TIGHAR TRACKS

THE JOURNAL OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY

May 15, 1998

Volume 14, Number 1

. . . that they might escape the teeth of time and the hands of mistaken zeal.

– John Aubrey
Stonehenge Manuscripts
1660

About TIGHAR

TIGHAR (pronounced "tiger") is the acronym for The International Group for Historic Aircraft Recovery, a non-profit foundation dedicated to promoting responsible aviation archeology and historic preservation. TIGHAR's activities include:

- Compiling and verifying reports of rare and historic aircraft surviving in remote areas.
- Conducting investigations and recovery expeditions in co-operation with museums and collections worldwide.
- Serving as a voice for integrity, responsiblity, and professionalism in the field of aviation historic preservation.

TIGHAR maintains no collection of its own, nor does it engage in the restoration or buying and selling of artifacts. The foundation devotes its resources to the saving of endangered historic aircraft wherever they may be found, and to the education of the international public in the need to preserve the relics of the history of flight.

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Fred Noonan–Deadbeat, scapegoat, or forgotten hero? New research is shedding fresh light on Earhart's oft-maligned navigator. See "The Noonan Project," page 9. This photo was taken June 9, 1937, at the Aero Club, Dakar, French Senegal.

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THE KANTON MISSION

On February 14-16, 1998 a thirteen person TIGHAR team flew to Kanton Island to investigate the possibility that an engine from Earhart's plane had been inadvertently brought there in 1971 during a U.S. Air Force missile testing program (see *TIGHAR Tracks* Vol 13, Nos. 2 & 3, "The Canton Engine"). Bruce Yoho, the individual who recovered the engine in 1971 (and now an active TIGHAR member), came along to show us where he dumped the Pratt & Whitney R1340 which he had found on a reef on one of the other islands of the Phoenix Group. Although he was able to locate the spot, we were surprised and disappointed to find that the contents of the dump had since been buried.

When Bruce Yoho told us that, in 1971, he had disposed of the engine in a junkyard just off the end of the main runway at Canton Island, the first question we had was, "What happened to the junkyard when the Air Force left?" To find an answer, TIGHAR researchers went to Vandenburg AFB to examine the files of SAMTEC (Space And Missile Test Center), the 1970s missile test program of which Bruce was a part. The paperwork was extensive and it was clear that environmental concerns had a very high priority. Report after report stressed the fragility of the islands' ecological balance and set procedures to protect plant and animal life.

As the Air Force prepared to shut down the project and leave the Phoenix Islands in March of 1976, there was much official discussion as to how Canton should be cleaned up. Earlier, some scrap metal had been dumped at sea but this was determined to be expensive and dangerous. A November 1974 memo on Environmental Conditions of Canton Island states that "Most bulky noncombustibles are deposited in an area adjacent to the landfill, but there are other scattered areas with minor accumulations." The small junkyard where Bruce dumped the engine would seem to be one of these. The report continues, "Although the disposal areas may appear unsightly, they are not causing any apparent environmental problems or health hazards." Consideration was given to building a jetty out over the reef edge for the dumping of "bulky noncombustible wastes" but a January 1975 report entitled Environmental Protection rejected the idea as "not feasible." It appeared, from our research, that the disposal areas for noncombustible waste (such as old Pratt & Whitney airplane engines) had been left alone. We were wrong.

Once we were on the ground at Canton Island (officially Kanton since 1979) it became obvious that much had been done that was not mentioned in the official paperwork. At Bruce's junkyard, a trench roughly the width of a dozer blade and perhaps five feet deep had been dug about 20 yards to the east. It appears that everything in the dump, except a disabled bulldozer which was apparently too big to move, was then pushed into the trench and buried. Beyond there the landscape is

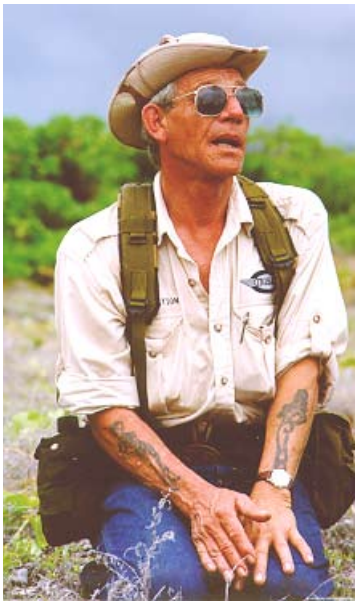
An unnatural landscape.TIGHAR photo by H. Gillespie.

strewn with conical hills and gouged valleys. But there are no hills and valleys in the coral atolls of the Phoenix Islands. These are the burial mounds and graves of heavy equipment and other assorted debris and would seem to be evidence of a different and much grander disposal operation than the clean up of Bruce's dump.

Just how and when all this happened is not clear, but the question now is what to do next about finding Bruce's (and maybe Amelia's) engine? We're quite sure that we have the right spot. The map Bruce drew from memory turned out to be surprisingly accurate and one of his co-workers from that time even remembers that the junkyard contained a disabled bulldozer. The area to be excavated is quite manageable, provided one has some power digging equipment. There is a small, fairly new Kubota L295-II tractor in use on the island. We're presently investigating the cost of acquiring a backhoe that would fit it (about $6,500) and transporting it to the island (that's the part we don't have figured out yet).

Somewhere under there is Kanton's Kubota tractor.
TIGHAR photo by H. Gillespie.

The pilots thought I was nuts...



Bruce Yoho. TIGHAR photo by H. Gillespie

Here, in his own words, is Bruce Yoho's account of how he came to recover the engine that is now the focus of so much speculation, anticipation, frustration, and, ultimately, excavation.

First you need to know that I was on the build up team for SAMTEC. There were not many rules as yet and the operation was running very loosely. It always seemed like, if someone wanted to fly, we went. I am not sure there were any flight plans as such at that time. We left word that we had left for a given destination and when we were expected to return. Long flights were always made with two helos, one for the work detail and the other for rescue if needed.

We would take cargo and workers to the other sites. Sometimes to other islands for, I suppose, some kind of research. Normally on long flights when we arrived at the destination all we (flight crew) had to do was scout around and look for glass fishing balls that may have washed up on the shore. They were popular souvenirs.

At times it got purely boring out there as SAMTEC had not set up entertainment or R & R distractions as yet. Therefore, one made or found his own.

This is how the engine came to be retrieved. As we were flying off of an island, I sat in the cargo door and watched the beach and coral reefs go by under the helo. One could see large sharks and stingrays swimming from time to time. One day we were leaving and I saw this engine on the coral reef. I talked the pilot into retrieving it and we all agreed (although the pilots thought I was nuts). So we slung the engine under the helo for the return to Canton.

We made an approach from the north east direction so others (managers) would not see that we had brought cargo back and what it was. It did not, however, take long for them to ask where I had gotten that engine. To this day I think I retrieved it from Gardner Island. Only TIGHAR has been able to cause me to think I could be wrong because I don't remember a distinct landmark that is there. The fact is I did get it from one of the islands of the Phoenix Group.

(Note: Bruce remembers that the engine was just off the western end of whatever island it was. This matches the location where former residents say there was wreckage at Gardner. However, Bruce has no recollection of seeing the wreck of the S.S. Norwich City *which is also off the western end of Gardner.)*

The engine was placed alongside our hangar where our work was done when we were not flying. I would tinker with it from time to time. It was very corroded and the top cylinder heads (those that stuck out of the water on the reef) had corroded away. The cylinders were there and coral sand was packed into the cylinders. I could not dislodge it easily. I suspect that the chemical residue of corroding aluminum, mixed with the sand, turned it into a concrete type substance. Bolts that I attempted to turn were frozen and shoulders were corroded to the point that you could not get a good bite with a wrench. I recall there being a hole in the case and I could see gears. The crankshaft is a blur in my memory, except I recall there being items attached (definitely not

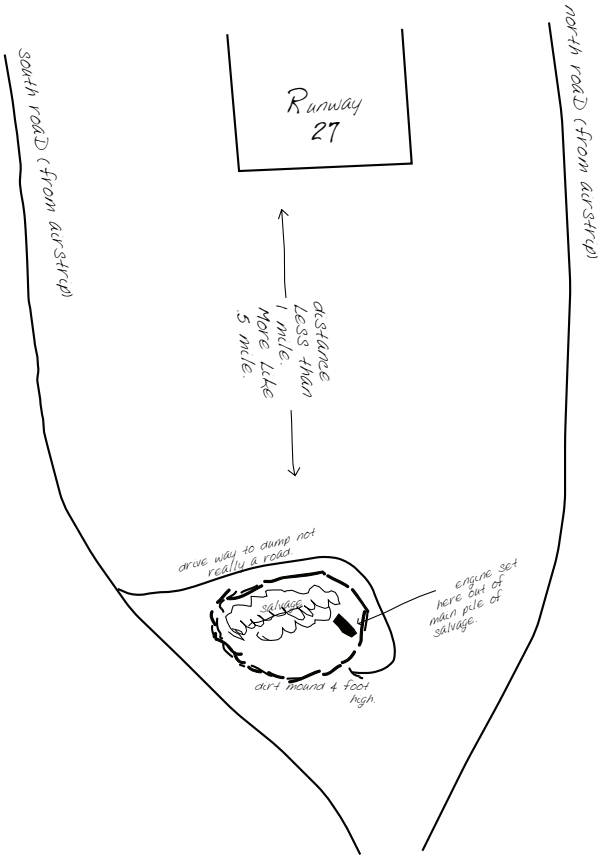
a prop but there could have been the remains of the hub). I do not recall an engine mount or if the accessories were removed or corroded away. The one thing I do know is that I had the engine sitting on what was left of the cylinders and it sat up without needing to be propped up with shoring. This means there were items sticking off of the engine to prop it up. To get an idea of what I mean , try balancing a quarter on edge.

