

**“Historical Perception -vs- Reality: The Story of Joseph B. Duckworth’s 1943 Hurricane Flights”**



The History of Hurricane Hunting, and particularly the aircraft flown into hurricanes, typhoons and tropical cyclones for reconnaissance, surveillance and research purposes (*since WWII*), as presented in the universal public domain, is woefully incorrect, misconstrued and in most cases suffers from a lack of pertinent archival information that has resisted review or has yet to make its way to public view. The true history of Hurricane Hunting is much more comprehensive and equally convoluted subject than is currently presented in the public domain.

**Note:** *the universal public domain, referred to here as that historical information contained within current and archival newspapers, magazines, books and internet webpages as well as (now) archival meteorological literature.*

A classic example of this “*perception -vs- reality*” of the history of hurricane hunting is the story of US Army Air Force Lt. Col. Joseph B. Duckworth, commander of the Bryan Army Airfield and it’s Instrument [*Flight*] Training Instructors School, and the historical perception that hurricane flights flown by Duckworth on 27 July 1943 were the first (*ever*) flights flown into a hurricane and that these flights prompted the US Military to establish official hurricane reconnaissance flights the following year in 1944. And additionally, that Duckworth’s motivation to fly these hurricane flights in 1943 were precipitated by a “*bar-room bet*” or “*dare*” instigated by British RAF pilots undergoing training at Duckworth’s instrument flight school.



LCol. Duckworth (circa 1942) as the Command Training Director at the US AAF's Pilot Flight School (twin-engine – specialized) at Columbus Army Airfield near Columbus, Mississippi US AAF / USAF photo

The reality (of this history) that surrounds this perceived historical event is that: Duckworth's 1943 flights into the so-called Surprise Hurricane, in the Gulf of Mexico, were not the first to have ever been flown into a hurricane or into a hurricane's eye, given that there were at least six other people who claim to have flown into hurricanes between 1920-1942; that Duckworth's flights into the hurricane of 27 July 1943 went on to initiate official hurricane reconnaissance flights in the Atlantic in 1944, is inaccurate because official hurricane reconnaissance flights in the Atlantic were established weeks earlier on 14 July 1943 – that encompassed the commencement of the US Weather Bureau's "Joint Hurricane Warning Center" (jointly with the US Navy and US Army Air Force) that directed hurricane reconnaissance flights into Atlantic hurricanes during WWII. Additionally, that the story elements of the Duckworth flights regarding the motivation of the flights precipitated on a "a bet or dare" with British RAF pilots is incorrect, and this component of the story borders on "mythology" and is more than likely a fabrication.

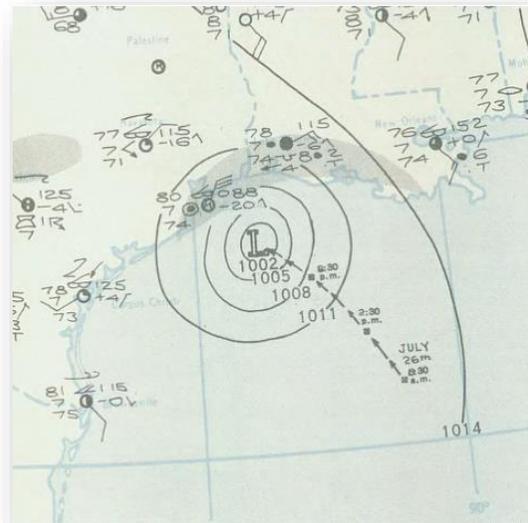
### The Duckworth Flight(s) 1943

The public domain (perceived) version of the Duckworth hurricane flight story begins in late July 1943, as a tropical depression forms in the Gulf of Mexico, off the Louisiana coast, and tracks

westward towards Texas. The depression quickly intensified into a hurricane.

Although detected by forecasters at the New Orleans Weather Bureau office solely from upper air observation, wartime censorship (due to German U-Boat activity in the Gulf of Mexico) prevented the reporting of the storm on radio broadcasts. Newspapers, on the morning of the 27th, carried notices of the storm in the Gulf and its potential approach to Texas, but contained no information on the intensity of the storm, or any specific landfall predictions or warnings.

Little known to all in the area, this so called "Surprise Hurricane" (25-29 July 1943) was packing winds in excess of 80 mph (130 km/h) and was pressing westward towards Galveston Bay at 10 mph (16 km/h). At noon on the 27th, the hurricane came ashore in Texas with winds of 100 mph (161 km/h).



The surface weather chart for the surprise hurricane of July 1943. Courtesy NOAA / Central Library

Duckworth, having seen the looming clouds on the horizon to the southeast, knew what they meant. He quickly seized on the opportunity to provide a training lesson for his students and announced that he could fly into the hurricane and return strictly on instruments.

Established only a few months before (in March 1943) the mission of Duckworth's school was to train instrument flying to instructor pilots, that would then go on to various other flight training

commands or combat squadrons in the different theaters of war, to teach instrument flying to other AAF pilots.

Duckworth was the leading expert on instrument flying for the US AAF at this time and had just spent most of the previous year (1942) writing the US AAF's technical regulations and training documents (*procedures manual and training curriculum for instrument flying*) at the behest of General Henry "Hap" Arnold (*Chief of the US Army Air Force*) to quickly teach pilots to successfully fly in severe weather conditions safely.

**Note:** at age 25, Duckworth joined the US Army Air Corps as a flying cadet in 1927. He was given primary & basic flight training at Brooks Field and advanced flight training at Kelly Field – both within the San Antonio area of Texas. Upon graduation (in 1928) Duckworth accepted a US AAC reserve officers commission and embarked on a civilian flying career. Between 1928 – 1943, Duckworth amassed approximately 13,000 flying hours, mostly from his civilian employment positions as a flight instructor and commercial / transport pilot (flying passengers, airmail and cargo-freight) that involved night flying and flights into severe weather of all kinds – that provided Duckworth with an ever-developing understanding of "blind-flying" or what is now commonly referred to as instrument flying.

Apparently, according to the public domain version of hurricane hunting history, Duckworth was having trouble impressing the importance of instrument flying on some of his pilot instructor students – including British RAF pilot students, who were reported veterans of the "*Battle of Britain*" and who were particularly resistant to his assertions about weather flying. There are even public domain references that suggest that the RAF students scorned the attributes of their single-engine AT-6 Texan training aircraft and questioned the robustness of the aircraft. Given that North American AT-6 Texans were generally made of low-alloy steel and plywood materials, as Aluminum substitutes, due to wartime shortages.

As the story goes, a number of bets were bantered about, towards drinks at the officer's club, and Duckworth confident in his abilities in instrument flying gladly accepted any and all bets.

To help him navigate on the flight (*what would become his first flight into the storm*), Duckworth took along Navigator 2nd Lt. Ralph M. O'Hair. Duckworth and O'Hair took off and quickly climbed to 6000 feet (1829 m).



AT-6 Texas Trainer, like the one Duckworth used to fly into the Surprise hurricane of July 1943. Courtesy T6 Harvard Aviation

As the AT-6 approached the storm, now over mainland Texas and tracking towards Houston, dark clouds gathered around the aircraft and turbulence began to be experienced increasing as they flew on. Soon Duckworth was fighting severe up and down drafts with torrential rains pounding on the roof of the plexiglass canopy – flying at altitudes between 4000 feet (1219 m) and 9000 feet (2743 m) to avoid potential icing conditions. But just when they thought it would never stop, the darkness eased and they broke out into blinding sunshine, with towering cumulonimbus wall clouds that make up the hurricane's eye.

Determined to be approximately 10 miles across, Duckworth and O'Hair orbited within the eye. O'Hair calculated the storm's center and Duckworth radioed the storm's fixed position to the Houston Weather Bureau station. This vortex report (*perceived as one of the first*) identified the location of storm's center, which at this point was over land, because they could see the green countryside down below through the clear eye.

The storm itself came ashore over the Bolivar Peninsular, with second landfall 10 miles (16 kms) southwest of the settlement of Double Bayou, Texas. Moving inland, it subsequently reached Houston by mid-night with winds of 80 mph (130 km/h) and higher gusts to 113 mph (182 km/h). The storm caused severe damage to war production plants and the Humble oil Refinery,

where wind damage from a gust of 132 mph (212 km/h) was recorded. More than 19 local fatalities and hundreds of injuries were reported after the storm passed.



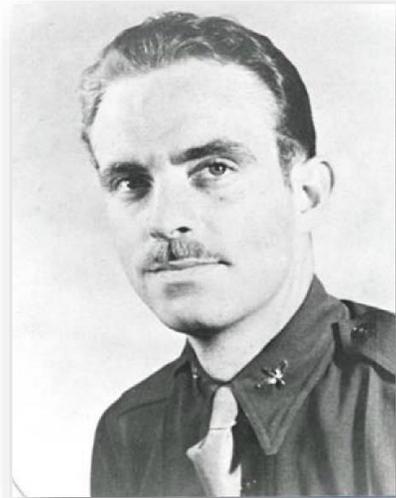
*AAF Navigator 2nd Lt. Ralph M. O'Hair, who flew on Duckworth's first flight into the July 1943 Surprise Hurricane public domain*

During their exiting of the eye, severe turbulence tossed the aircraft about, and at one point, flipped the AT-6 over on its back and spun it around. Duckworth recovered the aircraft quickly and continued on a course back to Bryan Field more than 100 miles away.

After their return to base, having followed signals from radio beacons put in place at Bryan Field as part of the instrument flying and IFR landing procedures training, discussions ensued with Duckworth and O'Hair relating their experience and observations. This prompted the base weather officer to say he wanted to see the inside of a hurricane. Thus, Lt. Col. Duckworth opted to make a second flight back into the storm, this time with Weather Officer, 1st Lt. William H. Jones-Burdick.

In the public domain, the first and this second flight into the storm have come to be labeled flights of fancy, flown on a lark, predicated on a bet or a dare in numerous public domain newspaper, magazine and internet articles and stories. The last flight into the storm with Lt. Jones – Burdick onboard has even been touted as a milestone in the history of aviation and weather

forecasting, as one of the first times that a trained meteorologist flew into a heart of hurricane to make observations, or that this was the very first



*Base Weather Officer, 1st Lt. William H. Jones-Burdick that flew on Duckworth's second flight into the storm. public domain*

hurricane research flight flown in hurricane history.

This perception is based upon the fact that during his flight into the storm, Jones-Burdick utilizing the aircraft's in-flight thermometer, made a temperature survey throughout the depth of the storm and found tangible proof that the eye of the hurricane was at least 25 degrees warmer than previously thought. He additionally recorded observations of the hurricane's structure, that was subsequently captured in his written meteorological report of the hurricane flight made for his higher meteorological command – which happened to be the 3rd Weather Squadron / Region at Kelly Field, in San Antonio, Texas. The report was subsequently forwarded on to the AAF's weather service headquarters in Washington DC, located at Bolling Field, who in turn sent copies out to all major weather squadron's headquarters and associate weather stations. (*i.e. the internet copy of Jones-Burdick's hurricane flight report associated with the 8th Weather Squadron, headquartered at Presque Isle Army Airfield [Maine] that commanded a chain of weather stations strung out along the Arctic Northern Air Ferry Route, across the North Atlantic*).

**Note:** the Jones-Burdick hurricane (thermal) survey conducted during the second Duckworth Flight on 27 July 1943, as outlined in his meteorological report on the flight submitted to his higher meteorological command, was later disproved and or discredited once official hurricane reconnaissance aircraft began flying into storms in 1943. There is evidence to suggest that the inaccurate temperature readings gathered by Jones-Burdick was owing to a faulty airborne thermometer that was placed too close to the aircraft's engine exhaust plume.

Thus, it has been generally excepted, within the public domain, that Duckworth's flights into this 1943 hurricane were the first recorded flight(s) into a hurricane's "eye." It has also been universally accepted that these hurricane flights by Duckworth, prompted the US AAF to except that aircraft could be flown into hurricanes and survive, and established official hurricane reconnaissance flights in the Atlantic during the 1944 hurricane season. Additionally, that the public domain version of the Duckworth flights further promotes the flights themselves were predicated upon "a bet" between Duckworth and his British pilot students.

