

Weapons of Mass Destruction: A Visual Retrospective



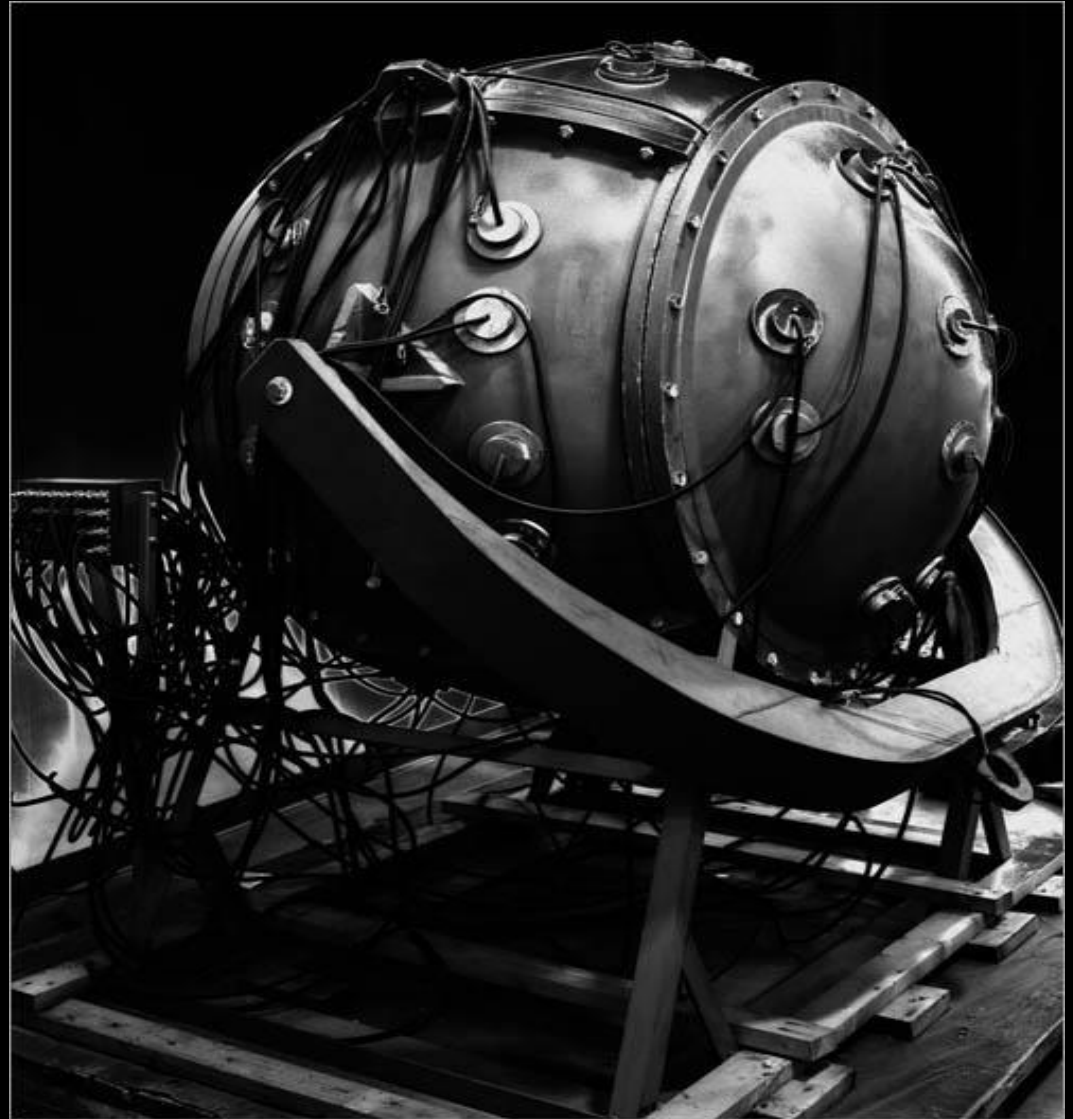
- In this chilling WMD retrospective by photographer Martin Miller, we are confronted with beautifully shot images of menacing doomsday devices. These haunting black and white photographs will stir the emotions of many, as the incredible composition and tones contrast the stark reality of the subject matter.

