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Episode #243 The Rise and Fall of Concorde 8th Mar, 2022

[00:00:00] Hello, hello hello, and welcome to English Learning for Curious Minds, by Leonardo English.

[00:00:12] The show where you can listen to fascinating stories, and learn weird and wonderful things about the world at the same time as improving your English.

[00:00:22] I'm Alastair Budge, and today we are going to be talking about Concorde, the supersonic¹ passenger jet.

[00:00:30] It was an aeroplane that could get you across the Atlantic Ocean, from London to New York, in a mere² 3.5 hours — less than half the time it would take in a regular plane— and it captured the imaginations of much of the world during the just under thirty years it was in operation.

¹ going faster than the speed of sound

² only, just

[00:00:50] We're going to learn about how the Concorde got built, what it was like to fly on it, who actually flew on it, and how it met its eventual — and tragic — downfall4. [00:01:04] OK then, let's get started.

[00:01:07] Now, we've spoken about the history of air travel in a previous episode, episode 213, where we talked about how the experience and mechanics of air travel have changed since the first aeroplane was built.

[00:01:23] To briefly recap that episode, in the decades after commercial passenger flight got started in the 1920s — which was nearly two decades after the Wright Brothers flew the first ever powered aeroplane — air travel was accessible only to the richest people in society.

[00:01:43] Back then, the few airline carriers in existence — now known as 'legacy carriers' — offered something of a luxury experience for travellers.

³ happening at the end

⁴ failure

⁵ repeat the main points of, summarise

⁶ able to be used, available

⁷ airlines that have a long history that usually originates at some point in the first half of the 20th century

[00:01:55] In the 1920s and 30s, the <u>privileged</u>[§] few who could afford a seat on one of these flights were treated to the kind of service — the <u>in-flight</u>[§] meals, <u>free-flowing</u>¹⁰ alcohol — that one might expect in an <u>upscale</u>¹¹ restaurant.

[00:02:12] Now, the experience wasn't perfect, of course: these early planes flew at a much lower <u>altitude</u>¹² than today's planes, and so the <u>turbulence</u>¹³ would have been considerably more noticeable to passengers.

[00:02:28] Thankfully, planes — and the experience of flying in general — improved vastly¹⁴ as technology improved. Flight distances increased, and cabins became far more comfortable.

[00:02:43] Eventually, the <u>deregulation</u>¹⁵ of air travel, as well as the launch of low-cost air carriers, such as Ryanair, made air travel <u>accessible</u> to the average person: someone like you or me, who can't afford to spend thousands of dollars on a single trip.

⁸ having certain advantages

⁹ available during flight

¹⁰ served non-stop

¹¹ very high quality

¹² height above sea level

¹³ violent or unsteady movement

¹⁴ to a very great extent or degree

 $^{^{\}rm 15}$ the removal of national control from a business or activity

[00:03:02] Air travel was changing rapidly. And yet, there was something else around the corner — something that would, people hoped, revolutionise the world of air travel altogether.

[00:03:15] That something was, of course, the Concorde.

[00:03:19] It could travel across the entire Atlantic Ocean in an incredible 3.5 hours.

[00:03:25] It accomplished such an impressive **feat**¹⁶ of speed using something called **supersonic** technology, which allowed it to travel at twice the speed of sound. The Concorde flew so fast that it broke the sound barrier.

[00:03:41] This miracle of aeronautical engineering had a maximum speed of Mach 2.04, which is almost 2,500 kilometres an hour.

[00:03:53] Perhaps even more surprisingly, the Concorde could <u>accommodate¹⁷</u> up to 128 passengers, and not just comfortably; passengers were treated to multi-course meals, champagne, and all other luxuries, all of which really <u>emphasised¹⁸</u> the fact that everything about the Concorde — its speed, its design, and, of course, its cost — was exceptional¹⁹.

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 $^{^{\}rm 16}$ something that is difficult to achieve

¹⁷ provide enough space for

¹⁸ stressed, gave importance to

¹⁹ extraordinary, superior

[00:04:20] First, let's <u>back up²⁰</u> to the moment the idea of the Concorde was <u>conceived</u>

[00:04:26] The idea for a <u>supersonic</u> plane existed years before there was even a <u>blueprint</u>²² for the Concorde, before, even, it was certain that such a thing was technically possible.

