

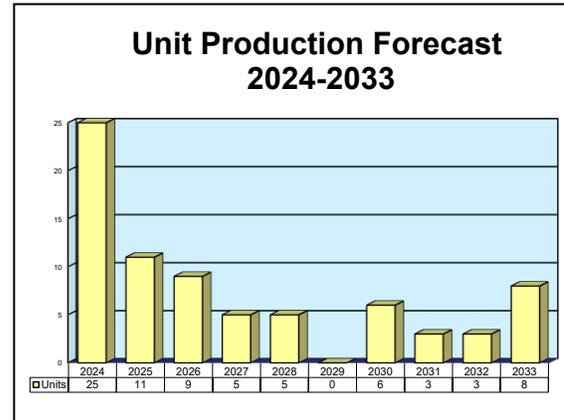
ARCHIVED REPORT

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ACMAT Armored Personnel Carriers

Outlook

- Over 2023 and early 2024, new orders and deliveries of Bastion APCs have emerged from Armenia and Chile
- In 2024, Belgian contractor John Cockerill announced it that will acquire Arquus and its associated armored vehicle product line
- Forecast reflects as-needed production of Bastion vehicles for export sales



Orientation

Description. Wheeled armored personnel carriers.

Sponsor. The prime contractor, Arquus, sponsors these programs as private ventures.

Licensees. Mack Trucks Inc (Allentown, Pennsylvania) built the Bastion under license.

Status. Development through serial production (currently on an as-needed basis).

Total Produced. Through 2023, we estimate that the contractor produced at least 259 TPK 4.20 VBLs, 20 TPK 6.40 VBLs, and 368 Bastion APCs.

Application. Light wheeled armored personnel carriers optimized for transporting infantry during both offensive and defensive operations.

Price Range. In 2024 U.S. dollars, the TPK 4.20 VBL reportedly maintains a unit price of \$101,850; the TPK 6.40 VBL costs \$106,820. The Bastion APC maintains a unit price of \$170,640.

Contractors

Prime

Ateliers de Construction Mecanique de l'Atlantique (ACMAT)	http://www.arqus-defense.com , Le Point du Jour, Saint-Nazaire, France, Tel: + 33 2 4022 3371, Fax: + 33 2 4066 3096, Email: info@acmat.fr , Prime
Mack Trucks Inc	http://www.macktrucks.com , 2100 Mack Blvd, Allentown, PA 18103-5622 United States, Tel: + 1 (800) 866-1177, Email: mktg.comm@macktrucks.com , Licensee

Subcontractor

FN Herstal SA	http://www.fnherstal.com , Voie de Liège 33, Herstal, Belgium, Tel: + 32 4 240 81 11, Fax: + 32 4 240 88 99, Email: info@fnherstal.com (12.7x99mm (.50 cal) M2HB Machine Gun)
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Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 75 Glen Road, Suite 302, Sandy Hook, CT 06482, USA; rich.pettibone@forecast1.com

ACMAT Armored Personnel Carriers

Technical Data

TPK 4.20 VBL

Crew. Two: commander and driver, plus eight infantrymen.

Configuration. 4x4.

Armor. Nickel-chrome-molybdenum steel alloy armor, 5.8mm (0.23 in) thick. The armor provides all-around protection from 7.62mm ball projectiles. The vehicle can mount additional appliqué armor as needed.

Dimensions. The following data reflect the production-standard TPK 4.20 VBL armed with a 12.7x99mm (.50-cal) M2HB machine gun.

	<u>SI Units</u>	<u>U.S. Units</u>
Length	5.98 m	19.62 ft
Width	2.10 m	6.89 ft
Height	2.21 m	7.25 ft
Combat weight	7.30 tonnes	8.04 tons
Fuel capacity	360 liters	95.74 gal

Performance. The speed and range data reflect use on a paved road.

	<u>SI Units</u>	<u>U.S. Units</u>
Maximum speed	95 kmph	58.9 mph
Maximum range	1,600 km	993.6 stat mi
Step	50 cm	1.64 ft
Trench	55 cm	1.80 ft
Slope	32%	32%
Gradient	60%	60%
Fording	80 cm	2.62 ft

Engine. Perkins liquid-cooled diesel engine. This powerplant generates 100.67 kilowatts (135 hp), with a power-to-weight ratio of 13.79 kilowatts per tonne (16.79 hp/ton). The 24-volt electrical system features two 6 TN AS 188 12-volt batteries.

