Gunner's hatch
8. Vision devices for passengers
9. Passenger hatches
10. Antenna
11. Commander
12. Driver
13. Rear doors to passenger compartment
14. Track cover with water slits
15. Drive sprocket
16. Roadwheel
17. Track support roller
18. Firing ports for small arms
19. Track
20. Idler wheel
21. Track schroud



BMP



BMP



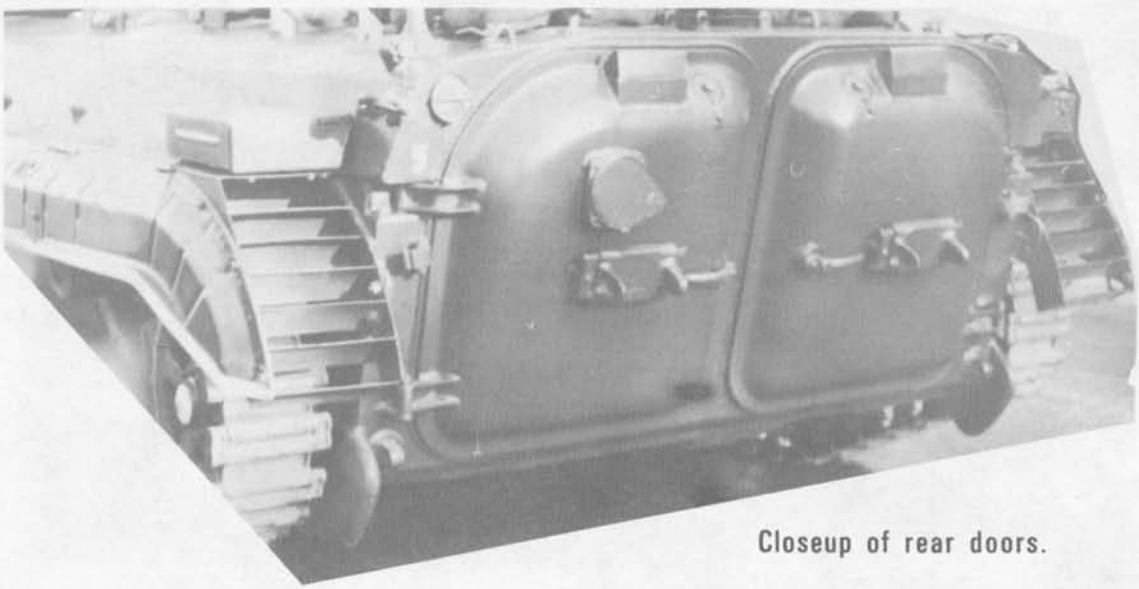
BMP

Closeup of 76mm gun and "SAGGER" ATGM.

BMP

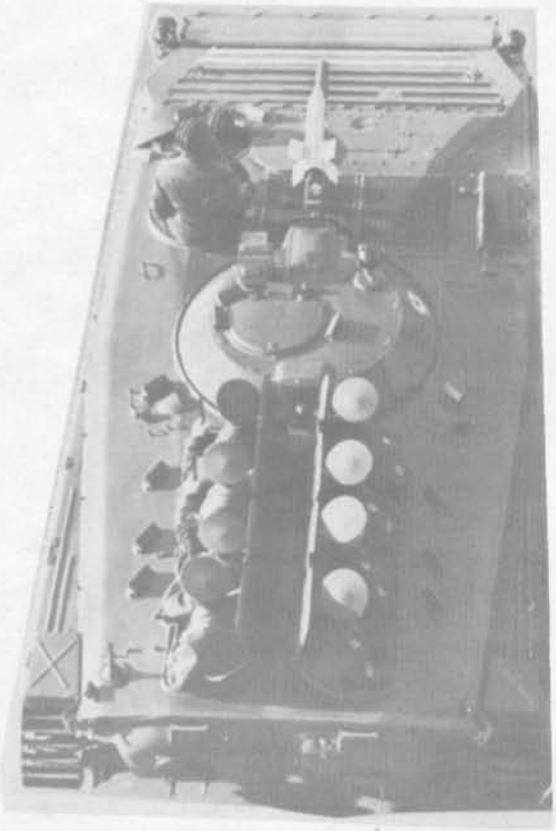


BMP



Closeup of rear doors.

BMP

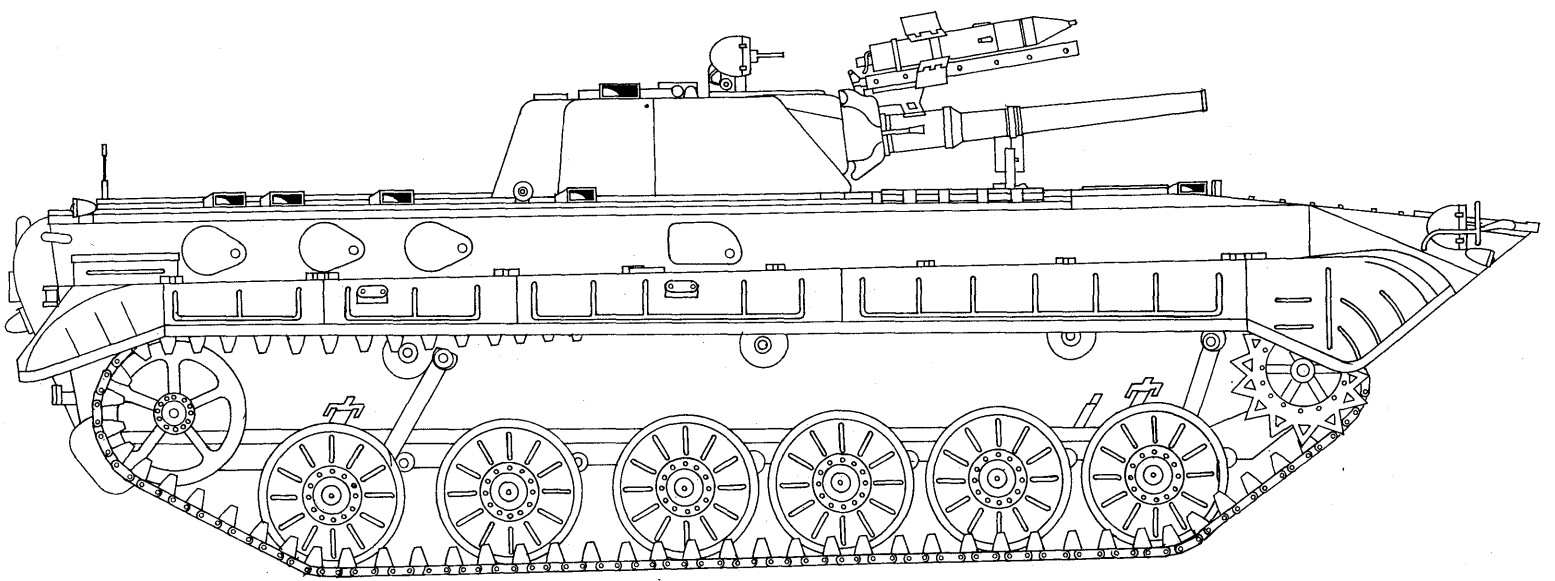


BMP



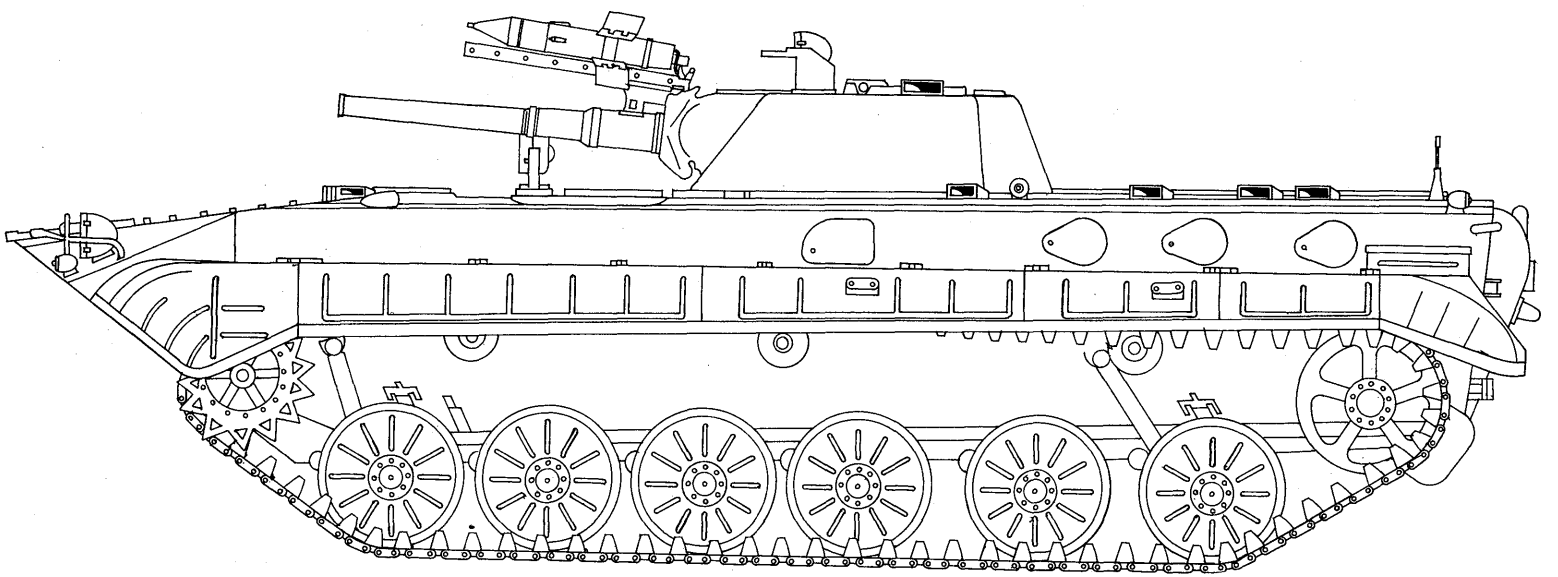
BMP without track shrouds.

