

Military aircraft 13888

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Thesis: Military aircraft has become more sophisticated in variety, effectiveness in war situations, and special maneuvering techniques in recent years. Military aircraft has become more sophisticated in variety, effectiveness in war situations, and special maneuvering techniques in recent years. With the advance of stealth technology, many new and very effective aircraft have been developed. The F-117A was used during Operation Desert Storm and every plane came back without a scratch. The very expensive B-2 stealth bomber has never been used in actual war, but during testing it was a success. The Advanced Tactical Fighter program was started to make an aircraft that could supercruise, the ability to cruise at supersonic speeds, and didn't cost very much. The YF-22 and YF-23 were the first planes to accomplish this. With all the planes we know of, there are also top secret programs probably going on right now. A new fighter that has never been heard of before has been spotted. As John Welch, the assistant secretary of Air Force said, "Stealth gives us back that fundamental element of war called surprise" (Goodall 9). After it was found that aircraft could be very useful in war, it was used for large scale reconnaissance. Then people started to add bombs to aircraft and then airplanes started to become an essence of war. After World War 2, new bombers were developed with fast speed, and could travel far distances. They could also carry nuclear bombs and missiles. The use of the bomber aircraft then led to the fighter, which was equipped with guns and missiles. Helicopters were also found to be good strike aircraft. They were armed with cannons, machine guns, rockets, torpedoes, and a variety of missiles. Vertical takeoff made the helicopter an advantage. The first flight of the F-117A was in June of 1981 in Groom Lake test facility. The total cost for the development of the F-117A was just under <https://assignbuster.com/military-aircraft-13888/>

two billion dollars, but it only cost \$43 million to make each plane. It became operational in October of 1983 and was the first operational stealth aircraft ever built. The F-117A is a night attack plane powered by two, nonafterburning General Electric engines. F-117As were designed for first-strike capabilities and to be able to fly into any countries airspace undetected. The primary task of the F-117A is to break through enemy airspace, destroy high value targets, and return back unharmed. They were considered to first be used in several different tasks, but weren't used until Operation Dessert Storm where they did an excellent job. As Donald Rice, Secretary of the Air Force, said, " Everyone now agrees the F-117 was a real bargain" (9). During Operation Dessert Storm the F-117As were found out to be very successful. The war began on January 16, 1991 when the F-117A fighters entered the Iraqi airspace on their way to downtown Baghdad. There were 43 of them over the skies of Iraq and not one was lost even though they went against one of the most modern air-defense systems in the world. Operation Dessert Storm was the largest aerial bombing attack in war history. It was also the first time a stealth aircraft was used as a main weapon. On the first day of Dessert Storm the Lockheed F-117As dropped sixty-two 2, 000 pound bombs on Baghdad destroying the most critical targets of the Iraqi military, including the headquarters of the Iraqi air force. " We've seen that not only does stealth work, but that it puts fewer assets at risk and saves lives" (9), as Donald Rice said. The pilots of those F-117As flew through the hardest anti-aircraft missiles any pilot has ever flown through. When you think of stealth, most people probably think of B-2 stealth bomber, but most people don't realize that it hasn't even been used in a real war situation yet. In November of 1987 the Pentagon ordered the first four B-

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2s to be built for \$2 billion. Each B-2 cost \$437. 4 million to build. After the military liked the bomber, they originally ordered 133 of them, then they cut back to 75 because of the deficit-reduction bill. Then, in 1992, the House of Representatives voted to buy only twenty, and later only 15 saying that 10 would be enough. With four General Electric engines with 19, 000 pounds of thrust each, the B-2s were made to carry a lot of weight. The Advanced Technology Bomber, as it was called, was made so it couldn't be spotted by enemy radar. After testing it was found out that it is almost impossible to track it constantly using radar. The B-2s were designed to be an all-flying wing and it is made up of over eighty percent of composite materials. The B-2 is 69 feet long, has a wingspan of 172 feet, and 17 feet in height. They also can carry a payload of 40, 000 pounds and can travel at mach 0. 85 (Jones 86). The B- 2 can carry 80 bombs, including nuclear bombs. All fifteen of the B-2s are assigned to Whiteman Air Force Base in Missouri and await to be used in actual combat. In 1983 the Advanced Tactical Fighter program office was formed at Wright- Patterson Air Force Base, Ohio. The Air Force wanted to build an aircraft that had the ability to supercruise without the use of afterburners or running out of fuel in a couple of minutes. It should be able to cruise at mach 1. 4 or 1. 5 and be able to take off on runways less then 2, 000 feet long. Since the money was starting to get tight, the Advanced Tactical Fighter should cost under \$40 million each to build. To come up with this aircraft, the Military gave a contract to both Northrop and Lockheed to each build it with these specifications. The Air Force wanted an air-superiority fighter to replace the Douglass F-15 Eagle. In 1986 the Air Force gave a contract to Northrop and Lockheed who would each build two Advanced Tactical Fighter prototypes. The Northrop YF-23 made its first

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flight in August 1990. It was powered by a Pratt and Whitney F-119-PW engine. The YF-23 can hold four AIM-120 missiles. The YF-22 prototype made its first flight in September of 1990 and became the first to pass the Air Force's supercruise specification. It could reach mach 1.58 and faster. The YF-22 has three weapon bays that can each carry two air-to-air missiles. Both fighters can supercruise at speeds of Mach 1.5 to 1.7. Their top speeds are classified but they can most likely go over Mach 2. In April of 1991 the Air Force had to decide which plane they wanted, they chose the Lockheed YF-22 even though the YF-23 was more stealthy and could go faster. A new swing-wing stealth aircraft has been spotted undergoing test. In September of 1994 it was seen circling high over Anarillo, Texas. While it was circling, a radio scanner picked up a military UHF channel with the call sign Omega. This call sign has never been heard before. The pilot was talking about a hydraulic malfunction and was saying he was dumping fuel to prepare for an emergency landing. If there is a new plane like this, it will probably be called the A-17 and will replace the F-111 which has been in service since 1967. Recently there have been millions of dollars spent expanding the Cannon Air Force Base and a new plane might be undergoing testing there. It has also been said that high ranking officials have gathered there to look at the new aircraft. The Pentagon has announced that the F-111 will be retired by the end of 1995. The new swing-wing aircraft spotted will most likely replace it. Swing-wing aircraft add weight and make a plane more complex, but give many advantages. When the wing is swung forward the plane can travel farther and can land and takeoff on shorter runways. When swung forward it can reach supersonic speeds. It was noticed that the new airplane spotted was armed with bombs and self-defense missiles. The A-17 has many things

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in common with the YF-23 like the air inlets and the humps on top of the fuselage that hide its engines. The engines on it are probably General Electric YF-120 turbo fan-turbojet engines which can reach speeds up to Mach 2. One of the best recent advances has been in the area of flight guidance and control such as the pilotless plane or drone. The Firebee is a pilotless plane that can be controlled by ground, plane, or by a computer. It can fly following a preset course and return. Another advance is vertical takeoff. It is a big advantage when an airplane can land and takeoff almost anywhere. The British were the first to design it, but we built prototypes right away. With the advance of stealth technology, radar avoidance has become very important. If the enemy doesn't know you are coming then they won't even know what hit them if we want to attack them. When Donald Rice said, "Stealth saves lives, money, and does the job better" (Goodall 10), he was right. Operation Dessert Storm showed us that. With the many advances of military aircraft, it has become a main and effective part of war in recent years.