List of nuclear weapons

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This is a **list of nuclear weapons** listed according to country of origin, and then by type within the states.

This list is incomplete; you can help by expanding it.

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Nuclear weapons

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United States

Note: US nuclear weapons of all types (bombs, warheads, shells, and others) are numbered in the same sequence starting with the Mark 1 and (as of March 2006) ending with the W-91 missile warhead (which was canceled prior to introduction into service). All designs which were formally intended to be weapons at some point received a number designation. Pure test units which were experiments (and not intended to be weapons) are not numbered in this sequence.

In some cases, such as B53 nuclear bomb and W-53 warhead, and the W54 and Davy Crockett Mk-54, the same core nuclear system was used in multiple applications. This is indicated by the same sequence number for all versions of that nuclear weapon system.

In other cases, variants are assigned their own number, such as the B61 nuclear bomb which was the parent design for the W80, W81, and W84.

This list includes weapons which were developed to the point of being assigned a model number (and in many cases, prototypes were test fired), but which were then canceled prior to introduction into military service. Those models as listed as canceled, along with the year or date of cancellation of their program.

- Bombs — designated with Mark ("Mk") numbers until 1968, and with "B" numbers after that. "Test Experimental" bombs designated with "TX".

- Mark 1 – "Little Boy" gun-type weapon (used against Hiroshima). (13-18 Kt, 1945-1950)
- Mark 2 – "Thin Man" plutonium gun design—cancelled in 1944
  - Implosion Mark 2 – Another Manhattan Project plutonium implosion weapon, a hollow pit implosion design, was also sometimes referred to as Mark 2. Also cancelled 1944.
- Mark 3 – "Fat Man" implosion weapon (used against Nagasaki). (21 Kt, 1945-1950)
- Mark 4 – Post-war "Fat Man" redesign. Bomb designed with weapon characteristics as the foremost criteria. 1949-1953)
- Mark 5 – Significantly smaller high efficiency nuclear bomb. (1-120 Kt, 1952-1963)
- Mark 6 – Improved version of Mk-4. (8-160 Kt, 1951-1962)
- Mark 7 – Multi-purpose tactical bomb. (8-61 Kt, 1952-1967)
- Mark 8 – Gun-assembly, HEU weapon designed for penetrating hardened targets. (25-30 Kt, 1951-1957)
- Mark 10 – Improved version of Mk-8 (12-15 Kt, cancelled May 1952).
- Mark 11 – Re-designed Mk-8. Gun-type (8-30 Kt).
- Mark 12 – Light-weight bomb to be carried by fighter planes (12-14 Kt).
- Mark 13 – Improved version of Mk-6 (cancelled August 1954).
- TX/Mark 14 – First deployable solid-fuel thermonuclear bomb (Castle Union device). Only five produced. (5 Mt)
- Mark 15 – First "lightweight" thermonuclear weapon. (1.7-3.8 Mt, 1955-1965)
- TX/Mark 16 – First weaponized thermonuclear weapon (Ivy Mike device). Only cryogenic weapon ever deployed. Only five produced. (6-8 Mt)
- Mark 17 – High-yield thermonuclear. Heaviest U.S. weapon, second highest yield of any U.S. weapon. Very similar to Mk-24. (10-15 Mt)
- Mark 18 – Very high yield fission weapon (Ivy King device).
- Mark 20 – Improved Mark 13 (cancelled 1954)
- Mark 21 – Re-designed variant of Castle Bravo test
- Mark 22 – Failed thermonuclear design (Castle Koon device, cancelled April 1954).
- Mark 24 – High-yield thermonuclear, very similar to Mk-17 but had a different secondary.
- Mark 26 – Similar design to Mk 21 (cancelled 1956).
- Mark 27 – Navy nuclear bomb (1958-1965)
- B28 nuclear bomb (Mark 28) (1958-1991)
- Mark 36 – Strategic nuclear bomb (1956 - 1961) 9-10 Mt
- B39 nuclear bomb (Mark 39) (1957-1966)
- B41 nuclear bomb (Mark 41) (1960-1976); highest yield US nuclear weapon (25 mt).
- B43 nuclear bomb (Mark 43) (1961-1991)
- B46 nuclear bomb or (Mark 46); experimental, design evolved into B53 nuclear bomb and W-53 warhead (cancelled 1958)
- B53 nuclear bomb (1962-1997; still in enduring stockpile)
- B57 nuclear bomb (1963-1993)
- B61 nuclear bomb (1966-current service)
- B77 nuclear bomb (cancelled 1977)
- B83 nuclear bomb (1983-current service)
- B90 nuclear bomb (cancelled 1991)