Right Flank



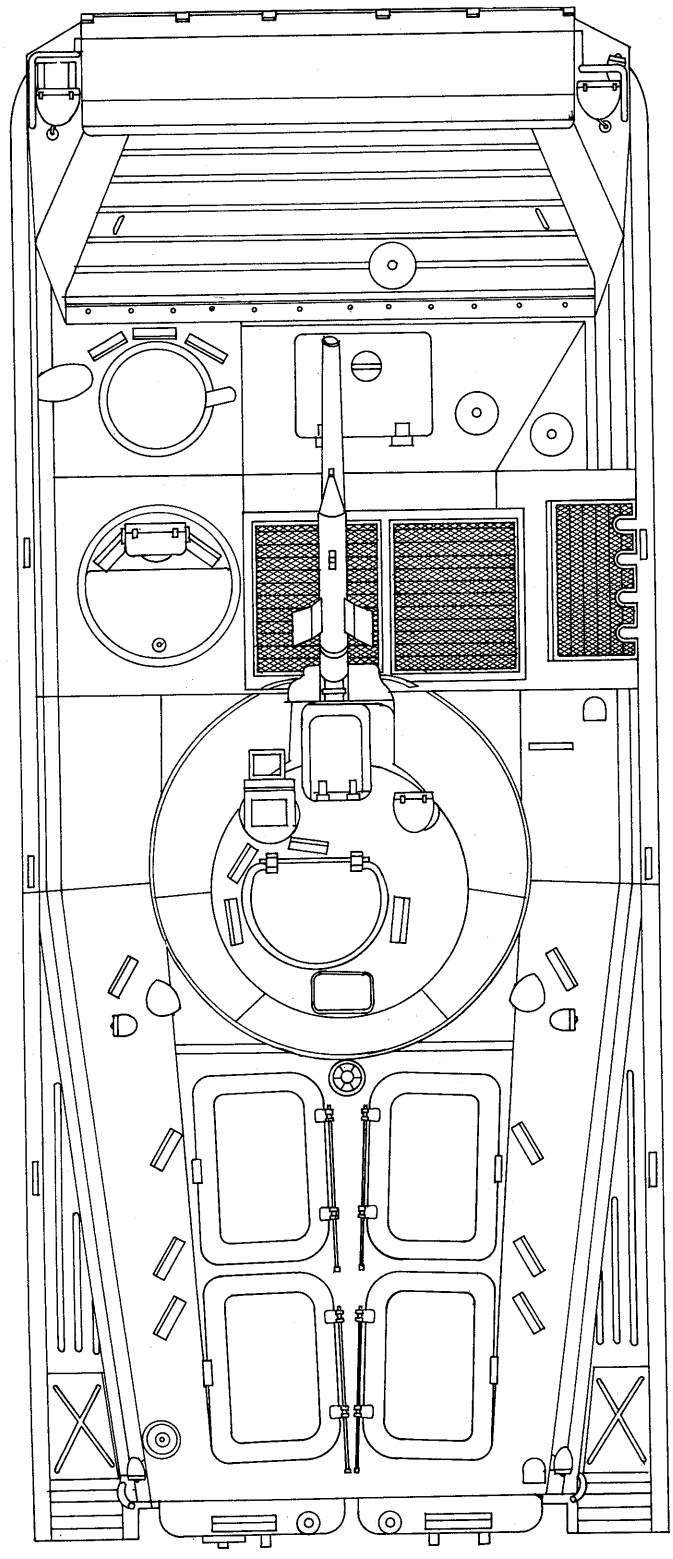
BMP-A

Left Flank

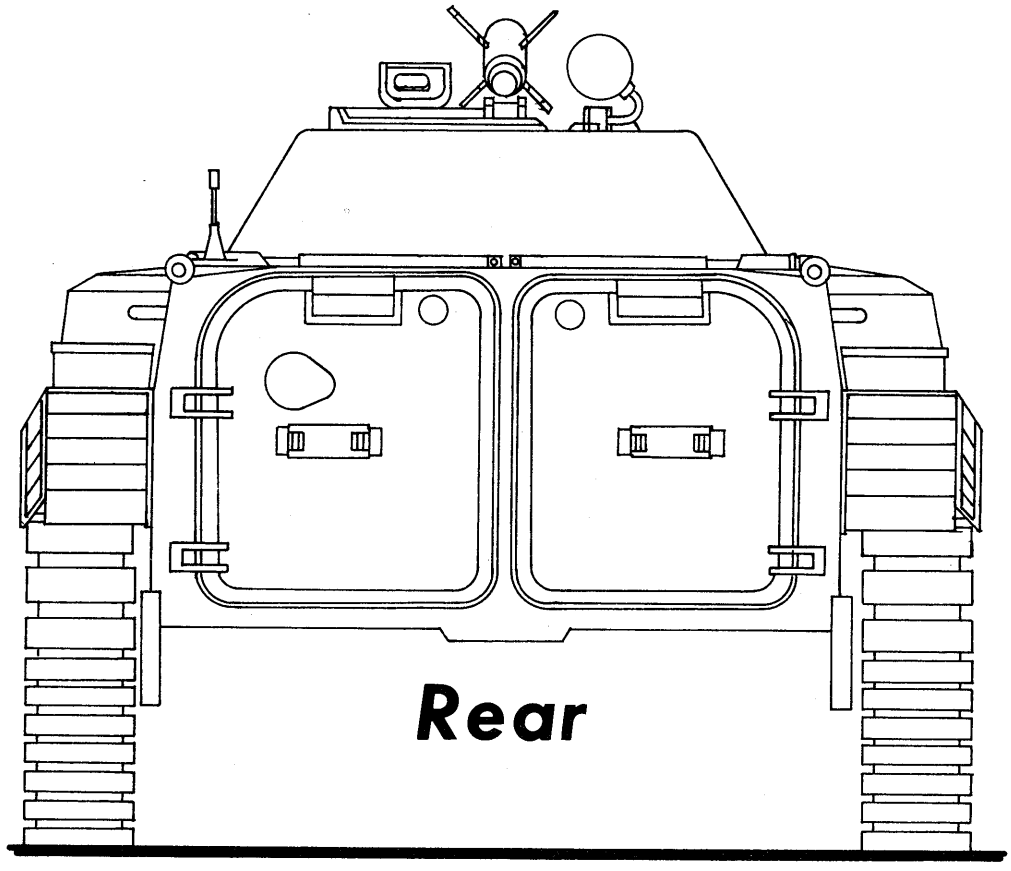


BMP-A

Top



BMP-A



BMP-A

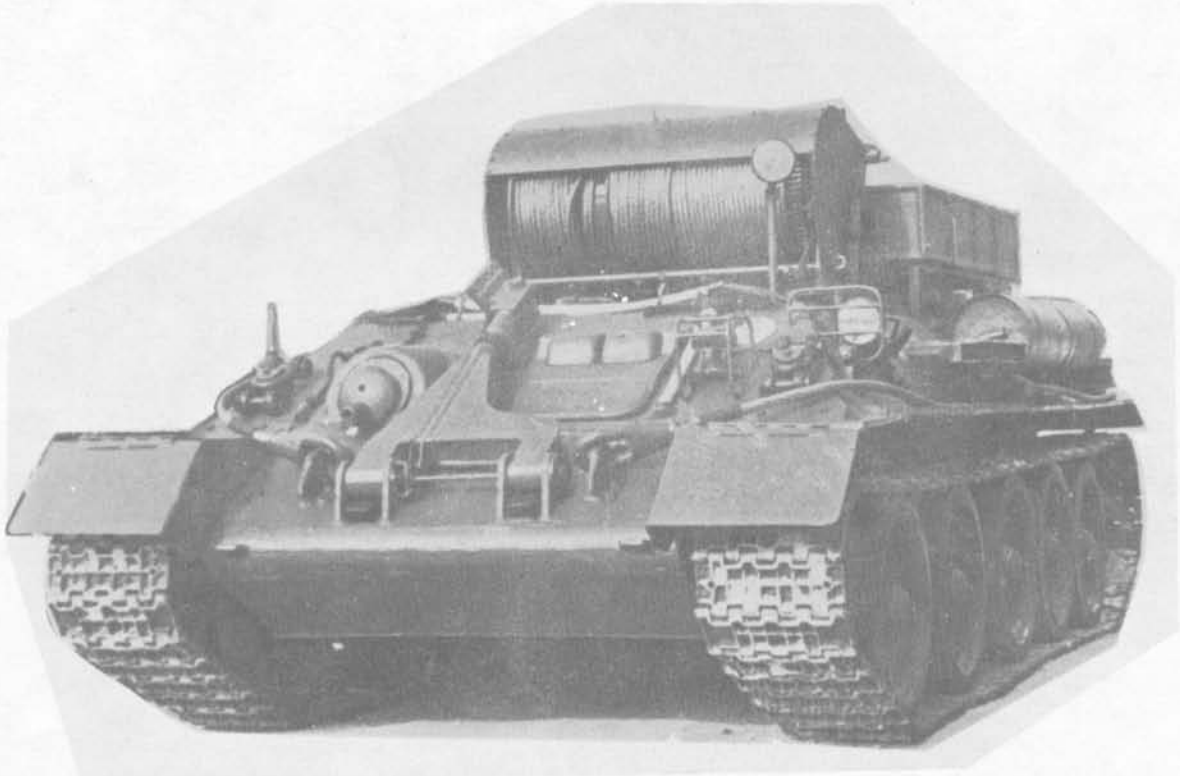
TANK

RECOVERY

VEHICLES

MEDIUM TANK RECOVERY VEHICLES

T—34 CHASSIS



T—34—T (MODEL-B)

EAST GERMAN

MEDIUM TANK RECOVERY VEHICLES T-34 CHASSIS

Medium tank recovery vehicle T-34-T (Model-A)
Medium tank recovery vehicle T-34-T (Model-B)
Medium tank recovery vehicle T-34-T (Model-B--East German)
Medium tank recovery vehicle WPT-34
Medium tank recovery vehicle SKP-5
Medium tank recovery vehicle (Czechoslovak)
Medium tank recovery vehicle SU-85-T
Medium tank recovery vehicle SU-100-T

For several years the Warsaw Pact armies have employed a wide variety of tank recovery vehicles based on the T-34 medium tank chassis or one of its variants. Originally, most of these vehicles were simply turretless tanks employed as towing vehicles. This model, referred to here as T-34-T (Model-A), has been largely displaced by improved versions, the MT-34-T (Model-B) or the SKP-5. In addition to these, there are other variants such as the WPT-34 Polish model, the East German version of the T-34-T (Model-B) with pushbar and the Czechoslovak vehicle with heavy crane.

The T-34-T (Model-B) was improved over the earlier model by the addition of a radio, a rigging assembly, a loading platform and a jib-crane. The rear deck has a cargo platform of 2.5-ton capacity and is designed for the transport of equipment accessories. The SKP-5 is essentially an armored vehicle with a 5-ton crane mounted in a rotatable turret. The East German version of the T-34-T (Model-B) differs primarily in that it has a special pushbar on the bow which is used in