

Flying Out of The Depression

The Pan Am Clippers

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The Golden Age of Flying boats was unfortunately of such short duration that it brings to mind those words of Edna St. Vincent Millay - somewhat twisted " ... they will not last the night, but ah my foes and oh my friends they give a lovely flight." And what a lovely flights they were. Here's how it all came about.

The time span from the Wright Brothers first successful air flight on the 17th of December 1903, until the use of airplanes in WW I was just over a decade - 11 years to be exact. Astounding.

Prior to the United States entry into World War I, there were literally only a few hundred American aircraft in existence, and these were exclusively for the use of the very wealthy or for carnival performers. The war produced the first boom in the production of aircraft and the attendant training of pilots and ground staff.

During this period - of necessity - advances in aerodynamic design were quite rapid. Hardly a day passed without the general public seeing designs for some new aircraft appearing in papers across the country.

Although in 1914, planes were initially used in the War mostly for tactical rather than strategic purposes, there WERE air battles. Guns in those days had to be mounted inside of the circular field through which the propellers traveled, and so the gun firings and propellor rotations had to be synchronized. When they were not in sync, a pilot would literally shoot his own propeller off and crash. This happened more often than one could be comfortable mentioning.

Tangential to their strategic employment and later use in air battles, some planes during the First World War were also fitted out with with pontoons - by the Allies - turning them into "flying boats" used to search for enemy submarines and ships. The Germans countered with twin float fighter planes.

In the period just AFTER WW I, there was a massive supply of surplus aircraft, which were converted to civilian use. And, the government quickly experimented with delivering the mail by air, which would revolutionize the US Postal Service in very short order. It would have been an even quicker revolution had the planes been able to fly at night. These initial mail delivery flights were operated by both the US Army AND the Postal Service. On the 14th of May in 1918 the groundbreaking mail flight departed Belmont, Long Island. On its first day the plane reached Philadelphia, and on the second Washington, where President Woodrow Wilson was on hand to greet this new phenomenon. By 1922, using a combination of flights and rail delivery, the Post Office was able to cut 22 hours off of coast to coast mail delivery. Soon, rotating beacons - stationed 80 miles apart - were employed to enable pilots to move the mail at night, and by the mid 1920's east bound letters, cards and packages could be delivered from the west coast to the east coast in a mere 29 hours.

When we jump forward from the end of WW I in 1918, almost another decade (9 years) we witness the first international carrier of air mail and passengers - Pan Am World Airways - initiating flights between Key West, Florida and Havana, Cuba in October of 1927.

A scant two years after that - in 1929 - the Germans unveiled the Dornier DOX three decker flying boat. It had 12 tandem motors in two gangs, one facing forward and one backwards (in a push/pull layout with 6 tractors and 6 pushers) and they were mounted above the wings. These complex engines could not be controlled directly by the Pilot. The Captain had to send orders for throttle adjustments to a flight engineer in the engine room - in order to reduce or increase the aircraft's speed.

When unveiled, the DOX was the largest, heaviest, most powerful flying boat in the world. Like Howard Hughes' Spruce goose from the later war years - which only flew once, just to prove that it could, on the second of November in 1947 - the DOX had trouble taking off. With a wing span of 157 feet and a takeoff weight of 61 tons, the DOX could -

once airborne - fly at the rate of 155 miles an hour, and accommodate 100 persons. It had salons and sleeping accommodations for 60. Only three were ever built, and while a novelty for the public, entralling crowds wherever they landed and took off, they never turned a profit. The Stock Market Crash of 1929 and ensuing depression both at home and abroad was doubtless a contributing factor in the DOX's demise.

(Back to Hughes for a moment. His H 4 Hercules, named the Spruce Goose [although actually made of birch], and more unflatteringly The Flying Lumberyard - because it was made mostly of wood - was the largest flying boat ever built, with the largest wingspan of any aircraft ever flown. It was wider than the length of a football field. This flying boat was commissioned from Hughes by the government as a troop transport plane, but its development came too late for use in WW II.) Tucked away in Long Beach, CA, the Spruce goose - after Hughes death in 1976 - was kept out of the public eye for 33 years. Changing ownership a couple of times, the Spruce Goose finally went up by barge to McMinnville, OR landing at the Evergreen Aviation Museum, where

it is on display today.

