

TIGHAR TRACKS

March 2016



Late Breaking News

A change in the HURL schedule has made *KOK* and the Pisces subs available for work in the Phoenix Group as early as this summer. For TIGHAR, this means that we don't have to wait until 2017 to do the Niku IX expedition. We can go as soon as we can find a sponsor.

CAN WE FIND THE ELECTRA?

We know where to look. There is abundant evidence that the Earhart aircraft, after a relatively safe landing on the reef at Gardner Island (now Nikumaroro), was washed into the ocean by rising tides and surf. Earhart's radio distress calls tell us when it happened – a few days after her arrival. The Bevington Photo tells us where it happened – 400 meters north of the SS *Norwich City* shipwreck. What we don't know is what happened next.

Artifacts we've found in the abandoned village support island folklore that the Pacific islanders settled there by the British in 1939 had access to the aircraft or at least wreckage from the aircraft. If true, the airplane did not float away intact to sink miles from the island in impossibly deep water. That assessment is supported by a known sinking in 1967 (right).

Allowing for the greater buoyancy of NR16020 due to the extra fuel tanks in the cabin, we calculate that Earhart's Electra probably floated for about eighteen minutes. The wreck is, therefore, most likely to be within one nautical miles of the reef edge. That puts it at a depth of not greater than 1,000 meters (about 3,281 feet).

Searches by divers immediately adjacent to the reef down to the brink of a cliff at 130 feet have found no aircraft wreckage. The shallow parts of the reef are susceptible to storms, and it is likely that any aircraft wreckage that was once there has either been washed ashore to be found and used by the later settlers, buried in coral growth, or swept to greater depths.