recovery operations where it is more desireable to push than to tow. The WPT-34 Polish recovery vehicle incorporates a large armored compartment forward, mounting a bow machinegun. It also features a large-diameter, telescoping snorkel allowing this vehicle to be used in fording operations. In addition, the Poles have fitted the vehicle with a large spade on the rear.

Both the Polish and Czechoslovak Armies employ the Czechoslovak heavy crane vehicle. The lifting capacity is much greater than that of the Soviet SKP-5, thus permitting the lifting of turrets, essential in removing the guns from modern Soviet medium tanks. The rarely encountered SU-85-T and SU-100-T are actually variants of the early T-34-T (Model-A) towing vehicles, but use the SU chassis in place of the tank chassis.

		T-34-T (B)	SKP-5
Vehicle			
Weight cbt	t	29	26
Length	mm	6190	8000
Width	mm	3050	3050
Height	mm	2140	2600
Track	mm	2450	2450
Clearance	mm	400	400
Track Width	mm	500	500
Ground contact	mm	3850	3850
Engine model		V-2-34*	V-2-34*
Horsepower		500	500
Cylinders		V-12	V-12
Fuel		Diesel	Diesel
Cooling		water	water
Speed	km/h	55	55
Cruising range	km	300	300
Fuel capacity	l	560	560
Fuel consumption	l/100km	190	190
Ground pressure	kg/cm^2	0.75	0.68
Trench	mm	2500	2500
Step	mm	730	730
Slope	°	35	35
Tilt	°	25	25
Ford	mm	1300	1300
Armor: glacis plate	mm/°	45/60	45/60
upper hull side	mm/°	45/20	45/20
Crew		3	2
Towed load	t	15	---
Winch capacity	t	130**	---
Lifting capacity	t	3	5
Armament			
		none	none

*some vehicles use the V-2-34M
**maximum "retrieving" capability



SU-85-T



SU-85-T



SU-100-T



SKP–5



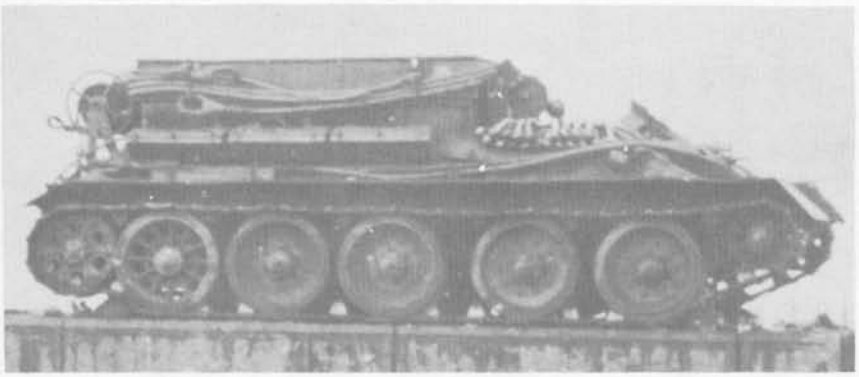
SKP–5



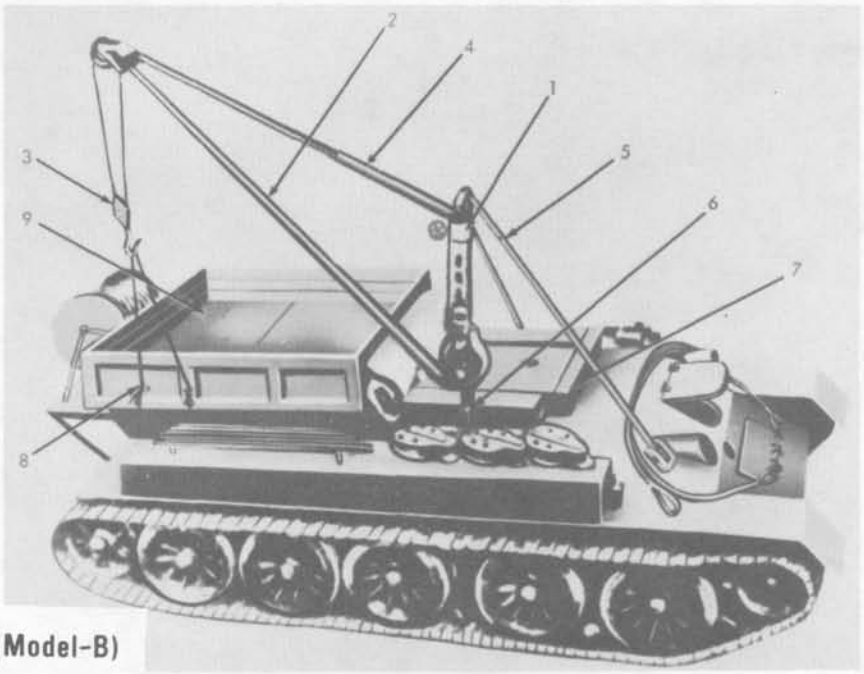
T–34–T (Model-A)



T–34–T
(Model-A)

