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It is an inclusive list rather than an exclusive one, meaning that where an aircraft is known under multiple names, designations, or manufacturers, each of these is listed. Note also that this list should not be considered complete and it is constantly being updated with more aircraft types. This list does not generally include variants or subtypes of the aircraft themselves although there is considerable difference among various manufacturers and designation systems as to what constitutes a new aircraft as opposed to a variant of an existing type. The following reference sources, among many others, have been used to compile this list: The Osprey Encyclopedia of Russian Aircraft – Saab Aircraft since Supermarine Aircraft Since 2nd Revised ed. Antonov, Vladimir; Gordon, Yefim Bristol Aircraft since 1st ed. Bayerl, Robby; Berkemeier, Martin; et al. World Directory of Leisure Aviation – Campini Caproni in Italian. Archived from the original on 2 October Retrieved 29 June United States Navy aircraft since Miles Aircraft since 1st ed. War Planes of the First World War: French Civil Aircraft Register. Merseyside Society of Aviation Enthusiasts. Buttler, Anthony Leonard Fighter Aircraft of the – War. Les Avions et Hydravions in French. Francillon, Rene March Japanese Aircraft of the Pacific War 2nd American ed. Japanese Aircraft of the Pacific War. Les Avions Francais de a in French. Polskie konstrukcje lotnicze – in Polish. Goodwin, Mike; Starkings, Peter Japanese Aero-Engines – 1st ed. Gordon, Yefim; Komissarov, Dmitry Gordon, Yefim; Komissarov, Sergey Soviet and Russian unrealized aircraft projects – Ian Allan Publishing Ltd. Chinas aviation industry since Early Soviet Jet Bombers. Early Soviet Jet Fighters. Ilyushin Il and Il Gordon, Yefim; Dexter, Kieth Myasishchev M-4 and 3M. Gordon, Yefim; Dmitry; Sergey Komissarov Gordon, Yefim; Dexter, Keith Gordon, Yefim; Gunston, Bill Gordon, Yefim; Rigmant, Vladimir Yakovlev aircraft since 1st ed. Gordon, Yefim; Khazanov, Dmitry Gray, Peter; Thetford, Owen German Aircraft of the First World War 2nd ed. The Aircraft of the World. Green, William; Swanborough, Gordon The Complete Book of Fighters. The Great Book of Fighters. Green, William; Cross, Roy The Jet Aircraft of the World. Romanian Aeronautical Constructions – The development of jet and turbine aero engines 4 ed. World encyclopaedia of aero engines Reprint ed. World Encyclopaedia of Aero Engines 5th ed. World encyclopaedia of aero engines 4th ed. Sparkford, Nr Yeovil, Somerset, [England]: World Encyclopaedia of Aero Engines 2nd ed. World Encyclopedia of Aircraft Manufacturers. Retrieved 29 April Retrieved 3 August Horten, Reimar; Peter F. The Encyclopaedia of Aircraft. Gloster Aircraft since History and Development – Carl Lange Verlag Duisburg. Sopwith Aircraft – 1st ed. Russian Piston Aero Engines. The Crowood Press Ltd. Flying Units of the RAF. British Piston Engines and their Aircraft. Archived from the original on Mikesh, Robert; Shorzoe Abe The History of Soviet Aircraft from Willow Books, Key Publishing.

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## Chapter 2 : World Encyclopedia of Civil Aircraft by Enzo Angelucci

*An intriguing addition to The Illustrated Encyclopedia of Military Aircraft, this volume describes airplanes best known for their relationship to civil and peace-time aviation. Text includes a thorough analysis of relevant historical events which shaped the era each model was conceived, as well as.*

