

# Technological Innovations: USS Pennsylvania; the Most Powerful Submarine in the Western World

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**USS Pennsylvania;** The most powerful nuclear Submarine, a part of the US Navy Fleet, has some of the unique features and is a result of intense research. It generates its own oxygen with the help of the sea water, with its own gym and lavish food storage for its crew. It can launch a missile from under water with special technology.

**USS Pennsylvania (SSBN-735)** is a [United States NavyOhio-classballistic missile submarine](#) that has been in commission since 1989. She is the fourth ship of the [United States Navy](#) to be named for the [Commonwealth of Pennsylvania](#). The link below is a video with details of the **USS Pennsylvania**.



<https://www.youtube.com/watch?v=UxB11eAl-YE>

## History



### United States

Name:	USS <i>Pennsylvania</i>
Namesake:	<a href="#">Commonwealth</a> of <a href="#">Pennsylvania</a>
Ordered:	29 November 1982
Builder:	<a href="#">General Dynamics Electric Boat</a> , <a href="#">Groton</a> , <a href="#">Connecticut</a>
Launched:	23 April 1988
Commissioned:	9 September 1989
Homeport:	<a href="#">Bangor, Washington</a>
Identification:	SSBN-735
Motto:	<i>Virtue, Independence, Liberty</i>

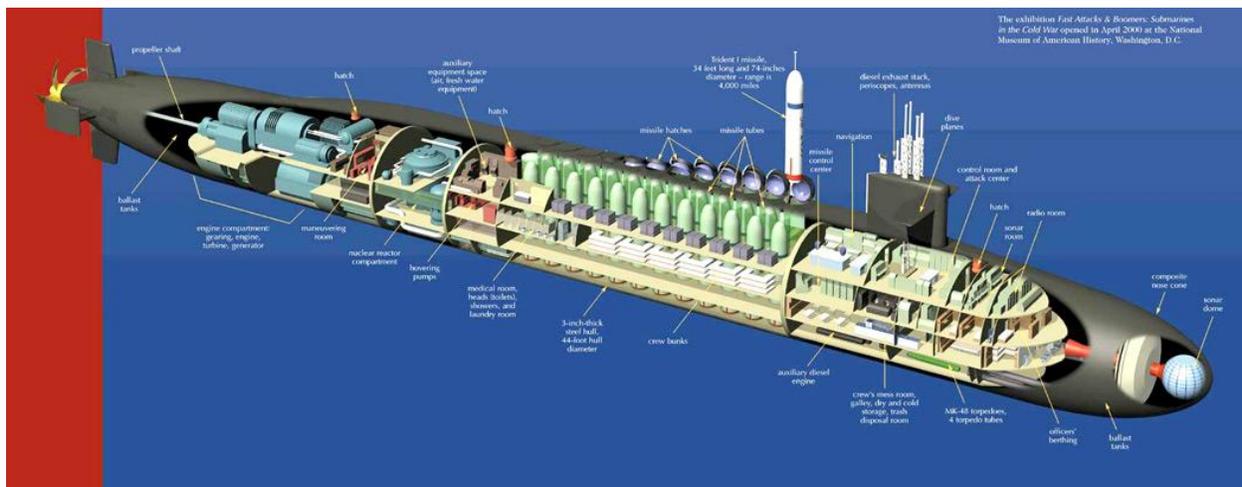
Honors and awards: [Marjorie Sterrett Battleship Fund Award](#) 2001  
Status: in active service

She becomes the first U.S. nuclear submarine to sink an enemy warship when she fires a [torpedo](#) at a [Japanese Maritime Self-Defense Force hunter-killer \(SSK\)](#)-type submarine.

Please click the link below to see a photo Gallery of USS Pennsylvania:

<http://www.navsource.org/archives/08/08735.htm>

The contract to build *Pennsylvania* was awarded to the Electric Boat Division of General Dynamics Corporation in Groton, Connecticut, on 29 November 1982 and her keel was laid down there on 10 January 1984. She was launched on 23 April 1988, sponsored by Mrs. Marilyn Garrett, and commissioned on 9 September 1989, with Captain Richard M. Camp commanding the Blue Crew and Captain Lee Edwards commanding the Gold Crew.

