

TRACKED ENGINEER VEHICLES

[Austrian Tracked Engineer Vehicles](#)

[Belgian Tracked Engineer Vehicles](#)

[Brazilian Tracked Engineer Vehicles](#)

[British Tracked Engineer Vehicles](#)

[Bulgarian Tracked Engineer Vehicles](#)

[Canadian Tracked Engineer Vehicles](#)

[Chinese Tracked Engineer Vehicles](#)

[Czech Tracked Engineer Vehicles](#)

[Finnish Tracked Engineer Vehicles](#)

[French Tracked Engineer Vehicles](#)

[German Tracked Engineer Vehicles](#)

[Indian Tracked Engineer Vehicles](#)

[International Tracked Engineer Vehicles](#)

[Israeli Tracked Engineer Vehicles](#)

[Italian Tracked Engineer Vehicles](#)

[Japanese Tracked Engineer Vehicles](#)

[Mexican Tracked Engineer Vehicles](#)

[Polish Tracked Engineer Vehicles](#)

[Russian Tracked Engineer Vehicles](#)

[Slovakian Tracked Engineer Vehicles](#)

[South African Tracked Engineer Vehicles](#)

[South Korean Tracked Engineer Vehicles](#)

[Swedish Tracked Engineer Vehicles](#)

[Swiss Tracked Engineer Vehicles](#)

[Turkish Tracked Engineer Vehicles](#)

[US Tracked Engineer Vehicles](#)

4KH7FA-AVE Engineer Tank

Notes: This is a combat engineer vehicle based on the chassis of the 4K 7FA-KSPz armored personnel carrier. In this role, the APC has a raised superstructure in the front two-thirds of the vehicle, upon which is mounted a large digging bucket on the end of an extensible arm. This bucket may be removed and replaced with an earth drill with a 350mm wide bit, or a crane head. The digging bucket may dig into up to 2.2 meters of earth at a time; the crane head has a capacity of 5.1 tons. The vehicle has a dozer blade on the front, and there is also a winch with a capacity of 8 tons and 60 meters of cable. Four smoke grenade launchers are mounted near the rear of the superstructure, firing over the back of the vehicle. The Engineer Tank typically carries construction tools, excavation tools, a chainsaw, welding equipment, and an air compressor. This vehicle is in service only with Austria and Tunisia (Tunisia has only 2).

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$144,205	D, A	1 ton	21 tons	4	11	Headlights	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
102/72	20/15	500	113	Std	T3	HF6 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	1050x.50

4KH7FA-SB 20 Greif

Notes: This is a recovery vehicle based on the 4K 7FA-KSPz armored personnel carrier chassis. The vehicle has a large raised superstructure over the front half of the chassis, while the back of the hull has a stand for an engine and transmission assembly for a light armored vehicle, or other spare parts. On the right front of the superstructure is a crane with a capacity of 6 tons with 42 meters of cable. The main winch leads out through the front of the hull and has a capacity of 20 tons, with 95 meters of cable. The Greif has a dozer blade at the front of the hull, normally used to brace the vehicle during winching and lifting operations. The Greif normally carries a wide selection of tools, including a welding set, an air compressor, and wheeled vehicle, tracked vehicle, excavating, small arms, and heavy ordinance tools. The Greif is in service with Argentina, Austria, Bolivia, Morocco, and Nigeria.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$127,079	D, A	3 tons	19.8 tons	4	10	Headlights	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
107/75	25/15	500	113	Std	T3	HF6 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	1500x.50

M-113A2 Recovery Vehicle

Notes: This armored recovery vehicle is based on the M-113A2 APC chassis. It is used by Brazil, Australia, Bahrain, Belgium, Egypt, Israel, Lebanon, Netherlands, and Sudan. The M-113A2 RV has a main winch with a capacity of 9.07 tons, and has 91.4 meters of cable. The winch's mechanism always makes sure the cable is wound around its drum as tightly and evenly as possible. Spades are lowered on each side of the hull during heavy winching operations and when using the crane. The crane is mounted on the left side of the roof, has a reach of 3 meters, and can lift 1.36 tons. The M-113A2 has been redesigned to provide extra buoyancy in areas necessary to counteract extra weight for its crane and winch mechanisms. Though some of these vehicles have been built in the US, none of them have been picked up for US Military service. (The remainder of these vehicles are built in Belgium.)

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$82,357	D, A	2 tons	11.64 tons	3	7	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
120/84	25/20/3	360	117	Std	T2	HF6 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	2000x.50

X-1A2 Recovery Vehicle

Notes: This is an X-1A2 light tank with the turret removed and replaced with a crane with a capacity of 8 tons. The vehicle also has a front mounted winch with a capacity of 10 tons, and a rear winch with a capacity of 20 tons, each with 60 meters of cable. The vehicle carries basic tools, tracked vehicle tools, wheeled vehicle tools, excavating tools, a tow bar, welding gear, an air compressor, and various ropes, chains, and pulleys for its tasks.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$55,118	D, A	2.2 tons	10 tons	4	7	WL Spotlight	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
124/87	25/20	320	66	Std	T3	HF3 HS2 HR2

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	600x.50

XLP-10

Notes: This is a Brazilian armored vehicle launched bridge based on the chassis of the X-1A light tank. The bridge on the vehicle can span a gap of 10 meters and take a weight of 22 tons. The bridge itself weighs 4.7 tons, and takes 5 minutes to emplace or recover. The chassis has its turret removed, and replaced with machinery to carry and emplace the bridge.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$62,183	D, A	250 kg	14.7 tons	3	10	Headlights	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
131/91	30/20	750	103	CiH	T3	TF4 TS4 TR4 HF3 HS2 HR2

Fire Control	Stabilization	Armament	Ammunition
None	None	MAG (C)	1000x7.62mm

Centurion AVRE-165

Notes: This is a CEV similar in concept to the M728. The Centurion's gun has been replaced with a 165mm demolition gun, and a crane has been installed, able to lift 13.6 tons. There is also an armored dozer blade able to excavate 229 cubic meters per hour, and a winch able to pull 20 tons with 50m of cable. A rack above the dozer blade can carry fascines, trackway, or other cargoes. There is a driver's hatch on the center front deck, and hatches for the commander and loader on the turret -- the gunner uses the loader's hatch. This vehicle was taken out of active British service by the mid-1990s.

Twilight/Merc 2000 Notes: These vehicles were never taken out of service – they were deemed too valuable in MOUT situations.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$148,313	D, A	700 kg	51.81 tons	4	19	Headlights	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
88/62	20/15	1037	481	Trtd	T6	TF40 TS17 TR11 HF60 HS13 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	165mm Demolition Gun, L-7A2, L-7A2 (C)	30x165mm, 3000x7.62mm

Chieftain AVLB

Notes: This is an AVLB in British service, based on the chassis of the Chieftain main battle tank. The bridge on this vehicle is capable of bridging a 22.86-meter gap. The bridge weighs 12.2 tons, takes 5 minutes to emplace, and 10 minutes to recover. It is designed for up to 70-ton loads. Bridges may be combined by laying one bridge on top of the other at approximately the halfway point of the first span. The Chieftain AVLB is used by Great Britain and Iran.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$160,209	D, G, A	400 kg	53.3 tons	3	20	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
98/68	20/15	950	269	ClH	T6	TF4 TS4 TR4 HF48 HS16 HR10

Fire Control	Stabilization	Armament	Ammunition
None	None	L-7A2 (C)	4500x7.62mm

CR ARRAV (Challenger Armored Repair and Recovery Vehicle)

Notes: This is an engineer vehicle based upon the Challenger chassis. The ARRAV is capable of carrying an entire Challenger power pack as well as all necessary repair equipment. There is a winch that can pull 68 tons, an auxiliary winch that can pull 20 tons, and a crane on the left hull (able to reach over the entire vehicle) with a capacity of 43 tons. The ARRAV also has a front-mounted dozer blade capable of excavating 229 cubic meters per hour and offers increased bracing and traction when lifting heavy loads. The ARRAV is equipped with night vision devices and has a MAG MG located in a remote cupola.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$274,279	D, G, AvG, A	5.8 tons	62 tons	5+4	21	Thermal Imaging, Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
132/93	30/20	1592	443	Std	T6	HF149 HS21Sp HR16

Fire Control	Stabilization	Armament	Ammunition
+1	Basic	L-7A2	1000x7.62mm

Chieftain AVRE

Notes: This vehicle is similar in layout to the Challenger ARRV described above and has been supplanted in service by the Challenger. The Chieftain AVREs winch can pull 57 tons, the auxiliary winch can pull 17 tons, and the crane can lift 36 tons. The dozer blade can excavate 192 cubic meters per hour. The primary job of the Chieftain AVRE is to assist armored battle groups in overcoming obstacles on the battlefield; it thus has racks for explosives, a rack on the hull roof for fascines, and connections to pull multiple trailers that are usually carrying more fascines or the Giant Viper or Python mine-clearing systems.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$156,049	D, A	4.9 tons	52 tons	5	18	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
105/73	20/15	955	276	Std	T6	HF84 HS18 HR10

Fire Control	Stabilization	Armament	Ammunition
None	None	L-7A2 (C)	1800x7.62mm

FV-106 Samson ARV

Notes: The Samson is an armored recovery vehicle built on the Scorpion chassis. It is fitted with an internally mounted winch in place of the vehicle's turret and main gun. Entry is by a small door in the rear of the vehicle, or by the commander's and driver's hatches on the roof. The Samson is used to repair and recover smaller armored vehicles and unarmored vehicles. Except as noted below, it is identical in characteristics to the Scorpion. The Samson has a main winch with a pull of 9 tons, a secondary winch with a pull of 3 tons, and a crane that can lift 5.5 tons.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
Gas Engine	\$71,580	G, A	1 ton	8.74 tons	4	6	Passive IR	Shielded
Diesel Engine	\$71,580	D, A	1 ton	8.76 tons	4	6	Passive IR	Shielded

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
Gas Engine	142/99	30/20	405	74	Std	T3	HF6 HS3 HR3
Diesel Engine	149/104	30/20	405	70	Std	T3	HF6 HS3 HR3

Vehicle	Fire Control	Stabilization	Armament	Ammunition
(Both)	None	None	L-7A2 (C)	900x7.62mm

FV-180

Notes: This vehicle first appeared in British service in 1975, over a decade after the initial requirement was published by the British Ministry of Defense. Because of this, the program was nearly killed several times, but by 2000, they were a fairly common sight in British service, and some were also used by India and Singapore. Their main roles are as an armored dozer, preparing fighting positions for heavy weapons and armored vehicles, repairing and maintaining roads, recovery of disabled vehicles, preparing river-crossing points, and preparing and destroying obstacles. The bucket at the rear of the vehicle is quite large and can excavate 200 cubic meters at once. The FV-180 also has a winch; this has a capacity of 8 tons and has 113 meters of cable that can be fed to the front or rear. On top of the vehicle is an earth anchor for self-recovery or pulling down obstacles; it has a rocket assist and can be shot to a distance of 91.4 meters, then reeled in. An FV-180 is issued with 10 charges for the rocket anchor. The anchor may also be attached to the winch cable. Indian vehicles have air conditioning, but neither British nor Singapore vehicles have this. Between the superstructure and the dozer is a space that can be used to carry fascines or other large items; a pusher bar is also located there to help deploy fascines or roll-up road sections. Some of these vehicles also have a crane with a capacity of 4 tons. The weapon mount is optional; most British and Indian vehicles have it, but almost none of Singapore's FV-180s do. The FV-180 is amphibious with preparation; however this takes a lot of work and a special kit, and requires about 15 minutes.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$84,608	D, A	800 kg	18.35 tons	2	10	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
118/83	25/20	418	118	Std	T4	HF6 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	L-7A2 (C)	1000x7.62mm

FV-434

Notes: This is an older repair vehicle used by England. It is based on the FV-432 APC, and cannot service vehicles larger than the Chieftain main battle tank (it is not powerful enough to carry the Challenger-series' engine or transmission). It is basically similar to the FV-432, but has a load area at the rear of the hull roof for carrying large items. This load area is covered with a canvas tarpaulin supported by bows. On the right side of the hull is a crane with a capacity of 1.25 tons and a reach of 3.96 meters, or 3.05 tons at a 2.26-meter reach. A full range of tools is carried, along with workbench, vise, tow bars, and tow cables. The FV-434 does not have a winch. These vehicles have been partially replaced by the Challenger Repair and Recovery Vehicle, especially in tank units.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$67,984	D, G, A	2.71 tons	17.75 tons	4	10	Headlights	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
93/65	20/15	454	84	Std	T2	HF6 HS4 HR3

Fire Control	Stabilization	Armament	Ammunition
None	None	L-7A2 (C) or Bren L2A4 (C)	1600x7.62mm

FV-512 MCRV/FV-513 MRV(R)

Notes: These related vehicles are also known as the Warrior Recovery and Repair Vehicles. As the name suggests, they are

recovery vehicle versions of the FV-510 Warrior IFV, and are used by Great Britain and Kuwait to support those vehicles and sometimes tanks. The primary difference between these vehicles is that the FV-512 does not have a winch, while the FV-513 does. Both vehicles have a crane with a 6.5-ton capacity in place of the turret of the FV-510, with a maximum reach of 4.52 meters. The FV-513 has a winch internally at the rear with a capacity of 20 tons (38 tons with pulleys installed), and has 100 meters of cable. There is also a pilot winch on this vehicle that has 200 meters of cable and a capacity of 1.25 tons. On the front of the superstructure of both vehicles, there is a small one-man turret mounting a 7.62mm EX-34 ChainGun. The vehicles are air-conditioned, and have a small spade at the rear that is lowered to provide stability for the crane. These vehicles typically carry a wide variety of tools appropriate for their task of repairing tracked fighting vehicles.