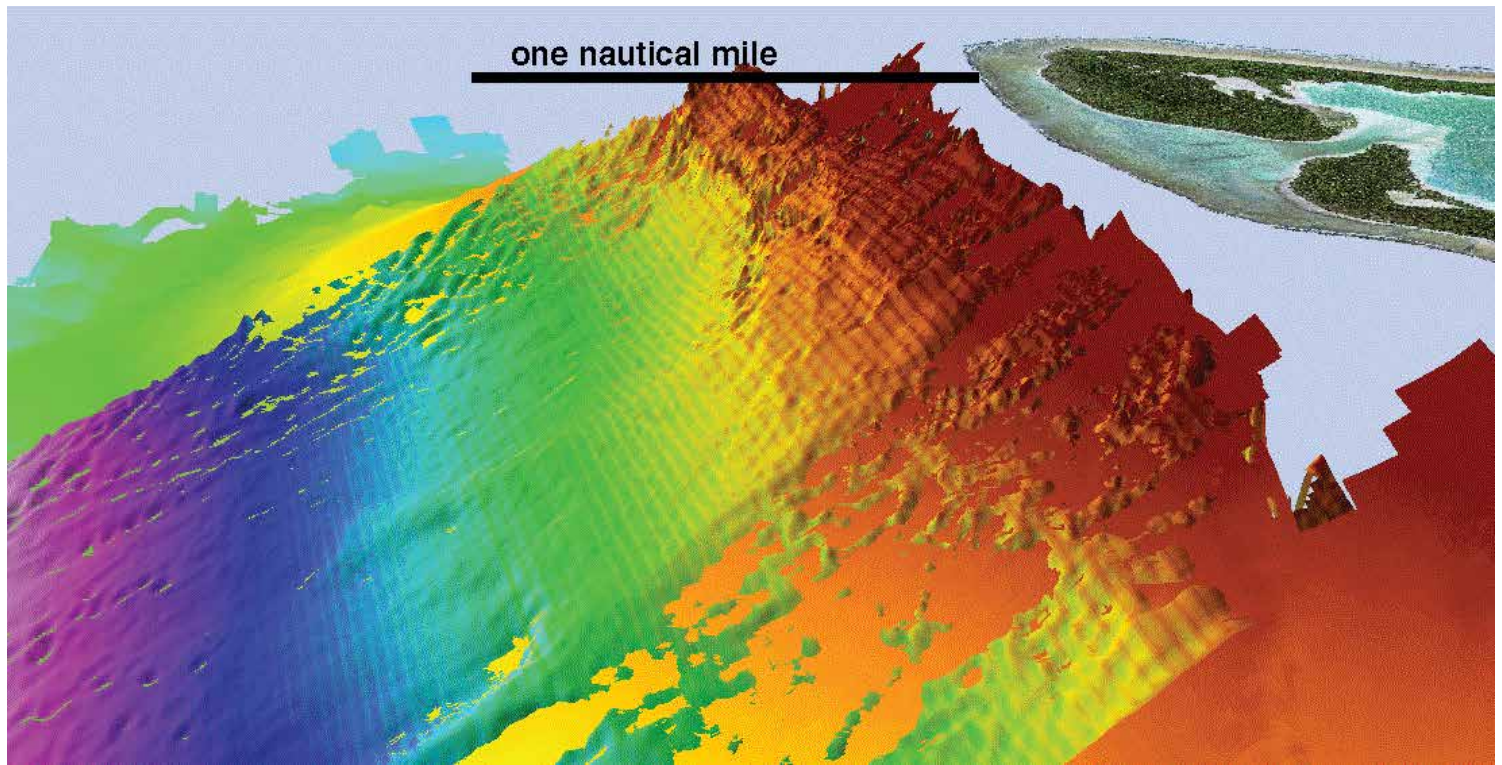


Gardner Island, July 7, 1937? No. This Lockheed Electra 10E operated by Provincetown-Boston Airways ditched off Scituate, Massachusetts on August 27, 1967. It floated for eight minutes, allowing all 14 persons aboard to be rescued without injury. The aircraft is shown sinking left wing low. The elevator and both vertical fins have separated from the airframe. Photo courtesy Aviation Safety Network, Flight Safety Foundation.

The wreckage of NR16020 probably lies somewhere between the base of the cliff at 61 meters (about 200 feet) and 1,000 meters (about 3,281 feet).



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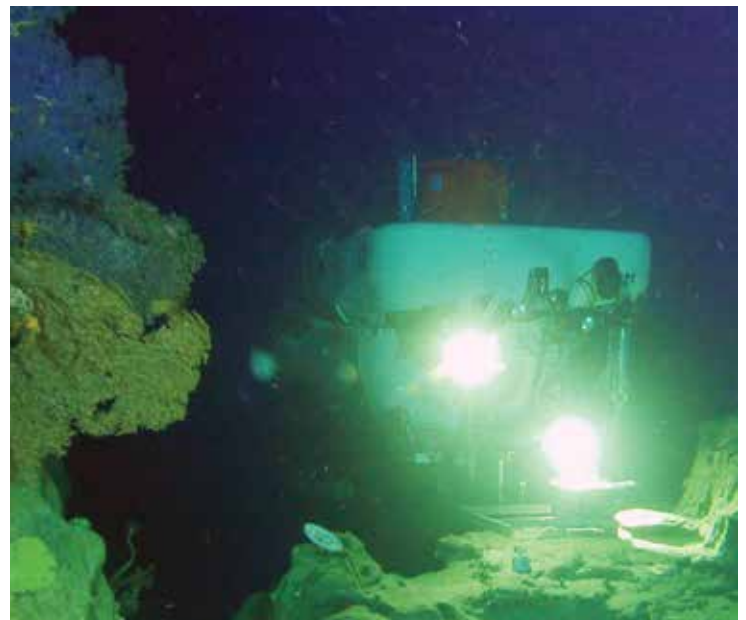
This Seabeam sonar map illustrates the steep, rugged nature of the reef slope off the west end of Nikumaroro. Image courtesy Hawai'i Underseach Research Lab.

Efforts to search the reef in 2010, 2012, and 2015 using Remote Operated Vehicles (ROVs) were frustrated by equipment malfunctions and the inherent limitations of the technology. A side-scan sonar survey in 2012 using the same Autonomous Underwater Vehicle (AUV) later used to search for the missing Malaysian Flight MH370 proved unreliable and misleading. Detailed re-analysis of the sonar data has shown that an anomaly in the imagery that seemed to resemble an aircraft is almost certainly a coral ridge.



The colored lines trace the path of the ROV dives during the 2012 Niku VII expedition. Only about 5% of the reef slope below SCUBA depth (130 feet) has been examined.

