

MILITARY PRODUCTS



**AWARDED
THE DEFENDER AWARD
DURING XXXI
MSPO IN KIELCE.**

www.aero4x4.com





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ABOUT US



AP Solutions Sp. z o. o. was founded in 2022. It is a Polish company specializing in computer-aided design, structure analyses, technical consulting, production organization and quality control, including the use of 3D scanning techniques. Our main area of interest is the automotive industry, with particular emphasis on military and law enforcement equipment. Our projects gain recognition on the domestic and foreign markets, which is confirmed by awards and congratulatory letters.



Auto Podlasie Sp. z o. o. is a company with almost 25 years of tradition. The origins of the company are related to the establishment of a Toyota showroom in Siedlce in 2000. The company developed dynamically over the following years and today it boasts five Toyota vehicle showrooms: Siedlce, Łódź, Biała Podlaska, Bełchatów and Jasto.

Regardless of the above-mentioned activities, for years it has been developing special production of its own vehicles dedicated to the Armed Forces and uniformed services, such as: vehicles for aero-mobile troops, high-mobility trucks and passenger vehicles in the armored version and others. We provide specialized bodies and support in the field of warranty and post-warranty services.

In the field of special production, we cooperate closely with AP Solutions Sp. z o. o.





AERO – High Mobility Vehicles for Airdrop

AERO vehicle is the 4WD high mobility vehicle manufactured and design by Auto Podlasie.

Since the year 2019 **in duty with success** in the Polish Airborne Forces.

AERO has proved your reliability, airdrop capabilities, taking actions in many international military exercises and military action. **The first** combat drop took place on June 10, 2020 during the international exercise **DEFENDER EUROPE 2020**.

Description

The vehicle is adapted to transport cargo in various climate and terrain conditions. In particular is design to be airdropped from the military planes, transport by sea, rail and air on board C-130 Hercules, C295M CASA aircraft, on helicopters decks or attached under helicopters.

Low weight, small size, frame construction, proven drive system combined with a dynamic engine and 4WD make the vehicle with high off-road capability.

High quality materials and experience guarantee long-term trouble-free operation in the armed forces.

At the special request of the End User, various specialized versions of the vehicle's equipment and purpose are available, such as: cargo or special platform, 360 degree turret and gun mounts, personel carrier **and many more...**

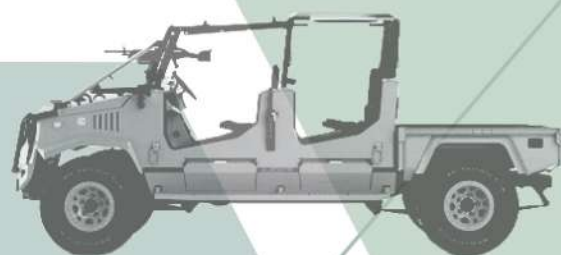
AERO vehicles family



AERO (One)



AERO 2



AERO 2 Long

The AERO is intended for:

- ▶ Airdrop on the platform type PDS V 108" 12 ft. with two parachute type G-11 and extraction parachute;
- ▶ Transport on board aircrafts: C-130 HERCULES, C-295 CASA (after folding cage), C-17 Globemaster;
- ▶ Transport under a helicopter on a rope;
- ▶ Self-loading, transportation of equipment and supplies at the landing field, including Container Delivery System CDS A-22;
- ▶ Transport equipment and supplies in the squad patrol as a "mule on wheels";
- ▶ Evacuation two sick or injured as a CASEVAC with two NATO standard Talon II stretchers on cargo platform;
- ▶ Towing a one or set of two special trailers using NATO standard coupler and sockets;
- ▶ Towing artillery weapon systems;
- ▶ Acting as a logistics vehicle with cargo platform up to 1,2 ton load;
- ▶ Acting as a personnel carrier with converted special seats set on cargo platform for 6 soldiers with equipment and weapons;
- ▶ Acting as a carrier of weapon systems equipped with turret (machine guns, grenade launchers);
- ▶ Acting as a universal, modular carrier for different modern weapon systems: drones, drone-kamikaze, ATGM launcher.



One vehicle



many possibilities!