The large majority of military aircraft are fighters, followed by bombers, transporter-tankers, early-warning and patrol aircraft, and a variety of propeller- and jet-driven trainers. As is the case with commercial aircraft, the complexity of the technology and the immense capital requirements have narrowed the field. Early history When the first practical aircraft were produced, in the form of hot-air and hydrogen balloons in 1783, they were adopted quickly for military duties. Two months later the first military reconnaissance from such a balloon was made before the city of Maubeuge. Similar reconnaissance balloons were used later by other armies, notably by both armies during the American Civil War and by the British in Africa from 1840 to 1842. Hydrogen gas generator being used to inflate an observation balloon during the American Civil War, Department of Defense; Brady Collection True military aviation began with the perfection of the navigable airship in the late 19th century and the airplane in the first decade of the 20th century. The brothers Wilbur and Orville Wright, who made the first powered, sustained, and controlled flights in an airplane on December 17, 1903, believed such an aircraft would be useful mainly for military reconnaissance. When they received the first contract for a military airplane from the U. S. Army, Lieutenant Frank Lahm and Lieutenant Frank Purdy were catapulted down a rail and launched into the air. The most formidable aircraft of the years before World War I were airships rather than airplanes. Airships were large self-propelled craft consisting of a rigid fabric-covered metal frame within which were gas bags containing a lighter-than-air gas such as hydrogen. The most ambitious examples of this type of craft were the huge airships designed and built in Germany by Ferdinand, Count von Zeppelin. A typical zeppelin could carry five kg pound high-explosive bombs and 20 crew. The airship Schwaben landing at Potsdam, Ger. Experiments with arming airplanes were made spasmodically after 1910, when August Euler took out a German patent on a machine-gun installation. Bombing techniques evolved simultaneously. Dummy bombs were dropped on a target in the form of a ship by the American designer Glenn Curtiss on June 30, 1911. This test was followed by the dropping of a real bomb and the devising of the first bombsight. The pin was pulled out over the target by tugging on a string. It was primitive but it worked. The Naval Wing of the RFC subsequently attempted to drop torpedoes from Short and Sopwith seaplanes, with some success, and efforts were soon under way to develop means to launch and recover such craft on shipboard. In 1911 a Curtiss biplane had been flown from and onto wooden platforms erected over the decks of anchored U. S. ships. The following year the old cruiser Hermes was fitted with a short deck from which seaplanes took off on wheeled trolleys that were fitted under their floats and dropped away as the machines became airborne. Thus, by 1911, reconnaissance, bomber, and carrier-based aircraft all were evolving, and some had been used in combat. The first bombing raid came nine days later, when a pilot dropped four grenades on Turkish positions. The first reconnaissance photographs of enemy positions were taken on February 24, 1915, in the same conflict. World War I Airships At the start of World War I the German armed forces had 10 zeppelins and three smaller airships, but this impressive offensive capability was largely offset by the highly explosive nature of the hydrogen gas that gave the zeppelins their lifting power. After losing three zeppelins in daylight raids over heavily defended areas in the first month of the war, the army abandoned airship operations, but the navy, with its battle fleet blockaded in port by the Royal Navy, mounted a night bombing offensive—the first aerial strategic bombardment campaign in history. A zeppelin flying over the harbour at Kiel, Ger. The finest of the zeppelins was the LZ 129; this craft was 125 metres (410 feet) long, was able to fly above 4,000 metres (13,120 feet), and had a range of 12,000 km (7,456 miles). The LZ 129 was shot down late in the war, however, and large rigid metal-framed airships were never again employed as combat aircraft. Smaller, nonrigid airships were used throughout World War I by the British for antisubmarine patrol, convoy escort, and coastal reconnaissance, achieving a remarkable record of