Because of these historical perceptions, Duckworth is now internationally acknowledged (*thanks to the internet*) as having been the first person to have ever flown into a hurricane, with his flights made in July 1943. However, the reality of this situation is that the Duckworth story is not historically accurate!

There is other historical evidence that persist to suggest that Duckworth's July 1943 hurricane flights were preceded by a number of other claims of hurricane flights going back to the 1920s. The reality is that at least six people, including a woman, are historically known to have flown into hurricanes well before Duckworth's 1943 flights.

The earliest of these known flights into a hurricane was made by another Army pilot in October 1920.

#### *Lt. Charles B. Austin Flight (1920)*



US Army Air Service pilot 1st Lt. Charles B. Austin  
(circa 1920) public domain

In October 1920, one of the very first flights into a tropical cyclone occurred, when a young Army aviator survived an encounter with an unknown tropical storm or hurricane in the middle of the Caribbean.

In the golden age of manned flight, just after the Great War (*WWI*) when aviation feats were still the stuff of newspaper headlines, the US Army Air Services tried to expand the parameters of military aviation. With General Headquarters approval, a number of advanced flying operations and experimental flights were conducted by the Army Air Services.

One experimental flight comprised a long-distance sojourn between the US Army's France Field (*Panama, Canal Zone*) and Washington DC, via stops in Kingston, (*Jamaica*); Havana, (*Cuba*); Carlstrom Field, (*Florida*); Southern Field (*Georgia*); Pope Field, (*Fayetteville, North Carolina*) and on to Langley Field, Virginia. Army pilot "1st Lt. Charles B. Austin" was subsequently authorized to make the flight, and planned the attempt for 6 October 1920, in a De Havilland DH-4B single-engine, open cockpit, bi-plane. Lt. Austin personally supervised the modification of his De Havilland DH-4B bi-plane, stripping it down to the frame and installing extra fuel tanks, with 225 gals of additional fuel and 20 gals of engine oil - an additional 1500 pounds added to the overall weight of the aircraft.

It was fairly sunny on the morning of 6th October (1920), when Lt. Austin set out on his long-distance flight across the Caribbean. *(there didn't seem to be much planned weather forecasting established for this flight)* Within the 2 months before the flight, weather conditions had been variable, with the last 5-days before the flight being fair. That morning, there was a barely perceptible dark cloudbank on the horizon to the north and northwest.

However, more than two hours into the flight out of Panama, the cloudbank on the horizon now loomed nearer and darker with every mile. Two more hours on and nearly 500 miles (805 kms) out into the Caribbean from Panama, on the first leg of the proposed record setting flight, squalls materialized in Austin's flight path ahead. Carrying onwards Austin's plane was enveloped by the storm. Despite the heavy rain (*seemingly walls of water*), strong winds and turbulence, flying in an open-cockpit airplane, Austin continued on, looking for a break in the clouds and the lessening of bands of heavy winds, walls of torrential rain and significant turbulence, to reach Jamaica.

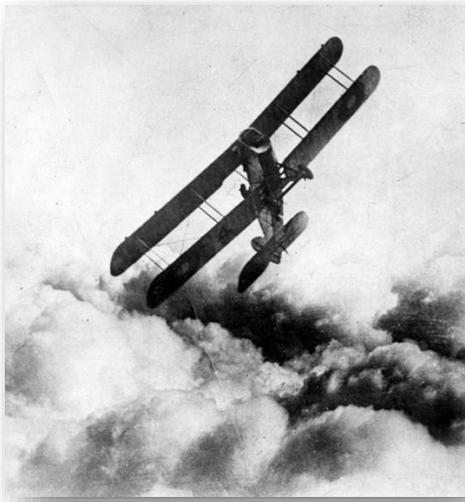
**Note:** *according to analysis of Austin's (documented) observations, he evidently passed through the rainbands of a severe tropical storm and / or hurricane. His descriptions of the wave tops chopped off by the wind is indicative of a strong hurricane.*



*Dark and ominous rainbands (aka: outer convective bands or feeder bands) like these, were noted in Austin's observations of his flight into a nascent tropical storm or hurricane. Courtesy NOAA / Central Library*

It wasn't until his propeller became damaged by the storm, that he actually feared for his life and envisioned ditching into the sea. His wooden propeller was covered with a doped fabric material which began to come loose and throw his propeller out of balance, causing severe vibrations and shaking of the plane's engine in its mounts. Only then did he decide to turn back for Panama. For the next three hours, Austin battled the storm, that had moved in behind him, in a damaged plane trying to get back to land. At around 4pm, Austin popped out of the storm's clouds into relatively clear skies and noticed offshore islands that he recognized as being within 120 miles (193 kms) of his base at France Field. Ultimately, he had made it back to base and survived the ordeal with the storm.

Although there is no record of a tropical cyclone in this area during the 1920 hurricane season, in the official Hurricane Database (HURDAT) at the National Hurricane Center, it doesn't mean there wasn't a storm there. With few reporting surface weather stations in the area at the time, and only a few ship reports during this timeframe, the storm encountered by Lt. Austin could have been an unknown errant hurricane that evaded detection by the *(then)* early Weather Bureau hurricane warning system.



An open-cockpit, bi-wing De Haviland DH-4B like Austin's, breaks out of ominous storm clouds (circa 1920) public domain

All totaled, Austin had been in the air for 10 ½ hours. Although his Commanding Officer (Brigadier General William L. "Billy" Mitchell) said that this flight would be tried again, it wasn't.

Later in April 1921, Lt. Austin was reassigned to Langley Field, Virginia where he served as a flight instructor at the Army Air Services (fighter) Tactical School there at Langley. Austin later died there in July 1928, from complications due to surgery after an acute illness.

#### Other Hurricane Flights

During the latter 1920s and early 1930s, the air passenger transport industry literally took-off and particularly in the Caribbean and South America, where Pan American Airways reigning supreme. Pan Am's aviation achievements are legendary, and its historical (archival) records contain a number of incidents whereby Pan Am aircraft came in close contact with tropical storms and hurricanes.

One such incident occurred in December 1929. On the 29th, a scheduled Sikorsky S-38 Flying Boat (Clipper) flight from South America to Miami ran into an undocumented tropical storm. Despite efforts by the Pam Am crew to get out of the storm, subsequent damage to the aircraft forced them down into the sea near St. Thomas in the Virgin Islands. The pilot of the S-38 Flying Duck,

of which 25 were acquired by Pan Am during this time, was forced to land the aircraft on the rolling sea. The crew, 8 passengers and the mail were all subsequently rescued by a passing ship.



A Pan Am S-38 Duck flying boat, making a water Landing, (circa 1930) Florida State Archives

Later, during the Santo Domingo Hurricane of September 1930 (29 August – 17 September 1930), a Pan Am Clipper (another S-38 Duck) flying boat encountered a hurricane on a flight between Puerto Rico and Port-au Prince (Haiti) - en route from Brazil to Miami. On 6 September, the Pan Am flying clipper encountered the storm suddenly and unexpected. The aircraft was swept up into the storm and carried along by winds of 160 mph (258 km/h), and experienced severe turbulence with considerable up and down drafts.

The Pan Am pilots, having found themselves near Santo Domingo (Dominican Republic) and subsequently chose to land on the sea, before the flying boat had a chance to tear itself apart. The Clipper landed offshore, and the pilots managed to slowly taxi towards the shore, putting in at the small town of Barahona, just 15 miles down the coast from Santo Domingo city.



Victim of a Caribbean hurricane (circa 1930) Courtesy Larry Weirather collection

Although not intentionally flown into these storms, these hurricane encounters were a symptom of the hazards of early aviation in the Caribbean, with the Pan Am pilots able to fly into these storms and come out the other side – to tell the tales about it.

*Dot Lemon Flight (1932 / 1937 ?)*

The very first intentional flight into a hurricane may actually have occurred in April 1932 and it's claimed by a woman.



*Dot Lemon, air racer, (circa late 1940 / early 1950s) public domain*

Dorothy “Dot” Culver Whitney [Martin] Brink Lemon (generally known as “Dot Lemon”) was an early woman pilot of some notoriety in the 1930s and 1950s, and had a long career in aviation that included co-running an airfield in the late 1930s and early 1940s, was an instructor pilot during the same time period and later an Air Racer in the early 1950s. However, this doesn't begin to demonstrate the unique and adventurous life that Dot Lemon lived over the decades between 1907-1986.

With regards to the subject at hand, Dot Lemon publicly claimed to have flown into a hurricane off the east coast of Florida on 5 April 1932, alone, in a single-engine Stinson Reliant SR-1 airplane,

penetrating the storm's center to specifically gather weather data for the Weather Bureau's hurricane forecast office in Jacksonville.

However, a cursory review of the facts associated with Dot's hurricane flight reveals that there was no hurricane, tropical storm or disturbance along the Florida coast on that date. Additionally, the Stinson Reliant SR-1 model aircraft, claimed to have been used on the flight in 1932, did not really come on the market until 1933-34 and then not in significant numbers until WWII. The Reliant, at the time in 1933-34, was considered an expensive aircraft for private pilots (between \$10,000– \$18,000 in 1933 US dollars / equivalent to \$221,158.00 - \$398,083.00 in 2022 US dollars) and was marketed strictly to large commercial companies as a corporate executive transport aircraft.



*A Stinson Reliant SR-1, like the one Dot claimed to have flown into a hurricane with, in April 1932. (circa 1940s) public domain*

Additionally, the US Weather Bureau's hurricane warning service, forecast office, was located in Washington, DC in 1932 and didn't move to Jacksonville Florida, as a regional hurricane forecasting center, until 1935.

Thus, these and other discrepancies seriously calls into question whether Dot Lemon could have conceivably flown a hurricane flight in 1932.

However, a more comprehensive inquiry into the life of Dot Lemon, regarding this issue, has subsequently stirred up some evidence to suggest that Dot may have actually conducted her claimed hurricane flight in 1937.

It was in 1937 that Dot seems to have been involved in conducting “APOBS” air observations (AirPlane upper air OBServations) for US

Government weather services; that might have afforded her an opportunity by which to have an encountered with a tropical cyclone. At the time, Dot was co-managing her husband's airfield (*William Richmond "Dick" Lemon*) and his flying service company in West Palm Beach, Florida. Known as Belvedere Field and Lemon Flight Services, this airfield was just a few miles north from what would become the US AAF's Morrison Army Airfield and much later still, the Palm Beach International Airport.



*Belvedere Field, West Palm Beach, Florida, the location of Lemon Flight Services (circa 1937-38)*  
public domain

It's interesting to note, that under the pre-war operations of Lemon Flight Services, Dick Lemon's stable of aircraft included an "early" model version of a Stinson aircraft that would later be developed into the Reliant SR-1.

Additionally, although there are no hurricanes or tropical storms mentioned in National Hurricane Center (*NHC*) records or the HRD HURDAT for April or May 1937, there are other National Weather Service records for this period of 1937 that suggest a tropical disturbance did track up along the east coast of Florida and up along the mid-Atlantic states – that she could have flown on and reported.

Another interesting aspect of Dot's personal history, that lends itself to the possibility that Dot had (*potentially*) flown a hurricane in 1937, encompasses her application towards membership in the women's aviation organization

known as the "99s". Its in this 99s application, where Dot, for the first-time, claims to have flown into a hurricane in 1932. Moreover, a high-resolution scan of this application, which was filled out in pencil, potentially reveals evidence that can be seen, whereby she seemingly changed the date of her flight from 1937 to 1932. *So, the question begs itself, why did she change the date (?)*



*Belvedere airfield and Lemon Flight Services (circa 1937-38)*  
public domain

**Note:** later in 1963, Dot again claimed to have flown into a hurricane (in 1932) in author notes associated with her metaphorical book entitled "One One: A Story of the Life, Death, and the Resurrection of an Airplane".

The full and incredible life of Dot Lemon is fascinating, mysterious and a conundrum to those historians trying to document and define it. Unfortunately, there is not enough space in this historical treatise to begin to unravel it all.

