



The Swiss Army Knife of Combat Vehicles

Armoured Personnel Carrier — Ambulance
Recovery Vehicle — Command Post — Mine Clearer
Utility Freight Carrier — Tanker

The Casspir Mk II Mine Protected Vehicle



The Casspir mine-protected vehicle (MPV) is one of the first to use the V-shaped monocoque hull and is undoubtedly one of the world leaders in its field with over 2,000 in service in several countries and an enviable record as a life preserver in mine incidents and as the ideal choice for force protection.

Originally developed for the rigorous conditions of Southern Africa where a very high mine threat was prevalent, Casspir is certified to protect its occupants against the effects of a triple TM-57 anti-tank mine blast (equivalent to 21 kg of TNT) under any wheel, or a double mine (14 kg of TNT) anywhere under the hull. Casspir offers a high degree of field reparability after mine detonations that has been incorporated by some designers.

With its many configurations ranging from APC, to recovery vehicle, workshop, command vehicle, mine clearing and ambulance, to name but a few, and its unparalleled effectiveness in high mobility anti-guerrilla operations in its past, it truly is "The Swiss Army Knife of combat vehicles"

Casspir MPV's are currently in service in Iraq, Afghanistan, Sudan, India, and a variety of African countries on mine-clearing and security missions.

Proven in Service Reliability

Prove, highly effective landmine protection— protecting occupant and main components against the effects of landmine blasts of up to 12Kg under any wheel and 14Kg under the hull.

Add-on Protection— available against the effects of self-forming fragment mines (TMRP-6)

Mine detecting and mine-clearing ability— through its high compatibility with a number of detection and clearing systems

Ballistic Protection— against a variety of small arms fire and shrapnel up to B6+ level

Ease and economy of maintenance— though the use of proven, easy-to-maintain and commercially available components, compatible with Mamba, Unimog and Mercedes Benz systems

Long in-service life— through protection of main aggregates, recyclability of the hull and use of readily available spare parts.

Long-Range independence— the Casspir was designed to operate at the far end of extended supply lines. It "drives itself to work and back again"



Casspir Mk II Armoured Personnel Carrier

Engine

Type	ADE 366T Turbo-charged
Cylinders	6 cylinders in-line
Power	125kW @ 2800rpm
Torque	560 @ 1400rpm
Coolant	Water
Fuel	Diesel

Gearbox

Type	Mercedes Benz DB G3/60-5/7.5
Gears	5 forward, 1 reverse

Clutch

Clutch type	F & S GFX310K
Operation	Mechanical

Transfer Case

Type	Mercedes Benz VG 500-3W
High Range Ratio	1.05 : 1
Low Range Ratio	1.64 : 1

Axles

Front	Mercedes Benz AL 3/2.5
Ratio	6.83 : 1
Rear	Mercedes Benz HL 5/1S-10
Rear	6.86 : 1

Suspension

Type	Semi-elliptical leaf spring with hydraulic double- acting shock absorbers
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Tyres

Size	14.00 x 20-18 ply multipurpose
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Crew

Capacity	14 (driver plus 13 passengers)
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Performance

Maximum speed	100km/h
Gradient ability	60%
Turning Circle	17 m

Dimensions and mass

Wheel base	4200 mm
Length	6900 mm
Height (roof)	2850 mm
Width	2450 mm
Mass (tare)	9480 kg
Mass (gross)	10,800 kg
Fuel tank	150 litres
Water tank	100 litres

Protection Level

Landmine blasts up to 21kg under any wheel or 14kg under the hull.

Add-on protection available against the effects of self-forming fragment mines (TMRP-6)

Ballistic protection against a variety of small arms fire and shrapnel.

Casspirs Awaiting
rebuild in N4's
yard



The finished
product

After and IED
attack in Iraq



A Casspir at work





Each Vehicle is given the following remanufacturing process

Unit

Engine is completely stripped
The head, block, crank, conrods and related parts are completely overhauled by ISO approved Engineering Company
The crank machined to a maximum of 0.030
After assembly the engine is dyno-tested

Fuel System

Fuel tank and related components are removed, cleaned and inspected for any defects
All perishable hoses and clamps replaced with new items
Injection pump and injectors are completely overhauled by ISO approved specialists
Tips are new and pump re-calibrated

Cooling System

New Radiator
New Hoses

Exhaust System

The entire exhaust system is replaced with new

Air Intake System

Filters replaced with new
Filter housing replaced with new

Transmission System

Clutch pack replaced with new
Gearbox stripped and all bearings and seals replaced
Transfer case stripped and sub standard components replaced with new

Propeller shafts stripped and balanced by prop-shaft professionals
New U-Joints

Suspension System

New u-bolt
New shackles pin and bushes
New shock absorbers
New centre pin
New Springs
Any other substandard components replaced with new

Axles and Hubs

Stripped and all bearings and seals replaced with new
Resetting of crown wheel & pinion

Braking System

Hoses replaced with new
Master and slave cylinder remanufactured
Brake boosters overhauled
Sub standard linkages replaced with new
New linings and drums skimmed and checked for any defects by Brake Specialists