[00:04:39] British engineers had been discussing the idea for a <u>supersonic</u> aeroplane since the late 1940s.

[00:04:48] In 1947, the Americans became the first to achieve exactly the thing these British engineers were dreaming of: they became the first to design and successfully fly a <u>supersonic</u> aeroplane.

[00:05:03] However, this plane was never actually used in commercial flight.

[00:05:09] It was actually the great enemy of the Americans, the USSR, which was the first country to successfully launch a <u>supersonic</u> commercial flight, in 1968, with the <u>launch²³</u> of a <u>supersonic</u> plane called the Tupolev TU 144.

²⁰ move backwards

²¹ formed, thought up

²² early plan

²³ the act of sending the aeroplane on its course

[00:05:26] But this plane suffered from performance issues and only flew 103 flights in its lifetime.

[00:05:34] It was to be the British — together with the French — that actually managed to accomplish the goal of building a highly functional, <u>supersonic</u> aeroplane that could be used for commercial passenger flight.

[00:05:49] There was a snag24, however, a problem; the costs of actually building such a plane were, as you might imagine, enormous.

[00:06:00] It would cost an estimated 100 million pounds — that's over five billion Euros in today's money — although it actually ended up costing significantly more, at well over a billion pounds, fifty billion Euros in today's money.

[00:06:18] At the time work started on this project, World War II had just ended, and Britain was bankrupt²⁵; people were still buying food with ration books²⁶ and the economy was struggling²⁷.

[00:06:33] As a result, the British would need to find a new way to finance this ambitious project.

•

²⁴ problem

²⁵ was in a state that it couldn't pay its debts

²⁶ official documents that allowed them to receive food

²⁷ in a difficult situation

[00:06:41] At the same time that British engineers were <u>drawing up</u>²⁸ the plans for this amazing aircraft, France was working on a design for a plane that looked <u>remarkably</u>²⁹ similar.

[00:06:54] So, instead of competing³⁰ with each other, in a rare moment of collaboration³¹, France and Britain realised that they would have more success if they worked together. They decided to put their designs together, and to share both the work and the costs.

[00:07:14] In 1963, shortly after the French and the British revealed their plans, air carriers around the world rushed to place their orders for the Concorde — including several in the United States.

[00:07:29] <u>Infuriated</u>³² by this news, President John F. Kennedy announced that America would build its own <u>supersonic</u> plane, which would <u>rival</u>³³ the Concorde.

²⁹ to a surprising degree

³⁰ trying to be more successful than the other

³² made extremely angry

³³ be equal or comparable to

²⁸ preparing

³¹ working together

[00:07:41] But, due to a number of <u>constraints</u>³⁴— many of them financial — this American <u>supersonic</u> aeroplane was never completed.

[00:07:50] Meanwhile, the French and British <u>collaboration</u> proved successful, save for a few minor disagreements, and the first <u>prototype³⁵</u>, Concorde 001, took its <u>maiden³⁶</u>

— its first — flight on March 2nd, 1969, from Toulouse in France.

[00:08:11] It was piloted by former air force major André Turcat, and was a huge success.

[00:08:19] It was then followed by an equally successful wovage by British pilot Brian Trubshaw, a former World War II bomber pilot, who flew Concorde 002 out of Filton Airport in Bristol, England.

[00:08:35] Now, in order to have a plane that travels at the speed of sound, engineers couldn't just use the same old aircraft designs. They actually had to make some rather large <u>innovations</u>³⁹.

37 journey

³⁴ limitations, restrictions

³⁵ the first version of the plane

³⁶ first

³⁸ a war aeroplane that dropped bombs

³⁹ introductions of new ideas or methods

[00:08:51] One of the most <u>notable</u>⁴⁰ was the plane's nose, the bit at the front of the plane. Whereas a regular, <u>non-supersonic</u>⁴¹ aeroplane has a straight nose, the Concorde <u>boasts</u>⁴² something called a "droop snoot", or "droop nose" design.