However, with regards to her hurricane flight, there is currently no independently gathered record or evidence, beyond references traced back to Dot's own claims, that she ever flew a hurricane flight in 1932. But if it could be independently confirmed definitively, it would become the first ever intentional flight into a hurricane in history. Even if it were to be worked out and be confirmed that she flew her hurricane flight in 1937, it would still be a noteworthy achievement, as one of the first flights to have ever been flown into a hurricane and the first conducted by a woman aviator.

*Capt. Len Povey Flight (1935)*

Another early (*confirmed*) hurricane flight that was intentionally flown on a hurricane occurred in September 1935, when Captain Leonard J. “Len” Povey scouted a hurricane in the Florida Straits for the Cuban weather service.

Len Povey is another one of those fascinating early aviators that just happened to have been associated with early flights into hurricanes. Povey was born in Nashua, New Hampshire in February 1904. Being so close to the Canadian Border, at age 14, Povey tried to join the Royal Canadian Air Force (*twice*) with no joy. He later turned to Barnstorming in the 1920s, after having received US Army Air Service pilot training at Brooks Field, Texas between 1922-24. Povey later became famous for having develop a radical flight maneuver known as the “*Cuban 8*” during Barnstorming and airplane racing competitions.



*Povey with his Curtiss P-6S Hawk II open cockpit, bi-wing pursuit plane during his time in Cuba (circa 1934) public domain*

Povey subsequently garnered the attention of the Cuban Army Air Force (*Fuezas Aéreas Ejército de Cuba*), who asked him to become a flight instructor pilot to help rebuild the Cuban Army Air Force – that at the time consisted of 5-6 airplanes and a cadre of barely trained pilots. Povey accepted the job and under contract to the Cuban Government, went to Havana to reorganize and train the Cuban AAF, between 1934-1938.

In early September 1935, the Cuban weather service was tracking a suspected hurricane (*on synoptic surface charts*) in the Caribbean and was expecting for the storm to make landfall in eastern Cuba sometime late on the evening of 1 September. But by the morning of the 2nd no storm materialized. The Cuban weather service (*at the National Observatory*) was concerned as to where the hurricane had gone and subsequent discussions finally centered on getting the Air Force to send up an airplane to find it. Povey, being the most experience pilot, volunteered and

jumped into his Curtiss P-6S Hawk II (*an open cockpit, bi-wing pursuit plane*) and flew out in search of the storm.

**Note:** *some public domain and meteorological literary references suggest that the Cuban Army or Air Force meteorologists sent Poverty out to look for the storm. These references would be incorrect! The Cuban weather services, headquartered at the National Observatory, in the Casablanca section of Havana, was actually comprised of meteorologists from the Constitutional Navy of Cuba, at the time of the 1935 Labor Day Hurricane. The Cuban Constitutional Navy ran the Cuban weather services until the Cuban Revolution of 1959.*

By mid-afternoon, Povey located the hurricane in the Florida Straits. He made a reconnoiter around the storm and was able to confirm that the hurricane had turned northward sometime during the night or early morning and was heading directly for the Florida Keys.

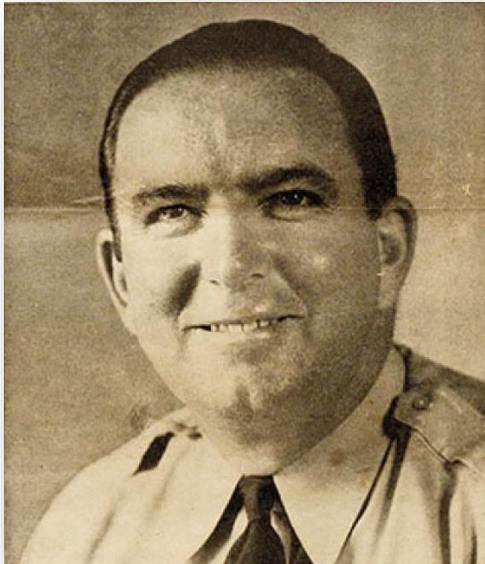
By his own admission, in a later (*written*) report made to the Cuban National Observatory, Povey flew in close proximity to the disturbance within the outer fringes of the storm and noticed details associated with a very tight intense hurricane. He never actually penetrated the eye of the storm however, due in part to the fact that he was flying in an open-cockpit aircraft.

With his hurricane flight behind him, Povey continued training the cadre of Cuban pilots, until 1938. This cadre of Povey-trained Cuban pilots would go on to form the core of the Cuban Army Air Force flight training school in Cuba, from which most future Cuban military pilots would be trained.

After returning to the United States, and later with America's entry into WWII in 1941, Povey

became the Director & Vice President of training operations for Embry-Riddle flight training schools. Embry-Riddle had secured US Government and Allied contracts to train military pilot cadets between 1941-45. Embry (*an old Barnstorming buddy of Povey's*) put him in charge of four pilot training airfields in the southern US (3 in Florida and 1 later replacement training base in Tennessee) training cadet pilots for US Army Air Forces and the British RAF.

in Florida and another flight training contracted agency in Texas.



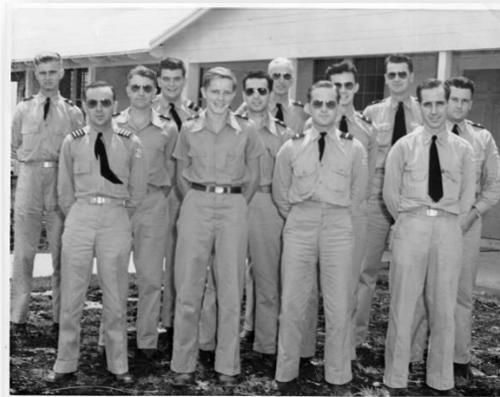
Povey as Director and Vice President of training operations for Embry-Riddle flight training schools during WWII. (circa 1942)  
Courtesy of Embry-Riddle Aeronautical University.

**Note:** not previously mentioned, Dot Lemon and her husband, Dick "Doc" Lemon (as his friends called him), lost Lemon Flight Services when their Belvedere Airfield was expropriated by the US AAF as part of the pre-WWII expansion of Morrison Field in November 1941. Under US Army airfield regulations, no civilian airfields within a 6-mile radius of a military airfield were allowed to operate, suspending all civilian flight activity within that area. By January 1942, after the United States entry into the war, all private, civilian, flying operations in the area were transferred to the new Palm Beach County Airport at Lantana – south of WPB. Essentially forced out of business, Doc Lemon became a registered civilian flight instructor supporting commercial flight training contracts for the AAF and British RAF cadet flight training programs, including at one of Povey's Embry-Riddle flight training school



Povey with several cadet pilots at the Riddle-Riddle's Carlstrom Field (circa 1942-43)  
Courtesy of Embry-Riddle Aeronautical University.

Dot, prevented from being a flight instructor herself during the war, stayed near Dick in Florida and later got work as a secretary at another flight training school in Oklahoma City when Dick transferred to Texas. She would often travel to Dick's training bases for parties and dances on the weekends. It's very plausible that Dot may have met Povey there in Florida and the story of his hurricane flight might have come up at a cocktail party – later prompting Dot to change the date of her own (potential) hurricane flight, from 1937 to 1932, just to make her flight the first. This sort of thing, arbitrarily changing details of her life to suit her internal need to be different and often times "first" was not an uncommon trait for Dot. One of which has confounded many historians trying to sort out the reality of the enigma that was Dot Lemon.



Contracted civilian flight instructors assigned to BFTS No.5, Riddle Field, Clewiston, Florida. (circa 1943)

Relatively unknown within the public domain, and presented here potentially for the first time, is that there was another pilot that intentionally flew into the 1935 Labor Day Hurricane, after Povey, that “*did*” penetrate the storm’s eye.

#### *Capt. Tommy Tomlinson Flight (1935)*

Just a few days after Povey’s flight into the 1935 Labor Day Hurricane, on September 6th, another famed American aviator named (*Captain*) Daniel Webb “*Tommy*” Tomlinson flew into this hurricane.



*TWA Captain Daniel Webb “Tommy” Tomlinson, who flew into the 1935 hurricane as part of ongoing corporate meteorological research (circa 1935)  
Courtesy of TWA and its associate TWA Museum*

Tomlinson had been an early pre-World War One (*WWI*) Naval Aviator, turned Barnstormer, before becoming the chief research test pilot with Transcontinental and Western Airways (*TWA*) at the time of his hurricane flight in 1935.

Beginning in 1930, TWA established a meteorological department manned by professional meteorologists, to conduct experiments on weather related phenomenon associated with flying limitations of the commercial aviation industry. Various weather experiments conducted between 1930-40 comprised studies into atmospheric static interference of radio communications, research into

aircraft icing conditions and how to counter icing effects on aircraft operations, a study of thunderstorms affecting commercial flight – that led to the TWA concept of “*over weather flying*” and the development of high-altitude (*stratospheric*) aircraft capable of operating into the stratosphere, as a means to avoid limiting weather conditions.

But it was under an investigation of aircraft icing that Tomlinson conducted his flight into the 1935 hurricane.

Under this particular weather research project, Tomlinson was exploring the limits of aircraft icing to understand specifically when icing conditions occur (*what altitudes ?*) and to test a number of (*then early*) de-icing technologies, including Goodyear’s development of inflatable de-icing “*boots*” (*incorporated into the wing leading edges, horizontal stabilizers and vertical fins of an airplane*) as well as alcohol-mixed de-icing fluids developed to keep propeller-blades ice free. The project also mapped icing (*freezing*) levels in clouds between 25,000 feet (7620 m) and 27,000 feet (8230 m).

Since the summer of 1935, TWA had also been conducting weather research projects to explore aspects of flying in adverse weather conditions (*such as severe mid-western thunderstorms*) as a means to develop procedures and or techniques for flying through or over such adverse weather – that also included the demonstration of pioneering techniques for blind (*or instrument*) flying for the rest of the fledgling airline industry and the general flying public at large.

In order to conduct airborne meteorological research, TWA developed several research flying laboratories including one based on the original DC-1 prototype transport aircraft. Acquired by TWA in 1933 as the Douglass Commercial (*DC*) transport prototype #1, which began the DC-2 / DC-3 series of passenger and military transports aircraft that became a mainstay for the early American airline industry and WWII military transport operations around the world. The DC-1 prototype (# X-233Y) was modified into meteorological research flying laboratory (*test*) aircraft by TWA and was subsequently used to fly into the 1935 Labor Day storm.



*The TWA DC-1 flown by Captain Tommy Tomlinson into the 1935 Labor Day Hurricane*

*public domain*

Tomlinson started developing a flight plan, once he became aware of the storm quickly tracking up through the mid-Atlantic States (*having previously struck the Florida Keys and mainland Florida*) that would have had them intercept the main expanse of the storm near New York City. However, by September 4th, the hurricane had lost strength and was downgraded to a tropical storm, with the area of the storm having increased in size - expanding gale force winds out several hundred miles from the center in all directions. Subsequently the storm tracked through the Carolinas into Virginia on the 5th, and by the early morning of the 6th, the storm passed seaward over Cape Henry (*at the mouth of the Chesapeake Bay*) back into the Atlantic, re-intensifying into a hurricane over the warm waters of the Gulf Stream later that morning.

It was during this period of re-intensification (*over the warm waters of the Gulf Stream*) that Tomlinson and his TWA research flight crew flew into this storm. Having seen the domed top of the storm towards the southeast from 27,000 feet (8230 m), sometime after departing Kansas City, Tomlinson changed his north-easterly heading more towards the east to intercept the storm. Later, upon approach to the storm from the west-southwest, Tomlinson steered the DC-1 into the environment of the outer fringes of the storm. Probing deeper into the storm, through the weak center of the eye, and finding little or no icing conditions at 27,000 feet (8230 m), Tomlinson turned the research plane towards the north and descended to 25,000 feet (7620 m). Once at



*TWA DC-1 Meteorological flying laboratory  
courtesy of Santa Monica Public Library*

25,000 feet (7620 m), Tomlinson and his crew encountered severe turbulence and heavy precipitation. After a period of turbulent shaking and blinding torrential rain (*and obviously no icing conditions*) Tomlinson was concerned about the integrity of the DC-1 airframe in such turbulent conditions and subsequently decided to abandon the flight test weather mission and seek out the nearest airfield for an immediate landing.