The DOX was financed by the German Transport Ministry, and built at Lake Clarence in Switzerland - because of a provision of the Versailles Treaty from WW I - which forbade Germany from producing certain kinds of aircraft.

In 1930, just a year after its maiden voyage, the DOX traveled to Africa and across the Atlantic to Brazil and New York. Fearful of traveling the Atlantic during the winter months, the DOX spent the season in New York - to the delight of many tourists that year.

It is of note that author James Trautman in his 2007 book Pan Am Clippers - The Golden Age Of Flying Boats doesn't even give a tacit nod to the existence of the earlier Dornier DOX flying boats, as precursors of the Pan Am Clippers. There is a picture of the DOX however, presumably to stave off critics such as myself - who can go find information about it on their own if they like. It is disappointingly

common to find how frequently in history we find that when chroniclers are telling their tales about progressive innovations they conveniently leave out vital but (for whatever reason) unwanted historical data concerning major antecedents - which obviously were key contributors to the development in question. Here is an excellent case in point. Using an abbreviated thought pattern, we come up with ... The DOX's were not American, and therefore did not have a LEGITIMATE place in this saga of Pan Am's evolution. REALLY! Case Closed!

As the 1920's roared to an end, we discover that in 1926 six thousand Americans had been civilian passengers in aircrafts. By 1930 that figure had risen to over four hundred thousand - in a span of just four years.

Barnstormers and flying circuses are largely responsible for this quantum leap in bringing flying to the attention of the American public as the 1920's wound to a close. Many if not most of the barnstormers had been WW I flying pilots - AND with planes available for just \$200 - if not a goldmine, barnstorming was certainly a decent , dangerous and

exciting way for a former military pilot to earn his living. In their day barnstormers were the most exciting daredevils on display, and they fascinated audiences by the thousands. Like Vaudeville, each group had a stunt or two that would separate them from other shows, and competition was fierce. These included daring dives, spins, barrel rolls, loop de loops and even a death dive - a nighttime free fall of 5000 feet while holding a pair of flashlights. For those still not satisfied, stunt pilots and their crews would wow the audience with wing walking, parachuting from a plane and mid air transfer of personnel from one plane to another, including the pilots. Heady Stuff! No lesser luminary than Charles Lindbergh himself, was a barnstormer early in his career.

One of the most famous and successful of the the flying circuses was the Inman Bros. They become part of the Pan Am story if for no other reason that they used the term "Clipper" before Juan Trippe did. After Trippe registered the name "Clipper" as as trademark in 1931, the Inman Brothers had to sue to be able to continue to use the term "Boeing Clipper - America's Largest Trimotor" in their advertising.

The tri motor of course was the Ford Trimotor plane, of which the Inmans had two.

The Ford Trimotor WAS - simultaneously one might add - to aviation what the Models T and later A were to automotive history - namely an early and reliable form of air transportation. They were flown by both Amelia Earhart and Charles Lindbergh and used by FDR in his initial Presidential Campaign of 1932. As late as 1942, the Trimotors were used in the evacuation of Bataan. Some are still in limited use today, and fewer still available for airplane rides.

Even though in use before he employed it -as we have just seen - Juan came by the name "Clipper" quite legitimately. His family had made their money from the Clipper sailing ships in the mid 19th century.

Clipper ships were very fast sailing vessels developed from a type of schooner known as the Baltimore Clipper - with 3 masts and square rigging. The Clipper Ship boom began in 1843 with the growing demand for more rapid delivery of tea from China. It continued with the

discovery of gold in California and Australia in 1848 and 1851. It ended with the opening of the Suez Canal in 1869.

Another long established and well known international company - The Gates Flying Circus - took an estimated one million people up in the air world wide, and had a perfect safety record - even saving aviator Rosalie Gordon when her parachute became tangled in the tail of their aircraft.

Perhaps the public's biggest thrill - and real fascination with flying - was not merely to watch these aeronautic spectacles, but to be offered a ride in the planes - for only fifty cents. If one wanted an extended ride, it was one dollar. This represented vast savings over booking a commercial flight, and inevitably led to a remarkable increase IN commercial flights, since once bitten by the flying bug, there was no turning back, no keeping one's feet on the ground - when there were options.

In 1920 National Air Races started in a very modest way. By 1922 The National Aeronautics Association was formed. By the late 1920's the U.

