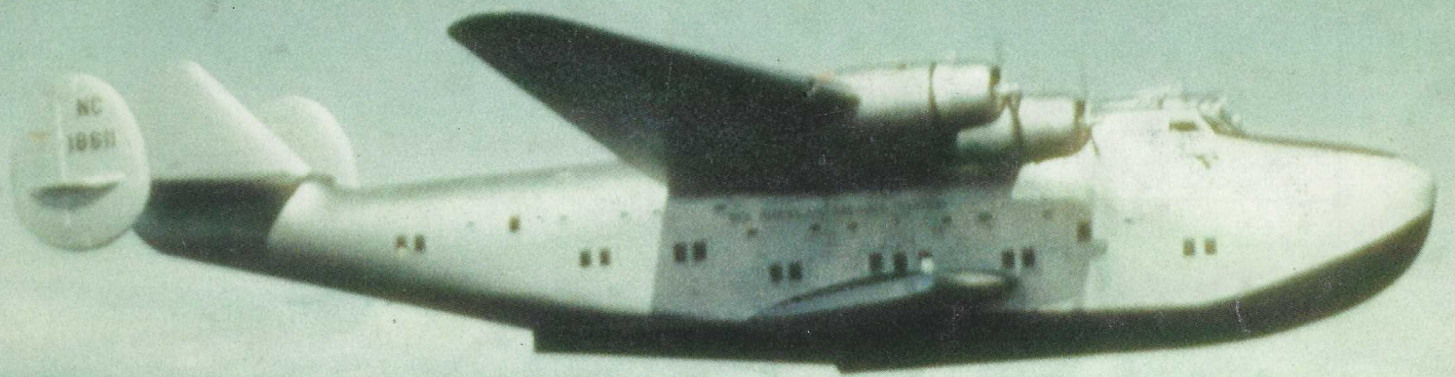


**GPA FOYNES
FLYING BOAT
MUSEUM**



ANNUAL PUBLICATION

Foreword



Brian Cullen, Chairman.

It is difficult for us today to even partly comprehend the enormity of the task of flying the direct North Atlantic route in the early days of aviation.

Countless brave, pioneering pilots had tried to cross the ocean and had disappeared without trace. Even by the early 1930's no flight had shown that an air service across the North Atlantic was remotely feasible - even regular airmail flights were impractical. The service set up by the enormous German Zeppelin airships ended in 1937 with the Hindenburg disaster in which 36 people died.

It was against this background that, in the Summer of 1939, the world marvelled at the establishment of regular scheduled flights on what was recognised as the most important single air route in the world.

This unique museum at Foynes, was established to acknowledge and record forever the enormous dedication and courage of those who not only achieved the near impossible but also laid the foundation for the development of today's supersonic jets.

The museum tells the story of the dedication of the air and support crews on the early proving flights of 1937, the first radio and meteorological stations, and innovations such as the Mayo composite experiment, in-flight refuelling, and the invention of the world famous "Irish coffee". The famous names on the passenger lists read like a "who's who" of the period.

The existence of the museum itself is due to the drive of the Shannon Development company, the commitment of

both the state and private sectors and the sheer hard work of a great many people, particularly of the board on which I have been privileged to serve. We knew that here was a project so unique and important that it simply could not be left undone.

That Maureen O'Hara Blair honoured us by officially opening the museum is perhaps the ultimate endorsement. Highly distinguished in both film and aviation worlds, she is also our link with one of the world's great aviators - her husband, the late Charles Blair. We are especially proud to dedicate a section of the museum to Brigadier/General C.F. Blair, a man who loved Foynes. He had the task of flying the last scheduled service flying boat out of Foynes and immediately turning around at New York to fly the first scheduled North Atlantic land plane to the new Shannon airport.

He was also the only one ever to bring a flying boat back across the Atlantic to Foynes. After the end of the great flying boat era, he returned with the "Southern Cross" in 1976.

As in 1939, when Foynes became one of the corners of the world the museum has reaffirmed links with other flying boat ports - particularly with La Guardia and Southampton from whom we have received great support. If you would like to be associated with the museum you are welcome to join our "friends" scheme: we would be happy to provide details.

Finally, we regard the museum today as the completion of phase 1. Next will be the actual operation of flying boats of the period - so much more material is still available that the sky is literally the limit.

A handwritten signature in black ink, appearing to read "Brian Cullen", with a long, sweeping underline.

Brian Cullen.

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WE ALSO THANK THE COUNTLESS OTHERS WHO HAVE CONTRIBUTED TO THE DEVELOPMENT OF THE MUSEUM BY WAY OF DONATIONS, ARTEFACTS, PHOTOGRAPHS, SUPPORT AND PARTICULARLY, THEIR VALUABLE TIME.

WE ARE DEEPLY GRATEFUL TO THEM ALL.

EDITOR: JOHN HARRISON

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Cover photograph of a Pan Am Boeing B.314, courtesy of Boeing.

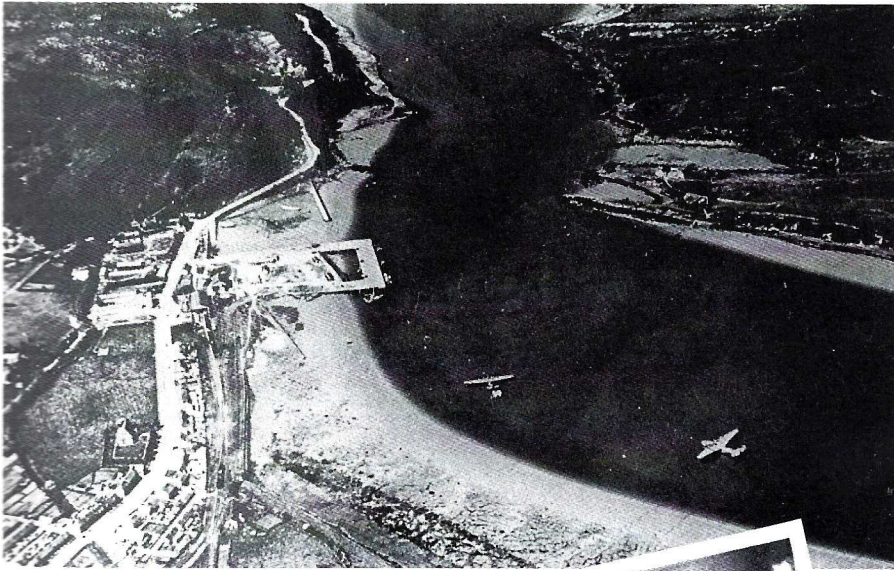
Introduction

Foynes, Co. Limerick has been an important sea port since 1846. But during the late 1930s and early 1940s, this tranquil town on the Shannon estuary was transformed into a major international air-base. Foynes became a fulcrum point for air traffic between the United States and Europe.

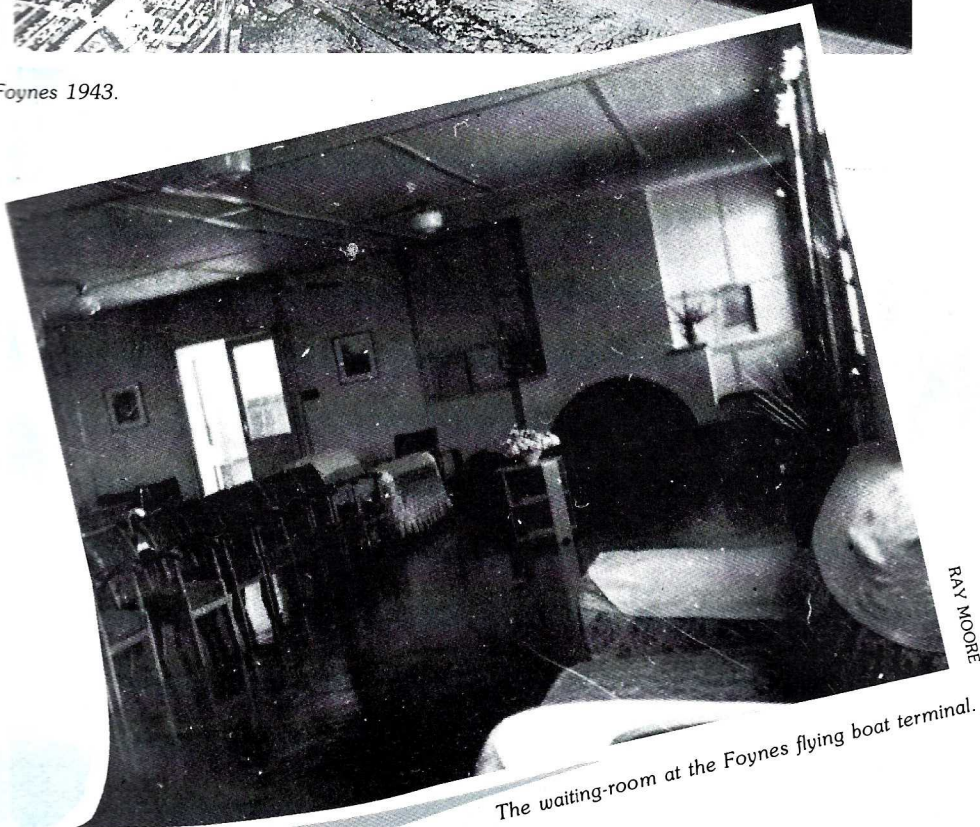
Passengers travelling from, for example, New York to Lisbon, had to pass through Foynes. International businessmen, famous politicians, film stars, active-service men and refugees from the war in Europe travelling from anywhere in Europe to anywhere in the

United States had to come to Foynes. For a few years Foynes was the Centre of the Western World.

On July 8th 1939 Pan American Airways' Yankee Clipper landed at Foynes. It was the first commercial passenger flight on the direct route between the United States and Europe. To celebrate the 50th Anniversary of this service, Foynes Aviation and Maritime Museum Ltd. have adapted part of the original Flying Boat terminal building to tell the story of Foynes during this brief but brilliant period in the history of air travel.



Foynes 1943.



RAY MOORE

The waiting-room at the Foynes flying boat terminal.

Last to Leave – First to Return

A Journey Back to Foynes

Maureen O'Hara-Blair

"I was there the day he said goodbye," said Harry Cripps, one time Traffic Warden for Pan Am in London. "Charlie Blair roared off the water, circled the town, and then flew down the length of the main street in a farewell salute."

The people of Foynes, with tears in their eyes watched him ride the west winds of the Atlantic, higher and higher, until they could see him no more, then they went to bed and closed their doors on their broken hearts. It was the end of an era, the end of the great and glamorous days for Foynes.

Foynes closed as an air terminal on October 22, 1945, and Captain Charles Blair, of American Export Airlines, piloted the last flying boat, a Sikorsky VS 44, to leave the port. He arrived in New York October 23. The next day he turned around and flew the first scheduled transatlantic land plane to Shannon Airport on the other side of the river from the bereaved Foynes.

Foynes had been the biggest, most prominent, international air terminal in the world. It was there that all the transatlantic airline proving flights to New York originated in 1936. The famous flying boat pilot Captain J.C. Kelly-Rogers was one of the early captains on those proving flights.

Sir Alan Cobham, ran his inflight refueling company out of Foynes in the 1930s, carrying mail to the U.S.A. Sir Alan designed the first significant transoceanic air refueling technique for flying boats.

American Export Airlines, Pan American Airways, and British Overseas Airways Corporation, the only airlines flying the Atlantic in those days, used Foynes as their international base.

Flying boats, filled with military "high-brass", in civilian clothes, and high ranking government officials, who were pursuing the war effort, flew in and out of Foynes, back and forth between



Captain Charles Blair and his wife, Maureen O'Hara-Blair (here pictured in the cockpit of a 707).

Britain and the U.S.A. Foynes was a hustling, bustling, important port.

Then, as Charlie Blair described it, after World War II, "They paved the world with concrete, land planes took over the air routes and the great, and romantic flying boat bases were closed."