Both of these vehicles can tow the GKN High Mobility Trailer. This four-wheeled trailer was purpose designed for these vehicles, but may be towed by other vehicles capable of handling the weight. It weighs 5.5 tons, can carry 6.5 tons (approximately the weight of a Challenger power pack or two Warrior power packs), and is designed to provide a stable platform regardless of terrain conditions. The trailer's platform can be raised and lowered and provides a safe level platform for work when not connected for towing.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
FV-512	\$75,506	D, A	1.2 tons	30 tons	5	10	Active/Passive IR	Shielded
FV-513	\$78,938	D, A	1.2 tons	30.2 tons	5	10	Active/Passive IR	Shielded

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
(Both)	127/89	25/20	770	204	CiH	T4	TF4 TS4 TR4 HF20 HS6 HR6

Vehicle	Fire Control	Stabilization	Armament	Ammunition
(Both)	None	None	EX-34 ChainGun	1500x7.62mm

Stormer VLSMS (Vehicle Launched Scatterable Mine System)

Notes: This is a Stormer #16 modified to carry the Minotaur mine-scattering system. The Minotaur system can lay 600 mines per hour, usually of the anti-tank variety. The hull is longer and wider than the standard Stormer, but the automotive components are identical. The vehicle has NBC protection and air conditioning. Four smoke grenade launchers are mounted on either side of the vehicle. The rear of the vehicle is completely taken up by the mine system.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$121,636	D, G, AvG, A	400 kg	12.7 tons	3	12	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
163/114	35/25/4	405	92	Std	T3	HF8 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	Minotaur mine-scattering system, L-7A2 (C)	600xmines, 1000x7.62mm

Vickers ARRV

Notes: These are Armored Repair and Recovery Vehicles based on the Vickers Mk 3 main battle tank. The Vickers ARRV lacks the composite armor of the Vickers Mk 3, and instead of a turret has a raised superstructure mounting a crane with a capacity of 4 tons (just enough to lift a tank power pack). Mounted to the left of the driver in the front of the vehicle is the main winch. It has 122 meters of cable and has a capacity of 25 tons, or 75 tons with block and tackle. When using the winch, an earth anchor is normally

employed to brace the vehicle. There is also an auxiliary winch at the rear with a capacity of 4.06 tons and 250 meters of cable. The Vickers ARRV normally carries a full range of recovery and repair equipment, including welding and cutting gear, an air compressor, a fuel pump, a large set of tools (basic, wheeled vehicle, tracked vehicle, small arms, heavy ordinance), a tow bar, block and tackle, and various ropes, cables, and chains. The Vickers has a hatch on the front right deck for the driver, a commander's cupola on the left superstructure deck with an externally mounted machinegun that can be aimed and fired from within the vehicle, and a large hatch for the crew to work with the crane. A flat area on the rear deck can carry a complete MBT power pack.

Twilight 2000 Notes: Prewar sales went only to Kenya, Nigeria, and Tanzania, and even then only in small numbers, but some of these vehicles were produced during the Twilight War, and a few of these went to British forces in Europe.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$167,433	D, A	3 tons	36.8 tons	4	13	Active/Passive IR, WL Spotlight	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
146/102	30/20	1000	296	Std	T6	HF76 HS10 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	L-7A2 (C)	2600x7.62mm

MTP-1

Notes: This armored recovery vehicle is a variant of the MT-LBu used by Bulgaria. It is used to recover and repair vehicles of a similar size and weight. The roof has a telescopic crane that can lift 3 tons, and can be extended over the entire vehicle to a maximum of 3.4 meters. (The operators can also restrict weight lifted to 2 tons, in which case the crane may be extended to 5 meters.) The rear of the vehicle has a large blade similar to that on the engineering variant of the MT-LB that is used to brace the vehicle when using the crane. It can also be used to prepare vehicle entrenchments, and the MTP-1 can prepare a hull-down position for a main battle tank in 110 minutes. The MTP-1 also has a winch that can pull 30 tons, or 10 tons when not braced by the dozer blade. The MTP-1 is fully amphibious. The cupola of the MT-LBu is retained.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$71,058	D, A	2.5 tons	14 tons	2+3	8	Headlights	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
120/84	25/20/2	450	71	Std	T3	HF4 HS2 HR2

Fire Control	Stabilization	Armament	Ammunition
None	None	PKT or DShK (C)	2500x7.62mm or 1200x12.7mm

M-113 Engineering Specially Equipped Vehicle (ESEV)

Notes: The ESEV is an M-113 APC modified with the use of a kit for combat engineers. The ESEV features an improved layout for 8 combat engineers plus their equipment; a hydraulic auger that may dig in earth, asphalt, and frozen ground to a depth of 3.048 meters and 203mm wide; hydraulic power tools (a chain saw, jack hammer, and an impact wrench that can also be used for wood boring); and a modified ramp that can be used as a working platform (and may hold up 500kg). Only the Canadian Army uses the M-113 ESEV. The ESEV may use the same add-on armor as the standard M-113.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$104,969	D, A	2 tons	11.65 tons	2+6	7	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
120/84	25/20	360	117	Stnd	T2	HF6 HS4 HR4

Fire Control	Armament	Ammunition
None	M-2HB (C)	2000x.50, Engineer Demo Chest

Type 84

Notes: This is a Chinese AVLB based on the Type 69 main battle tank chassis. The bridge is derived from that of the German Biber AVLB, with alterations to mate it to Chinese-made bridge laying system. The total length of the bridge is 18 meters (16 meters usable), with a load limit of 40 tons. There is also a narrow inner track to the bridge, with a load limit of 8 tons. 4-5 minutes are required to lay the bridge, and 4-6 minutes are required to recover it. The bridge itself weighs 8.5 tons.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$105,202	D, A	315 kg	38.5 tons	3	15	Headlights	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
108/76	25/15	930	214	CiH	T6	TF4 TS4 TR4 HF40 HS10 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	PK (C)	1500x7.62mm

Type 85 Armored Repair Vehicle & Recovery Vehicle

Notes: The Type 85 Armored Repair Vehicle is a vehicle based on the chassis of the Type 85 armored personnel carrier, designed for vehicle repair teams. This vehicle has a raised superstructure topped with a cupola-mounted machinegun. The vehicle has a 5 kW generator, basic, wheeled vehicle, tracked vehicle, small arms, and heavy ordinance tools, a welding set, air and oil filter cleaners, and an inertia dynamometer. It normally carries a wide selection of spare parts.

The Type 85 Recovery Vehicle is a Type 85 armored personnel carrier with a hydraulic crane that has a capacity of 1 ton. Also included are basic, wheeled vehicle, and tracked vehicle tools, a welding set, a 5kW generator, excavating tools, an air compressor, a tow bar, ropes, and cables. They tend to be found in conjunction with Type 85 ARV noted above.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
ARV	\$48,110	D, A	1.5 tons	15 tons	6	8	Active/Passive IR	Enclosed
RV	\$93,954	D, A	1.5 tons	15 tons	6	10	Active/Passive IR	Enclosed

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
(Both)	149/105	30/20/3	400	94	CiH	T4	TF2 TS2 TR2 HF4 HS2 HR2

Vehicle	Fire Control	Stabilization	Armament	Ammunition
(Both)	None	None	DShK	1000x12.7B

Type 653/653A

Notes: The Type 653 series is an armored recovery vehicle based on the chassis of the Type 69 tank. The Type 653A is basically a Type 653 with a heavier, more powerful crane. The turret of the Type 69 is replaced with a raised superstructure, offset to the left of the vehicle. To the right of the vehicle is a crane; on the Type 653, this has a capacity of 10 tons, while on the Type 653A, the capacity is 20 tons. Both cranes have a reach of 6 meters and can rotate 360 degrees. To the front of the vehicle is a large dozer blade used for bracing and for earthmoving (it may excavate 100 cubic meters per hour on dry soil). The Type 653 series also has a hydraulic winch with a capacity of 70 tons with 130 meters of cable (160 meters on the Type 653A). The Type 653 also has an auxiliary winch with a capacity of 10 tons. The Type 653 is equipped with a variety of tools for work on tracked and wheeled vehicles, and also carries excavating tools, as well as a large number of stowage boxes where other tools may be kept

(other tools must be bought separately). The Type 653 series is in use by China, Bangladesh, Iraq, Pakistan, and Thailand. A small amount have also been supplied to Kuwait along with their new PLZ-45 SP howitzers.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
Type 653	\$108,580	D, A	3 tons	38 tons	5	13	Passive IR	Enclosed
Type 653A	\$114,009	D, A	3 tons	42 tons	5	13	Passive IR	Enclosed

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
Type 653	108/75	25/15	935	215	Std	T6	HF40 HS10 HR8
Type 653A	99/69	20/15	935	215	Std	T6	HF40 HS10 HR8

Vehicle	Fire Control	Stabilization	Armament	Ammunition
(Both)	None	None	DShK (C)	500x12.7mm

MT-55A

Notes: This Czech AVLB is based on the T-55A chassis. It is used in place of the MTU-20 in Czech service and alongside the MTU-20 in Russia, India, Iraq, Yugoslavia, and in some Middle Eastern countries. It uses a stronger bridge that can support 50 tons. If necessary, a bridge from an MT-72 or MTU-72 can be substituted for the normal bridge carried by the MT-55A. The normal bridge can span a gap of 18 meters, weighs 6.5 tons, takes 3 minutes to lay, and 3-8 minutes to recover. The bridge can support a vehicle weighing 50 tons.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$94,018	D, A	500 kg	36 tons	2	15	Headlights	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
108/76	25/15	960	214	CiH	T6	TF4 TS4 TR4 HF67 HS16 HR8

MV-90

Notes: This is a Czech minelaying vehicle based on a BVP-1 chassis (the Czech version of the BMP-1). The mines are carried internally, and dispensed through a chute that extends out of the right back door. The vehicle can lay either PT-Mi-U or PT-Mi-Ba mines at a combat movement of 4. This vehicle was new issue to the Czech Army in 1997.

Twilight 2000 Notes: This vehicle does not exist.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$114,741	D, A	400 kg	14.4 tons	3	8	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
137/96	30/20/3	460	111	Std	T2	HF8 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	PKT (C), Minelayer	1000x7.62mm, 100xPT-Mi-U or PT-Mi-Ba Mines

VT-55A

Notes: This vehicle was type standard in the Czech Army until the advent of the VT-72B; it is still used to recover lighter tanks and other armored vehicles. It is based on the chassis of the T-55 tank, and is similar to the Russian BTS-T-55-T recovery vehicle.

The turret of the T-55 is removed, and the opening replaced with steel plate and a cupola for the commander. On the right side of the hull roof is a crane that can lift 1.5 tons. On the rear of the hull deck is a platform that can carry a load of 3 tons. There are two winches; the main winch is driven by the engine, and can pull 25 tons with 200 meters of cable. The auxiliary winch has its own motor, can pull 800 kg, and has 400 meters of cable. The front of the vehicle mounts a full-width dozer blade that can excavate 150 cubic meters per hour. The VT-55A can normally ford water of 1.4 meters depth, but can be equipped with a snorkel allowing the vehicle to ford 5 meters for 1000 meters. These vehicles typically carry several tow bars and a 4.2 meter tow cable, as well as welding equipment and toolkits appropriate to its purpose of recovering and repairing smaller tanks and armored vehicles. The crew compartment has a heater.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$112,371	D, A	3 tons	36.45 tons	3	8	Active/Passive IR	Shielded

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Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
107/75	25/15	812	215	Std	T6	HF67 HS16 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	PKT (C)	3000x7.62mm

KAM-1

Notes: This Finnish recovery vehicle is a conversion from the T-55 chassis. The turret of the T-55 is removed and replaced with a large turntable mounting a heavy-duty crane. The crane has a capacity of 22 tons with a reach of 6.7 meters. The winch has a capacity of 36 tons in a straight pull, or 72 tons with block and tackle, and has 140 meters of cable. The vehicle is equipped with a dozer blade, a towing jib and tow bar, ropes, and a wide variety of tools, including wheeled vehicle, tracked vehicle, excavating, small arms, heavy ordinance, basic, and welding. The vehicle has the ability to generate smoke by injecting diesel into its exhaust.

