

# ARCHIVED REPORT

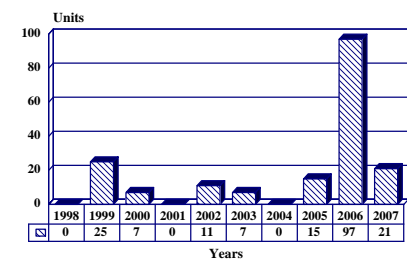
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## Transport de Personnel Protégé 501 - Archived 8/99

### Outlook

- Production of this vehicle is expected to be in a mercurial manner
- Most, if not all, sales will be for export
- The vehicle will continue to be enhanced in order to keep it competitive

10 Year Unit Production Forecast  
1998 - 2007



### Orientation

**Description.** A wheeled vehicle

**Sponsor.** The Transport de Personnel Protégé 501 is a private development program with developmental funding being provided by the contractors Giat Industries and Daimler Benz.

**Contractors.** The Transport de Personnel Protégé 501 vehicle is being developed and will be manufactured by the contracting team of Giat Industries/Armored Systems Division, Satory, France and Daimler Benz AG; Stuttgart-Untertürkheim, Federal Republic of Germany.

**Licensees.** None

**Status.** The initial development of the Transport de Personnel Protégé 501 vehicle is complete and is available for production orders.

**Total Produced.** As of January 1, 1998, a total of two Transport de Personnel Protégé 501 developmental prototype vehicles had been manufactured.

**Application.** An armored personnel carrier used for reconnaissance, border patrol, internal security operations and a variety of similar missions.

**Price Range.** In equivalent 1998 United States dollars, the basic Transport de Personnel Protégé 501 vehicle armed with a mounted 7.62 millimeter machine gun has a unit price of \$172,400. The addition of various armament fits or other specialized equipment can significantly increase this unit price figure.

### Technical Data

**Crew.** Driver and commander plus fourteen additional personnel/infantrymen

**Configuration.** 4x4

**Armor.** The Transport de Personnel Protégé 501 vehicle is fabricated of steel alloy armor which is proof

against 7.62 millimeter projectiles fired from a ten meter (10.94 yard) distance. An enhanced level of armor protection is an available option.

**Design Features.** The Transport de Personnel Protégé 501 vehicle is based on commercial truck (UNIMOG) components; the hull is airtight.

**Dimensions.** The following data are for the initial prototypes of the Transport de Personnel Protégé 501 vehicle; the data are subject to change in the production standard vehicles. The fuel capacity is based on that of the UNIMOG Model 1550 L truck but modified to the Transport de Personnel Protégé 501 vehicle configuration.

	<u>SI units</u>	<u>US units</u>
Length	5.7 meters	18.70 feet
Width	2.5 meters	8.20 feet
Height	2.65 meters	8.69 feet
Combat weight	9.5 tonnes	10.47 tons
Fuel capacity	150 liters	39.89 gallons

**Performance.** The maximum speed and range figures are on a metalled road.

Maximum speed	97 kilometers per hour	60.2 miles per hour
Maximum range	700 kilometers	434.7 statute miles
Angle of approach	30°	30°
Angle of departure	30°	30°
Step	56 centimeters	1.84 feet
Trench	58 centimeters	1.90 feet
Slope	41%	41%
Gradient	70%	70%
Fording	1.2 meters	3.94 feet

**Engine.** Daimler-Benz provides the two optional diesel engines with two different power ratings for the Transport de Personnel Protégé 501 vehicle. One engine is the OMT 366A six cylinder liquid cooled diesel engine rated at 115.63 kilowatts (155 horsepower) at 40 revolutions per second (2,400 revolutions per minute). The power-to-weight ratio with this engine is 12.17 kilowatts per tonne (14.80 horsepower per ton). The other engine offered is the OMT 366LA six cylinder liquid cooled diesel engine rated at 159.64 kilowatts (214 horsepower) at 40 revolutions per second (2,400 revolutions per minute). The power-to-weight ratio with this engine is 16.80 kilowatts per tonne (20.44 horsepower per ton). A 12 volt electrical system with one or two 12 volt 110 amperehour batteries is the standard electrical fit.

**Gearbox.** Daimler-Benz provides the unspecified manually operated unit with four forward and four reverse gear ratios. The steering system is hydraulically operated with power assistance.

**Suspension and Running Gear.** The Transport de Personnel Protégé 501 vehicle is equipped with a four wheel drive system with wheel hub gears and differential locks on both axles. The 11.0x24 tires are the run flat type.

**Armament.** The Transport de Personnel Protégé 501 vehicle is able to be fitted with a variety of armament fits. These will range from the embarked troops' personnel weapons to a turret mounted 20 millimeter cannon. Other more specialized armament options will also be available; these will include a CS/CN gas projection system with a capacity of 500 liters (132.98 gallons).

