

Seo tags

1. **#Boeing747:** Including the specific aircraft model in the SEO tag helps to target users who are specifically interested in the Boeing 747. This tag ensures that the content is relevant to individuals searching for information about this aircraft.
2. **#Airlines:** This tag broadens the reach of the content by targeting users who are interested in airlines in general. It helps attract users who may be interested in learning why airlines are moving away from the Boeing 747 and seeking alternative aircraft.
3. **#AviationIndustry:** Including this tag captures the attention of users interested in the aviation industry as a whole. It appeals to aviation enthusiasts, industry professionals, and those seeking insights into the trends and developments shaping the sector.
4. **#AirTravel:** This tag targets individuals who are interested in air travel and its various aspects. It helps attract users who may be curious about the changing landscape of air travel, including the factors influencing airlines' decisions to phase out the Boeing 747.
5. **#FleetModernization:** This tag focuses on the trend of fleet modernization within the airline industry. It appeals to users who want to stay informed about the latest advancements and decisions made by airlines to update their aircraft fleets, which includes the shift away from the Boeing 747.

Script

Why airlines won't use the Boeing 747 anymore

Hook

Since its inaugural flight in 1969, the Boeing 747 has been a majestic presence in the skies, traversing the globe gracefully. It is hailed as the epitome of beauty and engineering excellence for many aviation enthusiasts.

However, as we approach the 53rd year since Boeing first began production, the final 747 is about to roll off the assembly line, signaling the gradual end of an era for this remarkable aircraft.

Intro

But why is this happening, you may wonder? That's precisely the topic we'll delve into in today's video. It's important to note that the Boeing 747 is not the only aircraft experiencing this transition; the Airbus A380, for instance, is also facing a similar fate.

The absence of new planes with four engines being manufactured begs the question: what factors have contributed to this change?

Let's explore the reasons together in this enlightening video.

Main body

Chapter 1: History

In 1919, two courageous individuals named John Alcock and Arthur Brown embarked on a daring and audacious adventure. Their mission was to fly a modified Vickers Vimy twin-engine aircraft, originally a World War I bomber from St. John's, Newfoundland, over the vast Atlantic Ocean to reach Ireland. If successful, they would become the first men to accomplish a non-stop transatlantic flight—a remarkable feat.

This undertaking was filled with risks and uncertainties. Airplanes during that time were far from the reliable means of transportation we have today. Mechanical failures during flight were not uncommon but rather expected. Nevertheless, against all odds, Alcock and Brown pressed on, defying the limitations of the era.

Their journey was not without its share of misfortunes. At one point, they had to navigate through dense fog without any instruments to guide them regarding the attitude of their aircraft. Yet, undeterred by the challenges, they persevered.

After 16 hours since their departure, Alcock and Brown successfully touched down in Clifden, a town in western Ireland. They had achieved what seemed impossible—their place in history secured as the first men to conquer the Atlantic non-stop.

Their extraordinary adventure is a testament to human courage, determination, and the relentless pursuit of pushing boundaries. It laid the foundation for the future development of aviation, highlighting the importance of advancements such as instrument navigation, which would make flights safer and more reliable in the years to come.

Chapter 2: Alcock and Brown's harrowing journey

During their daring journey, Alcock and Brown encountered harrowing moments as they became disoriented and lost control of their aircraft not once but twice. However, Alcock regained stable flight conditions on both occasions through sheer determination and skill, defying the odds.

Upon reaching Ireland, the two aviators spotted what they believed to be a promising green field for their landing. Unfortunately, their perception deceived them, and instead of a field, they found themselves descending onto a treacherous muddy bog.

Its wheels lodged in the ground as the aircraft touched down, causing the plane to nose over. Despite the substantial damage to the aircraft, both pilots emerged unscathed, walking away from the incident.

This groundbreaking non-stop flight paved the way for many more similar feats, with increasingly larger aircraft accommodating growing numbers of passengers. However, it is essential to remember that aviation, at that time, was still in its nascent stages, and the reliability of engines and planes left much to be desired. The industry was grappling with the challenges of enhancing the dependability and performance of these vital components.

Nonetheless, Alcock and Brown's triumph catalyzed advancements in aviation, inspiring the industry to improve and innovate continually.

Their hero's welcome was not just a celebration of their achievement but a recognition of the remarkable progress made in the field of flight, setting the stage for a future where air travel would become increasingly reliable and accessible to people worldwide.

[Chapter 3: passenger safety rule](#)

The Bureau of Air Commerce (predecessor to the FAA) took measures to ensure passenger safety in 1936. They implemented a rule stipulating that flights should remain within 100 miles or 60 minutes of flight time to the next available airport. This restriction aimed to mitigate risks associated with engine failures, which were common then.