S. Government began to use the races as a testing ground for new types of fighter pursuit planes that were in the development phase. Enter Juan Trippe.

The mastermind of Pan American Airways, Juan Terry Trippe, was born in 1899, just one year shy of the new century. From a patrician background, he was nonetheless frequently assumed to be of Hispanic descent, which was a life long irritant to him. He was named Juan after his mother's Cuban step-father. While he did not LIKE the name Juan, it would open many doors for him in Latin America, which was his first stepping off place on the road to a global airline.

He attended the Hill School in Pottstown, PA - a feeder prep school for Princeton - but enrolled at Yale instead. At the end of his first year - with WW I raging in Europe - he left to join the Marine Corps as a flying cadet. After the war he returned to Yale - and graduated from that elite, white, male, Anglo Saxon, Protestant and Republican bastion of learning.

Bored with his initial career move to Wall Street after graduation, Juan soon left - and with money borrowed from Yale classmates - decided to go into business for himself.

Learning in 1922 that the U. S. Navy had surplus planes for sale, he and a friend John Hambleton purchased several for the princely sum of \$500.00 each. With these, Juan formed Long Island Airways, an air taxi service for the rich and powerful - ferrying them by air from Long Island to their various playgrounds in New York City and back home again when the party was over.

His next investment was in Colonial Air Transport, and Trippe later formed the Aviation Corporation of the Americas - based in Florida. This evolved into Pan American Airways. Pan Am's first flight on the 19th of October in 1927, from Key West, FL to Havana, Cuba was for mail service. Commencing on the 28th of October in 1927, there was a regular mail flight from Key West to Havana each day. In addition to the daily mail, the trains to Florida were used as advertising tools for

these air flights. Posters were placed in the coaches - enticing passengers to fly from Key West to Cuba. The first passenger service started on 16 January 1928, and in the first month Pan American carried 71 passengers. At \$50 apiece one way, in the first year over 1,100 tickets were sold. Even the Marx brothers got into the act. Their 1929 film *Coconuts* highlighted the Florida "Gold Coast" and the money that was pouring into that particular area of the state. A real come-on.

In Juan Trippe's mind, the 1930 flying boats were the modern version of fast sailing ships - the Clippers. And, each aircraft had its own name, as if it WERE a sailing ship. Juan was determined to imprint this vision from his own mind into the minds of every American. His mantra was ...
The Clippers Are The Champions Of Modern Aviation!

Methodical in his planning, Trippe sat down with aviation engineer Igor I. Sikorsky to map out his grand plan for over the water passenger aircraft. The first step in his plan was regular mail and passenger service to Latin America; next would be the trans Pacific route to China.

The third, final and most challenging plan was to cross the Atlantic Ocean. This presented unique difficulties because of the unpredictability of the weather over the Atlantic.

Mounted under the wings, the two motor Sikorsky S - 38 flying boat was the forerunner of the first of the four Clipper prototypes - the S - 40.

In the winter of 1930, in New York City Juan Trippe, Igor Sikorsky, Charles Lindbergh and Andre Priester huddled over blueprints for the S-40, and studied the project intensely.

Andre Priester hired by Trippe in 1927 quickly became the head Chief Engineer for Pan Am, responsible for the specifications and design of each aircraft. He reported to Trippe, but was usually left alone to make major decisions.

Lindbergh, after his solo Atlantic flight in 1927, could literally write his own ticket. Flooded with offers to star in motion pictures, lecture,

endorse commercial products and make personal appearances, he was snared by Trippe and signed a 4 year contract with Pan Am (featuring most generous terms). His duties would include surveying new routes, contributions to aircraft design and flight testing.

Lindbergh had ambitious plans for the design of the S-40, but it evolved as basically a 4 engine version of the two engine S 38. Disappointed by the design, Lindbergh referred to it as the "Flying Forest".

On the plus side, it was the last word in comfort and even luxurious flight. It had modern furniture, teak paneling, a smoking lounge, game tables, and - though a flying boat - a sophisticated landing gear system - for flying long distances over land in Latin America. It could carry 40 passengers, travel at 115 miles per hour with a range of 500 miles. If only 24 passengers were on board that range would increase to 950 miles.

Christened on Columbus Day in 1931 by Mrs. Herbert Hoover, and with

Lindberg at the controls, the S - 40 left Dinner Key, Miami and headed for Kingston, Jamaica and the Canal Zone.