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protecting coastal convoys from German submarines. They were revived by the U. Navy during World War II for the same use. Library of Congress, Washington, D. World War I is remembered for its terrible combination of technological ingenuity and strategic indecisiveness. The growth of army sizes, and the introduction of new weapons like long-range heavy artillery and chemical gas, turned combat into mechanized carnage on an unprecedented scale. It also made it more essential than ever for armies to gather information about enemy troops and weapons. Stationary balloons were used for observation and artillery spotting as early as the American Civil War but found widespread use in World War I. This video shows the view from a balloon over the Western Front. Reconnaissance aircraft At the outbreak of World War I, heavier-than-air craft were used only for visual reconnaissance, since their feeble engines could carry little more than a pilot and, in some cases, an observer aloft. They soon proved their worth in this mission, however, and RFC aviators provided reconnaissance that enabled the British and French armies to counterattack in the decisive Battle of the Marne on September 6â€”12, , turning back the invading Germans just short of Paris. More powerful engines and better aircraft designs soon made possible specialized reconnaissance aircraft that could fly at high altitudes to avoid interception. The Germans, for example, had Rumpler two-seaters in service by that could operate as high as 24, feet 7, metres. Radios were carried aloft to permit aerial observers to spot and adjust artillery fire, at first with transmitters only and then, as radios became lighter, with receivers for two-way communication. Fighters The importance of aerial reconnaissance and artillery spotting particularly the latter made it clear that the belligerent able to deny the enemy use of airspaces above the battlefield would enjoy enormous advantages. This realization led to the emergence of fighters as a distinct category of aircraft. In the early days of the war, pilots and observers blazed away at enemy aircraft with pistols, rifles, and even shotguns, but to little effect. Machine guns were the obvious solution. In the Vickers company in Britain had exhibited a two-seat biplane of pusher configuration i. A development of this machine, the Vickers F. The French armed similarly configured Voisin pushers with machine guns one had shot down a German aircraft as early as October 5, , but, burdened with the extra weight of observer and gun , such aircraft were slow and unmaneuverable, and their successes were mostly the result of accidental encounters. Light single-seat aircraft of tractor configuration i. The solution to the problem emerged in the spring of in the form of an interrupter gear, or gun-synchronizing device, designed by the French engineer Raymond Saulnier. The interrupter itself was not new: The real breakthrough was made by Roland Garros , a famous sporting pilot before the war and a friend of Saulnier, who perceived that a machine gun fitted with such a device and mounted rigidly atop the fuselage could be aimed accurately simply by pointing the airplane in the desired direction. With this machine, Garros shot down three German aircraft on April 1, 13, and Then, on April 19, Garros himself force-landed with a ruptured fuel line and was taken prisoner. The Germans reacted quickly, putting the designer Anthony Fokker to work on a similar device. Though a superb flying machine, the Nieuport was limited by its light armament, while the two British machines had taken the aerodynamically inefficient pusher configuration to its limit and were soon outclassed. Thereafter, the pace of fighter development began to be set by improvements in engine designâ€”a phenomenon that was to persist well into the jet age. Most Allied fighters at that time were powered by rotary radial engines i. These engines were relatively powerful in relation to their weight, but their large frontal areas produced a great deal of drag, and the gyroscopic forces induced by their whirling mass posed serious aircraft-control problems. In mid Germany took the lead in fighter design on the basis of its superb Daimler and Benz water-cooled in-line engines, such as those that powered the streamlined Albatros D. III series of fighters. These were faster than their Allied opponents and, most important, could carry two machine guns without sacrificing performance. I pioneered a fighter configuration that was to prevail into the s: Prominent among these were the French Spad fighters and the British S. A Albatros D. Va, a German fighter plane of World War I. Typically powered by a horsepower Mercedes engine, the D. VII was a fabric-covered biplane that differed from others in having a sturdy fuselage structure of welded steel tubing. Armed with two machine guns, it had a top speed of km miles per hour. Even more powerful engines made two-seat fighters possible. The best of these was the British Bristol F. Ground attack The Allies fielded

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specialized aircraft for ground attack only at the very end of the war. Notable among these was the Sopwith Salamander, a development of the Sopwith Camel with an armoured cockpit and two machine guns firing downward through the floor at a fixed angle to rake enemy trenches while flying low over them. The Germans produced a number of specialized two-seat aircraft for this purpose— notably the Halberstadt CL. III of , which was armed with a forward-firing synchronized machine gun as well as a flexible gun and racks of grenades for the observer. At the Battle of Cambrai in November and December , the Germans sent large formations of such aircraft over the British trenches and into the rear areas with devastating effect. By the end of the war, they were using numbers of armoured all-metal Junkers J-1 ground-attack aircraft, one of the most advanced machines to see combat during the war. German Junkers J-1 monoplane fighter prototype, The first bombing raids to achieve significant success and the first to cross national boundaries were mounted against the Zeppelin works at Friedrichshafen from Belgian bases by airmen of the Royal Naval Air Service RNAS on October 8 and November 21, However, their spectacular success owed more to the highly flammable nature of the zeppelins themselves than to the destructive power of the pound 9-kg bombs used. These raids prompted the Admiralty to commission the development of the first specialized heavy night bomber, the Handley Page H. Meanwhile, other air forces began building and putting into service strategic day bombers. Among the first were French Voisins. The type L was used in early to carry about 60 kg pounds of small bombs that simply lay in the bottom of the cockpit until the time came for the observer to drop them overboard. Later models had more powerful engines and were equipped alternatively as attack aircraft , carrying up to kg pounds of bombs or having a mm 1. None flew faster than km 85 miles per hour, so the Voisins operated mainly under cover of darkness in the last year of the war. Italy too was quick to appreciate the value of bombing attacks on enemy targets. Its big three-engined, twin-tailboom Capronis were among the finest bombers of World War I. About 80 were built, and they made raids on German targets with the loss of only one plane. The German air force also operated a family of giant four-engined metal bombers known as Riesenflugzeug, or R-planes. Typical of these was the Staaken R. This had a takeoff weight of 11, kg 25, pounds , which included a crew of seven and a bomb load of up to 1, kg 4, pounds. Italian Caproni bomber of World War I. Three distinct categories of combat aircraft emerged: Long-range flying boats so called because their fuselages were shaped like the hull of a boat were used extensively by the British.

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