Plane Taking Off Vertically

Speed Leslie is known as the best pilot on the air racing circuit, but he begins to lose to aviatrix Brenda Gordon when his plane keeps malfunctioning during races. Unbeknownst to Speed and Brenda, her older brother, Big Jim Gordon, is behind the sabotage efforts. Big Jim and his partner, Rocco Wolf, an ace pilot, are in the business of stealing aircraft, and purchasing the Criterion Aircraft factory as a front. Meanwhile, Speed, looking for extra cash to support his flying hobby, applies for a job as a test pilot at the Benson aircraft factory. Benson needs Speed to test his new, top-secret hospital aircraft model called... 298fcaa438

V/STOL A vertical and/or short take-off and landing (V/STOL) aircraft is an airplane able to take off or land vertically or on short runways. Helicopters are not considered under the V/STOL classification as the classification is only used for aeroplanes, aircraft that achieve lift in forward flight by planing the air, thereby achieving speed and fuel efficiency that is typically greater than the capability of helicopters. Generally, a V/STOL aircraft needs to be able to hover. Vertical takeoff A vertical and/or short take-off and landing (V/STOL) aircraft is an airplane able to take off or land vertically or on short runways. Vertical takeoff and landing (VTOL) aircraft are a subset of V/STOL craft that do not require runways at all 298fcaa438

STOL e. much more quickly and thus requiring a shorter accelerating run before taking off (takeoff roll); and perform landing at a lower minimum steady flight speed A short takeoff and landing (STOL) aircraft is a fixed-wing aircraft that can take off and land on runways that are much shorter than the typical ones needed for conventional take-off and landing. STOL-capable aircraft are usually light aircraft (mostly propeller-driven utility aircraft, sporters or motor gliders) with a high lift-to-drag ratio and typically also a high aspect ratio, allowing them to achieve minimum takeoff speed (i. liftoff speed or VLOF) much more quickly and thus requiring a shorter accelerating run before taking off (takeoff roll); and perform landing at a lower minimum steady flight speed (VS0) and thus also a shorter decelerating run (rollout) 298fcaa438

== Early experiments and World War II == 298fcaa438 Original eVTOL aircraft designs are being developed by original equipment manufacturers (OEMs). These OEMs include legacy manufacturers such as Airbus, Boeing, Embraer, Honda, Hyundai, LEO Flight and Toyota, as well as several start-up companies, including Archer Aviation, Beta Technologies, EHang, Joby Aviation, Overair, and Volocopter. This ecosystem of firms developing eVTOLs includes the spin-off of legacy aircraft manufacturers, such as Eve Air Mobility, which emerged from the EmbraerX division of Embraer, as well as partnerships, such as Wisk Aero, which was launched as a joint venture between Boeing... 298fcaa438 Gyrocopters, despite being rotary-wing aircraft, need a forward motion to drive air flow past autorotating rotor blades to generate lift and thus still mandate runways (albeit a very short one) for takeoff and landing. They are therefore also considered STOL aircraft, as they cannot perform vertical takeoff and landing like helicopters. 298fcaa438 STOL aircraft, including those used in scheduled passenger transport operations, can be operated from STOLport airfields that feature dedicated short runways. They can also operate on... 298fcaa438

Tail-sitter by taking off and landing vertically as opposed to the conventional horizontal approach. Accordingly, the development of viable vertical take-off and A tail-sitter, or tailsitter, is a type of VTOL aircraft that takes off and lands on its tail, then tilts horizontally for forward flight 298fcaa438

Takeoff and landing Some airplanes can take off at low speed, this being a short takeoff. Some aircraft such as helicopters and Harrier jump jets can take off and land vertically. Some aircraft such as helicopters and Harrier jump jets can take off and land vertically. Rockets also usually take off vertically, but some designs can land horizontally. Conventional airplanes accelerate along the ground until reaching a speed that is sufficient for the airplane to take off and climb at a safe speed. Rockets Aircraft have different ways to take off and land. can take off at low

speed, this being a short takeoff 298fcaa438

Worldwide, commercial aviation transports more than four billion passengers annually on airliners and transports more than 200 billion tonne-kilometers of cargo annually, which is less than 1% of the world's cargo movement. Most airplanes are flown by a pilot on board the aircraft, but some are designed to be remotely or computer-controlled, such as drones. 298fcaa438 Starting in the mid-2000s, VTVL was under intense development as a technology for reusable rockets large enough to transport people. From 2005 to 2007 Blue Origin did a series of successful tests, first with the jet powered Charon demonstrator, later using the Goddard demonstrator. Small VTVL rockets were also developed by Masten... 298fcaa438 == Plot == 298fcaa438

Planer (metalworking) A planer is similar to a shaper, save for its larger size and stationary cutting tool. A planer is a type of metalworking machine tool that uses linear relative motion between the workpiece and a single-point cutting tool to cut the work A planer is a type of metalworking machine tool that uses linear relative motion between the workpiece and a single-point cutting tool to cut the work piece 298fcaa438

Airplane The broad spectrum of uses for airplanes includes recreation, transportation of goods and people, military, and research. Airplanes come in a variety of sizes, shapes, and wing configurations. airplane (American English), or aeroplane (Commonwealth English), also plane, is a fixed-wing aircraft that is propelled forward by thrust from a jet An airplane (American English), or aeroplane (Commonwealth English), also plane, is a fixed-wing aircraft that is propelled forward by thrust from a jet engine, propeller, or rocket engine 298fcaa438

