



KMW
KRAUSS-MAFFEI WEGMANN

FENNEK Reconnaissance Vehicle

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Operational Characteristics

The FENNEK is a light, armoured, four-wheel-drive reconnaissance vehicle which is operated by a three-man crew consisting of commander, driver and radio operator/observer.

It offers space for the necessary extensive on-board equipment and rations.

A scout party equipped with this vehicle is able to operate independently over a period of five days. Armour and NBC protection ensure optimum crew safety. The FENNEK's airportability and transportability by rail, truck or ship makes for easy and rapid extension of its deployment area.

Mobility

The FENNEK's benefits lie in its high on- and off-road mobility, which is primarily the result of an engine technology that reflects the latest state of the art.

The powerpack features a fully automatic transmission and transfer box. Selectable four-wheel drive and limited-slip differential are equally standard equipment.

The H layout of the driveline allows a very low profile, with the power being transmitted to the wheel gears via angular gearboxes.

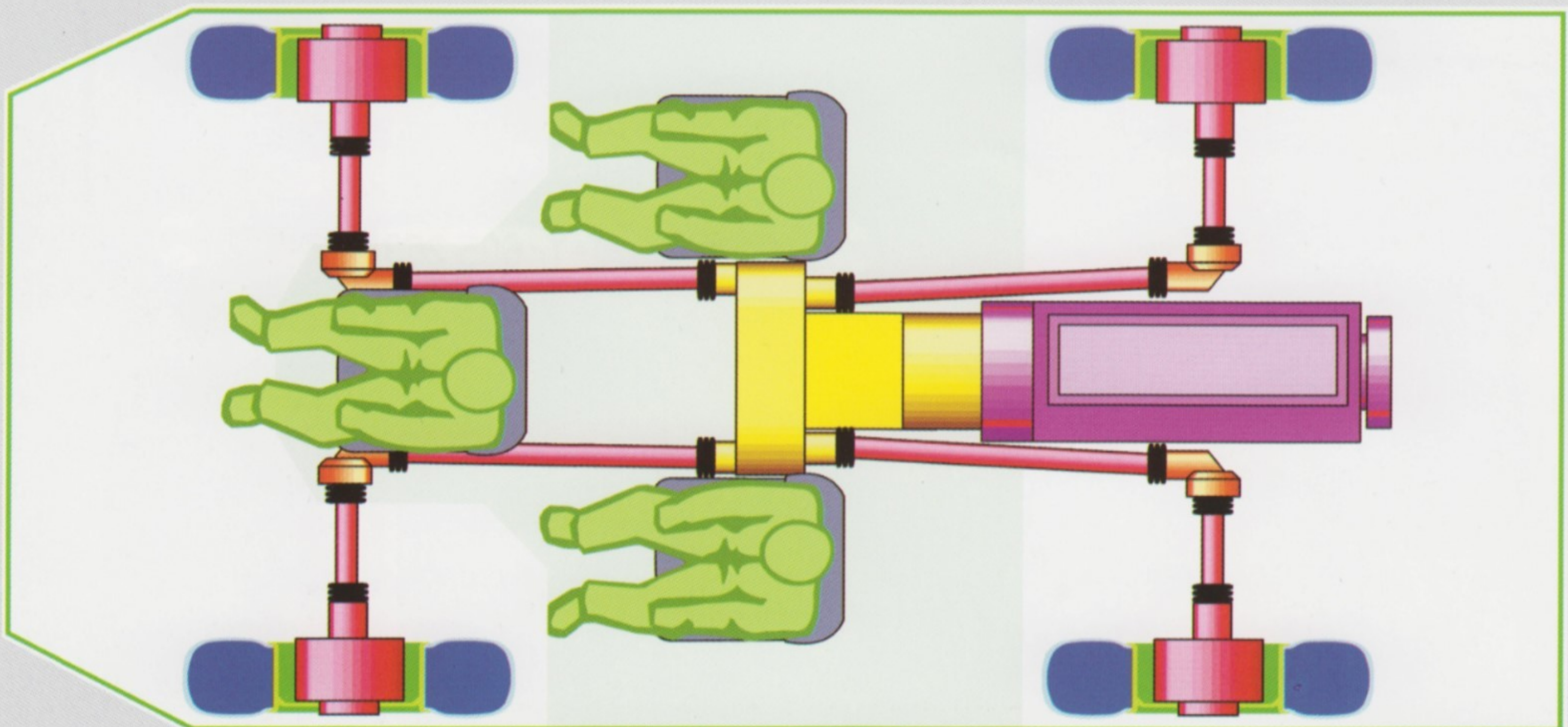
The engine meets the exhaust emission values specified by Euronorm III.

The vehicle is capable of negotiating 60% forward and 35% side slopes and its turning circle of less than 13.0 m and fordability to a depth of more than 1 m additionally make for the vehicle's outstanding cross-country mobility.