## Variants/Upgrades

**Variants.** The Transport de Personnel Protégé 501 is a multi-purpose vehicle that is expected to be developed into a number of variants to suit various customer requirements. Among these are an internal security vehicle, riot control vehicle, border patrol vehicle, scout/reconnaissance vehicle, workshop, nuclear,

biological and chemical detection vehicle, VIP transport vehicle and a civil defense vehicle.

**Modernization and Retrofit Overview.** As of mid-1998, no modernization or retrofit programs have been developed for the Transport de Personnel Protégé 501 vehicle as it is a new program.

## Program Review

**Background.** The Transport de Personnel Protégé 501 (sometimes called the TPP 501) is a relatively new joint development program between Giat Industries of France and Daimler-Benz of the Federal Republic of Germany. The development of the new vehicle began in 1993 and it was unveiled in mid-1994; the program is a private venture between the two contractors.

**Description.** The Transport de Personnel Protégé 501 is based on the chassis of the Daimler-Benz (Mercedes) UNIMOG Model U 1550L cross-country truck to which an armored body has been added. The automotive components are identical to the UNIMOG U 1550L and are available through Daimler-Benz's worldwide support organization.

The general appearance of the vehicle is of a box-like armored car with a somewhat arrow-like forward section. The hull is of all-welded steel armor construction affording protection from small arms projectiles up to 7.62 millimeters as well as ballistic fragments. Appliqué armor is also available as an option. The hull is attached to the chassis by four flexible attachment points. The driver is seated at the front to the left with the commander seated opposite.

Both the driver and commander are provided with bullet proof windscreens. An access door fitted with a bullet proof window is on each side of the vehicle.

The fourteen personnel are seated on bench type seats running down each side of the main compartment of the vehicle. Three bullet proof windows are located along each side of the body. The interior height of the troop compartment is 1.5 meters (4.92 feet) while the volume is nine cubic meters. Entry and egress is by a large door at the rear of the vehicle. This door, provided with a bullet proof window, swings to the left and is standard equipment.

Standard features on the Transport de Personnel Protégé 501 vehicle are an air conditioning system, heater, ventilators, crew compartment hand rails, internal lighting and the capability to lift the armored body off the chassis for ease of maintenance. Optional equipment includes different size run-flat tires, fire extinguishing apparatus, night vision devices, hull- or turret-mounted smoke grenade launchers and a variety of armament and special equipment related to riot control, internal security and other para-military missions.

## Funding

The funding for the development of the Transport de Personnel Protégé 501 is being provided by Giat Industries and Daimler Benz.

## Recent Contracts

Not available as contractual information is not released.

## Timetable

This timetable is not related to any other member of the UNIMOG range of trucks or any development thereof.

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
	1993	Development initiated
July	1994	First prototype completed
Mid	1998	Available for production orders as further development continues

## Worldwide Distribution

**Export Potential.** Most of the sales of the Transport de Personnel Protégé 501 vehicle are expected to go unreported. This is due to the fact that they will most likely be for a small number of units to police, border guard and similar internal security forces.

**Countries.** Two prototypes with the contractor team.

## Forecast Rationale

Our latest review of the Transport de Personnel Protégé 501 program finds that this vehicle has yet to get its first sale. However, we feel that it will only be a matter of time before the market appreciates the high degree of cost effectiveness of this design. This is related to the major marketing asset of this vehicle - the fact that it is based on the popular and proven UNIMOG truck chassis and automotive components. Contributing to this statement is the fact that two powerhouses in the military vehicle industry are behind it.

The Transport de Personnel Protégé 501 is a robust and easily maintained design that has been designed mainly for the internal security and other paramilitary organizations. In point of fact, our research indicates that such organizations should be the principle customers for this vehicle. However, there also appears

to be a considerable potential for military sales for military police, base patrol and security and similar missions.

The data gathered in our review of the Transport de Personnel Protégé 501 program supports a forecast which envisions the mercurial production of the vehicle through the entire forecast period. This production should be mainly for the police/internal security roles as previously noted. The research indicates that the sales on the export market will contribute significantly to the total. There is also some evidence which indicates that the Transport de Personnel Protégé 501 program could have a much larger production run than we forecast below; we will continue to monitor this program and update this report on an interim basis if required.

## Ten-Year Outlook

### ESTIMATED CALENDAR YEAR PRODUCTION

Vehicle	(Engine)	<u>High Confidence Level</u>				<u>Good Confidence Level</u>				<u>Speculative</u>			Total 98-07
		thru 97	98	99	00	01	02	03	04	05	06	07	
GIAT INDUSTRIES/DAIMLER BENZ (Co-Production)													
TPP 501(a)	OM 366A	2	0	25	7	0	11	7	0	15	97	21	183
Total Production		2	0	25	7	0	11	7	0	15	97	21	183

(a) The through 1997 production is for the developmental and contractor demonstration vehicle.