In 1953, the FAA adjusted the rule by allowing aircraft with more than two engines to fly further from suitable airports.

The rationale behind this change was that while single-engine failures were relatively rare, simultaneous failures were unlikely. If an aircraft could still maintain reliable flight with two engines out, it could operate further away from airports.

This version of the 60-minute rule remains in effect for most short-haul aircraft, such as the Boeing 737 and the Airbus A320 in their standard versions. However, the waiver of the rule for aircraft with three or more engines coincided with the advent of the jet age in the 1960s.

During this era, aircraft like the Lockheed L-1011 TriStar and the DC-10, equipped with three jet engines, were developed. These aircraft were exempt from the 60-minute rule, making them highly desirable airline choices at the time.

The significance of the 60-minute rule becomes apparent when considering transatlantic flights. While densely populated regions like Europe and North America have numerous airports for landing within the prescribed timeframe, crossing the vast Atlantic Ocean poses challenges.

To comply with the rule, pilots must plan routes that include stops at islands such as Stornoway in Scotland, Reykjavik in Iceland, and Kulusuk and Nuuk in Greenland before proceeding to more populated areas in Canada and the United States.

Thus, the 60-minute rule plays a crucial role in ensuring safety during flights over vast and sparsely populated regions like the Atlantic Ocean, necessitating careful route planning to account for the availability of alternate airports along the way.

[Chapter 4: two engine plane](#)

Due to the challenging weather conditions, especially during the winter months, the smaller airports along the transatlantic route faced significant limitations. As a result, airlines preferred using planes with more than two engines, enabling them to bypass the 60-minute rule and take a more direct and efficient route across the ocean.

This preference for trijet and quad jet planes persisted for years until advancements in jet engine reliability transformed the landscape. Engine failures became increasingly rare by the late 1970s.

In 1976, the Airbus A300 received permission to fly up to 90 minutes away from alternate airports instead of the standard 60 minutes.

In 1980, Boeing's Director of Engineering approached the Director of the FAA, Johnny Lynn Helms, with a proposition. He inquired about the possibility of an exemption that would allow Boeing to manufacture a twin-engine plane exempt from the 60-minute rule. In response, Helms famously stated that it would be a cold day in hell before he allowed twins (referring to two-engine planes) to fly long-haul over water routes.

Nevertheless, Boeing persisted and managed to convince the FAA by 1985. They gained approval to fly their newly developed Boeing 767-200 further away from diversion airports.

The updated rule allowed the two-engine 767 to venture up to 120 minutes or 2 hours from the next safe landing option. It was during this period that the concept of an acronym was born.

[Chapter 5: End of Boeing 747 and beginning of new ERA!](#)

An acronym known as ETOPS, which stands for Extended Range Twin Engine Operations Performance Standards, potentially spelling the end for iconic aircraft like the Boeing 747 and the Airbus A380.

Initially, it may have been fun to imagine ETOPS as "Engine's Turn or Passenger Swim," depicting what passengers would do if both engines of a two-engine aircraft were to fail

over the Atlantic Ocean. However, the true meaning of ETOPS is far less exciting but more accurate.

The introduction of the ETOPS standard has been a game-changer for airlines. Newer aircraft with only two engines are much more fuel-efficient than their predecessors. For instance, a Boeing 767 burns about 3.2 tons or 7,000 pounds less fuel per hour than a Lockheed L-1011 TriStar on the same route.

For transatlantic flights, this translates to fuel savings of approximately 22.5 tons or 50,000 pounds—a substantial amount. Additionally, maintaining these newer aircraft is more cost-effective since there are only two engines to care for and overhaul instead of three or four.

As ETOPS compliance became more widespread, with the release of additional two-engine aircraft like the Airbus A310, planes with three engines gradually disappeared.

In the 1980s, advancements in engine manufacturing led to the creation of a new category within ETOPS: ETOPS 180. Pilots could fly up to three hours from a suitable alternate airport. However, strict technical and operational qualifications were necessary to meet this new standard.

Initially, newly certified aircraft were limited to 120 minutes under the original regulation. After a year of trouble-free flights, they would be granted the prestigious ETOPS 180 certification. With ETOPS 180, about 95% of the Earth's surface is covered, reducing the number of alternate airports required for transatlantic flights. This practicality facilitates flight planning, with just one alternate airport on each side of the Atlantic sufficient.

Outro

Thank you for joining us today. We hope you found this video helpful. Remember to subscribe to our channel to get more informative content on historical tragedies.