Foynes became a quiet village, but the old people never tired of talking about the great days. Their children, and then their grandchildren, didn't always listen. Then, out of the mist of yesterday, their hero came back to give truth to the stories.

It all started, I am sure, the very day Charlie Blair left Foynes, but during Easter 1975, when we were in Ireland for a few days, we drove to Foynes, so he could take a look at the old base. He walked down by the water, and found the disembarking ramp still there, a little weary, a little tired, but still floating on the Shannon tide.

Three curious men watched him in the cold, dockside breeze. They asked what he was looking for and could they be of any help.

Charlie asked them if the old flying boat mooring was still in the water.

The older man raised his head and took a long look at Charlie.

"Why do you want to know?" he asked.

"Well," I answered, "he is thinking of landing a flying boat out there this summer like he used to many years ago."

There was a glint in the men's eyes. The glint blossomed into an unbelieving glow of sheer delight. An arm came up, and a finger pointed straight at Charlie.

"You're not Captain Charlie Blair?" one of them said.

He squinted his eyes. "You are Captain Charlie Blair!" In a rush of words he continued, "I used to work on the boats that ferried the passengers back and forth to your flying boats." Hands clasped hands, and pumped them up and down, in pleasure and disbelief, and I'm sure that night the whole village knew Captain Charlie Blair was coming back in the summer.

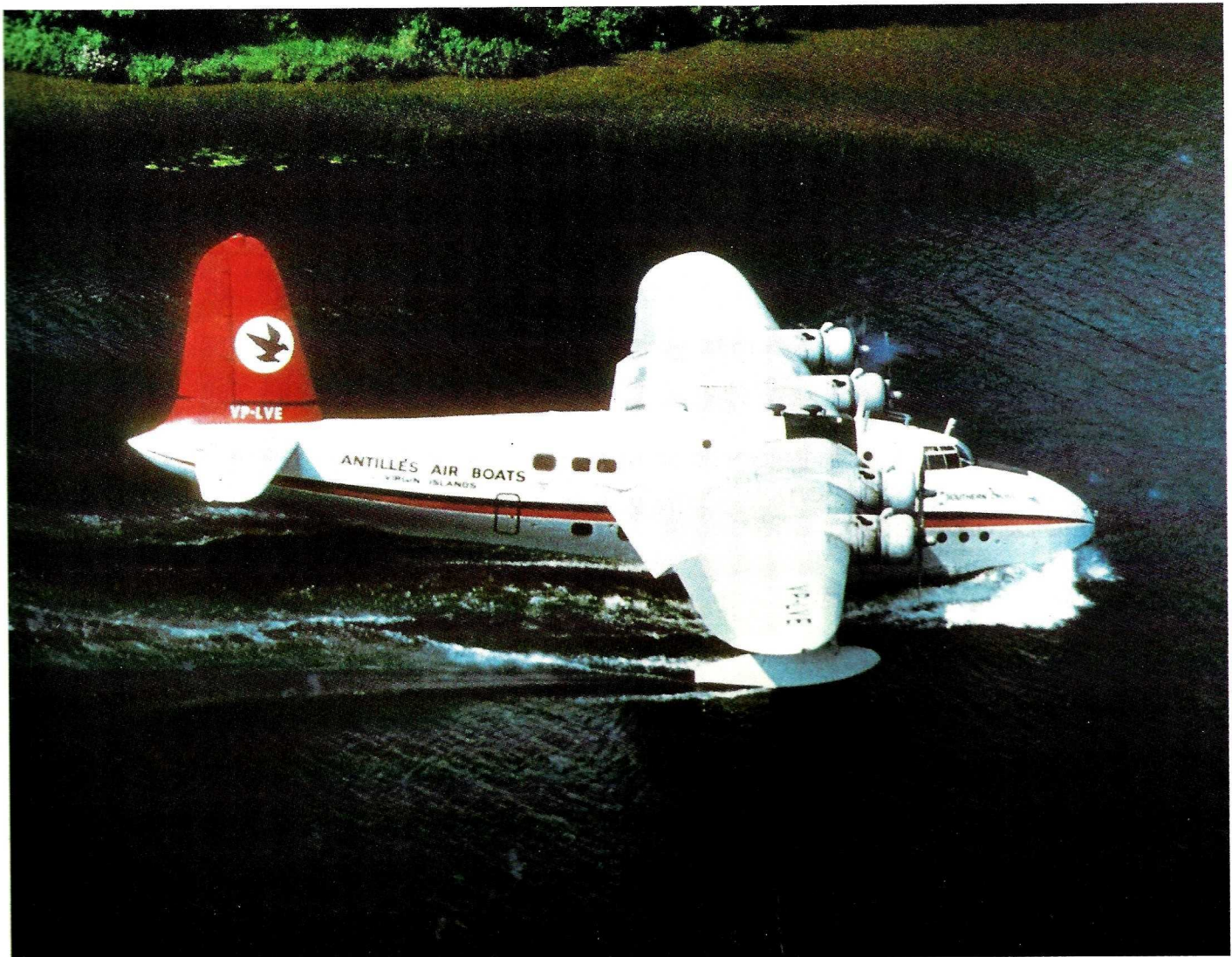
On July 6, 1976, the Antilles Air Boats' four engined Sandringham flying

boat, Southern Cross took off from Christiansted Harbour, to begin the long, sentimental flight to Foynes, Ireland, via Boston and Gander Lake, Newfoundland. Charlie was at the controls. On board were five crew, three guests, and ten family members of the crew, including seven children. Five more guests boarded in Boston.

On July 8, 1976, Charlie Blair's old friends at Shannon Airport Central Tower were listening, waiting and watching for him to arrive at 11.15 a.m., Irish time. At 11:04 a.m., he broke through the clouds over Foynes, crossed the river and flew over Shannon Airport to say "hello". He made two circles over Foynes, then gently touched down on the welcoming waters of the estuary — 31 years after he had left.

Sitting on the lower deck I wondered how Charlie felt, and if perhaps there wasn't a glint in his eye behind the dark glasses. I know I felt a lump in my throat the minute the great flying boat touched the water.

Then we looked at the shore.



The Southern Cross — the flying boat Charles Blair brought to Foynes in 1976.



Foynes Village.

Thousands of people lined the dockside and the old slipways. We had not expected such a welcome. Bagpipes were playing, people were waving and shouting: "Welcome Back". Irish, English, and world press representatives were there and the T.V. cameras were rolling.

The Commodore of the Foynes Yacht Club, Dan O'Sullivan had graciously arranged for us to be ferried ashore and had arranged a huge reception for us at the Yacht Club.

We learned that they had even closed the schools for the day, so the children could see for themselves what it must have been like in those golden days of aviation.

As we made slow progress through the throngs of wellwishers, I could not help but notice how many old people were there, mostly men, some bent over heavy sticks, who wanted to shake Charlie's hand and smile gently at him. Some just touched him and some stood and looked, their gentle eyes filled with yesterdays and unspoken "thank you's" to their hero for coming back. I was deeply touched,.

At the Yacht Club, more surprises awaited: Captain Ned Stapleton, who was Chief Traffic Control Officer during all the flying boat years at Foynes; Thomas Crawford Young, who refueled the first flying boat to cross the Atlantic in 1937; Captain Roly Alderson, from B.O.A.C., who 53

years ago, flew the three American built B-314 flying boats, Berwick, Bangor, and Bristol, into Foynes on the delivery flight to Britain from the Boeing factory; Captain John Grierson, famous British wartime pilot and author; Brendan O'Regan, chairman of the Shannon Airport Development Company, who had been controller of the catering services at Foynes; Charlie McCarthy, who had been Pam Am Chief; Conn McGovern, retired Pan Am manager in Dublin who, as a young Irish Army Lieutenant, was on security duty at Foynes when Captain Blair landed

there in 1942; Pat Ryan, chairman of the Limerick County Council; J. Barrett, chairman of the Foynes Harbour Trustees; Tom Morris, Chairman of the Limerick Chamber of Commerce and many other old friends.

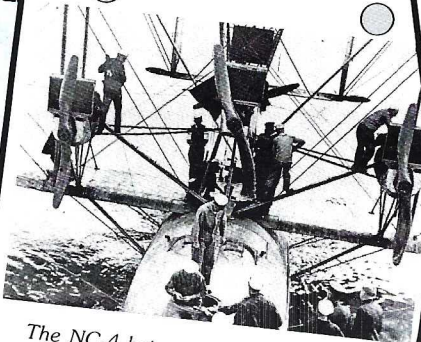
The din was deafening. There were speeches, and toasts, happy voices, laughter and tears of sentiment. Brendan O'Regan presented to the Foynes Yacht Club the famous sculptured head of Mannanán Mac Lir, the Irish God of Sea and Wind, in Charlie's name. It was placed permanently in front of the clubhouse, faced forever into the wind and sea, with the dedication: "Captain Charlie Blair, the last to leave, the first to return."



Captain Charles Blair.

The Pioneers

NEWFOUNDLAND



The NC-4 being prepared for flight.

MAY 30th, 1919



Alcock and Brown.

JUNE 15th, 1919



Princess Lowenstein-Wertheim.

AUGUST 31st, 1927

“It’s impossible” Just after World War 1 this was most people’s reaction to being told that some foolish pilot was going to fly across the Atlantic. The weather was treacherous, you could only navigate if you could see the sun, moon and stars, there were practically no instruments and Newfoundland was 2,000 miles from Ireland.

It was impossible — but the newspapers offered cash prizes, the governments offered glory, and a lot of people were going to try.

The First Across the Atlantic.

The first aircraft to cross the Atlantic was the N.C.4 Flying boat flown by Lieutenant Commander Read of the United States Navy in 1919.

On May 16th three flying-boats — N.C.1, N.C.3 and N.C.4, known as the “Nancies” — took off from Trepassy Bay, Newfoundland and flew into the Atlantic night.

There were 68 destroyers marking the way with searchlights at intervals of fifty miles along the entire route.

Five battleships — one every 400 miles acted as weather stations. The three flying boats were intended

to cross 2,000 miles of ocean using these ships as stepping stones.

By dawn the whole Atlantic was one gigantic cloud. Totally unforecast fog enveloped all three aircraft; heavy rain and high winds followed. Within minutes, they were totally lost.

N.C.1 landed in mid-ocean to take stock of the situation; almost immediately the lower part of her tail was swept away by the waves. After 5 hours of bailing water from the cockpit the crew were taken in tow by a Greek ship, the Ionia. But the line broke in the gale and N.C.1 became the first aeroplane to go to the bottom of the Atlantic Ocean.

N.C.3 also decided to land. From 500 feet the sea didn’t look too bad; but as the flying boat touched down she hit a huge swell, bounced back up into the air and then plunged into the water. Her hull was broken and her controls were gone. They could hear the nearby destroyers on the radio, but they couldn’t contact them. For two and a half days they taxied with a crew man hung on the tip of the starboard wing to keep the port wing out of the water.

At Ponte Delgada in the Azores they lowered the distress signal, hoisted the Stars and Stripes and sailed stern first into the harbour.

N.C.4 followed all the ship stations until they ran into a heavy fog and missed number 17. But at 9.30 a.m. the pilot peered through a gap in the cloud and saw a dark colour in the grey sea — the cliffs of the island of Flores.

Fifteen hours and eighteen minutes after leaving Newfoundland, NC4 landed in the Azores.

On May 27th Lieutenant-Commander Read in the NC4 took off from Horta in the Azores and calmly crossed the bridge of warships to Portugal. Nine hours and 43 minutes later they landed at Lisbon.

On May 30th, NC4 flew over the third and last “boat bridge” from Lisbon to Plymouth in England.

The Atlantic had been flown in a time of 53 hours and 58 minutes — spread over 23 days.

Alcock and Brown

On June 15th, 1919 John Alcock, Arthur Whitten Brown and their two stuffed black cat mascots, Twinkletoes and Lucky Jim — landed their Vickers Vimy Bomber in a bog near Clifden, Co. Galway. They had just become the first men to fly the Atlantic in one hop.

