

## Chapter 1 : English for Aircraft: 1 : Philip Shawcross :

*English for Aircraft is a course designed for users of aircraft documentation, notably ground mechanics and technicians, who already have a minimum grasp of written English and a knowledge of aircraft technology.*

Origins[ edit ] The two P. The design that had developed during evolved further during On 1 April , English Electric received a contract for two flying airframes , as well as one static airframe, designated P. To test the design of both the wing, the tailplane and to assess handling, Short Brothers were issued a contract to produce the Short SB5 in mid An assortment of tailplanes and wings were supplied and could be installed in order for their flight performance to be evaluated. However, following the first flight of the SB. These aircraft had been assigned the aircraft serials WG, WG, and WG the static airframe [ citation needed ]. The prototypes were powered by un- reheated Armstrong Siddeley Sapphire turbojets, as the selected Rolls-Royce Avon engines which would power subsequent production aircraft had fallen behind schedule due to their own development problems. While it was similar in aerodynamics, structure and control systems, it incorporated extensive alterations to the forward fuselage, reheated Rolls Royce Avon R24R engines, a conical centre body inlet cone , variable nozzle reheat and provision for weapons systems integrated with the ADC and AI. The occurrence was noticed during flight data analysis a few days later. In May , the P. Slayton, who was subsequently selected as one of the Mercury astronauts, commented: Its only drawback was that it had no range at all. The new engines and fin made the F. The next variant, the Lightning F. The conically cambered wing improved manoeuvrability, especially at higher altitudes, and the ventral tank nearly doubled available fuel. The increased fuel was welcome, but the lack of cannon armament was felt to be a deficiency. It was thought that cannons were desirable to fire warning shots in the intercept mission. Originally it was nearly identical to the F. These tanks were jettisonable in an emergency, and gave the F. There remained one glaring shortcoming: This was finally rectified in the form of a modified ventral tank with two ADEN cannons mounted in the front. This was an F. Export and further developments[ edit ] The Lightning F. While the Lightning had originated as an interception aircraft, this version was to have a multirole capability for quickly interchanging between interception, reconnaissance, and ground-attack duties. A gun pack carrying two ADEN cannons and rounds each could replace the forward part of the ventral fuel tank. The Export Lightning also retained the difficulty of maintenance, and serviceability rates suffered. In addition to the variable-sweep wing , which was to sweepback between 25 degrees and 60 degrees, the proposed design featured an extended ventral pack for greater fuel capacity, an enlarged dorsal fin fairing, an arrestor hook, and a revised inward-retracting undercarriage. It is likely that the VG Lightning would have adopted a solid nose by moving the air inlet to the sides or to upper fuselage to install a larger, more capable radar. The vertically stacked and longitudinally staggered engines were the solution devised by Petter to meet the conflicting requirements of minimizing frontal area, providing undisturbed engine airflow across a wide speed range, and packaging two engines to provide sufficient thrust to meet performance goals. The result was a low frontal area, an efficient inlet, and excellent single-engine handling with no problems of asymmetrical thrust. Because the engines were close together, an uncontained failure of one engine was likely to damage the other. If desired, an engine could be shut down in flight and the remaining engine run at a more efficient power setting which increased range or endurance; [47] [48] although this was rarely done operationally because there would be no hydraulic power if the remaining engine failed. Later models of the Avon would feature, in addition to increased thrust, a full-variable reheat arrangement. Under optimum conditions, a well-equipped maintenance facility would take four hours to perform an engine change so specialised ground test rigs were developed to speed up maintenance and remove the need to perform a full ground run of the engine after some maintenance tasks. The fuselage was tightly packed, leaving no room for fuel tankage or main landing gear. The main landing gear was sandwiched outboard of the main tanks and aft of the leading edge tanks, with the flap fuel tanks behind. The Lightning featured a conformal ventral store to house either a fuel tank or a rocket engine. The subsequent basic performance with reheated Avons was deemed sufficient, and the rocket engine option was cancelled in Radar information was displayed on an early head-up display and managed by onboard

