



Strait of Hormuz

[Source: TH](#)

Why in News?

Under **Operation Midnight Hammer**, the US targeted three key **Iranian nuclear facilities** ([Natanz](#), [Isfahan](#), and [Fordow](#)). In retaliation, Iran's parliament approved a proposal to close the [Strait of Hormuz](#).

- The US strike utilized **B-2 Stealth Bombers**, **GBU-57 bunker buster bombs** (Massive Ordnance Penetrators), and **Tomahawk missiles**.

What are Key Facts About the Strait of Hormuz?

- **About:** It is a **narrow sea passage (55-95 km wide)** between **Iran** and the [Arabian Peninsula](#), connecting the [Persian Gulf](#) to the **Gulf of Oman** and the **Arabian Sea**.
 - It serves as a **vital transit route for global oil and liquefied natural gas (LNG) shipments** from **Persian Gulf countries**.



- **Global Energy Dependence:** It is a critical artery for **global oil transit**, carrying about **20-25% of the world's total oil supply**. In **2024**, approximately **20 million barrels per day** passed

through it.

- **Major oil exporters** using the Strait include **Saudi Arabia, Iran, Iraq, Kuwait, UAE, and Qatar**, while over **80% of this oil is destined for Asian markets**, primarily **India, China, Japan, and South Korea**.
- **India's Dependence: Approximately 40% of India's crude oil imports and around 54% of its LNG imports pass through this strategic passage.**
- **Historical Flashpoints:** While a **complete shutdown of the Strait of Hormuz has no historical precedent**, the region has witnessed significant disruptions.
 - During the **Iran-Iraq War (1980-88)**, both sides attacked **oil tankers and cargo ships** in the Gulf region dubbed as **Tanker War**.
 - In **2019**, Iran seized a **British tanker** and has **repeatedly threatened to block the Strait** during geopolitical tensions, notably in **2011-12** and after **US sanctions post-2018**.
- **Alternate Routes and Pipelines:** **Saudi Arabia (via ARAMCO) and the UAE have pipelines bypassing the Strait**, while Iran uses the **Goreh-Jask pipeline and Jask terminal** to export oil directly to the Gulf of Oman.

B-2 Stealth Bombers

- **About:** It is a **US Air Force strategic stealth bomber**, renowned for its **long range (6,000 miles)**, **low observability**, and **precision strike capabilities**.
 - It remains the **most advanced and expensive aircraft** ever built, with a unit cost exceeding **USD 2 billion**.
- **Development & Induction:** The B-2, developed by Northrop Grumman, took its maiden flight in **July 1989** and entered operational service in **1997**.
 - A total of **21 B-2 bombers** were produced, with **19 currently in active service**.
 - Its **bat-like flying wing design** reduces detection and **evades enemy air defenses**.
- **Combat Use & Strategic Role:** First used in the **1999 Kosovo War**, the B-2 has been deployed in **Iraq, Afghanistan, Libya, Yemen, and Iran**.



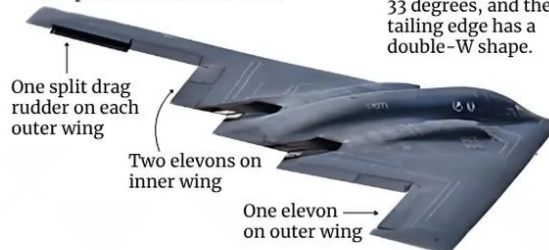
Northrop Grumman B-2 Spirit

Mid-air refueling



Maneuvering

Four pairs of control surfaces



Leading edges of the wings are angled at 33 degrees, and the trailing edge has a double-W shape.

