PRELIMINARY REPORT

U.S.S. SHAW

BOMB DAMAGE

Dec. 7, 1941

Pearl Harbor

Class	Destroyer (DD373)	Length (L.W.L.). .	334'
Launched	October, 1935	Beam	35'-5"
Displacement (standard). . . .	1500 tons	Draft (designed). . . .	10'-7-1/2"

References:

(a) Navy Yard, Pearl Harbor, conf. plan DD370-11/1-5, Alt. 0 (Damage Investigation).

(b) C.O. SHAW conf. ltr. to Buships, DD373/A8, Serial 026, of January 29, 1942. (War Damage Report).

Narrative

1. U.S.S. SHAW was in the old New Orleans floating drydock (YFD2) at the Navy Yard, Pearl Harbor, on the morning of December 7, 1941. The weather was clear, with scattered clouds.

2. Three bombs struck the ship between 0755 and 0915. These were released from steep dives at about 1000 feet. Reference (b) reports that the bombs were liquid-filled incendiaries weighing from 200 to 300 lbs. There is no positive evidence that incendiaries were used elsewhere in the attacks on ships at Pearl Harbor, and it is believed that none were dropped on SHAW. The subsequent fire can be ascribed to ruptured oil tanks.

3. The first two bomb paths were inclined from port to starboard. These bombs apparently struck the machine gun platform just abaft 5-inch gun No. 2, and penetrated the gun shelter platform, forecastle and main decks. They perhaps exploded in the crew's mess room on the first platform deck.

4. The third bomb seems to have come in at an angle of about 30 degrees with the horizontal and inclined slightly forward. It appears from the photographic evidence that this bomb struck the port side of the superstructure deck (Photo 10), passed through the corner formed by the after side of the radio room and the port side of the stores office (Photo 11), entered the supply office, went out through the starboard after corner of that office (Photo 12), and thence went overboard through the starboard rail just above the main deck. This path is sketched on Plate I. It may have penetrated the main deck and gone out through the starboard sheer strake. But in any case, it appears impossible that the hole shown on Plate I at frame 64 and in Photo 15 could have been the exit point of this bomb, nor is it likely that it exploded within the ship.

5. It appears that all three hits were made at about the same time. Fire broke out at once. Twenty minutes later the forward magazines blew up. This explosion severed the bow at about frame 65 with the exception of some bottom structure. The dock was deliberately flooded to prevent more damage to it. As it sank, the bow of SHAW toppled over to starboard and went down with the dock. This is shown by Photos 1 and 2. The Yard tug SOTOYOMO was also in the dock and sank with it.

6. Two or more bombs may have exploded in the dock between the ship and the starboard side of the dock, according to reference (b).

7. As the dock sank, oil from its ruptured tanks burned on the water surrounding the ship. A strong wind from the stern aided the personnel in saving the after portion of the ship from the flames.

8. The after portion was later docked on the marine railway. Photos 10 to 13 show the underbottom damage.

9. A temporary bow was built on the ship as shown on Plate II and Photo 17, and the voyage to the mainland for permanent repairs was safely made under her own power. The remains of the original bow are shown by Photo 18.

10. Evidence from the CASSIN and DOWNES attack suggests that the 12-inch, 250-kilogram general purpose bomb was used, such as the sample recovered near Schofield Barracks. It is probable that at least the first two hits on SHAW were from this type of bomb. The holes made by the third bomb in SHAW indicate either the above-mentioned bomb, or possibly a 16-inch A.P. bomb. Blast effects are greater and fragment sizes are smaller for relatively light-case general purpose bombs than for A.P. bombs of the same or somewhat greater sizes. There have been no reports of any discoveries of large fragments from A.P. bombs in or near DOWNES, CASSIN OR SHAW, so the general purpose bomb is the more probable.

Structural Damage

11. No information is available other than that given by the attached photographs and the notes on Plate I, which were entered by the Navy Yard, Pearl Harbor. Some points of interest are:

(a) The director and its foundation held up remarkably well; see Photos 4, 7 and 8.

(b) Aluminum construction disintegrates in a bad fire and has practically zero salvage value.

(c) The wrinkling of the bilge keels and dimpling of the hull shown by Photos 13, 14 and 15 appear more like near-miss damage to a waterborne ship than like blast damage from a ship high and dry in dock.

(d) Indentations made by the bilge blocks in the floating dock are seen on Photo 14. These may have been caused by the ship lifting bodily and dropping back on the blocks while the after portion was only partly waterborne.

12. In connection with (c) above, a somewhat similar case was the bomb damage to H.M.S. CAMERON. This ex-U.S. destroyer was knocked off the bilge blocks while in drydock at Portsmouth, England, on December 5, 1940, by a bomb which struck a dock altar alongside the ship. It does not appear from the British report that CAMERON's hull was nearly as badly wrinkled as Photos 13 to 15 show for SHAW. Both ships were surrounded by burning oil. Perhaps the bombs mentioned in paragraph 6 fell after the magazine explosion, while the dock was sinking, and caused the "near-miss" type of damage seen on SHAW's hull. But this, as other aspects of the damage, is in the realm of conjecture and will probably remain so.

Flooding

13. As the dock sank, the forward fireroom filled with water. There were leaks in the forward bulkhead on the starboard side. There were also some rivets out of the shell at the main deck between frames 68 and 75, where repairs were being made to frames.

14. About 10 or 15 inches of water entered the after fireroom due to leaks around tha periphery of bulkhead 106. This was controlled by a portable gasoline pump obtained from the Yard the next day.

Comment by Commanding Officer

15. If water had been immediately available to fight the fires, the magazines might not have blown up. The magazine explosion is believed to have resulted from the heat of burning fuel oil and wooden blocking in the dock.