Twilight 2000 Story: This vehicle was just beginning to be produced before the Twilight War, and there are perhaps 20 of them in all Finland.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$112,371	D, A	2 tons	44 tons	2	14	Active/Passive IR, WL Spotlight	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
92/64	20/15	812	215	Std	T6	HF67 HS16 HR8

AMX-10 ECH

Notes: The AMX-10 ECH is the repair vehicle version of the AMX-10P APC. It retains the full armament of the standard AMX-10P, but instead of an infantry squad carries a reduced crew of mechanics. The driver is seated at the front left of the hull, and there is a large drop ramp in the rear of the vehicle with a door in it. On the right side of the rear deck is a crane with a capacity of 6 tons. The operator has a small roof hatch that he uses when working with this crane. When the crane is used, jacks are lowered under the rear of the hull to brace the vehicle. Other equipment carried includes a full range of tools and a pair of jacks with the ability to jack up one side of a 15-ton vehicle. Note that the AMX-10 ECH does not have a winch, does not normally carry tow bars or tow cables, and in general does not have the muscle for recovery operations.

France, Saudi Arabia, Greece, Mexico, Qatar, and the United Arab Emirates use the AMX-10 ECH.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$224,143	D, A	2.5 tons	13.8 tons	5	9	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
107/75	25/15/2	528	78	CIH	T2	TF3 TS2 TR2 HF4 HS3 HR2

Fire Control	Stabilization	Armament	Ammunition
+1	Basic	20mm M-693 autocannon, AAT-F1	576x20mm, 2000x7.62mm

AMX-13 CPP

Notes: This is an AVLB based on the AMX-13 chassis. The bridge can span a gap of 14.01 meters is suitable only for light vehicles, able to support 25 tons. The bridge weighs 4.7 tons and takes 3 minutes to emplace or recover. Two stabilizers are lowered at the rear before the bridge is emplaced or recovered.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$66,106	G, A	400 kg	19.7 tons	3	11	Passive IR	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
88/61	20/15	480	91	CIH	T3	TF4 TS4 TR4 HF6 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	AAT-F1 (C)	2000x7.62mm

AMX-13 VCG

Notes: This is a Combat Engineer Vehicle version of the AMX-13. The VCG has a 2.85x0.7m dozer blade capable of excavating 45 cubic meters per hour, An A-frame crane with a 4.5-tonne capacity, a winch with 40m cable able to pull 20 tons, 2 smoke projectors, 1 smoke discharger, 2 mine detectors, an electric drill, a hammer drill, a power saw, and an integral 4.5Kw generator. The turret has been replaced with a raised superstructure with an M2HB fired from inside or outside the vehicle. There are two hatches on the roof and hatches on the sides, and a driver's hatch on the front left deck.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
Gas Engine	\$82,976	G, A	2 tons	17.6 tons	3+6	10	Headlights	Shielded

Diesel Engine	\$83,132	D, A	2 tons	17.8 tons	3+6	10	Headlights	Shielded
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Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
Gas Engine	100/70	20/15	410	103	Std	T4	HF6 HS4 HR4
Diesel Engine	109/76	25/15	410	92	Std	T4	HF6 HS4 HR4

Vehicle	Fire Control	Armament	Ammunition
(Both)	None	M-2HB (C), 2xSmoke Grenade Projectors	1000x.50

AMX-30D ARV

Notes: This is an armored recovery vehicle version of the AMX-30 tank. The turret is removed and replaced with a raised superstructure. The driver sits at the front and slightly to the left side of the vehicle, with the commander to his with a cupola mounting a machinegun. The machinegun may be aimed and fired when the vehicle is buttoned down via a 10x periscope. To the rear of the commander's cupola is a hatch for the two mechanics. At the front of the hull is a dozer blade used for earthmoving and to brace the vehicle during crane and winching operations.

The crane is on the front left side and can lift 12 tons through 240 degrees, or 15 tons when lifting while the crane is positioned straight forward and the dozer blade is lowered. (There is a version used only by France, called the AMX-30DI, which can lift 15 tons through the entire 240 degrees.) There is a platform on the rear of the superstructure to carry engines and other large assemblies. The main winch is located in the center of the hull, with the cable leading out of the front of the hull. This winch has a 35-ton pull with 100 meters of cable. It cannot be overstressed, as it stops automatically when this 35-ton limit is reached. The auxiliary winch has 120 meters of cable and has a 3.5-ton pull. The crew compartment has a heater, and a snorkel can be installed that allows fording of up to 4 meters depth.

The AMX-30D is built by France and used by that country, as well as most countries that use the AMX-30 tank (such as Chile, Cyprus, Greece, Iraq, Qatar, Saudi Arabia, Spain, United Arab Emirates, and Venezuela).

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$120,213	D, G, A	3 tons	36 tons	4	13	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
133/93	30/20	1100	259	Std	T6	HF58 HS14 HR8

Fire Control	Stabilization	Armament	Ammunition
None	+1	AAT-F1 (C)	4000x7.62mm

AMX-30 AVLB

Notes: This is an AVLB version of the AMX-30 main battle tank. The hull is virtually unchanged from the base vehicle, but the turret is removed and replaced with a bridge that can span a gap of 20 meters. The bridge can support 50 tons and takes 5 minutes to lay or recover. The bridge itself weighs 8.5 tons. The AMX-30 AVLB is not used by France, but is used by Saudi Arabia.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$279,144	D, G, A	315 kg	42.5 tons	3	8	Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
116/81	25/15	1100	257	CiH	T6	TF4 TS4 TR4 HF58 HS14 HR8

AMX-30 EBG

Notes: This is a CEV version of the AMX-30. The EBG has a dozer blade capable of excavating 120 cubic meters per hour, a winch capable of pulling 20 tons with 40m of cable, and a hydraulic arm with pincers capable of lifting 15 tons. The EBG has a two-tier turret with a MAG MG and 4 smoke projectors on the top tier, and a 142mm demolitions gun and 4 coaxial mine throwers on the bottom tier. The two tiers are able to rotate independently. The EBG has an integral 50Kw generator. The driver's hatch is located on the left front deck, and the commander's and loader's hatches are located on the turret deck. The gunner uses the loader's hatch. The AMX-30 EBG, like other vehicles of its kind, has been removed from active service in its country.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
700 hp Engine	\$204,892	D, G, A	500 kg	38 tons	3	17	Passive IR	Shielded
800 hp Engine	\$205,455	D, G, A	500 kg	38.4 tons	3	17	Passive IR	Shielded

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
700 hp Engine	127/89	25/20	1100	259	Trtd	T6	TF23 TS8 TR6 HF58 HS14 HR8
800 hp Engine	141/99	30/20	1100	296	Trtd	T6	TF23 TS8 TR6 HF58 HS14 HR8

Vehicle	Fire Control	Armament	Ammunition
(Both)	None	142mm Demolitions Gun, AAT-F1 (C), 4xMine Throwers	15x142mm, 4000x7.62mm, 40xMines

AMX VCI Recovery Vehicle

Notes: This is a recovery vehicle meant to recover and repair AMX VCI vehicles and similar-sized vehicles. The basic chassis is fitted with a raised section in the center of the hull. To the left of this superstructure is a crane with a capacity of 6 tons and the ability to swivel through 240 degrees. The main winch leads out through the front of the hull and has a capacity of 18 tons with 100 meters of cable. The auxiliary winch is in the rear of the hull and has a capacity of 3.5 tons with 120 meters of cable. The AMX VCI RV is equipped with basic, tracked vehicle, wheeled vehicle, small arms, and heavy ordinance tools, an air compressor, a welding set, and excavating tools.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$78,965	D, A	3 tons	18 tons	4	9	Passive IR, WL Spotlight	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
95/67	20/15	410	92	Std	T3	HF8 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	AAT-F1 (C)	2000x7.62mm

AMX VCG

Notes: This is the combat engineer vehicle version of the AMX VCI, used by many of the countries that use the AMX VCI. The vehicle is equipped with an A-frame crane that deploys over the front of the vehicle; this crane has a capacity of 4.5 tons. When the crane is not in use, it is split at the top and folded on either side of the hull. The vehicle is also equipped with a forward winch, with a capacity of 4.5 tons and 63 meters of cable. On the front of the vehicle is a dozer blade to brace the vehicle or to prepare fighting positions. The vehicle has a 3kW generator to power tools when the engine is off. The AMX VCG is issued with an engineer demolitions chest, welding and cutting tools, an air compressor, power tools, basic tools, and excavating tools.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$104,853	D, A	2 tons	16 tons	3+7	8	Passive IR, WL Spotlight	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
105/73	20/15	410	92	Std	T3	HF8 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	2000x.50

Leclerc ARV (DNG)

Notes: This armored recovery vehicle was originally produced for Abu Dhabi, but France later decided to buy some for its own army. It is a conversion of the EPC Leclerc main battle tank. The turret has been removed and replaced with a raised superstructure, and the vehicle has been lengthened so it has seven roadwheels on each side instead of six. The right side of the vehicle carries a long crane with a reach of 7.9 meters over 260 degrees that can lift 30 tons. The vehicle has a main winch with a capacity of 34 tons and 160 meters of cable, and an auxiliary winch with a capacity of 15 tons and 160 meters of cable. To the rear of the superstructure is a platform that may carry a complete Leclerc power pack (approximately 4 tons). On the hull front is a dozer blade for bracing the vehicle. A 10kW diesel generator is provided to power tools, the winches, and crane when the engine is turned off. The Leclerc ARV carries a welder, air compressor, electric and electronic repair tools, and a complete set of tools to service main battle tanks and other armored vehicles. The crew compartment is air-conditioned and includes a chemical toilet. The vehicle mounts the Galix close-defense system, which automatically lays a smoke screen and infrared countermeasures if the vehicle is threatened by enemy missiles or targeted by lasers.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$245,667	D, A	4 tons	59 tons	3+1	21	Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
170/119	35/25	1500	557	Std	T6	HF140 HS28 HR19

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	1000x.50

Biber (BRP-1)

Notes: This German AVLB is based on the hull of a Leopard 1 tank, topped with a bridge and the equipment to deploy it. The driver is in the normal Leopard position at front right of the hull and the commander/bridge operator in the center of the hull. The bridge can span a gap of 20 meters and has a capacity of 60 tons. It may be deployed or recovered from either end, requiring 3 minutes to deploy and 7 minutes to recover. By itself, the bridge weighs 9.94 tons. The dozer blade on the front of the Biber is deployed before emplacing or recovering the bridge. The Biber is not issued with a weapon mount, but many crews have retrofitted their vehicles. Most of these vehicles are used by Germany, but small numbers are used by Australia, Canada, Denmark, and the Netherlands. A good number are also used by Italy, where they were license-produced.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$224,472	D, A	400 kg	45.3 tons	2	20	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
123/86	25/20	995	306	CiH	T6	TF4 TS4 TR4 HF38 HS10 HR6

Büffel

Notes: This is a newer armored recovery vehicle based on the Leopard 2 chassis. The turret is removed, and from the front to the center of the vehicle is a raised superstructure. The Büffel has a crane on the right side of the superstructure that can traverse through 270 degrees and can lift 30 tons or pull 70 tons. This crane cannot be overloaded, as it will refuse to function at a higher load. The vehicle has a main winch with 180 meters of cable and a pulling force of 35 tons. This winch is mounted on the front hull and does not require the use of the dozer blade, since it is designed to distribute forces over the entire vehicle. It too cannot be overloaded. The Büffel also has an auxiliary winch with 280 meters of cable and a 650kg capacity. The Büffel has two tow bars, including one for quick recoveries that is attached to the dozer blade. Cutting and welding gear is carried along with a full set of tools. There is a cradle over the engine compartment to carry large assemblies such as engines. The Büffel has a crew heater and a bilge pump for deep fording operations (though it is not amphibious). The hull mounts 16 smoke grenade launchers. The Büffel is capable of towing 64 tons.

The Büffel is used by Germany and the Netherlands; Sweden also plans to have some delivered to them in late 2003. It is often found towing a trailer specially designed for it, carrying spare parts and more tools. This trailer is four-wheeled, partially powered, weighs 3 tons, can carry 7.5 tons, and does not affect the Büffel's mobility.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$233,410	D, G, A	4.1 tons	54.3 tons	3	20	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
182/128	40/25	1620	557	Std	T6	HF193 HS25 HR15

Fire Control	Stabilization	Armament	Ammunition
None	None	MG-3 (C)	2375x7.62mm

Leopard 1 AEV (Pionierpanzer)

Notes: This is an armored engineer vehicle developed from the Bergepanzer. The crane is retained but has special attachments to allow work with mines, demolition charges, and special tools to build and destroy fortifications. The Pioneerpanzer has no generator or fuel pump, but has a 700mm auger, a dozer blade, a 70-ton winch, and a digging bucket that can lift 2 tons. The Pioneerpanzer typically carries a wide variety of excavation tools and attachments for its crane, as well as a welding set, 117kg of plastic explosives, and 10 engineer demolitions sets, and a variety of mines.