In Martin's own words:

- Although the term, WMD, has become a part of our daily lexicon, it remains very much an abstraction for most of us. This series of images offers a retrospective look at some of these weapons. Most of my subjects are drawn from the Cold War period during which there was a very real threat to the survival of civilization itself. The last sixty years has seen a frenzied tango between strategy and technology that has left us with the chilling array of doomsday machines seen here. In the series below entitled, Weapons of Mass Destruction, a Visual Perspective, we get a chronological glimpse into the Atomic Age.

1. The Gadget (Trinity Atomic Bomb) 1945

Trinity was the code name of the first detonation of a nuclear device. This test was conducted by the United States Army on July 16, 1945, in the Jornada del Muerto desert about 35 miles (56 km) southeast of Socorro, New Mexico, at the new White Sands Proving Ground, which incorporated the Alamogordo Bombing and Gunnery Range. (The site is now the White Sands Missile Range.) The date of the test is usually considered to be the beginning of the Atomic Age.



2. The Trinity Explosion – July 16, 1945

The Trinity explosion, 0.016 seconds after detonation. The fireball is about 600 feet (200 m) wide. The black specks silhouetted along the horizon are trees.



3. Little Boy (Hiroshima Atomic Bomb) 1945

“Little Boy” was the codename for the atomic bomb dropped on Hiroshima on August 6, 1945 by the Boeing B-29 Superfortress Enola Gay, piloted by Colonel Paul Tibbets of the 393rd Bombardment Squadron, Heavy, of the United States Army Air Forces. It was the first atomic bomb to be used as a weapon. The second, the “Fat Man”, was dropped three days later on Nagasaki.

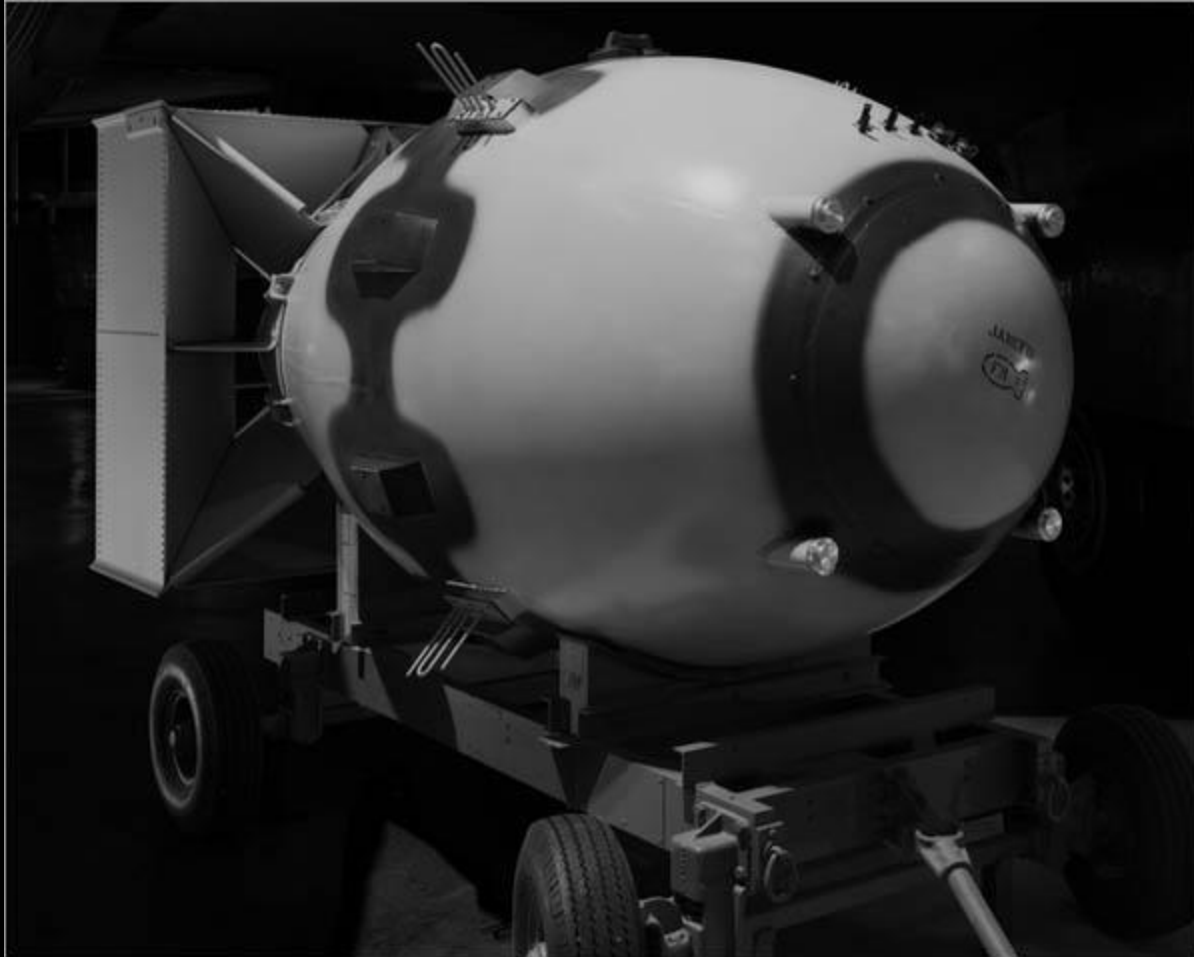
The weapon was developed by the Manhattan Project during World War II. It derived its explosive power from the nuclear fission of uranium 235. The Hiroshima bombing was the second artificial nuclear explosion in history, after the Trinity test, and the first uranium-based detonation. It exploded with an energy between 13 and 18 kilotons of TNT (54 and 75 TJ) (estimates vary). It has been estimated that 130,000 to 150,000 people had died as a result of its use by the end of December 1945. Its design was not tested in advance, unlike the more complex plutonium bomb (Fat Man). The available supply of enriched uranium was very small at that time, and it was felt that the simple design of a uranium “gun” type bomb was so sure to work that there was no need to test it at full scale.