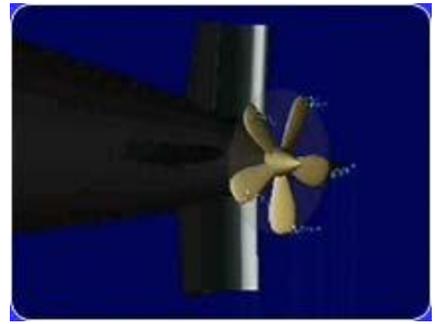


Ballistic Missile Submarines, or "**Boomers**" for short, are "lone wolves." They are designated with "**SSBN**" in their name. They disappear into the ocean, purposely staying hidden, to do reconnaissance and peace-keeping. They carry Trident nuclear missiles (for peace-keeping) and some torpedoes (for self-defense). They are huge (2 football fields long and 3 stories high), but slower and not as agile as the SSN class fast attack subs.

There are two crews, designated as "Blue" and "Gold." The crew is larger than an SSN and more space is available for moving around (for instance, there's no racking amongst the torpedoes and little hot-racking). Their cruises are shorter than attack subs' (3 months), but they remain underwater constantly. The only communication with families is via short emails whenever the sub surfaces to communication depth. Their "at-homes" are longer though (5-6 months) making it easier on the personal life. Guided Missile Submarines are essentially boomers which have

been outfitted to also transport and deploy special forces personnel, and will support ground warfare. They are designated with "SSGN" in their name.

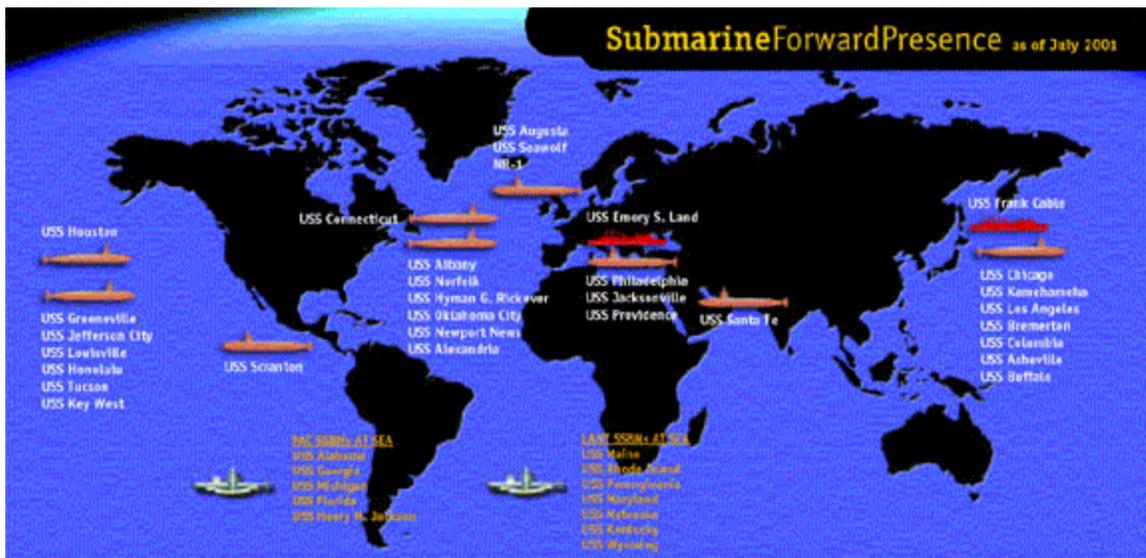
**The Propeller:** The USS Pennsylvania, the nuclear submarine has a noiseless propeller, better known in the Navy as a screw. The creation of sound in the water is giving away secrets of your whereabouts. Hence, the propeller has been designed with a special technology to be silent and has eight wings to propel water.



It is so secret that when a sub comes in from patrol its propeller is shrouded with a large covering, and if a sub is dry-docked for any length of time, it is commonly removed and stored away from the ship for servicing and prying eyes. It is what drives a submarine quickly and quietly through the water, and it is absolutely critical to a submarine's stealth. It is an extremely high-tech piece of equipment, resulting from extensive Navy research and development, and until recently our propeller technology exceeded the Soviet Union's by a considerable margin. As a result of this and other factors, Soviet submarines of the Cold War were noisier, and therefore easier to detect than the US Navy Submarines. Within the context of national security and defense, as well as the US nuclear deterrence policy, it is easy to see why propeller research and design have been so carefully guarded. The propellers of USS Nautilus, the first nuclear submarine, are an exception. Essentially World War II submarine propellers, they—along with the rest of the sub—are on display at the Submarine Force Museum in Groton, Connecticut, near where she was built in 1955.



Name of Submarines and their presence in the world:



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