Mags, generators, starters would or should have been corroded to the point of coming off of the engine from the wave action of the ocean. All of these items have aluminum mounting faces and once they corroded there is nothing left to hold them on.

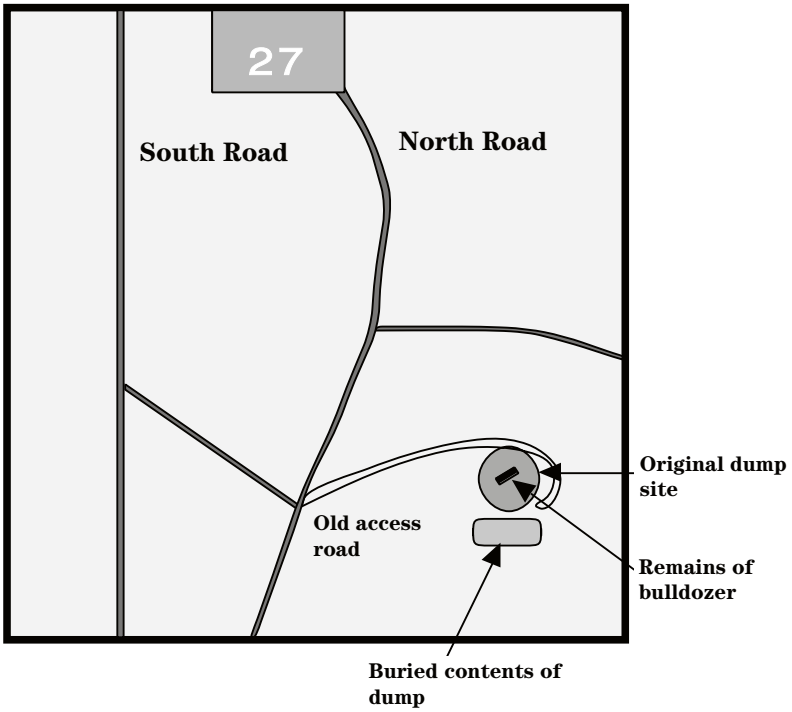
I got bored very soon with the engine as I was a young man and my attention span was only as long as the excitement. I could, however, watch the World Airways stewardesses stand on the ramp for hours trying to determine what they were wearing or not wearing and after 10 minutes they normally were not wearing much in our eyes.

Ok, a two star general was to do some kind of inspection and the boss wanted the area cleaned up so I was told to hide the engine. Well, totally bored with it, I took it to a salvage area and dumped it.

You may say, "Why?" I did not have much interest in history or A.E. At that time I was a young man trying to start his family and that occupied most of my time. I did not learn of TIGHAR until many years later when I saw an article in the paper about their expedition to Gardner. The article talked about the islands and that caught my interest and I discovered Earhart may have gone down there. I then remembered the engine and its size. It struck me, would TIGHAR like to know about it? I tried to find them but soon lost interest. Linda Finch's flight brought out another story and at the end of the article TIGHAR was mentioned again. This time I had the Internet and could not find them but I did get an e-mail address from Purdue University's Library. The rest is history.



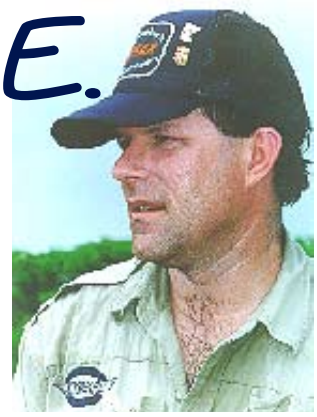
Bruce's hand drawn map.



Map based on observations made on site.

Ate another MRE.

The story of TIGHAR's Kanton Mission expedition is best told through the actual field notes of team member Kenton Spading (TIGHAR 1382CE). Kenton is a hydrologic engineer for the U.S. Army Corps of Engineers in Minnesota. His field experience with TIGHAR includes digging a P-47 out of the freezing Delaware mud, weathering a hurricane while searching for the White Bird in Newfoundland, and riding out tropical cyclone Hina during last year's Niku III expedition. You'd think he would know better by now.



Kenton (aka Kanton) Spading. TIGHAR photo by H. Gillespie

Sat. February 14, 1998

1645 hrs landed at Canton Island. Stepped off the plane to a group of children, women, and men. Heather handed out leis to the kids. I met the airport official (Peter). He has been here since 1993 but he has nothing to do because the beacon is broken. Checked in with the Police/Customs guy. It costs $75 to land here. Our co-pilot paid $35 for the use of a truck and a 4-wheel ATV and trailer to haul us back down the runway to look for the engine. The truck is a badly beat-up Nissan pickup with a flat bed. It has a small diesel running right off the manifold (no exhaust). The dash is gutted. They push it to start it.

Walking east of the end of the main runway we found: a buried bulldozer, concrete footings, concrete slabs, rear ends from cars and trucks, radiator (truck?-quite large), and a bulldozer sitting above ground with half the engine block rusted all the way in to the crankshaft and connecting rods! Saw small chunks (2 feet-3 feet) of aircraft aluminum, all flush riveted.

We found... a bulldozer sitting above ground with half the engine block rusted all the way in to the crankshaft and connecting rods! TIGHAR photo by H. Gillespie.

This is a general recon trip. We think we have located the general area where Bruce dumped the aircraft engine. We found an area that had been a junk yard at one time. We will come back here tomorrow. 1810 hrs-heading back.

We decided to camp on the lagoon shore. We started a fire, laying out under the stars on the beach. In bed 2100 hrs. Clouded up and sprinkled. Beautiful lagoon.

Sun. February 15, 1998

0500, raining. Got up, ate some oranges and a candy bar. Daybreak. Raining harder so heading for the aviation gas hangar. Ate a sandwich w/cheese, green peppers and cucumbers.

> *Note: In addition to the military MREs we had brought along for provisions, we had two huge coolers of cold cuts, veggies, cheese, etc. provided by the good people at Air Kiribati/Aloha Airlines who catered our charter. We asked for enough sandwich makings for lunch on the flight down. What we got was a flying delicatessen.*

The truck broke down (fuel pump?) so we all started walking toward the old dump area at the end of the runway. Everyone except Bruce and I walked down the runway. We walked down the road between the runway and the lagoon. We lost sight of the others.
0905 hrs. We came to two 2x4s approximately 1 foot apart being used as posts just off

The truck broke down ... so we all started walking toward the old dump area at the end of the runway. TIGHAR photo by H. Gillespie.

the edge of the road. Bruce stopped. He thinks this is far enough. I walked toward the ocean and came to the rusty bulldozer seen yesterday. There are auto/truck engine blocks, heads, pistons, rear ends (differentials), rotted wood, barrels, etc. laying around. Ric walked back out to meet Bruce at the road. Bruce then led Ric in and they ended up at the old dump/bulldozer site. From Bruce's description, this seems like a likely spot.

Bruce is very sure we are in the right place. L–R: Bruce Yoho, Ric Gillespie, Tom King. TIGHAR photo by H. Gillespie

We are not doing an organized grid search. Everyone is basically wandering around looking for signs of an aircraft engine. It is not too hard to cover a large area fast. The bushes have spaces betwen them and there is a lot of bare ground or ground covered with crawling vines. Bruce is very sure we are in the right place.

1145, raining, fairly hard-driving rain, windy, everyone is soaked. People are scrambling to get into bushes for cover-no use-soaked to the skin. Ric announced that anyone who wants to go back can (the truck is here now). Some are cold. Only Ric, John C., Russ M., Tom K., Johnny Johnson, and I stayed behind. I ate an MRE. Chicken stew.

The rain let up so we went to a pile of coral rubble just east of the bulldozer. The pile has chunks of iron sticking out. Motors, rear ends, etc. We started uncovering some of the stuff by hand. John C. uncoverd some airplane parts. I looked around some-it is clear that a bulldozer has been all over the area. You can see where the blade has left ridges and low berms of coral. Other than the rusty bulldozer, 99% of the stuff is half buried. It is obvious that someone came in here to purposely bury the junkyard/dump.

The pile has chunks of iron sticking out. Motors, rear ends, etc. TIGHAR photo by H. Gillespie

Still raining, so we gave up and are heading back to the airplane. Very wet out. Sat around in the fuel shed and wrote notes. Ate another MRE.

The Kanton Mission Team

L to R–TIGHAR Board member and expedition sponsor Dick Reynolds, expedition sponsor Joe Hudson, ABC News cameraman and veteran of three TIGHAR expeditions Sam Painter, TIGHAR photographer Heather Gillespie, TIGHAR videographer Russ Matthews, Ric Gillespie, Bruce Yoho, John Clauss, team physician Col. Tommy Love USAF, expedition sponsor Kenton Spading, expedition sponsor Lee Kruczkowski, expedition sponsor Johnny Johnson, Earhart Project archaeologist Dr. Tom King. TIGHAR photo.