4. "Bockscar" (Nagasaki B-29 Bomber) 1945



5. Fat Man (Nagasaki Atomic Bomb) 1945



- “Fat Man” is the codename for the atomic bomb that was detonated over Nagasaki, Japan, by the United States on August 9, 1945. It was the second of two nuclear weapons to be used in warfare to date (the other being “Little Boy”), and its detonation caused the third man-made nuclear explosion. The name also refers more generically to the early nuclear weapon designs of U.S. weapons based on the “Fat Man” model. It was an implosion-type weapon with a plutonium core, similar to “The gadget”, the experimental device detonated only a month earlier in New Mexico.

The original target for the bomb was the city of Kokura, but obscuring clouds necessitated changing course to the alternative target, Nagasaki. “Fat Man” was dropped from the B-29 bomber Bockscar (shown in the previous picture), piloted by Major Charles Sweeney of the 393d Bombardment Squadron, Heavy, and exploded at 11:02 AM (JST), at an altitude of about 1,650 feet (500 m), with a yield of about 21 kilotons of TNT or 88 terajoules.

Because of poor visibility due to cloud cover, the bomb missed its intended detonation point, and damage was somewhat less extensive than that in Hiroshima. An estimated 39,000 people were killed outright by the bombing at Nagasaki, and a further 25,000 were injured. Thousands more died later from related blast and burn injuries, and hundreds more from radiation illnesses from exposure to the bomb’s initial radiation. The bombing raid on Nagasaki had the third highest fatality rate in World War II after the nuclear strike on Hiroshima and the March 9/10 1945 fire bombing raid on Tokyo.