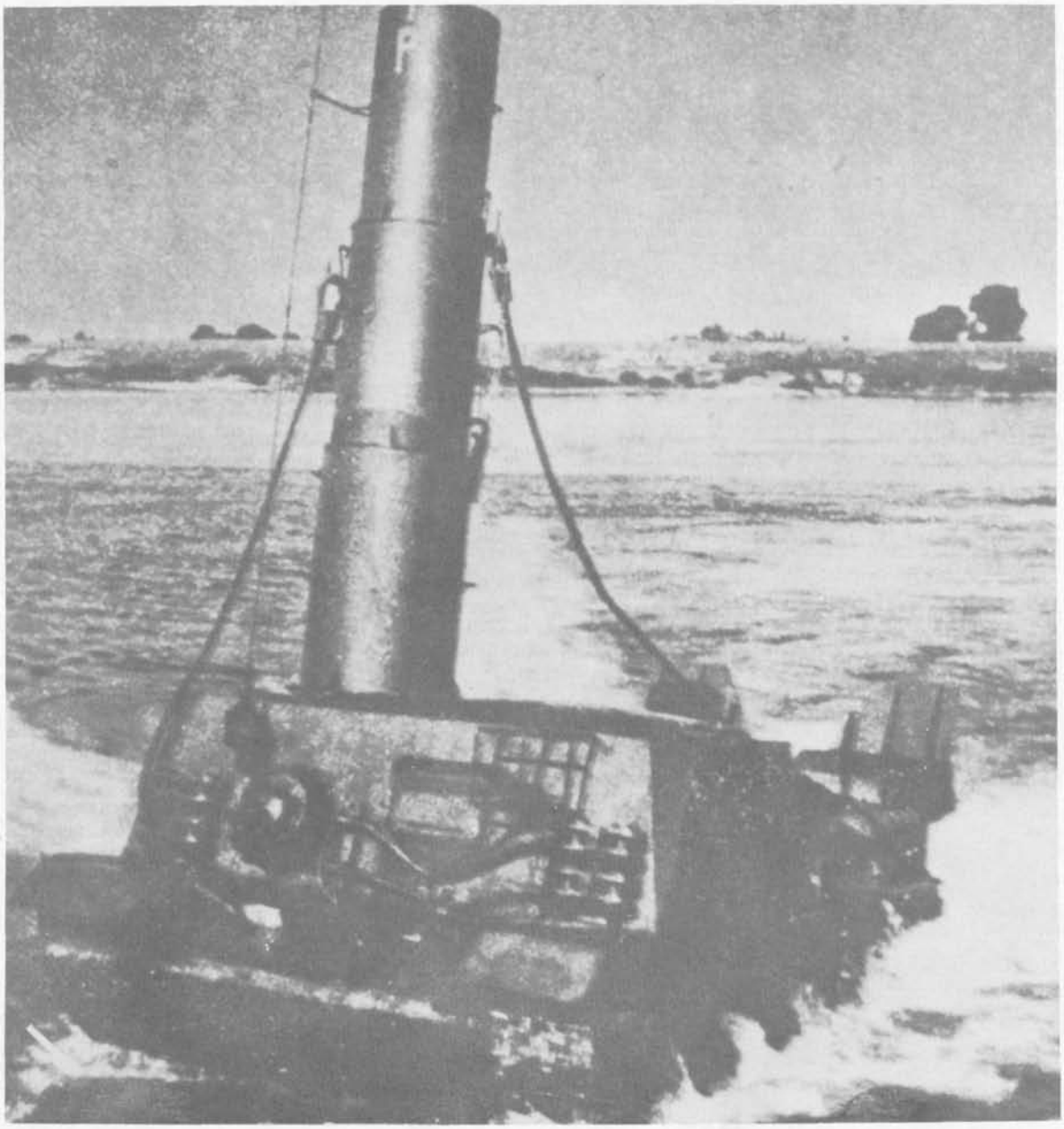


T–34–T (Model-B)



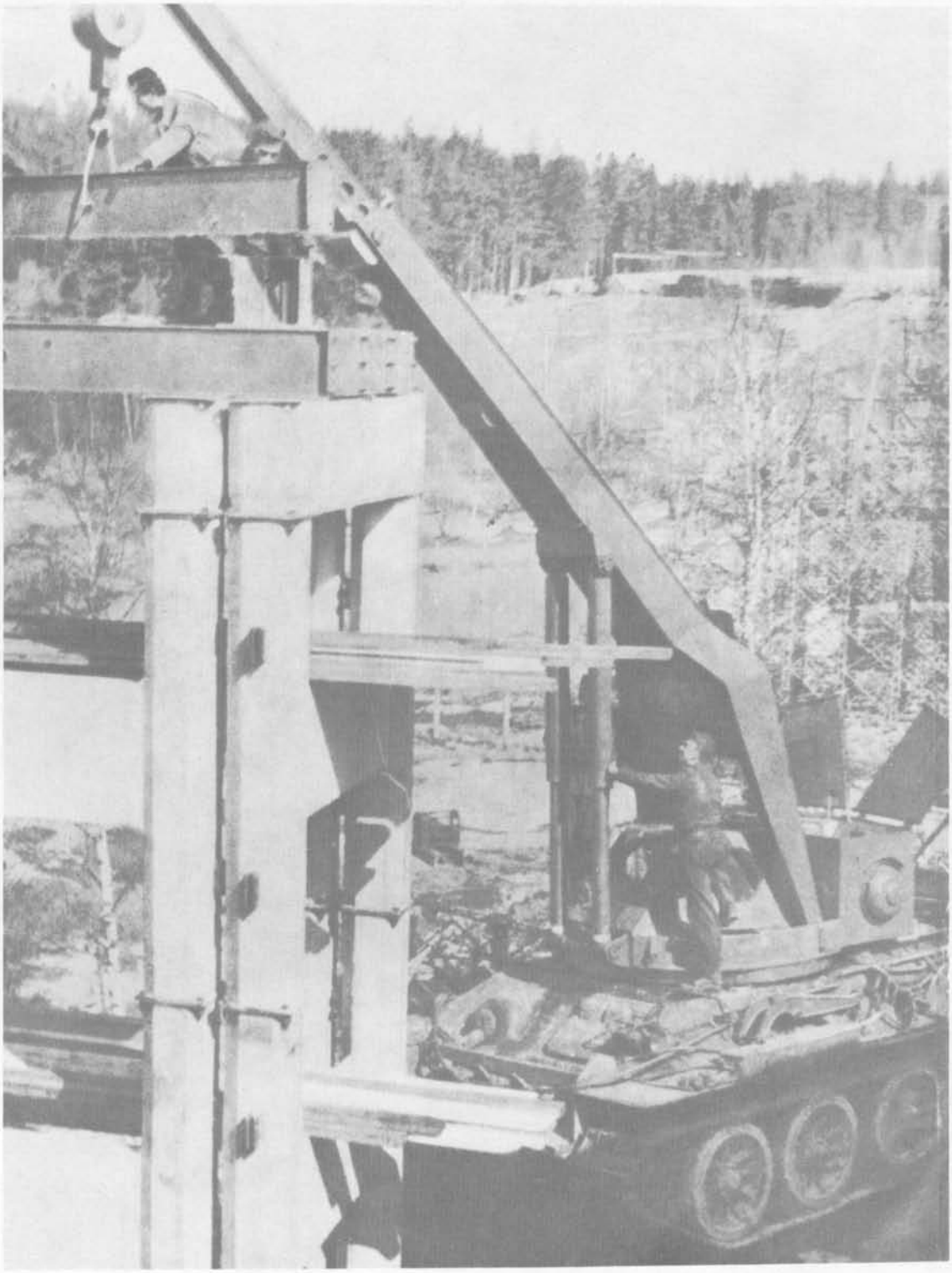
T–34–T(Model-B)

1. Support with winch
2. Jib
3. Block and tackle with hook
4. Telescopic arm
5. Braces
6. Brackets
7. Brackets
8. Cable
9. Cargo platform



POLISH WPT—34

with telescopic "CHIMNEY" snorkel.



