

ARCHIVED REPORT

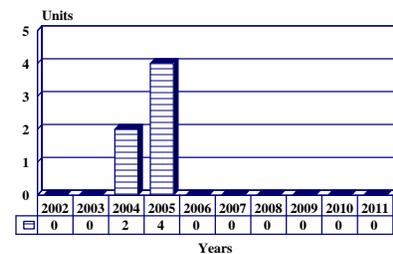
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Engin de Reconnaissance Cannon - Archived 3/2003

Outlook

- Production of the Engin de Reconnaissance Cannon is on an as-needed basis
- Marketing effort continues
- An additional sale is expected on the export market
- This vehicle has moderate modernization and retrofit potential

10 Year Unit Production Forecast
2002 - 2011



Orientation

Description. A wheeled armored vehicle.

Sponsor. The Engin de Reconnaissance Cannon program is a private development program funded by the contractor Panhard.

Contractors. This vehicle was developed and is manufactured by Société de Constructions Mécaniques Panhard et Levassor, Paris, France. The major subcontractors to the program include Giat Industries, DaimlerChrysler (Mercedes-Benz), Peugeot, Société d'Applications des Machines Motrices, Société d'Optique, Electronique et Mécanique, and Zahnrad-fabrik Friedrichshafen.

Licensees. None

Status. The Engin de Reconnaissance Cannon is in production on an as-needed basis; the marketing effort continues. This vehicle is in service with several export customers as well as with the French Rapid Intervention Forces, which selected the Sagaie version in late 1981.

Total Produced. As of January 2002, a total of 581 Engin de Reconnaissance Cannon vehicles had been manufactured.

Application. A light wheeled armored vehicle designed primarily for scout/reconnaissance and infantry fire support missions but having many other applications.

Price Range. In equivalent 2002 United States dollars, the unit price of the Engin de Reconnaissance Cannon F4 Sagaie 1 is \$1,101,000; the price of the Sagaie 2 is somewhat higher at 1,105,200.

Technical Data

Sagaie 1

Crew. Three: commander, driver, gunner.

Configuration. 6x6

Armor. The Sagaie is fabricated from steel alloy armor that is proof against 7.62 millimeter projectiles as well

as ballistic fragments. The bottom of the vehicle is configured to provide enhanced protection from the effects of land mines.

Design Features. The Engin de Reconnaissance Cannon Sagaie 1 is a highly cost-effective design, sharing many components with the Véhicule de Combat à Roues. The 90 millimeter F4 gun can fire a modern range of ammunition (including the Armor Piercing Fin Stabilized type).

Dimensions. The following data are for the Sagaie 1 with the Serval following. The height is to the top of the turret with all fittings.

	<u>SI units</u>	<u>US units</u>
Length:	7.69/5.26 meters	25.23/17.26 feet
Width:	2.49/2.49 meters	8.16/8.16 feet
Height:	2.25/2.33 meters	7.38/7.64 feet
Combat weight:	8.10/7.01 tonnes	8.93/7.72 tons
Fuel capacity:	242/242 liters	64.36/64.36 gallons

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

	<u>SI units</u>	<u>US units</u>
Maximum speed:	100/100 kilometers per hour	62.10/62.10 miles per hour
Maximum range:	760/800 kilometers	472.0/496.8 statute miles
Step:	80/80 centimeters	2.62/2.62 feet
Trench:	1.1/1.1 meters	3.61/3.61 feet
Slope:	30%/30%	30%/30%
Gradient:	60%/60%	60%/60%
Fording:	1.2/1.2 liters	3.93/3.93 feet

Engine. The Engin de Reconnaissance Cannon Sagaie 1 and variants thereof are fitted with the military version of the Peugeot PRV V6 automobile engine. This spark ignition engine develops 115.63 kilowatts (155 horsepower) at 91.67 revolutions per second (5,500 revolutions per minute). A power-to-weight ratio of around 15 kilowatts per tonne is achieved on the Engin de Reconnaissance Cannon vehicles, according to the model and variant; the Sagaie 1 is 14.28 kilowatts per tonne (17.36 horsepower per ton), while the Serval is 16.5 kilowatts per tonne (20.07 horsepower per ton). A Mercedes-Benz OM 617 A, supercharged diesel engine rated at 85.79 kilowatts (115 horsepower) at 70 revolutions per second (4,200 revolutions per minute) is offered as an option on the Engin de Reconnaissance Cannon 1 armored vehicle. This engine gives a range of 1,000 kilometers (621 statute miles) due to its lower fuel consumption. A 24 volt electrical system is standard.