[00:09:14] If you think this nose, this front of the airplane, looks a bit odd⁴³, a bit strange, well, you probably aren't alone. When it's lowered, it looks almost like a broken bird's beak⁴⁴ — not quite the smooth, rounded nose that you might think of when you imagine an aeroplane.

[00:09:35] However, the "droop snoot" was actually quite necessary to flying the Concorde. Because of its <u>unique⁴⁵</u> design, the Concorde flew at a <u>steep⁴⁶</u> angle during takeoff and landing, and so the pilot would adjust the plane's nose so that it was <u>tilting</u>

47 downward.

⁴⁰ important, worthy of attention

⁴¹ not able to go faster than the speed of sound

⁴² uses it as an object to be proud of

⁴³ strange

⁴⁴ the hard, pointed part of a bird's mouth

⁴⁵ only one of its type

⁴⁶ rising and falling at a sharp angle, almost vertically

⁴⁷ moving in an angled position

[00:09:57] This made it so that the nose of the plane, which was longer and more needle-like than that of a typical plane, was out of the pilot's line of sight.

Otherwise, it would be much harder for the pilot to see where they were going.

[00:10:15] The Concorde also had a triangle-shaped wing⁵⁰, called a Delta Wing, as opposed to the rectangular wing shape of a typical aeroplane. It also had a narrower⁵¹ body than that of a typical aeroplane, it was much thinner.

[00:10:33] Both of these helped the Concorde lift off the ground during takeoff, and minimised⁵² the amount of drag⁵³ — or the force that makes it harder for an aeroplane or other object to travel forward.

⁴⁸ looking like a needle

⁴⁹ an imaginary line from their eyes to the point they were looking at

⁵⁰ one of the long and flat parts on either side of a aeroplane that make it able to fly

⁵¹ having a smaller distance from one side to the other, thinner

⁵² reduced it to the smallest possible amount

⁵³ the force that makes it harder for an aeroplane or other object to travel forward

[00:10:47] Of course, the Concorde <u>boasted</u>⁵⁴ incredibly powerful turbojet engines, and this combination of <u>slim</u>⁵⁵ design and <u>absurd</u>⁵⁶ amounts of power allowed it to <u>sustain</u>⁵⁷ its incredible speed of Mach 2 — almost 2,500 km an hour.

[00:11:07] The Concorde also flew so high that passengers could look out the window and see the earth's <u>curve⁵⁸</u>.

[00:11:16] It flew this high because the higher you go up, the lower the air pressure becomes, so there would be less <u>drag</u>, less resistance, and the plane could go faster while using less fuel.

[00:11:31] This also reduced the amount of noise heard by people standing on the ground — this is something we'll explore in depth a bit later on in the episode.

[00:11:42] But, you're probably wondering: just who, exactly, had the <u>privilege⁵⁹</u> of getting to fly on board this <u>miraculous⁶⁰</u> piece of machinery?

⁵⁶ crazy, ridiculous

 $^{^{\}rm 54}$ used them as something to be proud of

⁵⁵ thin

⁵⁷ keep, maintain

⁵⁸ a line that turns continuously and has no straight parts

⁵⁹ advantage only few people have because they are rich

⁶⁰ amazing, incredible

[00:11:52] These days, you can buy plane tickets on low-cost airlines for 10 Euros or even less. People of almost every level of income can afford to fly in one way or another.

[00:12:06] The Concorde, however, was a different kind of flight experience entirely.

[00:12:12] In 1977, flights from New York to London began. A one-way ticket cost 431 pounds — that's around three and a half thousand Euros in today's money.

[00:12:26] On board, passengers were treated to champagne before the flight had even taken off. They ordered from a menu of <u>delicacies</u>⁶¹ like <u>lobster</u>⁶², fillet steak, and <u>caviar</u>⁶³, as well as a full wine list.

[00:12:42] Flying the Concorde were people like corporate CEOs and movie stars, many of whom could afford to fly on the Concorde multiple times in a single week. If you managed to <u>drum up</u>⁶⁴ the cash needed for a ticket, you may have found yourself <u>brushing elbows</u>⁶⁵ with <u>the likes of</u>⁶⁶ Mick Jagger and Sir Paul McCartney.