CZECH T—34

WITH HEAVY CRANE

MEDIUM TANK RECOVERY VEHICLES T—54/55 CHASSIS



T-54 - T

MEDIUM TANK RECOVERY VEHICLES T-54/55 CHASSIS

Medium tank recovery vehicle T-54-T
Medium tank recovery vehicle T-54 (A)
Medium tank recovery vehicle T-54 (B)
Medium tank recovery vehicle T-54 (C)

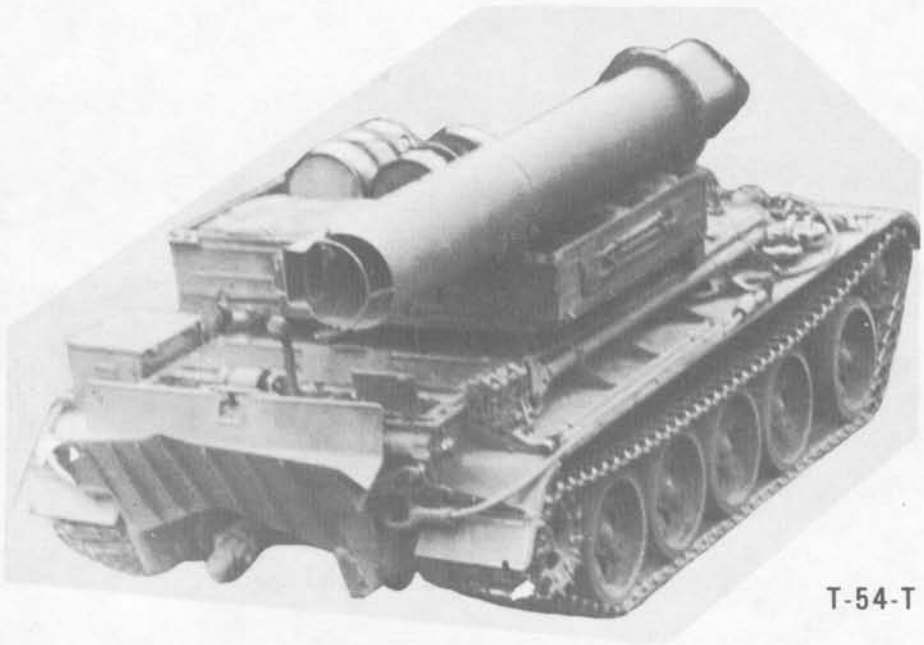
The most modern tank recovery vehicles used by the Warsaw Pact armies are those based on the T-54/55 medium tank chassis. The Soviet T-54-T has all of the features of the older T-34-T (Model-B), but is mounted on a more powerful chassis. In addition, it has a large spade mounted on the rear of the vehicle and is equipped with a large-diameter "chimney" snorkel.

The East German Army has also developed a series of recovery vehicles using the T-54 chassis. Three variants have been identified to date. The first is the T-54 (A) which is termed an "armored prime mover without recovery equipment. The second, the T-54 (B), is termed "an armored prime mover with recovery equipment." The basic construction of these two vehicles is the same. Both are equipped with a snorkel for fording, a push/pull bar, welding and cutting equipment, radiation warning equipment, a chemical agent detector and a dismountable jib-crane with a lifting capacity of one ton. In addition, there are two boxes for the storage of spare parts and accessories. Both vehicles also can be equipped with mine-clearing devices.

The presence of rear-mounted brackets used for securing the tow cables and the front-mounted protective plate located above the driver's and commander's hatches distinguish the T-54 (B) from the T-54 (A). This protective plate is believed to provide protection for the equipment on the vehicle as well as for the crew. Both of the vehicles may be seen either with or without snorkel, but they should not be confused with the Soviet T-54-T which has a spade not present on the East German models.

The third East German variant is the T-54 (C), which is equipped with a very heavy duty crane that immediately identifies it. Other differences include a BTU-type dozer blade on the front of the vehicle and a spade at the rear.

		T-54-T	T-54 (B)	T-54 (C)
Vehicle				
Weight cbt	t	32	32	34
Length	mm	7475	6750	8500
Width	mm	3270	3270	3400
Height	mm	1890	2200	2650
Track	mm	2640	2640	2640
Clearance	mm	425	425	425
Track width	mm	580	580	580
Ground contact	mm	3840	3840	3840
Engine model		V-54	V-54	V-54
Horsepower		520	520	520
Cylinders		V-12	V-12	V-12
Fuel		Diesel	Diesel	Diesel
Cooling		water	water	water
Speed	km/h	48	48	48
Cruising range	km	400	400	400
Fuel capacity	l	812	812	812
Fuel consumption	l/100km	190	190	190
Ground pressure	kg/cm	0.72	0.72	0.77
Trench	mm	2700	2700	2700
Step	mm	800	800	800
Slope	°	30	30	30
Tilt	°	30	30	30
Ford	mm	1400	1400	1400
Armor: glacis plate	mm/°	100/60	100/60	100/60
upper hull side	mm/°	70/0	70/0	70/0
Crew		3	3	3
Towed load	t			
Winch capacity	t			
Lifting capacity	t	3	1	20
Armament				
		none	none	none



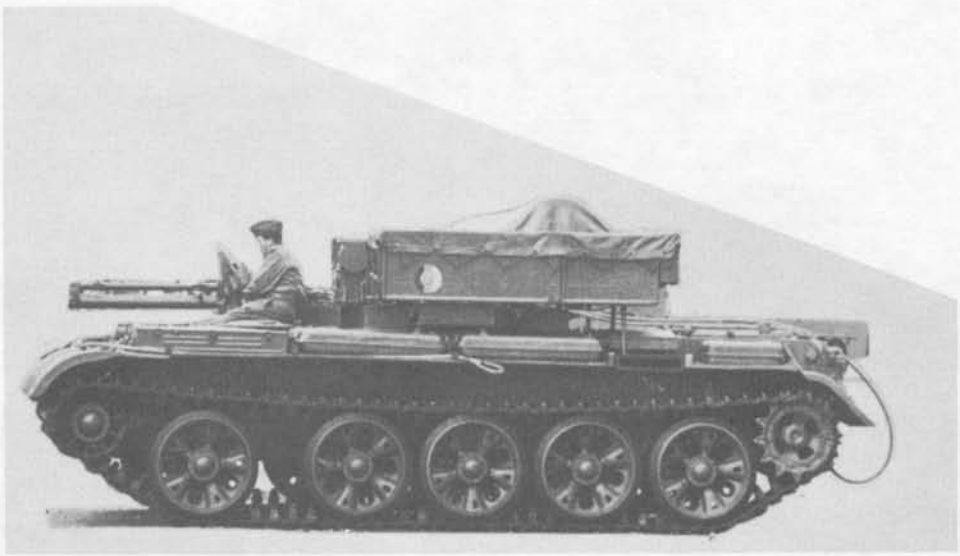
T-54-T



T-54-T



EAST GERMAN T-54 (A)
WITHOUT EQUIPMENT



EAST GERMAN T–54 (A)