Gearbox. The Engin de Reconnaissance Cannon vehicles use a Panhard manually operated gearbox with one reverse and six forward gear ratios. The gearbox is transversely mounted with a single-plate hydraulic clutch. A Panhard two-speed transfer case is used. In

both vehicles, only the front wheels are steered; the steering mechanism is hydraulically assisted.

Suspension and Running Gear. Each of the front and rear wheels of the 6x6 Engin de Reconnaissance Cannon vehicles is equipped with a single coil spring and a hydraulic shock damper. The center wheels each have a hydropneumatic suspension system. The center two wheels are normally raised off the ground when the vehicles are on a surfaced road, although they remain powered. The 11.00x16 tires are fitted with run-flat inserts.

Armament. The primary armament for the Sagaie 1 is the Giat Industries F4 90 millimeter gun. Twenty rounds of Armor Piercing Fin Stabilized Discarding Sabot ammunition are carried in the standard version, and 30 rounds in the special desert variant. Secondary weapons include a 7.62 millimeter machine gun with a total of 2,000 rounds (ready use and reserve). The Serval is equipped with a Thomson-DASA Armements (Hotchkiss-Brandt) 60 millimeter mortar, a French M693 or an Örlikon-Contraves KAD-B16 20 millimeter cannon, and a 7.62 millimeter machine gun. Numerous other optional armament fits are available.

Sagaie 2

Crew. Three: commander, driver, gunner.

Configuration. 6x6

Armor. The Sagaie 2 is fabricated from steel alloy armor that is proof against 7.62 millimeter projectiles as well as ballistic fragments. The bottom of the vehicle is

configured to provide enhanced protection from the effects of land mines.

Design Features. The Engin de Reconnaissance Cannon Sagaie 2 is a longer and wider version of the Sagaie 1. It is fitted with two engines and gearboxes but still shares many components with the Véhicule de

Combat Mécanique à Roues and Véhicule de Combat à Roues TT2. The 90 millimeter F4 gun can fire a modern range of ammunition (including the Armor Piercing Fin Stabilized type).

Dimensions. The following data are for the Sagaie 2 with two diesel engines; the Sagaie 2 can also be ordered with two Peugeot PRV V6 spark ignition engines.

	<u>SI units</u>	<u>US units</u>
Length:	7.97 meters	26.15 feet
Width:	2.76 meters	9.06 feet
Height:	2.34 meters	7.67 feet
Combat weight:	10 tonnes	11.02 tons
Fuel capacity:	350 liters	93.09 gallons

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

	<u>SI units</u>	<u>US units</u>
Maximum speed:	110 kilometers per hour	68.31 miles per hour
Maximum range:	612 kilometers	380.1 statute miles
Step:	80 centimeters	2.63 feet
Trench:	80 centimeters	2.63 feet
Slope:	30%	30%
Gradient:	50%	50%
Fording:	1.2 meters	3.94 feet

Engine. The Sagaie 2 is powered with two engines linked together; the Peugeot XD3T four-cylinder supercharged diesel engine, rated at 73 kilowatts (97.86 horsepower), is used. The power-to-weight ratio is 14.6 kilowatts per tonne (17.76 horsepower per ton). The same 24 volt electrical system found in the Sagaie 1 is used, only doubled. As an option, two Peugeot model PRV six-cylinder spark ignition engines, each rated at 108.13 kilowatts (145 horsepower), can be fitted.

Gearbox. The Engin de Reconnaissance Cannon Sagaie 2 uses the Zahnradfabrik Friedrichshafen 4 HP 22 automatic gearbox with one reverse and four forward gear ratios. A Panhard two-speed transfer case is used. In both vehicles, only the front wheels are steered; the steering mechanism is hydraulically assisted.