computers. The radar would be successively upgraded with the introduction of more capable Lightning variants, such as to provide guidance for the Red Top missile. A 28V DC battery provided emergency backup power. Aviation author Kev Darling stated of the Lightning: Switchable hydraulic circuits were used for redundancy in the event of a leak or other failure. A combination of Dunlop Maxaret [49] anti-skid brakes on the main wheels and an Irvin Air Chute [66] braking parachute slowed the aircraft during landing. A tailhook was also fitted. Towards the end of its service, the Lightning was increasingly outclassed by newer fighters, mainly due to avionics and armament obsolescence. While an automatic collision course attack system was developed and successfully demonstrated by English Electric, it was not adopted due to cost concerns. As such, it has probably the fastest rate-of-climb of any combat aircraft" " Flight International , 21 March [72] The Lightning possessed a remarkable climb rate. It was famous for its ability to rapidly rotate from takeoff to climb almost vertically from the runway, though this did not yield the best time-to-altitude. For the intercepts, four Lightning F1As conducted 18 solo sorties. Due to sensitivity, details of these flights were deliberately avoided in the pilot log books. This was not sustained level flight but a ballistic climb, in which the pilot takes the aircraft to top speed and then puts the aircraft into a climb, exchanging speed for altitude. Hale also participated in time-to-height and acceleration trials against Lockheed F Starfighters from Aalborg. He reports that the Lightnings won all races easily with the exception of the low-level supersonic acceleration, which was a "dead heat". Chief test pilot for the Lightning Roland Beamont , who also flew most of the " Century Series " US aircraft, stated his opinion that nothing at that time had the inherent stability, control and docile handling characteristics of the Lightning throughout the full flight envelope. The turn performance and buffet boundaries of the Lightning were well in advance of anything known to him. As the Lightning accelerated through Mach 1, the shock cone generated an oblique shock positioned forward of the intake lip. Known as a subcritical inlet condition, this was stable, but produced inefficient spillage drag. Around the Design Mach speed, the oblique shock was positioned just forward of the inlet lip and efficiently compressed the air without spillage. When travelling beyond the Design Mach, the oblique shock would become supercritical, and supersonic airflow would enter the inlet duct, which could only handle subsonic air. In this condition, the engine generated drastically less thrust and may result in surges or compressor stalls , these could cause flameouts or damage. Thermal and structural limits were also present. Air is heated considerably when compressed by the passage of an aircraft at supersonic speeds. The airframe absorbs heat from the surrounding air, the inlet shock cone at the front of the aircraft becoming the hottest part. The shock cone would be eventually weakened due to the fatigue caused by the thermal cycles involved in regularly performing high-speed flights. The shock cone was strengthened on the later Lightning F. The large-fin variants, especially those equipped with Avon series engines could safely reach Mach 2, and given the right atmospheric conditions, might even achieve a few more tenths of a Mach. With the strengthened shock cone, the Lightning could safely approach its thrust limit, but fuel consumption at very high airspeeds was excessive and became a major limiting factor. This was due to the complexity of the aircraft systems and shortages of spares and ground support equipment. Even when the Lightning was not grounded by technical faults, the RAF initially struggled to get more than 20 flying hours per aircraft per month compared with the 40 flying hours that English Electric believed could be achieved with proper support. Following their replacement from frontline duties by the introduction of successively improved variants of the Lightning, the remaining F. Conversion of these two squadrons was aided by the use of the two seat T. While the OCU was the major user of the two seater, small numbers were also allocated to the front-line fighter squadrons. They had some of the improvements added to the F. It initially had no cannon, but installable gun packs were made available later. Author Kev Darling suggests that decreasing British overseas defence commitments had led to those aircraft instead being prematurely withdrawn. And so you would run to the aeroplane, jump in. They [Soviet aircraft] were just monitoring, listening, recording everything that went on. So you would get up alongside and normally they would wave, quite often there would be a little white face at every window. They knew we were there just to watch them. One I intercepted when he violated the airspace and I was trying to get him to land but it was scary. The pilot had abandoned the Harrier which continued flying towards the East German border. It was shot down to avoid a diplomatic incident. The Tornado featured several advantages over the Lightning,

including a far larger weapons load and considerably more advanced avionics. In their final years the airframes required considerable maintenance to keep them airworthy due to the sheer number of accumulated flight hours. BAC received orders for 34 multirole single-seat Lightning F. One lost in an accident was later replaced May The Lightnings and Hunters, flown by mercenary pilots, were deployed to Khamis Mushait airfield near the Yemeni border, resulting in the curtailing of operations by the Egyptian Air Force over the Yemeni-Saudi border. The first Kuwait aircraft, a T. Two Lightnings, a F. After an unsuccessful attempt by the regime to sell them to Egypt in , they were replaced its last Lightnings with Dassault Mirage F1s in

## Chapter 2 : English for Aircraft 1 | Learning English Together

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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.

## Chapter 3 : English Electric Lightning - Wikipedia

*English for Aircraft. Documentation, Handbook, livre de l'Ã©cole avec exercices corrigÃ©s, tome 1 [P. Shawcross] on calendrierdelascience.com \*FREE\* shipping on qualifying offers.*