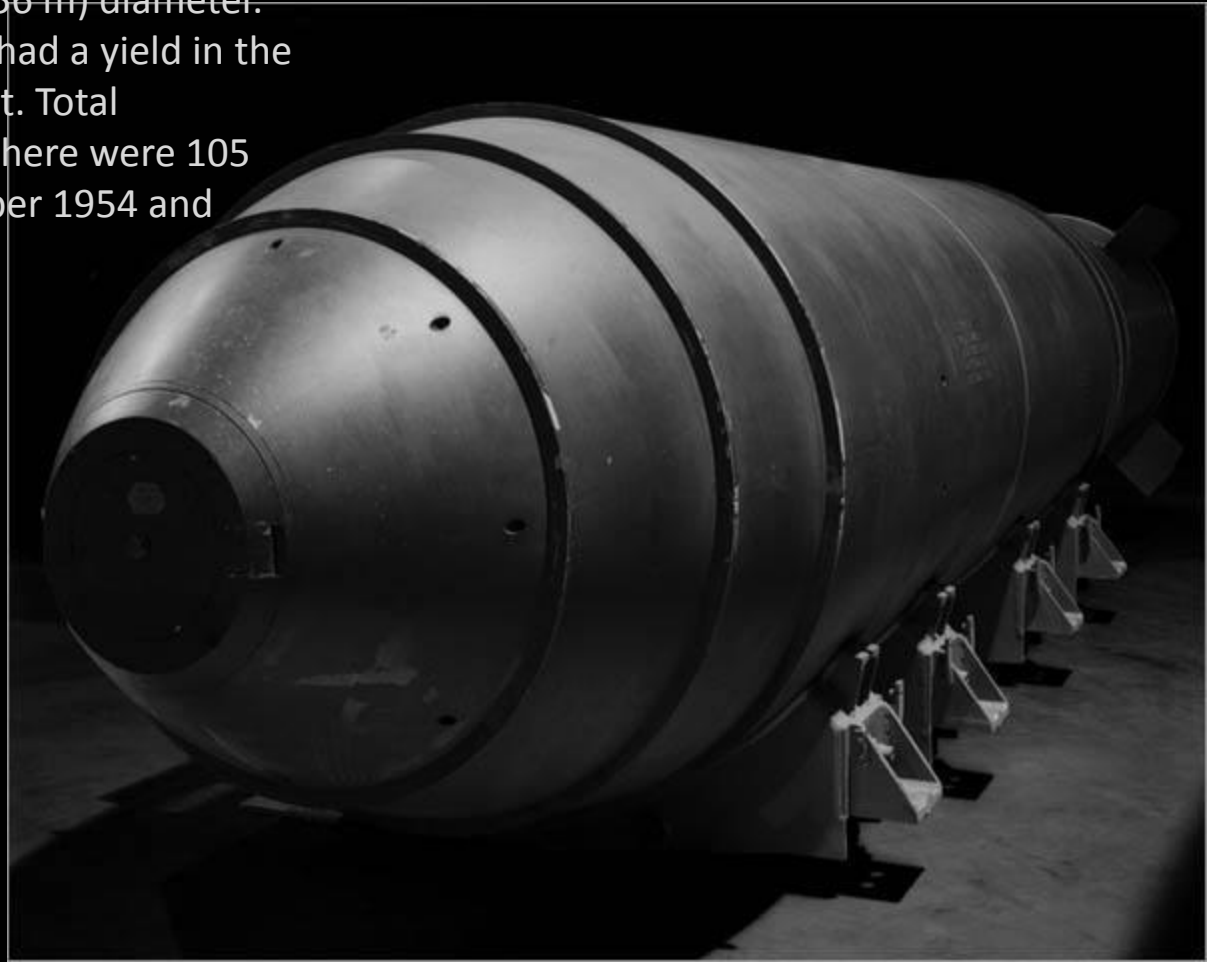
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6. B-36 Strategic Bomber 1948



7. Mk-17 Thermonuclear Bomb 1954

The Mark 17 and Mark 24 were the first mass-produced hydrogen bombs deployed by the United States. The MK 17/24 bombs were 24 feet 8 inches (7.52 m) long, 61.4 inches (1.56 m) diameter. They weighed 21 tons. The Mark 17 had a yield in the range of 25 megatons TNT equivalent. Total production of Mk 17s was 200, and there were 105 Mk 24s produced, all between October 1954 and November



