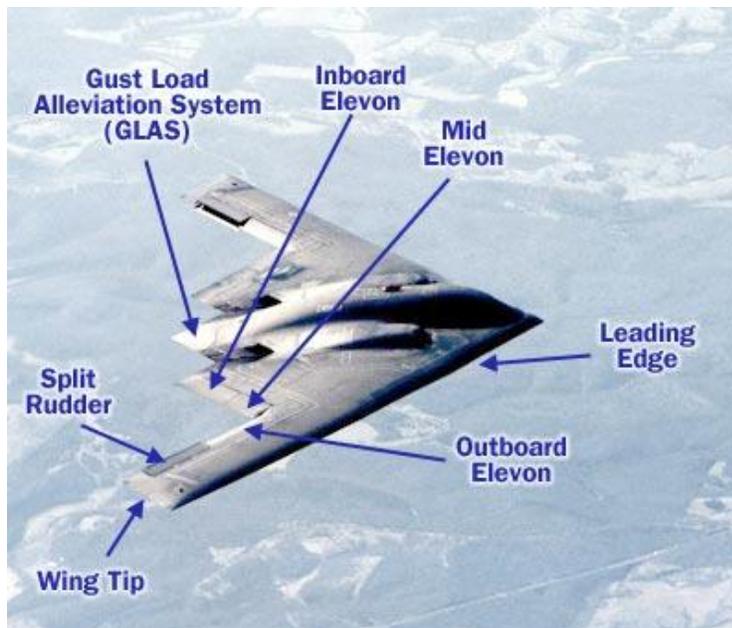


# B-2 the Stealth Bomber; US Military: Most Precise & Powerful in the World

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## A B-2 Stealth Bomber

### What Is Stealth Technology?

- Scientifically known as low observatory
- Used in Military aviation
- Reduces detection range of an aircraft



- Similar to camouflage tactics used by soldiers
- Partial invisibility to radar and other detection

The **Northrop** (later **Northrop Grumman**) **B-2 Spirit**, also known as the Stealth Bomber, is an American heavy penetration strategic bomber, featuring low observable stealth technology designed for penetrating dense anti-aircraft defenses; it is a flying wing design with a crew of two.

The B-2 bomber, commonly known as the stealth bomber, was an ambitious project, to say the least. In the 1970s, the U.S. military wanted a replacement for the aging **B-52 bomber**. They needed a plane that could carry [nuclear bombs](#) across the globe, to the Soviet Union, in only a few hours. And they wanted it to be nearly invisible to enemy sensors.

As you might expect, hiding a giant plane is no easy task. [Northrop Grumman](#), the defense firm that won the bomber contract, spent billions of dollars and nearly 10 years developing the top secret project. The finished product is a revolutionary machine -- a 172-foot wide **flying wing** that looks like an insect to radar scanners! The craft is also revolutionary from an aeronautics perspective: It doesn't have any of the standard stabilizing systems you find on a conventional [airplane](#), but pilots say it flies as smoothly as a fighter jet.

<http://www.popularmechanics.com/military/g1080/we-fly-a-b-2-stealth-bomber/>

[https://www.youtube.com/watch?v=gEfv65\\_luP4](https://www.youtube.com/watch?v=gEfv65_luP4)



The B-2 can carry 80 of these 500-pound bombs, each guided to detonation with GPS coordinates. Each of the bombs can be programmed to hit a specific target, at a specific altitude, from a specific angle, at a specific time. "These were pretty tight shot groups, and the B-2s could attack them on a single pass," Vander Hamm says.

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**Whiteman Air Force Base is the home of the B-2 bomber fleet.**

There are only 20 of these stealth bombers in the hands of the U.S. Air Force arsenal. Below is a photograph of a B-2 Bomber being fueled in the air.

B-2 bomber crews come from nearly every Air Force discipline. Pilots start their careers with other bombers. Some hail from the fighter community while others flew cargo haulers and tankers before coming to the Spirit.

These long flights play hell with the pilots' sleep and waking cycles. There are also issues with dehydration, deep vein thrombosis, and fatigue. To combat this, the physiologists at

Whiteman plan their own version of the mission, including snacks and nap times that preserve the two-man crew for the moments of intense concentration. They also recommend, and sometimes require, the use of "go pills" (often Dexedrine) or "no go pills" (something akin to Ambien) to enforce the rest cycle as a last resort.

Gen. Thomas Waldhauser, AFRICOM commander, chooses the B-2—an odd choice. The stealth bombers are built for a Cold War mission: to evade radar and drop bombs (even atomic) and get out undetected. No one in Libya has sophisticated anti-aircraft to threaten U.S. aircraft, so the stealth is not necessary.



But a bomber *is* an absolutely essential part of the equation. Nothing else can drop thousands of pounds of explosives on targets at the same time quite like a bomber. The U.S. bomber fleet includes non-stealth B-1s and B-52s, but it's the B-2s that can loiter for long stretches. Just because the B-2 can stay over a target doesn't mean the pilots want to. "We are versatile," Scorch says. "But it's always in the back of all of our minds to get in and get

out."

The targets define what aircraft flies the mission, and 500-pound bombs are all that is needed to take out a collection of mud-walled buildings and unarmored vehicles.

**Long-range bombing missions include equally long lulls in the cockpit, an experience far removed from comfy first-class flying.**

Behind two seats is a 6-foot flat space where pilots can set up a cot to sleep. Behind the right seat is a crude toilet—a stainless-steel bowl with no walls—not too far from a bank of classified communications servers.

But these long flights also come with too much free time, which can lead to stress and nerves. Most pilots try to use the time constructively. "On the way out you're worried about getting your tactics right," says Scorch. "I try to use the time to study, to brush up on the mission. I also get up from the chair as much as I can, do pushups or exercises."

Others use the time to reflect. "You go over it," Vander Hamm says of his combat missions. "Am I right with God, my family, my life, and my will?"



Eventually, it's time to refuel. The B-2s meets KC-135 Stratotankers at least twice on the way to Libya. It's a coordinated dance that must occur no matter what the weather or time of day. The airplane in need of fuel flies directly behind the tanker. The tanker then extends a telescoping fueling boom. The end of the boom—the fuel nozzle—latches into a small hole in the receiving aircraft, and the fuel pumps as the conjoined aircraft fly in harmony.



The B-2's fuel port is on top of the fuselage, so a pilot can't tell how close the boom is to the bomber's receptacle. They watch lights under the tanker plane's fuselage that tell him to move forward, left, or right. Once the connection is made, a dashboard screen says "LATCH" and the fueling begins. As thousands of gallons of flow, the B-2s flight control computer routes it to the appropriate tanks as a way to preserve the bomber's center of gravity.

<http://www.popularmechanics.com/military/aviation/a25070/to-libya-and-back-inside-obamas-last-strike-against-isis/>

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