Air Power Essay, Research Paper

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Since the first planes flew over France in World War I the importance of air power has grown since World War I. From the first reconnaissance planes to the fighters made to protect them, the world of air warfare is enormous. We spend vast amounts of money in designing such aircraft through companies like Lockheed and their ?skunk works.? With every advancement has come another advancement in order to counter the others? advantages. Through all this competition, a trend has emerged. The United States has supported and should continue to support the development of the B-2 Spirit and other technologically advanced aircraft.

In World War I, the primary use of aircraft was in a reconnaissance role. They would fly over enemy lines and report the location of enemy troop locations. The need for protection of such aircraft brought about the invention of the fighter plane. The Germans had developed the first long-range bomber with their invention of the Zeppelin. Upon the arrival of the United States into the war, many of the U.S. pilots were not only in need of training from the French, but required newer and faster planes. The battle for superior speed and firepower however often brought about death for the novice fighter pilot. At high speeds, the biplanes were hard to maneuver and sometimes the loss of a wing could cause a downward spiral. After World War I, many militaries would ask for only monoplane designs. (Red Baron)

During World War II, the advancement of many new fighters took place. The United States led the way with its introduction of the North American Xp-51a Mustang and the Curtis p-40 Warhawk. Between the wars, the research facilities of the Untied States developed some of the most advanced fighters of their time. Yet the Germans were credited with the first ever jet-powered fighter in the Mecherschmidt Me232. Although the engines were primitive as compared to the jets of today, they made for fantastic speed in the air. (Grolier, aviation)

Fighters were just a small part of the war, but a significant one. The United States had also developed the B-29 Superfortress. This aircraft was capable of extreme distance flights and incredible load weights. It played a major roll in the bombing of many military targets. The B-29 was also the first aircraft to deploy an atomic bomb in war over Hiroshima and Nagasaki (Grolier, B-29).

Another advancement was an aircraft before its time. ?A Northrop YB-49 Flying Wing, without body or tail, came home from a test flight over the Pacific one day in 1948 and pointed its thin front edge directly toward a radar station the coast. Mystified operators never saw the plane coming on their screens until it popped suddenly onto their screens almost directly overhead? (U.S News, Brave). The plane never saw any use in combat, mostly because the Second World War was over, but because the plane was extremely difficult to control, it was never put into production. (Brave)

With the arrival of the atomic bomb came the development of the nuclear missile, and with the nuclear missile came the Cold War. During the Cold War development of aircraft took leaps and bound. The United States entered a technological race with Russia for power with both sides spying on one another. The need for a high altitude spy-plane had arrived. Lockheed?s ?skunk works? was called in for the job. Through grants from the United States armed forces, they developed the U-2. ?The plane carried an array of cameras as well as sensitive electronics equipment designed to record radio and radar transmissions?(Grolier, U-2). The plane soon proved its worth. In 1962, it produced photographs of Soviet missiles in Cuba. Little more was heard of the spy plane when satellites began to take over many of its duties, but in 1992, a U-2 was reported lost over South Korea. This further proves the worth of aircraft development. Another development of Lockheed was the SR-71 Blackbird. Since its use, it has been declassified and is no longer in use with the military, but during its service, it produced some of the best reconnaissance photographs from high altitudes ever seen (Grolier, Aircraft).

During the Cold War, the United States government made another discovery. The discovery was the importance of stealth to the military. Lockheed?s ?skunk works” was given yet another task: to design and develop a stealth bomber. The purpose of this was to make a plane that is nearly invisible to aircraft, but not invisible. The effects of this government-funded research would not be put into an actual form for many years. Other advancements came during this time as well.

The United States started the X-plane program during this time. The program was designed to test experimental aircraft. The first in this string of aircraft was the X-1 aircraft. This plane was the first plane ever to reach mach one, and latter mach two. The X-5, which was the first plane to successfully fly with a variable position wing. The X-29 was the first plane to use a swept forward wing design. Many more advancements were made with this program (Garvey).

The Vietnam War was one of the most difficult wars ever fought. The jet aircraft of the time were somewhat unsuited to the weather of that country. The North Vietnamese used the Soviet manufactured Migs. These jet fighters were much smaller than the F-4 Phantom. Therefore, the government decided to start a program code named Yehudi. This program was designed to produce planes that use visual stealth. The plane was fitted with large florescent lights that could be adjusted to match the brightness of the sky. The program had such great results that it was reclassified as top secret. The planes, however, were not fitted with these lighting systems because the materials needed were not very cost effective or very reliable (Sweetman)

Over the next few years, the government had time to develop its weapons further, and the first stealth bomber was born. Lockheed succeeded in their task to develop the prototype of the YF-117a Nighthawk. The plane by its very nature was totally unstable. It required the use of an onboard computer system to make split second changes in order to keep it in the air. A computer made for designing aircraft with the least radar reflective shape designed the shape of the plane. This shape unfortunately is incredibly aerodynamically unsound. More work had to be done in order to make it possible to be flown. The plane has since had further developments and there are currently 56 of these fighters (Gaffney). The pilots are selected from the f-14 and f-15 fighter pilots. This plane is so expensive and secret that ?only the best of the best are quietly transferred to the Air Force?s most selective special assignment? (Brave 24). Very little has been released about the precise workings of the aircraft, but it is believed to utilize some of the most technologically advanced weaponry ever designed (Gaffney).

During the same time as this development was going on the United States was beginning to research the possibility of designing a long-range stealth bomber. The actual plane was based on the design of the Northrop YB-49 flying wing, but many changes were made to the aircraft to make it what it is today. The B-2 is one of the most advanced bombers in the world. This bomber was originally designed and fitted to carry nuclear weapons past Soviet radar stations and into the heart of Russia. The bomber has been redesigned and updated to house almost all air to ground weaponry including those of laser guided origin and the newer Harm anti-radiation missiles. This plane as never been in an actual combat situation, but the design of the plane itself is a triumph of technology.

These aircraft, from the Mustang to the Spirit, have taken years of research to complete. Their sole purpose for being is to protect us, the citizens of the United States, from foreign attack. These weapons have helped keep war off the US soil for nearly 100 years and should continue to do so for the next 100 years. Without the dedicated research that takes place under our money, we may still have been using the outdated b-29 during the Iraqi conflict. One has to wonder if the results could not have been very different had we not had the technology researched for the aircraft we now have.

The United States has supported and should continue to support the development of the B-2 spirit and other technologically advanced aircraft.

From the World War I efforts for more flyable planes to the recent stealth efforts in the United States research, they have continually sought for better planes for the protection of the country?s people, and its resources. The United States must keep on researching newer weapons, and we must support it, if we, as a country are to survive. If we do not support further development, our country may not be able to withstand the threats of nuclear or biological warfare.

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