

# ARCHIVED REPORT

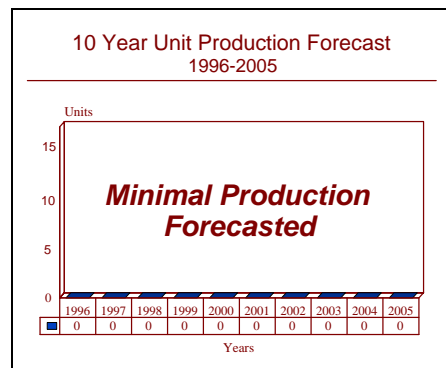
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## VPX 5000 - Archived 6/97

### Outlook

- Program has never gotten off the ground despite market research that indicated interest .
- As an aid to marketing, several different armament suites have been integrated.
- Vehicle is forecast to be procured by France in low numbers.



### Orientation

**Description.** A tracked vehicle.

**Sponsor.** The development of the VPX 500 has been on a private basis funded by the contractor.

**Contractors.** This vehicle has been developed and, if ordered, will be manufactured by Lohr SA; Hagenbieten, France. Major subcontractors include Bayerischen Motoren Werke, Thomson-Brandt and Zahnradfabrik Friedrichshafen.

**Licensees.** None, although the contractor is offering to license the technical data package.

**Status.** Development of the basic vehicle is complete and it is available for orders.

**Total Produced.** As of January 1, 1995, a total of ten prototype and developmental VPX 5000 vehicles had been manufactured.

**Application.** The primary design mission of this vehicle is similar to that of the earlier VPX 110 Fennec: reconnaissance missions. However, the VPX 5000 is somewhat larger, allowing for additional armament.

**Price Range.** Based on a 20-unit buy, in equivalent 1995 United States dollars, the VPX 5000 has a unit price of \$401,000. Variations in armament options will significantly affect this figure which is for the basic vehicle.

### Technical Data

**Crew.** Two minimum (commander, driver) with space for two more as gunners/loaders.

**Dimensions.** The following data is for the latest prototypes but subject to change for the production vehicles. The height is without any armament fitted. The weight figure is for the maximum when fitted with an 81 millimeter mortar.

	SI units	US units
Length	4.21 m	13.81 ft
Width	2.00 m	6.56 ft
Height	1.61 m	5.28 ft
Combat weight	5.8 tonnes	6.39 tons
Fuel capacity	250 liters	66.48 gal

**Performance.** The maximum speed and range data are on a surfaced road.

Maximum speed	80 km/h	49.68 mph
Maximum range	350 km	217.35 statute miles
Step	50 cm	1.64 ft
Trench	1.15 m	3.77 ft
Slope	30%	30%
Gradient	60%	60%
Fording	95 cm	3.12 ft

**Engine.** Bayerischen Motoren Werke provides the six-cylinder liquid-cooled spark ignition engine rated at 134.28 kilowatts (180 horsepower) at 91.67 revolutions per second (5,500 revolutions per minute). The power-to-weight ratio is 23.15 kilowatts per tonne (28.17 horsepower per ton). Two twelve volt batteries are included in the electrical fit of the VPX 5000.

**Gearbox.** The VPX 5000 uses an unspecified automatic unit from Zahnradfabrik Friedrichshafen; this gearbox has three forward and one reverse gear ratios. A two gear ratio transfer case with a differential lock is fitted.

**Suspension and Running Gear.** This vehicle uses an endless composite rubber band that is internally rein-

forced. Six dual tired road wheels and two return rollers on each side are used. Each roadwheel is fitted with a hydraulic shock damper.

**Armament.** The main armament and turret choices are at the customer's specification and can include MILAN/HOT anti-tank missiles in Euromissile MCT or HCT turrets, any number of 20-30 millimeter cannon/turret options, recoilless rifles, machine guns or mortars. The only restriction is that the turret can be no more than 1.18 meters (3.87 feet) in diameter. (See Turret specifications below.)

## Variants/Upgrades

**Variants.** At the 1983 Satory arms fair, one prototype of the VPX 5000 was displayed with the RASIT battlefield surveillance radar mounted on an extendable hydraulic arm. Other variants developed to date include an ambulance, a logistics vehicle, a radio/command vehicle and a light recovery vehicle.

At the 1985 Satory weapons fair, Lohr unveiled the VPX 40 M 120 mortar carrier, developed as a private

venture from the basic VPX 5000. This vehicle integrates a Thomson-Brandt MO 120 RT61 rifled mortar and mount with a modified VPX 5000 chassis. Twenty rounds of 120 millimeter ammunition are carried. To provide a more stable firing platform, the suspension of the VPX 40M is raised when the mortar is fired.