- Nuclear artillery shells
  - 16-inch (406 mm)
    - W23 (1956-1962) Gun-type
  - 280mm:
    - W9 (1952-1957) Gun-type
    - W19 (1953-1956) Gun-type, W9 derivative

    - 8-inch (203 mm)
        - W33 (1956-1980s) Gun-type
        - W75 (cancelled 1973)
        - W79 (1981-1992)
    - 155mm
        - W48 (1963-1992)
        - W74 (cancelled 1973)
        - W82 (cancelled 1983 (W-82-0 Enhanced Radiation) and 1990 (W-82-1 fission only))

- Atomic Demolition Munitions
    - W-7/ADM-B (c.1954-1967)
    - T4 ADM (1957-1963) Gun-type
    - W30/Tactical Atomic Demolition Munition (1961-1966)
    - W31/ADM (1960-1965)
    - W45/Medium Atomic Demolition Munition (1964-1984)
    - W54/Special Atomic Demolition Munition (1965-1989)

- Missile warheads
    - W4 for SM-62 Snark missile (cancelled 1951)
    - W5 for MGM-1 Matador (1954-1963)
    - W7 for MGR-1 Honest John (1954-1960), Corporal SRBM (1955-1964), Nike Hercules SAM (1958-1960s)
    - W8 for SSM-N-8 Regulus, Gun-type (cancelled 1955)
    - W12 for RIM-8 Talos missile (cancelled 1955)
    - W13 for SM-62 Snark missile and Redstone MRBM (cancelled 1954)
    - W15 for missiles (cancelled 1957)
    - W21 for B-58 bomber, SM-64 Navaho missile (Cancelled 1957)
    - W25 for MB-1 "Ding Dong", later AIR-2 Genie (1957-1984)
    - W27 for SSM-N-8 Regulus missile (1958-1965)
    - W28 for AGM-28 Hound Dog missile, MGM-13 Mace missile (1958-1976)
    - W29 for (cancelled 1955)
    - W30 for RIM-8 Talos missile (1959-1979)
    - W31 for Honest John (1961-1985), Nike Hercules (1960s-1988)
    - W34 for Mk101 Lulu nuclear depth charge, Mk44 ASTOR torpedo, Mk105 bomb (1958-1976)
    - W35 for Atlas ICBM, Titan I ICBM, Thor IRBM, PGM-19 Jupiter (cancelled 1958)
    - W37 (cancelled 1956)
    - W38 for Atlas ICBM and Titan I ICBM (1961-1965)
    - W39 for Redstone MRBM (1958-1964)
    - W40 for MGM-18 Lacrosse SRBM (1959-1964)
    - W41 for (cancelled 1957)
    - W42 for Air to Air and Surface to Air missiles (cancelled 1961)
    - W44 for ASROC (1961-1989)
    - W45 for Little John rocket, RIM-2 Terrier and AGM-12 Bullpup missiles, MADM (1961-1969 (some 1988))
    - W46 for Redstone, Snark, B-58 (cancelled 1958)
    - W47 for Polaris SLBM (1960-1974)
    - W49 for PGM-19 Jupiter (1959-1963) and Thor IRBM (1959-1963)
    - W50 for MGM-31 Pershing (1960-1990)
    - W51 for various (program converted to W54 in 1959)