A further plus for the FENNEK is its tyre pressure control system which allows the driver to adjust tyre pressure on the move as required by terrain conditions and situation.

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Drive



Driver's Station

The convenient arrangement of the windscreen and side windows and a seat positioned far forward provide the driver with an excellent field of view of more than 180°. The rearview camera mounted at the back of the vehicle and the monitor integrated in the instrument panel provide the driver with the necessary assistance for rapid evasive and skilful manoeuvring of the vehicle. The use of image intensifier goggles makes it easier for the driver to operate the vehicle safely and precisely even by night. The control and display concept was developed in accordance with ergonomic requirements making it easy for the driver to handle the large number of vehicle functions.

The fire warning and extinguishing system is triggered automatically in case of fire. In emergencies, the driver can activate the fire extinguishing system in the powerpack compartment from his station.

Additionally, the FENNEK is equipped with a cable winch for recovery operations.

Central Tyre Inflation System (CTIS) and cable winch control panels



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Driver's station





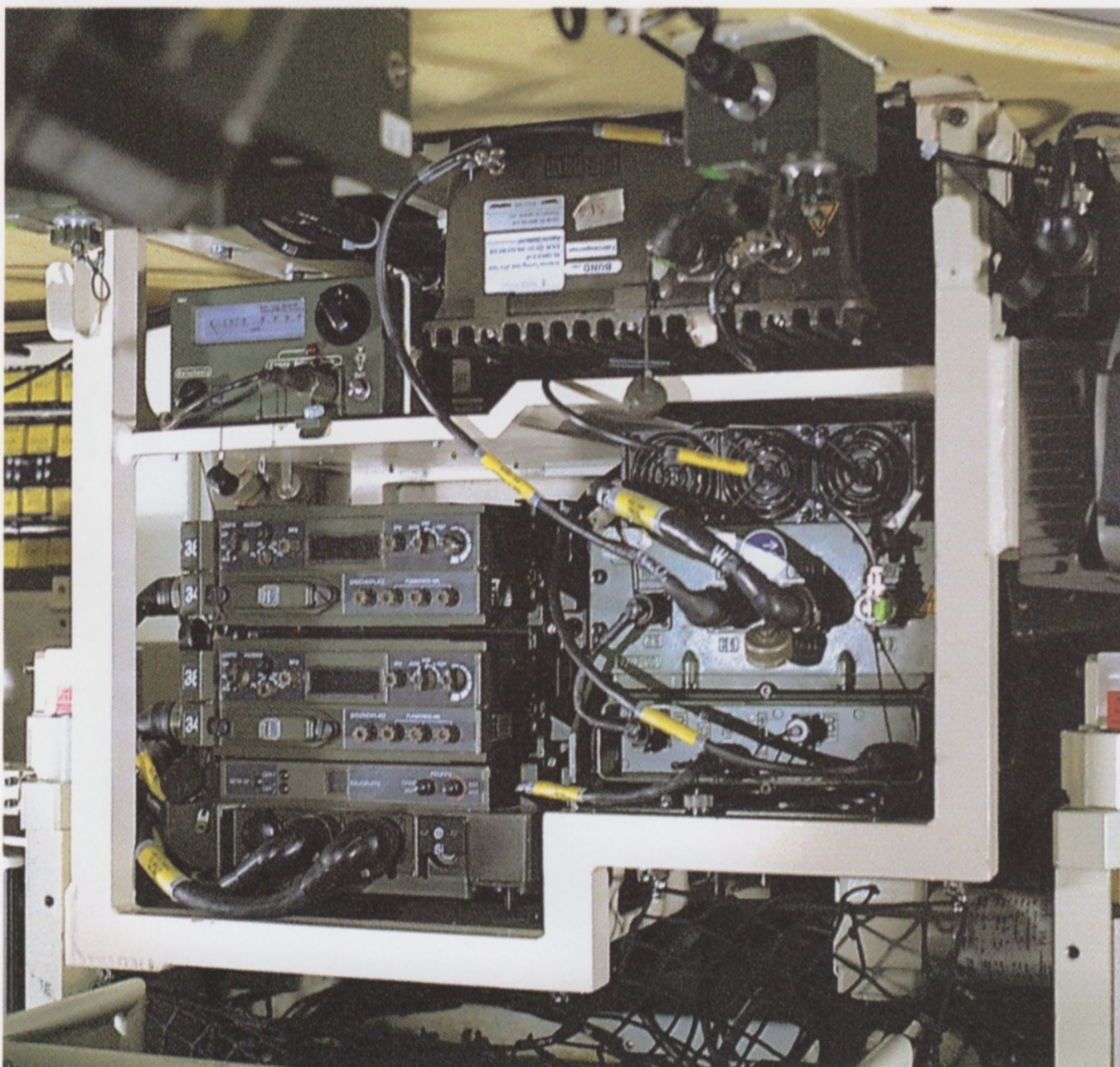
Commander's and Radio Operator/ Observer's Stations

The key items of equipment at the commander's and radio operator/observer's stations include the observation and reconnaissance equipment, command and control equipment, central system control panel, an electrically or mechanically controlled and fired gun mount with night sight (optional) as well as an HF and VHF radio system. The crew members communicate through an intercom system.