The Noonan Project

Several separate threads of investigation by TIGHAR members around the U.S. and around the world have come together to focus on the other aviation pioneer who mysteriously disappeared over the Central Pacific on July 2, 1937. Here's an overview of the latest results.

Chasing the Bones

In February, Kenton Spading (TIGHAR #1382CE) succeeded in tracking down a 1941 report by the principal of the Central Medical School in Suva, Fiji which sheds more light on the bones found on Nikumaroro the previous year. Contrary to the initial opinion expressed by Dr. Lindsey Isaac that the individual was an elderly Polynesian (see *TIGHAR Tracks* Vol. 13, Nos. 2&3, "The Tarawa File"), Dr. D. W. Hoodless concluded that the bones were those of a middle-aged male of European or mixed-race extraction. That description is consistent with Fred Noonan. However, he also felt that the subject was of relatively short, stocky build. Noonan was tall and thin. Fortunately, Dr. Hoodless included with his report the notes and measurements upon which he based his conclusions. These are being re-examined by forensic anthropologist Dr. Karen Ramey Burns (TIGHAR #2071) and the measurements are being applied to revised formulae which may confirm or contradict Dr. Hoodless's findings.

Of course, our first concern is to find out whether the bones may still exist. The report suggested that they may have gone to the University of Sydney, but inquiries there by Australian TIGHAR David Kelly (#2092) have turned up no indication that that happened. Kenton Spading is looking into the possibility that they were sent to England and

Report on portion of a human skeleton.

I have today examined a collection of bones forming part of a human skeleton. These bones were delivered to me in a closed wooden box by Mr. P. D. Macdonald of the Western Pacific High Commission.

2...The bones included:- (1) a skull with the right zygoma and malar bones broken off: (2) mandible with only four teeth in position: (3) part of the right scapula: (4) the first thoracic vertebra: (5) portion of a rib (? 2nd right rib): (6) left humerus: (7) right radius: (8) right innominate bone: (9) right femur: (10) left femur: (11) right tibia: (12) right fibula: and (13) the right scaphoid bone of the foot.

3...From this list it is seen that less than half of the total skeleton is available for examination.

4...All these bones are very weather-beaten and have been exposed to the open air for a considerable time. Except in one or two small areas all traces of muscular attachments and the various ridges and prominences have been obliterated.

5...By taking measurements of the length of the femur, tibia and the humerus I estimate that these bongs belonged to a skeleton of total height of 5 feet 5½ inches approximately.

6...From the half sub-pubic angle of the right innominate bone, the "set" of the two femora, and the ratio of the circumferences of the long bones to their individual lengths it may be definitely stated that the skeleton is that of a MALE.

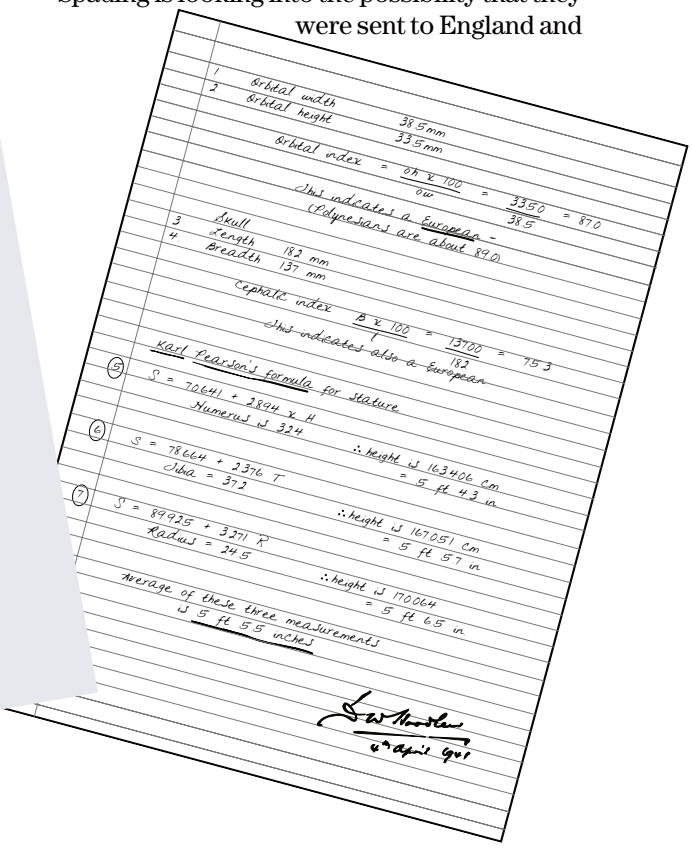
7...Owing to the weather-beaten condition of all the bones it is impossible to be dogmatic in regard to the age of the person at the time of death, but I am of the opinion that he was not less than 45 years of age and that probably he was older: say between 45 and 55 years.

8...I am not prepared to give an opinion on the race or nationality of this skeleton, except to state that it is probably not that of a pure South Sea Islander--Micronesian or Polynesian. It could be that of a short, stocky, muscular European, or even a half-caste, or person of mixed European descent.

9...If further details are necessary I am prepared to take detailed and exact measurements of the principal bones in this collection, and to work out the various indices (e.g. the platymeric index for the femur or the cnemic index for the tibia) but if such a detailed report is required the obvious course to adopt would be to submit these bones to the Anthropological Dept of the Sydney University where Professor Elkin would be only too pleased to make a further report.

Principal,
Central Medical School
Suva.

4th April, 1941.



may be among the records of the Western Pacific High Commission. Through dogged research, Kristin Tague (TIGHAR 0905CE) has learned that although the Central Medical School once had "bones galore" which were used in the teaching of anatomy, a change to "problem-based learning" in 1991 prompted a house cleaning. The only bones there now are artificial. Kris is trying to determine how and where the disposal of the bones took place.

Sons and Daughters of Eve

Should we be so fortunate as to eventually relocate the bones found on Nikumaroro in 1940, or find more which may still be there, we'll need samples of mitochondrial DNA from both the Earhart and Noonan families so that comparisons can be made. We must have mitochondrial DNA because that is the only kind expected to have survived in 61 year-old bones. This hardy form of DNA is passed exclusively through the female because the male's mtDNA resides in the tail of the sperm which, of course, never enters the egg. That means we need living, female line relatives of both Fred and AE. Amelia is no problem. Her sister's daughter could be a source.

Fred is a problem. At present we know of no living relative except an alleged male cousin. Surprisingly little documentable information is available on Frederick J. Noonan and most of the brief biographical sketches of him in books about Earhart are little more than folklore. Rising to the challenge, several subscribers to TIGHAR's on-line Amelia Earhart Search Forum have begun trying to track down a source of mtDNA for Fred. Sandy Campbell (TIGHAR #2110) leads a growing research group which includes Jackie Ferrari (TIGHAR #2091), Don Jordan (TIGHAR #2109), Jerry Hamilton (TIGHAR #2128), Dick Pingrey (TIGHAR #0908C), and Fred Madio (TIGHAR #2042). Their efforts necessarily involve filling in the many blanks in our knowledge of the largely neglected and often maligned other half of the 1937 world flight team. The information they are uncovering presents a rather different picture from the Noonan of legend.

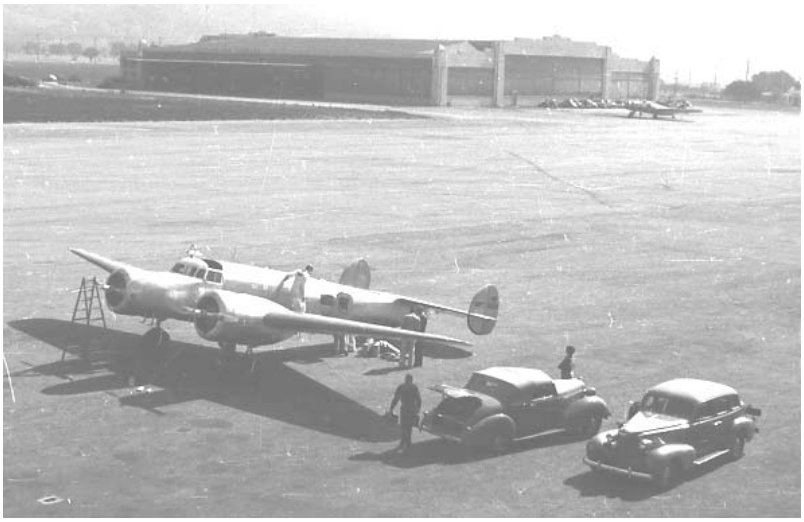
The Real Fred Noonan

It has traditionally been held that Frederick J. Noonan was born in Chicago in 1894, but if that is true, the fact somehow escaped the notice of the 1900 U.S. Census. Sandy Campbell found a Fred Noonan born in Warren Co., Illinois in 1899, but his middle initial was C. A birth certificate uncovered by Jackie Ferrari of Fifeshire, Scotland now leads us to suspect that Earhart's navigator is the Frederick Joseph Noonan born July 14, 1891 in Norwich, England, to Joeseph and Clara Greenfield Noonan. Joe Noonan was born in Roscommon, Ireland.

The Noonan Project team has also established that Fred married his first wife, Josie M. Sullivan, on July 11, 1927 in Jackson, Mississippi and was divorced from her in Juarez, Mexico on March 3, 1937. That's just ten days before it was first announced that he had joined Earhart's team for the first world flight attempt which departed on March 17, 1937. That endeavor ended on March 20th with the crackup at Luke Field in Hawaii. On March 27th, two days after the world flight team had arrived back in California aboard the Matson liner S.S. *Malolo*, Fred married Mary Beatrice Martinelli (neé Passadori) in Yuma, Arizona.