Suspension and Running Gear. Each of the front and rear wheels of the 6x6 Engin de Reconnaissance Cannon Sagaie 2 vehicle is equipped with a single coil spring and a hydraulic shock damper. The center wheels each have a hydropneumatic suspension system. The center two wheels are normally raised off the ground when the vehicle is on a surfaced road, although they remain powered. The 13.00x16 tires on the Sagaie 2 are fitted with run-flat inserts.

Armament. The primary armament for the Sagaie is the Giat Industries F4 90 millimeter gun in the Société d'Applications des Machines Motrices TTB 190 electrically operated turret. Numerous other optional armament fits are available.

Variants/Upgrades

Variants. As is common with most French light wheeled vehicles, the Engin de Reconnaissance Cannon has been extensively developed and has been manufactured in a wide variety of models and variants, as follows. Some of these variants, while no longer being actively marketed, remain available per demand.

The Engin de Reconnaissance Cannon and its variants can be procured in two different amphibious versions if desired. One version is powered in water by the vehicle's wheels, while the other is powered by two Dowty-Messier hydrojet units.

ERC 90 F4 Sagaie. This is the first vehicle in the series to go into production and the most powerful in the family, since it carries the Giat Industries TS 90 millimeter turret system and a coaxial 7.62 millimeter machine gun. Tests of the 52 caliber F4 cannon have demonstrated that 90 millimeter hollow charge ammunition can perforate over 30 centimeters of armor at 90°. This cannon was designed to fire Armor Piercing Fin Stabilized Discarding Sabot ammunition, and testing has indicated that it exceeds the NATO triple target standard of perforating 1, 2.5, and 6 centimeters of armor at 65° over a range of 2,000 meters. Six options for the Sagaie are offered: an

amphibious kit powered by hydrojets; a nuclear, biological, and chemical protection system; air conditioning; a heater; additional ammunition storage; and a ground navigation system. Since the advent of the Sagaie 2, this model is also called the Engin de Reconnaissance Cannon Sagaie 1.

ERC 90 F1 Lynx. This model is equipped with the less powerful Giat Industries 90 millimeter F1 33 caliber gun with a muzzle velocity of 640 meters per second. The Hispano-Suiza Lynx 90 turret is fitted with a commander's cupola with a 360° vision capability, and 41 rounds of ammunition are carried in reserve. Enhanced vision equipment on this model includes a TJN 2.90 day/night passive periscope by Société d'Optique, Electronique et Mécanique; a TCV 107 laser rangefinder supplied by Compagnie Industrielle des Lasers and Société d'Optique, Electronique et Mécanique; and 12 periscopes (nine type L 794B and three type L 794D). The same six options offered for the Sagaie are offered for the Lynx; however, 20 rounds of 90 millimeter ammunition can be carried.

ERC 60-20 Serval. This is a multipurpose vehicle used for reconnaissance missions, column escort duty, anti-guerrilla actions, frontier surveillance, domestic security, and counter-infiltration missions. The CNMP Hispano-Suiza 60-20 Serval turret is armed with a 60 millimeter breech-loaded mortar, a 20 millimeter cannon, and a 7.62 millimeter machine gun. A total of 50 60 millimeter rounds, 250 20 millimeter rounds, and 1,000 rounds of 7.62 ammunition can be stored. Options similar to those of the Sagaie and Lynx are offered; they vary mainly in the amount of ammunition that can be carried.

EMC 81 Mortar Gun Carrier. Requests for a vehicle with a larger mortar resulted in this variant, which housed a Thomson-DASA Armements (Hotchkiss-Brandt) 81 millimeter breech or muzzle loaded mortar with a reserve of 80 rounds. The mortar had a range of 7,000 meters, making it ideal as a fire support unit for light armored units. This variant is no longer offered.

ERC TG 120 Geupard. This variant of the Engin de Reconnaissance Cannon was fitted with the TG 120 turret manufactured by Société d'Applications des Machines Motrices. A 20 millimeter cannon was the main armament; a 7.62 millimeter machine gun was mounted coaxially. The variant is no longer offered for sale.