A crowd had gathered in Newfoundland the day before expecting to see them kill themselves, but at 16.28 GMT Brown, the navigator, tapped out on the wireless transmitter: “All well and started”

It was the last message he sent. The tiny propeller that drove the transmitter then fell off.

Alcock flew on through the Atlantic mid-summer weather — fog, wind, hail, rain and snow — and just managed to pull out of a wild spin which left them pointing back towards Newfoundland.



The Bremen — the first Irish man to fly Atlantic.

APRIL 13th, 1928

AER LINGUS



Charles Lindbergh

MAY 21st, 1927

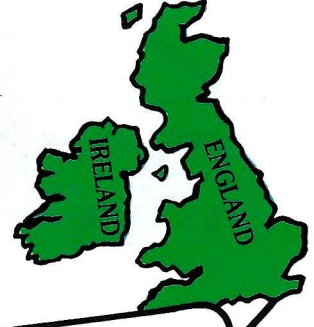
AER LINGUS



Douglas "Wrongway" Corrigan.

JULY 18th, 1938

AER LINGUS



Brown later put into words the feelings of thousands who were to follow him through the Atlantic night: "It was something extravagantly abnormal. The distorted ball of the moon, the eerie half-light, the monstrous cloud shapes, the fog below and around us, the misty indefiniteness of space, the changeless drone, drone of the engines."

Princess Lowenstein-Wertheim

Princess Lowenstein-Wertheim was sixty. She was determined not only to be the first woman across the Atlantic, but to do it the hard way, from east to west, against the westerly winds.

On August 31st, 1927, she and two experienced British airmen, Minchin and Hamilton, took off from the Salisbury Plain in England and set a course for Montreal.

Halfway across their lights were spotted in the night sky by an oil tanker and — like many of the early flights — they were never seen again.

The First Irishman to Fly the Atlantic

There were no German Pilots lost over the Atlantic. It was the English speaking nations who brushed aside bad weather forecasts, ignored pleas of "Don't go", revved up the tiny engines of frail aircraft, smiled, waved, took off — and vanished.

The first Irishman to cross the ocean — James Fitzmaurice — went with two Germans, von Heunefeld and Koehl.

They set off from Dublin on the 12th April 1928 intending to fly to New York. The pilots took three-hour stints.

On the morning of April 13th they ran into the Newfoundland fog banks and lost track of where they were. Worried about fuel, they suddenly saw a light. Thinking it was a ship, they circled and identified it as a lighthouse on a snowcovered island. Koehl tried a hazardous landing and the undercarriage collapsed.

The place was Greenly Island, north of Newfoundland, a thousand miles from New York. But this was the first successful east-west crossing against the prevailing winds,—it took 36½ hours.

Charles Lindbergh

"My first indication of land was a fleet of fishing boats. I circled once and saw a man's face. I circled again and closing the throttle as the plane passed within a few feet of the boat, I shouted: Which way is Ireland?"

There was no reply, but Lindbergh soon saw the Irish coastline on the horizon.

He was flying the purpose built "Spirit of St. Louis" non-stop across the Atlantic from New York to Paris, and he was the first to do it alone.

Lindbergh took no chances. He waited for the perfect weather forecast and a full moon; he had a good aircraft and his instruments were far better than those of the earlier pilots. But he had no radio and no navigator — he preferred the extra weight in fuel.

Like many of the early pilots the mystery of the Atlantic sky had a profound effect on Lindbergh.

"Numerous shorelines appeared, with trees perfectly outlined against the horizon. In fact, the mirages were so natural that had I not been in mid-Atlantic and known that no land existed along my route, I would have taken them to be actual islands.

The Spirit of St. Louis landed in Paris on the 21st May 1927 and Lindbergh, a quiet unassuming man, became a hero. He got 3½ million letters, several thousand offers of marriage, 5,000 poems, 1400 gift parcels and three invitations to go to the moon in a rocket.

"I saw the green hills of Ireland and I knew that I had hit Europe on the nose. Ireland is one of the four corners of the world".

Wrongway Corrigan

Douglas Corrigan didn't get permission to fly from New York to Dublin in his 165 hp. Curtiss Robin. So he filed a flight plan to Los Angeles.

On July 18th 1938, after flying for twenty-one hours and thirteen minutes, he "mistakenly landed" in Dublin. He said his compass needle must have been reversed and he flew the wrong way.

"Wrongway" Corrigan was given immediate honorary membership of the Chicago Liars Club.

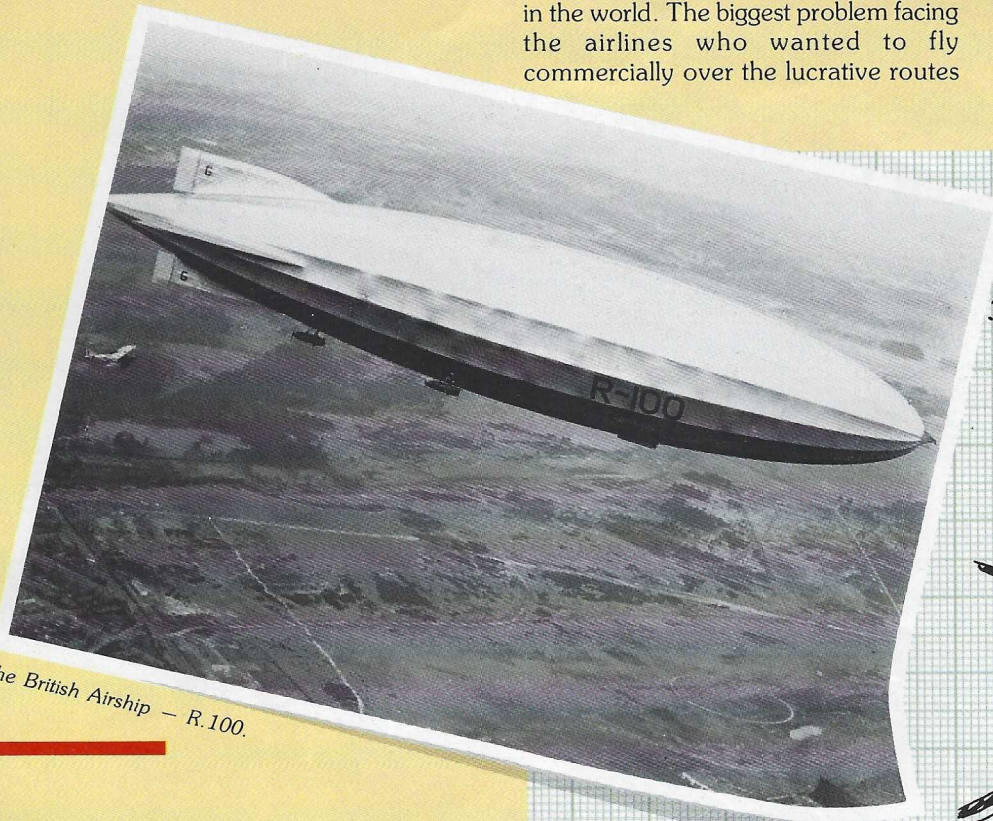
The Experiments

Introduction

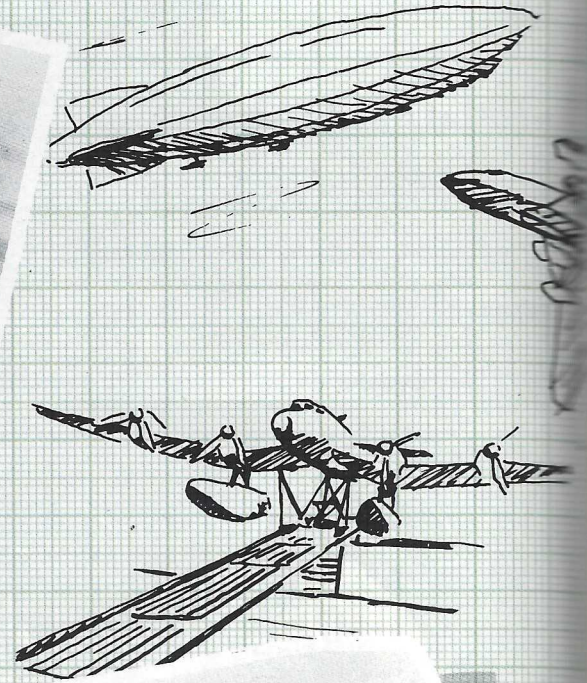
The North Atlantic has some of the worst and most unpredictable weather in the world. The biggest problem facing the airlines who wanted to fly commercially over the lucrative routes

between the United States and Europe was the vehicle.

How could one aircraft carry passengers, freight and enough fuel to fly over 2000 miles in such terrible conditions?



The British Airship - R.100.



Airships

"It was generally agreed in 1924 that the aeroplane would never be a suitable vehicle for carrying passengers across the Atlantic and that airships would operate all the long distance routes of the future" (Nevil Shute).

In the summer of 1936, Germany began the first commercially viable service across the Atlantic using airships. These lighter than air balloons filled with highly flammable hydrogen gas were the slow moving, luxury liners of the sky.

In October 1930, the British Airship, the R100, crashed into a hillside in France and burst into flames. Of 54 people on board there were only six survivors.

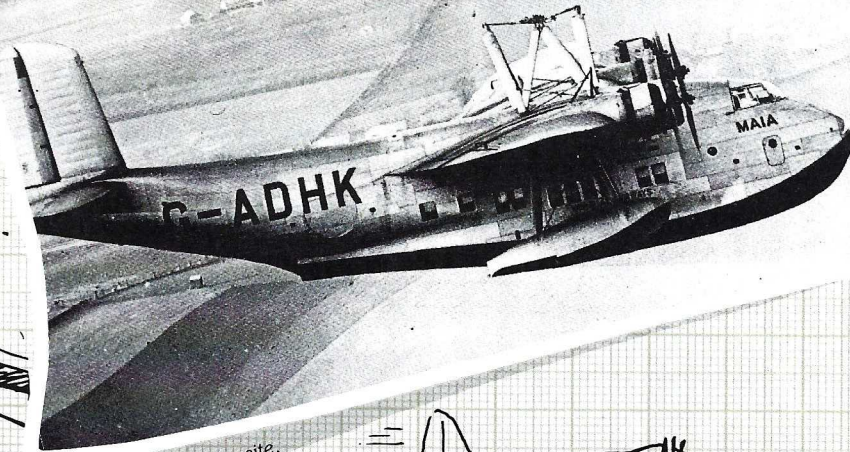
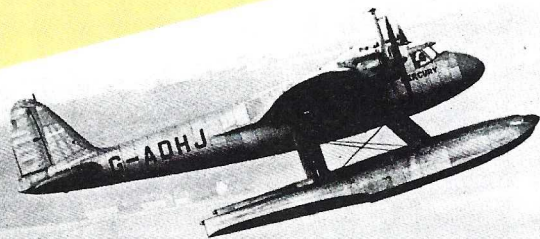
Then on the 6th May, 1937, the German airship the Hindenberg, caught fire while mooring at New Jersey. The airship was completely destroyed and thirty-six people died. The whole disaster was recorded in vivid detail by a Pathe news film cameraman and reporter. The newsreel was shown in cinemas around the world.



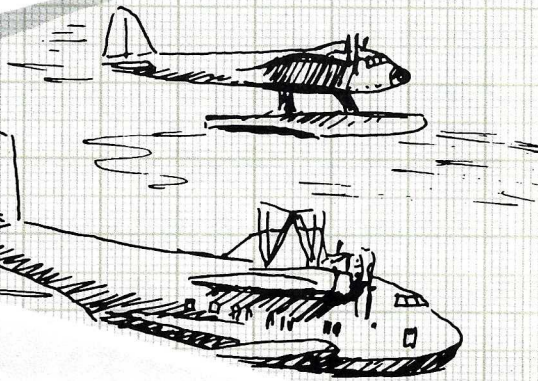
A Blohm and Voss seaplane on a ships catapult.