Dimensions and weight

Length:	3600 mm
Width:	2100 mm (w/o mirrors)
Height:	2300 mm (with spare wheel)
Height with folded cage:	1500 mm
Wheelbase:	2310 mm
Tread:	1515 mm
Curb weight:	2220 kg
GVM:	3500 kg
Load capacity:	1200 kg
Crew:	2 persons
Crew with seats set:	2+6 persons

Engine and driveline

Type:	R6 in-line 1HZ Toyota
Engine capacity:	4,2 liter
Max. power:	130 HP / 3800 rpm
Max. torque:	290 Nm / 2000 rpm
Fuel tank:	80L + 10L
Fuel:	diesel or F-34
Gearbox:	Manual 5+R optional automatic
Drive:	4WD part time
Transfer case:	H2/H4/N/L4
Main gear ratio	4,3
Differential:	Front and rear with air lockers

Suspension, brakes and wheels

Front:	axels, coil springs and hydraulic shock absorbers, stabilizer
Rear:	axels, leaf springs and hydraulic shock absorbers, stabilizer
Tires:	Tubeless AT 255/85/R16 runflat
Inflation system:	Passive optional active
Brakes:	Hydraulic with ABS system
Front:	Disc ventilated
Rear:	Disc or drum

Electric

Winch:	Electric 3T front
Lighting:	Bulb, LED option, Black out
Battery:	12V 65 Ah AGM
Trailer socket:	12 pin NATO

Wykorzystano w ulotce materiały
6 Brygady Powietrznodesantowej.

Notes

AERO 2 – High Mobility Vehicles for Airdrop

AERO 2 vehicle is the 4 wheeld drive high mobility vehicle **manufactured** by Auto Podlasie and **design** by AP Solutions. This is new version of AERO vehicle, witch is in duty with success in the Polish Armed Forces and has proved your reliability, airdrop capabilities, taking actions in many international military exercises and military action.

Description

The vehicle is adapted to transport cargo in various climate and terrain conditions In particular is design to be airdropped from the military planes, transport by sea, rail and air on board C-130 Hercules, C295M CASA aircraft, on helicopters decks or attached under helicopters.

Low weight, small size, frame construction, proven drive system combined with a dynamic engine and 4WD make the vehicle with **high off-road capability**.

High quality materials and experience guarantee **long-term trouble-free** operation in the armed forces.

At the special request of the End User, various specialized versions of the vehicle's equipment and purpose are available, such as: soft roof or hardtop, cargo or special platform, 360 degree turret and gun mounts, 2, 4 or more crew members, armoured versions **and many more...**

AERO vehicles family



AERO (One)



AERO 2



AERO 2 Long

The AERO 2 and AERO 2 Long is intended for:

- ▶ Airdrop on the platform type PDS V 108" 16 ft. with two parachute type G-11 and extraction parachute;
- ▶ Transport on board aircrafts: C-130 HERCULES, C-295 CASA (after folding cage), C-17 Globemaster;
- ▶ Transport under a helicopter on a rope;
- ▶ Self-loading, transportation of equipment and supplies at the landing field,
- ▶ including Container Delivery System CDS A-22;
- ▶ Transport equipment and supplies in the squad patrol as a "mule on wheels";
- ▶ Evacuation sick or injured as a CASEVAC with NATO standard Talon II stretchers on cargo platform;
- ▶ Towing a one or set of two special trailers using NATO standard coupler and sockets;
- ▶ Towing artillery weapon systems;
- ▶ Acting as a logistics vehicle with cargo platform up to 1,2 ton load;
- ▶ Acting as a light combat vehicle for special forces or reconnaissance;
- ▶ Acting as a personnel carrier with converted special seats set on cargo platform for 6 soldiers with equipment and weapons;
- ▶ Acting as a carrier of weapon systems equipped with turret (machine guns, grenade launchers);
- ▶ Acting as a universal, modular carrier for different modern weapon systems: f.g. MANPADS system, MORTAR system;
- ▶ Acting as an armored vehicle after mounting armor kits.

One vehicle – many possibilities!