No contemporaneous source has yet been found to support allegations that Fred Noonan had a drinking problem. Stories abound, but there is no hard evidence. No letter, diary or memorandum has surfaced to explain Fred's departure from his illustrious career at Pan American, or even pin down the date, which seems to have been sometime in early 1937. On April 4th, Fred and Mary Bea were involved in a head-on collision car accident near Fresno. Fred skinned his hand, Mary Bea was cut on the knee and scalp, and the driver of the other car and the infant with her were "cut and bruised but not seriously hurt" according to the April 5, 1937 *Oakland Tribune*. Fred was cited for driving in the wrong lane, but there was no mention of alcohol. In his 1966 best-seller, *The Search For Amelia Earhart*, Fred Goerner alleges that "a notation at the bottom of the ticket said: No injuries. Driver had been drinking." But there were injuries. Mary Bea, in fact, spent some time in the hospital. Did Goerner see the notation or only hear about it? Does it still exist?

The known events in Fred Noonan's life in March of 1937 certainly invite speculation. Having recently left a distinguished position with Pan American, he ends a 10 year marriage and signs on with the Earhart



Burbank, May 20, 1937. The unpublicized departure of the second world flight attempt. AE is in conference near the tail of the airplane. Fred unloads the trunk of his car while Mary Bea looks on. She will never see him again. Carter-Johnson Collection.

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world flight. When that enterprise ends in disaster, he remarries in what must have been a spur-of-the-moment wedding. This is not the happy-go-lucky, boozy Irishman of the Earhart myth. There is much more we need to learn about Mr. Noonan.

The Pensacola Ludolph

Yet another avenue of inquiry provides a possible link between Noonan and Nikumaroro. Among the objects found with the bones in 1940 was a sextant box. In a telegram dated 23 September 1940 (see *TIGHAR Tracks* Vol. 13, Nos. 2&3, "The Tarawa File") it is described this way:

> Sextant box has two numbers on it. 3500 (stencilled) and 1542–sextant being old fashioned and probably painted with black enamel.

Hoping that the numbers and description might provide a clue to the box's origin, researchers and sextant experts in the U.S. (Peter Ifland, TIGHAR #2058), Great Britain (David Charlwood, TIGHAR #1978) and Europe (Lou Schoonbrood, TIGHAR #1198) collectively examined something over 500 sextants and boxes in various collections. No luck. Although virtually all sextants came in protective boxes, none of those examined had numbers stencilled or written on them. Military instruments often have a small metal plaque nailed or screwed to the box lid on which numbers are inscribed. Many sextants, both civilian and military, are painted with black enamel. It looked like the sextant box was a dead end.

Help came from an unexpected quarter. After reading about the sextant box in *TIGHAR Tracks*, officials at the National Museum of Naval Aviation in Pensacola, Florida contacted us to say that they have in their collection an "old fashioned" sextant, painted in black enamel, and manufactured in 1919 by W. Ludolph GmbH of Bremerhaven, Germany. Some numbers are hand-written on its wooden box. On the bottom is 3547 under which is written 173. On the front face is 116 in a similar style.

Although the numbers are hand-written rather than stencilled, this is the first box we have seen with any numbers at all on the outside, and the 3547 seems to resonate nicely with the 3500 on the Nikumaroro box.

But what is most interesting is the certification which accompanies the instrument:

Oddly, the numbers on the box bear no apparent relationship to the serial number on the instrument (XIX 1090). Are they, perhaps, part of some kind of inventory system? Are the sextant boxes of Pensacola and Nikumaroro both part of that system? Ludolph sextants were highly prized as among the finest in the world, but this is not an aviation instrument. Why would Noonan, a professional air navigator, have an "old fashioned" nautical sextant? Fred himself provides the answer in a letter to Commander P. V. H. Weems of the Weems School of Navigation. In describing the techniques he used to navigate the 1935 Pan Am China Clipper flight, Noonan says,

"Two sextants were carried. A Pioneer bubble octant and a mariner's sextant. The former was used for all sights; the latter as a preventer."

Did Fred Noonan, the master navigator, perhaps have a collection of fine nautical sextants? If not, how likely is it that he loaned his only sextant–a beautiful Ludolph–to a student and didn't bother to get it back when he left Pan Am? Could the sextant box found on Nikumaroro in 1940 have been that of Noonan's "preventer"? And what happened to the sextant itself? Is it still somewhere on Nikumaroro? These are questions which, until a few months ago, we didn't even know enough to ask. Further research may provide answers and, just as important, more questions.

6 June 1968

TO WHOM IT MAY CONCERN:

I, hereby, certify that the accompanying Navigation Sextant was the property of Mr. Frederick J Noonan, who was copilot-navigator on the World flight with Amelia Aerhardt *[sic]* when their plane was lost in the Pacific Ocean.

This instrument was borrowed by the undersigned who at that time was studying navigation under Mr. Noonan in preparing for service in the Pacific Division of Pan American Airways, for use in practice praticle [sic] navigation. Identification marks are not in evidence, however, the undersigned hereby certifies as to the authenticity of the above remarks.

W. A. Cluthe
Retired Capatin, Pan American
World Airways.
Ex. C.A.P. USN, Number 12.

4312 Winding Way,
Mobile, Alabama-36609

The Pensacola Ludolph box.

Back To Square One for 2-2-V-1

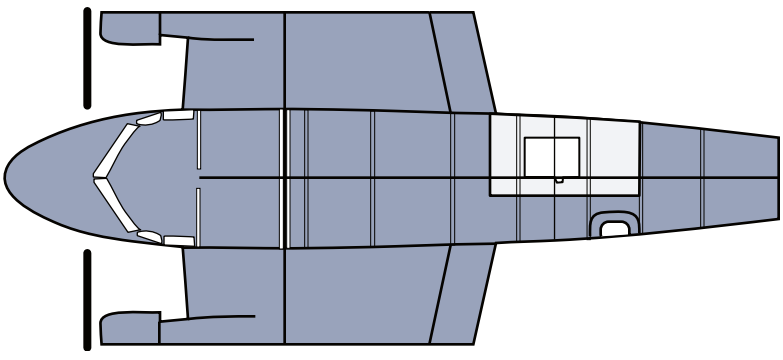
TIGHAR photo by P. Thrasher

Artifact 2-2-V-1.

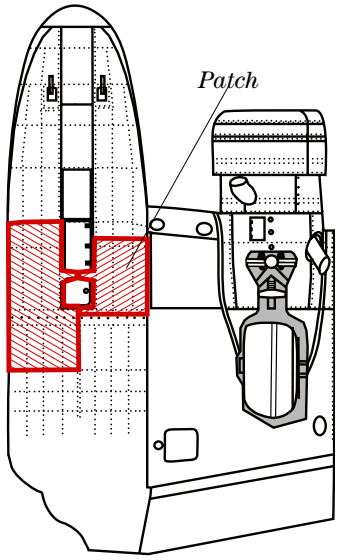
Recently analyzed photographic evidence indicates that the section of aluminum aircraft skin we found on Nikumaroro in 1991 (Artifact 2-2-V-1) does not come from the part of the Earhart aircraft where we had suspected it did.

The aluminum sheet, while undoubtedly a section of airplane skin, does not seem to fit any known aircraft type, including the Lockheed Electra. However, the general construction of the piece (type of aluminum, thickness, rivet type, rivet size, space between rivets, rate of taper between rivet lines, etc.) seems to be more typical of the Lockheed 10 than of the WWII types used in the Central Pacific. There is no doubt that, following the extensive repairs necessitated by the Hawaii wreck which ended the first world flight attempt, Earhart's airplane differed in some respects from standard Electra's. It was, and still is, our hypothesis that Artifact 2-2-V-1 is from one of those repaired, non-standard areas. But, like trying to fit an errant piece into a jigsaw puzzle, we haven't yet found just where and how it fits.

Our first candidate for a point of origin was an area under the aft cabin. The match seemed pretty good: .032 Alclad aluminum, four rows of AN455 AD 3/3 rivets converging at a rate of 1/4 inch over the length of the sheet, a bordering line of #5 rivets, no crossing line of rivets, even a failure pattern that suggested that the sheet tore around an antenna mast that was on Earhart's Electra. The fit wasn't perfect. The rivet pitch (space between individual rivets) was 1 inch on the artifact rather than the 1.5 inches on the airplane, and the space between lines of rivets was an inch or less narrower on the artifact than on the airplane. Still, the match was far closer than we had seen on any other type of aircraft and we thought those variations might not be unreasonable on an airplane as extensively repaired as Earhart's. Our critics disagreed–vehemently. They pointed out that the distances between the lines of rivets are dictated by the airplane's stringers, which are not likely to change. And the antenna wasn't where we had thought it was. No cigar.