After the accident, the other German airship, the Graf Zeppelin, was immediately withdrawn from service -

though it had a spotless safety record. There were no more airships on the Atlantic.



The Mayo Composite.



Refuelling a flying boat in mid-air.

An airplane needs large amounts of fuel just to get itself off the ground; once airborne it needs only a relatively small amount to keep it at cruising speed.

How do you get the aircraft into the air without using too much fuel? There were three initial answers to this question:

Catapults:

The German airline Lufthansa decided to try a novel solution. They would simply fling a seaplane from the deck of a depot ship using a compressed air catapult.

The parent ships dragged a large canvas apron behind them. The seaplane landed on the water, taxied over the apron and was lifted on board; oil was poured on to the sea to calm it. When the seaplane was refuelled, it was shot into the sky.

Though this was successfully tried in 1937, it could never be used for passenger traffic because of the high gravity forces.

The Mayo Composite:

Another way to get an aircraft into the air without using fuel is on the back of another aircraft - "piggy-back" style.

On the 20th July, 1938, the Short-Mayo Composite (designed by Major R.M. Mayo of Imperial Airways) took off from Foynes. The mother aircraft - "Maia" - carried the smaller "Mercury" well out to sea before they separated. After separation the Mercury flew on to Montreal and the Maia returned to Foynes.

The Mercury set three records:

- The first commercial Atlantic airmail flight.
- The first east/west crossing from Foynes to Montreal.
- The fastest time for an east/west crossing of the Atlantic.

But this would have been a dangerous and alarming way to handle passengers, and, as with inflight refuelling, only mail could be carried. In 1939 the British Air Ministry rejected the project.

In-Flight Refuelling:

If an aircraft takes off under its own power, it uses a lot of its fuel just to get airborne. So, if it can refuel after take-off, it can fly much further.

The only way to refuel in the air, of course, is from a flying petrol tanker. And this is exactly what British Imperial Airways tried in 1939.

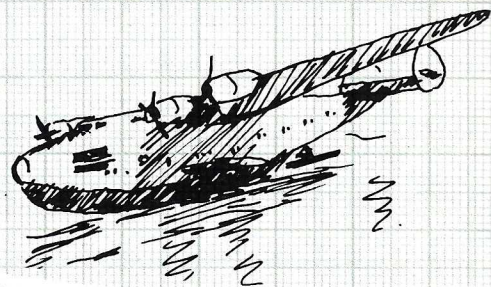
Two flyingboats - Cabot and Caribou - made 8 round trips from Foynes to Newfoundland. They were refuelled in the air by a converted Harrow bomber which took off from the grass runway at Rineanna - which is now Shannon Airport.

A cable from the tanker was shot to the flyingboat using a rocket-propelled harpoon. This was attached to a hose which was then locked into the flyingboat's fuel tank; the tanker flew over the flyingboat and the fuel flowed by gravity.



PAN AMERICAN

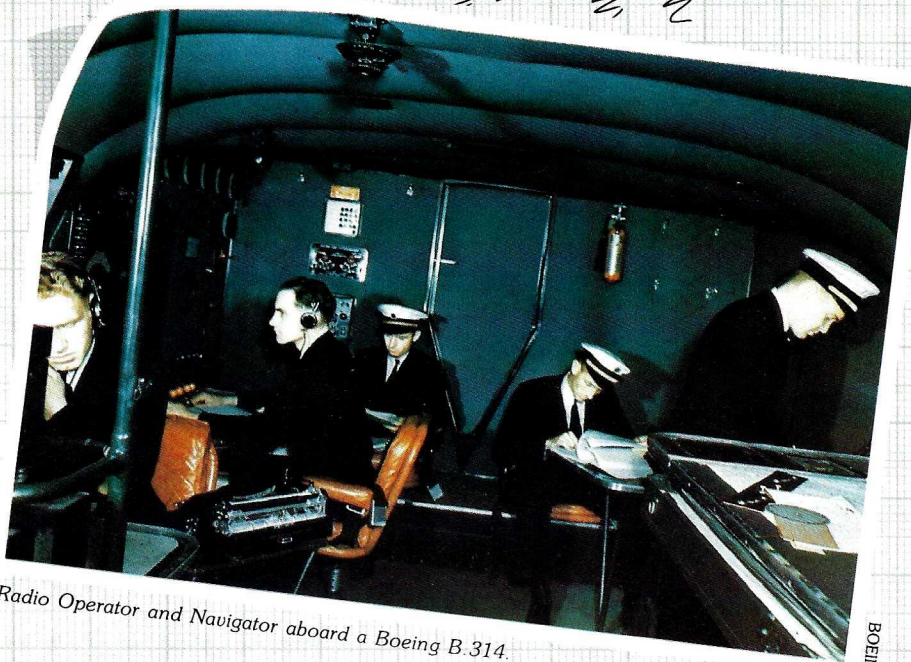
Pan American Boeing B.314



Why Flying Boats?

- Airships were slow and dangerous.
- Heavy landplanes need hard runways — and there were very few of them before World War II.
- There were always landing places for even the heaviest flyingboat.
- Almost all the great cities of the world were near the sea or large waterways — few had suitable runways.
- Most people believed — somewhat naïvely — that flyingboats were safer when travelling over water.
- Because flyingboats were not restricted to short runways, they could be bigger — and much more luxurious.

In July 1936, Pan American Airways signed a contract with Boeing for the first practical transatlantic passenger aircraft — the B.314 flying boat.



Radio Operator and Navigator aboard a Boeing B.314.

BOEING



The Focke-Wulf Condor.

The Focke Wulf Condor

Berlin, the 10th August, 1938. Captain Henke and his crew stepped into their Focke-Wulf Condor and flew directly to New York in 21 hours. There was very little publicity.

Three days later, Henke calmly flew back again.

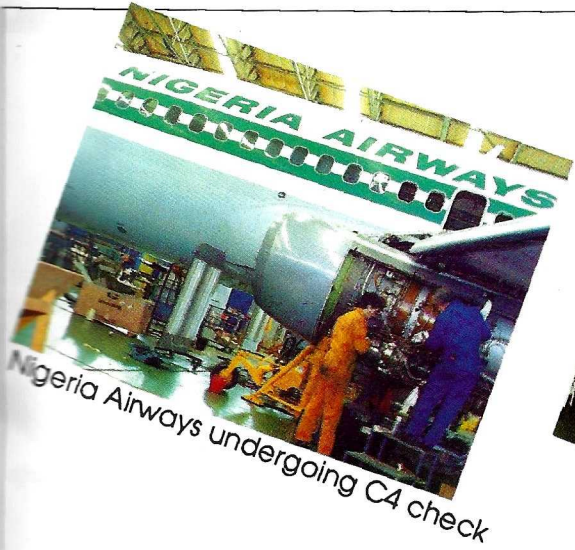
The era of the flyingboat was over before it began; but World War II put an end to this German development on the Atlantic. The big flyingboats were safe for another seven years.

SRS Aviation (Ireland) Ltd.
Shannon Airport Ireland

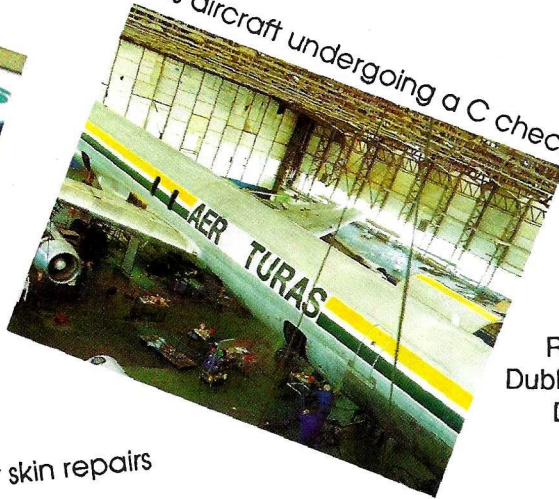


An Aer Lingus Enterprise

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Nigeria Airways undergoing C4 check



Aer Turas aircraft undergoing a C check

Pan Am undergoing C check and major skin repairs



Northwest orient undergoing engine change



TELEPHONE
Operations 61544/61607
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Fax 61241

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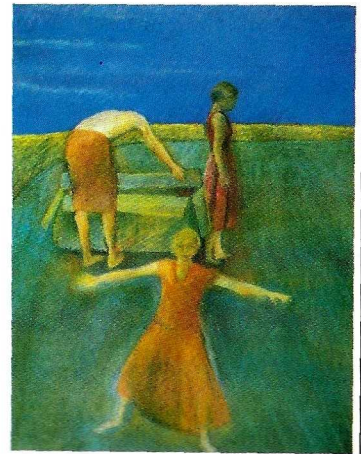
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Weather

"The North Atlantic is technically the most difficult operation of any major aerial route", Juan Trippe, President of Pan Am Airways.

Today, modern jet aircraft can fly above the weather and — except for take-off and landing — are mostly unaffected by bad weather conditions. But flyingboats often had to fly through or around storm clouds.

It might often rain for the whole trip across the North Atlantic.



Navigator taking a "Star Fix" — Boeing B.314.

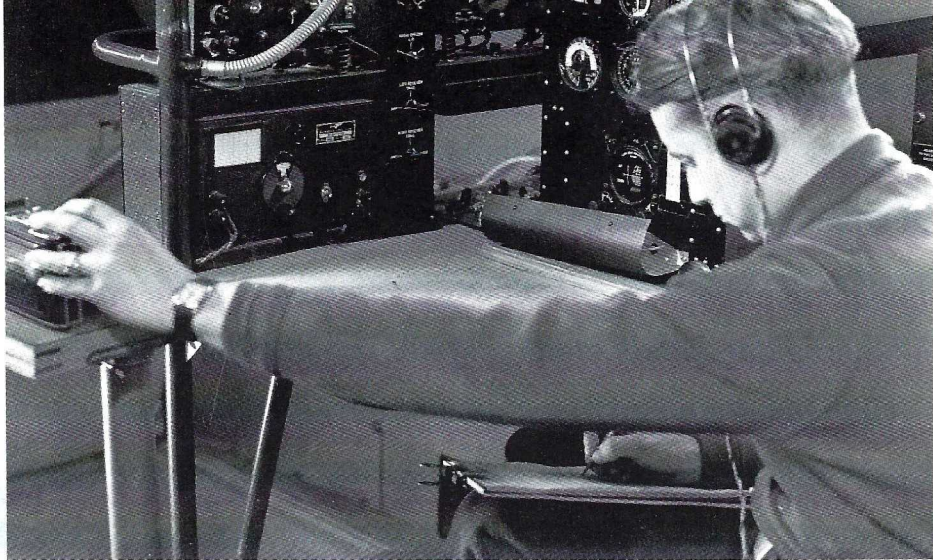
From October to May snow blocked the flyingboat base at Botwood in Newfoundland. This made it necessary to reroute many of the winter flights via Lisbon, the Azores or even further south, via West Africa and South America.

Ice which formed on the wings or engines of flyingboats could be very dangerous; it often completely blocked the windscreen and affected the radio equipment. Rubber de-icing boots were later fitted to the wings and tails of flyingboats. Meteorologists also helped to choose flight plans to avoid severe icing.

Navigation on flyingboats was mostly by "shooting" the sun, moon and stars, using a sextant — the instrument used on old sailing ships. Measurements were taken through a hatch at the top of the flyingboat.

Navigators used smoke floats dropped into the sea, to measure the effects of cross winds.

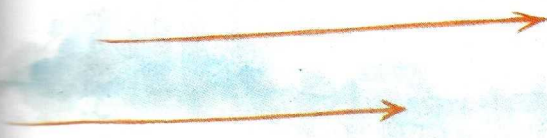
Except for short distances, radio contact was all by morse code. Long distance voice communication was not possible until nearly 1950.



BOEING

Radio Operator — Boeing B.314.