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Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$137,360	D, G, AvG, A	3 tons	40.8 tons	4	16	Passive IR (Driver only)	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
135/95	30/20	1410	307	Std	T6	HF38 HS10 HR6

Fire Control	Stabilization	Armament	Ammunition
None	None	MG-3 (Bow), MG-3 (C)	4250x7.62mm

Leopard 1 ARV (Bergepanzer)

Notes: This is an armored recovery vehicle based on the Leopard 1 chassis. The turret is removed and replaced with a raised superstructure. The Bergepanzer is equipped with a crane on the front right side that can traverse 270° and lift 20 tons. The winch can tow a 70-ton vehicle with 90m of cable. The forward winch can pull 25 tons. The Bergepanzer is usually equipped with a wide variety of tools and has an integral fuel pump, 10Kw generator, and a dozer blade. The Bergepanzer has a driver's hatch on the front center deck, a commander's hatch on the front left deck, and two hatches on the left hull side.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$125,758	D, G, AvG, A	4 tons	39.8 tons	4+4	16	Passive IR (Driver only)	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
138/97	30/20	1410	308	Std	T6	HF38 HS10 HR6

Fire Control	Stabilization	Armament	Ammunition
None	None	MG-3 (Bow), MG-3 (C)	4250x7.62mm

M-47 ARV

Notes: As with the M-48 ARV (see below), this vehicle was originally produced by Germany for export and as kits for those retiring their M-47 main battle tanks. Another major seller of this vehicle was Spain, and the designs of the two countries are similar. The basic design is similar to the M-48 ARV, with the turret being replaced with a raised superstructure, crane, winch, fuel pump, and dozer blade. The M-47 ARV was used to recover both lighter tanks and armored vehicles and armored personnel carriers and infantry fighting vehicles. Slightly smaller than the M-48 ARV, it also is somewhat less capable than that vehicle in towing capacity. The crane is capable of lifting 18.7 tons at a reach of 5.3 meters, and unlike the M-48 ARV, can turn a full 360 degrees. The main winch of the M-47 ARV can pull 35 tons, or 70 tons with block and tackle. A secondary winch can pull 6.5 tons, or 13 tons with block and tackle. The dozer blade can excavate 190 cubic meters per hour, but is mainly used to brace the vehicle during heavy lifting or winching operations. The M-47 carries basic tools, wheeled vehicle tools, tracked vehicle tools, a welding and cutting set, an air compressor, small arms and heavy ordinance tools, a tow bar, several coils or rope and cable, and pulleys and snatch blocks for heavy winching operations. The M-47 ARV was developed for the Turkish, but has also been trialed in Pakistan.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$100,911	D, A	1.4 tons	44.9 tons	4	10	WL Spotlight	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
122/86	25/20	875	300	Std	T6	HF60 HS14 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	MG-3 (C) or MAG (C) or M-2HB (C)	2000x7.62mm or 1200x.50

M-48 ARV

Notes: This is a recovery vehicle based on the chassis of the M-48A3 or A5 main battle tank. These vehicles were first produced by Germany for export and as kits to be sold to countries retiring their M-48 tanks; however, M-48 ARV began to be used in front-line service by many countries as damaged vehicles became more common. As such, they can be found in many of the countries that once used the M-48A3 or A5. In this role, the M-48 chassis has its turret removed, and a raised superstructure, along with a crane, winch, fuel pump, and dozer blade are added. The crane is mounted on the front right side and can lift 20 tons (enough for most tank turrets) at a reach of 6 meters. The winch has a pulling strength of 35 tons without bracing and 70 tons with bracing, and has 90 meters of cable. There is a secondary winch with a capacity of 6.5 tons, or 13 tons with bracing, and 100 meters of cable. The dozer blade can excavate 200 cubic meters per hour and is also used to brace the vehicle during heavy lifting or winching operations. The M-48 ARV is equipped with a welding and cutting set, an air compressor, tracked and wheeled vehicle tools, basic tools, small arms tools, heavy ordinance tools, a tow bar, several coils of rope and cable, and items such as pulleys and snatch blocks. These vehicles were built primarily for use by Germany herself, but The Turks have 4 and the Greeks have 3.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$123,358	D, A	1 ton	50.1 tons	4	18	Passive IR, WL Spotlight	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
105/73	20/15	1420	258	Std	T6	HF60 HS14 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	MG-3 (C) or MAG (C) or M-2HB (C)	5000x7.62mm or 3000x.50

Pionierpanzer 2 Dachs

Notes: This is an engineer vehicle based on the Leopard 1 AEV chassis. The Dachs has a dozer blade that can excavate 200 cubic meters per hour. It is equipped with a winch capable of pulling 70 tons with 90m of cable. A crane can lift 20 tons and has 100m of cable. The vehicle is equipped with a ½-meter-wide auger, a tow bar, internal welding tools, and a 10Kw generator. The driver's hatch is on the front left deck. The turret is replaced by a raised superstructure upon which are two hatches. An MG-3 is located on a weapons mount next to the commander's hatch; another is next to the driver.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$137,184	D, G, A	2.25 tons	43 tons	3	17	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
135/95	30/20	1410	307	Std	T6	HF38 HS10 HR6

Fire Control	Stabilization	Armament	Ammunition
None	None	MG-3 (Bow), MG-3 (C)	4250x7.62mm

Skorpion/M-548

Notes: This is the German Skorpion mine-laying system mounted on an M-548 load carrier chassis. In this role, the rear cargo area is totally taken up by the mine dispensers, six units of five box-shaped tubes. Each tube holds 20 antitank or antipersonnel mines, which are fused with a delay to allow friendly forces to get out of the new minefield safely. A self-destruct may also be programmed, and minefield densities of 0.05 to 0.3 may laid. Mines are ejected obliquely to the rear of the vehicle, on either side. A typical vehicle can lay an antitank minefield with a density of 0.2, 1500x50 meters, in 5 minutes. Typical mine is an AT-2 antitank mine.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$191,537	D, A	500 kg	16 tons	2	10	Headlights	Open

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
99/69	20/15/2	397	118	Std	T2	HF1 HS1 HR1

Fire Control	Stabilization	Armament	Ammunition
None	None	MG-3, Minelayer	1000x7.62N, 600xMines

Wiesel 2 Engineer Vehicle

Notes: This is a Wiesel 2 APC fitted out for the engineer reconnaissance role. In this role, the Wiesel 2 carries a remote mine detector, an engineer demolitions chest, several kilograms of plastic explosive, mines, an optical chemical sniffer, a Geiger counter, and radiation shielding. Other equipment carried includes an inertial navigation set, GPS, a rubber raft for water inspections of bridges and suchlike, a computer to compile the results of their investigations with a wireless modem to upload it to higher headquarters, and at least two radios.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$99,873	D, A	300 kg	7.25 tons	3	5	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
89/62	20/15	450	59	Std	T3	HF4 HS2 HR2

Fire Control	Stabilization	Armament	Ammunition
None	None	MG-3 (C)	750x7.62mm

Armored Amphibious Dozer

Notes: This is the primary engineer vehicle of India. It is based on the BMP-2 chassis (which India calls the Sareth), and has its turret removed for this role. The vehicle has a large digging bucket with a capacity of 1.5 cubic meters, and a track-width mine plow located at the front of the vehicle. The 8-ton capacity winch can be combined with a rocket anchor to throw a 100-meter cable to clear obstacles and for self-recovery. The AAD also has a crane with a capacity of 3 tons. The AAD normally carries construction tools, excavating tools, a welding set, and an air compressor.

Twilight 2000 Notes: This vehicle does not exist.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$80,024	D, G, AvG, A	1 ton	17.2 tons	2	9	Passive IR, Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
124/87	25/20/3	460	110	Std	T2	HF8 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	PKT (C)	2000x7.62mm

Vijayanta ARV

Notes: This is one of the standard armored recovery vehicles of India, made from retiring Vijayanta main battle tanks. In this role, the turret is replaced by a raised superstructure running along almost half of the vehicle's hull. At the front of this superstructure is an A-frame crane with a capacity of 10 tons, and the rear of the hull has a winch mounted with a capacity of 23 tons, or 70 tons with block and tackle. There is an auxiliary winch with a capacity of 3.75 tons. Both winches have 100 meters of cable. The usual assortment of tools for an ARV are issued with the vehicle, including welding and cutting gear, an air compressor, a fuel pump, a large set of tools (basic, wheeled vehicle, tracked vehicle, small arms, heavy ordinance), a tow bar, block and tackle, and various ropes, cables, and chains. The driver's position has been moved to the center of the front hull, the superstructure has two hatches for crew, and there is a flat area on the rear deck for a spare power pack.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$114,990	D, G, AvG, A	3 tons	34.2 tons	4	14	Passive IR, WL Spotlight	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
109/76	25/15	1000	198	Std	T6	HF123 HS18 HR11

Fire Control	Stabilization	Armament	Ammunition
None	None	MAG (C)	2600x7.62mm

AIFV AEV

Notes: This vehicle is designed to carry a combat engineer squad and their equipment into battle and to do their tasks. In this role, the AIFV has its turret removed. On the roof of the vehicle is a crane with a capacity of 3.09 tons, and the vehicle also has a winch with a capacity of 9.07 tons and 100 meters of cable. The AIFV AEV generally carries a case of plastic explosive, an engineer's demo chest, power tools, basic tools, excavating tools, an air compressor, a jackhammer, and welding and cutting tools. A 5 kw generator is provided on the rear deck to power these tools when the engine is off. This vehicle is used by Belgium and the Netherlands, and a similar vehicle is used by Turkey, which is identical in all respects except for the contents of the engineer demo chest (which contains equipment to defuse and disable the explosives and mines that Turkish soldiers might encounter).

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$162,646	D, A	1 ton	14.1 tons	3+8	9	Active/Passive IR, WL/IR Spotlight	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
102/71	20/15/2	416	108	Std	T2	HF6Sp HS4Sp HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB	2000x.50

AIFV Recovery Vehicle

Notes: This recovery vehicle is based on the AIFV chassis. The turret has been removed to make room for the crane. This crane has a lifting capacity of 1.36 tons, and is mounted on the rear left side. A winch is mounted in the rear of the vehicle that has 91.4 meters of cable and a capacity of 9.07 tons. The winch's mechanism makes sure the cable is always wound tightly and evenly around its drum. A spade is lowered on each side of the vehicle during heavy winching and crane operations. The AIFV RV has extra flotation devices in certain spots to make sure it floats evenly during amphibious operations.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$135,539	D, A	1 ton	13.75 tons	3	8	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
115/80	25/15/2	416	123	Std	T2	HF6Sp HS4Sp HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	2000x.50

BLG-67 M-2

Notes: This joint venture between the former East Germany and Poland is their version of the Russian MTU-2. The Bulgarians also use this vehicle, as well as India and Iraq. The Germans no longer use it; they sold theirs off after the reunification. The vehicle is based on the T-55 chassis, and on the whole looks very similar to the Czech MT-55A. The main differences are the plastic-covered bridging surface, the 20-meter maximum span of the bridge, its 50-ton capacity, and the two anti-current anchors carried by the vehicle. Each anchor is connected to the vehicle with 40 meters of cable, and they allow the BLG-67 M2 to be used in a current of up to 0.5 meters per second. The bridges can be laid in series of up to 3 spans. The bridge takes 3 minutes to lay and 3-8 minutes to recover. It weighs 6 tons.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
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\$105,932	D, A	500 kg	37 tons	2+1	16	Headlights	Shielded
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Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
109/76	25/15	812	214	CiH	T6	TF4 TS4 TR4 HF67 HS16 HR8

Puma Armored Engineer Carrier

Notes: This is an armored personnel carrier based on the Centurion chassis. It is used by Israel, and is designed to operate with Merkava tanks. The turret has been removed and replaced with hatches, a commander's position with machinegun, and three other machineguns, one to each side of the crew compartment and one forward of the crew compartment (this one can be fired and aimed even with the vehicle buttoned up). A new power pack has been added, with enough room for the crew to exit through a clamshell door to the left rear. Appliqué armor has been added, and ERA lugs are provided on the HF and HS. The Puma often uses mine plows or rollers or tows mine-planting equipment, and has a winch.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Shielded
\$286,930	D, A	2 tons	44 tons	2+6	16	Passive IR, Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
151/105	30/25	1037	315	Std	T6	HF100Cp HS24Sp HR20

Fire Control	Stabilization	Armament	Ammunition
None	None	MAG (x3), MAG (C), 60mm Mortar (x3)	2000x7.62mm, 60x60mm

Trail Blazer

Notes: The Trail Blazer is an Israeli combat engineer vehicle that doubles as a recovery vehicle. In this role, the turret is replaced with a raised superstructure; to the right of this superstructure is a crane of the same type mounted on the AMX-30D ARV. This crane may swivel 240 degrees, and may lift 12 tons through 240 degrees, of 15 tons when positioned straight out to the side and if it does not have to turn. At the front of the vehicle is a winch that has a capacity of 35 tons with 100 meters of cable; at the rear of the vehicle is an auxiliary winch with a capacity of 3.5 tons and 120 meters of cable. At the front of the vehicle is a large blade used to clear obstacles, while at the rear is a smaller one normally used to brace the Trail Blazer while it uses its winches or crane. As a combination recovery and combat engineer vehicle, it carries a wide variety of tools depending on its role; for combat engineer mode, it normally carries basic, excavating, construction, and power tools, welding and cutting gear, an engineer demolitions chest, and an air compressor; in the recovery vehicle role, it normally carries basic, wheeled vehicle, tracked vehicle, small arms, and heavy ordinance tools, an air compressor, and excavating tools, as well as a tow bar. In both roles, the Trail Blazer normally carries several lengths of rope, cable, and chains.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$103,736	G, A	1 ton	33.2 tons	4	14	WL Spotlight	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
94/66	20/15	636	332	Std	T5	HF27 HS8 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	2000x.50

OF-40 ARV

Notes: Like most vehicles of its type, the OF-40 ARV uses the chassis of the base OF-40 Mk 2 tank, with the turret removed and a raised superstructure, crane, winch, and tools in its place. A dozer blade is at the front. The crane has a capacity of 18 tons, and can be manually operated if necessary. The main winch has a pulling capacity of 36 tons, or 72 tons with block and tackle, and has 80 meters of cable. The vehicle carries all the necessary tools for repair and recovery of vehicles up to main battle tanks, including basic, tracked vehicle, wheeled vehicle, small arms, and heavy ordinance tools, a welding and cutting set, an air compressor, a tow bar, and ropes and cables.