Gearbox. Type 4.42 manual gearbox (of unknown origin) with one reverse and four forward gears. The vehicle mounts a two-gear-ratio transfer case.

Suspension and Running Gear. Leaf-type springs, with a double-acting hydropneumatic shock

damper at each wheel station. The 12.50x20 tires are the run-flat type.

Armament. One pintle-mounted 12.7x99mm (.50-cal) M2HB machine gun on the roof. The vehicle can also mount a 7.62mm machine gun of any type, in addition to or in place of the M2HB.

The vehicle can also function as a dedicated mortar platform, mounting an 81mm mortar in the troop compartment. When firing the mortar, the crew must lower the vehicle side panels.

TPK 6.40 VBL

Crew. Two: commander and driver, plus 16 infantrymen.

Configuration. 6x6.

Armor. Same as the TPK 4.20 VBL.

Dimensions. The following data reflect the last preproduction prototype of the TPK 6.40 VBL mounting a 12.7x99mm (.50-cal) M2HB machine gun.

	<u>SI Units</u>	<u>U.S. Units</u>
Length	7.00 m	22.96 ft
Width	2.10 m	6.89 ft
Height	2.21 m	7.25 ft
Combat weight	8.60 tonnes	9.48 tons
Fuel capacity	360 liters	95.74 gal

ACMAT Armored Personnel Carriers

Performance. The speed and range data reflect use on a paved road.

	<u>SI Units</u>	<u>U.S. Units</u>
Maximum speed	95 kmph	58.9 mph
Maximum range	1,600 km	993.6 stat mi
Step	50 cm	1.64 ft
Trench	55 cm	1.80 ft
Slope	32%	32%
Gradient	63%	63%
Fording	80 cm	2.62 ft

Engine. Same as the TPK 4.20 VBL, with a power-to-weight ratio of 11.71 kilowatts per tonne (14.24 hp/ton) in this application. The 24-volt electrical system features two 6 TN AS 188 12-volt batteries.

Gearbox. Type 5.42 manual gearbox (of unknown origin) with one reverse and five forward gears. The vehicle mounts a two-gear-ratio transfer case.

Suspension and Running Gear. Same as the TPK 4.20 VBL.

Armament. Same as the TPK 4.20 VBL.



ACMAT Bastion Patsas

Source: Ateliers de Construction Mécanique de l'Atlantique

Bastion APC

Crew. Two: commander and driver, plus eight infantrymen.

Armor. Monocoque armored shell. Mine protection to NATO standard level 2/2a and ballistic protection up to level 3. The vehicle can mount additional appliqué armor as needed.

Configuration. 4x4.

Dimensions. The following data reflect the production-standard Bastion APC armed with a 12.7x99mm (.50-cal) M2HB machine gun.

	<u>SI Units</u>	<u>U.S. Units</u>
Length	6.00 m	19.68 ft
Width	2.20 m	7.21 ft
Height	2.40 m	7.87 ft
Combat weight	15.00 tonnes	16.53 tons
Fuel capacity	300 liters	79.25 gal

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Performance. The speed and range data reflect use on a paved road.

	<u>SI Units</u>	<u>U.S. Units</u>
Maximum speed	110 kmph	68.35 mph
Maximum range	1,000 km	621.3 stat mi
Step	50 cm	1.64 ft
Trench	55 cm	1.80 ft
Slope	30%	30%
Gradient	65%	65%
Fording	1 m	3.30 ft

Engine. Liquid-cooled turbo-diesel engine. This powerplant generates 158 kilowatts (215 hp), with a power-to-weight ratio of 10.53 kilowatts per tonne (14.12 hp/ton). The 24-volt electrical system features two 12-volt batteries of unspecified make.

Gearbox. Manual gearbox (of unknown origin) with one reverse and six forward gears.

Suspension and Running Gear. Leaf-type springs with oleopneumatic shock absorbers at each wheel

station. The tires are Michelin 365/80 R20 XZLs of the run-flat type.

Armament. One turret-mounted 12.7x99mm (.50-cal) M2HB machine gun on the roof. The vehicle can also be equipped with 7.62mm machine guns of any type on two top-mounted swivel stations. An additional nine gun ports are located on the sides, front, and rear of the vehicle.