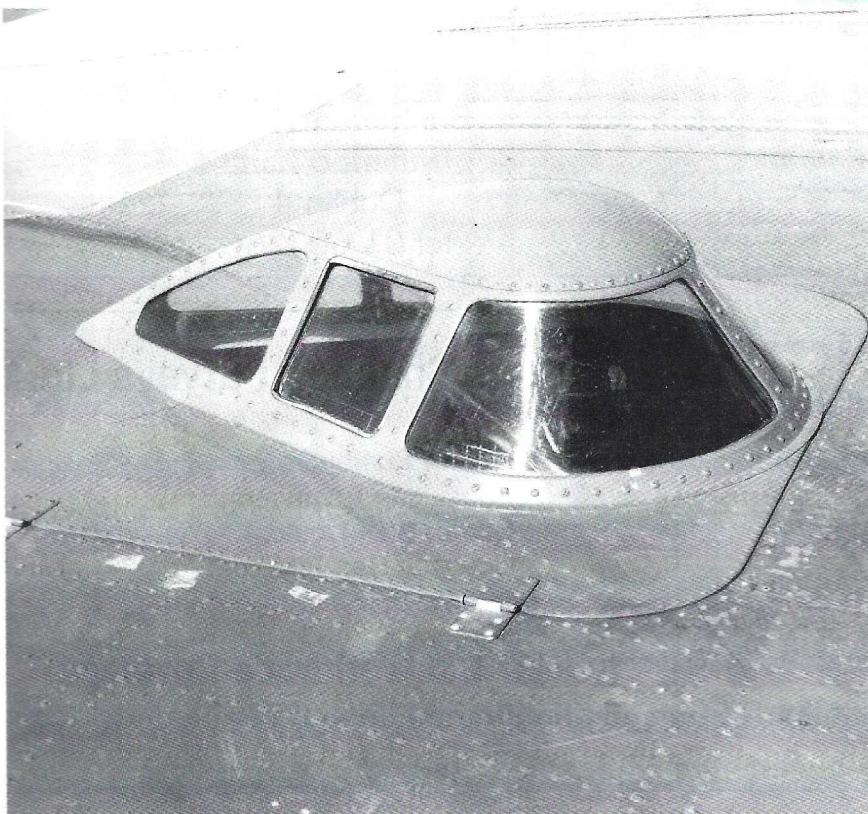
Although it is difficult to fly in cloud, the ceiling was often so low over the Atlantic that to fly under it would have been a danger to shipping.



There is an almost constant westerly wind on the Atlantic. For aircraft flying from Canada to Ireland, this can be helpful, but a flyingboat from Foynes to Botwood could be reduced to half speed or less by the winds. This often forced flights to turn back.



There is often a thirty foot swell in the Atlantic. This would soon break up any flyingboat which landed in an emergency.



BOEING

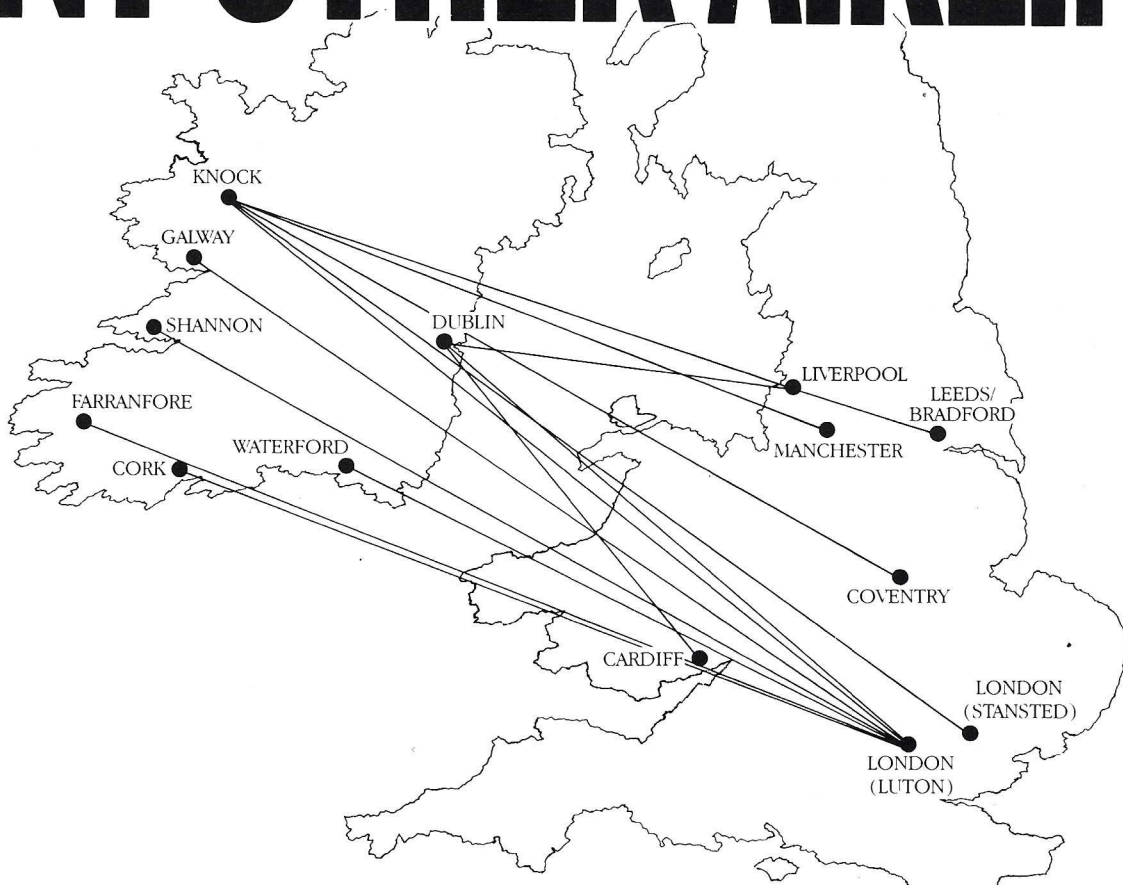
Navigator's hatch on a Boeing B.314.

The Point of No Return

This was the point after which the flyingboat would not have had enough fuel to turn back, and flyingboats often had to return to Foynes.

On one occasion an aircraft returned to Foynes after flying for 12 hours. One of the passengers who had slept for the whole flight saw the BOAC traffic officer and said, "Good heavens, there's a chap exactly like you who saw us off at Foynes."

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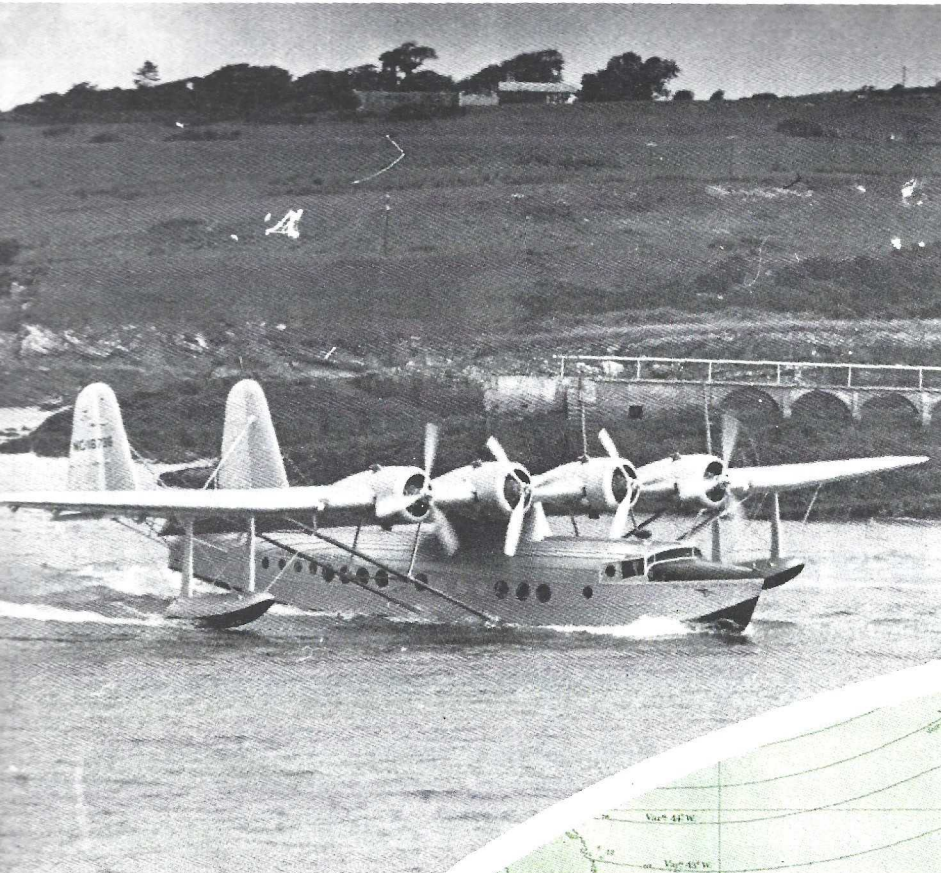
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The Proving Flights



THE CORCORAN FAMILY

The New York Times, 21st March, 1938:

“While little was said about it at the time, the British learned that their “Empire Boats” for which so much was claimed, did not have the range for the 2000 mile jump between Newfoundland and Ireland, with a payload.”

The New York Times said little about it, but the Pan Am Clipper III did not have the range either.

Pan Am's S.42 — Clipper III.

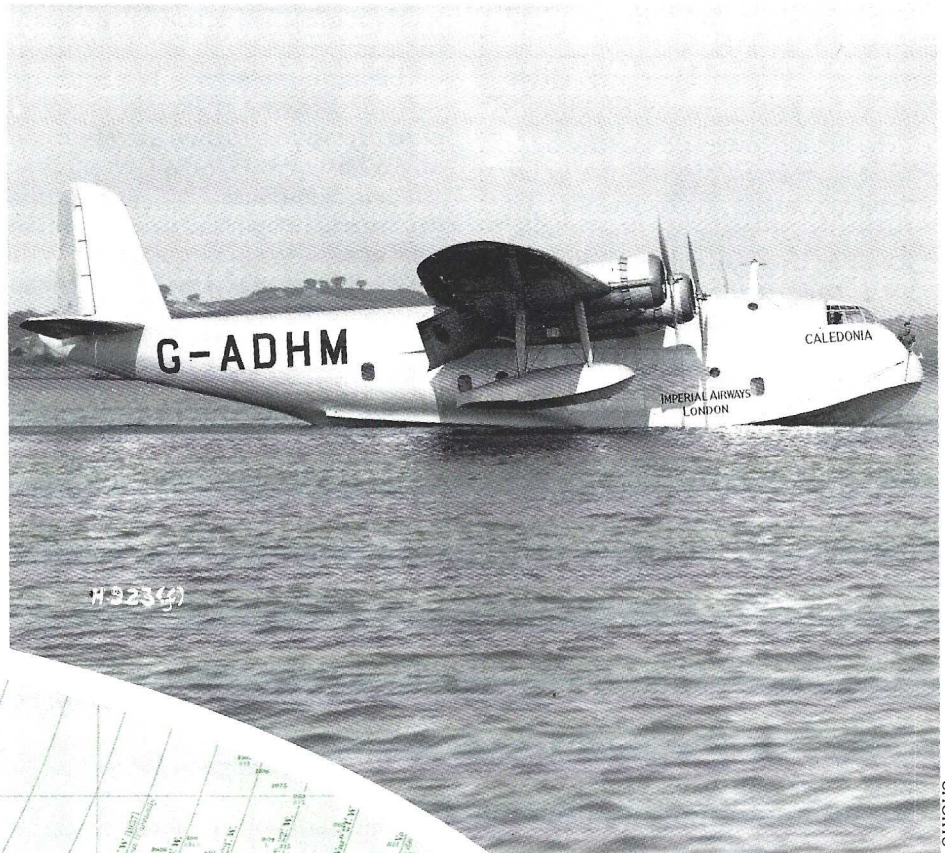


The Proving Flights.