1962 test of an ASROC antisubmarine rocket armed with the W44

- W52 for MGM-29 Sergeant (1962-1977)
- W53 for LGM-25 Titan II (1962-1987)
- W54 for Davy Crockett recoilless rifle and AIM-26 Falcon AAM (1961-1972)
- W55 for Subroc (1965-1989)
- W56 for Minuteman I and II ICBM (1963-1993)
- W58 for Polaris A-3 SLBM (1964-1982)
- W59 for Minuteman I ICBM and Skybolt missile (1962-1969)
- W60 for Typhon SAM (cancelled 1963)
- W62 for Minuteman III ICBM, (1970-current service)
- W63 for Lance SRBM (cancelled 1966)
- W64 for Lance SRBM (cancelled 1964)
- W65 for Sprint ABM (cancelled 1968)
- W66 for Sprint ABM (1970-1975)
- W67 for Poseidon SLBM and Minuteman III ICBM (cancelled 1967)
- W68 for Poseidon SLBM (1970-1991)
- W69 for AGM-69 SRAM (1972-1990)
- W70 for Lance SRBM (1973-1992)
- W71 for LIM-49A Spartan ABM (1974-1975; dismantled 1992)
- W72 for AGM-62 Walleye (1970-1979)
- W73 for Condor missile (cancelled 1970)
- W76 for Trident I SLBM (1978-current service)
- W78 for LGM-30 Minuteman III (1979-current service)
- W80 for AGM-86 ALCM, AGM-129 ACM and BGM-109 Tomahawk (1981-current service)
- W81 for Standard missile, based on B61 (cancelled 1986)
- W84 for BGM-109G Gryphon GLCM (1983-1991)
- W85 for Pershing II IRBM (1983-1991)
- W86 for Pershing II IRBM Earth penetrating warhead option (cancelled 1980)
- W87 for Peacekeeper ICBM (1986-2005) and Minuteman III ICBM (2007-current service)
  - W87-1 for MGM-134 Midgetman ICBM (cancelled 1992)
- W88 for Trident II SLBM (1988-current service)
- W89 for AGM-131 SRAM II (cancelled 1991)
- W91 for SRAM-T (cancelled 1991)

- Ongoing design projects
  - RNEP (Robust Nuclear Earth Penetrator) design program (2001-2005)
  - Reliable Replacement Warhead (RRW1) design program (2004-)

See also Enduring Stockpile.

Common nuclear primaries

A number of American weapons designs shared common components between several designs. These include publicly identified models listed below.

Common nuclear fission primaries	
Model	Used in these weapons
RACER IV primary	TX/Mark 14,TX/Mark 16,Mark 17
Python primary	B28 W28 W40 W49
Boa primary	W30 W52

Robin primary	W38 W45 W47
Tsetse primary	B43 W44 W50 B57 W59
Kinglet primary	W55 W58
B61 Family	B61 W69 W73 W80 W81 W84 W85 W86

Soviet Union/Russia

At the peak of its arsenal, Russia possessed around 16,000 nuclear weapons in its stockpile, rivaled only by the United States arsenal.

- Tests
  - Joe-1
- Torpedoes
  - 53-58 torpedo with 10 kiloton RDS-9 warhead
  - VA-111 Shkval
- Bombs
  - RDS-1, 22 kiloton bomb. Tested 29 August 1949 as "First Light" (Joe 1). Total of 5 stockpiled
  - RDS-2, 38 kiloton bomb. Tested 24 September 1951 as "Second Light." The RDS-2 was an entirely Russian design, delayed by development of the RDS-1
  - RDS-3, 42 kiloton bomb. First Soviet bomb tested in an airdrop on 18 October 1951. First 'mass produced" Soviet bomb
  - RDS-31, 62 kiloton bomb. Tested 24 October 1954. The RDS-31 was an improved RDS-3 with external neutron generator
  - RDS-4, "Tatyana" 42 kiloton bomb. The RDS-4 was smaller and lighter than previous Soviet Bombs.
  - RDS-6, also known as RDS-6S, or "sloika" or 'layer cake" gaining about 20% of its yield from fusion. RDS-6 was tested on 12 August 1953. Yield 400 kilotons
  - RDS-7, a backup for the RDS-6, the RDS-7 was a 500 kiloton all fission bomb comparable to the US Mk-18, development dropped after success of the RDS-6S
  - RDS-27, 250 kiloton bomb, a 'boosted' fission bomb tested 6 November 1955.
  - RDS-37, 1.6 megaton bomb, the first Soviet two-stage hydrogen bomb, tested 22 November 1955
  - RDS-220 Tsar Bomba an extremely large three stage bomb, initially designed as an 100-megaton-bomb, but was scaled down to 50 megatons for testing.
- ICBM Missiles
  - RDS-9, 40 kiloton warhead [1] for R-5M MRBM (SS-3)
  - RDS-37 3 megaton warhead [2] for R7 Semyorka / SS-6 ICBM
  - RDS-46 5 megaton warhead [3] for R-7A Semyorka / SS-6]] ICBM
  - 8F17 3 megaton [4] warhead for R-16 / SS-7 ICBM
  - 8F115 and 8F116 5-6 megaton [5] warhead for R-16 / SS-7 ICBM
  - Unknown model warheads for R-9 / SS-8 Sasan ICBM
  - 15F42 1.2 megaton warhead for UR 100U / SS-11 Mod 3 Sego ICBM
  - Unknown model 750 kiloton to 1.0 megaton warhead for RT-2 / SS-13 Mod 1 Savage ICBM
  - 15F1r 750 kiloton to 1.65 megaton warhead for RT-2 / SS-13 Mod 2 Savage ICBM
  - Unknown model 466 kiloton warhead for RT-2 / SS-13 Mod 3 Savage ICBM
  - Unknown model 500 kiloton warhead for RT-20 / SS-15 Scrooge ICBM
  - Unknown model 1.5 megaton warhead for RT-20 / SS-15 Scrooge ICBM
  - Unknown model 650 kiloton to 1.5 megaton warheads for RT-21 Temp 2S SS-16 Sinner ICBM