8. B-36 Bomb Bay 1948



9. B-47 Strategic Bomber 1951



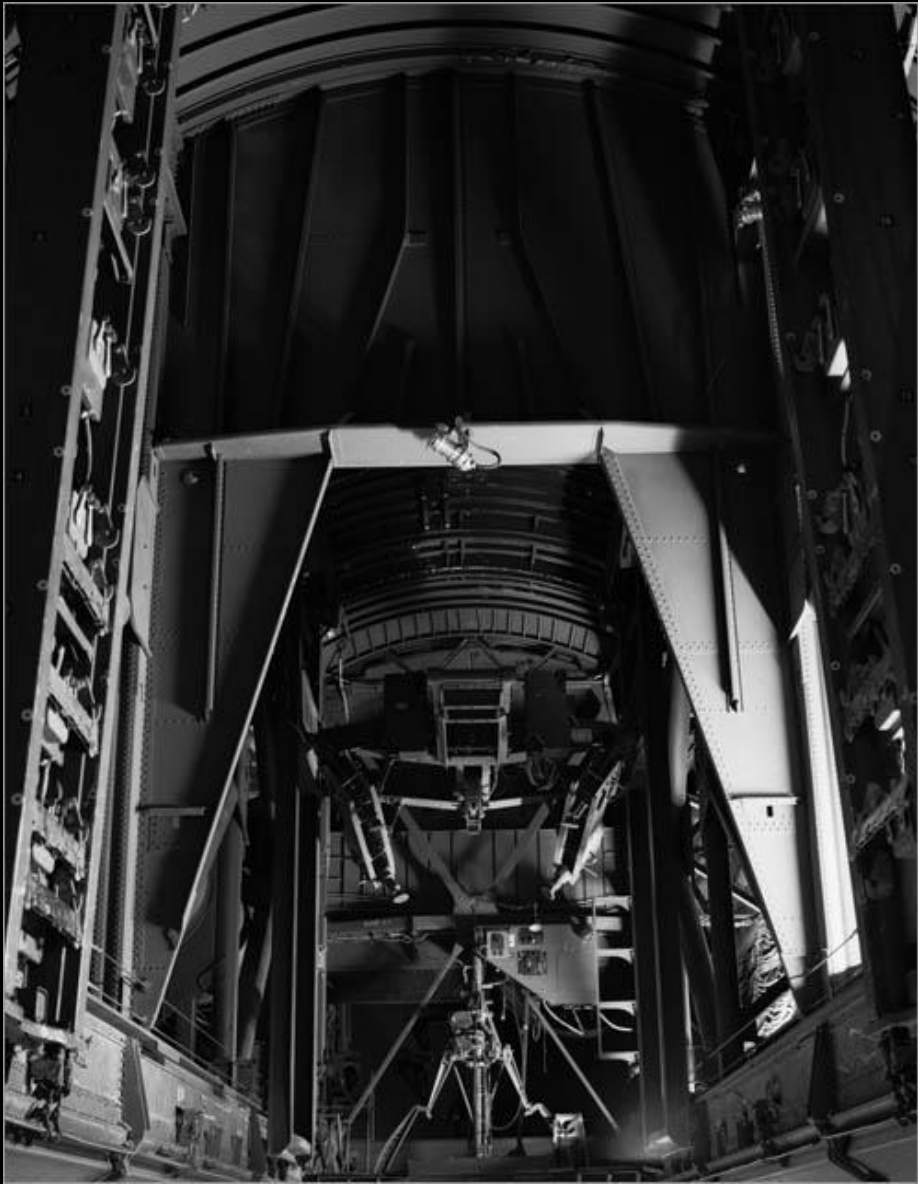
10. Mk-6 Atomic Bomb 1951

The Mark 6 nuclear bomb was an American nuclear bomb based on the earlier Mark 4 nuclear bomb and its predecessor, the Mark 3 Fat Man nuclear bomb design. The Mark 6 was produced from 1951-1955 and saw service until 1962. Seven variants and versions were produced, with a total production run of all models of 1100 bombs. The basic Mark 6 design was 61 inches in diameter and 128 inches long, the same basic dimensions as the Mark 4 and close to the Mark 3. Various models weighed 7,600 to 8,500 pounds.

Early models of the Mark 6 utilized the same 32-point implosion system design concept as the earlier Mark 4 and Mark 3; the Mark 6 Mod 2 and later used a different, 60-point implosion system. Various models and pit options gave nuclear yields of 8, 26, 80, 154, and 160 kilotons for Mark 6 models.