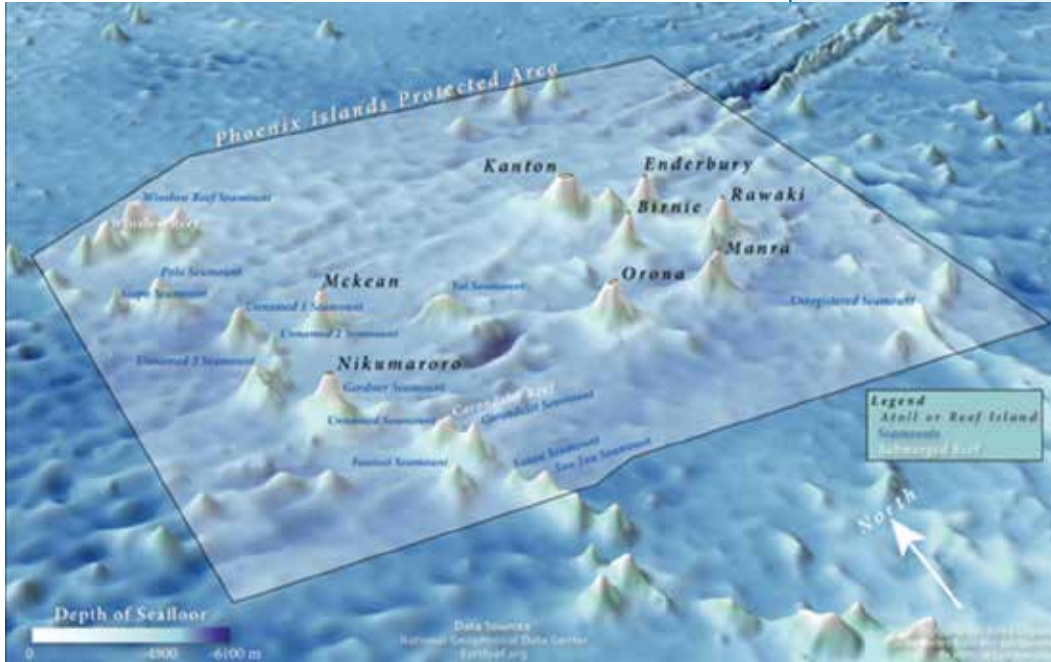
The only way to thoroughly and efficiently search the craggy underwater mountainside is by direct human observation using the two Pisces manned submersibles of the Hawai'i Undersea Research Laboratory (HURL) of the University of Hawai'i, as HURL director Terry Kerby puts it, "with brains and eyeballs." Each of the Pisces subs carries a pilot and two observers with overlapping fields of view lit by powerful lights. The subs can go to a depth of 2,000 meters (6,500 feet). The HURL subs have conducted numerous successful surveys on steep coral reef slopes and have made several significant historical discoveries including the WWII Japanese submarine I-400.



Pisces IV on the reef slope at Kingman Reef in 2005. Photo courtesy HURL.

WHAT WILL IT COST?

We know where to look, and we know how to look, but how much will it cost to look? It depends. The Pisces subs have recently completed a refit and are ready to go to work. HURL and a broad coalition of ocean scientists are hoping to put together a much-needed three-month marine biology survey of all of the atolls and seamounts in the Phoenix Islands Protected Area (PIPA).



The Phoenix Islands Protected Area is the world's largest marine sanctuary and a key area in the study of the effects of climate change.

The timing, of course, depends on finding the funding. If the PIPA survey comes about, TIGHAR could charter the subs and their mother ship, the University of Hawai'i oceanographic research vessel *Ka'imikai-O-Kanaloa* (KOK), during the survey. We could stage Niku IX out of Samoa (3 days from Nikumaroro) rather than pay to position the ship from Honolulu (9 days each way). Seven days of operations should be adequate to cover the search area, but we'll plan ten days on site to allow for weather or maintenance delays. The sixteen-day TIGHAR expedition could be done for about one million dollars. A twenty-eight day expedition staged out of Hawai'i would be half again as expensive.

Either way, it's a matter of finding a sponsor – corporate or individual – with the will and the ability to make it happen. The search for major sponsorship is on. Your support is vital. Please use the enclosed flyer to make your contribution or donate online at tighar.org.

We'll have space for a few Sponsor Team Members. If you're interested in reserving a place on the Niku IX team please contact Ric Gillespie at ric@tighar.org or call 610-467-1937.



BETCHART PLANNING RETURN TO NIKUMARORO IN 2017

As last year's Niku VIII expedition was wrapping up operations and preparing to begin the voyage back to Fiji, Betchart Expeditions arrived with the first ever commercial tourist cruise to Nikumaroro. Aboard as guides and lecturers were TIGHAR Senior Archaeologist Tom King and a small staff of experienced TIGHAR expedition veterans. During

Betchart's four-day stay the island favored the sixty-person tour group with moderate weather and calm seas. The participants thoroughly enjoyed the experience. They were able to explore the island's sites of interest and, under the supervision of the TIGHAR staff, uncovered what Tom King describes as some "provocative possibilities."