AERO 2 presented in cargo version
Soft foldable roof (on top)
Hardtop (on bottom)

TECHNICAL DATA AERO 2

Dimensions and weight

Length:	4450 mm
Width:	2140 mm (w/o mirrors)
Height:	2300 mm (with spare wheel)
Height with folded cage:	1500 mm
Wheelbase:	2890 mm
Tread:	1575 mm
Curb weight:	2340 kg
GVM:	3500 kg
Load capacity:	1200 kg
Crew:	2 persons

Engine and driveline

Type:	R6 in-line 1HZ Toyota
Engine capacity:	4,2 liter optional turbocharged
Max. power:	130 HP / 3800 rpm (170 HP)
Max. torque:	290 Nm / 2000 rpm
Fuel tank:	80L + 10L
Fuel:	diesel or F-34
Gearbox:	Manual 5+R optional automatic
Drive:	4WD part time
Transfer case:	H2/H4/N/L4
Main gear ratio	4,3
Differential:	Front and rear with air lockers

Suspension, brakes and wheels

Front:	axels, coil springs and hydraulic shock absorbers, stabilizer
Rear:	axels, leaf springs and hydraulic shock absorbers, stabilizer
Tires:	Tubeless AT 255/85/R16 runflat (with beadlock opt.)
Inflation system:	Passive optional active
Brakes:	Hydraulic with ABS system
Front:	Disc ventilated
Rear:	Disc or drum

Electric

Winch:	Electric 3T front
Lighting:	Front LED, Black out
Battery:	12V 65 Ah AGM
Trailer socket:	12 pin NATO



**AERO 2 LONG presented
in combat version**

TECHNICAL DATA AERO 2 Long

Engine and driveline

Type:	R6 in-line 1HZ Toyota
Engine capacity:	4,2 liter optional turbocharged
Max. power:	130 HP / 3800 rpm (170 HP)
Max. torque:	290 Nm / 2000 rpm
Fuel tank:	80L + 10L
Fuel:	diesel or F-34
Gearbox:	Manual 5+R optional automatic
Drive:	4WD part time
Transfer case:	H2/H4/N/L4
Main gear ratio	4,3
Differential:	Front and rear with air lockers

Dimensions and weight

Length:	4780 mm
Width:	2140 mm (w/o mirrors)
Height:	2340 mm (with spare wheel)
Height with folded cage:	1580 mm
Wheelbase:	3180 mm
Tread:	1575 mm
Curb weight:	2340 kg
GVM:	3500 kg
Load capacity:	1100 kg
Crew:	4 persons

Suspension, brakes and wheels

Front:	axels, coil springs and hydraulic shock absorbers, stabilizer
Rear:	axels, leaf springs and hydraulic shock absorbers, stabilizer
Tires:	Tubeless AT 255/85/R16 runflat (with beadlock opt.)
Inflation system:	Passive optional active
Brakes:	Hydraulic with ABS system
Front:	Disc ventilated
Rear:	Disc or drum

Electric

Winch:	Electric 3T front
Lighting:	Front LED, Black out
Battery:	12V 65 Ah AGM
Trailer socket:	12 pin NATO



**AERO 2 Crossbow with the Mobile Missile System (MMS),
a very short-range anti-aircraft system.**

Notes

TAERO – A MANNED-UNMANNED HIGH MOBILITY VEHICLE FOR ARIDOP

This vehicle was developed by a consortium of companies: Auto Podlasie, AP Solutions, Stekop S.A and The Military Institute Of Armoured And Automotive Technology.

This is **unmanned version of AERO** vehicle, design and developed mainly for the airborne forces.



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TAERO

Description

The **TAERO** is specifically designed for public roads and off-road operated in manned mode (with a driver). Depending on the combat situation, military and non-military threats, the vehicle can be reconfigured into unmanned mode withing 5 minutes.

Unmanned mode allows to carry out the following tasks:

- ▶ remote-controlled driving of a vehicle by an operator;
- ▶ following the route saved during the manned or remote control mode;
- ▶ autonomous waypoint navigation;
- ▶ shuttle driving between designated points;
- ▶ multiple vehicles moving together as a swarm;
- ▶ driving in a tandem with an armoured vehicle - a mobile control station;
- ▶ reconnaissance and observation missions using additional equipment like an observation head;
- ▶ using electric drive for silent operation.



AERO

The vehicle was equipped with a central processing unit containing the necessary IT infrastructure, a precise GPS including Inertial Navigation System (IMU), situation awareness sensors and mechatronic drives adopted to manage factory fitted mechanisms of the platform. The system is equipped with a security module that authorizes access allowing management of the vehicle and its resources, and a set of high-data rate radio systems that enables the transmission of control and vision signals with minimal delays. Architecture enables integration with additional modules, e.g. observation head, weapon systems, threat detection systems.