Variants/Upgrades

Variants. In addition to the basic armored personnel carrier versions of the TPK 4.20 VBL, TPK 6.40 VBL, and Bastion APC, ACMAT has developed the following variants:

Designation	Description
Internal Security Vehicle	TPK 4.20 BL. Features manual turret with 7.62mm machine gun. Options include three hinged shields, five periscopes, up to eight smoke grenade launchers, a loudspeaker, and air conditioning. Saudi Arabia purchased this variant.
Scout/Reconnaissance Vehicle	Fully enclosed troop compartment with four bulletproof sliding vision blocks in each side of the hull. Options include a roof-mounted rear TLI turret with a 12.7x99mm (.50-cal) M2HB machine gun, a MILAN anti-tank missile system, and air conditioning.
Armored Car	Fully enclosed troop compartment with four bulletproof vision blocks on each side and two outward-opening rear doors. Same turret options as Scout/Reconnaissance Vehicle.
Armored Ambulance	TPK 4.20 BL-SAM. Carries four litter patients. The lower part of the two-piece, horizontally separating rear door forms a step.
Logistics Vehicle	TPK 6.40 BL-CTL. 6x6 with 4.5-tonne (4.96-ton) payload capacity.
Bastion Patsas / Patsas HM	Bastion variant designed for special forces applications. Features open-top design for adaptation to a wide array of roles and weapons systems.
Bastion High Mobility	Variant designed for navigation of rugged terrain. Integrates a 320-hp engine and a running gear system with independent suspension. Initially designated the Extreme Mobility, the variant is now generally referred to as the Bastion High Mobility or Bastion HM in ACMAT press materials.
Bastion SAN	Bastion variant designed to serve as a mobile field hospital and provide casualties and medical personnel with protected access to and egress from hazardous environments. The rear compartment of the vehicle has been converted into a specialized medical suite and can serve up to two litter patients.
Bastion PC	Bastion variant intended to serve as a mobile command post. The Bastion PC is outfitted with specialized communications equipment and a heavily modified rear compartment outfitted for command and control functions.

ACMAT Armored Personnel Carriers

Modernization and Retrofit Overview. Not applicable at this time. The relatively simple, robust TPK design offers limited opportunity for modernization and retrofit. Some opportunities may emerge for additional weapons applications.

Program Review

Background. Since 1948, Ateliers de Construction Mécanique de l'Atlantique has been a world leader in the development and production of military off-road trucks. The company has produced an average of 600 trucks per year since 1987; its trucks are in service with military forces in at least 37 nations.

Corporate Evolution

In May 2006, Renault Trucks (Saint-Priest Cedex, France) completed its takeover of ACMAT in a deal worth \$4.3 million. In 2012, Renault Trucks also acquired French defense and automotive manufacturer Panhard. The two acquisitions were major landmarks in an ongoing effort to streamline and consolidate the French defense industry amid a period of economic uncertainty.

Under the ownership umbrella of Volvo, Renault, ACMAT and Panhard were reorganized under the auspices of the consolidated Arquus Defense group. In 2024, Belgian contractor John Cockerill announced that it would acquire the Arquus brand and its associated armored vehicle product line.

For a time, the Bastion design was also manufactured and exported by U.S. contractors Mack Defense and AM General.

A Dedicated APC Design

In the late 1970s, ACMAT began developing a dedicated armored personnel carrier based on its highly successful VLRA line of 4x4 and 6x6 trucks. In 1980, the first prototype TPK 4.20 VBL armored personnel carrier was rolled out; serial production to meet the first export order commenced within a year.

Description. The TPK 4.20 VBL shares the basic interior layout of the VLRA 4x4 truck. The engine mounts to the front; the cab (seating the commander on the right and driver on the left) occupies the space to the rear of the engine compartment.

Added Ballistic Protection

The cab features a bulletproof windscreen with top-mounted, forward-hinged armor plates. The two side doors of the cab also feature bulletproof windows. Above the commander's seat, the cab roof features a

single-piece hatch cover. In the basic TPK 4.20 VBL configuration, the rear troop compartment is open-topped, with folding sidewalls. The troop seats line the side walls. The vehicle is also available with a fully enclosed troop compartment featuring roof hatches and two rear-troop access doors.