## Program Review

**Background.** In the mid-seventies, Lohr began the development of a very light weapons carrier-type vehicle suitable for fast reaction and other light forces. The VPX 110 Fennec aroused a good deal of interest on the market but the interest never translated into sales of the vehicle. Lohr's research indicated that the reasons for the lack of sales were due to its extremely small size and low power rating of the engine. This was despite the fact that a number of specialized variants of the VPX 110 were developed in order to enhance its marketability. Most likely, Lohr saw the problem in its early stages and began the concurrent development of a somewhat larger vehicle with a more robust power plant. The resulting VPX 5000 was shown in public for the first time at the 1981 Satory arms fair. Since that time, the development has continued, although in a somewhat secret manner. As of this writing, ten prototypes have been fabricated and the testing of the

basic vehicle is complete although development continues; no sales interest has yet been evident.

**Vehicle Description.** As stated above, the development of the VPX 5000 is somewhat shrouded in secrecy - even the gearbox designation is not known. The vehicle appears to be quite similar to the Fennec although somewhat larger. The hull is of all-welded steel construction which affords protection from small arms and ballistic fragments, although to what extent is unknown. The powerpack is placed in front to the right with the driver seated opposite. The crew compartment is to the rear with a door positioned on the left side.

The suspension consists of hydropneumatic dampers and six roadwheels. The track is an internally reinforced rubber band.

Armament. The main armament choices for the missile. These turrets have the following specifications: VPX 5000 are the MCT and HCT turrets from Euro-

#### HCT

Crew	-	One
Armament	-	Two HOT missiles
Sights	-	Dual magnification (3.2 and 10.8 power) periscope
Elevation	-	+25°
Depression	-	-15°
Traverse	-	30° left/right with electro-hydraulic power and 180° left/right with manual power
Weight	-	340 kilograms (748 pounds) with four missiles

#### MCT

Crew	-	One
Armament	-	Two MILAN missiles
Sights	-	Seven power periscope
Elevation	-	+15°
Depression	-	-15°
Traverse	-	360°
Weight	-	190 kilograms (418 pounds) with two missiles

In addition, a Mascot remote controlled 7.62 millimeter machine gun turret with a single MILAN launcher can be ordered. Also, a BTM208 turret armed with 7.62 and 12.7 millimeter machine guns can be fitted, as well as

numerous other turret/armament options as long as the weight/space limitations are observed. The details of the above mentioned turrets as well as others can be found in Appendix II of this book.

## Funding

The funding for the development of the VPX 5000 has been provided by the contractor.

**Analysis.** As of mid-1995, we still find that none of the interest in the VPX 5000 has translated into sales of the vehicle. This is so, despite the increasing interest in the concept worldwide, which followed the 1989 procurement of the very similar Wiesel by the Federal Republic of Germany. We continue to note that the VPX 5000 and the Wiesel represent, albeit at the extreme low end, what we perceive as the future direction of tracked armored vehicles.

Due to the success of the Wiesel, the concept has aroused interest in several nations, including the United States of America. It is now quite evident that interest in much smaller armored vehicles able to counter main battle tanks is steadily, if only slowly, increasing - witness the development or evaluations of smaller tracked vehicles by such diverse nations as Brazil, Sweden, Japan, Italy and the United States.

## Recent Contracts

None as contractual information is not released.

## Timetable

This timetable is for the VPX 5000 only and does not relate to the earlier VPX 110.

Late	1979	Development initiated
	1980	Prototype fabricated
Jun	1981	Prototype shown at Satory arms fair
Early	1991	Development of the basic vehicle completed
Mid	1995	Awaiting production orders

## Worldwide Distribution

**Export Potential.** Essentially, the VPX 5000 is a larger version of the Fennec, which did not generate the anticipated interest in the export market. However, the VPX 5000 seems to have rectified the critical points of the Fennec in an effort to please the desired clientele. Previously, a number of countries had expressed a general interest in the Fennec; it is probable that this interest is now directed to the VPX 5000.

**Countries.** France (ten prototype/developmental vehicles with the contractor).

## Forecast Rationale

As of mid-1995, our research continues to indicate that France has yet to show any real interest in the VPX 5000, or indeed in the basic concept related to this type vehicle. For this reason we are continuing to withhold, at least for the present, any projected procurement of the VPX 5000 by France. While there has been some market interest in the VPX 5000 on the export market, this interest has yet to result in a sale. Of course, we shall continue to monitor

this interesting program, as well as the general concept, closely, and update this report as needed. When production does start, which we now forecast for 1997, the initial order may well come from a Mideast nation, France's historically strong market area. The numbers in the forecast chart below do not include the RPX 40 M, a wheeled vehicle.

## Ten-Year Outlook

### ESTIMATED CALENDAR YEAR PRODUCTION

		<u>High Confidence Level</u>				<u>Good Confidence Level</u>				<u>Speculative</u>			Total
Vehicle	(Engine)	through 94	95	96	97	98	99	00	01	02	03	04	95-04
LOHR S.A.													
VPX 5000(a)	UNKNOWN	10	0	0	4	8	0	8	14	3	0	0	37
Total Production		10	0	0	4	8	0	8	14	3	0	0	37
(a)The through 1994 production is the initial prototypes and contractor demonstration vehicles.													

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