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*Command and control equipment,
central system control panel and
observation and reconnaissance
equipment control panel*



Radio equipment



Command and Control Equipment
The command and control equipment (FüWES) integrates the reconnaissance vehicles in the C³ network. The FüWES consists of the Commander IV (integrated version) computer and includes a 15-inch touchscreen display and a keyboard. For orientation in cross-country terrain, digitized maps are used showing the vehicle's own position, a target position as well as the current battlefield environment. This information is continuously updated between vehicle and command post via data radio link (HF and VHF radios). When configuring the vehicle system, special emphasis was placed on universal interfaces so that alternative hardware and software can be used.

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Gun Mount / Armament

For self-defence, the reconnaissance vehicle is equipped with a type of armament that can be operated under armour and NBC protection. Depending on vehicle configuration, the electrically controlled gun mount is designed to carry a 40 mm automatic grenade launcher (AGL), a .50 cal MG or a 7.62 cal MG. The sighting system consists of a periscope derived from the PERI Z 17 currently in service. As an option, the periscope can be upgraded with additional plug-in modules, such as an image intensifier.





Observation and Reconnaissance Equipment

To ensure a high level of reconnaissance efficiency, the FENNEK is fitted with observation equipment consisting of a thermal imager, a CCD day vision camera and a laser range finder.

The observation equipment is packaged in a sensor head mounted on an extendible mast. The sensor head can be controlled in azimuth and elevation and raised to a height of 1.5 m above the vehicle roof, i.e. 3.29 m above ground. For observation from a concealed position, the sensor head can be tripod-mounted at an exposed location for "remote operation" up to 40 m from the vehicles. Even then, it is still operated from the crew stations in the vehicle.

The use of a hybrid navigation system consisting of the inertial reference unit and GPS (Global Positioning System) makes it possible to determine at a high degree of accuracy the vehicle's own position and north. Targets are acquired by means of the laser range finder as part of the observation and reconnaissance equipment as well as the line-of-sight azimuth and elevation angle measuring equipment. Along with the navigation system, it is thus possible to precisely determine the position coordinates of reconnoitred objects.



Observation and reconnaissance equipment on tripod





Seats

The commander's and the radio operator/observer's stations are fitted with suitable seats. They were optimized to meet ergonomic requirements and are designed in accordance with German road licensing regulations. Seat height adjustment operated by an electric motor permits both under armour and out-the-hatch observation. Additionally, the radio operator/observer's seat can be swivelled 360 degrees (commander's seat: $\pm 45^\circ$).

In the event of a sudden danger, the observer can engage the quick lowering mechanism and withdraw into the fighting compartment within a few seconds. During rest phases, it is possible to relax under the raised seat.