Stealth

Surfaces made from radar absorbent material. Saw tooth trailing edges aligned at one of two angles to 'dump' incoming radar energy away from aircraft

Weapons

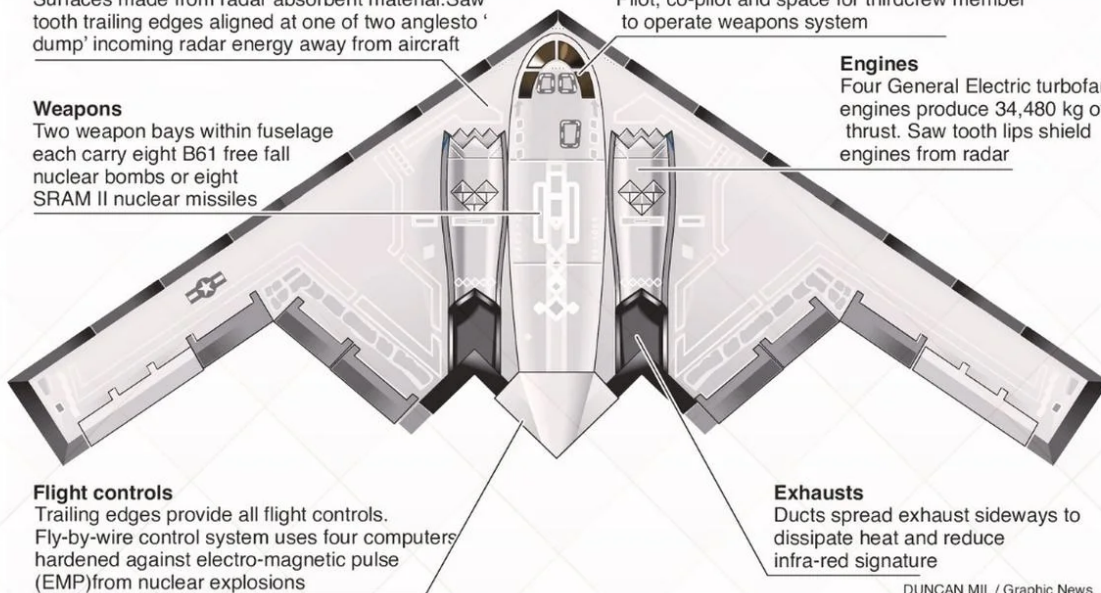
Two weapon bays within fuselage each carry eight B61 free fall nuclear bombs or eight SRAM II nuclear missiles

Crew

Pilot, co-pilot and space for third crew member to operate weapons system

Engines

Four General Electric turbofan engines produce 34,480 kg of thrust. Saw tooth lips shield engines from radar



Flight controls

Trailing edges provide all flight controls. Fly-by-wire control system uses four computers hardened against electro-magnetic pulse (EMP) from nuclear explosions