By later standards, the S-40 was described as lumbering, unattractive - and more of a transport than a passenger craft. It could only fly in daylight, as it lacked navigation aids and instrumentation for night flying. Sadly, by 1943 - after 12 years of air service - the S-40 could only be seen as a rotting hulk in a Miami junkyard. It was, however, the successful building block that gave way to the S-42.

With foreign competition nipping fiercely at its heels, Trippe did not need much convincing that a new model was not only necessary but vital. The Graf Zeppelins were now (1943) making regular Atlantic crossings (139 trips with 17,591 passengers to date).

The second version of the Pan Am Clipper, the improved S-42 had its 4 engines now mounted directly onto the leading edge of the aircraft. New Hamilton controllable-pitch propellers and a new long and narrow wing

- for greater lift - complemented and were an integral part of the cleaner lines. Test flights in 1934 confirmed that this new floating airborne palace was a winner.

Flying from Dinner Key, Miami to Buenos Aires and Brazil in the fall of 1934, the S-42 was christened the Brazilian Clipper. With the advent of the S-42, Juan Terry Trippe's vision of Pam Am as America's airline was at last a reality.

The Dinner Key Terminal in Miami's Biscayne Bay was originally just a small island, or key, thought to be an ideal place for a picnic - hence the name. In WW I, with some dredging and a lot of engineering it was turned into a peninsula and occupied as a Naval Station. After WW I the Naval Station was abandoned - to the relief of some well healed Floridians who lived in the neighborhood. A hurricane in 1926 wiped out all remaining vestiges of the former Naval Station. A young Juan Trippe remembered Dinner Key from the War, and would soon have his eye on it. But, before he did, a fledgling airline - NYBRA - saw the

potential of this spot as a launching pad for flying boats. After the crash in 1929, NYBRA went bust, and Dinner Key was ripe for pickings - including the small fleet of NYBRA planes. In 1931 Pan Am acquired Dinner Key and would begin an ambitious renovation project that would morph into the worlds most elaborate Marine terminal in 1934.

Designed by the creme de la creme new York Architectural Firm of Delano and Aldrich, this first class facility cost \$300,000.00. In todays world that figure would be \$7,396,000. In the center of the terminal was a large globe of the world - which can now be found in the Miami Museum of Science. From 1934 until 1940 Dinner Key would see some 50,000 people a year through its doors and onto planes that would service the Caribbean and South American routes.

The very next year - in 1935 - Pan Am's premier crew began test flights over the Atlantic. The S-42 was modified for these trials.

Currently under development was the third version of Clippers - the Martin 130's - which were to have been used for these trans Atlantic tests, but were not ready in time. 1935 also saw the S-42 off on a new

trial run to Honolulu. It was quickly determined that the S-42 was not up to the task of servicing the San Francisco and Hawaii routes or Pan Am's new island bases.

With delivery of the first three Martin 130's in October of 1935, Pam Am was now ready to institute their first trans Atlantic flight. The new sailing ship was christened the China Clipper.

Next came the Philippine Clipper and finally the Hawaii Clipper. Sadly, each of these would meet a tragic fate.

Originally Lindbergh was to pilot the initial China Clipper flight, but in the wake of the publicity concerning the kidnapping and murder of their son, Lindbergh returned to Trippe the retainer he had accepted for the flight, and stayed out of the public eye.

25,000 people were on hand in Miami to see the China Clipper lift off on its first scheduled flight on the 22nd of November 1935. The date had been chosen because it was the 100th anniversary of the first Clipper

sailing ship entering the San Francisco harbor - and the US Postal Service was issuing a 25 cent airmail stamp that showed the Clipper flying over water.

The first passenger flight didn't involve the China Clipper, but the Hawaii Clipper - on 21 October 1936.

While it flew without incident for two years, on the 28th of July 1938, the Hawaii Clipper disappeared without a trace somewhere between Guam and Manila. It's six passengers and crew were ever heard from again.

An area of 160,000 miles was searched, but no trace of the wreckage was ever found. Did inhabitants of the Japanese held islands play a part? Like Amelia Earhart's disappearance the year before, it remains an enigma.

By 1938, Pan Am was the undisputed leader in the development of an infrastructure to make flying safe. In the Pacific, the US Government co-opted many of their devices.

