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B-2 Bomber Proposal

The longest combat mission in the history of aviation changed the age of modern warfare. The world's stealthiest bomber, the B-2 Spirit, is considered to be one of the greatest achievements in military technology. Designed to avoid detection, it displays numerous unique characteristics and features. Once considered the most top secret plane, the B-2 was a flying wing aircraft meaning it had no distinct tail or fuselage, reducing the overall radar signature. In fact, stealth technology has rendered radar systems ineffective by greatly reducing their detection ranges. The question most ask is how has the B-2 Bomber remained the most valuable aircraft within the U.S. military inventory? This paper will investigate the key components of the nation's long-range attack arsenal; armed to fly virtually undetected through enemy defense systems, evidence a strategically engineered concept became America's biggest strike asset.

In 1957, the inception of stealth technology, a sub-discipline of military tactics was created. Otherwise known as LO technology (low observable technology), the concept of stealth technology was to hide or operate without giving enemy forces any indication as to the presence of friendly forces. The history of stealth dates back to the very end of World War Two. Nazi Germany's secret weapon was the Horten 229, a futuristic fighter bomber. The unique feature of this aircraft was the absence of the tail – a design that later resembled the flying wing of the B-2. After the Horton 229 was returned to America for research and development, it appeared less on radar than any other plane. But the futuristic shape has lineage back to the 1940's with earlier models of the B-35 and B-49. These closely resembled the 1990s flying wing version.

Stealth technology has rendered radar systems ineffective by greatly reducing the detection range. Research fundamentals and the general design of stealth aircraft was aimed at reducing radar and thermal detection. The 2013 *National Security Archive electronic briefing book #443* exposes American interest in this subject area and probable development of the stealth program, notably the B-2 Spirit. This primary source reveals there are a numerus of fundamental components that make stealth possible. One key element was the ability to test the reconnaissance of deployed aircraft to evade radar detection. The study of this problem was to reduce the radar cross section of aircraft or the overall signature of the aircraft. Also significant was the examination of primary influences on aircraft signature. The declassified document explores the findings of those experts in the field occupied with the testing and the impact of those aspects that produce a low-observable vehicle.

General information about the B-2 stealth technology is not far-reaching because it entails an assortment of classified details. The publication by Bill Holder entitled *Northrop Grumman B-2 Spirit* 1998 highlights the mission requirements for the B-2 Spirit and its expected accomplishments from the perspective of a technological team member. Also within this publication, the operational development is revealed from the layman's perspective. The Official United States Air Force Website 2015 *Fact Sheet* discloses the combat effectiveness of the aircraft. Moreover, E.E. Basmadjian, author of the book 2003 *U.S. Warplanes: The B-2 Spirit* explores the configuration of mission planning and general practice involved in flight preparation.

The B-2 was developed in secret and announced to the public on November 22, 1988. However, development was completed as the Cold War with the Soviet Union was ending, and as the Soviet Union collapsed, so demand for such an expensive aircraft dropped significantly. There

was a bipartisan effort in Congress to slash the budget for the B-2, which dropped Congress' order from 132 B-2s to 21 B-2s. While there were heated debates on the merits of the B-2, the fact that it was the most expensive aircraft in history made it unappealing to many in Congress and the general public. 21 were built, and are intended to be kept in service until the 2050s, but the demand for more is outweighed by the criticism of the price.

While the expense of the B-2 became a point of contention, its supporters had a number of points they could defend. While it was expensive, the appeal came from how advanced it was. The development of the B-2 had broader industrial benefits that could be used to develop other technologies. The B-2 would be vital in the event of a nuclear war, as it was capable of launching nuclear missiles but was not as easy a target as a silo. It also had longevity, so the investment of funds was long-term. However, opponents still argued that the funds would be spent in any number of other areas, including investing in emerging technologies, returning the money to the taxpayers, or returning the money to the poor.

The website will reflect our artifact by way of using stealth as its main theme. The U.S. Air Force symbol will be a prominent image in the background of the site, and links will be faded into the background until hovered over or selected. This may make navigation a little tricky for its viewers, but its intention to highlight stealth will ideally take away from the initial shock of having to find pages carefully. Each aspect of the B-2 will have its own page, exploring the bomber's history, development, significance, and alternatives. The documentary will also have its own tab, so as to be easily accessible to its viewers. Alternatively, the documentary may feature as the front page as a means of grabbing the website visitor's attention. Finally, there will be an "About" page to introduce the authors of the website as well as a "Bibliography" page for viewers to easily access the website's sources.

The documentary will be a classic, history-style film based around an interview with an "expert" on the subject. The interview will be staged on a green screen so the image of a hangar can feature in the background. Between shots of the interview, there will be photos and videos (properly sourced and researched) to keep the interest of the viewer going. A voiceover will introduce and conclude the documentary piece, as well as give important information that moves the discussion from one point to the other. The information provided will reflect what one might find within the website, but in an engaging, person-to-person interview style.

The B-2 Bomber is a one of a kind airplane that is different from any American bomber that has preceded it. Technology has allowed it to complete missions in a seemingly impossible situation. This advancement was born out of a nation's desire for national security and has since developed into one of the most effective pieces of military aviation the United States holds.