    - Unknown model 300-750 kiloton warheads for MR-UR-100 Sotka / SS-17 Spanker Mod 1 ICBM
    - Unknown model 4-6 megaton warhead for MR-UR-100 Sotka / SS-17 Spanker Mod 2 ICBM
    - 8F675 (Mod2) 20 megaton warhead for R-36M2 / SS-18 Satan ICBM
    - 8F021 2 or 5 megaton warheads for R-36MP / SS-18 Satan ICBM (3 MIRV warheads)
    - unknown 550 kiloton warheads for R-36M2 / SS-18 Satan ICBM (10 MIRV warheads)
    - Unknown model 750 kiloton warheads for R-36M2 / SS-18 Satan ICBM (10 MIRV warheads)
    - Unknown model 550 kiloton warheads for UR-100N / SS-19 Mod 1 Stilleto ICBM (6 MIRV warheads)
    - Unknown model 2.5-5 megaton warhead for UR-100N / SS-19 Mod 2 Stilleto ICBM
    - Unknown model 550 kiloton warheads for RT-23 Molodets / SS-24 Scalpel ICBM (10 MIRV warheads)
    - Unknown model 550 kiloton warhead for RT-2PM Topol / SS-25 Sickle ICBM
    - Unknown model 550 kiloton warhead for RT-2UTTH Topol M / SS-27 ICBM
- Various tactical nuclear weapons including "suitcase bombs"

United Kingdom

Blue Steel

- Missile warheads
    - Red Snow
- Other nuclear weapons
    - WE.177 (also used as a nuclear depth charge)
    - Blue Peacock (nuclear land mine, a.k.a. the "chicken-powered nuclear bomb")

Canada

Canada has not maintained a stockpile of nuclear weapons since 1984.

- Missiles
    - AIR-2 Genie (1961-1984)

France

France is said to have an arsenal of 350 nuclear weapons stockpiled as of 2002.

- Bombs
    - AN 11
    - AN 22
    - AN 52
- Missile warheads
    - MR 31
    - MR 41
    - AN 51
    - AN 52
    - TN 60
    - TN 61
    - TN 70

- TN 71
- TN 75
- TN 80
- TN 81
- TN 90

China

China is believed to possess around 400 nuclear weapons, but has released very little information about the contents of its arsenal.

- Tests:
  - 596 (nuclear test)
  - Test No. 6

- Ballistic Missiles:
  - DF-1
  - DF-2
  - DF-3A
  - DF-4
  - DF-5
  - DF-11
  - DF-15
  - DF-21
  - DF-31
  - DF-41
  - JL-1
  - JL-2

- Cruise Missiles
  - SS-N-2
  - DH-10
  - HN-1
  - HN-2
  - HN-3

India

India is said to possess between 60-140 nuclear weapons.The specifications of its weapons are not public.