8. B-36 Bomb Bay 1948



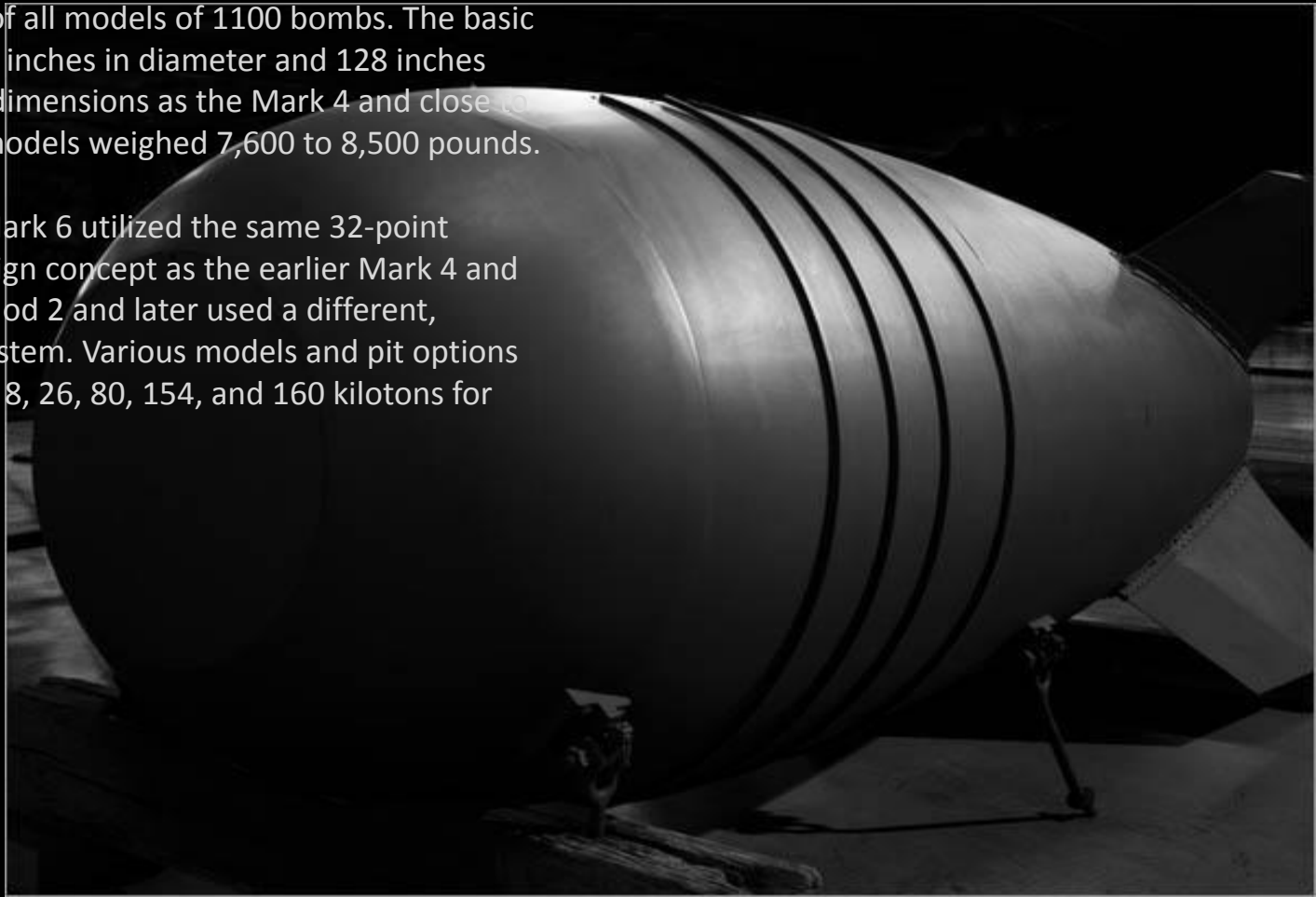
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11. B-52 Strategic Bomber 1955



