



A B-2 in Operation Enduring Freedom carried out the longest combat sortie in history.

The American Spirits

Maj. Scott Vilter, a B-2 pilot with the 509th Bomb Wing, stands near one of the B-2 Spirits at Whiteman AFB, Mo.



Photography by Paul Kennedy

During the first three days of *Enduring Freedom*, six B-2s flew nonstop from Whiteman to Afghanistan, then recovered at Diego Garcia, a British-owned atoll in the Indian Ocean. One B-2's mission lasted more than 44 hours—a record for a combat sortie.

Once at Diego Garcia, some 2,500 miles from Afghanistan, the B-2s were on the ground for about an hour for an engine-running crew change. The fresh crews then flew the bombers more than 30 hours home to Whiteman.



Composite materials, coatings, and the B-2's flying-wing design combine to give the multirole heavy bomber stealth qualities. Materials repair specialists such as SrA. Eric Lucas, at left, are key to maintaining the low observability of the aircraft.

Improvements to materials that give the stealth aircraft a reduced radar signature are in the works. The aim is to scale down the time and labor now required to restore low observable qualities during routine maintenance.

At right, A1C Tony Grindle maintains the skin on a B-2.





The B-2 Spirit is 17 feet high and 69 feet long, with a wingspan of 172 feet. Above, one of the huge landing gear doors bears the tail code for this tailless aircraft. Intakes show where air enters for the four engines buried deep inside the wing. At right, a back view shows where and how the exhaust is ducted to help reduce the B-2's signature.

The B-2 first appeared on public display in November 1988. The first operational B-2 arrived in December 1993 at the 509th. In 1999, the B-2s faced their first combat test in Operation Allied Force in the Balkans.

For those missions, the B-2s flew 30-hour nonstop round-trip missions from Whiteman to Yugoslavia, attacking in all weather.



The bombers were armed with Joint Direct Attack Munitions and had the highest rate of target destruction of any aircraft in the war.

B-2s on the first missions to Afghanistan for Enduring Freedom dropped 16 JDAMS, some labeled "NYPD" and "FDNY."

At right, TSgt. Neal Venette, SSgt. William Gutierrez, and A1C Wesley Peel train on a full-scale mock up, with, below, loader driver A1C Ioane Maiava.



The B-2 is powered by four GE F118-GE-100 turbofans, each with more than 17,000 pounds thrust. It can carry a payload of more than 40,000 pounds and has an unrefueled range of more than 6,000 miles.

A1C Joseph Weir (left) and SrA. Peter Engebretsen conduct maintenance on a B-2 engine.

The stealth bomber is crewed by two pilots, who take turns sleeping on a folding chaise lounge tucked in back of the cockpit for lengthy missions. Some B-2 pilots have flown missions as long as 50 hours in the 509th's flight simulator.

Their training also includes a parachute descent simulator, complete with a virtual reality headset and computer software to simulate conditions encountered after ejection.

At right, an officer in a parachute harness demonstrates the system, while MSgt. David Wilson watches over the computer program.





At Whiteman, each of the bombers has its own hangar to provide protection from the weather and prying eyes and to ease the work of the maintainers. USAF has been testing deployable shelters and contracted for delivery of the first of four this spring. The shelters will allow ground crews to maintain the B-2's low observable qualities at forward bases.

Using forward bases would be ideal, however the 509th took its long flights for Enduring Freedom in stride. In fact, Brig. Gen. Anthony F. Przybyslawski, 509th wing commander, said the Afghan missions were simpler than training. One reason is comprehensive pre-mission planning. The B-2 pilots prepared ahead of time for conditions in the theater, taking into account the combat situation, threat location, weather, jamming operations, refueling procedures, and other factors.



Last fall, Defense Secretary Donald Rumsfeld flew to Whiteman for a daylong visit with B-2 pilots and support crews. He told them, "You accomplish an amazing feat each time a B-2 bomber lifts off from the plains of Missouri and crosses oceans and continents, undetected, to deliver justice." ■