Captain Tommy Tomlinson public domain

Knowing that his initial (*planned*) recovery airfield was towards the north (*at Newark, New Jersey*), Tomlinson maneuvered the DC-1 through the hurricane conditions as best he could (*on instruments*) to lessen the strain on the aircraft's airframe structure. Still within the environment of the storm, the decent and approach to Newark was conducted in severe conditions with ceiling and visibility below minimums for landing. As Tomlinson touched down, it became instantly apparent that the airport was flooded from torrential rainfall, that at one point saw between 2-3 inches (50.8 – 76.2 mm) of rain fall within 1-hour time span.

**Note:** *in fact, the highest rainfall amounts seen during the entire track of the Labor Day Hurricane occurred in Maryland and New Jersey. Between 17.7 inches (420 mm) in Maryland and 13.4 inches (340 mm) in nearby Atlantic City, New Jersey.*

In the end, this hurricane flight and other TWA meteorological research missions lead to the development of procedures to maintain steady altitudes, a steady angle of attack and consistent air speeds (*at speeds 25 % less than normal cursing speeds*) when flying into severe weather.

Again, not well understood within the public domain and the perceived history of hurricane hunters and hurricane hunting, this meteorological research flight into a hurricane would not be the last time TWA aircraft would fly into hurricanes on meteorological research projects.

#### *Maj. James B. Baker Flight (1942)*

In mid-1942, a US AAF Pilot and Meteorologist named "*James B. Baker*" is said to have flown into a hurricane off the coast of Puerto Rico.



Major James B. Baker (circa 1945)  
Public domain

In June 1942, (*then*) Capt. James Baker was the Commanding Officer of the 6th Weather Squadron, headquartered in Natal Brazil. In this position, Baker and his staff were assigned with the establishment of a series of weather stations along the northern coast (*and eastern extremes*) of South America, in support of the US Military's Southern Air Ferry Route through the Caribbean – which saw the movement of tactical combat (*war*) planes and transport aircraft from the United States, across the Caribbean Sea and southern Atlantic Ocean to Africa, and on to the other major theaters of war around the world.

Baker was a trained fighter pilot (1936) whom in 1940 was accepted into the meteorology course at MIT. After graduation, Baker became the senior base weather officer at France Field (*Panama*) and subsequent the commanding officer of the 6th Weather Squadron. Sometime during that early summer of 1942, Baker was notified that he would be promoted to Regional Weather Control Officer for the 9th Weather Region's southern area (*also headquartered in Brazil*) – effective November – December 1942. In this capacity, Baker would oversee all weather stations and weather-related activities within the Caribbean and South Atlantic, and would frequently travel within this region checking weather stations and monitoring weather operations associated with the southern route.

Thus, sometime between 1 June and 6 July 1942, it was said that Baker (*now a Major*) apparently flew into a hurricane off the coast of Puerto Rico in a B-18 Bolo medium bomber. Baker is said to have recorded observations within the storm, including heavy torrential rain, severe turbulent winds and a well-defined eye. It's believed that the storm data collected during Baker's flight would have been communicated to all the various weather stations within the Caribbean and figured into any early AAF hurricane forecast for this storm.



*A US AAF B-18 Bolo Bomber, like the one said to have been flown by Major James Baker into a hurricane in 1942.  
public domain*

Unfortunately, despite Baker's background, the importance of the command positions he held (*and would hold*), his general character and subsequent career expertise as a weatherman (*that conceivably should give credence to his claim*), there are no official records or reports of this hurricane reconnaissance flight found in US AAF (USAF) weather service archives (*to date*) to confirm this flight.

Additionally, there is no record of a hurricane or tropical storm occurring during the specific period established for this flight – near Puerto Rico. There are records of a tropical storm / hurricane later in September 1942, whereby a storm passed to the south of Puerto Rico between 15-23 September 1942.

**Note:** *in July 1943, the 9th Weather Region's southern area was split-off and established as a stand-alone command designated the 22nd Weather Squadron / Region. Baker was promoted to Lt. Colonel and became the Commanding Officer of this unit, based in Natal, Brazil. By the fall of 1944, (full) Col. Baker was subsequently promoted to Commanding Officer of the 2nd Weather Reconnaissance Squadron (Medium). He formed this unit from scratch and eventually deployed it to the China, Burma, India (CBI)*

theater of operations later in 1944. Baker's squadron provided vital weather information supporting 10th Weather (Squadron) Region forecasts for B-29 bomb strikes on Japan from bases in China and later for the infamous transport flights over the "Hump" the Himalayan mountains between India and China. He would eventually assume the Commanding Officer duties of the 10th Weather Region in the latter months of the war.

It was while the commanding officer of the 2nd Weather Reconnaissance Squadron, that this squadron's B-25 weather reconnaissance aircraft began flying pioneering tropical cyclone reconnaissance flights out into the Bay of Bengal and the Indian Ocean, in support of the 10th Weather Region's storm warning and forecast center in India.

After the war, Baker moved up to the Headquarters Command of the US AAF's / USAF's Air Weather Service. As head of the USAF Air Weather Service's Reconnaissance Branch, Baker helped to develop and improve the Air Weather Service that conducted world-wide weather reconnaissance operations, typhoon and hurricane reconnaissance and special operations weather prediction capabilities. He eventually retired in a senior position of the 2102nd Air Weather Group, supporting the weather needs of the USAF's Tactical Air Command.

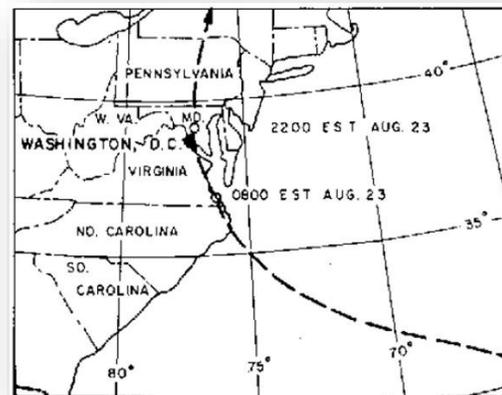
Given Baker's vast experience and being in a senior position to have conducted this early intentional, hurricane reconnaissance flight, there is again little substantive evidence, beyond unsubstantiated hearsay, to support confirmation of this hurricane flight. It is hoped that some concrete evidence will eventually avail itself to historians and resolve this outstanding issue.

Not to be remiss or to be historically inaccurate, there was one other early hurricane flight that occurred, ten years before the Duckworth's 1943 flights out of Bryan Field, Texas.

#### *The 1933 EATS Hurricane flight*

This earlier hurricane flight occurred over Washington D.C. during the 1933 Chesapeake-Potomac Hurricane (13-25 August 1933).

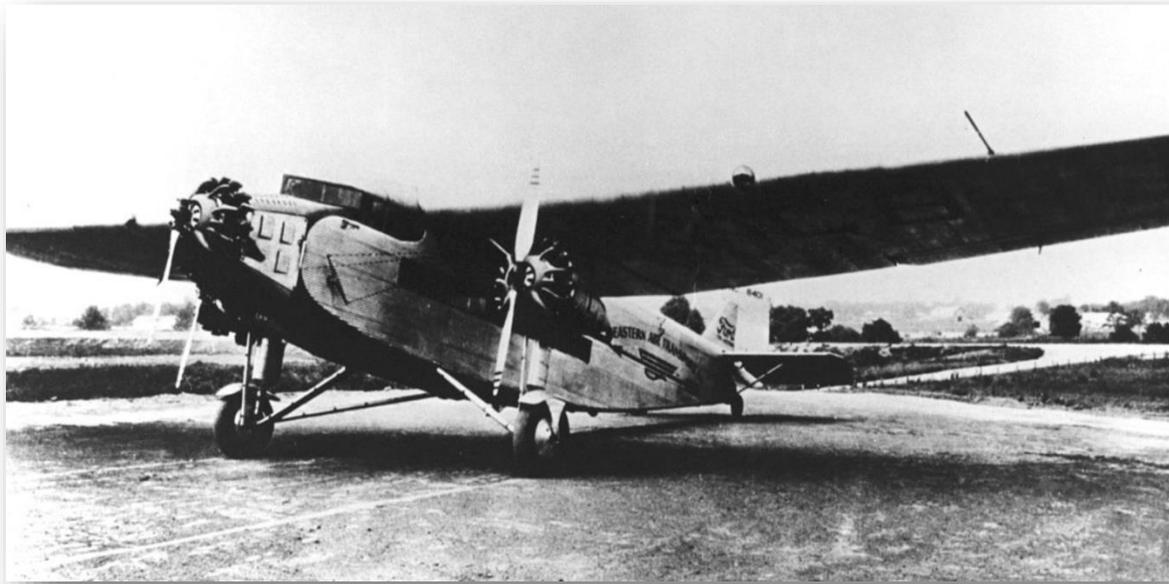
This hurricane, having originated in an area well to the east of the Windward Islands, was first detected about 900 miles east of Puerto Rico on 17 August 1933, via several ship reports. By the next afternoon, the storm had developed quickly into a full-fledged hurricane and sped off towards the west - then later towards the northeast. Nearing Bermuda, the storm tracked towards the west and took aim at the island, with the eye passing just southwest of its southern coast. The storm eventually made landfall along the US east coast, passing inland just to the east of Cape Hatteras in the early hours of August 23. By 9 am that morning, the eye was passing just south of Norfolk, near Virginia Beach, Virginia, tracking to pass directly over Washington, DC.



*Hurricane tracking chart for the 1933 Chesapeake-Potomac Hurricane (13-25 August 1933)  
Courtesy of the US Army Corp of Engineers*

During the hurricane's advance on Washington, an Eastern Air Transport Service (EATS) pilot, flying a Ford 5-AT-69 Tri-motor transport aircraft, on a long-range air-mail flight between New York and Florida / New Orleans, approached Washington, having flown most of the way from New York on instruments through heavy rain squalls and turbulent conditions. With routine stops in Washington (D.C.), Greensboro (North Carolina), Atlanta (Georgia) and Miami (Florida), the EATS pilot flew through this storm (*through the eye*) to make an instrument approach landing at the Washington-Hoover airport at the height of the storm - just before it closed due to flooding of upwards of 3 feet of water.

**Note:** *the Washington-Hoover Airfield no longer exists. It was located in Arlington (Virginia), near the 14th Street Bridge and the George Washington parkway, adjacent to the Potomac*



One of the EATS early Ford 5-AT Tri-motor transport aircraft, that was used to fly into the 1933 Chesapeake-Potomac Hurricane (circa 1933) public domain

River. Established in 1926, the Washington-Hoover Airport comprised 142 acres that was bisected by a highway (the Military Road supporting the Army's Fort Myer Military Reservation) This area of Arlington was once part of the larger family estate of Confederate General Robert E. Lee. The airport proper was located at the foot of Arlington's 14th Street Bridge in a low-lying area of the tidal flood plain (wetlands water shed) of the Potomac River and subject to frequent flooding. The Military Road, and the Washington-Hoover Airport, were flooded under approximately 3 feet of water at the height of the 1933 hurricane. The Washington-Hoover Airfield was on the property that is now occupied by the Pentagon.



The Washington-Hoover Airfield, when it was positioned along the Potomac River (circa 1935) Courtesy the Hagley Museum and Library (Delaware)

Accustomed to flying in all kinds of adverse weather and thunderstorms, the EATS pilot subsequently turned right-around and took off into the storm, after dropping off his local mail allotment, just before the airport was closed.

Although there are no records of the conditions the pilot encountered as he flew south from Washington, he did later arrive at Greensboro (North Carolina) and was welcomed by improving weather for his continued flight south to Florida.