Exhausts

Ducts spread exhaust sideways to dissipate heat and reduce infra-red signature

DUNCAN MIL / Graphic News

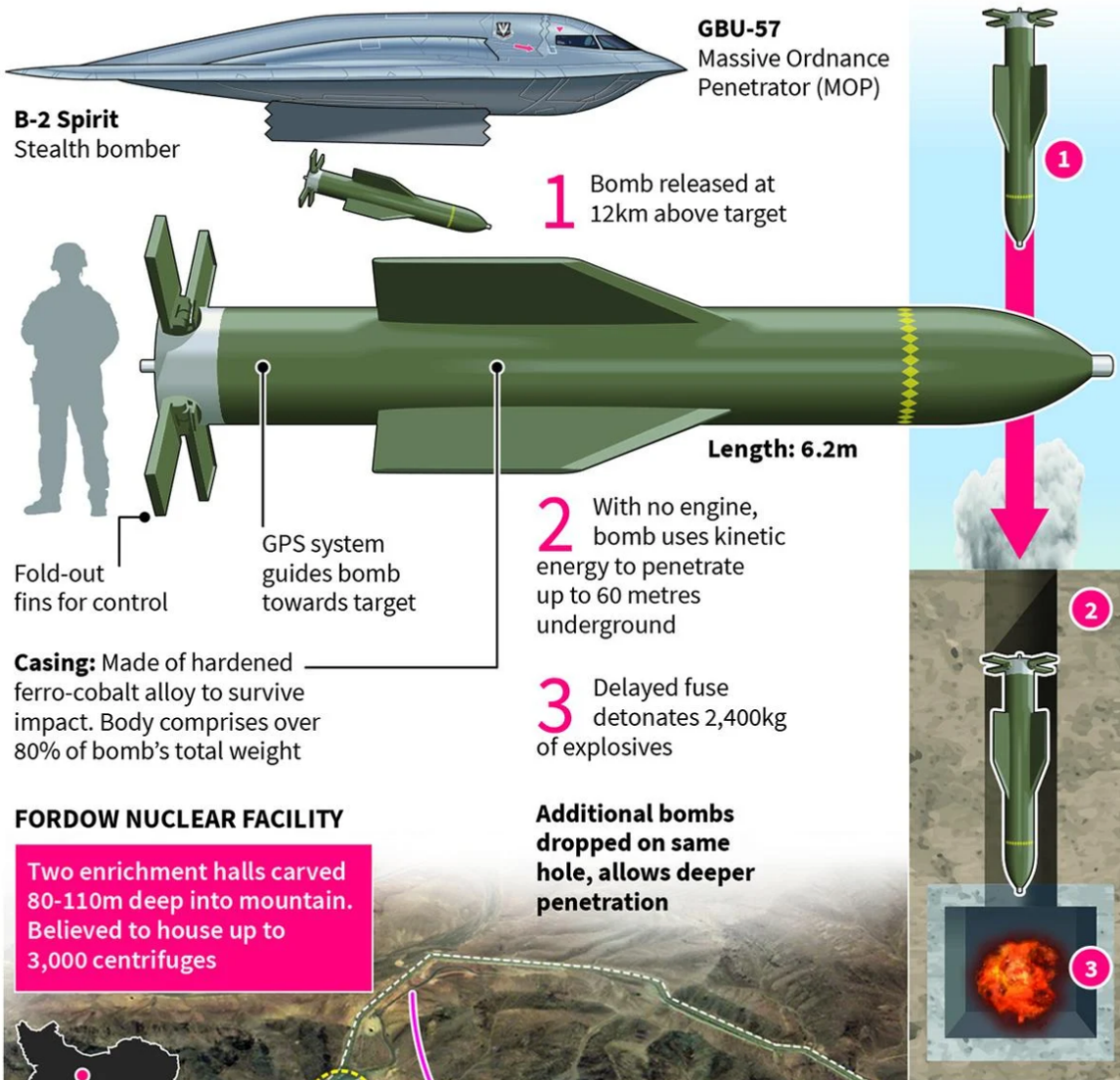
Source: U.S. Air Force, Northrop Grumman

THE HINDU

Massive Ordnance Penetrators (GBU-57)

High intensity weapons

The nuclear fuel enrichment site at Fordow is located 60 miles south of Iran's capital Tehran in the mountainous region close to the city of Qom. The facilities are buried deep underground, estimated to be 80-90m deep, to withstand Israeli airstrikes. That's why there was a need for the GBU-57 MOP and the B-2 Spirit that can carry it



FORDOW NUCLEAR FACILITY

Two enrichment halls carved 80-110m deep into mountain. Believed to house up to 3,000 centrifuges

Additional bombs dropped on same hole, allows deeper penetration



UPSC Civil Services Examination, Previous Year Questions (PYQs)

Q. Between India and East Asia, the navigation-time and distance can be greatly reduced by which of the following? (2011)

1. Deepening the Malacca straits between Malaysia and Indonesia.
2. Opening a new canal across the Kra isthmus between the Gulf of Siam and Andaman Sea.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Ans: (b)

Q. Which one of the following can one come across if one travels through the Strait of Malacca? (2010)

- (a) Bali
- (b) Brunei
- (c) Java
- (d) Singapore

Ans: (d)