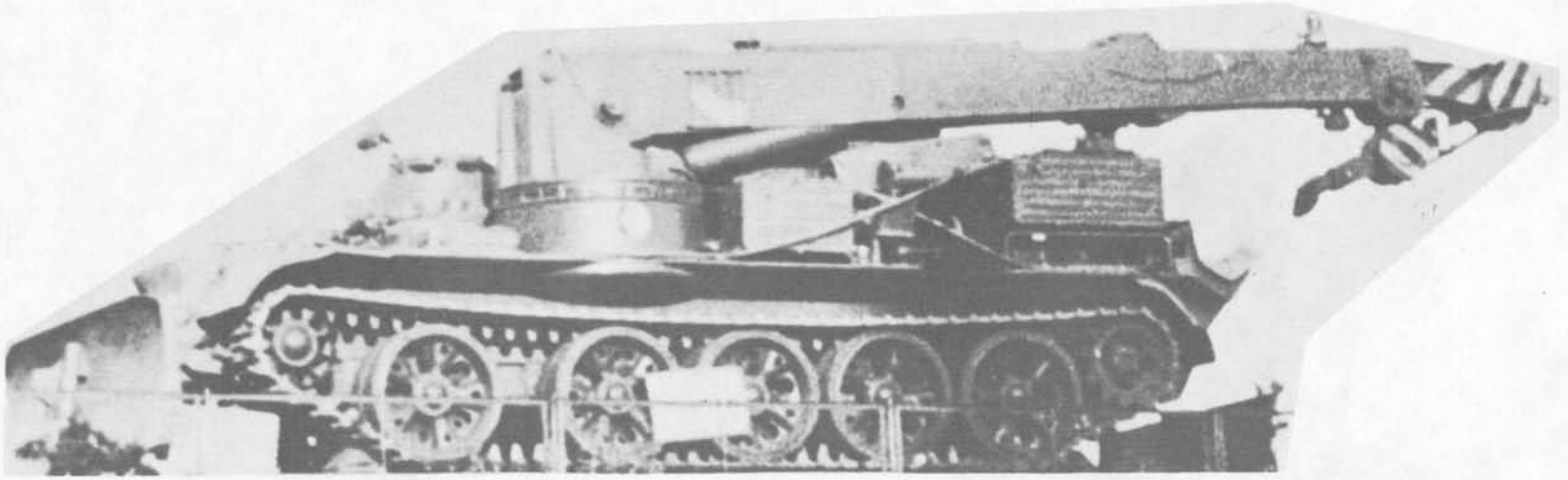
WITHOUT EQUIPMENT



EAST GERMAN T-54 (B)
WITH EQUIPMENT

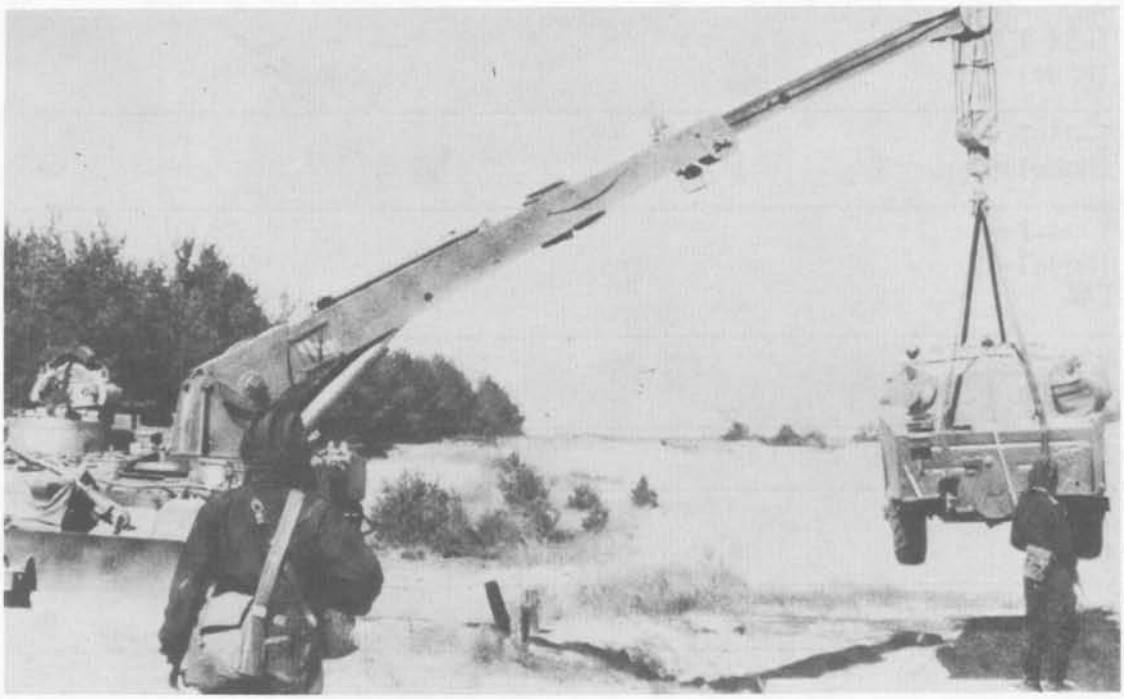


EAST GERMAN T-54 (B)
WITH EQUIPMENT



EAST GERMAN T-54 (C)
WITH HEAVY CRANE





EAST GERMAN T-54(C) WITH HEAVY CRANE

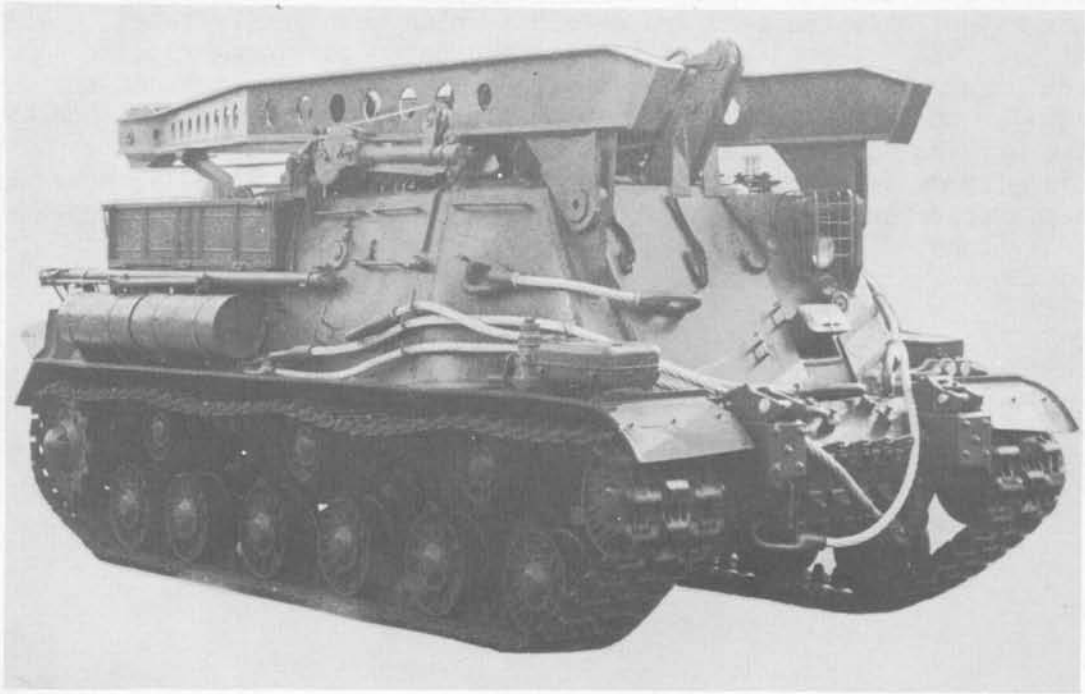


EAST GERMAN T-54(C)

Recovery Vehicle	Crane	Winch	Spade	Platform Stowage	Snorkel	Pushbar
T-34-T (Model-A)						
T-34-T (Model-B)	x	x		x		
T-34-T (Model-B) EGA	x	x		x		x
WPT-34 Polish		x	x	x	x	
SKP-5	x					
T-34 Czech	x	x				
SU-85-T						
SU-100-T						
T-54 (A) EGA	x			x	x	x
T-54 (B) EGA	x			x	x	x
T-54 (C) EGA	x		x	x	x	x
T-54-T	x		x	x	x	

HEAVY TANK RECOVERY VEHICLES

JS CHASSIS



JSU—T (MODEL-E)

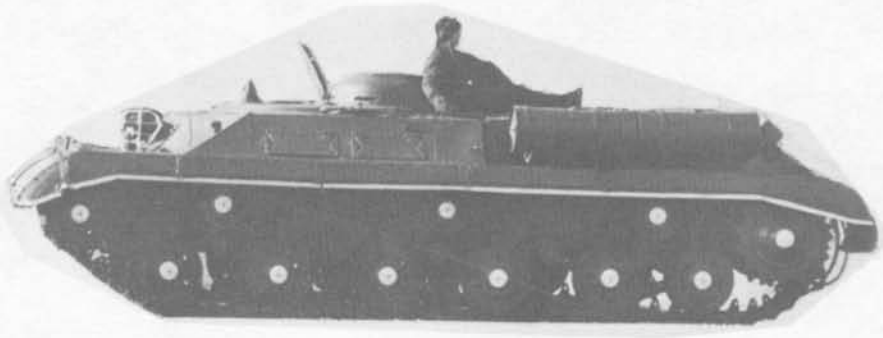
Heavy tank recovery vehicle JS-2-T
Heavy tank recovery vehicle JSU-T (Model-A)
Heavy tank recovery vehicle JSU-T (Model-B)
Heavy tank recovery vehicle JSU-T (Model-C)
Heavy tank recovery vehicle JSU-T (Model-D)
Heavy tank recovery vehicle JSU-T (Model-E)

Six different heavy tank recovery vehicles employ the basic chassis of the JS heavy tank series, either in the JS-2 or JSU form. The JS-2 and the JSU-T (Model-A) are simple towing vehicles like the original recovery vehicles using the T-34 chassis. These vehicles are no longer common.