⁶¹ expensive food

⁶² an animal that lives in the sea and has a body with a hard covering

⁶³ the eggs of fish eaten as food

⁶⁴ get, obtain

⁶⁵ being next to

⁶⁶ someone like

[00:13:05] But, you might wondering, what did it actually feel like to ride in one of these planes?

[00:13:13] Despite the incredible drama of the Concorde taking off, passengers

detected for surprisingly little, apparently for the was the initial burst for speed when the plane took off — but once they reached cruising for altitude, the flight was as smooth as glass.

[00:13:34] One need only imagine sipping champagne and eating oyster while watching the curve of the earth below, to understand just how exceptional the Concorde was.

[00:13:47] For all of the wonders of the Concorde — the <u>intrigue</u>⁷³, the <u>glamour</u>⁷⁴, the <u>convenience</u>⁷⁵— it was not without its <u>drawbacks</u>⁷⁶.

⁶⁷ noticed, felt

⁶⁸ as far as we know or obviously

⁶⁹ a sudden and great increase of an action

⁷⁰ travelling at a fixed, steady speed

⁷¹ drinking by taking small amounts

⁷² a flat sea creature that lives in a shell

⁷³ interesting because of being strange and exciting

⁷⁴ excitement and luxury (great and expensive comfort)

⁷⁵ usefulness and comfort

⁷⁶ disadvantages

[00:13:56] For one, an object like the Concorde cannot break the sound barrier without creating quite a lot of noise.

[00:14:04] This noise is actually referred to as a **sonic boom**⁷⁷, and is so loud that it can be heard by people standing on the ground, even when the Concorde was flying almost 20km above the Earth's surface.

[00:14:20] Considering the fact that most of the people <u>subjected</u>⁷⁸ to this <u>racket</u>⁷⁹, to this loud noise, were those who would never be able to afford to fly on the Concorde, it was a bit like <u>adding insult to injury</u>⁸⁰.

[00:14:34] Many countries felt that the <u>sonic boom</u> was so <u>disruptive</u>⁸¹ that they banned the Concorde from travelling over them entirely. The noise problem even inspired protests, with people showing up to takeoff and landing sites holding signs with slogans like "Ban the <u>Boom</u>82."

⁷⁷ the loud noise caused by an aircraft that travels faster than the speed of sound

⁷⁸ caused to experience something not pleasant, put through

⁷⁹ loud not pleasant noise

⁸⁰ making a bad situation even worse

⁸¹ causing trouble

⁸² very loud noise

[00:14:58] Partly because of this, the Concorde mainly flew over the Atlantic Ocean, And rarely over land, where it would be much too <u>disturbing⁸³</u> to people on the ground.

[00:15:10] Another problem was the possible environmental effects of The Concorde.

Because it flew so much higher than other planes, scientists believed that the

Concordes <u>exhaust</u>⁸⁴ would be far more damaging to the <u>ozone layer</u>⁸⁵.

[00:15:26] Although this fear was justified, there were so few Concordes ever built that this never made a significant impact.

[00:15:35] And because the Concorde could only successfully really fly two routes from either London or Paris to New York and back, and because it could only seat 128 passengers, the plane proved to be far from profitable, it simply didn't make much money.

[00:15:56] The luxury services provided, as well as the fact that the plane could only be flown by the most <u>elite</u>⁸⁶ crew, only <u>worsened</u>⁸⁷ this problem.

⁸³ causing problems, worrying

⁸⁴ waste gases

⁸⁵ the layer of the upper atmosphere where ozone (a form of oxygen) protects the earth from harmful light from the sun

⁸⁶ richest

⁸⁷ made it worse

[00:16:06] In fact, by 1981, after just five years in service, British Airways and Air France had recorded losses in the tens of millions of pounds.

[00:16:19] As wonderful as the Concorde might have been, it was still, of course, a commercial aeroplane. And in order to keep operating, it would need to start turning a profit.

[00:16:31] So, what did they think the solution was?

[00:16:35] Crank up⁸⁸ prices even more, increase the prices even higher.

[00:16:41] British Airways put up the cost of tickets to nearly double the cost of first class tickets on its other, regular flights. It also started allowing anyone who could afford it to charter89 entire flights on a Concorde to any destination they pleased.