ERC/SAMM S 530A. This variant was first shown at the 1981 Satory weapons fair. This is the basic 6x6 chassis with the Société d'Applications des Machines Motrices S 530A turret and twin M621 20 millimeter cannon for the anti-aircraft role.

ERC/ESD TA 20. This variant was revealed at the 1981 Paris Air Show. An Electronique Serge Dassault turret is fitted with twin Hispano-Suiza 820SL 20 millimeter cannon. French M621 or 693 weapons can also be fitted. An Electronique Serge Dassault RA 20 pulse Doppler radar is fitted. This turret configuration is identical to that on the Panhard M3 VDA self-propelled anti-aircraft artillery system.

ERC/SATCP. The former Engins Matra first proposed using the Engin de Reconnaissance Cannon chassis to mount the Mistral (SATCP) short-range anti-aircraft missile system in 1980. This version of the Engin de Reconnaissance Cannon was selected for the French Army in March 1985; it is designated SANTAL. Six missiles are in ready-to-launch positions on each side of the turret. The procurement objective of the French Army was expected to be around 90 vehicles, but the program was canceled in 1989. However, this version of the Engin de Reconnaissance Cannon is still offered by the contractor.

ERC 60-12 Mangouste. First shown at the 1983 Satory weapons fair, this variant of the Engin de Reconnaissance Cannon integrates the Hispano-Suiza 60/12 Mangouste turret with the basic vehicle. A 60 millimeter Thomson-DASA Armements (Thomson-Brandt) HB LP mortar, a M2HB 12.7 millimeter machine gun, and a 7.62 millimeter anti-aircraft machine gun are mounted in this turret.

ERC/SAMM TAB 220. This is another variant of the Engin de Reconnaissance Cannon that was first shown at the 1983 Satory weapons fair; it is also known as the ERC 20 Kriss. The Société d'Applications des Machines Motrices TAB 220 fully powered two-man turret is fitted with two 20 millimeter cannon, each with 280 rounds of ammunition. Elevation of the cannon is +70° and depression is -10°.

ERC 90 F4/TTB 190. A third new Engin de Reconnaissance Cannon model, first shown at the 1983 Satory weapons fair, integrates the basic chassis with the Société d'Applications des Machines Motrices TTB 190 two-man turret. This turret is fitted with the same 90 millimeter F4 gun as the basic vehicle, but the turret design and function are much more modern. Both the commander and gunner are provided with day/night sights and periscopes. The elevation of the gun is +15° and depression is -8°; traverse is 360° with the operations fully powered. A 7.62 or 12.7 millimeter machine gun is mounted coaxially, and a 7.62 millimeter machine gun is mounted on the roof for anti-aircraft use. A wide range of options including full turret/armament stabilization, as well as various fire control options including those with laser rangefinders, are offered. As of 2000, the TTB 190 turret was no

longer offered, so this variant of the Engin de Reconnaissance Cannon is no longer available.

ERC/SAMM TTB 125. This variant, first revealed in 1986, features the Société d'Applications des Machines Motrices TTB 125 two-man turret armed with the Alliant Techsystems 25 millimeter M242 Chain Gun® and a coaxially mounted 7.62 millimeter machine gun. This system is called Lanza.

ERC/SAMM TTB 140. This version of the Engin de Reconnaissance Cannon integrates the TTB 140 two-man-powered turret with the vehicle. The TTB 140 turret mounts the Bofors Defense AK-40-L/70 cannon with 40 rounds of 40 millimeter ammunition and a 7.62 millimeter machine gun that is coaxially mounted. The 40 millimeter cannon can be elevated 50° and can be depressed 10°; traverse is 360°.