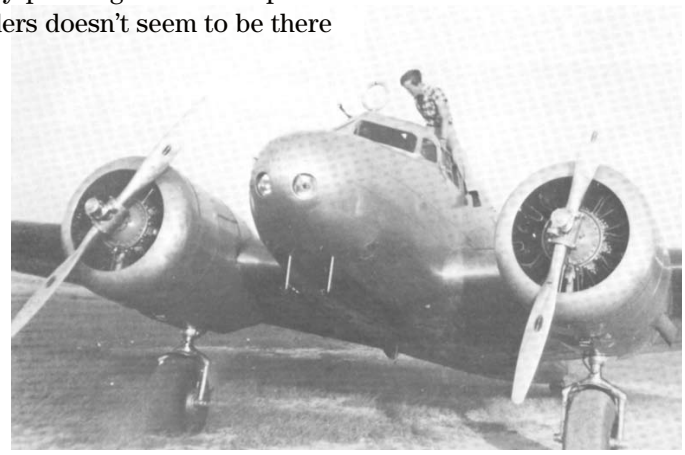


Our next possibility was farther forward on the belly. As detailed in "Finding A Fit" (*TIGHAR Tracks* Vol. 12, Nos 2 & 3), we had reasoned that the torn sheet of metal "may be from a repair patch installed on the underside of the Earhart aircraft on the left hand (pilot's) side of the airplane just forward of the main beam (wing spar)." Lockheed repair orders called for the metal sheet in that area (Skin 25L) not to be completely replaced but for new aluminum to be installed "from a point 9 1/2 inches aft of the slanting bulkhead to main beam–rivet new skin in place with a double row of rivets similar to joint in slanting bulkhead." If the ordered repair had been carried out using .032 rather than the .040 Alclad, and if two stiffeners had been added to compensate

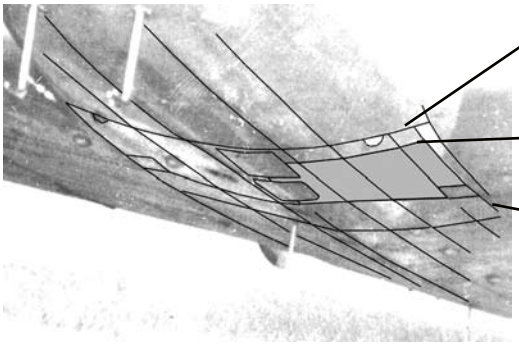


for the slightly thinner metal (a not-unreasonable possibility), we would have something that looked exactly like 2-2-V-1.

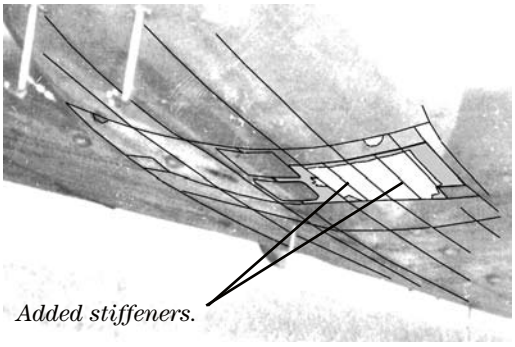
It was an elegant hypothesis, but to test it we needed a good photo of the suspect part of the belly taken after the repairs. Such a picture proved very difficult to come by, but after an exhaustive search Mike Firczuk (TIGHAR #2002) found a pair of photos taken at San Juan, Puerto Rico on June 3, 1937 which had just the right angle and sufficient resolution to give us a look. Mike managed to borrow original prints from an archive and our friend Jeff Glickman at Photek in Hood River, Oregon digitized and enhanced the photos, allowing us to see if the rivet lines we had theorized might be there were, in fact, present. They weren't. What's more, there appears to be at least one structure present which should show up on the artifact, but doesn't. But what is really puzzling is that the patch specified in the repair orders doesn't seem to be there either. There should be "a double row of rivets similar to joint in slanting bulkhead" 9½ inches aft of the slanting bulkhead and there is quite obviously no such seam present. It would appear that whatever repairs were made to NR16020 following the wreck at Luke Field, they did not conform entirely to the repair orders issued by Lockheed. That presents something of a quandary in trying to assess whether Artifact 2-2-V-1 could reasonably be part of the Earhart aircraft. In the absence of photos taken by someone lying on their back under the airplane, no one can say with any certainty just what the rest of the belly looked like, regardless of what the repair orders call for. So where did this battered bit of aluminum come from? Further research may or may not provide a conclusive answer, but we'll keep at it.



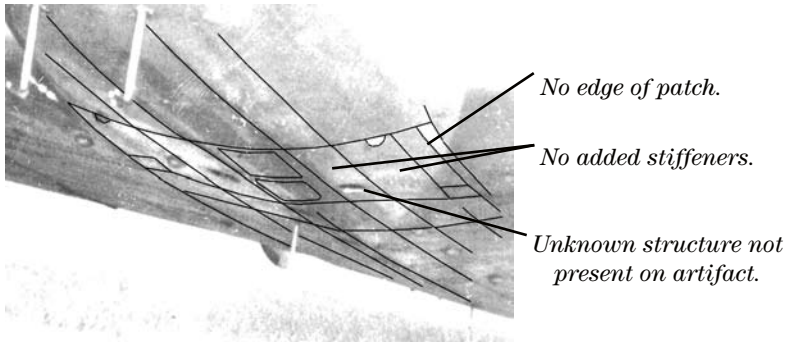
This is what the belly should look like if the repairs were carried out as specified in the Repair Orders. (Rivet lines shown as solid lines. Patch shown in gray.)



This is what the belly should look like if the patch was installed as theorized by TIGHAR. (2-2-V-1 is shown in white against gray patch.)



This is what the belly actually looked like as determined from the San Juan photos.



The Wreck Photo

We asked, "Is This Earhart's Electra?" and offered a prediction:

"The photograph on this page has already stirred up quite a bit of controversy and will probably stir up more."

That bit of prophecy has certainly come true. Now known generally as "the wreck photo," there is no shortage of opinion about what it might be, what it definitely is and what it definitely is not. Unfortunately, like a Rorschach inkblot, different people see different things. Some see a Lockheed 10. Some see anything but a Lockheed 10. Some see another type of aircraft. Some see a jumble of parts from several types. A guy in a gorilla suit has even been seen in the background. What's the truth? Is it even possible to know for sure? And what difference does it make anyway?

There is no way for a single photograph to stand as absolute proof of anything except its own existence. The possibility of an undetected forgery is always present. However, if a scientifically sound identification can be made; and if there is good reason to believe that the airplane in the photo is NR16020, then the photo is, at the very least, a compelling clue that the Earhart aircraft did not sink at sea. If the photo shows the wave battered wreck of AE's Electra washed up into the treeline on the shore of a Pacific atoll, it is startling corroboration of the anecdotal accounts of just such a wreck related by former residents of Nikumaroro and a significant guide as to how we should construct our search effort for the Niku IIII expedition. So, yes, it does make a difference and it's worth trying to figure out what we can about the photo.

To make a scientifically defensible identification of the aircraft in the photo requires that we remove from the process, to whatever degree is possible, the element of opinion. If we rely upon individual judgements of whether, for example, the nose section looks too wide or too short to be this or that, we are doomed to wallow in controversy. If, instead, we quantify the elements visible in the photo and compare them to objects or features of known identity, we can then say with some certainty that this thing is just like this thing and they are probably, therefore, the same sort of thing. Conversely, we can say that this thing is not like this thing, so they are probably different things.

It is, in fact, possible to set some very conservative requirements for any aircraft type to be considered as a candidate for the mystery plane. It must:

1. Be of stressed aluminum construction.
2. Be multi-engined (probably twin).
3. Have two bladed, Hamilton Standard (or Hamilton Standard-type) propellers.
4. Have adjustable pitch or constant speed propellers.
5. Not have full-feathering propellers (with domed hubs).
6. Have cowlings capable of coming apart, either by design or by failure, in such a way as to leave only a ring cowl present.
7. Feature a nose section constructed of four transverse bulkheads ahead of the windshield.
8. Have a windshield with a single prominent centerpost.

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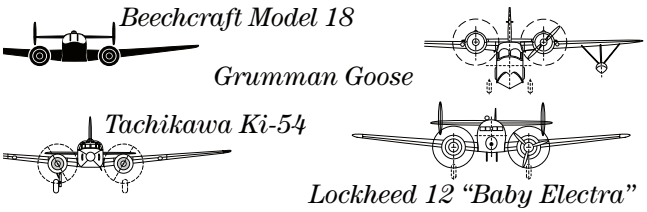
9. Have a rim of raised aluminum along the base of the windshield.
10. Have panels behind the inboard wing leading edges which feature two large lightening holes.

Surprisingly few candidates even come close to these requirements. In addition to the Lockheed Model 10, suggested alternates include:



Of these, the Beech, and Lockheed 12 have windshields that are inconsistent with the photo and the long nose of the Goose has a hatch that is not present in the photo. The Tachikawa seems a better candidate but structural information is harder to come by. Research continues.

Perhaps the most important quantification of the airplane in the photo centers upon the relative proportions of the propeller and the cowling of the left-hand engine. Because we have nothing in the photo of known dimension, it is not possible to establish a definitive scale. However, it is possible to establish whether or not the proportions measurable in the photo are right for various types of aircraft. We naturally decided to start with the Lockheed Model 10.