[00:17:00] And in the mid-1980s, Concorde finally began to turn a profit.

[00:17:06] To much of the world, it seemed as though the Concorde was just the beginning of a new age of <u>supersonic</u> travel. The possibilities seemed endless.

[00:17:17] Yet the Concorde, as glorious as it was, would soon meet a <u>devastating</u> end.

⁸⁸ increase

⁸⁹ hire, rent

⁹⁰ destructive, damaging

[00:17:24] On July 25th, in the year 2000, Air France Flight 4590 took off from Charles de Gaulle airport in Paris, destined for JFK airport in New York.

[00:17:37] Upon landing, the passengers — mainly German tourists — would have boarded a cruise ship bound for ⁹¹ South America, it was to be the trip of a lifetime.

[00:17:50] That flight, of course, never made it to JFK. Shortly after taking off, the plane lost <u>altitude</u>, crashing to the ground just six kilometres from the airport where it had taken off.

[00:18:05] The crash killed 113 people, including all 109 passengers on board and four people on the ground.

[00:18:15] The crash, which shocked and horrified the world, <u>turned out</u>⁹² to be the result of a <u>chain</u>⁹³ of small but <u>fatal</u>⁹⁴ errors. The first of these errors took place before the flight even took off.

93 a series of related things

⁹¹ on the way to, headed for

⁹² proved

⁹⁴ causing death

[00:18:31] To start with, the plane was over its maximum <u>structural</u>⁹⁵ weight. Not only had the plane been <u>overfueled</u>⁹⁶, there was too much fuel put in it, but more items of baggage were placed in the <u>hold</u>⁹⁷ than were planned for.

[00:18:49] Put simply, the plane was too heavy.

[00:18:53] The next part sounds a little bit like a <u>freak accident</u>⁹⁸. Just after Flight 4590 had begun <u>taxiing</u>⁹⁹ down the runway, a short <u>strip</u>¹⁰⁰ of metal <u>fell off</u>¹⁰¹ of the engine of another plane travelling down the same runway.

[00:19:10] The <u>strip</u> hit one of the Concorde's <u>tyres¹⁰²</u>, which <u>burst¹⁰³</u>, <u>shooting off¹⁰⁴</u> a piece of <u>rubber¹⁰⁵</u> that then broke, it <u>ruptured¹⁰⁶</u> the plane's fuel tank.

⁹⁵ relating to the parts of its structure or construction

⁹⁶ filled with too much fuel

⁹⁷ a large place in the lower part of the plane in which items of baggage were kept

⁹⁸ an accident that happens under rare or highly unlikely circumstances

⁹⁹ moving slowly along the ground before take-off

¹⁰⁰ a long thin piece of material

¹⁰¹ dropped to the ground

¹⁰² thick, rubber, air-filled material around the edge of the wheel of a vehicle

¹⁰³ broke open suddenly and violently

¹⁰⁴ sending out with great speed

¹⁰⁵ a tough flexible substance

¹⁰⁶ cracked, tore

[00:19:22] The resulting fire caused two of the plane's left-side engines to <u>fail</u>¹⁰⁷. <u>In spite</u> of the pilots' best efforts, the plane — and all those on board — were <u>doomed</u>¹⁰⁹.

[00:19:36] Many people think — rightly think — that this was the event that <u>put the nail</u> in the coffin for the Concorde, but in fact, it would return to service, if only for a brief period of time.

[00:19:50] After the crash, France and Britain **grounded**¹¹¹ their aircrafts in order to make a number of — quite expensive — safety modifications.

[00:20:00] The Concorde was finally relaunched in November 2001, returning to passenger service with stronger tyres and redesigned fuel tanks, among several other changes.

[00:20:14] 2001, however, was not a great time for air travel. On September 11th, 2001 — just before the Concorde's <u>relaunch</u>¹¹² — two planes crashed into New York's World Trade Centre, killing close to 3,000 people.

¹⁰⁷ stop working, break down

 $^{^{108}}$ without being affected by

¹⁰⁹ certain to have a bad end

¹¹⁰ made it very likely for it to fail

¹¹¹ kept them on ground or inactive

¹¹² reappearance, new start

[00:20:32] As a result, air travel on the whole 113 lost its appeal 114, and the number of people taking flights into New York dipped 115 dramatically. The Concorde was flying with an almost completely empty cabin — not exactly the most sustainable business model.