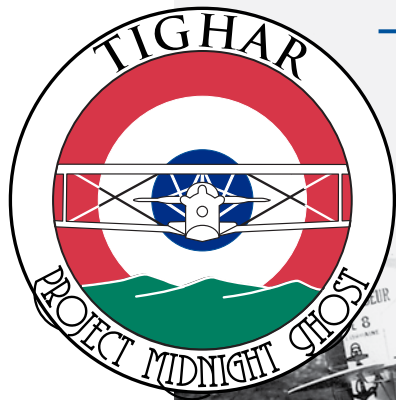
The cruise was such a success that Betchart Expeditions is hoping to reprise the trip in 2017 with a larger vessel and about twice as much time (7-8 days) at the island. Once more, Tom King plans to be aboard, this time with a team of fifteen experienced

TIGHARs and selected specialists to carry out an ambitious research agenda including the use of several small ROVs. He'll put on a "field school" for passengers aboard ship en route to the island, emphasizing ethical treatment of the island and its resources. Those who want to take part in work on the island will have to take the field school.

The overall cost to each passenger for the whole trip, including discounted air fare to and from Fiji from Los Angeles, is about \$11,000. If you are interested in participating please contact Betchart Expeditions at <http://betchartexpeditions.com/>.

To learn more about Tom King's research plan see <http://ameliaearhartarchaeology.blogspot.com/2015/11/a-voyage-to-nikumaroro-in-2017.html>.

As with all expeditions, the trip is contingent upon sufficient funding. Betchart Expeditions must sell enough tickets to justify the charter and, because TIGHAR's fundraising efforts must remain focused on the Niku IX search for the Earhart Electra, Tom King has accepted the responsibility for raising the estimated \$200,000 needed to put his team aboard the Betchart cruise. We're hopeful that both expeditions to Nikumaroro will be successful in raising the needed funds and achieving their respective goals.



To Solve a Mystery



Reviewing our files and doing some new research, we find that there is evidence that the mystery of the White Bird was conclusively solved in 1947 but, due to a bizarre sequence of circumstances, the news never became public.

Dozens of TIGHAR members at the TIGHAResearcher level (\$125/yr) and above recently took the opportunity to watch, via the Youtube TIGHAR Channel, an excellent French documentary about l'Oiseau Blanc (The White Bird) and the competing theories to explain its disappearance. TIGHAR believes Nungesser and Coli went down on Newfoundland's Cape Shore peninsula in or near a shallow lake known locally as Gull Pond. French researcher Bernard Decré believes the flight crashed into the sea near the islands of Saint-Pierre-et-Miquelon off the southern coast of Newfoundland – shot down by a U.S. Coast Guard gunboat patrolling for rum runners. Which, if either, theory is correct?

TIGHAR's investigation of the mystery has been largely dormant for the past ten years as our attention has been focused on the Earhart case. That work has sharpened our skills and the French documentary has inspired us to take a fresh look at the evidence we gathered in Newfoundland.

Decré and TIGHAR agree that several documented sightings confirm that the flight passed northeast to

southwest over the Avalon Peninsula on the morning of May 9, 1927. The sightings are sequential and match the 100 mph cruising speed of l'Oiseau Blanc. The last witness in the chain reported seeing an aircraft over the Cape Shore peninsula "on fire, trailing white smoke." A burning aircraft trails black smoke. The White Bird's 450 horsepower Lorraine-Dietrich engine was liquid-cooled with pipes carrying the water/glycol coolant to and from radiators in the wing roots. What the witness probably saw was steam from a burst coolant pipe. In such a circumstance, the engine would soon overheat and seize. The aircraft was designed to land on water – smooth water. The best option for a forced landing was one of the many lakes (locally known as ponds) that dot the barren Cape Shore interior.

Deriving its name from Cape St. Mary's at its southern tip, the Cape Shore is ringed with a necklace of small fishing villages. The interior of the peninsula, known locally as simply "the country," is a high barren plateau, treeless, boulder-strewn, moss-covered, and populated only by herds of caribou. The people of

the Cape Shore are almost exclusively of Irish descent, insular, fiercely independent, and disinclined to share what they know with outsiders. In the years before WWII, education was through the local parish and contact with the world beyond was spotty at best.



THE PLANE IN THE POND

In the late spring of 1927, Nicholas McGrath (pronounced McGraw), 48 years old, of Patrick's Cove, is trapping muskrat along the Branch River several miles south of Gull Pond when he hears three explosions in rapid succession off in the distance. He cannot imagine the cause. (A crash on landing would drive the White Bird's hot engine into the aircraft's three large fuselage fuel tanks.)

