

ARCHIVED REPORT

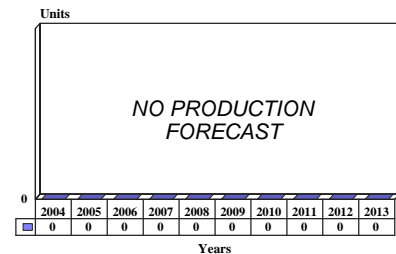
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Osumi Class - Archived 12/2005

Outlook

- All three ships completed
- No additional ships in existing long-term plans
- Precise role of these ships is ambiguous
- Larger LHD may be based on work done for DDH

10 Year Unit Production Forecast
2004 - 2013



Orientation

Description. Amphibious warfare ship with a large helicopter deck for the transportation of troops, landing craft, tanks, and equipment (LPD/LST).

Status. Three ships in service.

Total Produced. Three

Sponsor

Japan Maritime Self-Defense Force
 Japan Defense Agency
 7-45 Akasaka 9-chome
 Minato-ku
 Tokyo 107, Japan

Pennant List

<u>Name</u>	<u>Builder</u>	<u>Launch Date</u>	<u>Commission Date</u>
LST-4001 <i>Osumi</i>	Mitsui, Tamano SY	11/1996	3/1998
LST-4002 <i>Shimokita</i>	Mitsubishi, Nagasaki	11/2000	3/2002
LST-4003 <i>Kunisaki</i>	Hitachi, Maizuru	12/2001	2/2003

Mission. These ships are intended to provide a platform for helicopters and air-cushion landing craft for deploying an amphibious landing force to an area of operation within Japanese territory. These ships could also be included in future domestic or international disaster relief operations. This would involve undertaking non-combatant evacuation missions, even overseas.

Price Range. Announced contract values for the construction of the lead ship of this class show a projected unit cost of US\$550 million. The follow-on ships may have been less expensive, perhaps US\$400 million each.

Contractors

Mitsui Engineering & Shipbuilding Co. Ltd., (Power Systems Department), <http://www.mes.co.jp>, 6-4 Tsukiji 5-chome, Chuo-ku, Tokyo, 104-8439 Japan, Tel: + 81 3 3544 3639, Fax: + 81 3 3544 3045, Prime

Technical Data

	<u>Metric</u>	<u>U.S.</u>
Dimensions		
Length (overall)	178 m	584 ft
Beam	25.8 m	84.6 ft
Draft	6.0 m	19.7 ft
Flight deck	130 x 23 m	426.5 x 75.5 ft
Displacement		
Light	8,900 tonnes (disputed)	
Full load	~14,700 tonnes	
Performance		
Speed (Maximum)	40 kmph	22 kt
Crew	133	
Military Lift Capability		
	<u>Type</u>	<u>Number</u>
Troops	330-390	
Cargo	1,400 tonnes	
Tanks	Type 90	1+
APV	Type 89	4
Landing craft	LCAC	2
Aircraft	CH-47J Chinooks or several UH-1J Hueys	2+
Armament		
CIWS	20mm Vulcan Phalanx Mark 15	2
Electronics		
Air search radar	Melco OPS-14, C-band	1
Surface search radar	JRC OPS -28D, G-band	1
Navigation radar	JRC OPS-20, I-band	1
ECM/ESM	(not specified)	
Communications	Imagery datalink with AEGIS family	
Propulsion		
Diesels	Mitsui 16V42MA	2x13,800 hp
Maneuvering power	Bow thruster units	2
Propellers		2

Design Features. The basic layout is that of a helicopter carrier, with a clear flight deck running from the stern to a point about 40 meters back from the bows. A block superstructure resembling an island of a carrier is positioned on the starboard side of the ship, providing a long, unobstructed park area for aircraft. Japanese accounts originally claimed that this deck was not strengthened for flight operations except at a single landing point on the stern. This has since been amended

to statements that only the aft portion of the deck, possibly from the aft lift rearwards, is sufficiently strengthened to sustain helicopter operations.

From the design, it would appear that the ship has two major operational areas, the 50+ meter docking bay aft and the 80x23 meter vehicle deck amidships. It should be noted that the displacement stated for this ship is incompatible with her size, and that several reputable

sources suggest she is several thousand tons larger than admitted.

The flight deck is fitted with two lifts, one forward near the end of the deck and one roughly amidships. These are stated to be only for transporting vehicles from the storage areas to the flight deck; they can only accommodate a UH-1-sized helicopter if its main rotors are removed. The ship is estimated to be capable of carrying either two CH-47Js or more UH-1J Hueys on the flight deck for sustained periods if necessary. However, the ship lacks onboard maintenance facilities and hangars for helicopters, despite featuring a lift from the flight deck to the main deck.

Access doors in the hull sides provide additional loading/unloading facilities. The stern is fitted with a docking well large enough to accommodate two landing craft air cushions (LCACs) which are of basically the same design as those operated by the U.S. Navy.