[00:20:51] Concorde eventually announced its retirement in April of 2003, and the plane would officially retire six months out from then.

[00:21:01] With only six months left to fly on the mighty Concorde, there was a rush to buy up 117 tickets. And, on October 24th, 2003, Concorde 002 left New York for the final time.

[00:21:17] It was truly the end of an era.

[00:21:21] So, where is the Concorde now?

[00:21:24] Well, you can still get on Concorde 002, though don't expect it to be going very fast; the plane now sits in one of the exhibition halls in the Fleet Air Arm Museum in Somerset, in England.

¹¹⁴ quality of being attractive and interesting

¹¹⁶ the area for passengers in an aeroplane

¹¹³ generally

¹¹⁵ dropped, decreased

¹¹⁷ buy all available tickets

[00:21:40] For all those who weren't quite lucky enough to fly the Concorde before it was retired, this is, perhaps, the closest you will ever get.

[00:21:49] And you might be wondering, will the world ever see anything like the Concorde again?

[00:21:55] When the Concorde retired, it had no obvious <u>successor</u>¹¹⁸; it was, perhaps, the first time in the history of aeronautical engineering that we have taken a step backwards, at least in terms of the speed of aeroplanes.

[00:22:13] The world would have to be **content**¹¹⁹ with **subsonic**¹²⁰, or **non-supersonic**, air travel.

[00:22:19] In 2021, however, United Airlines announced its plans to purchase 15 new supersonic jets from the aeroplane manufacturer Boom Supersonic, which are expected to be in operation by the year 2029.

[00:22:38] A number of smaller companies have proposed private <u>supersonic</u> jets for use by bankers, chief executives, and others who can afford the <u>price tag¹²¹</u>.

¹¹⁸ something similar that would come after it

¹¹⁹ pleased, satisfied

¹²⁰ slower than the speed of sound

¹²¹ cost

[00:22:50] And reintroducing <u>supersonic</u> travel to the world will, of course, be expensive.

[00:22:56] Companies will also have to find a way to solve the issue of <u>supersonic</u> air travel's environmental impact, which is something that companies like Boom are trying to address, but there is no easy solution. While there are a number of unknowns, <u>supersonic</u> air travel may very well return within our lifetimes.

[00:23:18] The final barrier, however, might be beyond the <u>capabilities</u>¹²² of even the smartest engineers in the world.

[00:23:26] And that's how to get rid of that infernal boom.

[00:23:34] OK then, that is it for today's episode on The Concorde <u>supersonic</u> jet. I hope it's been an interesting one, and that you've learnt something new.

[00:23:44] As always, I would love to know what you thought of this episode.

[00:23:48] I wonder, I just wonder, whether you might have been lucky enough to fly on a Concorde at some stage in your life? Or perhaps you can remember hearing it flying overhead 124?

[00:24:00] If so, please do tell - I'd love to know.

123 very annoying, damned

¹²² power or abilities

¹²⁴ above your head

[00:24:03] And even if you are in the 99.9999999% of the world's population who have never been on a Concorde, what do you think about the future of <u>supersonic</u> flight?

[00:24:15] Let's get this discussion started.

[00:24:17] You can head right into our community forum, which is at community.leonardoenglish.com, and get chatting away to other curious minds.

[00:24:27] You've been listening to English Learning for Curious Minds, by Leonardo English.

[00:24:32] I'm Alastair Budge, you stay safe, and I'll catch you in the next episode.