The vehicle is equipped with a **dual drive**: diesel (main) and electric (supportive) for silent operation.

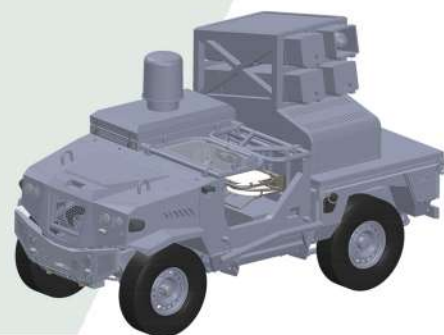
TAERO – A MANNED-UNMANNED MODE, DUAL DRIVE

Vehicle is adapted to:

- ▶ airdrop on the PDS platform;
- ▶ transport on board aircrafts;
- ▶ road, rail and sea transport;
- ▶ sling under a helicopter;
- ▶ transport of cargo on a loading platform with the possibility of self-loading;
- ▶ towing trailers or anti-mine trawls.

Modular structure of the cargo space as well as on-board power supply with high efficiency enabling the use of the **TAREO** as:

- ▶ engineering and chemical reconnaissance vehicle;
- ▶ platform for reconnaissance equipment;
- ▶ base for remotely controlled weaponized modules;
- ▶ platform for anti-tank rocket launchers;
- ▶ deployment system for an unmanned aerial vehicle;
- ▶ carriers for drone destruction systems;
- ▶ medical evacuation vehicle;
- ▶ passive tracking using 2 vehicles with observation head;
- ▶ resistance to interference and operation in extraordinary situations;
- ▶ possibility of remote or manual self-destruction;
- ▶ possibility of switching to manual driving mode;
- ▶ possibility of using the vehicle as an energy bank;
- ▶ can be used as a mobile generator set;
- ▶ possibility of driving after damage of tires.



TECHNICAL DATA



Dimensions and weight

Length:	3600 mm
Width:	2100 mm
Height:	2100 (1550) mm (without mirrors and antennas)

Engine, driveline and equipment

Diesel engine power:	96 kW (130kW)
Range (Diesel mode):	up to 400 km
Power of electric motor:	50 kW
Range (Electric mode):	do 30 km
Battery capacity:	30 kWh
Energy recovery system	Yes
Maximal speed:	up to 100 km/h (suggestion 50km/h)
Drive:	4WD part time drive
Differential lockers:	Front and rear
Curb weight:	2800 kg
Capacity:	1000 kg
The operational range of radio:	5 km
Transmission encryption:	AES 256
Navigation system	GNS + INS
Vision system resolution:	Thermal camera - 640 x 480 px Day camera - 1920 x 1080 px Side cameras - 2Mpx



TAERO

TAERO presented in manned configuration



TAERO - a manned-unmanned high mobility vehicle for airdrop

Notes

RECON AND VERTUS

These vehicles are in the family of Light Armored Vehicles designed to be easily act in the most difficult terrain and climate conditions.

Armored capsule-chassis with bulletproof windows provides high protection for the crew against small arms and improvised explosive devices - IED.

Armored capsule-chassis with bulletproof windows provides high protection for the crew against small arms and improvised explosive devices - IED.

Low weight, small size combined with a dynamic engine and 4-wheel drive make it a vehicle with high off-road capability.

Description

RECON is mainly intended for:

- ▶ acting as a light and fast reconnaissance vehicle after equipped in cameras and radio communication;
- ▶ acting as a patrol vehicle (e.g. for border control) after equipped in cameras and detectors;
- ▶ acting as a light and mobile fire support;
- ▶ acting as a light and mobile ATGM launcher;
- ▶ acting as a convoy support (e.g with humanitarian aid);
- ▶ acting as an mobile control station for UGV like TAERO;
- ▶ dedicated for military, law enforcement, border control and national guard.



RECON



VERTUS

VERTUS the bigger version of the Light Armored Vehicles is intended for:

- ▶ acting as a logistic vehicle with modular cargo space (e.g. mobile workshop, supplies);
- ▶ acting as a technical or chemical reconnaissance vehicle after equipped in cameras and detectors;
- ▶ acting as a carrier for special armament systems (e.g. ATGM, automatic mortar, drone launcher);
- ▶ acting as a command and communication vehicle.