The forward 40 meters of the hull form an open forecastle. It seems that the sole purpose of this design is to reduce the ship's resemblance to an aircraft carrier in an attempt to appease critics of the ship's role and capabilities. It is also noted that this area is well-sized and situated to allow for the subsequent installation of a ski jump.

The ship's only guns are two Phalanx Mark 15 close-in weapon system mounts, one forward, one aft the offset island. Propulsion is provided by two Mitsui 16V 42MA diesel engines that yield 27,600 hp driving two shafts. This provides adequate power for a speed of 22 knots. The ship is also fitted with two bow thrusters.

Overall, the ship's design sends mixed signals about its intended mission versus apparent capabilities. The original design, published in 1990 when the proposal was first made, bore a great resemblance to the Italian San Giorgio class, with its large deck and a stern dock. Those features are still included in the current design approved in 1993. The ship is classified as a tank landing ship by the Japanese, but in reality is more of an LPD with significant capability as a helicopter carrier.

Operational Characteristics. The large storage deck underneath the flight deck is served by the two lifts. This storage deck is about 70 meters long and 23 meters wide, the aftmost of the two lifts marking the end of this storage deck. Even though the main deck has no long-term maintenance facilities or hangars, this storage deck is, for all intents and purposes, a bona fide hangar deck.

In late 1995, Japanese naval officials speaking at Sagami Bay stated with unexpected candor that the ship could be converted from its current configuration to that of a light helicopter carrier using off-the-shelf kits. This would seem to imply that the kits for the conversion were expected to be readily available by the time the ship entered service. It would also preclude major structural changes, and suggest that the step from the existing design to light carrier is small.

One possibility is that the reported kits provide command and control facilities for helicopter operations in the form of a deployable van. This would be delivered to the ship as a self-contained unit. This development is linked by the Japanese Navy to a perceived need to build up its long-haul sealift and supply capabilities as part of its continuing role in U.N. peacekeeping activities.

The vehicle deck amidships appears to be a helicopter hangar – albeit not so fitted – and would provide space for six to eight large troop-carrying helicopters. It is also believed that the ship could easily accommodate Sikorsky SH-60J Seahawks, which are on board all of Japan's destroyers. Furthermore, the length of the ship's landing deck has been the source of constant speculation over the Osumis being used as platforms for Sea Harrier STOVL fixed-wing aircraft. On the other hand, the deck, being only 23 meters wide, would make marshaling such operations difficult, and Japan has shown no intention of buying any AV-8Bs.

These capabilities, plus the two LCACs in the aft bay, seem to provide a significant level of assault strength for a ship of this size. This ship could very effectively land a reinforced infantry battalion with a tank company and artillery battery in hostile territory.

Conflicting statements about the ship's presumably intended mission versus its potential capabilities have also been made with regard to air defense, either alone or as part of a combat group. The ship has been described as "highly vulnerable," with very few weapon systems other than the two 20mm Phalanx CIWS around the island. However, it is now believed that the ship has been fitted with a datalink that makes it virtually part of the air defense net provided by nearby AEGIS destroyers. This addition reportedly includes the ability to receive imagery and a direct datalink to AEGIS. What she would do with this information is unclear.

Variants/Upgrades

Japanese naval officials have stated that this ship can later be converted into a light helicopter carrier using off-the-shelf kits. This description would preclude the use of significant structural modifications and strongly

suggests that the required alterations are quite minor, possibly as small as painting new operational markings and landing aids on the ship's deck.



JMSDF *Osumi*

Source: JMSDF



The *Osumi*

Source: Japan Maritime Self-Defense Force

Program Review

During the early 1980s, the Japan Maritime Self-Defense Force decided that a follow-on to the existing class of six Miura and Atsumi class LSTs was required. These two classes were modified versions of World War II U.S. designs and shared the limitations of those designs, chiefly low speed (14 knots) and restricted cargo-carrying capability. The primary requirement was seen as the need to supplement them with a faster ship capable of carrying heavy cargo to support an amphibious operation.

The response to this requirement was a proposal to build two 3,500 ton LSDs in the FY86 to FY90 funding period. This would provide two amphibious warfare groups (each of one LSD and three LSTs), each capable of landing a single reinforced battalion. This proposal met with strong opposition based mainly around the perception that the ships would provide Japan with an unacceptable power projection capability. This perception was related more to the ship's designation as an LSD than to its real capabilities.

Consequently, in 1989 the proposal was replaced by one for a single 5,600 ton ship, resembling the Italian San Giorgio class LPD. This was designated as an LST, although its role remained largely unchanged. The proposed amphibious force structure was revised to provide a single group capable of landing a more substantial force. This project was also canceled.

At varying periods during the 1980s and early 1990s, the Japanese floated rumors about plans to construct aircraft-carrying ships as a follow-on to their two classes of large, helicopter-carrying destroyers. All of these rumors resulted in violent political protests from abroad, and none proceeded beyond the rumor stage. However, the two lines of development merged in 1992 when the Japanese Navy proposed a new class of LST that was much larger than earlier projects and was also primarily aimed at operating helicopters.

