

Sandia Atomic Museum, Albuquerque, NM

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What is now the National Atomic Museum (soon to be renamed the National Museum of Nuclear Science and History) was once the Sandia Atomic Museum, housed at Sandia Base, which was a Defense Department enclave within Kirtland Air Force Base. Sandia Base has since merged with Kirtland and the museum was moved off base due to security concerns after 9/11. These pictures show the museum as it was in the spring of 1971.

All material on this page is available in the open literature. The external appearance of nuclear weapons systems, and often even the appearance of the nuclear warheads themselves, are unclassified. Only if the outer appearance could provide clues to inner workings is the appearance classified. It makes sense to minimize the risk of disclosing classified information by minimizing the amount of detail visible.



"Little Boy" was the atomic bomb dropped on Hiroshima. It was a "gun type" weapon, meaning two pieces of uranium were fired together at high speed to form a critical mass. This configuration was considered such a sure thing there was no felt need for a test.

Needless to say, the original was damaged in use and this is a replica.



"Fat Man," the bomb used on Nagasaki, was an implosion device. It used a sphere of high explosives to compress a sphere of plutonium to critical density. This type of device was tested at Alamogordo.

Interestingly, there are a number of extant original bomb casings that were used for aerodynamic testing.

This is why the U.S. lagged in the early Space Race. An early thermonuclear weapon.

With no other way to strike the United States than missiles, the Soviet Union concentrated on building extremely powerful rockets. We had manned bomber



bases close to Soviet territory, so we held off on rockets until the weapons could be made smaller.



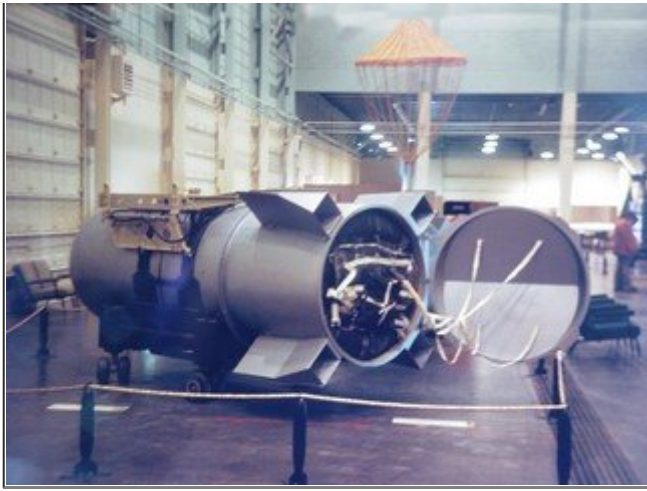
A variety of weapon configurations in the foreground. The hanging rocket is an artillery rocket called Little John. The rocket in the background with the bulbous nose is the Honest John, which was first deployed in 1953 and finally retired in 1982. The large upright nose cone is from a Corporal missile.

A rocket is unguided. A missile had on-board guidance.



The Honest John is in the background with several nuclear artillery shells in the foreground. The large upright shell is 280 mm (11 inches) with 8-inch and 155-mm (6 inch) shells to the right. The bulbous object in the far right is a Davy Crockett warhead, intended to be launched as an infantry weapon. The combination of low yield, instability, inaccuracy, and low effectiveness made it pretty much obsolete right off the drawing board, though quite a few were deployed.

A parachute-dropped weapon casing.



A Titan missile warhead in the foreground, with a weapon container on the yellow cart.

Strictly speaking, only the nuclear weapon itself is the warhead. The warhead plus its casing, firing system, and so on is the *warhead section*.



Minuteman missile nose cones. An intact nose cone at left, one that was used for a re-entry test at right. The outer casing is meant to wear off, or ablate, to shed re-entry heat.

These could fit under a desk and could carry weapons of megaton yield.



A variety of casings and delivery systems, all built around the same warhead. Many of these could also carry conventional payloads so the outward appearance doesn't necessarily signify a nuclear weapon.

Below: additional weapon configurations.

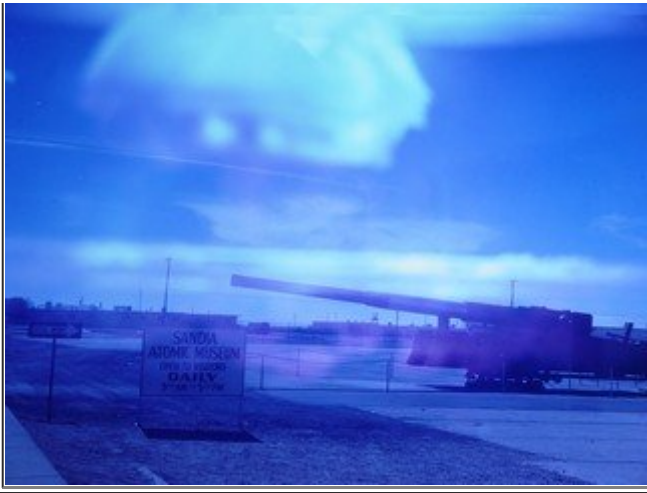


One of the first atomic artillery pieces. The shell was 280 mm (11 inches) in diameter. Later artillery shells were as small as 155 mm (6 inches).

Considering the thousands of g's an artillery shell experiences, it's astonishing that nuclear artillery shells can work at all.

The U.S. removed its nuclear artillery shells from Europe in 1991.

Double exposure of the cannon and nuclear explosion.



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