Having been christened by Eleanor Roosevelt in Anacostia, MD, on the 18th of May in 1939, The Yankee Clipper (B 314) was awarded the northern route (via Newfoundland and Foynes Ireland) to Southampton, England. The maiden voyage took place on the 20th of May, with a departure from Port Washington, NY, for its destination in Marseille - carrying only mail. This Pan Am northern route, sadly, would operate for only three months - as the outbreak of WW II put an end to all scheduled flights.

The next flight was that of the Dixie Clipper (B 314) in June of 1939, to Lisbon, Marseille and Southampton. Lisbon was reached in almost exactly 24 hours from Port Washington. One way fares to London or Marseille were \$375.00.

After war broke out, Pam Am, in conjunction with the US and British governments established a regular schedule employing the Martin 130's on shuttle runs to Africa and Asia.

The second Battle of El Alamein - a turning point in the war for the Allies - was won in large part by the vast amount of support Gen.

Montgomery was to receive from the Trans-Africa supply line, in which Pan Am played a key role. Psychologically, El Alamein was seen by both the Americans and British as the first MAJOR sign that we really WERE going to win the war.

The fourth in the Clipper Series were the Boeing 314 planes - which included both the Yankee and Dixie Clippers -and they were the the last of the line, whose luxurious flights now included seats that could be turned into sleeping accommodations. They were only briefly used for their intended commercial purpose. While still in the final stages of completion, three of the six models on order - in 1940 - were requested by the British government - to ferry officials back and forth across the Atlantic. Both the US government and Pan Am had to agree to this sale - did - and two were sold to the British, with an option to purchase the

third. This decision also required Pan Am to close down it Lisbon - Portugal service.

The B 314's mission was to transport important officials to Africa and other destinations. They flew unarmed and unescorted through enemy territory with only .38 calibre pistols stored on the flight deck.

Pan Am would not only partner with the US government in war, but share losses as well. The Hong Kong Clipper had stopped for refueling in Pearl harbor on the 7th of December and took a direct hit.

The Philippine Clipper (a Martin 130) - also at Pearl Harbor - managed to escape, but two years later, on the 30th of January, at Clear Lake, CA, with 19 aboard its luck finally ran out.

The China Clipper (another Martin 130) made it almost to the end of the war, but came down at too steep an angle in the Port of Spain, Trinidad and Tobago On the 8th of January 1945, with few survivors.

Both Roosevelt and Churchill used the Clippers for their hops across the pond during the war - Roosevelt most famously celebrating his 61st birthday on the 31st of January in 1943 aboard the Dixie Clipper (B 314)- en route from Trinidad to Miami.

For what seemed just one brief, shining moment, the Pan Am Clippers evoked romance, adventure and intrigue - becoming an integral part of the American Dream. One would have thought, from all of the diverse roles they played and the ground they covered, that they were many in number. The total was a mere 26.

Initially they provided a service that no other craft of its time could - the ability to land on water in desirable areas of the world that did not have runways of sufficient size for regular aircraft. The Clippers briefly (before the second world war) were able to span the Atlantic and Pacific, bringing passengers across these oversized ponds in record time.

Even at the time that the Clippers were enjoying their moment in the sun, rapid development of regular aircraft, with more powerful engines and more aerodynamic in design, were simultaneously at the ready - to sound the death knell for these innovative flying boats. Had there been no WW II, their days would have still been numbered. In the war - however - the Clippers provided invaluable services to the allies, both in terms of ferrying important people between continents and tactical support for troops in the field - notably in Africa.

Of the 26 Pam Am Clippers, not a single one survived the war intact. BUT, before deciding that there is - therefore - no reason to go on living - we can quickly SAVE ourselves, consoled by the fact that at the Foynes Flying Boat and Maritime Museum in Ireland, there is an exact replica of the Yankee Clipper. The Yankee Clipper (a B 314) - we will remember - is the one christened by Eleanor Roosevelt that made the first Atlantic crossing. It is appropriate then, one might argue, that the Yankee Clipper (although just a replica) is the last man standing.

As a footnote - although there were others, Pan Am was the first to fly another innovative aircraft - from 1947 until 1963 -The Stratocruisers, the largest commercial air carriers of their time - with the luxury of sleeping compartments during trans Atlantic flights.