The political opposition to this design was countered both by the inclusion of a long, open bow that reduced the resemblance to an aircraft-operating ship and by

pronouncements that the flight deck was a vehicle park and was only strengthened for helicopter operations at a single point. These arguments were accepted by the Japanese government, and the first ship of the design was ordered from Mitsui Shipbuilding in late 1993.

By that time, the proposed rationale for the ships had been changed. Due to repeated delays in funding the program, the oldest of the existing LSTs was now more than 20 years old. The new ships will replace, rather than supplement, the Atsumi class. The Japanese intend to construct three ships of this new design.

The order for the lead ship of the class was placed in December 1993, and first metal was cut on the design in October 1994. The ship was formally laid down (in this case representing the time when the first module was erected on the slip) on December 6, 1995, with the

launch ceremony taking place on November 18, 1996. The lead ship officially began sea trials on September 25, 1997, although the actual trials did not proceed to their full extent until November. The *Osumi* was commissioned on March 11, 1998.

A follow-on unit was approved in the Japanese defense budget's New Construction Program, and a third unit the following year (FY99). A formal order for the second ship is presumed to have been placed in 1999, with the first modules erected on site in December 1999. The shipyard responsible for hull 4002 is Mitsubishi Shipbuilding in Nagasaki. This ship was launched at the end of November 2000, at which time she was named the *Shimokita*. She was completed in March 2002. The third-of-class, the *Kunisaki*, was laid down at the end of 2000, launched in December 2001, and was completed on February 26, 2003.

Funding

This program is funded by the Japanese government for the Japan Maritime Self-Defense Force (JMSDF).

The design for the first-of-class was published and included in the FY93 defense plan of the government budget. Provisions for ships number two and three of this class were made in the 1996 to 2000 Mid-Term Defense Program, with the intention of allowing replacement of the aging Miura and Atsumi class LSTs. There is no reference to a fourth member of this class in Japanese funding documents.

Recent Contracts

<u>Contractor</u>	<u>Award (US\$ millions)</u>	<u>Date/Description</u>
Mitsui Shipbuilding & Engineering (Tokyo)	0.5	Summer 1993 – First publicized contract, probably for advanced or final design of the new class (05LST).
Mitsui (Tamano)	503.0	Dec 1993 – Construction of lead ship.

Timetable

<u>Day</u>	<u>Month</u>	<u>Year</u>	<u>Major Development</u>
		1985	Original LST plan proposed
		1986	Original plan rejected
		1989	Second LST plan proposed
		1990	Second LST plan rejected
		1992	Current LST design announced
	Mar	1993	05LST (first ship) funded
	Dec	1993	Construction order placed
	Oct	1994	First metal cut
6	Dec	1995	Ship laid down
18	Nov	1996	<i>Osumi</i> launched
	Mar	1998	Construction of lead ship taken into service
	Dec	1999	Second of class laid down
	Nov	2000	Second unit launched
	Nov	2001	Second unit completed
	Dec	2001	Third unit launched

<u>Day</u>	<u>Month</u>	<u>Year</u>	<u>Major Development</u>
	Feb	2003	Third unit commissioned

Worldwide Distribution

Japan. Three

Forecast Rationale

The true value of the Osumi class may not be the amphibious capability it offers to the Japanese Navy but the valuable experience in designing aircraft-operating ships of this size and character obtained from the design and construction process. If the Japanese Navy is serious about amphibious operations, a realistic capability will require a true LHD class vessel, probably more than twice the size of the Osumis but exploiting the same basic technology and design art. This ship would have a larger and wider flight deck than the existing design, and will also have a full-sized hangar deck.

Such a ship will be necessary if the Japanese have a serious intent to build an amphibious warfare capability. The size and load-lifting capability of the Osumi class suggest that the ships are intended to land small force detachments; where, how and under what circumstances is all very unclear. The Japanese simply do not have the sort of special operations/covert warfare forces that require ships of this size as deployment platforms.

On the other hand, their conventional, over-the-beach amphibious lift capability is too small for more extensive operations. Their troop capacity is restricted to 330, too high for a single company and much too low for a battalion. Together the three ships have a lift of 990 GSDF troops, landing them with six LCACs and six helicopters. This is far below the scale of equipment and manpower for a regiment, the formation preferred by the Japanese Ground Self Defense Force as its basic maneuver element.

At this time, the Japanese Navy is completing the design of two large helicopter-carrying ships, the new DDH class. A derivative of these may serve as a follow-on to the Osumi class. In some ways this is ironic; in the early days of the Osumi class, the Osumi design was seen as a possible base for the proposed DDH; now it is the DDH that may be seen as a possible basis for the successor to the Osumi class. However, the Osumi class program has concluded and this report will be archived next year.

Ten-Year Outlook

Since the Osumi program has been completed, no forecast chart is provided.

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