

# ARCHIVED REPORT

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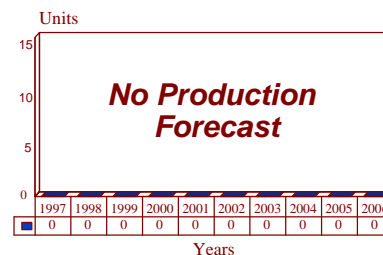
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## Infantrikanonvagn-91 - Archived 4/97

### Outlook

- Production of the Infantrikanonvagn-91 is complete
- The light tank remains in service in Sweden
- No major modernization or retrofit programs are forecast

10 Year Unit Production Forecast  
1997 - 2006



### Orientation

**Description.** A light tank/tank destroyer

**Sponsor.** The development and procurement of this light tank was sponsored by the Swedish Ministry of Defense through the Swedish Army Materiel Administration. Further development was funded by the contractor.

**Contractors.** This light tank was developed and manufactured by Hagglund and Soner (now Hagglunds Vehicle AB), Vehicle Division, Omskoldsvik, Sweden. AGA Aerotronics, Bofors Aerotronics, General Motors Corporation/Allison Transmission Division, Junger Instrument, Bofors Ordnance and Volvo Penta are the subcontractors.

**Licensees.** None

**Status.** The serial production of the Infantrikanonvagn-91 for the Swedish Army began in 1974 and terminated in early 1978 with the delivery of 211 units. The development of a version armed with a 105 millimeter cannon was completed, but never sold.

**Total Produced.** A total of 216 Infantrikanonvagn-91 vehicles was manufactured.

**Application.** A light tank or tank destroyer especially designed for use in cold climates over marshy terrain and water obstacles.

**Price Range.** The last production Infantrikanonvagn-91 had a unit price equivalent to 1.069 million 1978 United States dollars. In late 1992, the unit price of the 105 millimeter version was put at the equivalent of 2.697 million United States dollars.

### Technical Data

**Design Features.** This light tank is amphibious with minimal preparation. The vehicle is propelled in the water by its tracks. The design is optimized for use in very cold environments.

**Crew.** Four: commander, driver, gunner and loader

**Armor.** The Infantrikanonvagn-91 is fabricated from conventional steel alloy armor with complete protection from 20 millimeter rounds over the frontal arc.

**Dimensions.** The following data are for the basic Infantrikanonvagn-91 vehicle armed with a 90 millimeter cannon.

	<u>SI units</u>	<u>US units</u>
Length	8.84 meters	29.0 feet
Width	3.0 meters	9.84 feet
Height	2.32 meters	7.61 feet
Combat weight	16.3 tonnes	17.96 tons
Fuel capacity	405 liters	107.71 gallons

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

Maximum speed	69 kilometers per hour	42.84 miles per hour
Maximum range	508 kilometers	315.47 statute miles
Step	80 centimeters	2.62 feet
Trench	2.8 meters	9.18 feet
Slope	60%	60%
Gradient	60%	60%
Fording	amphibious	amphibious

**Engine.** Volvo-Penta supplies the TD120A super-charged four-stroke diesel engine, a six-cylinder commercial power plant that is rated at 246.18 kilowatts (330 horsepower) at 36.67 revolutions per second (2,200 revolutions per minute). The power-to-weight ratio is 15.10 kilowatts per tonne (18.37 horsepower per ton). A 24 volt generator and four 12 volt/228 ampere hour batteries are fitted.

**Gearbox.** The Allison Transmission Division of General Motors Corporation supplies the HT 740D automatic gearbox with four forward and one reverse gear ratios with a hydrokinetic torque converter.

**Suspension and Running Gear.** This vehicle uses a torsion bar suspension with six dual rubber-tired road wheels on each side. No return rollers are fitted, and the first and last road wheel stations are fitted with shock dampers.

**Armament.** The main armament of the Infantrikanonvagn-91 is the KV90S73 90 millimeter cannon manufactured by Bofors Ordnance. The low-pressure cannon combines specially developed ammunition with a relatively long barrel of 54 calibers to achieve low trunnion pull forces and muzzle pressure. Elevation is +15° forward and +15° to the rear; depression is -10° forward and +1° to the rear. A total of 59 High Explosive Anti-Tank and or High Explosive rounds are carried, with 16 ready, 18 stored in the front of the hull, and the remainder (25) stowed to the rear of the turret. The secondary armament is two 7.62 millimeter machine guns (one coaxially mounted and the other

mounted externally on the loader's cupola). Some 4,500 rounds of ammunition for the machine guns is the standard loading.

The Infantrikanonvagn-91/105 is armed with the Rheinmetall Industrie Rh 105/30 super low recoil cannon which is compatible with all Western pattern 105 millimeter ammunition, including Armor Piercing Fin Stabilized Discarding Sabot rounds. Up to fifty 105 millimeter rounds can be carried.

**Fire Control.** The last production version of the basic Infantrikanonvagn-91 tank destroyer combines a ballistic computer with Bofors Aerotronics' neodymium yttrium-aluminum garnet type laser rangefinder and the gunner's TP-1050L periscopic sight. This change has led to the lower profile commander's cupola and the mounting of the TP-1050L ten power binocular periscopic sight produced by Junger Instrument AB.