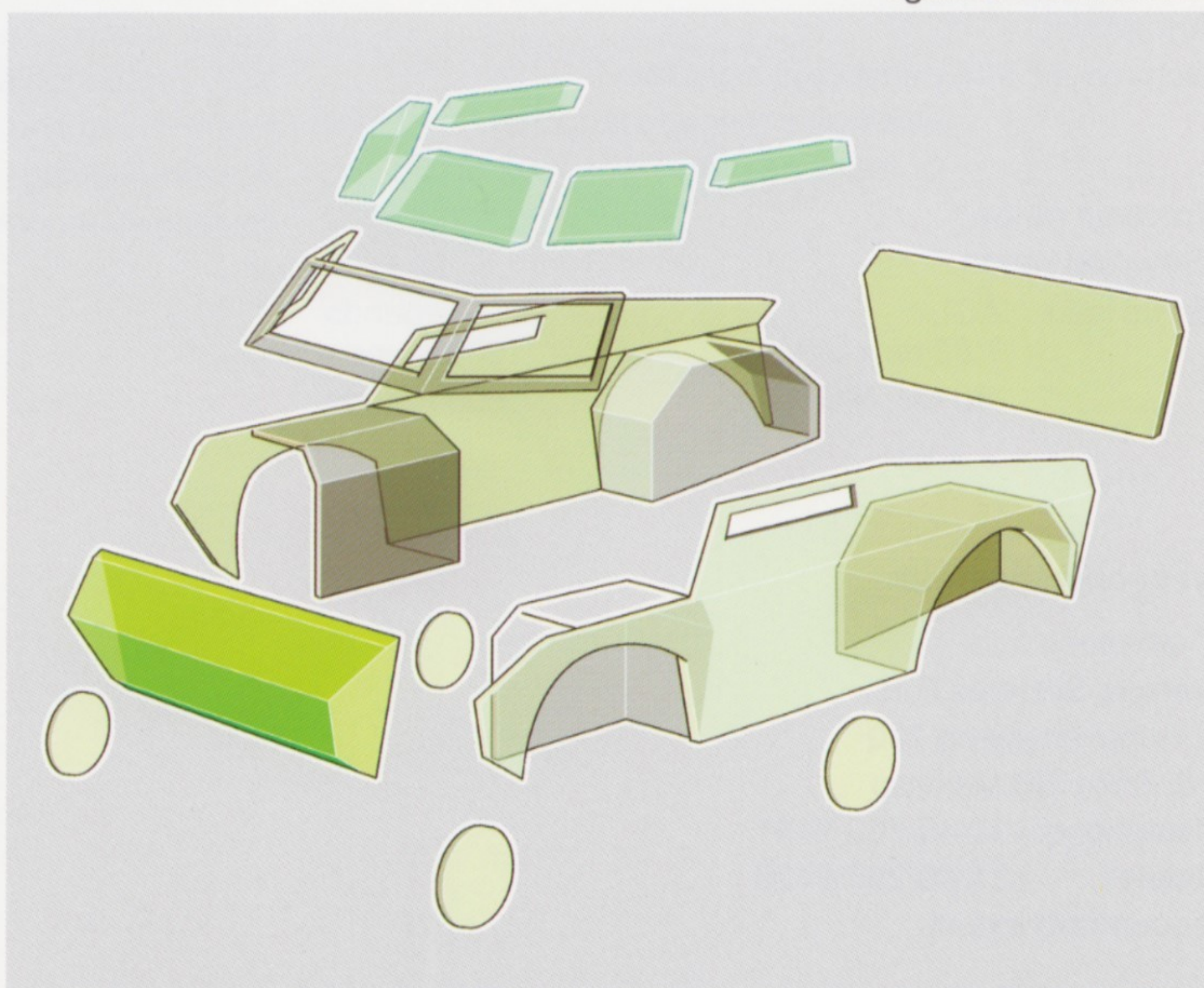
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*Modular protection concept
against 7.62 mm AP*

Protection

Vehicle and crew are protected as follows:

- Add-on all-round protection against 7.62 mm AP rounds. The add-on armour technology makes it possible to use different types of protection materials to meet higher demands (e.g. 7.62 Dragunov).
- Crew compartment protection against AP mines.
- NBC protection combined with an air-conditioning system for the entire crew compartment. Special exhaust ducting to minimize the IR signature.
- Automatically and manually released firewarning and extinguishing system in the powerpack compartment for crew protection.





Technical Data

Dimensions

Length	5.58 m
Width	2.55 m
Height	to roof 1.79 m
	overall vehicle 2.29 m
Combat weight	GE 10.25 t
	NL 10.40 t
Max. gross weight	11.00 t

Vehicle Command and Control

Intercom	
VHF Radio (GE)	SEM 80/90
VHF Radio (NL)	TRC 9500
HF Radio (GE)	HRM 7400
Radio data transmission	
Voice radio communication	

Navigation

Inertial navigation system	
GPS support	
Inertial computer unit	
Positioning	own-position 10 m (CEP)
	target 50 m (CEP)
	Northing 0.3° (RMS)

Mobility

Engine output	177 kW
Max. torque	819 Nm at 1650 rpm
Max. road speed	112 kph
Max. reverse speed	23 kph
Max. forward slope	60%
Max. side slope	35%
Angle of approach/departure	36°
Overhang	45°
Range, road	approx. 1000 km
Range, cross-country	approx. 460 km
Fuel consumption (diesel)	21.5 l/100 km
Selectable rear-wheel drive/front-wheel drive	
Selectable differential lock	
Turning circle	< 13 m
Fording depth	> 1 m
Tyre pressure centric system	

Observation and Reconnaissance

Number of windows	5
Periscopic sight and thermal imaging device as well as two vision blocks	
Extensible sensor with	CCD camera
	thermal imager
	laser range finder
Fully elevated height	3.29 m
Traverse range	± 220°
Elevation range	-30° to +30°

Accessories

Cable winch	5 t
NBC protection system	
Fire warning and extinguishing system	
Air-conditioning	
Rearview camera system	

Armament

Gun mount with periscopic sight for	
automatic grenade launcher	40 mm
or machine gun	7.62 or .50 cal.
Traverse range	n x 360°
Elevation range	-7° to +40°
Basic load:	AGL 64 rounds
	7.62 mm MG 500 rounds
	.50 cal. MG 800 rounds

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