What is very interesting about this particular hurricane flight, potentially the very first flight ever through the eye of a hurricane, is that the Eastern Air Transport pilot's name was **Joseph B. Duckworth!**



Lt. Col. Joseph B. Duckworth, pictured here with his AT-6 Texan; believed to have been taken shortly after his hurricane flights on 27 July 1943.  
Courtesy the Duckworth Family

**Joseph B. Duckworth (1902-1964)**

Joseph Battersby Duckworth was born in September 1902 in Savannah, Georgia.

After graduating from US Army Air Corps pilot training in 1928, accepting a reserve officer's commission, Duckworth joined the Ford Motor Company (or the Stout Metal Airplane Division of Ford to be precise) in Detroit, Michigan - initially as a flight test pilot for Ford's AT Tri-Motor series of passenger and (cargo) transport aircraft.



Early Ford Tri-Motor aircraft under testing (circa 1928) public domain

However, Duckworth was soon flying passengers (and the mail – later air freight) for Ford's new Air Transport Service - based on established air-mail routes between Detroit - Cleveland (Ohio); Detroit - Chicago (Illinois); and these destinations on to Buffalo (New York) in transport 4-AT Tri-motor planes.

Between 1929-30, having left Ford, Duckworth moved over to the Curtiss – Wright Flying Services as a flight instructor at Curtis-Wright's Goose Ile flying services facility, just down the river from Detroit, on Lake Erie.

**Note:** the Curtiss-Wright Flying Services' Flying School (division) provided all manner of pilot training courses (private pilot; commercial pilot; transport pilot – that encompassed night flying / blind flying training; and Seaplane pilot training) as well as ground maintenance and aircraft repair training.



Curtis-Wright Flying Services' flying school (division); pilot instructor and student. (Circa 1930) public domain

Goose Ile (la Goose ile or Big Island) had a small airport built in the early 1920s, that came under the control of Curtis-Wright in mid-1920s. This is where they trained seaplane pilots. By the mid-1930s, the US Navy took over this airfield as a seaplane base and for training Airship crews.

Duckworth was the sole flight instructor there at Goose Ile until 1930, when he moved on to Eastern Air Transport Service or EATS. In actuality, Duckworth was promoted by Curtis-Wright, and put in-charge of Curtis-Wright's new passenger operations at Candler Field in Atlanta, Georgia, in 1930. However, Candler Field's passenger business was already dominated by Eastern Air Transport Service. It wasn't long before Duckworth jumped ship over to EATS at Candler Field.

Duckworth flew for Eastern Air Transport Service (later Eastern Air Lines in 1934) between 1930-1940. He began as an air-mail pilot, flying open cockpit air-mail planes, before being promoted to Captain, flying passengers and air-mail cargo / transport flights in various aircraft, including Ford's 4-AT and 5-AT Tri-motor transport airplanes.

During this period, when most early US air transport services were bidding for transcontinental routes (or international routes in the case of Pan American Airways) EATS / EAL instead focused on specific inter-east coast routes, transporting northeastern American passengers back and forth to sunny Florida. EATS /EAL also acquired US Government air-mail contracts with air-routes up and down the US east coast that often corresponded with subsequent passenger routes.

With this company, Duckworth was a single-engine (open cockpit) night air-mail flyer, an air-mail cargo transport pilot, a multi-engine rated air freight transport (mostly flying air-mail cargo) pilot and passenger transport captain. It was during this decade with EATS / EAL that Duckworth accumulated more than 10,000 flight hours that encompassed blind flying (instrument flying) at night and in severe weather of all kinds. It was this period of his flight career that provided him the expertise that would aid his future endeavors in WWII and after.

With the war in Europe escalating in 1940, and the US Government / Military preparing for an eventual entry into the war, Duckworth (a US



An early EATS Ford Trimotor transport / cargo aircraft, which may have actually been flown by Duckworth during his decade with the company. courtesy Georgia State University archives

AAC reserve Captain) arbitrarily left his lucrative position with Eastern Air Lines and joined the US AAC as a regular commissioned officer – commissioned with the rank of Major. At this moment in time, Duckworth was 38-years old and had amassed approximately 12,000 flight hours.

**Note:** it is unknown why Duckworth left his high paying job at Eastern Airlines, for the relatively lower pay as a AAF pilot / officer. Duckworth was actually 1-year older than the maximum draft age requirement (18-37 years old) to enter the US Military – (thus) he was too old to be drafted. He was also too old to be assigned to a combat squadron and was never going to see front line aerial combat action when he joined. Had he stayed with Eastern Airlines, in his position as a senior airline pilot, he could have been assigned as a civilian pilot to the US AAF's Air Transport Command's Domestic Transport Division and flown all over the world as a contracted airline pilot with the AAF's ATC. Instead, he quit his Job with Eastern and joined the AAF directly.

So, with that many flight hours under his belt, it was not unexpected to find Duckworth assigned to the US AAF's (twin-engine, Specialized) Flight Training School at Columbus Army Airfield, near Columbus, Mississippi in 1942. Subsequently promoted to Lt. Colonel, Duckworth was the Command [flight] Training Director to the Commanding Officer of the School.



*Lt. Col. Duckworth) as the Command [flight] Training Director at the US AAF's ( twin - engine, specialized ) Pilot Training School at Columbus Army Airfield, near Columbus, Miss. (circa 1942) public domain*

*It was here, under his position as Training Director, that Duckworth took the initiative to reduce training [flight] accidents (one of the many issues plaguing US AAF flight operations) and created a review board (the Flying Evaluation Board) specifically to evaluate and (in some cases) re-teach assigned flight instructors at this command – in an effort to reduce flying student training accidents.*

**Note:** *between May and October 1942 under Duckworth's initiative, flying accidents at Columbus field were reduced by upwards of 44%.*

*There are public domain references (including an internet article, circa 2020) that suggests Duckworth also (independently) developed his signature flight instrument training concept there at Columbus and subsequently implemented elements of his instrument flying concept at Columbus, garnered the interest of upper echelons of the AAF Air Training Command. And through this recognition subsequently led to Duckworth being posted as the commander of a dedicated flight instrument instructor training school in Texas in 1943 via Air Training Command.*

*However, the reality of how Duckworth got to Bryan Field is a much different story. In fact, the truth of this issue surrounds General Henry "Hap" Arnold, Chief of the US Army Air Force. You see; Joe Duckworth and Hap Arnold knew each other well before WWII.*

*Continued from page 18:*

So as one can see, this history of "who was first" to fly into a hurricane is much more comprehensive and convoluted than previously believed. This issue is further complicated by the lack of verifying archival documents that could provide an objective declaration of who among the six claimants was actually first.

Some might say that because Austin's and Povey's hurricane flights, as previously documented, never penetrated the eyewalls of their storms, they should be discounted. Baker, if his story could be independently verified, has merit to be the first, because the motivation and composition of his flight was truly a hurricane reconnaissance flight – predicated along meteorological requirements. Some might recommend that, regardless of whether they flew into the eye of the storm or not, the first should be established by the date of the flight, *i.e. Austin was the first.*

Subjectively, all these early "firsts hurricane flyers" seemingly warrant a "collective" recognition as a group denoting some of the earliest known hurricane flights in history.

So, while you ponder this issue of who was first, newly revised hurricane hunting history provides for the notion of a series of "firsts": the first to fly into an Atlantic hurricane; the first to fly into a Pacific typhoon; and the first to fly into tropical cyclones (*in the context of the Indian Ocean, the South Western Pacific and elsewhere*); as well as the first (*non-American*) foreign country to have actively flown into tropical cyclones for reconnaissance, surveillance and research purposes since WWII. (*FYI: there are at least eight different countries now that have flown into tropical cyclones since WWII, with potentially another two nations on-deck, ready to begin hurricane hunting operations in the near future*).

With regards to Duckworth's 1943 hurricane flights having prompted official hurricane reconnaissance operations, first established in 1944, the public domain's references on this matter are woefully inaccurate and / or misconstrued. As previously stated above, the reality is that official hurricane reconnaissance flights in the Atlantic were initiated on 14 July 1943 by Frances W.

Richelderfer, Chief of the US Weather Bureau, with the aerial support of the US Navy and US AAF. A component of this joint hurricane reconnaissance operation was the establishment of the "Joint Hurricane Warning Center" (JHWC) in Miami, where both the US Navy and US AAF hurricane forecast offices were co-located [in Miami] with the US Weather Bureau hurricane forecast office.



The Joint Hurricane Warning Center's representatives on the first day of operations 14 July 1943 and the initiation of official hurricane reconnaissance operations in the Atlantic. NOAA / NHC

**Note:** there is a misconstrued understanding within the public domain regarding the JHWC. Some public domain references infer that the three joint hurricane forecast offices were in one or the same location – within the US Weather Bureau's weather office in downtown Miami. The actual concept of the establishment of the JHWC was that the three organization's hurricane forecasting offices would be co-located in the same city: Miami. The US Navy's Hurricane Weather Central – hurricane office was located at the Navy's Fleet Weather Central (Annex) at NAS Miami (later Masters Field and now the Miami - Opa Locka Executive Airport). The US AAF's Hurricane (forecast) Office was located at the Miami Army Airfield (the previous Pan American 36th Street Airport that was taken over by the AAF's Air Transport Command during WWII – and is now part of the Miami International Airport complex. The two military hurricane offices were interconnected to the US Weather Bureau's hurricane forecast office (within the JHWC) by a network of private Wx teletype machines. However, the US Weather Bureau's hurricane office (and the JHWC) was "open" to the AAF and Navy Hurricane Officers, where special forecast meetings and discussions were often held.



General Henry "Hap" Arnold, Commanding General of the US Army's Air Force during WWII (circa 1943-44) public domain

With the United States' entry into WWII in December 1941, Hap Arnold became a little busy positioning the AAF for war and lost track of Duckworth. Later in 1942, when the high rate of non-combat aircraft accidents and loss reports crossed Hap Arnold's desk, he remembered Duckworth's instrument flying concepts. Arnold had heard that Duckworth had joined the AAC in 1940 and requested the US Army staff personnel office to locate Duckworth ASAP. Once he was found, assigned to the flight training school at Columbus Field, General Arnold made a special trip to Columbus to visit Duckworth in April 1942. After reacquainting, Arnold offered Duckworth a new Job.

Before Arnold left Columbus Field, Duckworth's commanding officer was informed that Duckworth was going to be assigned to a special project that he would be working on for the next few months, there at Columbus. Arnold directed Duckworth to essentially write a new US AAF regulation establishing instrument flight rules for Army Pilots – that Arnold would later push through AAF Command for approval.

**Note:** if not mentioned before, it was against US Army (Air Forces) regulations for a pilot to fly willingly or intentionally into severe weather of any kind, at the time. This regulation also figures into the perception -vs- reality of the history associated with the public domain version of Duckworth's 1943 hurricane flights.

With the commencement of the JHWC's operations on the 14 July 1943, the hurricane center immediately began directing hurricane reconnaissance flights into suspected areas of tropical disturbance and tropical storms on this day and throughout the rest of July, and through the remaining months of the 1943 hurricane season in the Caribbean – mostly by Navy aircraft.

Having said that, "*in the Caribbean*", is to denote that this was the immediate focus of JHWC's hurricane reconnaissance operations in 1943. Although a long and convoluted story of how hurricane reconnaissance in the Atlantic got started and how reconnaissance assets were utilized, it sufficed to say that most of the hurricane reconnaissance flights in the 1943 hurricane season occurred in the Caribbean, flown mostly by US Navy patrol aircraft assigned to regional command (*island*) bases of Fleet Air Wing 11 (FAW-11) under the authority of Commander, Caribbean Sea Frontier (COMCARIBSEAFRON) located at San Juan, Puerto Rico.



US Navy Hurricane hunting (amphibious) PBY Catalina flying boat flown out of FAW-11 in Puerto Rico  
(circa 1943) US NHHC

The AAF's hurricane reconnaissance assets in 1943 were more widely dispersed and for the most part was conducted by random aircraft elements assigned to the AAF's Air Transport Command (ATC) Caribbean Wing, through its command headquarters in West Palm Beach. Although some 1943 AAF hurricane reconnaissance flights were flown within the Caribbean, AAF hurricane reconnaissance operations were more or less responsible for the immediate southern approaches to the Continental United States in the western Atlantic. Given this initial criterion, hurricane reconnaissance in the Gulf of Mexico [*in 1943*] was not an immediate priority and this is why there were little or no authorized, or JHWC-directed hurricane reconnaissance flights into many of the season's storms that tracked into the Gulf of Mexico.