12. M65 280mm Atomic Cannon 1951





13. Atlas-D ICBM 1959

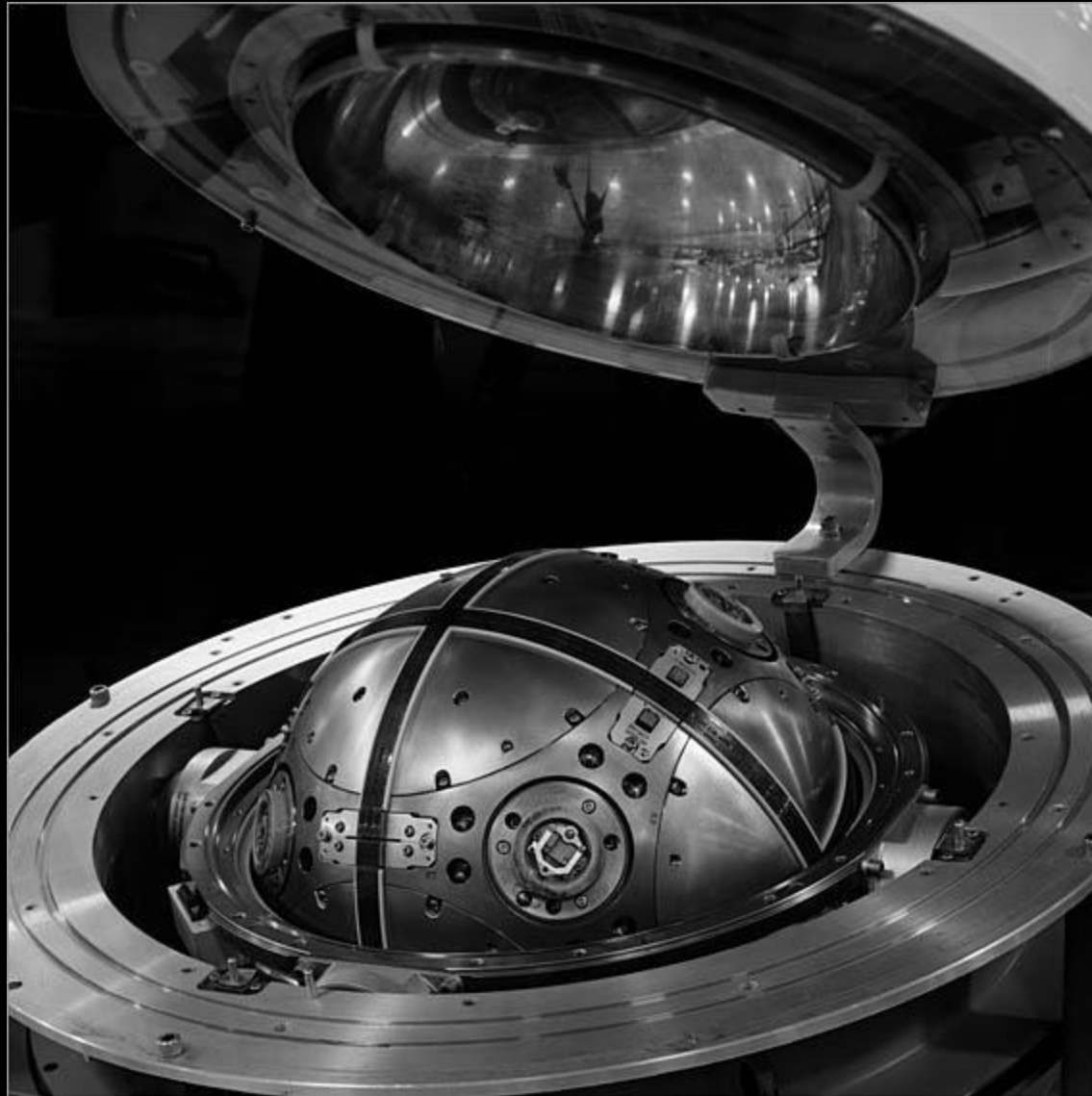
14. Minuteman II ICBM Control Bunker 1965



**15. USS Lewis and Clark Ballistic Missile
Submarine 1965**



**16. Inertial Guidance Module, Peacekeeper
(MX) ICBM 1986**



17. Midgetman ICBM Hardened Mobile Launcher 1988



18. B-2 Strategic Bomber 1989





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