- Tests:
  - Smiling Buddha
  - Operation Shakti
- Missiles
  - Agni I
  - Agni II
  - Agni III
  - Agni IIIs/+
  - Agni IV
  - Agni V
  - Prithvi I
  - Prithvi II

- Prithvi III
- Shaurya
- Akash
- Trishul
- BrahMos
- Surya-1
- Surya-2
- Nag

Iran

Persistent rumors throughout the 1990s that Iran had obtained ex-Soviet nuclear weapons have never been confirmed or conclusively refuted.

Iran is actively seeking to develop nuclear power capability, for non-military use, in accordance with the Nuclear Non-Proliferation Treaty under the supervision of the International Atomic Energy Agency.

Many experts have concluded that Iran's contemporary late 1990s and 2000 formerly covert uranium enrichment program was part of a secret nuclear weapons program. Iran disputes this conclusion. As of April 2007, the International Atomic Energy Agency and United Nations Security Council are involved in addressing this question. Also unconfirmed reports from April 12, 2007 Iranian President, Mahmoud Ahmadinejad, announced that Iran has enriched uranium. As of April 13, 2007 Iran now demands to be seen as a nuclear power. The UN has voted to sanction Iran if it doesn't shut down its uranium enriching facilities. Recently Iran has failed to meet the deadline.

Israel

Israel is widely believed to possess a substantial arsenal of nuclear weapons and missiles, estimated at 75-130 and 100-200[1] warheads, but refuses officially to confirm or deny whether it has a nuclear weapon program, leaving the details of any such weapons unclear. Mordechai Vanunu, a former nuclear technician for Israel, confirmed the existence of a nuclear weapons program in 1986.

Unconfirmed rumors have hinted at tactical nuclear artillery shells, light fission bombs and missile warheads, and perhaps thermonuclear missile warheads. [2]

The BBC News Online website published an article[6] on the 28 May 2008, which quotes former U.S. President Jimmy Carter as stating that Israel has at least 150 nuclear weapons. The article continues to state that this is the second confirmation of Israel's nuclear capability by a U.S. spokesman following comments from U.S. Defence Secretary Robert Gates at a Senate hearing and had apparently been confirmed a short time later by Israeli Prime Minister Ehud Olmert. [3]

Pakistan

Pakistan is believed to have around 40-60 HEU based nuclear weapons. While Plutonium based research is also available, the estimated stockpile is not enough to be comparable to Uranium ones, and the specifications of these are not available publicly. The main series for nuclear transportation is Hatf.

- Abdali-I (BRBM)
- Ghaznavi (SRBM)
- Ghauri (missile) (MRBM)

- Ghauri-II (MRBM)
- Ghauri-III (Close ICBM)
- Hatf-I/IA (BRBM)
- Shaheen missile (MRBM)
- Shaheen-II (IRBM)
- Shaheen-III (IRBM)
- Babur missile (Cruise Missile)
- Ra'ad (Air Launched Cruise Missile)

The first two in the above mentioned series are not confirmed to be capable for nuclear standoff

North Korea

North Korea claims to possess nuclear weapons, however, the specifications of its systems are not public. On 9 October 2006, North Korea carried out an alleged nuclear test. (See 2006 North Korean nuclear test) Nuclear weapons produced by North Korea are known to have failed.

On the 25th May 2009 N. Korea conducted a second test of nuclear weapons at the same location as the original test (not confirmed). The test weapon was of the same magnitude as the atomic bombs dropped on Japan in the 2nd World War,. At the same time of the test N. Korea tested 2 short range ballistic missiles (reported a S. Korean News Network- not officially confirmed).

South Africa

South Africa built six or seven gun-type weapons. All constructed weapons were verified by International Atomic Energy Agency and other international observers to have been dismantled, along with the complete weapons program, and their highly enriched uranium was reprocessed back into low enriched form unsuitable for weapons.

See also

- Nuclear weapon yield

References

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2. ^ *The Samson option: Israel's nuclear arsenal and American foreign policy*, Hersh, Seymour M., New York, Random House, 1991, ISBN 0-394-57006-5
3. ^ "Israel 'has 150 nuclear weapons'", *BBC News Online* May 28, 2008

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External links

- CNS Resources on South Africa's Nuclear Weapons Program indicates that "most international experts conclude that South Africa has completed its nuclear disarmament. South Africa is the first and to date only country to build nuclear weapons and then entirely dismantle its nuclear weapons program."