Twilight 2000 Notes: As with the OF-40 main battle tank, this Italian recovery vehicle had pre-war sales only to the United Arab Emirates. As with the OF-40, the Italian government requested all some stocks on Italian soil and manufacturing capability to be directed to Italian use, and these vehicles were taken into Italian Army service to replace vehicle losses, and sales during the Twilight War were made to Thailand and Greece.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$153,659	D, G, A	2 tons	45 tons	4	15	Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
128/89	25/20	1000	308	Std	T6	HF72 HS18 HR14

Fire Control	Stabilization	Armament	Ammunition
None	None	MAG (C)	2800x7.62mm

Type 67 AVLB

Notes: This is a Japanese armored vehicle-launched bridge mounted on a Type 61 main battle tank chassis. The bridge is short, able to span a gap of 10 meters, with a maximum load of 40 tons. The bridge may be laid in 3 minutes and recovered in 5 minutes. The driver is in the front right of the hull, with the other two crewmembers in the center.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$96,308	D, A	300 kg	35 tons	3	15	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
122/85	25/20	875	240	CiH	T6	TF4 TS4 TR4 HF51 HS12 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	MAG (C)	2000x7.62mm

Type 70 ARV

Notes: This Japanese recovery vehicle is based on the chassis of the Type 61 main battle tank. The turret is replaced with a raised superstructure. Over the top of the vehicle is a large A-frame crane that has a capacity of 18 tons. The winch on the Type 70 has a capacity of 35 tons, with 60 meters of cable. The tool kit on the Type 70 includes a tow bar, basic, tracked vehicle, heavy ordinance, and excavating tools, and an arc welder.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$168,536	D, A	4.6 tons	35 tons	4	15	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
122/85	25/20	875	240	Std	T6	HF51 HS12 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	81mm Mortar, M-2HB (C)	27x81mm, 600x.50

Type 75 ACE

Notes: This is a Japanese Armored Combat Earthmover (ACE) that entered service in 1975. The dozer blade is to the rear, and the vehicle is driven backwards for earthmoving operations. The crew enters through a door on the right side of the hull or by two hatches on the roof of the crew compartment in front. The driver is on the left, and the commander on the right. The engine is at the rear of the vehicle.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$18,482	D, A	1.5 tons	19.2 tons	2	10	Headlights	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
124/87	25/20	595	127	Std	T4	HF4 HS4 HR4

Type 78 ARV

Notes: This is an Armored Recovery Vehicle based on the Type 74 main battle tank chassis. In place of a turret, the Type 78 has a raised superstructure with a crane on the right able to lift 20 tons. The Type 78 has a winch with capacity of 38 tons and 60 meters of cable. The vehicle carries a wide variety of recovery and repair tools, including a tow bar, basic, tracked vehicle, heavy ordinance, and excavating tools, an arc welder, and an air compressor. There is a dozer blade at the front of the vehicle for bracing and earthmoving.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$102,055	D, A	5 tons	38 tons	4	15	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
127/89	25/20	950	267	Std	T6	HF56 HS14 HR10

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	660x.50

Type 90 ARV

Notes: This is a Japanese recovery vehicle based on the chassis of the Type 90 tank. It was designed specifically to support the Type 90 tank, but can recover smaller vehicles as well. Instead of a turret, the Type 90 ARV has a raised superstructure and a crane on the right side with a capacity of 25 tons. It also has a winch with a capacity of 55 tons and 80 meters of cable. On the front of the vehicle is a dozer blade that is used to stabilize the vehicle during recovery operations and to clear obstacles and prepare fighting positions. The Type 90 ARV carries a wide variety of tools, including basic, tracked vehicle, heavy ordinance, and excavating tools, and an arc welder and air compressor. A tow bar is also carried. The driver sits on the front left with the commander and two other crewmembers behind him in the superstructure.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$196,445	D, A	7.59 tons	49.57 tons	4+4	18	Passive IR, Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
197/138	40/30	1100	557	Std	T6	HF100 HS24 HR12

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	1500x.50

Chenca

Notes: This Mexican version of the M-32B1 Sherman-based Tank Recovery Vehicle differs from chiefly in the engine used and the abilities of its recovery and engineering equipment. The final drives have brackets added to allow mounting of a dozer blade, and the engine is an earlier version of that mounted on the Stingray tank. The Chenca is designed for use by both recovery and combat engineer vehicle, with a wide variety of tools and weapons for this purpose. Primary recovery equipment is a winch in the front hull with a capacity of 27 tons, or double that if block and tackle is used; the cable is lead out of the glacis plate, and the reel is located behind the driver's seat. There is also an A-frame crane with a capacity of 9 tons, or 14 tons if the vehicle is stationary and the bogies locked. The turret is replaced with a circular superstructure. A large amount of tools are carried containing almost anything a recovery mechanic or combat engineer could need, including basic, tracked vehicle, wheeled vehicle, excavating, power, small arms, and heavy ordnance tools; a jackhammer, a chainsaw, an air compressor, up to 6 fire extinguishers, and a combat engineer's chest.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$202,068	D, G, AvG, A	1.5 tons	29.2 tons	4+2	12	Active/Passive IR	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
121/85	25/20	651	193	Std	T5	HF27 HS8 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C), MG-3 (Bow), M-29 81mm Mortar (FH)	300x.50, 2000x7.62mm, 30x81mm, 50 kg Plastic Explosive

M.I.D

Notes: The M.I.D is a Polish combat engineer vehicle based upon the T-72 chassis, and incorporating many features of the WZT-3 armored recovery vehicle. Its main characteristic is the heavy jib crane on the right side of the roof; this crane arm can be equipped with a gripper claw for removal of battlefield obstacles, or a digger bucket. The crane has a capacity on 7 tons, and can extend a maximum of 7.94 meters away from the vehicle. The crane arm may rotate 180 degrees. On the front of the vehicle is a V-shaped dozer blade with a width of 4.2 meters. The M.I.D has a primary winch with a capacity of 45 tons, and a secondary winch with a capacity of 2 tons. The M.I.D also carries integral welding gear. If necessary, the M.I.D can be equipped with a deep wading system that allows fording to a depth of 5 meters for up to 1000 meters. Normal wading depth is 1.2 meters. Finally, the M.I.D. is equipped with a smoke generation system that produces smoke that is opaque to IR detection systems (such as passive or active IR, or starlight scopes), as well as obscuring normal optical devices. The RPK and RPG-7 come with the vehicle, but are not actually mounted.

Twilight 2000 Notes: The M.I.D. was barely into production at the outset of the Twilight War, and perhaps fewer than 30 of these vehicles were built.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$226,523	D, G, AvG, A	1 ton	46 tons	2+3	18	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
122/85	25/20	1000	289	Std	T6	HF130 HS20 HR12

Fire Control	Stabilization	Armament	Ammunition
None	None	NSV (C), RPK, RPG-7	300x12.7mm, 1000x7.62mm, 7xRPG-7 Rockets

MT-LB Armored Engineer Reconnaissance Vehicle

Notes: This Polish adaptation of the MT-LB is intended for reconnaissance of bridges, road conditions, structures, potential demolitions and trap sites, and possible fortification sites. In this role, the MT-LB is fitted with a variety of standard and video cameras, an optical chemical sniffer, a Geiger counter, and specialized equipment for determining the state of repair and strength of roads and bridges, as well as open ground, ice, snow, river banks and bottoms, and beaches. Water depth can also be measured. A characteristic of the MT-LB Armored Engineer Reconnaissance Vehicle is the large rail type antenna centered over the right side of the vehicle, for the 5 long-range radios. The NSV machinegun is in a small cupola, and may be fired from within the vehicle. The RPG-7s come with the vehicle, but are not mounted.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$78,203	D, A	1.7 tons	13.15 tons	2+6	9	Passive/Active IR, Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
119/84	25/20/3	450	83	Std	T3	HF4 HS2 HR2

Fire Control	Stabilization	Armament	Ammunition
None	None	NSVT (C), 6xRPG-7	240x12.7mm, 36xRPG-7 rockets

WZT-3

Notes: This Polish armored engineer vehicle is based on the T-72 MBT chassis, and is similar in appearance to the Russian

BREM-1 ARV. It has several differences from that vehicle, however, to suit Polish needs. As with the BREM-1, the turret of the T-72 is replaced with a raised superstructure. The driver sits in the front left of the superstructure, with the commander in a cupola to the driver's right. Two mechanics sit in the hull. Behind the superstructure on the deck is a platform for power packs and other major components. Just behind the driver is the crane, which has a reach of 5.8 meters and can lift 15 tons. At the front of the vehicle is a large dozer blade for excavating or bracing purposes. The main winch is driven by the engine and has a capacity of 65.3 tons, or 83.5 tons when block and tackle is used; this winch has 200 meters of cable. The auxiliary winch has its own motor, has 400 meters of cable, and a capacity of 2.04 tons. Specialized equipment carried include two tow bars, tow cables, electrical and gas welding gear, impact wrenches, basic and vehicle tools, electrical and electronic tools, and a chain saw.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$177,494	D, A	2.5 tons	42 tons	4	16	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
139/97	30/20	1126+400	311	Std	T6	HF130 HS20 HR12

Fire Control	Stabilization	Armament	Ammunition
None	None	NSV (C)	500x12.7B

BAT-2

Notes: The BAT-2 is a combat engineer vehicle used by Russian and Pact forces. The vehicle is based on a T-64 chassis, and has a large V-shaped dozer blade mounted at the front. The BAT-2 has a crane with a capacity of 2 tons that may reach out 7.3 meters from the vehicle, and may be fitted with pincer-type tools. Mounted on the same platform as the crane is a 25-ton capacity winch with 100 meters of cable.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$151,719	D, G, AvG, A	6 tons	39.7 tons	2+8	21	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
117/82	25/20	1000	252	Std	T6	HF8 HS3 HR3

BREM-1 ARRV

Notes: An ARRV (Armored Repair and Recovery Vehicle) based on the T-72. The turret is replaced and a crane is mounted on the left side that can reach over the entire vehicle and lift 19 tons. The main winch can tow 25 tons, or 100 tons with special equipment and preparation (carried, but not normally fitted). The auxiliary winch can pull 12 tons, the vehicle has a dozer blade, and electric tools, winch gear, standard tools, and a 5Kw generator are standard gear.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$131,256	D, A	4 tons	41 tons	4	16	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
139/97	30/20	1000+400	311	Std	T6	HF120 HS18 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	NSVT (C)	300x12.7mm

BREM-2

Notes: This is a recovery vehicle based on the BMP-1, in the same way that the BREM-1 is based on the T-72. It is intended for recovery and repair of the BMP-series of infantry fighting vehicles. The turret of the BMP-1 is replaced with an armored plate, and the upper hull mounts a crane with a capacity of 1.5 tons. Various recovery tools are placed in stowage positions at various locations on the hull roof and sides, including a tow bar, 200 meters of rope, basic, tracked vehicle, small arms, and heavy ordinance tools, and excavating tools. The front of the vehicle has a large dozer blade which is used to brace the BREM-2 in recovery operations and when using the crane. There is also a carrying position on the left rear roof for a BMP-series power pack. The interior of the vehicle houses a 6.5-ton capacity winch. Russia and other Pact forces use the BREM-2.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$85.723	D, A	1.5 tons	13.6 tons	4	8	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
147/103	30/20/3	460	111	Std	T3	HF8 HS4 HR4