July 5th, 1937

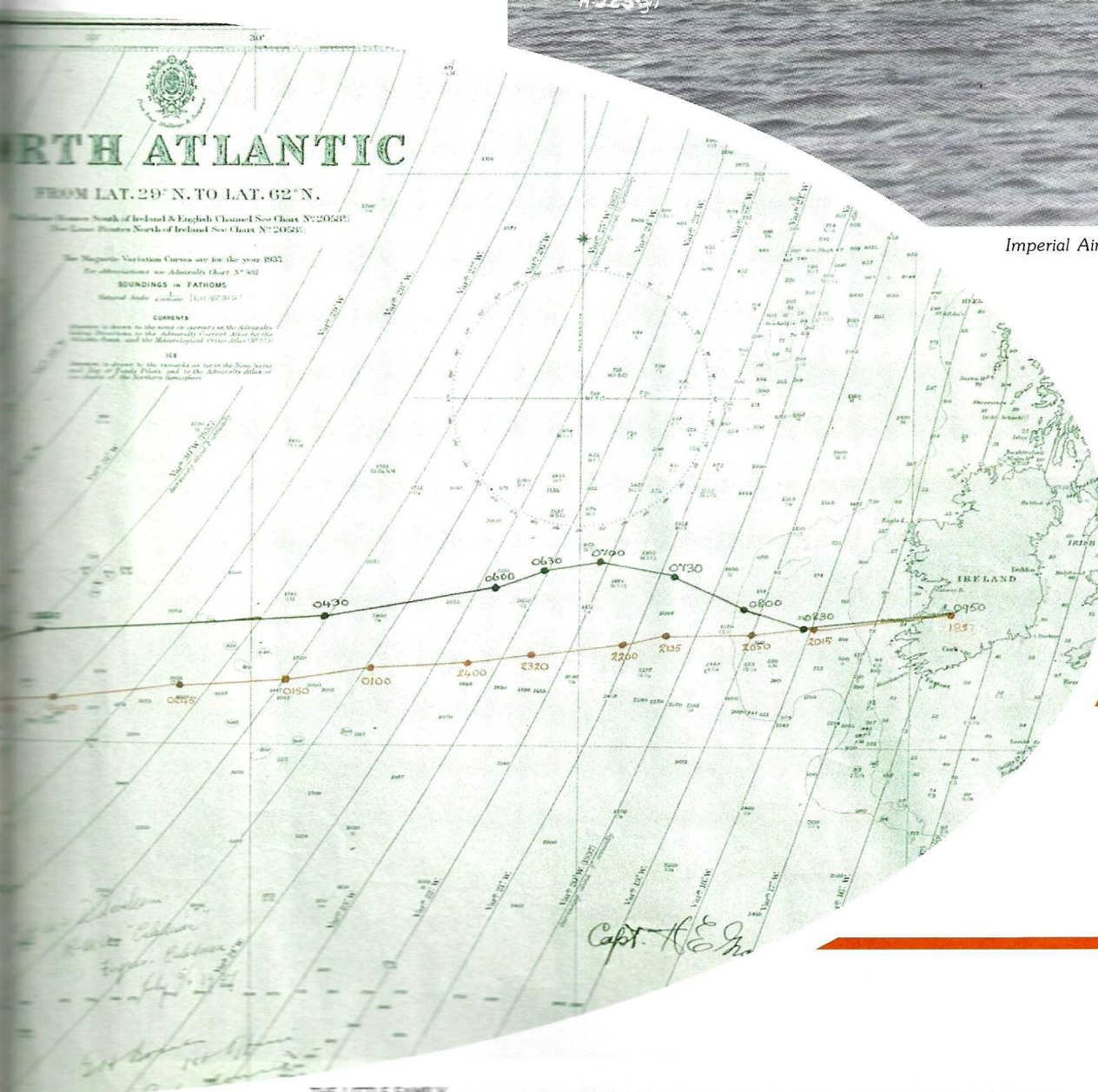
These were the first Atlantic crossings by commercial aircraft — the flights which were to prove that it was possible to cross the Atlantic commercially. Pan Am's Clipper III, flying from Botwood, Newfoundland, to Foynes, passed Imperial Airways Caledonia in mid-ocean coming in the opposite direction. The airlines had an agreement to start their Atlantic operations at the same time. Neither the British nor the Americans had the right aircraft for the job, but they were determined to fly these first proving flights.



H 223(4)

SHORTS

Imperial Airway's S.23 — Caledonia.





The captain of the Pan Am S.42 Clipper III was Harold Gray. The navigator, William Massland wrote later:

"The betting form said that the odds were eight and a half to one that we wouldn't make it. Ridiculous. Of course we'd make it. But if only they'd let us go yesterday as planned we'd have made a landfall on a strange coast in Ireland in good weather instead of in a cold front. Who had changed it and why? Don't know. Whoever set up the departure times of the two boats must have been trying to ensure that they both landed at the same time — Imperial in Botwood and we in Foynes — so that neither could claim a first crossing."

"As we waited, Pattison, who later became airport manager at Gander, turned to me and said:

"Well, here goes number eighty-six."
 "What? You mean to tell me there have already been eighty-five crossings of the Atlantic?"
 "Not at all. There have been eighty-five attempts. Only ten made it."
 Pattison held out his hand and wished me luck"

The Clipper III flew to Foynes in great style. Dinner was served at ten thousand feet consisting of shrimp cocktail, soup, filet mignon with

mushroom sauce, a salad, ice cream, cake and coffee.

"Land on my side."

"A cliff came out of the mist to the left of us. A white structure stood on top of it."

"It's a lighthouse captain, with the markings of Loop Head as shown in the light lists."

We had made a bulls-eye, dead centre in the mouth of the Shannon River." (Navigator Massland).

A castle, rain-washed and glistening white stood back from the river. I looked at the chart. It was Glin Castle.

"Eight miles to Foynes Captain"

"Matters of diplomacy and politics were beyond my immediate concern, except where they impinged on safety, as they had in that first crossing, when, by juggling the date and the time of our departure from Newfoundland we had been given an awkward crossing and a dangerous landfall while Imperial drew clear skies." (Massland)

"It was like a messenger boy arriving on a bicycle", said a local man watching the Clipper III land at Foynes.



NORTH ATLANTIC

FROM LAT. 20° N. TO LAT. 62° N.



The Magnetic Variation Curves are for the year 1937
For abbreviations see Admiralty Chart No. 2034P
SOUNDINGS in FATHOMS
Natural Scale 1:50,000 (1:100,000)

CURRENTS
Attention is drawn to the notes on currents in the Admiralty
Sounding Practices in the Admiralty's charts, also to the
Admiralty Charts and the Meteorological Office's No. 1
ICE
Attention is drawn to the remarks on currents in the Admiralty
Sounding Practices in the Admiralty's charts, also to the
Admiralty Charts and the Meteorological Office's No. 1

Before the Caledonia flight, Séan Leydon of the Irish Department of Industry and Commerce asked the managing director of Imperial Airways, Woods-Humphrey, if he could have a passage on the first commercial flying-boat over the Atlantic. He was told that there was no passenger accommodation. Leydon wrote back saying that he was quite prepared to sit on the floor. He was told there was no floor.

The aircraft had been stripped to the bone to take extra fuel and even then, there was not enough fuel if they got into difficulties.

Caledonia heads for Canada

The Irish Times, 6th July, 1937:

"The engines roared into life and Caledonia moved slowly down the Channel between the mainland and Foynes Island. As it passed the quayside, a cheer broke from the great crowd. Suddenly, the note of the engines changed into a terrific roar as the full force of their 3,600 horsepower came into action. Spray dashed over the great 114 foot span of its wings as the flyingboat ploughed forward. Just 40 seconds after the throttle opened, Caledonia left the water and disappeared towards Kerry Head and the Ocean. Its transatlantic flight had begun.

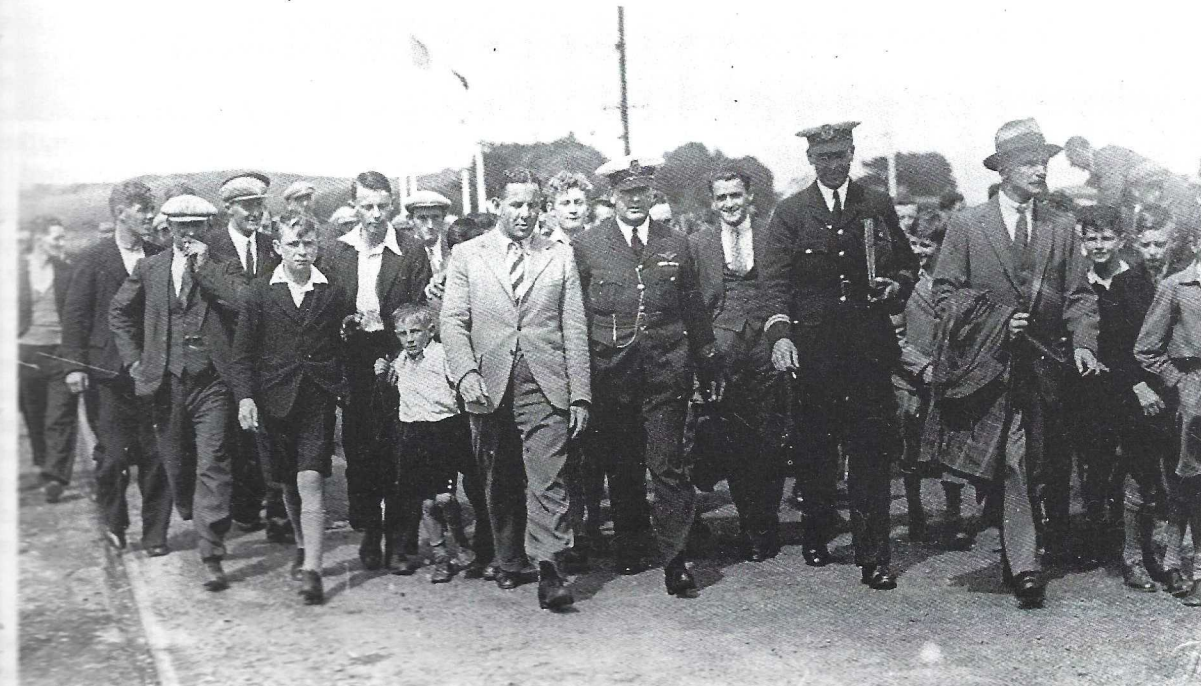
Wilcockson was the captain of the Imperial Airway's Caledonia.

"I slipped moorings at 18.42 GMT. It was raining, with low cloud and a 30mph wind. Not at all the sort of night for a jaunt of this description. I taxied round the western end of Foynes island and took off diagonally across the river. The take off was good and I put the aircraft direct on course for Loop Head and Botwood."

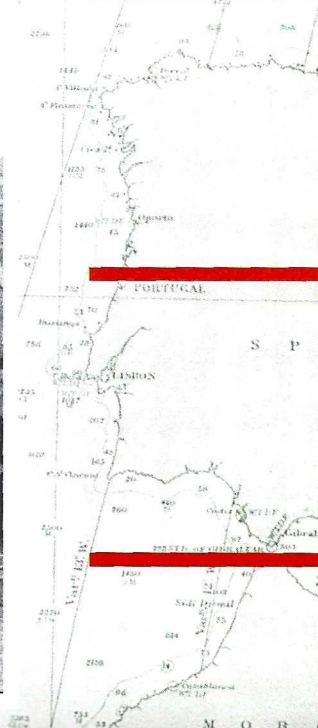
Half way across, Caledonia saw the ship the SS Empress of Britain. A star sight of Jupiter and Arcturus shortly afterwards put the flying boat 33 miles south of course, before continuous rain enveloped them.

"At 00.45 we came out of the fog at 2500 feet and saw the sun rise over the cloud layers."

Caledonia landed at 10.08, 15 hours and 26 minutes after leaving Foynes.



