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Operation "Sailor Hat" Explosive Tests, February-June 1965

Bitter wartime experience has taught the Navy the need to subject ships, aircraft, weapons and equipment to conditions simulating the destructive forces of combat. Explosive tests to determine the survivability of warship structure and installations are frequently conducted, usually on obsolete ships that are not necessarily expected to survive the experience, but sometimes using modern units which have many years of active service ahead of them.

Among the most spectacular of these tests were three very powerful conventional explosions carried out at Kahoolawe Island, Hawaii, in 1965 as part of Project "Sailor Hat", intended to study the effects of shock and blast on warships built to contemporary design standards. The former light cruiser [Atlanta \(IX-304\)](#) was specially converted as a close-in target ship for this operation. Other modern ships were also assigned as targets, though they would be stationed more distantly from the explosions to ensure that any resulting damage could be readily repaired. Each of the "Sailor Hat" tests used a 500-ton charge of high explosive, stacked in hemispheric form on Kahoolawe's rocky shore.

In addition to *Atlanta*, the guided-missile destroyer *Cochrane* (DDG-21) and the Canadian Navy's escort destroyer *Fraser* were present for the first test, Shot "Bravo", which took place on 6 February 1965. All the ships had their crews on board for this spectacular blast, which resembled a small nuclear explosion in many ways. Afterwards the Pearl Harbor Naval Shipyard repaired the *Atlanta* and somewhat altered her radar antenna installations. On 16 April the second test, Shot "Charlie", was conducted with *Atlanta*, guided-missile frigate *England* (DLG-22), guided-missile destroyer *Benjamin Stoddert* (DDG-22) and HMCS *Fraser* nearby. The series concluded with Shot "Delta" on 19 June 1965. In addition to *Atlanta*, the guided missile frigate [Dale \(DLG-19\)](#) and guided missile destroyer *Towers* (DDG-9) were present on that occasion.

This page features all the views we have of the Operation "Sailor Hat" Explosive Tests at Kahoolawe, Hawaii, between February and June 1965.

For other images related to this subject, see:

- [USS Atlanta \(IX-304\), 1964-1970.](#)

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Photo #: KN-10831

Operation "Sailor Hat", 1965

The 500-ton TNT explosive charge for Shot "Bravo", first of a series of three test explosions, is ready for detonation on the southwestern tip of Kahoolawe Island, Hawaii, circa early February 1965. It is 17 feet high and 34 feet in diameter.

Weapons effects test ship *Atlanta* (IX-304) is moored in the background. Note that her bow is facing right and that a large SPS-37/SPS-43A type radar antenna is mounted on a pedestal amidships.

Official U.S. Navy Photograph.

Online Image: 103KB; 740 x 610 pixels

Reproductions of this image may also be available through the [National Archives](#) photographic reproduction system as Photo # 428-KN-10831.

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Photo #: KN-11352

Operation "Sailor Hat", 1965

Detonation of the 500-ton TNT explosive charge for Shot "Bravo", first of a series of three test explosions on the southwestern tip of Kahoolawe Island, Hawaii, 6 February 1965. Weapons effects test ship *Atlanta* (IX-304) is moored in the left center.

Note the shock wave spreading over the water just beyond the ship, and the shock condensation cloud lifting overhead.

Official U.S. Navy Photograph.



Online Image: 86KB; 740 x 615 pixels

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Photo #: NH 98886

Operation "Sailor Hat", 1965

"Sailor Hat" Shot "Bravo"'s 500 tons of high explosive are detonated on Kahoolawe Island, Hawaii, 6 February 1965, with the test ship *Atlanta* (IX-304) moored nearby. Note smoke or dust around the ship's foremast, and the shock wave perimeter expanding on the water beyond the ship.

See [Photo # NH 98886 \(extended caption\)](#) for text that accompanied this image.

Official U.S. Navy Photograph, from the collections of the Naval Historical Center.

Online Image: 96KB; 600 x 765 pixels



Photo #: USN 1110434

Operation "Sailor Hat", 1965

The 500-ton TNT explosive charge for Shot "Charlie", second of a series of three test explosions, ready for detonation on the southwestern tip of Kahoolawe Island, Hawaii, April 1965.

USS *Atlanta* (IX-304) is moored in the background, with her bow facing left. A large SPS-37/SPS-43A type radar antenna is mounted on a pedestal on her foredeck, immediately in front of an ASROC launcher. An SPS-30 type radar antenna is on the pedestal at her extreme bow. Both of these antennas were relocated after the February 1965 Shot "Bravo".

Official U.S. Navy Photograph, now in the collections of the National Archives.

Online Image: 67KB; 740 x 610 pixels

Reproductions of this image may also be available through the [National Archives](#) photographic



reproduction system as Photo # 428-N-1110434.

Photo #: USN 1110440

Operation "Sailor Hat", 1965

500-ton TNT explosive charge is detonated in Shot "Charlie", April 1965. This was the second of three Operation "Sailor Hat" test explosions conducted on Kahoolawe Island, Hawaii, in February-June 1965. USS *Atlanta* (IX-304) is moored to the left of the blast, with her bow pointing to the left.

Official U.S. Navy Photograph, now in the collections of the National Archives.

Online Image: 47KB; 740 x 610 pixels

Reproductions of this image may also be available through the [National Archives](#) photographic reproduction system as Photo # 428-N-1110440.



For other images related to this subject, see:

- [USS *Atlanta* \(IX-304\), 1964-1970.](#)