Sagaie 2. Panhard unveiled three new Engin de Reconnaissance Cannon variants at the 1983 Satory weapons fair. Nevertheless, company officials noted that many customers desired a diesel engine and an automatic gearbox in the vehicle. Also, a slightly larger and heavier version was desired. Further research indicated that a power-to-weight ratio of 15 kilowatts per tonne would be necessary. As no military or commercial truck engine of 150 kilowatts rating was acceptable for the projected 10 tonne weight, Panhard, as part of the Peugeot Group, decided to couple two 73 kilowatt XD3T supercharged diesel engines to provide the power for the new vehicle, which begins Panhard's "C" range of vehicles. The XD3T engine was originally designed for commercial automobile applications and is

an extremely reliable powerplant; alternatively, two of the model PRV engines that equip the Sagaie 1 can be fitted. For the gearboxes, Panhard chose the Zahnradfabrik Friedrichshafen 4 HP 22 automatic gearbox with one reverse and four forward gear ratios. A two-speed transfer box from Panhard is also fitted. Power-assisted steering, run-flat inserts for the tires, and disc brakes (also power assisted) are standard. An amphibious variant is offered with propulsion by waterjets; a desert variant with air conditioning is also offered. The new Sagaie 2 was unveiled at the 1985 Satory weapons fair. To date, Gabon is the only customer; in any event, the TTB 190 turret used on this vehicle is no longer being marketed, but other similar turrets can be fitted.

Modernization and Retrofit Overview. As of mid-2002, no major modernization or retrofit programs had been implemented for the Engin de Reconnaissance Cannon. However, France, the largest user, is planning to retrofit a modern diesel engine to its inventory of 192 Engin de Reconnaissance Cannon vehicles. To this end, in 1996, Panhard submitted a proposal for an upgrade program for the vehicle. The existing spark ignition engine is replaced by a four-cylinder diesel engine provided by Motoren- und Turbinen-Union; this engine, linked to a Renk gearbox, is rated at 126.77 kilowatts (170 horsepower). Appliqué armor is added but the vehicle loses its amphibious capability. The proposal has been evaluated by the French Army, and, funding permitting, a contract award for the upgrade is expected by the end of 2002.

Program Review

Background. The origin of the Panhard company dates from 1866 with the manufacture of automobiles in conjunction with the Levassor firm. At the turn of the century, Panhard & Levassor incorporated the valveless engine technology into its automobiles, and this characteristic was immediately recognized by the French military. Thereafter, a few of the Panhard vehicles were equipped with machine guns and used in the Moroccan campaign in the early 1900s; this was among the first uses of motorized vehicles in combat.

While civilian automobiles remained Panhard's prime manufacturing business through the mid-1930s, Panhard developed and built the AMD 178 armored car for the French cavalry and delivered over 400 units through 1940. Its reputation was excellent and production was resumed in 1946. Panhard developed the Engin Blindé de Reconnaissance after World War II. The series production model, fitted with an FL-11 turret, was delivered to the French Army in 1951. The

fifties saw the manufacture of 1,200 of these vehicles for the French and Portuguese armies, and many of them are still in service in ex-French and Portuguese colonies.

In 1959, Panhard presented its first prototype of the Automitrailleuse Légère armored car in response to French Army needs. The original order for 2,000 vehicles was preempted by the French decision to fabricate and deploy an embryonic nuclear force structure under President De Gaulle. This action reduced the French order to 600 units, as funding for almost all conventional programs was reduced drastically by the priorities given to French nuclear forces. Panhard started a strong foreign sales effort that resulted in the Automitrailleuse Légère family of vehicles becoming the worldwide market leader in armored cars.

The success of the Automitrailleuse Légère vehicle prompted many foreign requests for a larger vehicle,

preferably in a 6x6 configuration, with greater firepower. Panhard responded to these repeated market demands with the development of the “B” range of vehicles and introduced the Engin de Reconnaissance Cannon family of vehicles for the first time at the 1977 Satory weapons fair.

The Engin de Reconnaissance Cannon or ERC family of vehicles has two main characteristics: all vehicles except the Sagaie 2 weigh between 7.01 and 8.02 tonnes, with the center wheels capable of being elevated for better paved road performance; and all have the same running gear and automotive components.