**Note:** at the end of the 1943 hurricane season, Weather Bureau Chief Richelderfer sponsored a hurricane conference, bring together all the hurricane reconnaissance commands, hurricane officers, aircraft reconnaissance weather officers and Weather Bureau personnel from the JHWC to discuss the



An AAF ATC Hurricane Hunting C-47 transport like those used in hurricane reconnaissance operations during 1943. US AAF / USAF

reconnaissance operations conducted during the season. Having had to compromise some of his desired elements towards the initiation of hurricane reconnaissance in the Atlantic, this conference provided Richelderfer an opportunity to claw-back some of those important elements. Of particular interest was his vision of dedicated hurricane reconnaissance units, with dedicated weather reconnaissance equipped aircraft and specially trained hurricane reconnaissance crews. He was somewhat successful in his endeavors, subsequently convincing the AAF to improve their hurricane reconnaissance operations for the up-coming 1944 hurricane season. The Navy maintained its reluctance to do the same, until 1945.

This important fact, that Duckworth's flights did not prompt official hurricane reconnaissance operations in the Atlantic in 1944, coupled with the revelation that Duckworth was not the first to fly into a hurricane (in 1943), should be enough to establish that the perceived public domain version of the Duckworth 1943 hurricane flight story is flawed and historically inaccurate – but there's more.

Given the knowledge (now) of Duckworth's earlier 1933 hurricane flight, it seems evidently clear that "if" there truly had been a barroom bet on Duckworth's first flight into the 1943 Surprise Hurricane, then it would have been "a suckers bet", as Duckworth had flown into a hurricane before – knowing how to fly through such a storm and what to expect.

*(This behavior is not consistent with Duckworth's character and is unlikely to have occurred)*

More importantly, this understanding calls into question the whole issue "if" there was even a bet or dare at all.

Continued from page 21:

Later in the fall of 1942, when Duckworth had completed writing the new Army Air Force instrument flight regulation, Arnold assigned Duckworth to now write the instrument flight (training) procedures manual, and an instrument flight training curriculum – to provide for the training of pilots in instrument flying. Completed by the end of 1942, it was Hap Arnold that set Duckworth up at Bryan Field in Texas to teach flight instructors in the art and science of instrument flying. The plan was for these trained instrument flight instructors to go on to training AAF pilots at primary and advance flight schools as well as combat pilots in the various theaters of war, at the squadron level.



The 1943 aerial photograph (chart) of the newly completed Bryan Army Airfield, near Bryan Texas. CHC / TAMU

Its interesting to note; that it was Hap Arnold that set Duckworth up at the newly built airfield at Bryan Field. Having begun construction in January 1942, Bryan Field was originally slated to become home for the AAF's new Advanced (twin-engine) Pilot Flying School. But in March 1943, as the airfield was nearing completion, Arnold grabbed control of the airfield and reassigned it to Duckworth and his instrument flying school. Duckworth moved into Bryan Field in early April 1943 and began to setup shop, with the first class beginning in May. The official dedication of the opening of the base was held on 6 June 1943.

With regards to the Duckworth story of the hurricane flights in 1943, many public domain references suggest that Duckworth failed to write a report on these flights due to the existing Army regulation restricting pilots from flying into severe weather. "That he was afraid of getting in trouble with higher authorities."

## Origin of "the Bet"

Much time and effort has been expended on verification of this part of the public domain's version of the Duckworth story, that encompassed tracking down the origin of the bet – dare reference.

The so-called "bet" element of the 1943 Duckworth hurricane flight story is not original to the story itself. There is no mention of a "bet" in the first Texas newspaper accounts of the flight in October 1943. (*which were really made up of excerpts from Duckworth original 19 August 1943 hurricane flight report, entitled: "Flight Through a Tropical Hurricane"*) The bet component of the Duckworth story was also not mentioned in the November 1943 issue of the USWB's *Monthly Weather Review*, (Vol. 71, No.11 - November 1943) where the US Weather Bureau -Washington Office's Howard C. Sumner was the first to write about the Duckworth flight in his monthly hurricane reports to meteorologists (*again based upon a copy of Duckworth's August 1943 hurricane flight report*), nor is it mentioned in I.R. Tannehill's "The Hurricane Hunters", book published in September 1955.

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## NORTH ATLANTIC HURRICANES AND TROPICAL DISTURBANCES OF 1943

By HOWARD C. SUMNER

(White House, Washington, December 1943)

THE hurricane season of 1943, statistically near the average of the past several years, contributed two interesting and significant approaches for investigation. They came in connection with two of the most severe tropical storms of the year, the hurricane of July 23-28 that passed inland over the Houston-Galveston Bay area of Texas, and the intense hurricane of August 20-26 that passed northeast of the Lesser Antilles.

One was the unusual three-pronged pressure fall traced by the barograph pen at the Galveston city office during the passage of the July storm. A copy of the trace sheet is reproduced as figure 1. Many modified examples of these secondary pressure falls have been noticed in connection with the passage of other hurricanes, notably the New England hurricane of 1938, but nothing as clear cut and symmetrical as this trace has been available for study.

The other feature, and one offering greater possibilities for research, involved flights through the two hurricanes by officers of the Army Air Corps. Flights through the earlier storm were made from the Instructor's School at Bryan Field, Tex. On the first flight Col. Joseph P. Duckworth was accompanied by Second Lt. Ralph M. O'Hair, navigator, and on the second trip by First Lt. William H. Jones-Burdick, a pilot weather officer. This is the first time, to our knowledge, that a plane has been intentionally flown through the center of a hurricane. The flights were made at altitudes between 4,000 and 9,000 feet. The following bird's-eye view description of the "eye" of a hurricane is quoted from Colonel Duckworth's report:

As we broke into the "eye" of the storm we were, of course, sun-tact, and could see the sun and the ground apparently the "eye" was like a landing gear observation of the ground showed a considerable ground wind.

At another point in his report, describing flight conditions, he said:

On the whole, neither flight through the hurricane was as uncomfortable as a good rough thunderstorm. Both had been somewhat in thunderstorms which was heavier than the rain in the hurricane, by any notion of much more severe drafts and choppy and lumpy air.

Later in the season observations were reported by Capt. Gordon H. MacDougall, Army Air Corps, during two flights through the hurricane of August 20-26. These flights were made from the island of Antigua, British West Indies, during the morning hours of the 20th and 21st of August. Various meteorological elements were observed and excellent cloud and wind observations were obtained.

Sea conditions observed within the storm area are described in this excerpt from his report:

For those of us who had spent enough time in the Caribbean to be familiar with the magnitude of the waves usually associated, it was hard to believe what we saw below. The seas were tremendous

and the crests were being blown off in long arcs by a wind that must easily have exceeded 70 miles per hour. The long parallel crests of long streaming from one wave to another made it evident from which direction the wind was blowing.

Captain MacDougall reported that after pictures were taken an examination of the camera lens showed a salt residue from water droplets deposited at 1,000 feet.

To determine whether the natives possess any understanding of the precursory signs of an approaching hurricane, several natives were queried, with this result:

Our actual findings were that the natives were in all cases completely unaware of imminent danger. Twelve hours before the hurricane was to approach originally were the island on the subject with four of the more erudite looking natives of remote Wilkes Village. Three of them said honestly, "I don't exactly say, naww." The last one countered with, "No, it's the bloody rain that makes the wind that way."

Below are descriptions of the individual storms taken in the main from station reports.

**Hurricane of July 23-28.**—The hurricane that passed inland over the Bolivar Peninsula, on the upper Texas coast during the early afternoon of July 27, was the most severe storm experienced in the Galveston Bay area since the hurricane of August 16-18, 1915. It was a storm of rather small area but unfortunately passed over the most densely populated and highly developed portion of the Texas coast.

A partial circulation aloft had been noticed over the extreme southeastern portion of the United States and the eastern Gulf of Mexico as early as July 23, but no disturbed surface conditions were observed until the early afternoon of July 25, when wind shifts from southeast to northeast at Burwood, New Orleans, and Balcon indicated a disturbance south of Burwood. Within a few hours heavy seas were reported on Mississippi Sound. The highest wind reported while the storm was moving westward south of the Delta was Beaufort force 7 (32-38 miles per hour), recorded at Burwood.

During the next 2 days the disturbance increased rapidly in intensity and moving west-northwestward to the Texas coast passed inland over the Galveston Bay region, between noon and 1:00 p. m. (C. S. T.) July 27, as a small intense storm accompanied by full hurricane winds.

Galveston Airport recorded a maximum wind velocity of 74 m. p. h. and Houston Airport 88 m. p. h. while a gust of 104 m. p. h. was recorded on a sleek diaphragm anemograph at Texas City. Other maximum wind velocities were: Fort Arthur, 64 m. p. h.; Galveston city office, 63 m. p. h.; extreme 68 m. p. h.; Ellington Field, 64 m. p. h., and Houston city office, 50 m. p. h.

The calm center of the storm was felt over almost the entire length of the Bolivar Peninsula and reports say its passage required about an hour. Since, at this point, the storm was moving 12 to 14 miles per hour

It was Sumner that seemingly was the first to declare (*speculatively*) that Duckworth's flight "..... is the first time, to our knowledge, that a plane has been intentionally flown through the center of a hurricane....." albeit with no corroborative (*verification*) information beyond his own speculation. It was this comment (*reference*) by Sumner that allowed Tannehill to unequivocally declare ".....The first to fly into the vortex of a hurricane was Joseph B. Duckworth....." in his hurricane hunters book, seemingly without any effort to verify the reference. (*FYI: in 1955 Tannehill had just retired from the US Weather Bureau – Washington Headquarters, where he had been the Assistant Chief of Bureau for Operations.*) Having worked for the Weather Bureau, one would think that he would have had access to viable (*correct*) historical information, from the war, and or verified his references.

*The US Weather Bureau's Monthly Weather Review, (Vol. 71, No.11 - November 1943) courtesy AMS*

**Note:** in retrospect, the first person to actually declare Duckworth (i.e. his flight) to be the first into a hurricane was made in print by the editor of the Galveston Daily News in the 17 October 1943 issue. In an editorial prelude to the article on the Duckworth flight, the editor remarked "..... for the first time, as far as he knows, an airplane flight was made over the center of a tropical hurricane.....". Given that this newspaper article was also based upon Duckworth's 19 August 1943 hurricane flight report (and no interview was conducted with Duckworth beforehand) the same assumption was made without any tangible verification. Thus, without any effort towards facts-checking or verification by modern would-be historians or journalists, this assumption has transitioned into historical fact incorrectly.

Between 1955 -1963, there were numerous local and statewide Michigan newspaper articles written about Duckworth, that made mention to his 1943 hurricane flight. However, none of these newspaper articles (*seemingly based on interviews with Duckworth*) mentions the bet or any references to RAF pilots.

*Its interesting to note;* that Duckworth had a number of opportunities to correct the record with regards to his flights in 1943, as having been established as the first, given that he had flown into a hurricane in 1933

and that his 1943 flights weren't actually (*his*) first. Its also evident, despite the hype about being the first to fly into a hurricane, Duckworth (*while he was alive*) never included it in the list of achievements that he personally coveted. According to his family, his top career achievements that he was most proud of was as a commercial transport / air mail pilot, his contributions to instrument flying, and later flight safety, as well as his Bridge playing skills. The first to fly into a hurricane was never prevalent or at the forefront in his private persona while he was alive. Most of the accolades we see attributed to him today for his 1943 hurricane flights – fame came posthumously.