The following winter, while hunting caribou, McGrath takes a short cut across the ice of the frozen Gull Pond and notices metal jammed in the rocks of the pond's small rocky island. He decides it must be airplane wreckage and upon his return publicly wonders if it explains the explosions he heard the year before. About this time James Joseph "Jim Joe" Doyle of Gooseberry Cove, age mid-50s, is seen using metal of unknown origin to repair sled runners. Rumor has it that the metal came from "the plane in the pond."

In 1932, Patrick "Patsy" Judge, age 20, of Patrick's Cove and boyfriend (later husband) of Doyle's adopted daughter Bridget, recovers a piece of metal from the island in Gull Pond. Patsy wants to know what plane it came from but has no means of researching it.



October 25, 1992. TIGHAR recovered an artifact from the small rocky island in Gull Pond. TIGHAR photo.

In 1947, Patsy Judge, now 35, gives the piece he recovered in 1932 to Ralph Martin, 42, a visitor from England and the first "foreigner" Patsy has ever met. Martin returns to England and gives the piece to people at the Avro Aircraft company plant in Chadderton, Yorkshire. At some point, Avro wrote back and, according to Patsy's 1974 recollection, asserted that the piece of metal is, without a doubt, part of the undercarriage of ??? – Patsy apparently lost the letter and later could not remember whether it said the piece was part of the Bluebird or the White Bird. (There was no Bluebird.)

In 1948, apparently before receiving the reply from Avro, Patsy Judge returns to the pond and collects more debris. He writes a letter to Mr. C. Noonan, a businessman in St. John's, seeking his help in identifying the plane. He does not mention the piece he gave to Martin.

"I was in the country last week ... and came across what appears to be parts of an aeroplane" on "the island of Great Gull Pond." "I was wondering if it might be the plane called the Bluebird, as it has spots of blue paint still on it. ... I am sure it must be fifteen or twenty years since the plane fell as the iron is rusted out." (The steel components of the White Bird were painted blue. The artifact TIGHAR found in the pond that we suspect is from the plane had surviving spots of blue paint.)

Noonan referred Patsy's query to the Commissioner for Public Utilities who forwarded it to the Civil Aviation Division. They replied, "We are inclined to agree with Mr. Patrick Judge that the plane might have been at Great Gull Pond for 15-20 years as we have no knowledge of any civil aircraft being missing in this area in recent years. It will be recalled that there were a number of aircraft left Europe about twenty years ago of which no trace of them has been found. It does appear that we cannot or need not take any action for further investigation."

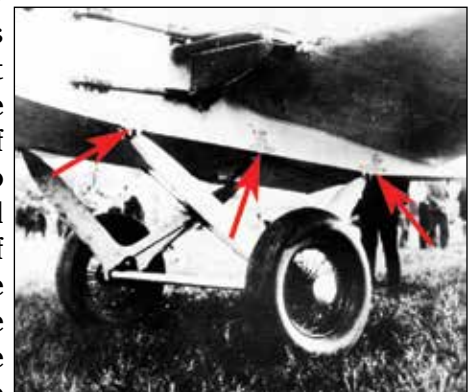
In 1974 a Canadian Broadcasting Corporation reporter tried to follow up on the story but learned from Avro that a fire had destroyed the company's records.

In 1993 TIGHAR's Ric Gillespie interviewed Ralph Martin, the man who had given the object to Avro in 1947. Martin described it as bent and somewhat crumpled, comparatively light, aluminum or stainless steel, no corrosion, bright and shiny, about 12 or 14 inches long, about 3 inches long at its widest part, with strange numerals stamped on it. He thought it looked like "a support piece."

The description fits the stainless steel attach points – Levasseur part numbers 114 A, B & C (2 each) – for the White Bird's jettisonable landing gear.

We have recently confirmed that there was a fire at the Chadderton Avro plant in October 1959 that

destroyed many of the company's records, but did it really destroy the company's copy of the letter sent to Patsy Judge? And what became of the artifact? At the very least, is there a former employee who recalls the incident?



A mystery is not solved if the word never gets out. It's time to pick up the thread and see where it leads us.