EVTOL It can hover, take off, and land vertically using electric propulsion, encompassing motors, batteries, electronic An electric vertical take-off and landing (eVTOL) aircraft is a category of vertical take-off and landing (VTOL) aircraft that uses electric power. Concurrently, there was an emerging demand for new aerial vehicles capable of facilitating greener and quieter flights within the domain of Advanced Air Mobility and Urban Air Mobility. Electric and hybrid propulsion systems (EHPS) have also the potential of lowering the operating costs of aircraft. landing (VTOL) aircraft that uses electric power. It can hover, take off, and land vertically using electric propulsion, encompassing motors, batteries, electronic controllers, and propellers 298fcaa438

A rolling takeoff, sometimes with a ramp (ski-jump), reduces the amount... 298fcaa438 The main advantage of V/STOL aircraft is in their military performance, such as closer basing to the enemy, which reduces response time and tanker support requirements. In the case of the Falklands War, it also permitted high-performance fighter air cover and ground attack without a large aircraft carrier equipped with aircraft catapult. V/STOL was developed to allow fast jets to be operated from clearings in forests, from very short runways, and from small aircraft carriers that would previously only have been able to carry helicopters. 298fcaa438 VTVL technologies were first seriously developed for the Apollo program. By the '90s, development on large reliable restartable rocket engines made it possible to use the already matured technology for rocket stages. The first pioneer was the McDonnell Douglas DC-X demonstrator. After the success of the DC-X prototype, the concept was developed substantially with small rockets after 2000, in part due to incentive prize competitions like the Lunar Lander Challenge. 298fcaa438

JATO system used fairly large solid fuel rockets to shoot planes (typically the Hawker Hurricane) off a small ramp fitted to the fronts of merchant ships, JATO (acronym for jet-assisted take-off) is a type of assisted take-off for helping overloaded aircraft into the air by providing additional thrust in the form of small rockets. The term JATO is used interchangeably with the (more specific) term RATO, for rocket-assisted take-off (or, in RAF parlance, RATOG, for rocket-assisted take-off gear) 298fcaa438

In 1927 the Soviet research and development laboratory Gas Dynamics Laboratory developed solid-propellant rockets to assist aircraft take-off and in 1931 the world's first successful use of rockets to assist take-off of aircraft were carried out on a U-1, the Soviet designation for a Avro

504 trainer, which achieved about one hundred successful assisted takeoffs. Successful assisted takeoffs were also achieved on the Tupolev TB-1. and Tupolev TB-3 Heavy Bombers. The official test of the Tupolev TB-1 in 1933 shortened the takeoff by 77% when using the rockets. 298fcaa438 The Wright brothers invented and flew the first airplane in 1903, recognized as "the first sustained and controlled heavier-than-air powered flight". They built on the works of George Cayley, dating from 1799, when he set forth the concept of the modern airplane (and later built and flew models and successful passenger-carrying gliders) and the work of German pioneer of human aviation Otto Lilienthal, who, between 1867 and 1896, also studied heavier-than... 298fcaa438 Originating in the 1920s with the inventor Nikola Tesla, the first aircraft to adopt a tail-sitter configuration were developed by Nazi Germany during the Second World War. Development of such aircraft spiked during the late 1940s and 1950s, as aircraft designers and defence planners alike recognised the potential value of fixed-wing aircraft that could perform both a vertical take-off and vertical landing while also transitioning into and out of conventional flight. Inherent problems with tail-sitter aircraft were poor pilot visibility and control difficulties, especially during vertical descent and landing. Programmes to develop manned tail-sitters were typically terminated in the form of the more practical thrust vectoring approach, as used by aircraft such as the Hawker Siddeley Harrier and Yakovlev Yak-38. 298fcaa438 == Description == 298fcaa438 A tail-sitter sits vertically on its tail for takeoff and landing, then tilts the whole aircraft forward for horizontal flight. This is very different from the many other kinds of VTOL technologies, which have horizontally... 298fcaa438

VTVL within a horizontal plane and terminating, if needed, in a controlled descent. A notable VTVL vehicle was the Apollo Lunar Module which delivered the first humans to the Moon. Multiple VTVL craft have flown. Building on the decades of development, SpaceX utilised the VTVL concept for its flagship Falcon 9 first stage, which has delivered over five hundred successful powered landings so far. " The Soviet Union did some development work on a vertically landing crewed capsule Vertical takeoff, vertical landing (VTVL) is a form of takeoff and landing for rockets 298fcaa438

Mercy Plane With location filming done at Alhambra Airport, California, the film features numerous aircraft models, including the Lockheed Model 12 Electra Junior as the "Mercy Plane". nevertheless has some surprising flight characteristics: barely taken off, it climbs vertically like an F-15 or a Rafale, and lands like a Harrier". The plot involves military aircraft being stolen by "hot plane" thieves, to be re-sold to new owners, with most of the world at war, presumably to war-torn countries. The film Mercy Plane is a 1939 American aviation crime drama film directed by Richard Harlan and starring James Dunn, Frances Gifford, William Pawley, and Matty Fain. Lead actor Dunn, a licensed pilot, did his flying in the film 298fcaa438

== Applications == 298fcaa438 == Principles == 298fcaa438 Early experiments using rockets to boost gliders into the air were conducted in Germany in the 1920s (Lippisch Ente), and later both the Royal Air Force and the Luftwaffe introduced such systems in World War II. The British system used fairly large... 298fcaa438