Each vehicle can be equipped in an armored turret with a machine gun or grenade launcher for self-defense.

RECON and VERTUS

- LIGHT ARMORED VEHICLES

TECHNICAL DATA

Dimensions and weight

Length:	3980 mm (w/o winch)
Width:	2038 mm (w/o spare wheel)
Height:	2525 mm (with turret)
Wheelbase:	2600 mm
Tread:	1600 mm
Curb weight:	3200 – 3300 kg
GVM:	3500 – 4000 kg
Crew:	3 persons optional 4 persons

Protection

Crew capsule bullet resistance:	B6 or Level I (STANAG 4569)
Crew capsule grenade and mine blast:	Level I (STANAG 4569) on request
Crew capsule artillery resistance:	Level I (STANAG 4569) on request
Turret:	B6 front and rear shield
Fuel tank:	4 mm armor steel cover
Radiator:	4 mm armor steel shutter
Wheels:	Run flat rings

Engine and driveline

Type:	R6 in-line supercharged with intercooler
Fuel:	Diesel 90L
Capacity:	4,2 liter
Max. power:	170 HP / 3800 rpm
Max. torque:	290 Nm / 2000 rpm
or	
Type:	V6 supercharged with intercooler
Fuel:	Diesel 90L
Capacity:	4,5 liter
Max. power:	205 HP / 3400 rpm (max. up to 300 HP)
Max. torque:	430 Nm / 3200 rpm

Suspension, brakes and wheels

Front:	Rigid axels, coil springs and hydraulic shock absorbers, stabilizer
Rear:	Rigid axels, coil springs and hydraulic shock absorbers, stabilizer
Tires:	Tubeless AT 255/85/R16 runflat
Inflation system:	Passive optional active
Brakes:	Hydraulic with ABS system
Front:	Disc ventilated
Rear:	Disc with drum parking brake

Comfort and safety

Heating:	Up to -30°C from engine cooling system, optional Webasto heating system.
Cooling:	Up to +40°C
Seats:	Adjustable with seatbelts 4-points on request anti mine
Camera system:	Front, rear and side cameras
Brakes:	with ABS system
Mirrors:	Unbreakable or cameras

Equipment

Turret:	360° manual or electric with shield
Winch:	Electric 3,5T front, rear and side
Lighting:	Front Led bar on the roof
Auxiliary equipment:	Hi-lift, spade, axe

RECON
presented in version with
turret



TAERO
presented in version with
modular cargo space



TECHNICAL DATA

Dimensions and weight

Length:	5180 mm (w/o winch)
Width:	1900 mm (w/o spare wheel)
Height:	2050 mm
Wheelbase:	3810 mm
Tread:	1600 mm
Curb weight:	3300 – 3600 kg
GVM:	4500 – 5000 kg
Crew:	4 persons optional 5 persons

Protection

Crew capsule bullet resistance:	B6 or Level I (STANAG 4569)
Crew capsule grenade and mine blast:	Level I (STANAG 4569) on request
Crew capsule artillery resistance:	Level I (STANAG 4569) on request
Turret:	B6 front and rear shield
Fuel tank:	4 mm armor steel cover
Radiator:	4 mm armor steel shutter
Wheels:	Run flat rings

Engine and driveline

Type:	R6 in-line supercharged with intercooler
Fuel:	Diesel 90L
Capacity:	4,2 liter
Max. power:	170 HP / 3800 rpm
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or	
Type:	V6 supercharged with intercooler
Fuel:	Diesel 90L
Capacity:	4,5 liter
Max. power:	205 HP / 3400 rpm (max. up to 300 HP)
Max. torque:	430 Nm / 3200 rpm
Gearbox:	Manual 5+R optional automatic
Drive:	4WD part time
Transfer case:	H2/H4/N/L4
Main gear ratio:	4.3
Differential:	Front and rear with air lockers

Suspension, brakes and wheels

Front:	Rigid axels, coil springs and hydraulic shock absorbers, stabilizer
Rear:	Rigid axels, coil springs and hydraulic shock absorbers, stabilizer
Tires:	Tubeless AT 255/85/R16 runflat
Inflation system:	Passive optional active
Brakes:	Hydraulic with ABS system
Front:	Disc ventilated
Rear:	Disc with drum parking brake

Comfort and safety

Heating:	Up to -30°C from engine cooling system, optional Webasto heating system.
Cooling:	Up to +40°C
Seats:	Adjustable with seatbelts 4-points on request anti mine
Camera system:	Front, rear and side cameras
Brakes:	with ABS system
Mirrors:	Unbreakable or cameras

Equipment

Turret:	360° manual or electric with shield
Winch:	Electric 5T front
Lighting:	Front Led bar on the roof
Auxiliary equipment:	Hi-lift, spade, axe



Notes

ACCESSORIES FOR MILITARY VEHICLES



A. Machine gun mounts



UKM and PKM machine gun holder.