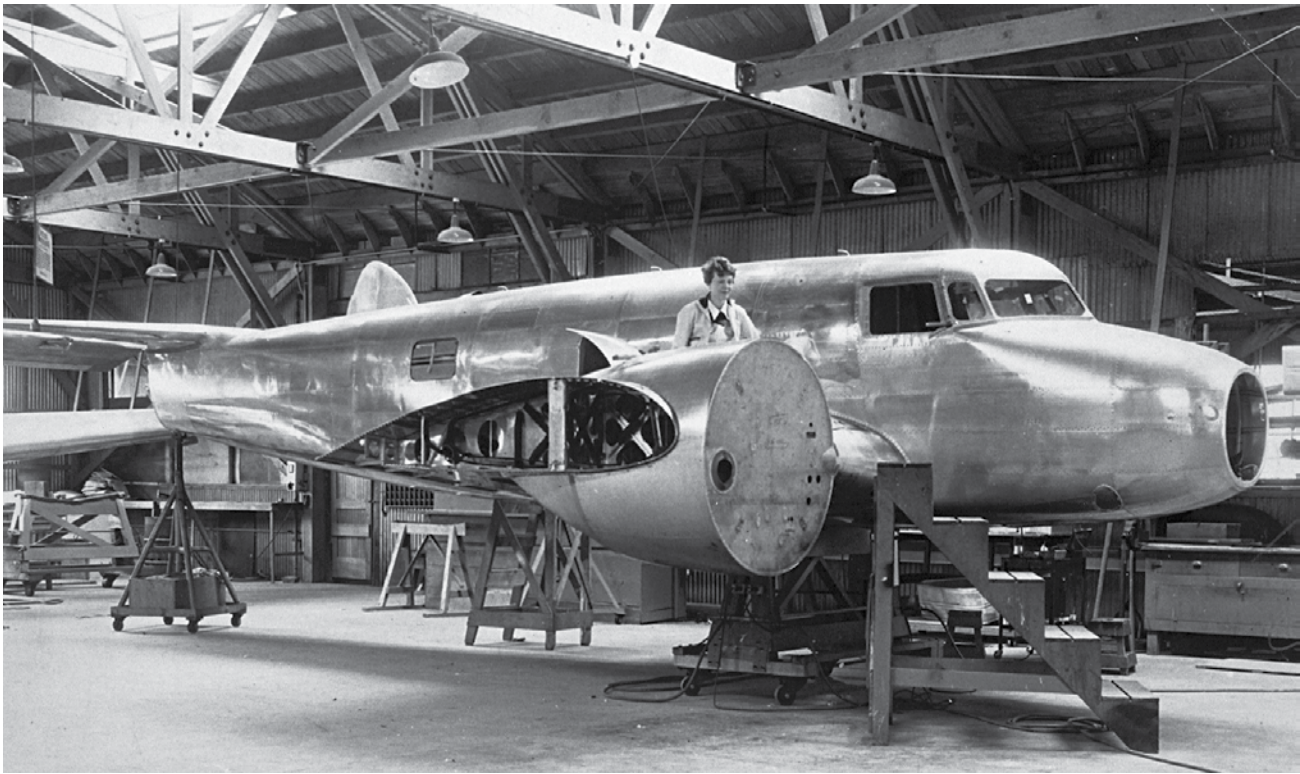


The Eightieth Year



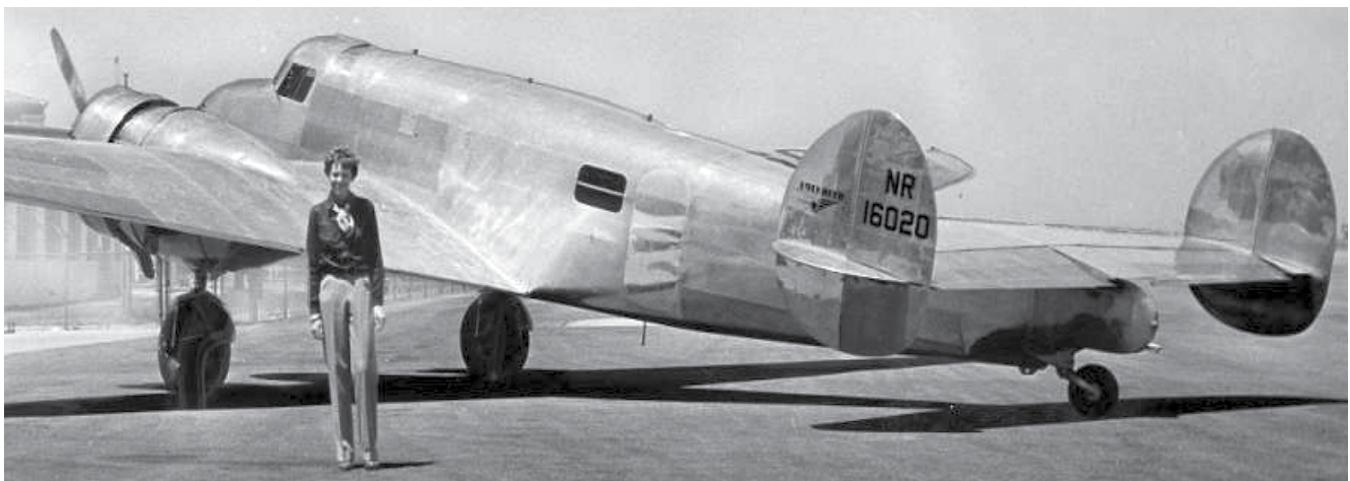
JULY 2, 2016 WILL MARK THE BEGINNING OF THE 80TH anniversary of Amelia Earhart's final and ultimately fatal year. As part of the research for TIGHAR's new book *Finding Amelia – The True Story of the Earhart Electra*, the Amelia Earhart Search Forum has embarked on an ambitious project to construct a detailed timeline of every day from July 2, 1936 –shortly before the delivery of the airplane – to July 2, 1937, the day it disappeared.