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor

Fire Control	Stabilization	Armament	Ammunition
None	None	PKT (C)	2000x7.62mm

BREM-64

Notes: As Russia began to retire its T-64 tanks, some of these vehicles were converted into recovery vehicles for other main battle tanks. These vehicles are known as the BREM-64. In this vehicle, the turret is removed and replaced with an armored superstructure with a cupola for the commander; this cupola mounts an NSVT heavy machinegun. The BREM-64 is equipped with a crane that may lift 2.5 tons (the approximate weight of a Russian tank's power pack). The BREM-64's main winch has a pulling strength of 25 tons, while the secondary winch has a strength of 2.5 tons. The vehicle has a full-width dozer blade mounted at the front, which may brace it during lifting and winching operations, or prepare combat positions. In addition to the standard diesel engine of the T-64, the BREM-64 has an auxiliary power unit of 60 kW, to power vehicle tools without wasting engine fuel. The BREM-64 is equipped with basic tools, tracked vehicle tools, small arms and heavy ordinance tools, a welding unit, an air compressor, and excavating tools.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$112,501	D, A	2.5 tons	40.5 tons	3	15	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
121/85	25/20	1000	259	Std	T6	HF64 HS12 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	NSVT (C)	500x12.7mm

BREM-80U

Notes: With BREM-64s proving inadequate to the task of recovering the heavier T-80 and T-90 tanks, and the BREM-64's crane and winching capacity generally not good for the recovery of heavy vehicles anyway, a much improved recovery vehicle based on the T-80 tank chassis was designed in the late 1980s. It is generally similar in layout to the BREM-64, but is greatly improved. The crane on the BREM-80 has a capacity of 18 tons, or 30 tons with block and tackle. The main winch has 120 meters of cable and has a capacity of 35 tons, or 140 tons with block and tackle. The secondary winch has a capacity of 1 ton and has 320 meters of cable. The BREM-80 has a full tool set, including basic, wheeled vehicle, tracked vehicle, small arms, heavy ordinance, and excavating tools; an air compressor, a welding and cutting set, and a laptop computer for diagnosing problems. A 60 kW generator is provided for powering the vehicle with the engine off. There is a large dozer blade at the front and a bracing bar at the rear to steady the vehicle in heavy lifting and winching operations; the dozer blade can also dig fighting positions. A second container on the rear deck carries spare parts, and there is a stand for a complete tank engine. The BREM-80's interior is air conditioned and heated.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$162,098	D, G, AvG, A	2.5 tons	46 tons	4+1	17	WL/IR Spotlight, Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
177/124	40/25	1090	557	Std	T6	HF125 HS16 HR10

Fire Control	Stabilization	Armament	Ammunition
None	None	NSVT (C)	500x12.7mm

BREM-L ARV

Notes: The BREM-L is an ARV (Armored Repair Vehicle) based on the BMP-3 chassis. In the BREM-L, the BMP-3 turret is removed and replaced with a small armored cupola on the center right of the vehicle, mounting a PKT machinegun. The left side of the roof has a crane that can lift 6 tons, or 12 tons if a pulley block is installed first. The vehicle's winch has a 20-ton capacity, or 40 tons if a pulley block is installed first. Usually, when the winch is used, a dozer blade mounted at the front of the vehicle is first lowered. There is a load area on the rear hull roof for carrying large stores such as BMP engines and transmissions. The BREM-L is equipped with two pulley blocks, a tow bar, various lengths of rope and cable, and basic tools, tracked vehicle tools, small arms tools, and heavy ordinance tools.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$106,860	D, G, AvG, A	2.5 tons	18.7 tons	3+2	11	Passive IR, Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
176/123	40/25/4	460	184	Std	T3	HF8 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	PKT (C)	2000x7.62mm

BREhM-D

Notes: This is the recovery vehicle member of the BTR-D family. In this role, the BTR-D chassis mounts an A-frame crane with a capacity of 1 ton, or up to 3 tons with block and tackle. The main winch has a capacity of 4 tons, or 12 tons with block and tackle. The winch has 100 meters of cable and is controlled from the commander's position. There is a front-mounted dozer blade that can be used to dig fighting positions or brace the vehicle during heavy winching and lifting operations. For towing, the vehicle has two telescoping tow bars that extend from the rear of the vehicle. The BREhM-D carries a welding set, basic, tracked vehicle, wheeled vehicle, small arms, and heavy ordinance tools, ropes, and cables.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$78,615	D, A	2 tons	8 tons	3	6	Active/Passive IR, WL Spotlight	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
194/136	40/30/4	300	88	Std	T4	HF8 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	PKT (Bow)	1000x7.62mm

BTR-T

Notes: The BTR-T grew out of a need for a heavily armored engineer assault vehicle. Vehicles such as the BMP did not provide enough protection for engineer squads as they maneuvered into position to breach obstacles.

The BTR-T is a T-55-series hull with a 30mm autocannon elevated over a low-profile one-man turret. There is a pintle mount located on the right side of the turret. The removal of the original turret allows the crew and dismounts to be located forward of the engine. The major drawback of the design is that infantrymen can only exit through hatches on the roof. The BTR-T turret may use the same sort of appliqué armor as the BMP-3, and in fact often does.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
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\$339,649	D, A	400 kg	38.5 tons	2+5	15	Passive IR, Image Intensification	Shielded
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Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
88/62	20/15	500 + 400 in rear drums	155	CiH	T6	TF13 TS5 TR3 HF67 HS16 HR8

Fire Control	Stabilization	Armament	Ammunition
+2	Fair	30mm Autocannon, Twin AT-5 ATGM, PKT or NSVT or AGS-17 (C)	200x30mm, 4xAT-5, 2000x7.62mm or 500x12.7mm or 300x30mm grenades

BTS-T-54-T/TK

Notes: The BTS-T-54-T is one of the Soviet Union's first post-war armored recovery vehicle designs. As the name suggests, it is based on the T-54 chassis. The turret is removed and replaced with a raised superstructure and a crane that can lift 1 ton. The vehicle has a large dozer blade in the rear to brace it during lifting operations. The BTS-T-54-2 is handicapped by the lack of a winch, so it is limited to towing operations. (The Finnish version of this vehicle, the BTS-2, does have a winch of 12 tons capacity.) In the center of the vehicle is a platform with drop sides to carry tank engines and other large components. The BTS-T-54-2 carries a standard selection of tools for its tasks, including basic, tracked vehicle, small arms, and heavy ordinance tools, as well as rope and a tow bar. Most countries that use the T-55, or have in the past, use this vehicle or the BTS-T-54-TK listed below.

The BTS-T-55-TK is the final development of the T-55-based recovery vehicle for the Russian Army and its allies. The BTS-T-55-TK also uses the more powerful 580 hp engine. It is otherwise like the BTS-T-54-T listed above, but has a more far more powerful 20-ton capacity crane.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
BTS-T-54-T	\$98,979	D, A	1 ton	36 tons	3+2	13	Active/Passive IR	Shielded
BTS-T-55-TK	\$119,734	D, A	1.5 tons	34 tons	3+2	15	Active/Passive IR	Shielded

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
BTS-T-54-T	99/69	20/15	812	193	Std	T6	HF63 HS12 HR8
BTS-T-55-TK	113/79	25/15	812	214	Std	T6	HF67 HS16 HR8

Vehicle	Fire Control	Stabilization	Armament	Ammunition
(Both)	None	None	PKT (C)	2000x7.62mm

IMR

Notes: This predecessor of the IMR-2MA was first seen in 1973. It is based on the chassis of a T-55, and during the Twilight War was still being used by many second-line Warsaw pact countries, China, several Middle Eastern nations, and some African countries. In the IMR, the turret of the T-55 is removed and replaced by large crane that can turn through 360 degrees and has a capacity of 2 tons. The crane head may be equipped with a standard lifting head, or other accessories, including a pincer for grabbing, a bucket, or an auger. The front of the IRM has a dozer blade for digging fighting positions, clearing obstacles, or other work. The IRM normally carries an assortment of tools, including basic tools, excavating tools, power tools, construction tools, and air compressor, and a welding and cutting set.

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Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$146,088	D, A	1.2 tons	37.5 tons	2	18	Active/Passive IR, WL Searchlight	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
113/79	25/15	812+380	214	Std	T6	HF67 HS16 HR8

IMR-2M

Notes: This is a more advanced Russian combat engineer vehicle than the IMR, being based on a T-72 chassis. They had replaced most of the IMRs in Russian, Czech, and Polish service by 2000. The turret of the T-72 has been replaced by an armored superstructure, from which is controlled the crane. The crane can be traversed through 360 degrees and has a capacity of 2 tons at a reach of 8.15 meters. The crane may use several heads, including a lifting hook, pincer claws, a bucket, and an auger. The front of the IMR-2M has a dozer blade that is armored against mines and is 1 meter high and 3.38 meters wide. Angle grading as well as straight plowing is possible with this blade. The front of the blade also had an extendible probe that is used to send radio signals to trigger the fuses on mines, explosive shells, and other such hazards. It is 65% likely to detonate any such device it encounters if the fuse is a contact, tilt rod, or radio type. The IMR-2M carries a wide assortment of tools, including basic tools, excavating tools, power tools, construction tools, and air compressor, and a welding and cutting set.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$269,775	D, A	1.5 tons	44.3 tons	2	20	Active/Passive IR, WL Spotlight	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
133/93	30/20	1000+400	310	Std	T6	HF140 HS20 HR12

Fire Control	Stabilization	Armament	Ammunition
None	None	NSVT (C)	500x12.7mm

IMR-2MA

Notes: This is the Russians' newest combat engineer vehicle, based on the chassis of the T-90 tank. Its primary job is to clear obstacles, smooth damaged roadways, and clear rubble from urban areas. As is usual for these converted tanks, the turret is removed, and in its place is a raised superstructure. The dozer blade can smooth a road of about 6 km by the width of the vehicle in one hour, depending on the degree of difficulty of the obstacles, or clear earthwork at a rate of 300 cubic meters per hour, or loose rubble at a rate of about 400 cubic meters an hour. The dozer blade is also mine proof for purposes of clearing mines. The IRM-2MA has a crane with a capacity of 2 tons, a main winch with a capacity of 35 tons and 100 meters of cable, and a secondary winch with a capacity of 15 tons and 120 meters of cable. Normal tools carried include basic tools, excavating tools, power tools, construction tools, an air compressor, and a welding and cutting set. There is a 5kW generator to power the tools, winches, and crane when the engine is off.

Twilight 2000 Notes: This vehicle does not exist.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$300,278	D, G, AvG, A	1.5 tons	47.4 tons	2	19	WL Spotlight, Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
126/88	25/20	1200	310	Std	T6	HF180 HS30 HR18

Fire Control	Stabilization	Armament	Ammunition
None	None	NSVT (C)	1050x12.7mm

IRM

Notes: This vehicle is described by the Russians as an "Engineer Reconnaissance Vehicle," and is based on a lengthened BMP-1 chassis (seven roadwheels instead of six). The vehicle is fully amphibious, and may operate fully submerged with the aid of a 10-meter snorkel. The IRM may generate a smoke screen by injecting diesel fuel into its exhaust. The IRM is also equipped with two mine detectors on booms, a sensor for determining the load-bearing capacities of a piece of terrain, devices to determine water depth, surf action, terrain angles, and the thickness of ice. The vehicle is also equipped with a laser rangefinder, an artillery aiming circle, and two radios with a range of 20 kilometers. The IRM is equipped with a rocket-powered grapple for self-recovery, even under enemy fire. At the rear is a bank of 12 solid rockets to assist in this recovery if necessary. The IRM may use BMP-1 appliqué armor on the hull, but not on the turret.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$66,714	D, A	1 ton	17.2 tons	2+4	10	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
121/85	25/20/3	600	110	CiH	T3	TF4 TS4 TR4 HF8 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	PKT	1000x7.62mm

MTP Technical Support Vehicle

Notes: Russia and Pact forces use this armored repair and recovery vehicle. It is based on the closed-top version of the BTR-50, and is used to support armored personnel carriers such as the BTR-series and BMP-series. Recovery equipment carried includes anchors, tow bars and cables, block and tackle, oil and fuel pumps, a 5kW generator, a complete welding set, an air compressor, and a set of tools appropriate for working on wheeled and tracked vehicles. Ample room is provided for spare parts, and there is space on the rear deck for carrying a power pack or other large spares. The MTP also has a crane with a capacity of 1.5 tons and a reach of 2.85 meters, and a winch with a capacity of 8 tons (15 tons with block and tackle installed) and 60 meters of cable.