Before 1990, there are few if any published articles on Duckworth and his 1943 hurricane flights that include the bet or the RAF pilots' references. Even Dr. Robert C. "Bob" Sheets, then Director of the National Hurricane Center (1987 -1995), in his June 1990 article "*The National Hurricane Center – Past, Present, and Future*", appearing in the American Meteorological Society's "*Weather and Forecasting*" publication (Vol.5, No.2 – June 1990) does not mention any references toward the bet or RAF pilots, when talking about the Duckworth flights in 1943.

However, Sheet's subsequent book "*Hurricane Watch*" (2002) with co-author Jack Williams, "*does*" mention the bet in discussions of the 1943 Duckworth flights and specifically presents details associated with British RAF pilots undergoing instrument [*flight*] training at Bryan Field, questioning the sturdiness (*airworthiness*) and reliability of the AT-6 Texan aircraft there.

The bet and RAF pilots' references in this book are echoed by Jim Bell, from Houston Public Radio, that produced a radio hurricane series, that included the "*1943 Surprise Hurricane*" with a discussion of the 1943 Duckworth flights. This 2007 radio production went on to mention the so-called bet with British RAF pilots undergoing training at the instrument flight school there in Bryan, Texas.

**Note:** *this 2007 Jim Bell radio show, hurricane series production, discussion of the Duckworth flights; also mentioned that Duckworth's flight on 27 July 1943 led to the US Military to initiate official hurricane reconnaissance flights in the Atlantic in 1944. This was one of the first times that this reference appeared in the public domain. Again, this Duckworth flight reference is not true and the continued perpetuation of this element of the Duckworth hurricane flight story borders on modern mythology.*

From 2002 onwards, the 1943 Duckworth flight(s) predicated on a bet raised by British RAF pilots at Bryan Field becomes a mainstay component of the Duckworth flight story in the public domain and starts to penetrate into meteorological literature as "*historical fact*" through mentions in technical articles by the likes of Dr. Bill Read, another Director of the National Hurricane Center (2008-2012). In May 2010, Read penned the article "*the Surprise Hurricane of 1943*", with co-author Lew Fincher (*a recognized free-lance hurricane consultant*), that again perpetuates the mythical Duckworth story elements of the bet with RAF pilots.

This situation is further complicated by Fincher's subsequent report that he interviewed Duckworth's Navigator (*the passenger on the first flight*) Ret. Lt. Col. Ralph M. O' Hair, for their Surprise Hurricane article. According to O'Hair, the flight was made upon a "*bet with British RAF pilots*", who questioned the airworthiness of the AAF AT-6 Texan Trainers. O'Hair is further quoted as having said the flight was based upon a bet, in other numerous public domain newspaper and magazine articles – prior to his death in December 2009.

Sometime between 2010 and today, thanks to the internet, Duckworth's 1943 hurricane flight story has been exponentially proliferated across the international public domain, masquerading as historical fact. In recent years additional new story components have been added, transitioning the bet into a "*dare*" as well as other Duckworth career history and story inaccuracies.

In a subsequent online blog, associated with NOAA's Hurricane Research Division, entitled "*27 July 2018; the 75th Anniversary of the first hurricane eye penetration*" - references sourced not listed - stated: "*..... by 1943 he [Duckworth] was commanding the instrument training facility at Bryan Army Airfield in Texas,*

teaching mostly British pilots how to fly on instruments. (It was Royal Air Force policy to fly their bombing missions over Europe at night to reduce casualties.) .....

This specific NOAA HRD blog inference, regarding the RAF historical element added into this latest version of the Duckworth 1943 hurricane flights (i.e. the RAF needing flight instrument training from Bryan Field, to enable them to fly their night bomber missions in Europe) is historically incorrect. As is other public domain history references and sources often denoting that RAF Bomber Command aircraft flew nighttime bombing missions over Europe because the night offered a measurable reduction in risk and casualties. Again, this notion is also historically inaccurate.

The reality (of history) why RAF Bomber Command aircraft flew nighttime bombing missions over Europe, is because once the American Air Forces arrived in Britain, due to their "lack of" low visibility / night flying [instrument] training, they were relegated to the daylight bombing campaign over Europe - with the British solely assuming the nighttime bombing campaign. The British pilots were able to fly nighttime bombing missions early in the war, because they "already had" instrument flight training.



An RAF Lancaster Bomber during a night-time bombing raid over Germany. (circa 1942) British MoD / NA

Since the mid-1930s, the British RAF flight training regiment included instrument flight training. The British were very quick to embrace the new technology of the Link Aviation (synthetic) flight trainers, when they came on the market in the early 1930s.

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The reality of this issue is that Duckworth "did" file a report on this hurricane flight, that was sent to his superior officer, and benefactor, Hap Arnold. The report itself was primarily focused on highlighting the flight as an instrument flight training demonstration for his students and steered away from anything benefitting meteorology or weather operations. Duckworth's Weather Officer, 1st Lt. William H. Jones – Burdick also wrote a report, highlighting the temperature (thermal) survey he conducted during his flight. This meteorological report was sent to Jones – Burdick's superior weather command at the 3rd Weather Squadron / Region (Kelly Field, San Antonio, Texas) who subsequently forwarded it on to AAF Weather Service Headquarters in Washington. In the end, nobody got in trouble for flying on that hurricane or for seemingly violating the Army severe weather regulation.

However, even if they had seemingly got in trouble for violating this regulation, there was another safeguard to protect Duckworth, and by default any of his passengers. When Hap Arnold assigned Duckworth to Bryan Field, he provided Duckworth with a "flight-wavier" that exempted him from the Army's severe weather regulation. Due to his unique flying experience and high-skills rate in instrument flying, he was more than capable of fly in any kind of weather.

The facts are according to his family; including his daughter who lived at Bryan Field between 1943-46 (between 3 to 6 years old) Duckworth flew his AT-6 every morning, in good weather or bad, when in command of Bryan Field. The morning of 27 July 1943 was no exception.

Thus, armed with this special wavier, Duckworth was never in trouble of violating the severe weather regulation or getting in trouble with superiors.

The forementioned wavier given to Duckworth by Hap Arnold, is the genesis of the current IFR “Green Card”. The flight instrument (rating) Green Card denotes that the bearer (a pilot) has achieved high proficiency in instrument flying and is certified to fly in any kind of weather or low / no visibility conditions. Of course, it was Duckworth who received the USAF’s very first Green Card; Green Card No. 1.

Under Duckworth’s Command, the Bryan Field instrument flying instructors school taught more than 10,000 instrument flight instructors during WWII. This number of IFR trained pilots figured prominently in high-profile post-war operations like the Berlin Airlift and combat operations during the Korean conflict. Duckworth’s concepts, manuals and procedures for instrument flying form the basis of modern Instrument Flight Rules training today in the US Air Force. And why the Air Force considers Duckworth the father of modern-day US Air Force Instrument Flight Training. There are various Air Force training facilities, base buildings, and roads (and an award for excellence) named after Joseph B. Duckworth scattered around the US today.



Lt. Col Duckworth discussing glide slope radial beacon approach to landing, that was encom – passed in the RTCA’s air traffic control system, with another officer. (circa 1945)  
public domain

Public domain references also suggest that like many WWII soldiers, sailors and airmen, Duckworth left military service and settled down to civilian life after the war. Duckworth, it was said, left the AAF at the end of 1945 and subsequently became the director of the Safety Board (Division) of the Civil Aeronautics Board (CAB) / Civil Aeronautics Authority (CAA). But this is not historically accurate!

The reality is that Duckworth “didn’t” leave the US AAF after the end of the war. In fact, Duckworth did not leave Bryan, Texas until the spring of 1946. Between the spring of 1946 and early 1948, Duckworth served with the AAF (subsequently the USAF) in Washington, DC. But while stationed in the Washington, during this period, Duckworth became the (military) co-chairman of the “Radio Technical Committee for Avionics”, (RTCA) an independent body supporting national aviation safety. Under the RTCA, Duckworth helped develop and implement a plan for the establishment of a [civilian] Aviation (Radio) Navigation and [Air] Traffic Control System to facilitate safe and unlimited aircraft operations under all weather conditions. The origin of the Air Traffic Control system that world-wide aviation uses today.

This Air Traffic Control system developed by the RTCA went on to win the 1948 Collier Trophy, to improve the development of the airplane and advance the science of aeronautics. In this case, with respects towards improving the performance, efficiency and or the safety of air vehicles.

**Note:** on 26 June 1947 Duckworth married his 2nd wife (Mildred Beilfuss) in Rockland, Maryland. Duckworth’s first wife, Katherine Wadley Duckworth died 11 March 1945 in Bryan, Texas, from complications associated with a viral infection, leaving Joe and his three children to carry on by themselves until he married Mildred.

Between 1948-49, now under the US Air Force, Duckworth attended the US Armed Force’s National War College. A mandatory career step taken prior to the advancement to command officer (and or staff officer) positions within the US Armed Forces Command Structure. NWC Courses presented encompass National Security Strategies and high-level policy guidance for all Command Officers.

Upon Graduation in 1949, Duckworth was assigned and served as the Chief of Flight Operations at Air Force Headquarters (in Washington) before moving on to become the Vice-Deputy Commander of the newly established Military Air Transport Service (MATS) headquartered (at the time) at Andrews AFB, in Morningside, Maryland.

*Continued from page 26:*

In fact, the British acquired modified versions of the Link AN-T-8 model that incorporated flight instruments (*sync'd to the rotation of the aircraft in all three axes*) to teach blind / instrument flying. All British RAF pilots were trained in instrument flying before and during WWII.

**Note:** in 1934, a Canadian Division of the Link Aviation company established a manufacturing facility in Gananoque, Ontario (Canada) specifically to provide specially modified versions of the instrumented Link Trainers to the Royal Canadian Air Force (RCAF) and the British RAF. A subsequent enhanced version of the British (Canadian) flight instrumented Link Trainers were incorporated into WWII British RAF cadet flight training under a British flight training program conducted in North America.



*Specialize British RAF Link Trainers equipped to provide instruments flight training (circa 1942) RAF BFTS No. 1 Museum*

Thus, any notions or references to so-called British RAF pilots, veterans of the Battle of Britain, said to have been at Bryan Field for instrument flight training is completely and historically inaccurate. By virtue of being veterans of the Battle of Britain, they would have already been instrument flight trained by the RAF itself and would not have required Duckworth's instrument flight course to teach it to them. With regards to their novice pilot cadets, under North American RAF pilot training program, the British again saw to it that they received British flight training that included the RAF's instrument flight training procedures.

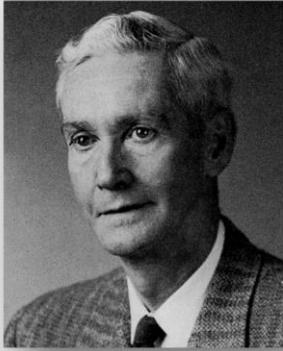
On 19 March 1951, now (full) Colonel Duckworth became the Wing Commander for the 1500th Air Transport Wing (based at Hickam AFB, Hawaii) and simultaneously the Base Commanding Officer of Hickam AFB itself. At this time, Hickam was principally a MATS command base in the Pacific region. In August 1952, the 1500th ATW became the 1500th Air Base Wing, with its administration separated from the Hickam base command administration, but was still commanded by the same Commanding Officer as Hickam AFB; Col. Duckworth.

**Note:** this was not the first time Duckworth was a Wing Commander. In August 1945, Duckworth was advanced and appointed as the new Wing Commander of the AAF Training Command's 77<sup>th</sup> Training Wing – which had moved headquarters to Bryan Field. As Wing Commander of the 77<sup>th</sup> Training Wing, Duckworth was still the Commanding Officer of Bryan Field base command and his flight instrument instructors' school.

However, on 1 October 1952, Col. Duckworth was relieved of his command(s), by Col. W.H. Higgins (the previous 1951 1500th Wing and Hickam Base commander) and transferred to the Tripler Regional Military Hospital in Honolulu for emergency medical treatment – associated with a circulatory ailment in one of his legs. Due to further complications, Duckworth was medevac'd back to the United States for further treatment on 18 October 1952. Duckworth would eventually, sometime later, have part of one of his legs amputated and subsequently fitted with a prosthesis.