Adjustable firing angle with brake
From -10° to $+60^{\circ}$
Ammo can holder
Small pintle.

Part no. UB.UKM2.01



FN Minimi machine gun holder.

Adjustable firing angle with brake
From -10° to $+60^{\circ}$
Ammo can holder
Small pintle.

Part no. UB.MINIMI.01



The Universal Pintle Adapter (UPA) is typically used in vehicle turrets mounts that have a Bearing Sleeve.
The UPA installs in the Bearing Sleeve and accepts any gun mount that has both a standard small pintle. Locking bolt and locking pin.
Available with armor shield mounting points.

Part no. UB.UPA.01



Swing Arm is a double-articulated arm that incorporates an integrated holder, friction locks and quick-release system.

Locking pin.
Small pintle.

-20- Part no. UB.R2.01



Adjustable Height Pedestal.

Is designed to be mounted in a cargo bed of any pick-up style truck behind the cab. This mounting location gives the maximum amount of space in the bed for other equipment, while providing a gunner with approximately 180° field-of-fire.

Adjustable high.
Large pintle.
Locking bolt and locking pin.
Fast mounting.



Adjustable Height Mounting Bracket.

Length 300 mm

Part no. UB.03.10



B. Turrets



Ultra-light 360 degree turret with bearing.
Manual drive with handle for right or left-handed.
Foldable arms, small pintle and quick-release system.



Medium 360 degree turret with bearing.
Electric or manual drive with handle for right or left-handed.
Armoured shields.
Large pintle.

C. Cargo platform modification equipment

Self-LOADING KIT



It is designed to load cargo up to 1,5T onto the platform without the use of additional equipment.

Includes two foldable traps and electric winch.

Traps are transported in the space under the load box.

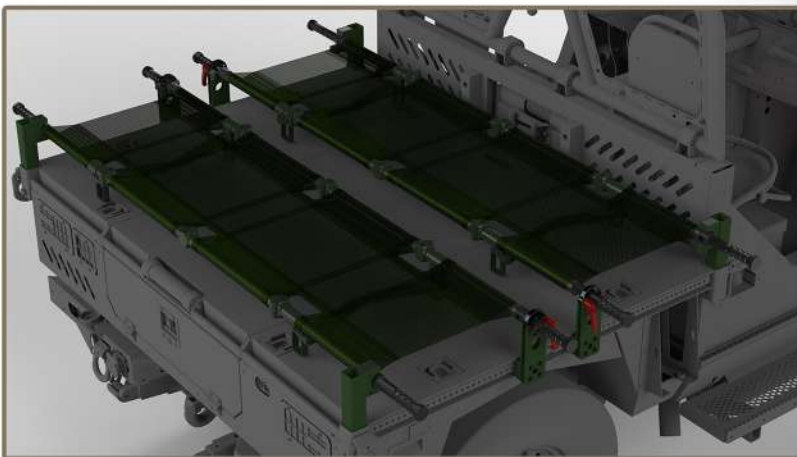
Self-loading kit fits to MILPO special trailer and AERO vehicle.

Kit of flexible drops sides



Easy removable set of flexible drop sides of the loading platform for transportation military equipment or small cargo. Set fits to MILPO special trailer and AERO vehicle.

Stretcher holders



Stretcher holders mounted on the loading platform of the AERO vehicle. For two stretchers compliant with NATO STANDARD.

Stretcher holders



Double side and folded arms for stretchers. Stretchers compliant with NATO STANDARD.

Foldable and Convertible seat KIT



Foldable and convertible seat kit.
Conversion up to 30 min.

Foldable side steps and backrests.
Possible sitting with legs in or outside (fast action).
Gun holders in corners. Setabelts.
Optional: heating and foldable side holders for stretchers.



Notes

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