Although still in it's early stages, the timeline is uncovering surprising new facts you won't find in the many books and articles about Amelia Earhart.



The first photos of Amelia's Electra under construction were taken on May 28, 1936. The airplane was supposed to be delivered by July 1, but was three weeks late being completed. The reason for the delay is not yet clear.

Amelia had her first ride in the new airplane on July 21, 1936 with Lockheed test pilot Elmer McLeod at the controls. At that time the aircraft was still owned by Lockheed and registered in the Experimental category as X16020, but photos taken that day show the airplane incorrectly marked NR16020 (see below), possibly for publicity purposes. The Electra was delivered three days later on July 24th, Earhart's 39th birthday, but that date was purely coincidence and Amelia was not present. Paul Mantz accepted delivery of the aircraft on Earhart's behalf in Las Vegas to dodge California state sales tax.





In late August 1936, about three weeks after delivery, Paul Mantz flew the airplane with bogus markings in a stunt scene for the Warner Brothers romantic comedy “Love On The Run” starring Clark Gable and Joan Crawford. The scene is featured on Youtube on the TIGHARchannel at <https://youtu.be/7dvJFAIPdNM>.

Below: From mid-August until immediately after Earhart’s participation in the Bendix cross-country race on September 4, 1936, the engine cowlings of the Electra were painted in Purdue University colors of “old gold and black.”



Contrary to later recollections by inventor Fred Hooven, the installation of the Bendix Radio Compass in October 1936 did not occur at Wright Field in Dayton, Ohio but at Purdue University airport in Lafayette, Indiana. Hooven was not present. The Radio Compass was later removed and replaced, with disastrous consequences.





The original plan was for the Electra to make a “fairly spectacular shake-down flight” in late 1936. Earhart, her husband George Putnam, Paul Mantz, and an unnamed navigator were to fly the Electra from Los Angeles, to Mexico City, to Panama, to Havana, to New York, to Purdue University in Lafayette, Indiana, and back to Los Angeles – a total distance of nearly 7,000 nautical miles. Unfortunately, that flight never happened.

The Eightieth Year Timeline is being constructed as a Google Docs document and can be viewed by anyone who has a Google account. Visit the TIGHAR website or TIGHAR Facebook page for the link. TIGHAR members can register to participate in the Amelia Earhart Search Forum and help with the research.

This groundbreaking research is made possible by contributions to the TIGHAR Literary Guild. Please use the enclosed flyer to join the Guild and receive a signed copy of *Finding Amelia – The True Story of the Earhart Electra* when it is completed.



Please Contribute To

The TIGHAR Literary Guild

FINDING AMELIA

the true story of the Earhart Electra

Call it Literary Darwinism. TIGHAR's first book started out as a narrative about Earhart's radio distress calls titled *The Suitcase In My Closet* after a quote from Betty's Notebook. It grew to embrace a much broader scope and became *Finding Amelia - The True Story of the Earhart Disappearance*. A similar evolutionary process has caused us to expand the scope of what was originally envisioned as *The Earhart Electra - From Drawing Board to Disappearance*. Research for the book is correcting so many myths and misconceptions about history's most famous missing airplane, and producing so many new insights into what happened on July 2, 1937, that we've decided to change the title to *Finding Amelia - The True Story of the Earhart Electra*.