Description. The hull is of all-welded steel alloy armor construction, affording protection from small arms projectiles and ballistic fragments. The floor of the hull is composed of two V-shaped plates for resisting the effects of land mines. The driver is seated forward slightly to the left and is provided with a hatch composed of two parts. A variety of periscopes and

day/night vision equipment can be fitted at the driver’s position. The turret is located in the center of the vehicle. The engine and gearbox are located to the rear of the vehicle. While the rear wheels are driven directly from the gearbox, the forward wheels are driven from the transverse-mounted gearbox via half shafts and bevel gears. Only the front wheels are steered; the steering mechanism is hydraulic. The front and rear wheels are sprung by coil springs with hydraulic dampers. The middle wheels of the vehicle are sprung with hydropneumatic units and are raised when the vehicle travels on paved roads.

Although a number of turret/armament options are available as described above, the basic vehicle comes standard with run-flat tires, a trim vane for the amphibious models, a turret-mounted ventilator, and internal lighting. Optional equipment includes a nuclear, biological, and chemical protection system, a ground navigation system, air conditioning, and a winch with 60 meters (196.85 feet) of cable.

Funding

Funding for the development of the Engin de Reconnaissance Cannon has been provided by Panhard.

Recent Contracts

Not available, as contractual information is not released.

Timetable

This timetable is for the Engin de Reconnaissance Cannon program only and not for any other Panhard wheeled vehicle program.

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
	1975	Panhard design/conceptual studies initiated
June	1977	Engin de Reconnaissance Cannon series of vehicles unveiled at Satory Arms Fair
March	1978	Serial production begun
	1978-1990	Evaluation by the French Army
	1979	First foreign military sales
August	1981	French order Sagaie variant for Rapid Intervention Force
	1983	Full-scale serial production
November	1983	Sagaie 2 development begun
July	1984	First deliveries to the French Army
	1996	Upgrade program developed
Mid	2002	Production ongoing on an as-needed basis; development and marketing continues

Worldwide Distribution

Export Potential. The Panhard firm, one of the oldest and best-known names in military vehicles, continues to thrive in today’s glutted armored vehicle market despite the recent consolidation in the French armored vehicle

industry. Panhard has not rested on its laurels either, as indicated by the recent expansion of its vehicle range downward (the M11/Véhicule Blindé Légère) and upward (the Sagaie 2).

Panhard has no problem with name recognition or the reputation of its vehicles; the continued success of its products seems assured. Panhard has undoubtedly been focusing on prior user confidence in the Automitrailleuse Légère family of vehicles as well as its other products such as the M3 and M11/Véhicule Blindé Légère, which are operating in over 45 nations. The French decision to order the Sagaie for their Rapid Intervention Forces has aided in the marketing of the vehicle throughout the world..

Argentinian Production. In 1986, it was learned that Panhard and Renault were competing for an Argentinian Army program called Vehiculo A Poyo y Exploration (reconnaissance vehicle). The basic Engin de Reconnaissance Cannon Sagaie vehicle has been developed by Panhard for this mission. The new variant is fitted with a Société d'Applications des Machines Motrices TTB 190 turret (no longer marketed) with the CS 90 F4 gun. If the Panhard entrant is selected, it will be manufactured under license in Argentina. As of mid-2002, the status of this program was not known, but research indicates that it is moribund.

Countries. In addition to **France**, with 192 ERC 90 F4 Sagaie vehicles in service, Engin de Reconnaissance Cannon sales in some variant have been reported to **Argentina** (12 ERC 90 F1 Lynx), **Chad** (4 ERC 90 F1 Lynx), **Ivory Coast** (7 ERC 90 F4 Sagaie), **Gabon** (4 ERC 20 Kriss and 4 ERC 90 F4 Sagaie 2), **Mexico** (120 ERC 90 F1 Lynx), and **Nigeria** (46 ERC 90 F4 Sagaie). At least one other user remains unidentified.

Forecast Rationale

As of mid-2002, serial production of the Engin de Reconnaissance Cannon remains on an as-needed basis. The vehicle is still available for new orders, and the marketing effort for its numerous variants continues, with emphasis in Africa and Latin America. While the recent advent of the enhanced performance and somewhat larger Sagaie 2 was expected to maintain international interest in the vehicle, this has not translated into any significant sales. This is undoubtedly due to the glut of both new and used but still serviceable light wheeled vehicles of this type in the world today.