Capt. Wilcockson and the crew of the Caledonia with J. O'Donnell of the Dept. of Industry & Commerce



Some Problems of Flying Boat Operations

David Brice

At the commencement of the take off run, the Short Flying Boats were very unstable. This was because they had wing-tip floats, unlike other types of Flying Boats which had sponsons or stub-wings attached to the hull — such as the Boeing B.314 Clippers which I was to fly in 1945.

The marine requirements of flying boats meant there had to be some give in the rigging of the floats. Had it been that in a moored position each float was in the water — as the hull of course was — then on take off or landing in a cross-wind, a rough sea or swell conditions, the strain would certainly have broken the wing-tip struts. Therefore, the struts were short. This meant that, at its moorings, the boat had either its port or starboard wing down, depending on wind and tide — the other float would be clear of the water.

On take off this position persisted until aileron control could be obtained, which was at about 40 knots. The boat therefore gathered speed with one wing dipped and the other elevated. Automatically this meant a yaw in the direction of the dipped wing which could not be corrected by the rudder because there was insufficient air flow at low speeds. The only remedy was to juggle the four throttles. That is, for example, to pull back the starboard outer throttle so as to reduce power on that engine. The plane would obviously veer to starboard. So far so good. But if one didn't judge it correctly, it would swing too far, — unless the starboard engine was opened up to correct the swing. It was very easy to develop a cork-screw motion by over or under compensating, sometimes with disastrous results.

In a strong wind you had some control at the beginning, since the criteria was air speed (the speed of the air over the control surfaces, whether produced by forward motion or wind). But in the flat calm which we experienced at many of our bases in the tropics, the boats could veer all over the place, often in restricted waterways.

Here I might comment that most of the senior Empire Flying Boat captains had a very real problem to contend with in the mid-thirties. A large proportion of them had come straight to the boats from land planes. And after what was a very limited training course they were given command.

Many, probably most, had little experience of the sea and yet, they were expected to fly half-way around the world in these advanced machines. No wonder so many came to grief.

Later generations of captains who had spent time as First Officers — such as myself — at least had the opportunity of learning from other people's mistakes.

Even simple things like parking the aircraft after a flight could become a tortuous business on the water, with wind and tide frequently in opposition and strong currents and narrow waterways conspiring to make the connection with the mooring buoy far from easy. On many occasions the radio operator — whose job it was to get a mooring line through the saddle of the buoy, sometimes in pouring rain or howling wind — would miss the damn thing with his boat hook and the whole process had to be started all over again. Compare this to a land plane taxiing to a spot on the apron, guided by a groundman and then cutting its engines.

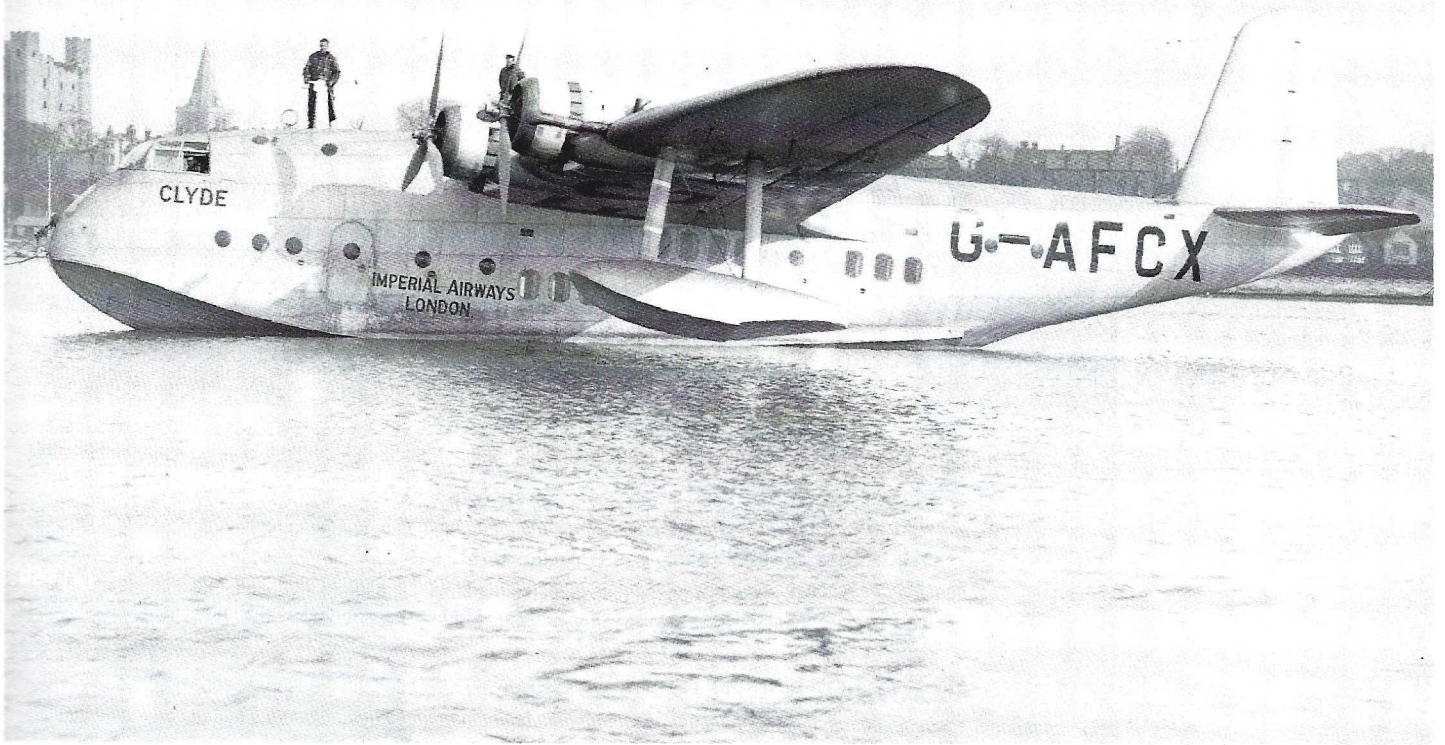
Landing was also complicated. With a land plane there was no problem; you could either see the ground or you didn't land. If the cloud was too low for a safe approach, or fog obscured forward visibility, you called the whole thing off, climbed back aloft on your instruments and went some where else.

The problem — and it was a big one — for the flying boat pilot, was that under certain meteorological conditions a situation could arise whereby the sea and sky merged together, both the same colour and texture, so that the horizon — the boundary between the sea and the sky — simply vanished.

Without this horizon the pilot was totally lost. He would be feeling his way down on instruments quite successfully, then in the last few hundred feet when he looked out of the cockpit window at his approach area there would be literally nothing to see. The combination of a searing sun, a misty haze and a flat mill pond surface on the water, meant that the pilot had no way of knowing when to level off his descent and position his flying boat for landing at the right speed.

The result was often total disaster. The flying boat would hit the water nose down and literally fly into and under the water.

Later when I was flying RAF Short



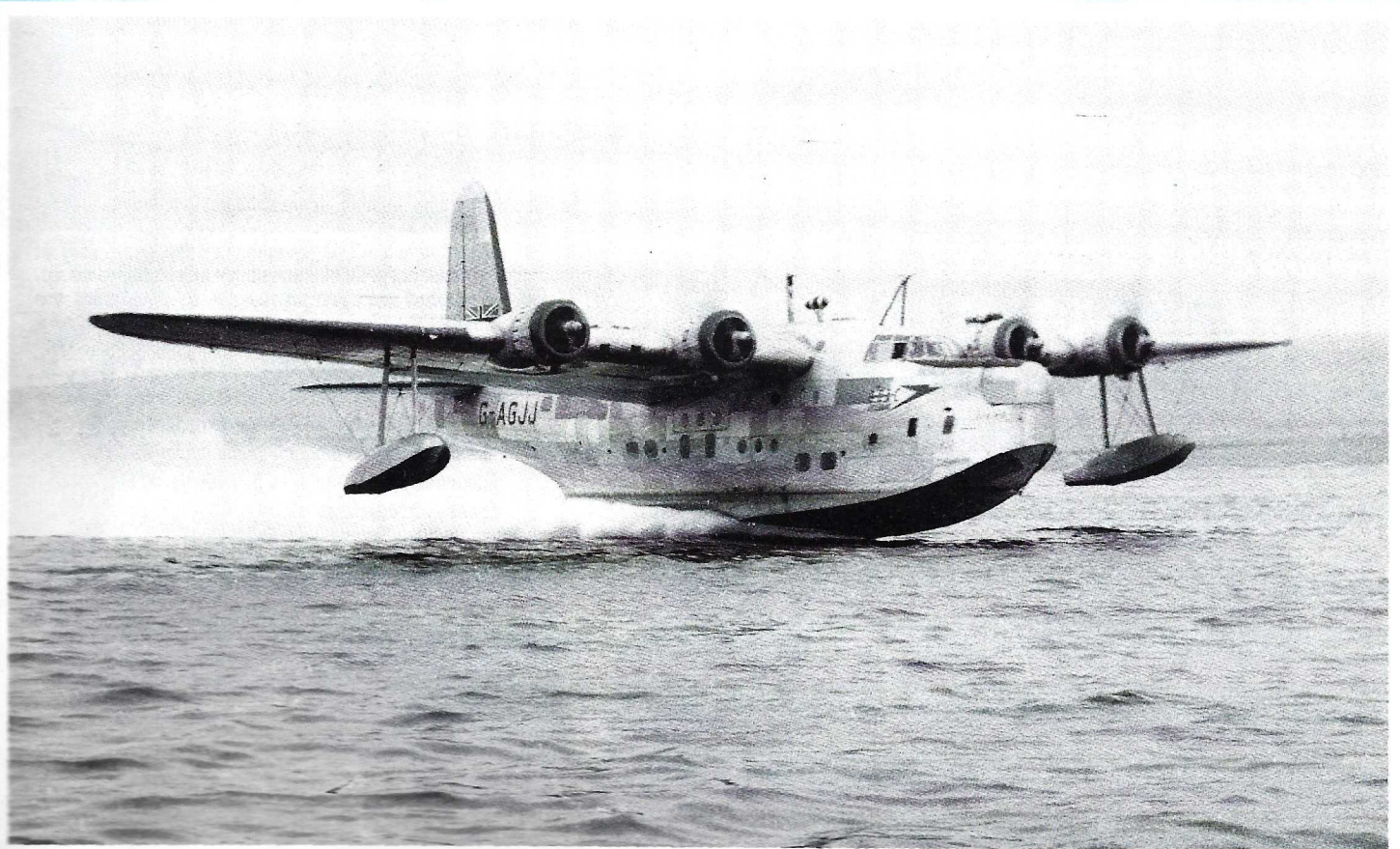
SHORTS

Imperial Airways "Empire Boat" — Clyde.

Sunderland aircraft, a similar machine to the Empire Flying boat, we developed a technique for these conditions, and also for difficult night

landings. We would bring the boat down during the last 500 ft with the nose well up in the air, flaps fully down, and a lot of power on all four engines, so that

theoretically, it didn't matter when you hit the water, you would still be in the right attitude. And when you did, you throttled back and that was it.



HENLEY

BOAC Sunderland — demilitarised.

The Inaugurals

On June 28th, 1939, Pan Am's Yankee Clipper landed at Foynes. It was the first scheduled airmail flight on the "Great Circle" route across the North Atlantic. The Great Circle route is the direct route from Newfoundland to Ireland. It is the fastest and most important flight path from the American continent to Europe.

BULLETIN 2- FILED

PM JUNE 27, 1939

WESTERN UNION TELEGRAM

H. B. WHITE
PRESIDENT

NEWCOMB CARLTON
CHAIRMAN OF THE BOARD

1595

RELEASE TO BOOK A.