This will be the second book in a *Finding Amelia* trilogy. The working title for the third book is *Finding Amelia - The Castaway of Gardner Island*.

These books are every bit as important to TIGHAR's mission of responsible historical investigation as expeditions and artifact analysis. They are how we memorialize what we have learned. The research and writing is made possible by your contributions to the TIGHAR Literary Guild. If you are already a member of the Guild please continue your support. You'll receive a signed copy of the finished book for every \$100 you contribute. If you are not yet a member of the Literary Guild please join and reserve your signed copy.



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Please join us on May 21, 2016 at Old Rhinebeck Aerodrome in Rhinebeck, NY, for a TIGHAR Gathering and Celebration of the first Public Flight of Old Rhinebeck Aerodrome's replica of the Spirit of St. Louis.

Twenty years in the building, Old Rhinebeck's Spirit is the most accurate and authentic replica of Lindbergh's Ryan NYP ever constructed.

Based on a time-warp grass airstrip nestled in the Hudson Valley, the Old Rhinebeck Aerodrome organization epitomizes ethical aviation historic reenactment with replicas of vintage designs that present accurate displays of what flying was like in its infancy and through World War One and the Golden Age of the 1920s. We want to support and encourage their fine work – and what better place for TIGHARs to gather on the 89th anniversary of the Lone Eagle's flight?

The gates open at 10:00 am and the flying festivities go until 6:00 pm. We'll watch Camels, Spads, Nieuports, and Fokkers dance to the song of rotary engines and hear presentations on a variety of topics, including a talk by TIGHAR's Ric Gillespie on the The White Bird. In the afternoon we'll have a short TIGHAR meeting at which we'll present a check to the Old Rhinebeck Aerodrome organization in sponsorship of their continued work in aviation historic preservation.

Charles' daughter Reeve Lindbergh will be on hand for the finale of the days flying, a reenactment of the takeoff from Roosevelt Field, complete with vintage vehicles towing the Ryan to the end of the runway. Rather than head for Paris the Spirit circle back and give us a good look at her classic lines.

We're hoping to raise \$6,000 for the Old Rhinebeck Aerodrome organization. Please use this form to make your donation. TIGHAR members who contribute at least \$100 will get free admission to the event.

For more information about the Spirit of the Aerodrome Grand Unveiling and Gala visit <http://www.spiritoftheaerodrome.com>.



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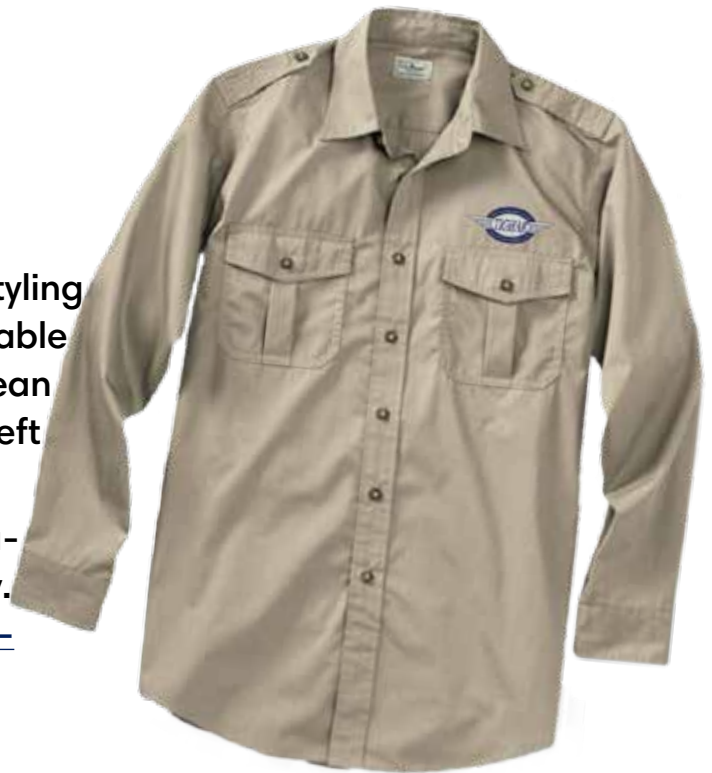
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- ☼ This is a "Members Only" item.



Please use the form on the reverse of this sheet or visit the online TIGHAR Store to place your order. Remember, this is a one-time offer.

We must have your order by April 15, so act now!

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