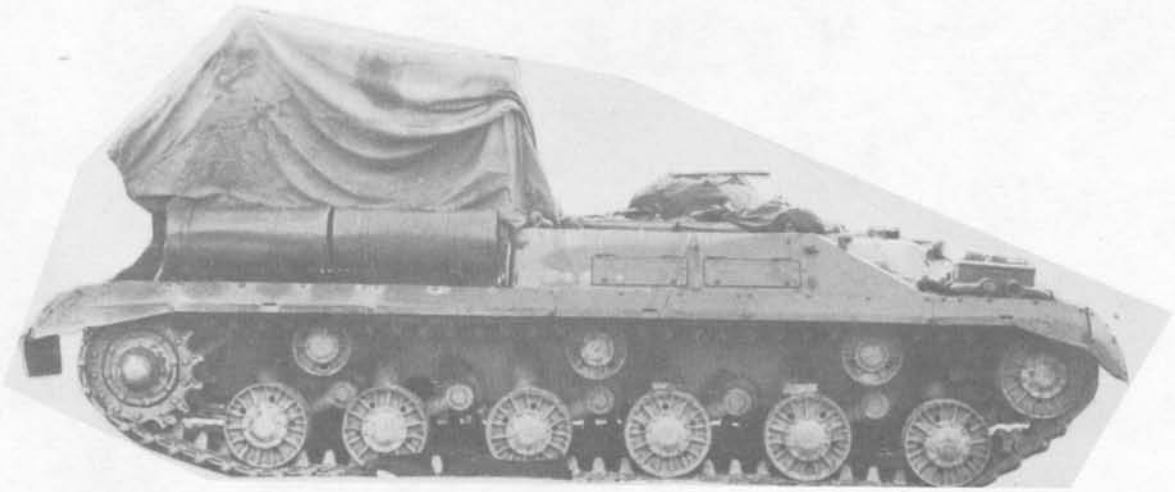
The modernized JSU-T's (Models-B through E) have a variety of improvements, and are the standard heavy vehicles. They are used in both the Soviet and non-Soviet Warsaw Pact forces. The JSU-T (Model-B) has essentially the same improvements which were incorporated in the medium T-34-T (Model-B), with the added cargo platform, rigging equipment and a dismountable jib-crane. Model-C has an added spade, similar to that of the T-54-T, while the Model-D is distinguished by two pushing bars fitted to the front of the vehicle and a large-diameter "chimney" snorkel. Model-D has no spade. Finally, Model-E has a spade and a large A-frame capable of lifting loads between 5 and 7 tons. The snorkel is lacking.

		JSU-T (B)	JSU-T (D)
Vehicle			
Weight cbt	t	44	45.5
Length	mm	6770	8325
Width	mm	3070	3070
Height	mm	3000	3500
Track	mm	2410	2410
Clearance	mm	460	460
Track width	mm	650	650
Ground contact	mm	4265	4265
Engine model		V-2-IS	V-2-IS
Horsepower		520	520
Cylinders		V-12	V-12
Fuel		Diesel	Diesel
Cooling		water	water
Speed	km/h	37	37
Cruising range	km	150	150
Fuel capacity	l	520	520
Fuel consumption	l/100km	350	350
Ground pressure	kg/cm^2	0.79	0.82
Trench	mm	2500	2500
Step	mm	1000	1000
Slope	°	36	36
Tilt	°	30	30
Ford	mm	1300	1300
Armor: glacis plate	mm/°	110/70	110/70
upper hull side	mm/°	90/0	90/0
Crew		4	4
Towed load	t		
Winch capacity	t		
Lifting capacity	t	3	3
Armament			
		none	none

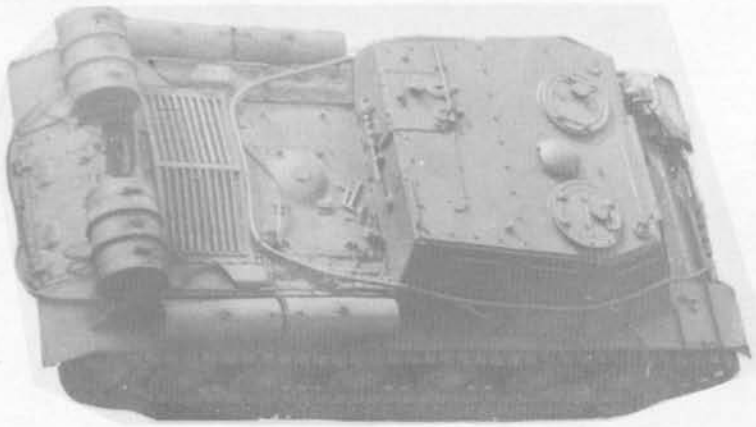
Recovery Vehicle	Crane	Winch	Spade	Stowage Platform	Snorkel	Pushbar
JS-2-T						
JSU-T (Model-A)		x				
JSU-T (Model-B)	x	x		x		
JSU-T (Model-C)		x	x	x		
JSU-T (Model-D)		x		x	x	x
JSU-T (Model-E)		x	x	x		



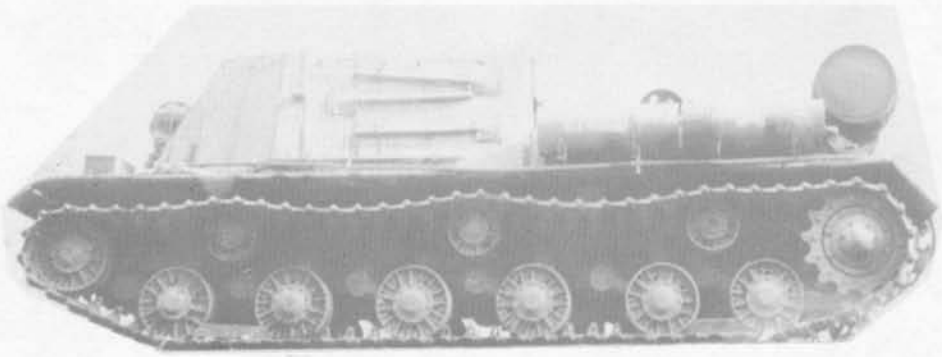
JS-2-T



JS-2-T



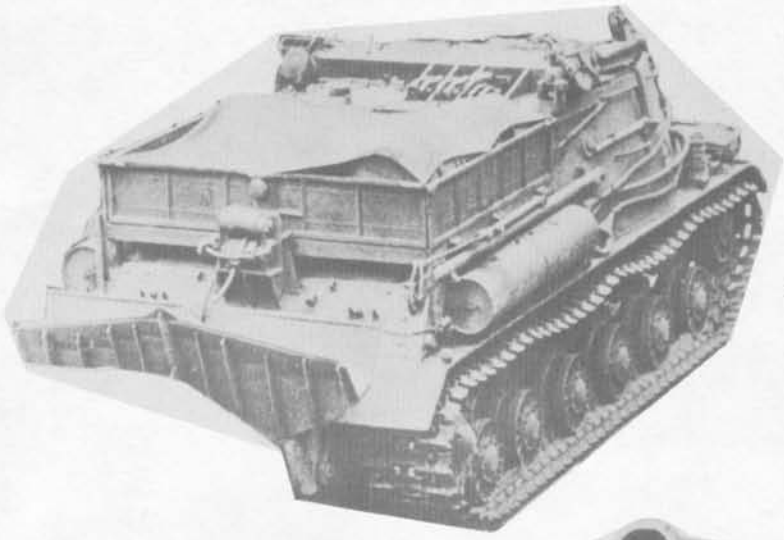
JSU-T (MODEL-A)



JSU-T (MODEL-A)



JSU-T (MODEL-B)



JSU-T (MODEL-C)



JSU-T (MODEL-D)



JSU-T (MODEL-E)