The MTP has a raised superstructure with hatches for the crew and commander in it. The driver's hatch is in the normal place, and there are two doors in the rear. There is a firing port in each side of the crew compartment and in one of the rear doors that can take an AK-series assault rifle or the PK machine gun.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$61,491	D, A	1.5 tons	14.5 tons	5	9	Headlights	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
110/77	25/15/4	400	88	Std	T3	HF3 HS2 HR2

Fire Control	Stabilization	Armament	Ammunition
None	None	PK (C)	1250x7.62mm

MTP-LB Technical Support Vehicle

Notes: Similar in concept to the MTB technical support vehicle listed above, this vehicle is based on the MT-LB chassis. The basic form is unchanged, except for the addition of a crane, winch, and platform on the rear deck for carrying engines and other large assemblies. The MTP-LB is capable of land as well as amphibious recoveries. The crane is driven by the winch (the winch and the crane cannot be used at the same time), and has a capacity of 1.5 tons. The crane is an A-frame structure mounted on the front of the vehicle that has a reach of 4.2 meters. The winch may be used by itself, in which case the capacity is 6.12 tons with 80 meters of cable. There is a jack located on the front of the vehicle which may jack up to 15 tons. (This jack must be moved to the cargo platform before amphibious operations can take place.) Other equipment carried by the MTP-LB includes tow bars and tow cables, chock blocks, electric and gas welding and cutting gear, a vehicle decontamination kit, and a full range of tools. The MT-LBs cupola has been removed and replaced with a hatch and periscope. And there are crew hatches on the roof between this area and the cargo platform. There are also two doors on the rear of the vehicle. While most versions of this vehicle are armed with a PK, the Polish version of the MTP-LB is armed with an NSV heavy machinegun.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$64,924	D, A	2 tons	12.3 tons	2	7	Headlights	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
133/93	30/20/3	450	88	Std	T3	HF4 HS2 HR2

Fire Control	Stabilization	Armament	Ammunition
None	None	PK (C) or NSV (C)	2500x7.62mm, or 1500x12.7mm

MTU-20

Notes: This is a tracked cantilever-type bridging vehicle based on a T-55 chassis. The turret has been removed so the bridge span can lay flat on the deck area. The bridge can span 18 meters. It weighs 7 tons and can support 40 tons, taking 5 minutes to deploy and 7 minutes to recover. Other than Russian and Pact forces, the MTU-20 is used by Afghanistan, Egypt, Finland, India, Israel, Nigeria, and Syria.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$132,332	D, A	500 kg	37 tons	2	16	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
108/76	25/15	960	214	CiH	T6	TF4 TS4 TR4 HF67 HS16 HR8

MTU-72

Notes: This AVLB is based on the T-72 chassis, and uses a bridge similar in design, but heavier than, the bridge of the MTU-20 listed above. This bridge can span a gap of 18 meters and support 50 tons. Three minutes are required to lay the bridge, and 8 minutes to recover it. The bridge weighs 6.4 tons. The MTU-72 carries a dozer blade at the front to clear obstacles to bridge laying or otherwise prepare bridging sites. The MTU-72 is used only by Russian and Pact forces.

There is a similar vehicle in Czech service called the MT-72. Weight for this vehicle is 41.5 tons, and the bridge weighs 6 tons.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$193,764	D, A	300 kg	40 tons	2	18	Active/Passive IR	Shielded

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Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
138/97	30/20	1000	310	CiH	T6	TF4 TS4 TR4 HF120 HS18 HR8

MTU-90

Notes: This is an AVLB based on the T-90 chassis. It uses a triple-section bridge similar in design to that of the M-1 Wolverine AVLB. This bridge weighs 6.62 tons and can span a 24-meter obstacle, supporting a vehicle weighing 50 tons. The bridge is easy to lay and recover, requiring only 2 minutes to lay and 2.5 minutes to recover. The MTU-90 is used only by Russian forces.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$351,718	D, G, AvG, A	300 kg	45.5 tons	2	18	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
130/91	30/20	1200	310	CiH	T6	TF4 TS4 TR4 HF180 HS30Sp HR18

PMM-2

Notes: This Russian vehicle has the tracks and suspension of the T-64 tank, and upper chassis of the PTS-2 amphibious carrier. The PMM-2 uses a floating bridge, and may be used as either a bridge or ferry. When used as a bridge or ferry, the PMM-2 can carry 42.5 tons, but it is unable to carry this weight on land. Up to 10 PMM-2 vehicles can be latched together to form long bridges; each PMM-2 unit can bridge a gap 17 meters wide (or float vehicles that long). PMM-2s can operate in bodies of water with currents of up to 2 meters per second.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$69,066	D, A	500 kg	30 tons	3	8	Headlights	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Type	Config	Susp	Armor
210/126	43/26/5	1000	182	Bridging Vehicle	CiH	T6	TF4 TS4 TR4 HF6 HS3 HR2

VPV

Notes: This Czech vehicle is used for support of BMP-series, BRDM-series, and BTR-series vehicles, and other vehicles with weights up to 15 tons. It is based on the BVP-2 chassis (the Czech version of the BMP-2), and is very similar in layout and equipment carried to the Russian BREM-2. The turret is removed and replaced with a cable drum and a hatch to access the winch and crew compartment. The winch can pull 17 tons, or double that with the use of return pulleys; this winch has 120 meters of cable. The VPV has a dozer blade that is lowered to brace the vehicle in winching operations. The VPV has a crane mounted at the rear of the vehicle that can lift 5.2 tons and has a reach of 4.5 meters. The vehicle is equipped with full tool sets for work on tracked and wheeled vehicles, as well as a tow bar, welding set and cutting tools, and an air compressor.

The VPV retains the amphibious capability of the BVP-2, but will swamp if waves more than 100mm or currents over 1.2 meters per second are encountered. Czech forces use the VPV, as does Hungary (where it is known as the BMP-1VPV); a few are also used by Russia to supplement their BREM-2s.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$113,104	D, G, AvG, A	3 tons	14 tons	2+1	9	Passive IR, Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
137/96	30/20/3	480	105	Std	T2	HF8 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	PKT (C)	2000x7.62mm

VT-72B

Notes: The VT-72B is a recovery vehicle based on the T-72 chassis, built by Czechoslovakia. It is very similar to the BREM-1 in many respects; visually, the biggest difference is that the VT-72B's crane is on the right side of the superstructure instead of the left.

The T-72's turret is removed and replaced with an armored, raised superstructure. The crane can lift 19 tons and has a reach of 7.6 meters, and there is a load platform on the rear of the superstructure that can carry a load of 4 tons. The winch is located in the center of the vehicle, has 200 meters of cable and can pull 40 tons. There is also a secondary winch that can pull 2.5 tons and has 400 meters of cable. Its full width dozer blade located at the front of the vehicle can brace the vehicle. The dozer is also used to dig defensive positions for itself and other vehicles. There is also a rack at the rear of the vehicle for fuel drums and jerry cans. The VT-72B carries a 5kW generator for use with power tools or the welding equipment and air compressor (both issued with the vehicle). Other equipment also includes tools appropriate for working on tanks, excavating tools, and a tow bar.

Czechoslovakia uses the VT-72B in place of the BREM-1; the vehicle is also used by India.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$136,009	D, A	4 tons	46.5 tons	2+3	17	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
125/88	25/20	1000+400	311	Std	T6	HF120 HS18Sp HR8

Fire Control	Stabilization	Armament	Ammunition
+1	None	NSV (C)	500x12.7mm

Olifant ARV

Notes: This is an Armored Recovery Vehicle variant of the Olifant main battle tank. In this role, the turret is removed, and a crane with a capacity of 10 tons is mounted on the left side of the raised superstructure. The front has a dozer blade for bracing. The rear has a winch with a capacity of 60 tons and 80 meters of cable. The Olifant ARV is equipped with tools for tank repair including basic tools, tracked vehicle tools, small arms tools, heavy ordinance tools, and an arc welder. There are two cupolas on the roof with machineguns and there are four sets of four-barreled smoke grenade launchers, one on each corner of the superstructure.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$152,181	D, A	5.42 tons	57.5 tons	4	21	Passive IR, Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
97/68	20/15	1240	277	Std	T6	HF64 HS14 HR10

Fire Control	Stabilization	Armament	Ammunition
None	None	2xSS-77 or 2xM-2HB or SS-77 and M-2HB	5000x7.62mm or 1500x.50 or 2500x7.62mm and 750x.50

K-1 ARV

Notes: This South Korean armored recovery vehicle is based on the chassis of the K-1 main battle tank. It is a powerful vehicle capable of towing a tank the size of the M-1A1, or the K-1 (the vehicle it is meant to recover). The K-1 ARV's winch can pull 35 tons, or tow 70 tons when the guide pulley is installed, and has 150 meters of cable. The vehicle also has an auxiliary winch with a capacity of 20 tons and 260 meters of cable. The K-1 has no turret, but has a superstructure in its place. The crane is on the right of this superstructure, has a capacity of 25 tons, has a traverse of 270 degrees, and can be raised to 70 degrees angle. The K-1 ARV has a dozer blade on the front of the vehicle for earth clearing or bracing, and can move 170 cubic meters per hour. The K-1 ARV has a 60kW auxiliary power unit that can power all machinery except the tracks. There is a platform on the rear deck that can carry an M-1 or K-1 power pack (about 5 tons). On the hull front are eight smoke grenade launchers. The K-1 ARV has a crew heater, and normally carries a tow bar and a full range of tools, ropes, cables, and excavating tools.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$148,534	D, A	5 tons	51 tons	4	19	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
159/111	35/25	1815	445	Std	T6	HF75 HS12Sp HR12

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	1000x.50

K-1-M AVLB

Notes: This is a South Korean armored vehicle-launched bridge based on the chassis of the K-1 main battle tank. The bridge is a British design, but the vehicles and bridges are built in South Korea. The bridge weighs 12.9 tons, can support 66 tons, and is 20.5 meters long. Deploying takes 3 minutes, and recovery 10 minutes. In this role, the K-1's turret is removed and replaced with the bridge and launching equipment.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$300,208	D, A	400 kg	54.7 tons	2	23	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
150/105	30/20	1815	444	CiH	T6	TF4 TS4 TR4 HF75 HS12Sp HR12

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	1000x.50

K-288A1

Notes: This South Korean armored recovery vehicle is based on the Korean Infantry Fighting Vehicle. The turret is removed, and in its place is a crane with a lifting capacity of 3.5 tons, and a platform for a KIFV power pack. The firing ports of the KIFV are deleted. The recovery winch is located internally, has a capacity of 20 tons, and has 150 meters of cable. The K-288A1 carries tools appropriate to its task of recovering and repairing KIFVs, such as tow cables and a bar, and basic, electronic, tracked vehicle, small arms, and heavy ordinance tools.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological

\$94,873	D, A	1.7 tons	14.5 tons	4	9	Passive IR	Shielded
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Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
177/124	40/25/4	400	129	Std	T3	HF8Sp HS5Sp HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	600x.50

Bgbv-82

Notes: This is a Swedish armored recovery vehicle that bears a passing resemblance to an M-113, but is in fact a different vehicle. It was designed in 1973 to recover the S-Tank and similar-sized armored vehicles. The Bgbv-82 can also double as an engineer vehicle to clear obstacles and to prepare river-crossing points. The Bgbv-82 mounts a cupola with a 20mm autocannon (identical to that on the Pbv-302), and shares many automotive components with the lkv-91 tank destroyer. The gunner has a sight equal to binoculars in power. On each side of the turret are eight smoke grenade launchers. The driver has a hatch in the center front of the deck, the commander is to the right of the driver with his own hatch, and the turret is to the left and rear of the driver. The winch operator is to the rear of the driver inside the hull, and has an overhead hatch on the deck. When two ground spades are lowered at the rear of the vehicle, the winch may pull with 60 tons of force and 145 meters of cable. The Bgbv-82s crane may lift 5 tons if extended 1.8 meters, 3.5 tons if extended 2.5 meters, and 1.5 tons if extended 5.5 meters. The Bgbv-82 also has a dozer blade in the front of the vehicle for bracing, digging, and area preparation. The Bgbv-82 is equipped with a large selection of tools, such as wheeled vehicle, tracked vehicle, basic, and excavation tools.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$173,419	D, A	6.5 tons	19.8 tons	4	10	Passive IR	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
89/62	20/15/3	550	89	CiH	T3	HF3 HS2 HR2

Fire Control	Stabilization	Armament	Ammunition
+2	None	20mm Rh-202	505x20mm

Brobv-941

Notes: This is a Swedish short-span AVLB mounted on the same chassis as the Bgbv-82 recovery vehicle. In this role, the vehicle is topped with the equipment to launch a single span bridge that is 15 meters long and has a capacity of 50 tons. The bridge weighs 7 tons. The bridge takes 5 minutes to lay or recover, and the crew may remain under armor protection during these operations. The Brobv-941 is amphibious; when it swims, the bridge is towed floating behind the vehicle.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$272,424	D, A	400 kg	28.4 tons	4	17	Passive IR	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
80/56	15/10/2	550	110	CiH	T3	TF4 TS4 TR4 HF3 HS2 HR2

Fire Control	Stabilization	Armament	Ammunition
None	None	MAG, MAG (C), MAG (R)	1500x7.62mm

Brobv-971

Notes: This Swedish AVLB is based on a T-55 chassis, bought from Germany. It is a scissors bridge that has its middle raised high in the air when deploying, which can make it easily seen. The bridge can span a 19-meter gap and can handle 63 tons. The bridge weight 7 tons, and takes 5 minutes to deploy or recover. The crew does not have to leave the vehicle during these operations.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
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\$152,124	D, A	400 kg	40.3 tons	4	17	Active/Passive IR	Shielded
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Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor	
107/75	25/15	812	214	CiH	T6	TF4 TS4 TR4 HF67 HS16 HR8	

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C) or Ksp m/39 (C)	1000x.50 or 2000x7.62mm