The first step was getting accurate propeller and cowling dimensions. The propeller was easy. With original Lockheed records, and the help of Jim Cook (TIGHAR #2072) at Hamilton Standard in Windsor Locks, Connecticut, we were able to document that all Model 10As (with Pratt & Whitney 450 hp R985 engines) and 10Es (with P&W 550 hp R1340 engines) had Hamilton Standard props exactly nine feet in length. Cowling dimensions for the Model 10A were measured directly from Lockheed 10A constructor's number (c/n) 1052 at the New England Air Museum, also in Windsor Locks (Earhart's 10E Special was c/n 1055). Cowling dimensions for the Model 10E, with the larger R1340 engines, proved to be much harder to establish. Only one genuine 10E still exists–c/n 1042. It is now under rebuild in New Jersey, but the owner will not permit access to the aircraft. A converted 10A, c/n 1015, which was modified to resemble NR16020 for a 1997 promotional recreation of Earhart's flight, has the big engines but the cowlings are not correct (they're actually for the North American AT-6). While we were trying to find an authentic 10E cowling to measure, Jeff Glickman of Photek, Inc. in Hood River, Oregon went ahead with the hi-tech forensic work on the photo. Here's an excerpt from Jeff's preliminary report in September 1997:

World Flight 1997's Electra. Right engine. Wrong cowling.

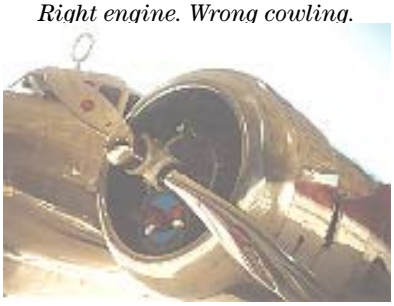
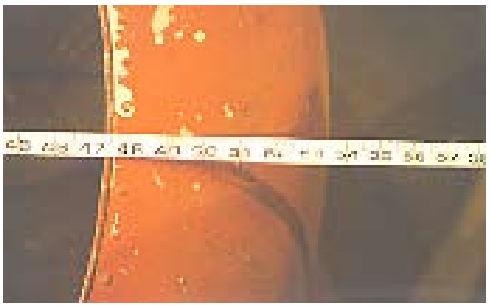


Photo courtesy L. Schorer.

> The Lockhheed10 uses a 9´ prop which was used as a scale in the analysis of this photograph. Because the propeller has roll, pitch and yaw relative to the film plane (i.e. relative to the observer), there is an oblique projection of the propeller on to the film plane in all 3 dimensions. This results in "foreshortening" of the propeller on the image plane, hence the apparent length of the propeller in the photograph is not constant–it is longer at one end and shorter at the other end. The variation as measured from the photograph from the lower right corner of the propeller is approximately 8%. 6.87 pixels per inch is the mean sampling rate in the upper portion of the propeller while 6.61 pixels per inch in the mean sampling rate for the lower portion of the propeller. A linear model was employed for estimating the sampling rates at the ends of the propeller which resulted in 7.0 pixels per inch at the upper left end of the propeller and 6.48 pixels per inch at the lower right end of the propeller.
>
> The lengths of the upper and lower portions of the propeller were measured multiple times to establish the projected lengths. The mean values were used for computation and the variance used to establish error bounds. The center of the probable error band for measurement error in the length of the propeller is 1.13˝. Repeated measurements of the engine diameter yielded a mean diameter of 54˝ with a probable error band of 1.34˝.
>
> Because the Lockheed Electra 10A has an engine diameter of 46.34˝, these results exclude the possibility that the airplane in the wreck is a 10A.
>
> Jeff Glickman
> Board Certified Forensic Examiner

If the airplane in the photo can not be a 10A, that would also seem to exclude other types which use the nine foot prop and the 450 hp R985 engine (i.e. the Beech 18 and the Lockheed 12). But what about the Lockheed 10E? Did it have a cowling diameter within 1.34 inches of 54 inches? If not, we could forget about the wreck photo. But where could we get our hands on an authentic 10E cowling to measure?

The answer came, quite unexpectedly, during a visit to the National Museum of Naval Aviation in Pensacola, Florida to examine a sextant in their collection (see "The Pensacola Ludolph," page 11). In storage at the museum is yet another NR16020 wannabe. C/N 1130 is a late production 10A which was approaching completion of an extensive rebuild as an Earhart look-alike when the project, funded by a private foundation, ground to a stop. Until the problems were resolved, the Navy agreed to provide storage space. Invited to inspect the project, we noticed some old, used cowlings lying on the floor. Upon closer inspection we noted markings that read "Lockheed 10E cowl, P&W 1340." Where they came from is anybody's guess, but we didn't much care. We measured the diameter of the assembled cowling and got 53.5″–easily within the 1.34″ error band for the 54″ cowl in the wreck photo.

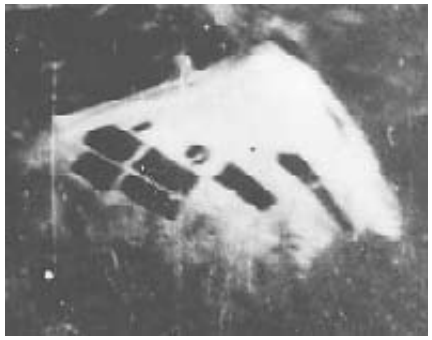


TIGHAR photo by R. Gillespie

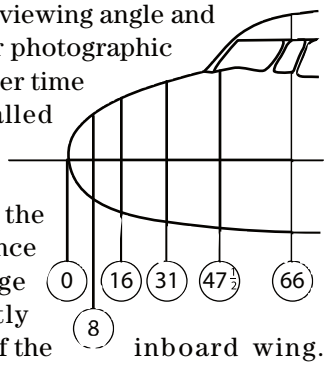
Bingo.

Whatever the identity of the plane in the wreck photo, its prop and engine cowling have the same proportions as a Lockheed 10E: this thing is just like this thing and they are probably, therefore, the same sort of thing.

But what about the nose section? At least two researchers have pointed out that while the nose in the wreck photo has the correct number of bulkheads for the Lockheed Model 10, there seems to be a problem with the spacing between them. The nose of the Electra has a cone at the tip which opens as a door. Immediately behind that is a bulkhead at Station 8 (that is, eight inches from the tip of the nose). There is another bulkhead at Station 16, followed by a bulkhead at Station 31and another at Station 47½. Starting from Station 8, the spacing between bulkheads in the nose of the Lockheed 10 is, therefore, 8″, 15″, and 16.5″. The spacing between bulkheads in the wreck photo nose, on the other hand, appears to be quite even.

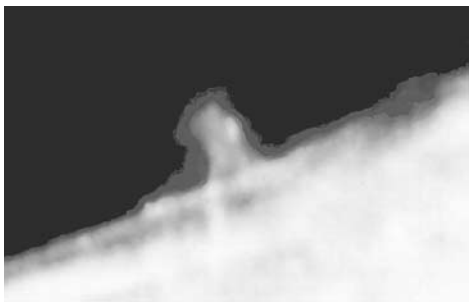


Is this apparent discrepancy a disqualifier? Maybe, maybe not. Simply laying a ruler on the photo doesn't correct for viewing angle and possible distortion, either photographic or physical. More computer time and calculations are called for.



Another feature in the photo that matches the Lockheed 10 is the presence of a panel with two large lightening holes directly behind the leading edge of the inboard wing. This is not the wing spar but merely a piece of sheet aluminum. Just how unique to the Electra this structure is has yet to be determined.

One of the most interesting details to come out of the forensic anlysis of the wreck photo is the shape of the base of the windshield centerpost. Rather than the straight bar featured in many aircraft types, this centerpost has a sweeping curve at its base which appears to be more stylistic than strictly functional. The feel is almost art deco. A close look at the base of the broken-off centerpost in the wreck photo reveals that same shape.



Wreck photo centerpost

Electra centerpost c/n 1052, New England Air Museum.

TIGHAR photo R. Gillespie

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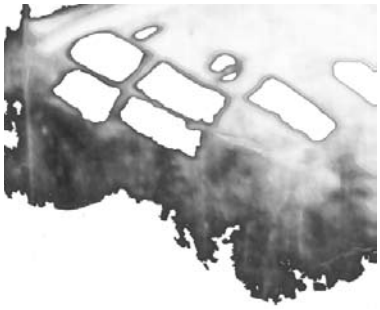
As interesting as the question of the airplane's identity is the puzzle of how it came to look the way it does. A few facts are apparent:

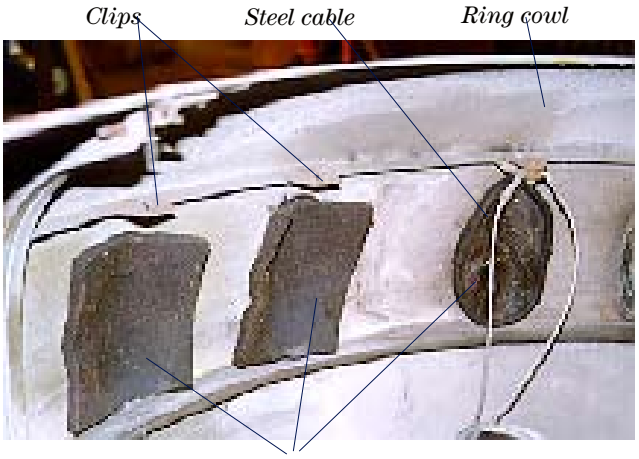
1. Much of the airplane is missing. The entire cabin from the cockpit roof aft is gone. The starboard engine and accessories from the firewall forward appear to have been ripped forward from the mounts with great force. The port engine, by contrast, is relatively intact and the propeller unbent.
2. The airplane did not crash but was landed with at least the left, and probably the right main gear legs extended. The damage apparent in the photo is, therefore, not the result of the landing but of some subsequent catastrophic event.
3. The only clear signs of human activity are the removal of some rectangular pieces of skin from the nose and the splitting and peeling open of the inboard leading edge on the starboard side. It is difficult to imagine how these failures might occur from natural forces.
4. There are no people in the photo.
5. The wreck has lain in this location long enough for some plants to grow up through it. Whether somone has cleared away other vegetation before taking the photo is impossible to say.
6. The only impact damage apparent is low on the right-hand side of the nose section. Here, computer enhancement of the image reveals that the skin has been pushed inward, but the underlying structure remains intact. This suggests the impact of a strong fluid force against the relatively stationary object (i.e. wave damage).