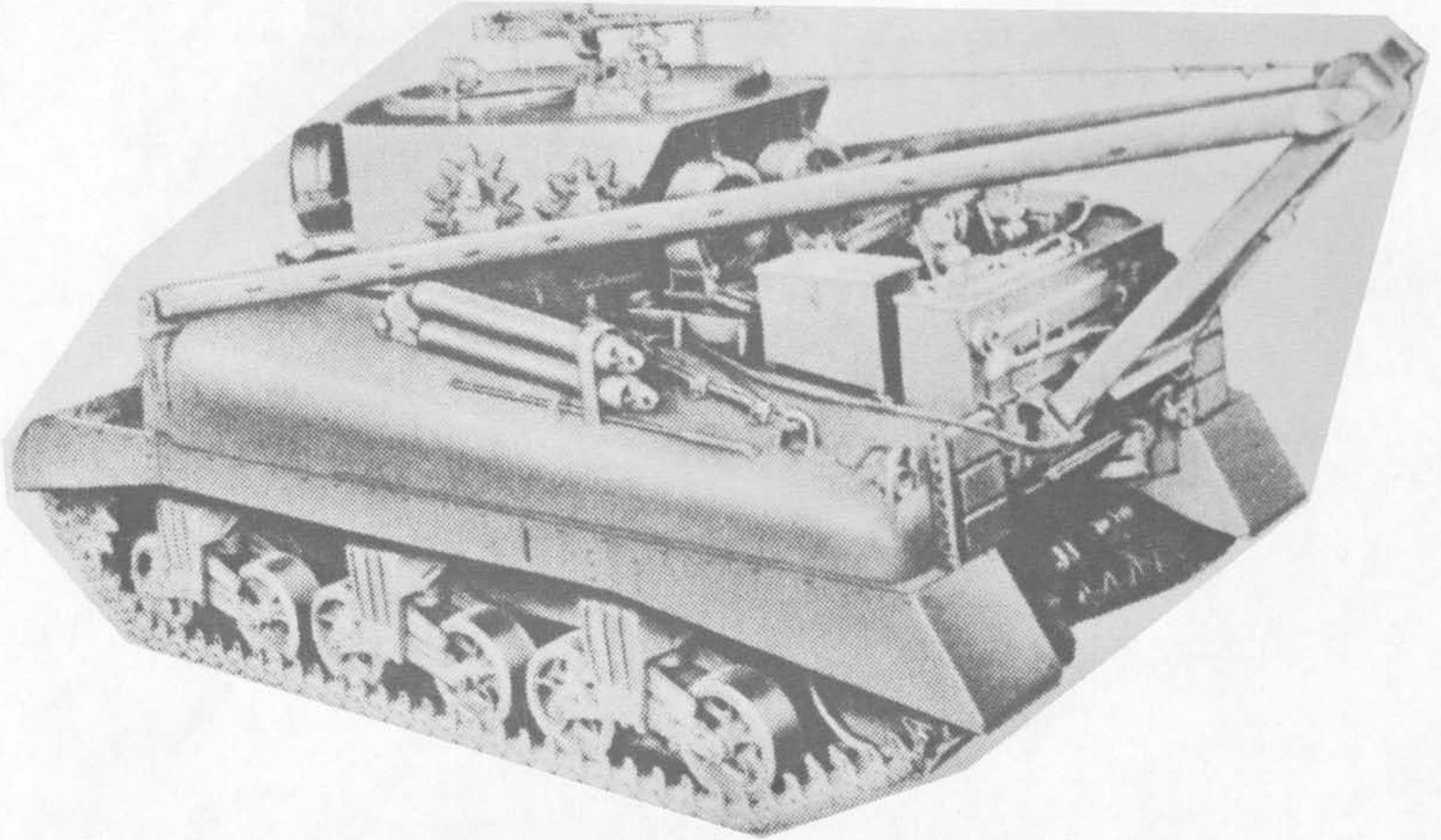
Medium tank recovery vehicle M32
Medium tank recovery vehicle M74

The M32 is a light-medium tank recovery vehicle of United States World War II origin. The various submodels of this vehicle are based on submodels of the M4 medium tank series. Unlike the later and more powerful M74, the M32 is not equipped with a spade. It does, however, have a winch and a crane. Unlike most Warsaw Pact tank recovery vehicles, the M32 is armed with two machineguns.

The M74 is based on the chassis of the M4A3E8 United States medium tank, using the horizontal volute spring suspension with center track guides. Although based on the M4 series tank, the M74 is a much more powerful and efficient tank recovery vehicle than the M32. In addition to a winch and crane, the M74 is fitted with a spade. Release, height adjustment and stowage of the spade in travel position is accomplished from within the vehicle. Like the M32, the M47 is armed with two machineguns.

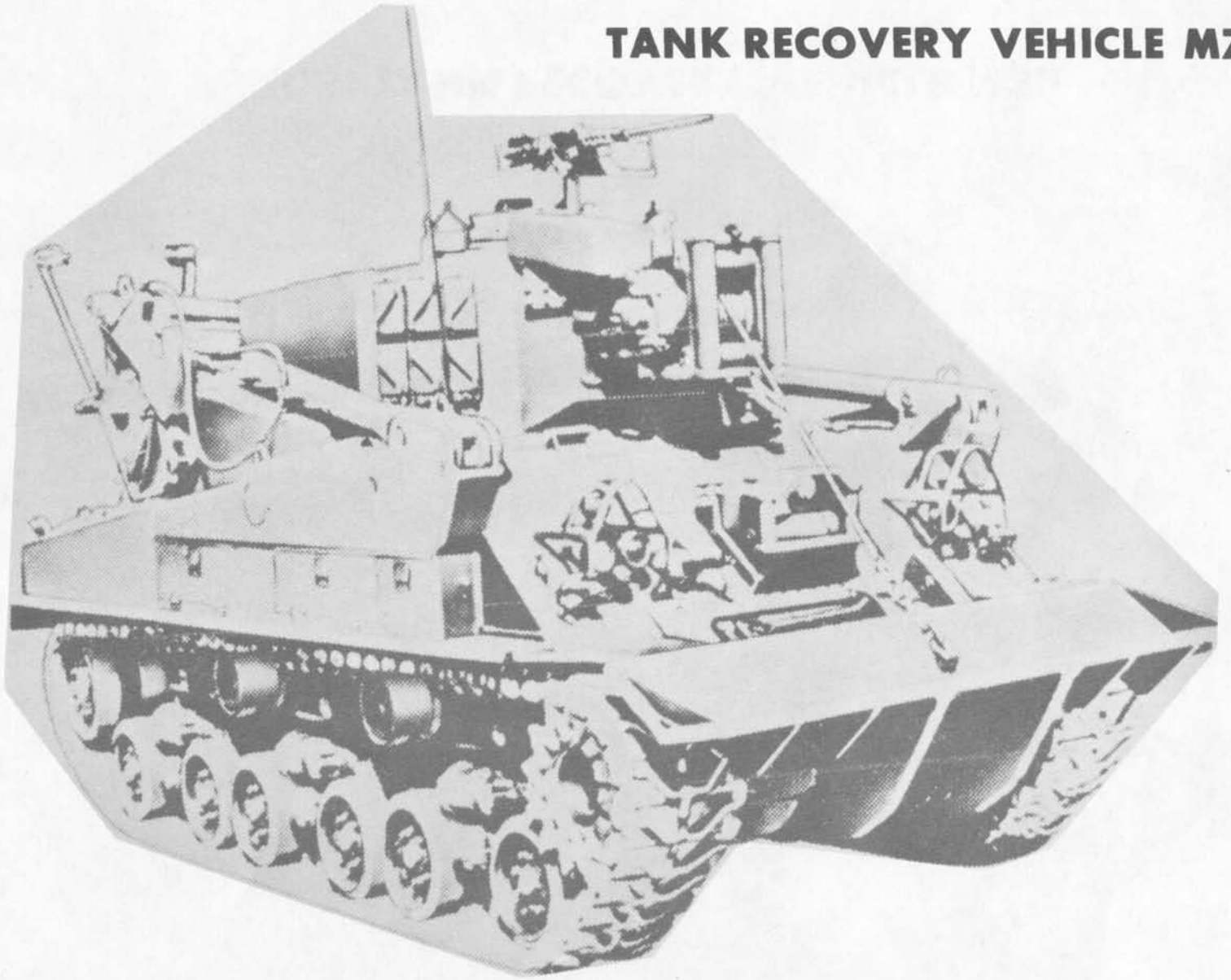
		M32	M74
Vehicle			
Weight cbt	t	27.8	42.2
Length w/crane	mm	5928	7950
Width	mm	2737	3098
Height w/crane	mm	2679	3391
Track	mm	2108	2260
Clearance	mm	457	393
Track width	mm	432	584
Ground contact	mm	3734	2692
Engine model		Cont*	Ford GAA
Horsepower		350	525
Cylinders		9 red	V-8
Fuel		gasoline	gasoline
Cooling		air	water
Speed	km/h	42	45
Cruising range	km	160	160
Fuel capacity	l	651	636
Fuel consumption	l/100km	410	400
Ground pressure	kg/cm	0.626	0.956
Trench	mm	2286	2286
Step	mm	610	610
Slope	°	31	31
Tilt	°		
Ford	mm	1067	914
Armor: glacis plate	mm/°	60/47	60/47
upper hull side	mm/°	40/0	40/0
Crew		5	4
Towed load	t	9.1	45.5
Winch capacity	t	27.2	40.8
Lifting capacity	t	13.6	11.3
Armament			
Main armament	mm	12.7 MG	12.7 MG
Model		M2 HB	M2 HB
Basic load	rds	600	1050
Secondary armament	mm	7.62 M1919A4	7.62 M1919A4
Basic load	rds	1000	2000

*R 975 C1



U.S. TANK RECOVERY VEHICLE M32

TANK RECOVERY VEHICLE M74



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USDAO - BUDAPEST	005
USDAO - HELSINKI	001
USDAO - LISBON	005
USDAO - MOSCOW	005
USDAO - PRAGUE	007
USDAO - SOFIA	001
USDAO - STOCKHOLM	005
USDAO - WARSAW	005
USEUCOM	003
USEUCOM ELEC INTEL CEN	001
USMAC THAILAND	001
USMACV - J2	001
USMLM	020
USNAVEUR	001
USN EOD FAC	001
USN MED RSCH LAB	001
USN WPNS EVAL FAC	001
USN WPNS LAB	001
USN WAR COLLEGE	001
USPACAF & PFIHS & DS	004
USPACOM	001
USPAC FLT NAVY NO 128	002
WATERVLIET ARSENAL	001
TOTAL	3730