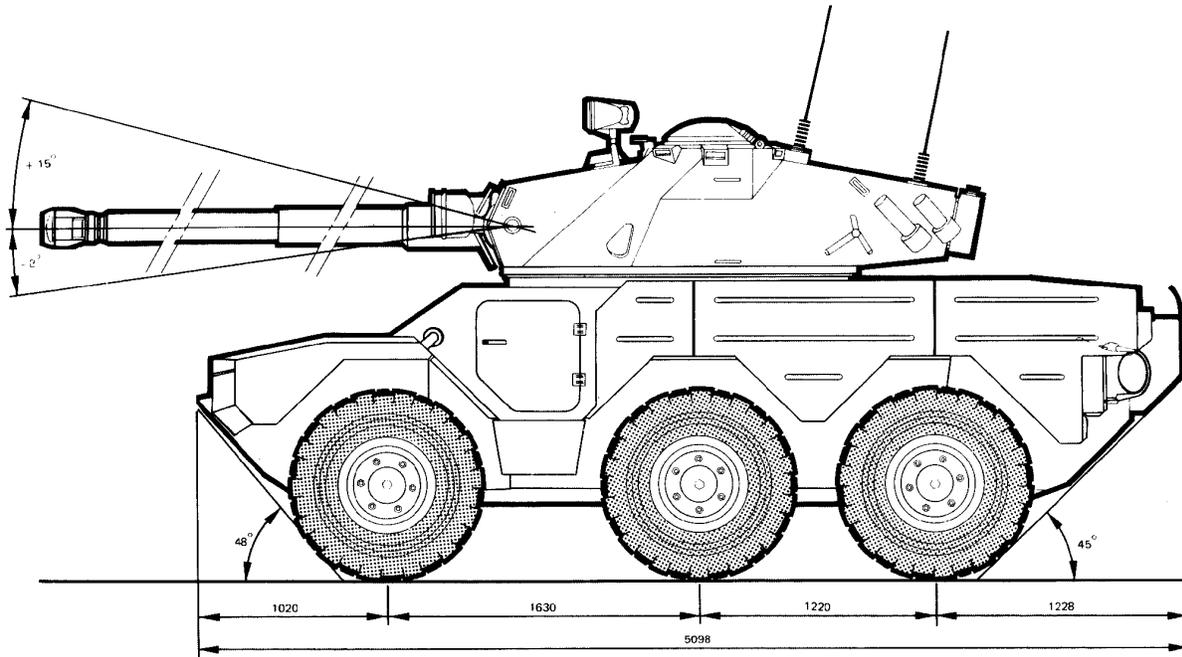
While the Engin de Reconnaissance Cannon is still an active effort, the writing is on the wall for this long-lived program. For one thing, France has two new light wheeled vehicle programs in development, one of which is the designated replacement for the Engin de Reconnaissance Cannon. However, due to the success of this vehicle plus the continuing marketing effort, we feel that one small sale, possibly for one of the newer variants, can still be expected in two years or so.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR PRODUCTION