Thus, came the end of Joe Duckworth's illustrious military career, that saw him rise to the rank of Colonel, amass over 18,000 flight hours, and subsequently become the father of the US Air Force's instrument flight training command, all within about 13 years of military service. Although he was physically out of the military by the end of 1953, his medical discharge (medical retirement) wasn't issued until 1955. This later date is believed to have facilitated Veterans Administration disability eligibility for subsequent veterans' disability benefits.

**Note:** after leaving Hawaii, the Duckworth family first appeared in Albion, Michigan (Mildred's hometown) in late 1952. While Mildred and some of the children moved in with family friends for a few months, Duckworth was admitted into Percy Jones General Hospital in nearby Battle Creek. Percy Jones, after WWII, was the largest military medical facility operated by the US Army. This medical facility was especially created as a medical and surgical complex for amputations and the subsequent fitting of artificial prosthesis' and physical rehabilitation.



Mr. Joseph B. Duckworth of  
Albion, MI (circa 1958)  
public domain

With Veterans disability and (the original) G.I. Bill of benefits, Duckworth was able to buy a house in Albion, attend Albion College (where he earned another degree, this time a master's degree in communications) and later taught "Speech" there at Albion College. (Some public domain references wrongly suggest that Duckworth taught "physics and or philosophy"). Besides teaching, Duckworth was also an aviation consultant, having consulted for both the Flight Safety Division of the Guggenheim Foundation and for the Link Aviation Company.

**Note:** the Link Aviation Company (aka the General Precision Systems Company Ltd.) under the parent company "General Precision Equipment Corp, produced aircraft [flight] training simulators as well as other related aircraft electronics and avionics.

Additionally, Duckworth was also a writer / author, writing numerous articles, books, booklets and pamphlets for aviation publications and organizations associated with civilian instrument flying and air safety.

And if that wasn't enough, Duckworth was a champion Bridge player and in 1963 opened a Bridge Salon (studio) in Albion, where interested parties could come to learn how to play Bridge for competition or just to play Bridge for fun.

Col. (ret.) Joseph B. Duckworth died on 26 July 1964 at age 61. Just one day short of the 21-year anniversary of his flights into the Surprise Hurricane of 1943.

-end-

### North American RAF Pilot Training

Besides the numerous US AAF flight training bases scattered around the US in WWII, the British Government and the RAF (as an extension of their British Commonwealth Air Training Plan located throughout Canada) arranged for wartime flight (pilot) training to take place within the United States. Under a training scheme known as the "British Flight Training School program or BFTS", this program sought to provide flight instruction to British RAF pilots cadets and aviator cadets from other British Commonwealth nations.

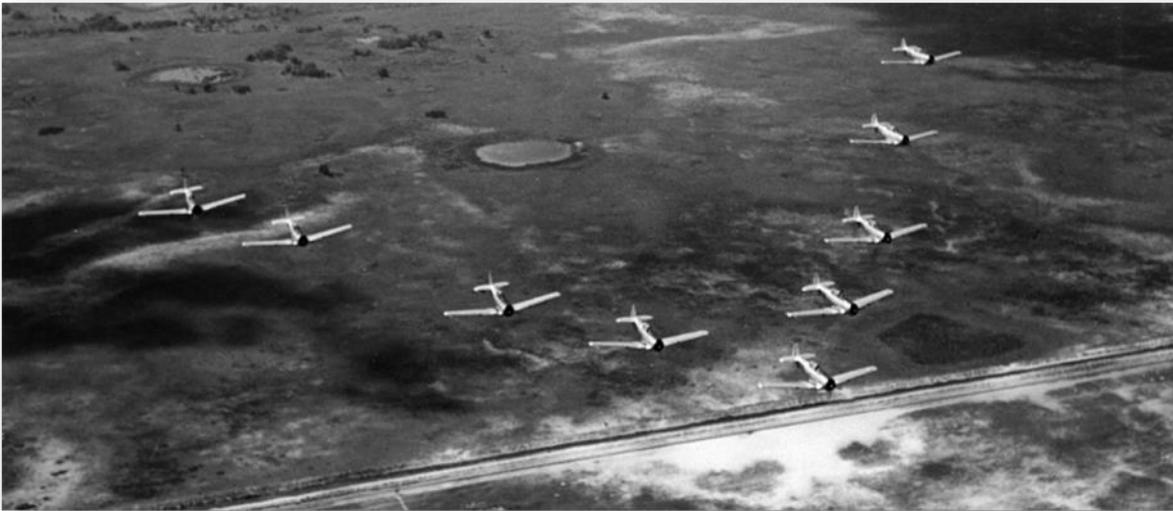
Due to wartime restrictions and other diplomatic policies, all BFTS flight training of British and / or commonwealth pilot cadets had to be conducted by contracted, commercial (civilian) flight instructors. One of the commercial aviation training companies under BFTS contract to train British RAF pilot cadets was Emery-Riddle (i.e. the Riddle-McKay Aero College; Riddle Field, Clewiston, Florida) Emery-Riddle maintained a number of contracted flight training facilities and airfields for the training of both US AAF and British RAF pilot cadets in the southern United States, three in Florida and one in Tennessee.



Emery-Riddle also maintained a flight training & aircraft maintenance school(s) in Brazil during the war. All manned by certified civilian flight instructors.

Under the BFTS program, seven flight training schools were established throughout southern and southwestern areas of the United States: including Terrell Field, (Terrell, Texas – aka BFTS No.1); Lancaster Field, (Lancaster,

RAF student pilots flying from BFTS No. 5, Riddle Field, Clewiston, Florida. (circa 1942)  
public domain



RAF Students flying out of BFTS No.1, Terrell Field, Terrell, Texas, (circa 1944-45) public domain

California – aka BFTS No.2); Spartan Field, (Miami, Oklahoma – aka BFTS No.3); Falcon Field, (Mesa, Arizona - aka BFTS No. 4); Riddle Field, (Clewiston, Florida – aka BFTS No.5); Darr Field, (Ponca City, Oklahoma – aka BFTS No.6) and Avenger Field, (Sweetwater, Texas - aka BFTS No. 7).

**Note:** Avenger Field in Sweetwater Texas (BFTS No. 7) was established via a contract between the Canadian Government, in support of the British Commonwealth Air Training Plan (the RCAF – engaged in training commonwealth RAF, RAAF, RNZAF and RAF volunteers from other countries, like Poland) with the Plosser-Prince Air Academy – as part of the BFTS program. However, this flight training school only existed between June – August 1942, time enough to graduate one class. By November 1942, BFTS training for the RAF was consolidated at Terrell Field / Terrell, Texas (BFTS No.1) and Riddle Field / Clewiston, Florida (BFTS No. 5). Avenger field was subsequently taken over by the AAF's Air Training Command, retaining the previous BFTS contracted civilian flight instructors to train other AAF pilots. General Hap Arnold retained these civilian instructors (under a new contract with Aviation Enterprises Inc.) to support one of his other pet projects, the flight training of the "Women's Airforce Service Pilots or WASP pilots". WASP training at Avenger Field began in January 1943 with civilian instructors.

Unlike the AAF's flight training program, the BFTS flight training facilities conducted all basic, primary and advance flight training at the same airfield. AAF training command had all these elements of flight training conducted at different airfields and or facilities around the US.

Not generally known is that the BFTS schools taught RAF pilot cadets instrument (*blind*) flying via specialized Link Aviation (*synthetic*) flight trainers modified for instrument flying training.

*BFTS No.1 at Terrell Field (Terrell, Texas) had British Canadian instrumented Link trainers equipped to support instrument flight training. (circa 1944)*  
BFTS No.1 Museum



Additionally; any British RAF “cadet” pilots undergoing flight training in the United States, and specifically in Texas, via the “British Flight Training School” program would also have “not” been required to attend Duckworth’s instrument flight training school. BFTS airfields already taught instrument flight training to it RAF pilot cadets.

They also would not have been allowed to attend Bryan Field for any kind of AAF flight training, due to the fact that there were “no” civilian flight instructors at Bryan Field – which under wartime diplomatic policies were required for the training British RAF personnel in the United States.

Thus, it’s with this fuller understanding of WWII history, that one can see the in-probability that British RAF pilots were ever undergoing flight training at Bryan Field. And if there were no RAF Pilots at Bryan Field, then there was no barroom bet or dare by which to predicate Duckworth’s hurricane flights on 27 July 1943.



*Graduation commencement for British RAF pilots at BFTS No. 5, Riddle Field, Clewiston, Florida. (circa 1944-45) Courtesy of Embry-Riddle Aeronautical University.*

Ultimately, Duckworth’s motivations to make his hurricane flights in July 1943 might just be for the reason he himself stipulated in his original 19 August 1943 hurricane flight report, that stated the flights were experimental instrument flying

There is another point to be stressed here, with regards to the Duckworth’s 1943 hurricane flights. The situation is that the first thing that people will find when they stumble across the Duckworth hurricane flight story or explicitly hear on television, radio or read an internet article of the story, at the beginning of each years’ hurricane season, during hurricane reports, is the inaccurate, incorrect and misconstrued story posing as historical fact.

[demonstration] flights, presumed to impress upon his student instructors the importance of instrument flying – and nothing more than that.

**Note:** *prior to the appearance of the bet or dare with British pilots’ element of the Duckworth story, to suggest motivation for conducting the hurricane flights, public domain references suggested these Duckworth hurricane flights were made “on a lark” or “for fun”. In an article published in the “Air Force Weather Historian” Quarterly Newsletter [magazine] (Vol. 1, No.3 Summer 2003) of the [US] Air Forces Weather History Office, William H. Jones-Burdick – the base weather officer that flew on the second Duckworth flight into the 1943 hurricane – is quoted as having said the flights were made on a lark.*

So how or why were these (false) elements of the 1943 Duckworth hurricane flight story created (?) Was it just a matter of ignorance, misunderstanding of what actually happened on 27 July 1943, some 79 years ago (?) Or was it a deliberate fabrication made-up to add drama to the already misconstrued story, in order to sell books or benefit one’s position somehow (?)

What’s that old adage, a supposed quote attributed to William Randolph Hearst, “.....when presented with the truth and the myth; print the myth. It sells more newspapers ! .....”

It’s plausible that this RAF pilot “bet – later dare” component of the Duckworth story could have been a misinterpretation or mix-up, between Duckworth’s operations at Bryan Field, Texas and the BFTS’ RAF flight training conducted at Terrell Field, Texas. The BFTS schools utilized AT-6 Texan training aircraft too in their advance flight training phases and disgruntled RAF pilots might have voiced their misgivings as to the airworthiness of this particular aircraft, with these AT-6 comments were somehow misinterpreted and or attributed to Duckworth’s school.

The historical reality however is the same, that the British RAF pilot bet – dare component of the Duckworth hurricane flight story, never happened!



US AAF Instrument Flight Instructor Students and school / base staff lineup at Bryan Field, Texas.

(circa 1943-44)

By now, given the proliferation of the Duckworth story across the internet in recent years, generations of people have been provided this false history. Even the US Air Forces' (*current*) hurricane reconnaissance squadron, the "53rd Weather Reconnaissance Squadron" [ the famous "Hurricane Hunters" ] tells the inaccurate version of the Duckworth 1943 hurricane flight story to the throngs of people and school children that parade through their WC-130J Hercules aircraft during airshows around the country and open-house days at their operating base at Kessler AFB (*Biloxi, Mississippi*). Not to mention the numerous US Government websites such as the NOAA / National Weather Service webpages and related divisional websites as well as the countless internet, online articles and pages, that perpetuate the Duckworth story, that is now fast becoming (*if it hasn't already*) mythology.

In this age of "*fake news*", "*alternative facts*", "*believed truth*" and "*historical fiction*" being accepted as *Facts*, those times when the "*actual truth*" (*rooted in deep archival research and fact checking*) is readily known, it's important to point these facts out to correct the public's perception and place into the public domain the true history of these subjects, to set the record straight!

As the ancient scholars have lamented over the ages; there is a fundamental need to understand history, so as not to suffer the pains of repeating it.

*The End*