TWS PAID

PORT WASHINGTON JUNE 27--THE PAN AMERICAN AIRWAYS FLYINGBOAT YANKEE CLIPPER, ENROUTE TO EUROPE WITH INAUGURAL AIRMAIL OVER THE "NORTHERN" ROUTE VIA CANADA, NEWFOUNDLAND, AND IRELAND TO ENGLAND, TOOK OFF FROM SHEDIAC, NEW BUNSWICK, AT 13.49 PM EDST TODAY FOR BOTWOOD, NEWFOUNDLAND, LAST STOP BEFORE THE 1995 MILE OCEAN CROSSING TO IRELAND. THE CLIPPER HAS BEEN DELAYED AT SHEDIAC SINCE SATURDAY, DUE TO UNUSUALLY SEVERE FOG CONDITIONS OVER NEWFOUNDLAND. NORTHEAST WINDS BLOWING OFF THE GREENLAND ICE CAP PRODUCED FOG AT BOTWOOD INTERMITTANTLY FOR THREE DAYS, AND PRUDENCY DICTATED THE DELAY OF THE SCHEDULE AT SHEDIAC UNTIL THIS CONDITION CLEARED. THE CLIPPER IS CARRYING, IN ADDITION TO A RECORD MAIL LOAD OF 2,532 POUNDS, 20 OFFICIAL GOVERNMENT AND PAN AMERICAN AIRWAYS OBSERVERS.

PAN AMERICAN AIRWAYS

BULLETIN 2--JUNE 27, 1939

WESTERN UNION TELEGRAM

H. B. WHITE
PRESIDENT

NEWCOMB CARLTON
CHAIRMAN OF THE BOARD

1595

RELEASE TO BOOK A.

TWS PAID

PORT WASHINGTON JUNE 27--A RADIOGRAM FROM YANKEE CLIPPER AT 12:10 THIS MORNING TOLD OF A GAY BIRTHDAY PARTY HIGH ABOVE THE CLOUDS IN MIDATLANTIC AS THE GREAT 41-TON PAN AMERICAN AIRWAYS FLYING BOAT SPED EASTWARD TO EUROPE ON THE INAUGURAL AIRMAIL FLIGHT TO ENGLAND VIA CANADA, NEWFOUNDLAND, AND IRELAND. THE GROUP OF GOVERNMENT OBSERVERS ABOARD THE CLIPPER, HEADED BY UNDER SECRETARY OF STATE R. WALTON MOORE AND CLINTON HESTER, ADMINISTRATOR OF THE CIVIL AERONAUTICS AUTHORITY, DISCOVERED THAT TODAY JUNE 27 WAS THE BIRTHDAY OF JUAN T. TRIPPE, PRESIDENT OF PAN AMERICAN AIRWAYS, WHO IS HOST TO THE GROUP ON THEIR EUROPEAN FLIGHT. SO IMMEDIATELY AFTER MIDNIGHT THE GROUP STAGED A MIDATLANTIC BIRTHDAY PARTY, EVERYONE MANAGING TO FIND SOME SORT OF PRESENT FOR THE AIRLINE HEAD. EVERYONE EXPRESSED ADMIRATION FOR MR. TRIPPE'S LEADERSHIP IN ESTABLISHING THE FIRST TRANSATLANTIC AIR SERVICE TO EUROPE.

PAN AMERICAN AIRWAYS, 145P.

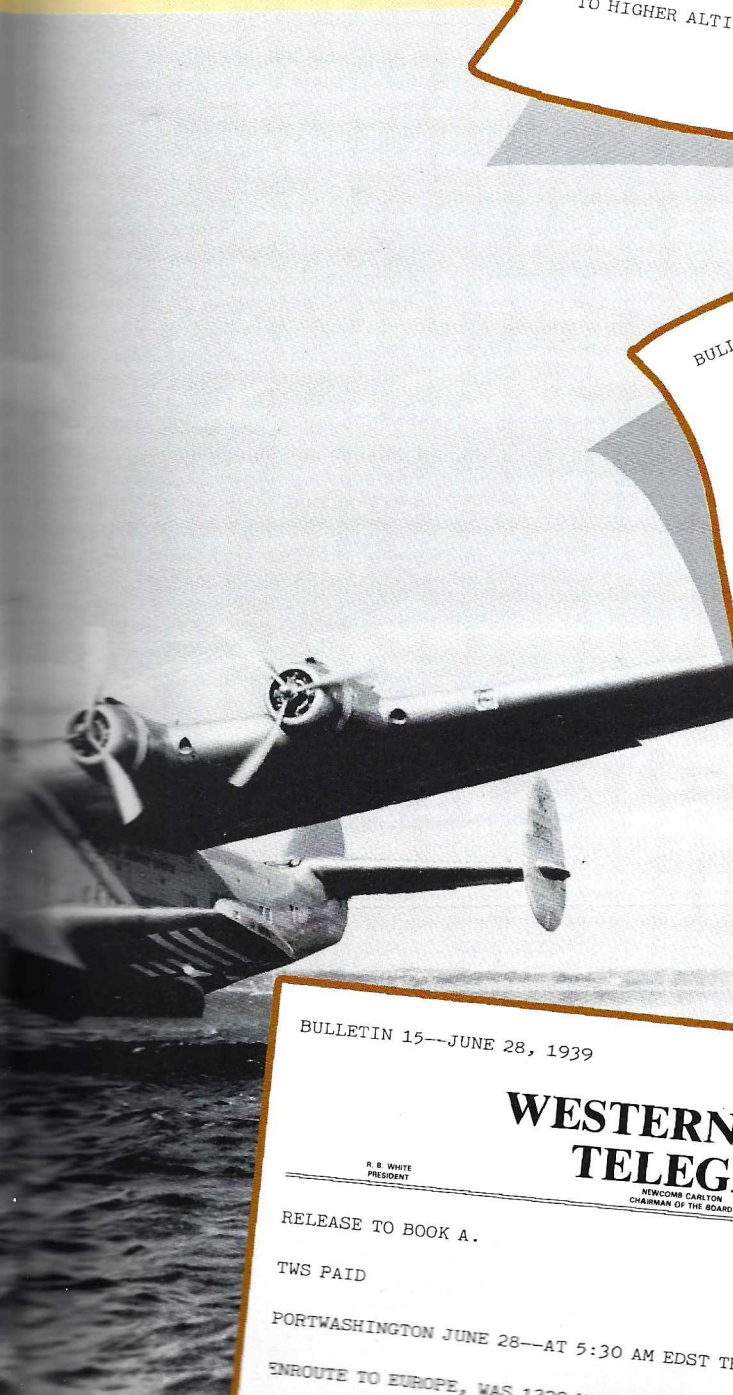


Pan Am B.314 - Yankee Clipper.

The first fare paying passengers across the direct route landed at Foynes on July 9th, 1939. The flyingboat was again the Yankee Clipper.

There were 17 passengers and a crew of 12 led by Captain Arthur E. La Porte.

The fare was \$337 one way — about \$4,000 by today's standards.



BULLETIN 10--JUNE 28, 1939

WESTERN UNION TELEGRAM

R. B. WHITE
PRESIDENT J. C. WILLEVER
FIRST VICE PRESIDENT

RELEASE TO BOOK A.

TWS PAID

PORTWASHINGTON JUNE 28--AT 12:30 AM EDST TODAY, CAPT. HAROLD E. GRAY ABOARD THE PAN AMERICAN AIRWAYS FLYINGBOAT YANKEE CLIPPER REPORTED HIS POSITION AS 583 MILES NORTHEAST OF BOTWOOD, NEWFOUNDLAND, BOUND FOR FOYNES, IRELAND. MEANWHILE THE BIRTHDAY PARTY FOR MR. TRIPPE WAS IN FULL SWING AS THE CLIPPER BEGAN TO CLIMB TO HIGHER ALTITUDE FOR MORE FAVOURABLE WINDS ALOFT.

PAN AMERICAN AIRWAYS. . . . 100A

BULLETIN 13--JUNE 28, 1939

WESTERN UNION TELEGRAM

R. B. WHITE
PRESIDENT J. C. WILLEVER
FIRST VICE PRESIDENT

RELEASE TO BOOK A.

TWS PAID

PORTWASHINGTON, JUNE 28--YANKEE CLIPPER, BOUND FOR EUROPE OVER THE "NORTHERN" ROUTE TO ENGLAND VIA CANADA, NEWFOUNDLAND, AND IRELAND, WAS 1058 MILES EAST OF BOTWOOD, NEWFOUNDLAND, AT 3:30 AM EDST THIS MORNING. SHE WAS FLYING AT 7,800 FEET OVER A SOLID LAYER OF CLOUD, WITH A MODERATE WIND FROM DUE NORTH ON HER PORT BEAM.

PAN AMERICAN AIRWAYS. . . . 410 A

BULLETIN 15--JUNE 28, 1939

WESTERN UNION TELEGRAM

R. B. WHITE
PRESIDENT J. C. WILLEVER
FIRST VICE PRESIDENT

RELEASE TO BOOK A.

TWS PAID

PORTWASHINGTON JUNE 28--AT 5:30 AM EDST THIS MORNING YANKIE CLIPPER, ENROUTE TO EUROPE, WAS 1320 MILES EAST OF BOTWOOD, WITH ONLY 675 MILES YET TO GO TO FOYNES, IRELAND. THE CLIPPER WAS FLYING AT 8,000 FEET.

PAN AMERICAN



Captain Charles Blair.

The First Non-Stop Commercial Atlantic Flight to New York

On 22nd June 1942, Charles Blair flew the first non-stop flight from Ireland to New York with passengers and mail. He hadn't intended to.

"We set out from Foynes on this longest of summer days, without any special ambition. The flight plan called for a fuel stop at Botwood in Newfoundland - some fourteen hours away.

There were 16 passengers in the passenger cabin — two to each state room. They included Britain's famed combat admiral and commander of the Mediterranean fleet, Sir Andrew Cunningham. The Admiral was on his way to Washington to help arrange the invasion of North Africa. We also had Dorothy Bohanna R.N., the first stewardess to fly any ocean.

We dead reckoned below the clouds until past mid-ocean, using only the airspeed compass and drift flares for guidance. But dead reckoning wasn't enough. So, though it cost some fuel, we struggled up to eight thousand feet, where a sky full of stars informed us exactly where we were.

Our weather messages told us that both Botwood and Shediac would be fogged in. Halifax, Nova Scotia, was the final resort.

"These speed lines show we've

knots on the nose. Our groundspeed is less than half our airspeed", said the navigator, "that's 4/10 of a mile per gallon and we've got eleven hundred gallons".

"At that rate", I reckoned, "we'll have dry tanks a hundred miles short of Halifax".

"Glad this is a boat", said the co-pilot.

We left the upper air and plunged through the clouds to find a better wind. The cloud ceiling was close to the surface of the ocean, but we still had to fly high enough to elude the masts of small shipping that might suddenly appear in front of us. At least the big icebergs were behind us.

"Land-ho", said the co-pilot.

At this first landfall we had as many gallons of fuel left as there were miles to New York. I was beginning to toy with the idea of flying non-stop.

"Mike", I said, "Recheck all those fuel records since Foynes - double check 'em. Maybe we'll go all the way."

"Yes sir! I'll have it in a couple of minutes.

The co-pilot added his approval, "Now you're talking, Charlie".

We now had a few more gallons than there were miles to go.

We had a reserve of a hundred gallons with a glass tube gauge. When the fuel started descending in that glass tube, we would fly one

I let Halifax slip by as if it wasn't there. There were various small harbours and a couple of big ones ahead, and I could even land safely in the open ocean without any damage except to the ego.

But New York's Whitestone Bridge was beneath us as we switched to the tank with the last hundred gallons of fuel. Our press agents had been boasting for years about flying non-stop across the Atlantic. Now this was about to happen - the first time for an air liner with passengers and mail.

The fuel tank showed ninety-five gallons when we looped the mooring rope around the bow post. This was enough, though it was only a fraction of the fuel we had on the River Shannon 25 hours and 40 minutes earlier.

"Remarkable voyage", said Admiral Cunningham of the British Navy as he disembarked."

From "Red Ball in the Sky"
by Charles Blair