To help you to both learn and more importantly remember the names in English, I have created the below exercise. This is the first part of two exercises on parts of a plane vocabulary in English. In the second part of this exercise , you will learn the names of the different parts of an aircraft which are used to make the plane move go up and down, and left and right. To see our other exercises on aviation English vocabulary, go to our aviation English exercise menu. To help you know what the parts are, when reading the text look at the two drawings of aircraft below. Describing parts of a plane In the following conversation, Peter a professional pilot explains to Juan a Spanish trainee pilot the names in English of the different parts of an airplane. From using both the text and the two images of aircraft above, try to guess what each aircraft part in bold in the text is. Then do the quiz at the end to check if you are right. The part which contains the passengers, crew and cargo? And what do you call the front part of the fuselage? And the section at the back of the airplane is called the tail. And the part of the fuselage behind the nose where the pilots fly the aircraft from? So what are the wheels called which an aircraft uses when travelling on the ground? The two long horizontal parts of the aircraft attached to the middle part of the fuselage. And what do you call the things which power the aircraft so it can move and fly? On some aircraft especially bigger ones , they are powered by jet engines which are attached to the wings. On other aircraft especially smaller ones , they are powered by a propeller which is normally attached to the nose of the airplane. Click to see more aviation English exercises Quiz: Only use each part once. Click on the "Check answers" button at the bottom of the quiz to check your answers. In the first icon, , you can find extra information about the part e. In the second, , is where you can listen to the pronunciation of the name and do a pronunciation test to make sure you can say it correctly. This is a part of a plane which are called Wings:

## Chapter 4 : bwise2: Aviation English Lanugage Training for Mechanics and PÃlots

*English for Aircraft is a course designed for users of aircraft documentation, notably ground mechanics and technicians, who already have a minimum grasp of aircraft technology. The two volumes may be used for classroom teaching or for self-study.*

For teacher-researchers interested in designing and implementing an aviation English instruction program, this paper offers an example framework of how this might be done and evaluates the framework within an action research model. A needs analysis is made and a curriculum presented for an integrated course in aviation English for aircraft engineers in the Chinese context, so that learners of ESP can learn the target language more effectively and put the learning to practical use. This is because of the fact that all trades and professions need composite talents who have not only a good grasp of English skills, but also a conscious command of professional or field knowledge. In aviation, English has long been generally accepted as the de facto medium of communication. This is especially true in international airports and airlines. The boom in ESP teaching, in both college education and continuing education, is a natural result of the growing societal demand for English skills, the rapid development of the field of applied linguistics, and advances in educational psychology. In this context of rapid growth, ESP teaching definitely needs to develop its own methodology and curriculum separate from those of general ESL learning, because it has different objectives, content target learners, and goals than the broader field. Designing an English language curriculum is of especially importance for ESP instructors. According to Nunan , the teacher can only fulfill his or her responsibility to develop strong curriculum material if given the time, the skills and support to do so. While the support may come in the form of curriculum models and guidelines, it may also include companies in the aviation context, which will be assumed henceforth, airlines and other companies involved in the aviation industry that need English language training for staff and require individuals who can act in a curriculum advisory position. Such support must not be seen as existing in isolation from the curriculum. The key issues in ESP curriculum design are 1 fostering the ability to communicate successfully in occupational settings; 2 balancing content language acquisition and general language acquisition; 3 designing materials that will work in both heterogeneous and homogenous learner groups; and 4 developing materials Nunan, ESP Curriculum Design in the Chinese Context In the Chinese context, curriculum or course design and construction need to consider a wide range of factors: In this paper, these factors are analyzed in three sub-processes: However, as an English Language Teaching ELT activity ESP curriculum design definitely needs to be conducted in a way that reflects the unique characteristics of this activity. SIAE represents an attempt to train local aviation engineers in a multicultural environment, and also to bring the benefits of the French engineer training system to China and train Chinese aviation engineers to expand their knowledge and capabilities. Hundreds of students have been enrolled at SIAE since its establishment. Three majors are offered: The working language in the classroom is mainly English with Chinese and French as auxiliary languages. This introductory and professional training is undertaken by professors from both Chinese and French universities and experts from European aviation enterprises. The education resources and models used by the French engineer training system are introduced to provide effective education and meet the increasing need for senior aviation engineers in China. Students at SIAE are an academic elite selected from among first-year students at CAUC if their marks on college entrance exam are above a certain line.

## Chapter 5 : World War 1 Aircraft ()

*English and Aircraft Maintenance calendrierdelascience.com ENGLISH AND AIRCRAFT MAINTENANCE Philip SHAWCROSS, English for Aircraft Maintenance may have often been a lower Philip Shawcross.*

## Chapter 6 : Aviation English: Parts of a plane vocabulary part 1 online exercise | Blair English

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### Chapter 7 : List of aircraft - Wikipedia

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### Chapter 8 : WW1 British Aircraft ()

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### Chapter 9 : English for Aircraft : Documentation Handbook

*English for Aircraft 2 - System Maintenance (pdf) Havacılık İngilizcesi / Uçuş İngilizcesi (Aviation English) Ders Kitabı Flashcard Slaytlar İngilizce'ye yeni başlayanlar, Okul öncesi veya ilköğretim seviyesinde İngilizce öğrenen çocuklar ve okul öncesi İngilizce öğretm.*