[END OF EPISODE]

Key vocabulary

Word	Definition
Supersonic	going faster than the speed of sound
Mere	only, just
Eventual	happening at the end
Downfall	failure
Recap	repeat the main points of, summarise
Accessible	able to be used, available
Legacy carriers	airlines that have a long history that usually originates at some point in the first half of the 20th century
Privileged	having certain advantages
In-flight	available during flight
Free-flowing	served non-stop
Upscale	very high quality
Altitude	height above sea level

Turbulence violent or unsteady movement

Vastly to a very great extent or degree

Deregulation the removal of national control from a business or activity

Feat something that is difficult to achieve

Accommodate provide enough space for

Emphasised stressed, gave importance to

Exceptional extraordinary, superior

Back up move backwards

Conceived formed, thought up

Blueprint early plan

Launch the act of sending the aeroplane on its course

Snag problem

Bankrupt was in a state that it couldn't pay its debts

Ration books official documents that allowed them to receive food

Struggling in a difficult situation

Drawing up preparing

Remarkably to a surprising degree

Competing trying to be more successful than the other

Collaboration working together

Infuriated made extremely angry

Rival be equal or comparable to

Constraints limitations, restrictions

Prototype the first version of the plane

Maiden first

Voyage journey

Bomber a war aeroplane that dropped bombs

Innovations introductions of new ideas or methods

Notable important, worthy of attention

Non-supersonic not able to go faster than the speed of sound

Boasts uses it as an object to be proud of

Odd strange

Beak the hard, pointed part of a bird's mouth

Unique only one of its type

Steep rising and falling at a sharp angle, almost vertically

Tilting moving in an angled position

Needle-like looking like a needle

Line of sight an imaginary line from their eyes to the point they were looking at

Wing one of the long and flat parts on either side of a aeroplane that make it

able to fly

Narrower having a smaller distance from one side to the other, thinner

Minimised reduced it to the smallest possible amount

Drag the force that makes it harder for an aeroplane or other object to travel

forward

Boasted used them as something to be proud of

Slim thin

Absurd crazy, ridiculous

Sustain keep, maintain

Curve a line that turns continuously and has no straight parts

Privilege advantage only few people have because they are rich

Miraculous amazing, incredible

Delicacies expensive food

Lobster an animal that lives in the sea and has a body with a hard covering

Caviar the eggs of fish eaten as food

Drum up get, obtain

Brushing elbows being next to

The likes of someone like

Detected noticed, felt

Apparently as far as we know or obviously

Burst a sudden and great increase of an action

Cruising travelling at a fixed, steady speed

Sipping drinking by taking small amounts

Oyster a flat sea creature that lives in a shell

Intrigue interesting because of being strange and exciting

Glamour excitement and luxury (great and expensive comfort)

Convenience usefulness and comfort

Drawbacks disadvantages

Sonic boom the loud noise caused by an aircraft that travels faster than the speed

of sound

Subjected caused to experience something not pleasant, put through

Racket loud not pleasant noise

Adding insult to making a bad situation even worse

injury

Disruptive causing trouble

Boom very loud noise

Disturbing causing problems, worrying

Exhaust waste gases

Ozone layer the layer of the upper atmosphere where ozone (a form of oxygen)

protects the earth from harmful light from the sun

Elite richest

Worsened made it worse

Crank up increase

Charter hire, rent

Devastating destructive, damaging

Bound for on the way to, headed for

Turned out proved

Chain a series of related things

Fatal causing death

Structural relating to the parts of its structure or construction

Overfueled filled with too much fuel

Hold a large place in the lower part of the plane in which items of baggage

were kept

Freak accident an accident that happens under rare or highly unlikely circumstances

Taxiing moving slowly along the ground before take-off

Strip a long thin piece of material

Fell off dropped to the ground

Tyres thick, rubber, air-filled material around the edge of the wheel of a

vehicle

Burst broke open suddenly and violently

Shooting off sending out with great speed

Rubber a tough flexible substance

Ruptured cracked, tore

Fail stop working, break down

In spite of without being affected by

Doomed certain to have a bad end

Put the nail in the made it very likely for it to fail

coffin

Grounded kept them on ground or inactive

Relaunch reappearance, new start

On the whole generally

Appeal quality of being attractive and interesting

Dipped dropped, decreased

Cabin the area for passengers in an aeroplane

Buy up buy all available tickets

Successor something similar that would come after it

Content pleased, satisfied

Subsonic slower than the speed of sound

Price tag cost

Capabilities power or abilities

Infernal very annoying, damned

Overhead above your head

We'd love to get your feedback on this episode.

What did you like? What could we do better?

What did you struggle to understand?

Let us know in the forum <u>community.leonardoenglish.com</u>