

# ARCHIVED REPORT

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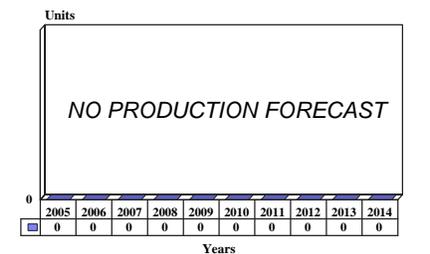
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## Seahunter(S) - Archived 12/2006

### Outlook

- Production has not occurred
- U.S. Navy declined to purchase this torpedo
- No production orders are anticipated
- Raytheon is focused on the Mk 48 heavyweight torpedo
- One report said the Seahunter(S) program was still active, but it might simply be on life-support

10 Year Unit Production Forecast  
2005 - 2014



### Orientation

**Description.** Heavyweight dual-use torpedo.

**Sponsor.** Private development effort by Raytheon Systems Company.

**Status.** Currently in advanced development and testing. Seahunter(S) (SEA-HUNting TORpedo) is a shorter variant of the Seahunter heavyweight dual-use torpedo, intended to double a submarine's weapons inventory by allowing two units to be stored on the reload rack normally used for one standard torpedo. Seahunter(S)

may have become available for production in early 1998. No known orders have been placed.

**Total Produced.** Only prototypes for testing have been produced so far.

**Application.** The Seahunter(S) has a dual role as an anti-surface-ship and anti-submarine weapon.

**Price Range.** Although no sales have been confirmed, industry sources have suggested that the per-unit cost of the Seahunter(S) could initially be \$550,000-\$650,000.

### Contractors

Raytheon Torpedo Center, <http://www.raytheon.com>, 1050 NE Hostmark Street, Poulsbo, WA 98370 United States, Tel: +1 (360) 697-6600, Fax: +1 (360) 697-8200, Prime

### Technical Data

**Design Features.** The Seahunter(S) is a shortened version of the standard-length Seahunter heavyweight torpedo. It is equipped with all the operational capabilities of the full-length heavyweight model. It doubles the weapons load-out of submarines designed to carry full-size 21-inch torpedoes in their reload racks, with no modification required. It also has maintenance logistics that are common to the Mk 46 lightweight torpedo.

The smaller size has been achieved by repackaging the electronics and using smaller sensors. The torpedo's

range is said to be twice that of most battery-operated units at high speed.

Wire guidance is offered as an option for torpedoes located in the aft location of the launch tube (i.e., for the number two units of each tube). Proximity and contact warhead fuzes are available. The weapon control systems are, according to the manufacturer, easily adaptable to the submarine's digital or analog systems. The compact electronics systems are all modular and digitally programmed.

Seahunter(S) has been tested in NATO fleet operations for both anti-surface-ship and anti-submarine attacks.

The modular, low-maintenance design includes plug-in assemblies that also have a built-in self-test capability, which should help reduce spares inventories and complicated deck-level repairs.

The two-speed engine ensures both a long operating range and a high traveling speed for the torpedo, while the cost of the high-energy propellant keeps the operating costs reasonable for exercise purposes.

	<u>Metric</u>	<u>U.S.</u>
<b>Dimensions</b>		
Diameter	483 mm <sup>(a)</sup>	19 in <sup>(a)</sup>
Length	3,200 mm	10 ft 5 in
Weight	650 kg	1,433 lb
Weight, warhead	150 kg HE	330 lb
Weight, warhead optional	250 kg HE	551 lb
<b>Performance</b>		
Speed	38 kt +	38 kt +
Range	18,000 m	20,000 yd

<sup>(a)</sup> Designed to swim out from 533-mm launch tubes.

**Propulsion.** Improved Otto-fuel system using thermal chemical rotary piston cam engine.

**Control & Guidance.** The torpedo is equipped with modern active/passive sonar in a solid-state, acoustic, self-noise-reduction nose assembly that reduces acoustic interference when operating at high speed or near the sea surface. The system includes adjustable detection sensitivity to compensate for high sea states. Range gating enhances its ability to avoid decoys. Wire guidance and possibly wake homing are offered as options.

**Launcher Mode.** The Seahunter(S) is designed to be physically compatible with all known existing impulse and swim-out torpedo tubes and electronically compatible with most submarine fire control systems.

**Warhead.** A warhead from the standard Seahunter, with a sensitive advanced anti-surface-ship warfare/anti-submarine warfare contact/proximity fuze assembly, has been incorporated into the weapon to help ensure maximum target damage, optimally requiring only one hit. The torpedo has the option of being outfitted with only a contact fuze. The warhead can weigh 150 or 250 kilograms.

## Variants/Upgrades

No variants of the Seahunter(S) have been announced, since in itself it represents a further development of the full-size Seahunter. As this program is still in the development stage, no upgrade packages have been introduced.

## Program Review

**Background.** Alliant Techsystems, as the company was then known, announced its latest version of the Seahunter torpedo in 1996, known as the Seahunter(S). The company considers the Seahunter(S) to be one of the least expensive heavyweight torpedoes to procure, maintain, and operate. It is primarily designed to be used on the German Type 209 submarine, which still forms the backbone of the world's submarine fleets but suffers from limited reload capacity. The Seahunter(S) is compatible with existing torpedo tubes with no

modification needed, and is expected to replace older versions of the Mk 37 and NT-37 torpedo families. At-sea trials and demonstrations were conducted throughout 1997. Production offerings were to begin in 1998, with first deliveries available a year or two later.

For a fuller description of the Seahunter program's history, please refer to the Seahunter report in this tab.

## Funding

This is a company-funded program, with some funding also likely to come from the countries that order the torpedo.

## Recent Contracts

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No procurement contracts have been identified at this time.

## Timetable

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<u>Year</u>	<u>Major Development</u>
1995-1996	Seahunter(S) development
1997	At-sea trials and demonstrations
1998	Production readiness believed to have been achieved

## Worldwide Distribution

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No sales have been confirmed.

## Forecast Rationale

Raytheon has not received any orders for the Seahunter(S). In actual fact, the company may have already abandoned this program, although this remains unconfirmed.

Seahunter(S) never generated much interest on the heavyweight torpedo market, despite the large number of Mk 37 and NT-37 operators. Raytheon had hoped to capitalize on this existing customer base but interest in the Seahunter(S) never materialized.

The market for heavyweight torpedoes remains very competitive. U.S. manufacturers face fierce

competition from their European counterparts in a market glutted with heavyweight torpedoes. To make matters worse, much of the market that does exist is already locked up. Torpedoes are being supplied as part of a complete submarine package, and navies are buying additional weapons to fill out their inventory of an existing type. The future heavyweight torpedo market is expected to be dominated by the Mk 48, the Spearfish, the Torpedo 2000, and the DM2A4.

Production of the Seahunter(S) never commenced and no launch order is anticipated. This report will likely be dropped next year.

## Ten-Year Outlook

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### ESTIMATED CALENDAR YEAR PRODUCTION

Missile	(Engine)	thru 04	<u>High Confidence Level</u>				<u>Good Confidence Level</u>				<u>Speculative</u>		Total 05-14	
			05	06	07	08	09	10	11	12	13	14		
RAYTHEON COMPANY SEAHUNTOR(S)	UNSPECIFIED	0	0	0	0	0	0	0	0	0	0	0	0	0