Steering System

Hydraulic hoses replaced with new
Steering box tested, seals replaced and overhauled if necessary
Power steering pump, pressure tested and replaced if necessary
Set wheel alignment

Body

Sandblasted
Defective armour and welding replaced and redone
Red oxide primer
Automotive primer compatible with colour coating

Electrical System

New wiring loom
New sender units, lighting, lenses, globes and fuses
All instrumentation New
New speedometer cable
Alternator and starter overhauled
New batteries

Wheels & Tyres

New 1400 x 20 tyres
Rim stripped, sand blasted and substandard components replaced
Runflat inserts fitted to all wheels

Pneumatic System

Air tank: Pressure tested
All valves overhauled, checked and set
Flex hoses replaced with new
Flush system
System checked for leaks

Warranty

6 Months / 40 000km / 800 hours, whichever occurs first.
Warranty is against defective material on the following items:
Engine—Gearbox—Transfer case —
Axles— **Abuse, fair wear and tear excluded**

Optional Swivelling Gun Mount — the swivelling gun mount (seen below being demonstrated on a Land Rover) is an inexpensive add-on giving the gunner (sitting normally in the vehicle's passenger seat, the possibility to manipulate the roof mounted machine gun without exposing himself to enemy fire. Manufactured from high grade mild steel, the gun swivels in a mount set into the roof and is controlled by a series of inter-connecting levels (similar to handle bars) giving him upward, downward and rotating motion. The gun is aimed by means of

a sight mounted at eye level which is pre-sighted to align with the weapon. Vision is out the windows and windscreens of the vehicle. For an additional cost a swivelling seat can be included for ease of use.

For reloading the rear of the weapon is tilted back into the vehicle, the belt changed and action resumed. Thus only the gunner's hands become exposed to enemy fire. The "slot" in the swivelling roof plate is sufficient to make reloading easy but small enough to provide adequate protection to the gunner.





Operational Capabilities and Considerations

The Casspir Mk II

1. Mobility

Basic performance:

Engine

Type	ADE 366T Turbo-charged
Cylinders	6 cylinders in-line
Power	125kW @ 2800rpm
Torque	560 @ 1400rpm
Maximum speed	100km/h
Gradient ability	60%
Turning Circle	17 m
Range on Single Fuel Tank	1000km

2. Fire Power

The basic model Casspir MkII is fitted as standard with:

Firing Ports	12
Roof Hatches	1 or 2
Machine Guns	0

According to Customer Requirements the following can be added:

- Windscreen Fitted Machine-Gun port (forward facing)
- Roof Mounted swivelling and protected Machine Gun Mounts. Up to 2 in total. These mounts can be for 20mm or 30mm canon
- Grenade Launchers for smoke or 40mm grenade ammunition
- Roof Hatches for free firing

3. Protection

The Standard vehicle has the following ballistic and mine protection built in:

Landmine blasts up to 21kg under any wheel or 14kg under the hull.

B6 Ballistic protection against a variety of small arms fire and shrapnel.

Upgrades

Casspir are standard at B6 protection. Can be upgraded to B7+ with the addition of either 20 m² of plates adding 628kg or 14m², adding 440kgs, of weight.

Cannot have added EFP protection as it would weigh beyond the operational limits of the vehicles.

Add-on protection available against the effects of self-forming fragment mines (TMRP-6)

Ceramic Plates can also be added further to protect the axles against landmine blasts.

We have also developed a range of effective appliqué armour material which can be hung on the sides of vehicles to protect against different types of projectiles.

4. Capacity

The basic Casspir's personnel compartment is configured as follows:

Driver's cabin: Driver plus 1 passenger (or commander). Depending on the weapon configuration of the vehicle the passenger could operate either the windscreen mounted machine-gun or the roof mounted swivelling canon (from within his seat)

Rear Personnel Bin: six mine protected seats on either side of the vehicle, each fitted with four point safety belts. Each seat has its own "lap up" firing port and there is one 40mm ballistic window per pair of seats (three windows on each side).

Total Capacity: 14

5. Alternative Vehicle Configurations:

Vehicles are also available as:

- Ambulance
- Workshop
- Command Vehicle/Communication Centre
- Recovery Vehicle

6. Communications

The Casspir can be fitted with a range of radio and communication equipment depending on the need and use of the client.

We are currently recommending the following HF radio systems

High End:	Grintek Tactical Military Radios
Lower Level:	Barrett Military Spec Commercial radios Q-Mac Military or Professional radios

9. Spare Parts and Serviceability

The Casspir forms part of what we might call the "Mercedes Benz Family" of vehicles. As such it takes standard Mercedes Benz Truck parts which are widely available through local Mercedes Benz dealers or from us.

We would of course recommend a supply contract of spare parts to be included with the initial purchase of the vehicles and can then arrange an ongoing supply of parts as needed.

10. Training

As part of any purchase programme we would also offer to provide training for 1 mechanic from the end user to oversee the entire build process in order that they be adequately equipped and trained to manage the maintenance of the vehicles.

We would also offer to train a group of drivers for the best management and optimal use of the vehicles.

All the above non-standard options and add-ons will be quoted as per requirements of the client in consultation with OSPREA Logistics