Right side of nose section, vegetation digitally removed.

The possibility that the aircraft in the photo was beaten by large waves or surf may account for other aspects of its appearance. Tons of moving water might well have carried off the upper portion of the cabin, and an airplane driven backward might leave behind an engine that snagged on something immovable. The force of water might also explain the puzzle of the ring cowl.

The cowlings of most Lockheed 10s, including Earhart's, came off in three equal 120° sections. Their normal removal would not result in the ring cowl being left behind as is seen in the wreck photo. Some aircraft do use a fixed ring cowl, but none fit the other requirements of the plane in the photo. (We don't yet know about the Tachikawa Ki-54.) The Lockheed 10E cowl is affixed to the airframe by means of a steel cable which passes through metal clips on the inside of the cowling and encircles the engine just forward of the valve covers (see photo below). When secured, the cable attaches the forward part of the cowling (the ring cowl) very firmly to the



Felt pads for valve covers.

engine. The after portions of the cowl, not being subject to direct air pressure, are very lightly attached. Should the engine compartment be engulfed with water, as in the airplane being struck from behind by a big wave, it's not hard to imagine that the only portion of the cowling that would remain intact might be the firmly attached ring cowl.

Perhaps there is another explanation for the wreck photo. Perhaps there is an aircraft type that fits what can be seen better than does the Lockheed 10E. But for the moment, the wreck photo remains an enticing, if still unresolved, piece of evidence.

Pilze für Jäger

by Lou Schoonbrood
TIGHAR #1198

Author's Note: During a stay in Berlin in October 1996 I met with some former fighter pilots of the Luftwaffe, and happened to mention the "Pilze für Jäger" [mushrooms for fighters] which TIGHAR's research suggested may have been built in the second half of World War II. One of the old pilots happened to have heard of the project, and rememberd the name of the engineer who designed it–purely because it was a name shared by his son-in-law. With this to go on, I was able to track down the son of the engineer (the father was long dead), and talk with him about his father's memories and tales of the war. The story below is a reconstruction of events from the final year of World War II, based on a little diary shown to me by the son. Not once was the word "Pilze" or any other specific phrase written in the yellowing pages, but combined with Jürgen Weltens' memories of his father's tales of the last year of the war, I was able to put the puzzle together.

In the early morning hours of April 21, 1945 a military convoy left the center of Berlin heading for Potsdam-Eiche, hoping to escape the bombardment of the city's center by Russian artillery. On board were representatives of a broad range of Nazi organizations and departments, among them members of Albert Speer department of ammunition and war production. The trucks and luxury cars carried crates full of documents, models from the Academy of Arts, and records of the departments' activities and plans.

The convoy made it just to the end of the Potsdamerchaussee, near Wannsee railway station. There they came under a Russian air attack. Several trucks and cars went up in flames. The rest made it just over the Glienicker Brucke across the Havel (later famous because it became the bridge where East and West exchanged their spies during the Cold War). On the Berliner Strasse, just after the bridge in the bend of the road, another attack took place. It was at this point that the only proof of existence of the "Pilze für Jäger" program went up in flames: technical drawings of the "mushrooms" and a model made of wood, paper and plaster.

The model was made by Hermann Weltens of the Organization Todt, the primary building arm of the Third Reich. Unfit for military duty because of asthma and eye problems, he served the Reich as an architect. He and his staff had as their main occupation the preservation of bridges in the south of France. He was sent to Lyon in June 1943 to run that project after having worked on the U-Boot bunkers at La Rochelle. His special skills were in the construction of reinforced concrete pillars and roofs.

In late May 1944 Weltens was ordered to Berlin to report to Xaver Dorsch, head of Organization Todt. This was quite unusual, although many knew of the skills Weltens had. He left Paris on June 1st or 2nd, but had a hard time getting to Berlin, due to Allied bombing of railroads that first week in June 1944. On the afternoon of June 5 he finally arrived in Berlin. He contacted Dorsch's staff and arranged a meeting for the next morning. When he arrived at his appointment the next morning all was confusion at headquarters. He didn't know what had happened that night and early morning–on his way he had heard some people talking about an invasion going on in France, but simply didn't pay much of attention to it. There were always rumors going on.

When Weltens finally managed to get to Dorsch, the only thing Dorsch said was: "Sorry, but I haven't got much time now, as you can imagine. This is what I want you to do." Dorsch described the concept of the Pilze für Jäger–mushrooms for fighters. What struck him most was a simple statement by Dorsch: "You can ask the Organization for anything: from concrete to steel, from skilled workers to trucks and shovels. On paper you'll get it; in reality you won't. There are other priorities." Then he got the technical specs, and that was it. The whole conversation lasted not more than 10 minutes.

As Weltens left the room, Dorsch spoke once more: "Take your time. We don't want to mess this one up, do we?" Weltens didn't know what to make of it. He would not have to contact Dorsch, Dorsch would contact him if the time had come. Weltens was a bit baffled. Had he come this far for a conversation of less than 10 minutes only to get an order to design a shelter for fighters that, given the way it was put to him, would never be built?

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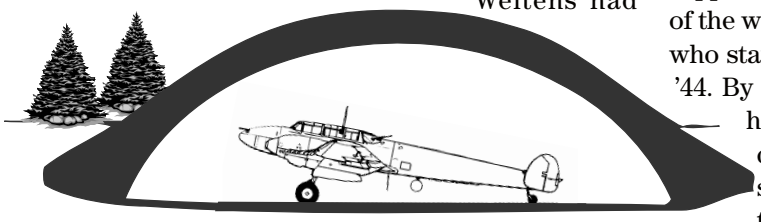
Weltens and four men who formed his staff moved to Dahlem, a fashionable quarter in the west of Berlin. They moved into an old gymnasium. It was there he started to work on the technical specs given to him by Dorsch. But more than once his help was required by other branches of the O.T. in Germany, so in the last months of 1944 he spent quite a lot of time on the road. It was obvious that with all this other work coming to him, his main technical work on the "Pilze Projekt" had to be delayed. But anyway, by November '44 some of the technical planning was ready, and Weltens wanted to run the plans by Dorsch. But every time he tried to see Dorsch, he was told that Herr Dorsch was in a meeting, was on inspection on the Western Front, in conference with Minister Speer, etc. etc. Dorsch simply ignored him.

Then in mid-December Dorsch called, saying that by February 1st all of the work on the "Pilze Projekt" had to stop, because of a new very important task he had for Weltens and his staff in Kiel, the Kriegsmarine base in the North of Germany. The Kriegsmarine needed new bunkers for their latest types of U-Boot (types XXI and XXIII). The first ones of those series were already launched.

Of course Weltens protested. Impossible! He was just beginning to construct the first model of a Mushroom! Dorsch finally gave him another 3 weeks to end his personal involvement with the project. By late January 1945 the first model was completed. Dorsch made Weltens a promise to come and look at it in the first week of February. But on February 3rd the Eighth Air Force hit Berlin with one of their biggest raids. In Dahlem, Weltens had to evacuate his office; it was severely damaged by a phosphorus bomb. He managed to save more than 50% of the plans. But the rest was lost, as was the first model. So he and his staff had to find shelter elsewhere. They found it in the Zehlendorf Quarter, not far from Dahlem. Here in the former Luft-Gau Kommando (where General Milch had his office) he built a second model. It was completed by the end of March (he did not go to Kiel on February 1; it's not known why). He contacted Dorsch again. This time he was ordered to bring the model and all plans to the Academy of Arts near the Pariser Platz and Brandenburger Tor. There they were put in a corner beside Speers' models of Germania (the new German capitol) and others.



The concept behind Pilze für Jäger: a hardened concrete shell covering an excavated bunker, and planted over with trees and grass for camouflage, suitable for one or two aircraft.

On April 19 Weltens received his last orders: evacuate all plans. Nothing was said of the models, but to his surprise some were stuck into a truck by SS. The Mushroom model was among them. He received a permit to pass through the barricades and leave Berlin, but to no avail–artillery put an end to the matter.

After the war Weltens was incarcerated in a POW camp in Russia for 12 years. He was released in the spring of 1957. He managed to establish a new architectural firm in West Berlin, but perhaps due to the bad health conditions in the Russian camp, he became seriously ill. In 1965 at the age of 67 he died. The last two years of his life he lived in a small town in Bavaria with his wife. She died in 1979.