Once a target is acquired, the computer-controlled gun drive system (supplied by AGA Aerotronics) accepts laser ranging data and drives gun elevation and transverse actuators to produce the elevation/azimuth corrections. Simultaneously, the gunner's sight is counter-rotated through elevation and azimuth so his aim is undisturbed. Exhaustive trials have shown that the entire acquisition/firing sequence takes some nine seconds.

The 105 millimeter version has updated versions of the fire-control components listed above plus additional passive vision equipment.

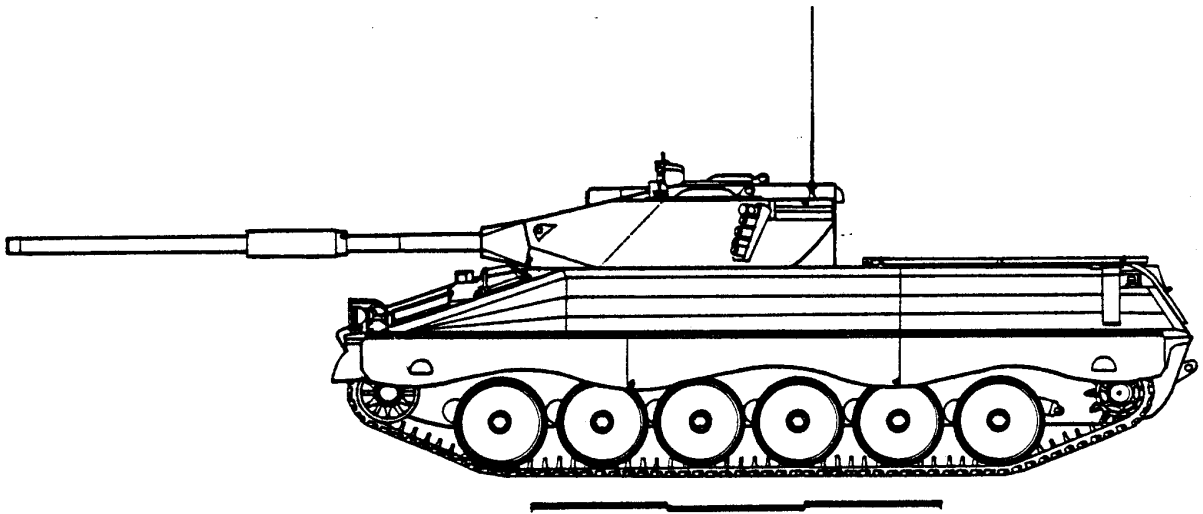
## Variants/Upgrades

**Variants.** The only variant developed from the basic Infantrikanonvagn-91 to date is the Infantrikanonvagn-91/105. In mid-1984, it was learned that Hagglunds had integrated the Rheinmetall Industrie Rh 105/30 105

millimeter low recoil cannon with the vehicle. This cannon is fitted with a thermal sleeve, muzzle brake, and fume extractor. The new Infantrikanonvagn-91/105 also incorporates extensive fire-control modifications

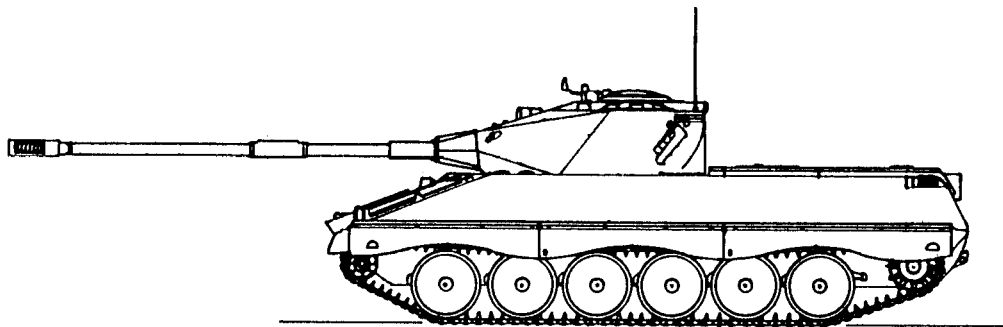
and enhancements, among them a neodymium yttrium-aluminum garnet laser rangefinder, new ballistic computer and sights. Also, thermal imaging sights and a low light electro-optic viewer have been incorporated. The amphibious qualities of the original vehicle have been retained by extending the front of the hull and adding skirt-like floats to each side of the hull. Hydraulic motor-driven propellers add to the water speed of the vehicle. At 18 tonnes (19.84 tons), the enhanced Infantrikanonvagn-91/105 is about 1.7 tonnes (1.87 tons) heavier than the standard model. To deal with the increased weight, a new engine from Volvo is

integrated; the TD 1231 G six-cylinder diesel is rated at 268.56 kilowatts (360 horsepower) at 36.67 revolutions per second (2,200 revolutions per minute); the same gearbox is used. Due to the advent of the Stridsfordon 90 family of vehicles, Sweden will not retrofit any of its existing Infantrikanonvagn-91 inventory to /105 standard. In any event, Hagglunds Vehicle has teamed with Giat Industries of France to develop a new version of the Stridsfordon 90 with a 105 millimeter turret; due to the advent of this program, called the 90105 TML, the Infantrikanonvagn-91/105 was taken off the market.



Infantrikanonvagn-91

Source: Forecast International



IKV 91-105

Source: AB Hägglund & Söner

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