CV-90 ARV

Notes: This vehicle is known in Swedish service as the Bgbv-90. It is an armored recovery variant of the CV-90 IFV. In this role, the turret is deleted, and a crane and winch are mounted in the vehicle. The crane is able to lift 6 tons, and the winch is able to pull 72 tons to the front, 36 tons to the rear, and 9 tons to the side. For maximum pulling efforts, the vehicle must be braced with the dozer blade. Two banks of six smoke grenade launchers are provided.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$210,594	D, A	2.5 tons	23.6 tons	3+1	11	Passive IR, Thermal Imaging, Image Intensification	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor	
156/109	35/25	610	202	CiH	T4	TF7 TS4 TR4 HF18 HS7 HR4	

Fire Control	Stabilization	Armament	Ammunition
+3	Good	MAG	4000x7.62mm

Skorpion/Bv-206

Notes: This minelayer was produced for Sweden by Germany prior to the Twilight War, in small numbers, to allow minelaying in snowy conditions. In this role, the rear module of the Bv-206 has four minelayer modules, containing a total of 400 mines. A self-destruct may be programmed, and densities of 0.05 to 0.3 may be laid. Mines are ejected obliquely to the rear, on either side. A typical vehicle can lay a minefield with a density of 0.2, 1000x50 meters, in 4 minutes. Typical mine is an antitank mine, though antipersonnel mines may also be laid.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$97,641	D, A	300 kg	6.8 tons	2	5	Headlights	Enclosed

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor	
138/96	30/20/3	360	49	Std	T2	HF1 HS1 HR1	

Fire Control	Stabilization	Armament	Ammunition
None	None	MAG, Minelayer	500x7.62mm, 400xMines

Brückenlegepanzer 68/88

Notes: This Swiss AVLB is based on the Pz-68 tank. The turret is removed and replaced with a single-span bridge and laying machinery. The bridge has a weight of 9.8 tons, has a length of 18.23 meters, and can carry 60 tons in an emergency, though Swiss regulations normally limit the load carried to 50 tons. The laying and recovery is fully automatic once started and can be done without the crew leaving the vehicle. The bridge takes 2 minutes to lay and 5 minutes to recover.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$101,476	D, A	600 kg	47 tons	4	20	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
99/69	20/15	855	242	CiH	T6	TF4 TS4 TR4 HF12 HS4 HR2

Fire Control	Stabilization	Armament	Ammunition
None	None	M-51 (C)	1000x7.5mm

Entpannungspanzer 65/88

Notes: This Swiss vehicle is a recovery vehicle based on the PZ-68 tank. The hull is of sheets of steel, with the crew at the front and the engine at the rear. The crew has a door on the left side of the hull towards the front, and there are hatches for the driver and commander on the front deck. To the rear of the driver is a second cupola for the crane operator. The main winch has 120 meters of cable and has a capacity of 25 tons, or 75 tons with block and tackle. The auxiliary winch has 240 meters of cable and has a capacity of 10 tons. On top of the vehicle is an A-frame crane with a capacity of 15 tons, enough to lift the complete turret of most vehicles in Swiss service. The Entp Pz 65/88 is normally equipped with excavating tools, basic tools, tracked vehicle tools, wheeled vehicle tools, welding gear, an air compressor, a tow bar, and various ropes, chains, and pulleys.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$101,064	D, A	2 tons	39.8 tons	5	17	Active/Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
114/80	25/15	870	244	Std	T6	HF6 HS4 HR2

Fire Control	Stabilization	Armament	Ammunition
None	None	M-51 (C)	3200x7.5mm

TIFV ARV

Notes: This is basically a more capable variant of the AIFV ARV. The winch has a capacity of 9.07 tons and 100 meters of cable, and the crane has a capacity of 3.09 tons. The vehicle is equipped with the following tools: basic, excavating, tracked vehicle, wheeled vehicle, small arms, heavy ordinance, and an air compressor.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$100,266	D, A	1.2 tons	13.5 tons	3	8	Active/Passive IR, WL/IR Spotlight	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
135/94	30/20/3	416	96	Std	T2	HF6Sp HS4Sp HR4Sp

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	2000x.50

AAVR7A1

Notes: This vehicle is the recovery version of the AAVP7A1 amphibious APC used by the US Marines and other countries. (The US Marines, Argentina, Brazil, Italy, South Korea, Spain, Thailand, and Venezuela use the AAVP7A1 and the AAVR7A1.) The cupola of the AAVP7A1 is not present on this vehicle; instead, the AAVR7A1 has a mount on the commander's position for an M-60 machinegun. On the right side of the hull is a crane with a telescoping arm that reaches 6.55 meters and can lift 2.72 tons. The winch is at the rear and has a capacity of 13.61 tons. Also installed in the vehicle is an air compressor, 5 kW generator, workbenches, welding gear, and a complete range of tools. A tent comes with the vehicle that can be erected at the rear to extend the workspace.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$107,721	D, A	2.5 tons	23.64 tons	3	13	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
115/81	25/15/4	647	147	Std	T3	HF12 HS8 HR7

Fire Control	Stabilization	Armament	Ammunition
None	None	M-60 (C)	850x7.62mm

M-9 Armored Combat Earthmover (ACE)

Notes: The ACE is basically a military version of a bulldozer, with an armored body. It entered the US Army inventory in 1977, and is perhaps one of the most common engineer vehicles in the world. Most of these vehicles were upgraded starting in 1985 to extend their operational life. Later production included nearly 200 vehicles for South Korea.

The ACE is a fast vehicle designed to keep up with Infantry Fighting Vehicles and Main Battle Tanks, in order to clear obstacles, create breaches in fortifications, and fill craters and ditches for those vehicles. The ACE is also used to prepare positions and dig fortifications. A secondary role for the ACE is the smoothing and creation of makeshift roads and airfields in rough terrain areas.

The ACEs primary feature is its large front-mounted scraper and dozer blade/bucket. The scraper has a capacity of 6.7 cubic meters, and the dozer blade/bucket can move 8 tons at a time. The ACE also has a winch with a capacity of 15.9 tons, and has a 60-meter cable. The ACE is equipped with a bilge pump for amphibious operations. (It is amphibious with preparation.)

The ACE is air-portable in any aircraft at least the size of the C-130 Hercules.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$20,346	D, A	1.8 tons	16.28 tons	2	9	Headlights	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
125/87	25/20/3	507	109	Std	T3	HF3 HS3 HR2

M-58 Wolf

Notes: This is the US Army's current standard smoke generation vehicle, along with the M-56 Coyote. It is also used by several of America's allies, and many were used in the Middle East, Europe, and in the Continental US. It uses a tactical smoke generator of the 1994-2000 period type on the latest M-113A3 chassis, along with the RISE power pack improvement that is normally fitted to the M-113A4. This allows for greater speed to keep up with Bradley and Abrams formations. The Wolf uses smoke fuel and fog oil tanks twice as large as the standard tactical smoke generator.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
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\$250,593	D, A	400 kg	44.83 tons	2	21	Passive IR	Shielded
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Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
111/78	25/15	1420	276	CiH	T6	TF1 TS1 TR1 HF52 HS12 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	2xMICLIC Launchers, M-2HB (C)	6xLine Charge, 525x.50

M-88 Hercules

Notes: This is the longtime standard armored recovery vehicle of the US Army, and to a far more limited extent, the Marines. It is also used by 19 other countries worldwide. It was in the process of being replaced by the M-88A2 and M-5 in US service and by the M-88A2 in some other countries, but large amounts of the M-88A1 were still in use in the Twilight War. The M-88A1 is described as a vehicle with something for every mechanic, from the wide selection of tools to a crane, and a very good heater, room for a recovered tank's crew, and even racks for things like an M-60 machinegun and antitank rockets. The M-88A1 carries basic, wheeled vehicle, tracked vehicle, small arms, and heavy ordinance tools, an air compressor, a welding and cutting set, and tow bars, ropes, chains, and cables. The crane may lift 22.7 tons when braced by the dozer blade, or 18.16 tons without using the blade. The main winch has a capacity of 39 tons, or double that with block and tackle. The auxiliary winch has a capacity of 1.9 tons.

The biggest difference between the base M-88 and the M-88A1 is that the M-88A1 is equipped with an 8.1 kW APU. The M-88A1 also has a fuel pump that allows the vehicle to pump fuel from an external source. Finally, the M-88A1 has a 19mm hydraulic impact wrench to assist in track maintenance of tracked vehicles.

The M-88A2 is a progressive development of the M-88A1. The general layout is similar to the M-88A1, but the M-88A2 adds armored side skirts, appliqué armor, stronger suspension, an upgraded engine, improved brakes, and more powerful winches. The M-88A2 is able to recover and tow a 70-ton vehicle at one-third speed, or a 30-ton vehicle at full speed. The M-88A2's crane can lift 35 tons, or 8.4 tons when not braced by the dozer blade. The main winch is capable of pulling 63.6 tons. Directly above the main winch is a lead winch (used to assist in deploying the main winch), which is itself able to pull 2 tons. The fuel pump is able to pump 95 liters per minute. This vehicle is outclassed by the M-5 but is much cheaper, and crews familiar with the M-88A1 can use it with ease.

Vehicle	Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
M-88	\$109,420	G, A	3 tons	50.4 tons	4+4	19	Passive IR, WL/IR Spotlight	Enclosed
M-88A1	\$140,454	D, A	3 tons	50.8 tons	4+4	19	Passive IR, WL/IR Searchlight	Enclosed
M-88A2	\$157,128	D, A	3 tons	63.05 tons	4+4	23	Passive IR, WL/IR Searchlight	Shielded

Vehicle	Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
M-88	130/91	30/20	1514	581	Std	T6	HF7 HS5 HR4
M-88A1	107/75	25/15	1514	222	Std	T6	HF7 HS5 HR4
M-88A2	121/84	25/20	1628	389	Std	T6	HF10Sp HS7Sp HS5

Vehicle	Fire Control	Stabilization	Armament	Ammunition
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(All)	None	None	M-2HB (C)	1500x.50
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M-578 Light Recovery Vehicle

Notes: This vehicle is common in US units that still use the M-113 series as a primary vehicle. More commonly known as a VTR (Vehicle, Tracked, Recovery) to troops, the M-578 is a US-built recovery vehicle with a chassis as the M-107 and M-110 howitzers. The turret has a crane capable of lifting 13.6 tons. The VTR has an integral 10Kw generator, a rear mounted winch with 70m of cable capable of pulling 27 tons, and a dozer blade. The VTR has a driver's hatch on the front deck, commander's and mechanic's hatches on the turret deck, as well as doors on the turret sides and a double door on the rear of the turret. The M-578 can tow up to 35 tons, but is slowed to one-quarter movement at that weight.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$90,300	D, A	2 tons	24.3 tons	3	12	Active IR (Driver only)	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
119/83	25/20	1136	157	Trtd	T4	TF3 HS3 TR3 HF4 HS2 HR2

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C) (MAG (C) on British vehicles)	500x.50 (750x7.62mm on British vehicles)

M-728 CEV

Notes: This vehicle was designed soon after the M-60A1 main battle tank was taken into US service. It was not widely exported, and the only other countries to use it are Singapore and Saudi Arabia. The M-728 retains the base M-60A1 hull, but a new turret armed with a 165mm demolitions gun is mounted instead of the 105mm gun. This is a very stubby-barreled and short-range weapon, and its best use is to destroy fortifications and tank traps instead of as an antivehicle weapon. The normal M-60A1 commander's cupola is on top of this turret; also mounted on the turret is an A-frame crane with a capacity of 15.88 tons. The crane doubles as a winch, and has 61 meters of cable. At the front of the hull is a large dozer blade; this can be removed and replaced with a V-shaped mine plow.

Twilight 2000 Notes: Just prior to the Twilight War, the M-728 was being phased out of US service, thought to be overkill in a combat engineer role; however, a need for these vehicles was soon found again and they were drawn back out of the boneyards.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$218,654	D, A	700 kg	53.2 tons	4	21	Passive IR, WL/IR Spotlight	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
97/68	20/15	1420	277	Trtd	T6	TF45 TS17 TR13 HF56 HS12 HR8

Fire Control	Stabilization	Armament	Ammunition
None	None	165mm Demolitions Gun, MAG, M-2HB (C)	30x165mm, 3600x7.62mm, 600x.50

M-1059A3 Lynx

Notes: This was the US Army's standard smoke generation vehicle until adoption of the M-58 Wolf in the mid-1990s. Many of

these vehicles were sold to US allies and other countries using the M-113 base vehicle. The Lynx uses a tactical smoke generator of the 1986-1993 period type, with tanks twice as big as that of the standard tactical smoke generator. The generator and its tanks take up most of the room in the M-113 base vehicle that would normally be used for passengers, so no passengers may be carried.

Price	Fuel Type	Load	Veh Wt	Crew	Mnt	Night Vision	Radiological
\$125,695	D, A	300 kg	12.2 tons	3	7	Passive IR	Shielded

Tr Mov	Com Mov	Fuel Cap	Fuel Cons	Config	Susp	Armor
121/84	25/20/3	360	97	Std	T2	HF6 HS4 HR4

Fire Control	Stabilization	Armament	Ammunition
None	None	M-2HB (C)	2000x.50