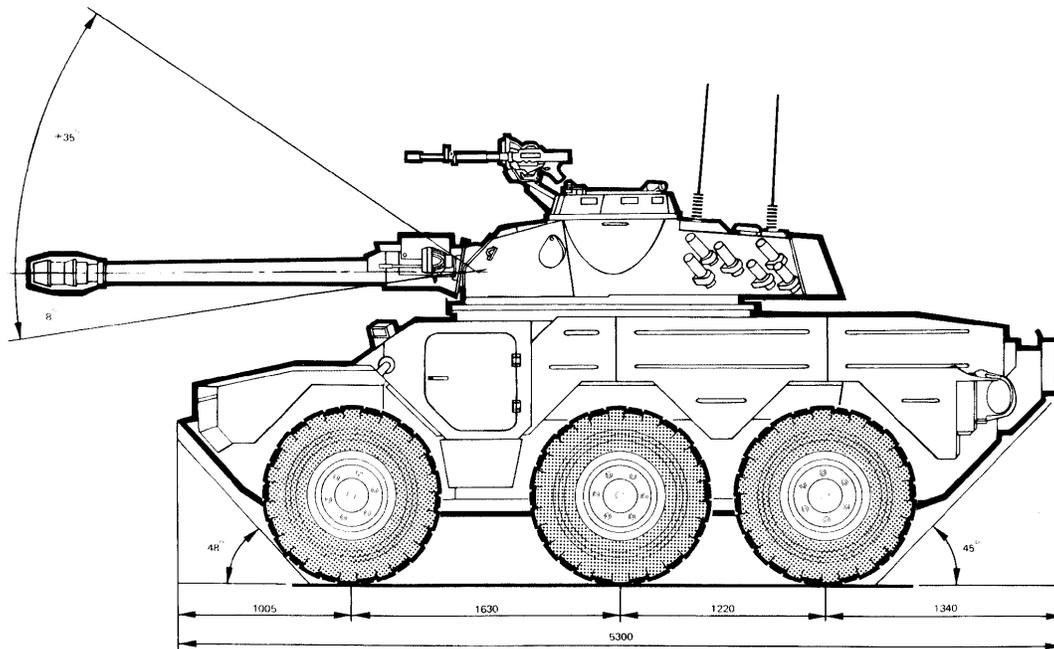
Vehicle	(Engine)	through 01	High Confidence Level				Good Confidence Level				Speculative		Total 02-11	
			02	03	04	05	06	07	08	09	10	11		
PANHARD & LEVASSOR S.A. ERC 90 F4 (a)	PEUGEOT V6 SPARK IGNITION	581	0	0	2	4	0	0	0	0	0	0	0	6
Total Production		581	0	0	2	4	0	0	0	0	0	0	0	6

(a) The through 2001 production includes 12 prototype and developmental vehicles. Both historical and forecast production includes all models and variants powered with a variety of spark ignition and diesel engines. This includes the Sagaie 2, which is fitted with two Peugeot model XD 3T supercharged diesel engines.



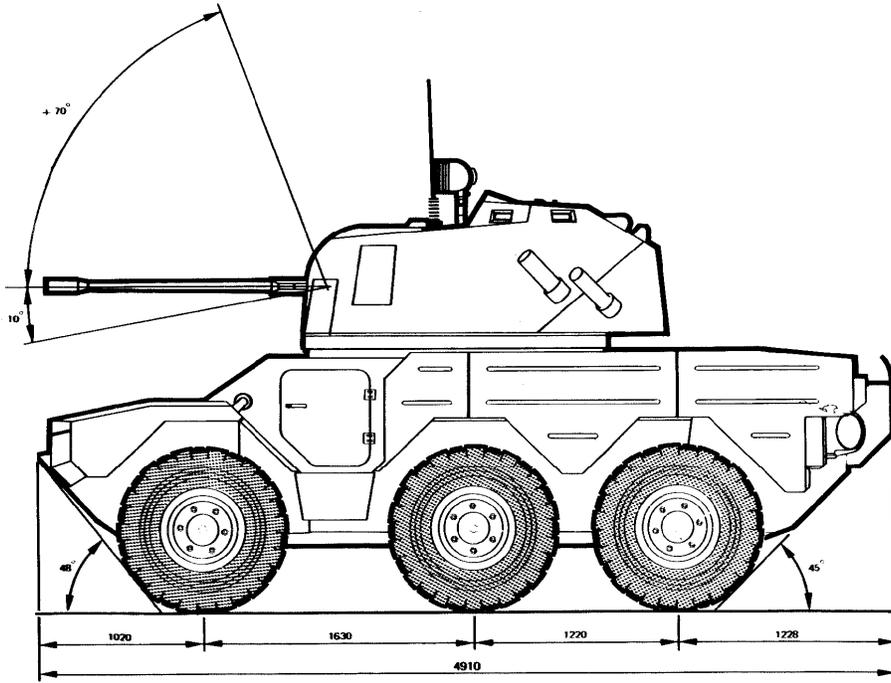
ERC 90 F4 SAGAIE

Source: Panhard



ERC 90 F1 LYNX

Source: Panhard



ERC 20 KRISS

Source: Panhard