Enter the 6x6 Version

In 1995, ACMAT began development of a 6x6 armored personnel carrier called the TPK 6.40 VBL. This vehicle is essentially the basic TPK 4.20 VBL design integrated with a VLRA 6x6 chassis. ACMAT completed the TPK 6.40 VBL development program in 1997; the vehicle became available for production orders in 1999. To date, the Forecast International Weapons Group has seen no evidence that the contractor has sold any TPK 6.40 VBLs on the international market.

Bastion: the New Standard

In 2010, ACMAT unveiled its newest armored personnel carrier, the Bastion APC.

The Bastion's design is derived from the chassis of the VLRA 2 military truck. The two vehicles share numerous commonalities in technical components and design features, granting operators a high degree of interoperability and ease of maintenance between both models. The new vehicle also features enhanced armor protection and a more powerful engine than that of prior series of ACMAT armored personnel carriers.

ACMAT has developed two primary variants of the Bastion APC: the Patsas and the Extreme Mobility.

The Patsas variant, unveiled in 2011, integrates an open-top design and is intended for use in reconnaissance and special forces operations.

ACMAT introduced the Extreme Mobility model in 2012 at the Eurosatory international defense exhibition. The variant mounts a more powerful 320-hp engine and features suspension and gear systems specialized for the navigation of rugged terrain.

In the time since its unveiling, the Extreme Mobility variant has undergone a minor rebranding by ACMAT. ACMAT press materials now refer to this variant as the Bastion High Mobility.

ACMAT Armored Personnel Carriers

Funding

The prime contractor, Arquus, funds the development of these vehicles as private ventures.

Contracts/Orders & Options

Not available, as the contractor has not released contractual information regarding these vehicles.

Worldwide Distribution/Inventories

Export Potential. ACMAT continues to promote the TPK 4.20 VBL and TPK 6.40 VBL as adjuncts to its highly successful VLRA truck line on the international market. The TPK 4.20 VBL has generated moderate sales, while the TPK 6.40 VBL has yet to score its first sale. With the TPK 4.20 VBL and TPK 6.40 VBL production lines having entered dormancy, ACMAT has shifted its focus to the marketing and sale of the modular Bastion APC.

Countries. To date, open-source reporting indicates that the following countries have purchased the TPK 4.20 VBL or Bastion: **Armenia, Burkina Faso, Cameroon, Central African Republic, Chad, Djibouti, Gabon, Ivory Coast, Kenya, Kosovo, Niger, Saudi Arabia, Senegal, Sweden, Tanzania, Togo, Tunisia, Uganda and Zimbabwe.**

Forecast Rationale

In the decade plus since its introduction onto the global market, the modular Bastion APC has carved out a modest niche as a reliable, cost-effective armored vehicle well suited for operations in internal security and counterinsurgency contexts. Through the established sales network of the French Arquus group and France's close diplomatic ties with its Francophone former colonies, the Bastion has found particular success in the African market. American contractors, such as AM General, further expanded the platform's regional reach and profile over time, though the locus of export and marketing activity has now shifted back to Arquus.

In 2024, Belgian defense-industrial company John Cockerill announced that it would acquire the Arquus Group and its associated portfolio of armored vehicle products, including the Bastion. The acquisition is liable to generate a renewed marketing push and new sales opportunities for the series.

Over 2023 and early 2024, several new orders and deliveries for the Bastion series have been confirmed. In November 2023, 24 Bastions were delivered to Armenia and the Chilean Carabineros signed on for five vehicles. French press reports indicate Armenia could acquire up to 50 Bastions in total.

The Bastion's reputation for robust field performance, suitability for the varied operational requirements of African states, affordable unit cost, and impending integration into the John Cockerill umbrella are liable to sustain modest demand for the vehicle through the coming forecast period.

Still, the ever-advancing surfeit of global competitors in the domain of low-cost armored vehicles and limitations of the vehicle's design for operations in conventional warfare scenarios, a rising concern in the wake of the Russian Federation's 2022 invasion of Ukraine, will impose constraints on the feasible scope of its market expansion.

ACMAT Armored Personnel Carriers

Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION												
Designation or Program		High Confidence				Good Confidence			Speculative			
	Thru 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
Ateliers de Construction Mecanique de l'Atlantique (ACMAT)												
Bastion												
	368	25	11	9	5	5	0	6	3	3	8	75
Total	368	25	11	9	5	5	0	6	3	3	8	75