Conclusion

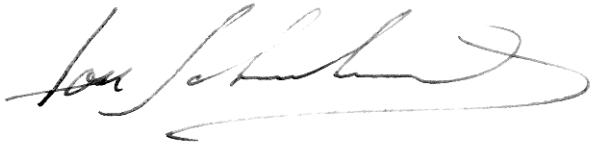
Although drawings and a model of the "Mushroom" project were *probably* designed and built, we're still not sure of the intention of Dorsch or others in high-level positions at the Organization Todt. As far as we know it could easily be the case that Dorsch, by creating a special design group for this project, was able to mislead his opponents. He wanted them to believe that the whole plan was taken seriously by the top of the O.T. as well as the ministry. However, knowing the constellation of this ministry under Speer, Dorsch never would have undertaken such a deception without the full support of Speer himself. Remember that at this stage of the war, he was close with Göring, and it was Göring who started the whole discussion on this plan in April '44. By playing the part of deceiver, Speer could well have been in an excellent position to parry all questions from Göring on this matter: a whole special designer's task force had been put on the job! Both men had one obsession: winning time. (See my article "The Kassel Underground" in *TIGHAR Tracks* Volume 11, number 4). They didn't want to be involved in fantastic plans. Both were technocrats and practical men.

Hermann Weltens returned to Germany after 12 years as a Russian POW. We have no way of knowing what this terrible experience did to his mind. Was he able to remember everything in detail? Was he able to reconstruct all the events and put them in the proper time, day and month? And above all, how much of what he told his wife and son was distorted in the mind of the son between his father's death in 1965 and the telling of the tale in 1997?

My feelings on this matter: In the son I met a sincere person of 62 who had made a successful career

as a businessman. These are not generally the kind of people who come along telling wild stories. He and his wife were very amiable. The story hung together well. I checked out some personal data on Hermann Weltens and everything I could find matched. (The register of birth in Frankfurt an der Oder was damaged in April '45 during the last Soviet offensive and all documentation was lost.) My meetings with the son, Jürgen Weltens, took place in May, June and July 1997.

I feel that the story is substantially true. The younger Weltens would be highly unlikely to either make up, or research carefully, the facts, and would have no motivation to do so in any case. There is no watertight evidence, even in the diary, which never mentions "Pilze für Jäger" by name. However, by correlating this tale with the documentation which does exist, we can find enough corroboration to enable us to say that the project existed, and a model may even have been constructed; but that there is a substantial chance that nothing else was ever done, and probably nothing else was ever intended at the highest levels of the OT.



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Mr. Walter Sabowski, former senior official with the Sicherheitspolizei und SD, Amt II, Technische Angelegenheiten, Berlin
Mr. Jürgen Weltens, München
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Special Friends Department

One of the best things about the Earhart Project is the interest it sparks in children–there's nothing like a good mystery to get a fourth grader's attention. On a fairly regular basis, a large packet of mail arrives from an elementary school with letters, poems, and questions about Amelia Earhart and our search. Here are a few of the best.

From Mrs. Gatchel's 3rd grade class, East Palestine Elementary School, East Palestine, Ohio:

Dear Mr. Gillespie,
Do you have any information about Amelia Earhart and her plane? I want to know if she was stranded on a island because thats what some people say. I want to find out what really happend. PS. My teacher is reading a book about her.
Your friend,
Katie Browne

Dear Mr. Gillespie
Hi I'm Travis Hostetter. I was wondering if you found any more facts on Amelia Earhart. Did you find any parts of her plane? Do you know what happend to Fred?
Your freind,
Travis H.

Dear Mr. Gillespie,
I'm sorry that you have not fould her yet, but you will find her some day. I know it!
Your new friend,
Jack Figley

Dear Mr. Gillespie,
Do you think she ran out of gas? and the plane went head first and sunk. Maybe she didn't get no air. Or maybe she couldn't get out of her seat belt. Let me know.
Your frend,
Adam Cornwell

Dear Mr. Gillespie,
We read some facts about Amelia. We wanted to know what happened to her. We wanted to know if you found ports of her plane. And I wanted to know if she got a another job when she was there instead of her staying there.
Your friend,
Tiffany Elliott

Dear Mr. Gillespie,
My name is Amy Gregory. My class is reading a biography about Amelia Earhart. I wanted to know how the search was going to find her body and plane. Good Luck.
Your friend,
Amy Gregory

From the fourth grade class at Uwchlan Hills Elementary, Downingtown, Pennsylvania, some poems.

<u>The Mystery</u>

Ameila Earhart flew,
She crashed and we found part of her shoe.
We almost found her engine but she died so she couldn't mention
How her plane crashed on that day.
Her plane fell from the sky and landed on a island.
On the sand she lay.
Later we found a lost file,
That said when the sun shone the English found a bone,
That belonged to her co-pilot
Who wore a jumpsuit that was violet.
They both died in the crash.
We have no trace of them.
The flight was going well and then SMASH!
It hit the sand.
Now we're on a hunch,
A wild goose chase,
Researchers are trying to end the mystery,
And close the case.

–Mike Bertha

Wonder

Flight is like a mystery,
You never know what's there.
I so wonder what it's like,
Soaring through the air.

They say it's impossible
To fly like a bird in the sky.
I say "All you need is an imagination"
They look at me and wonder why.

- Jackie Sharpe

The Aviator

I position my goggles,
and start the engine,
with that, off I go.
The wind in my face,
through the open cockpit.
The wings are long and wide,
with the propeller spinning fast.
I am an aviator.

–Alex Tremblay

Conqueror

The wind in your face no ground underneath your feet, Flight
Your face in the clouds, you shout, no one hears
Everything is silent you feel like you have conquered the world.
your plane is your throne the sky; your kingdom and the clouds your servants
you may land your body a million times, but your spirit will never fall.

–Jessica Sabato

Departures

This spring has seen the passing of two players in the Earhart drama. Amelia's sister, **Muriel Earhart Morrissey**, passed away on March 5th at the age of 95. Mrs. Morrisey had not been well for several years and had long since told all she knew about her famous sister and made public what letters and papers she had. We kept her informed of TIGHAR's activities but never asked to interview her.

On April 16 **Ruckins "Bo" McKneely** died in Murfreesboro, Tennessee. He was 89. Bo had been Earhart's mechanic in 1936 and 1937, and we interviewed him by phone in 1992. His most interesting recollection involved "that fellow Noonan" who, he said, didn't think much of the fancy navigator's station installed in the cabin of the Electra. "He rode up front and took his sightings right through the windshield."

Arrival

***Code Name Bright Light: The Untold Story of U.S. POW Rescue Efforts During the Vietnam War* by George J. Veith. Free Press (Simon & Schuster), 1998. 408 pp, cloth. $25 U.S./ $35 Canada.**

Although not about airplanes or archaeology, this book is about sound historical research and correcting common misconceptions. With black POW/MIA flags still fluttering around the country, this detailed and well-written review of the forgotten wartime efforts to account for and rescue lost and captured personnel is both timely and instructive.

Of particular interest to us is that the author, Jay Veith (TIGHAR #0767CE) honed his skills as an historical investigator on Project Midnight Ghost, our search for the lost French transatlantic aviators Charles Nungesser and François Coli.

TIGHARs at Work

Aviation Archaeological Investigation & Research

Craig Fuller, TIGHAR #1589C, has formed a company which will research USN and USAAC/USAF accident reports for a modest charge. Craig says, "We have over 80,000 reports on file and we are adding about 5,000 a month. We will send you your report within one week of receiving your request. In the event that we do not have it on file, we will notify you immediately, obtain the report, and send it to you in ten to twelve weeks." The reports are copied from microfilm; the only way to get them before was to either order the entire roll of microfilm, or go where the microfilm lives. An excellent and worthwhile service. Get in touch with Craig at 566 March Avenue, Healdsburg, CA 95448; 707/431-0824; email AAIR@juno.com; web site http://www.sonic.net/azfuller.

Geoffrey Kruesi and the RDF

Yoshio Hanai, TIGHAR #1373, is interested in acquiring any information available on Geoffrey Kruesi. Kruesi was a Swiss engineer who probably took out U.S. citizenship. He designed the radio direction finder which was manufactured by Fairchild Co. During the 1930s the Imperial Japanese Navy imported the Fairchild RDF and installed it on Zero fighters, carrier based bombers, and carrier based dive bombers–including in the aircraft used in the Pearl Harbor attack. So ubiquitous was this instrument that the pilots referred to it as a "Kruesi."

If anyone can help dig out any information, personal or professional, about Kruesi, please get in touch with Yoshio Hanai, 3-4-204, Utukusigaoka 1-18, Aoba-ku, Yokohama 225, Japan; telephone (81) 45-902-8961.

George Chandler, TIGHAR #0682C, of Pratt, Kansas, has sent us an exhaustive report on the activities of the Second Yamamoto Mission Association (SYMA).

SYMA has spent 14 years researching the shoot-down of Admiral Yamamoto over Bougainville in 1943. The USAF currently gives credit for the shoot-down to Rex Barber and Thomas Lanphier equally. SYMA has as its goals:

1) To encourage the Navy to re-examine the recommendation by Admiral Halsey that Barber be given the Navy Cross, rather than the Medal of Honor recommended by his local commander. The change in the recommendation was based on Halsey's mistaken impression that the pilots involved had violated security and told the press that the Japanese codes had been broken; however, this has been shown not to have been the case, but rather that the breaking of the code was common knowledge.

2) To encourage the Office of Air Force History to review the complete file on the Yamamoto Mission and the awarding of shared victory. SYMA feels, based on their research, that the mission victory should have been awarded solely to Rex Barber.

Anyone who would like more information about SYMA and the research this fine group has done should write to George Chandler, P. O. Drawer N, Pratt, Kansas 67124; or call 316/672-6421.

We Need All the Support We Can Get

Kanton Island March 1998

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- ☐ US$195 for a five year membership
- ☐ US$1,000 for a corporate membership

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