

TIGHAR TRACKS

A PUBLICATION OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY





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

— JOHN AUBREY
STONEHENGE MANUSCRIPTS
1660

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, responsibility, 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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COVER:

Who was the great aviation pioneer lost in the central Pacific in 1937? See page 4, “The Way It Was.” Photo courtesy Francis F. Furman, private collection.

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Dear TIGHAR

Letter received July 24, 1992:

Dear Mr. Gillespie:

Enclosed find a letter we are mailing out to various air museums and organizations we have invited to our Airpower Museum Conference here on September 6, 1992.

It is not our style to pick on people ...

For several years now we have been neutral about your attempts to revise aviation history on your terms and ground rules. You have already stepped on our toes via your past efforts to “ground historical aircraft.” This would affect us as both the founder of the oldest aviation historical organization in the world (AAA, Inc.) plus one of the founders of the Airpower Museum, Inc.

Your letter with a copy of the speech made at the IATM meeting at the Air Force Museum in June was the final straw. I have read your newsletters, watched your T.V. appearances and have tried to be open minded about your vapid claims.

You obviously have great ambitious [sic] to be the “Guru” of historical aviation by any means available to you.

The material enclosed in your I.A.T.M. meeting speech shows your almost total lack of historical aviation knowledge but even worse your obvious contempt of those who have failed to meet your “high standards.” In short, Mr. Gillespie, you are becoming a joke in aviation historical circles and you will need a lot more than another P.R. trip to Nikumaroro Island to justify the further existence of TIGHAR.

Please print this in your next newsletter if you have the guts.

Yours truly,
Robert L. Taylor, President, AAA, Inc.
Chairman of the Board, APM., Inc.

Our reply:

Dear Mr. Taylor,

In reply to your letter of July 23, 1992: First, I appreciate receiving your letter and assure you that I do not feel “picked on.”

Second, your statement that we have stepped on your toes via our past efforts to “ground historical aircraft” reveals your complete misunderstanding of TIGHAR’s position on aviation historic preservation and the rebuilding of old aircraft. You say you have read our newsletters, and yet TIGHAR’s official position regarding the flying of historic aircraft was published in *TIGHAR Tracks* over three years ago (June 1989) and has not changed since. The very first sentence in that document states that “TIGHAR encourages and supports the responsible flying of historic aircraft ...” And my address to the IATM conference – the same address you describe as “the last straw” – includes the following statement: “Neither does the foundation advocate the

forced grounding of any flyable aircraft or the imposition of any other action, restriction or standard upon any organization, museum, or individual. What TIGHAR does advocate, encourage and implore is for the aviation historic preservation community to accept and adapt to its own use the language, the conventions, and the wisdom of three hundred years of historic preservation.” Clearly there’s a lack of communication here. Either I don’t write well or you don’t read well.

Third, I invite you to back up your statement that the IATM speech shows my “almost total lack of historical aviation knowledge” by pointing out whatever factual errors it might contain.

And lastly, if I am as you say, “becoming a joke in aviation historical circles” the laughter from your particular circle is sounding pretty nervous. The TIGHAR-phobia that seems to have prompted your decision to call a meeting of “air museum activists” is, as I have explained, unfounded. But fear is seldom rational and if that’s what it takes to get rebuilders together to talk about standards, safety and accuracy – we’ll take that as a compliment. We hope you get an excellent turnout for your September 6th event. And as for whether or not we have the “guts” to print your letter in *TIGHAR Tracks*, I assure you that our courage is frequently tested in crucibles far hotter than that.

Very truly yours,
Richard E. Gillespie
Executive Director

Not everyone agreed with Mr. Taylor:

On behalf of the 1992 IATM Aviation Museum Conference I wish to thank you ... deeply for attending and participating in the conference. Your presentation was excellent and well received by many. The fly boys, of course, disagreed with you, but the real museum group shared many of your views....

Sincerely yours,
Harvey H. Lippincott
Chairman, IATM Subcommittee for
Aviation Museums

... I found it very interesting in itself, but it also acts as a useful encapsulation of the history of development of aviation preservation. It makes many useful points and will, in turn, I am sure, have provoked further thought on subjects such as the different roles of public bodies, guaranteeing permanent preservation by not flying aircraft, and private collectors allowing the public ... the chance to see those aircraft in flight. ...

With best wishes, yours sincerely,
Philip Reed
Imperial War Museum, London

To see what the fuss is about, please turn to p. 13, Overview.

Agreed-Upon Lies

For the cover of the first issue of the newly expanded *TIGHAR Tracks* we've chosen an historical figure whose story exemplifies the challenge faced by the aviation researcher. Because Frederick J. Noonan disappeared with Amelia Earhart in 1937, and because subsequent speculation about their fate often included allegations that he had a drinking problem, Fred frequently gets the blame for the disappearance. But research into who he was, what he did, and how the Earhart flight really ended tells a very different story.

History has often been called “a collection of agreed-upon lies,” and it is a fundamental paradox of historiography that while we must try our best to discover what really happened in the past, absolute knowledge of past events is ultimately unattainable. Still, popular perceptions of historical events inevitably change as assessments of their significance evolve in the light of new information or improved perspective. The greater the change, the more likely that it will be labeled “revisionist.” Whether or not society accepts the revised version of an historical event (the cynic would say “the new lie”) often depends upon factors which have nothing to do with the accuracy of the revision.

So does Christopher Columbus, in an age of multi-cultural concern, become an invader rather than a discoverer 500 years after he stepped ashore. Likewise does Amelia Earhart, who made little progress against the sexism of the 1930s, get credit for the growing role of women in the aerospace industry. When women finally won airline cockpit rights the victory came not from the efforts of female pilots inspired by Amelia but from the Civil Rights legislation of the 1960s. It is unlikely, however, that the Ninety-Nines (an organization of women pilots) will ever offer a Martin Luther King, Jr. Scholarship.

As for Noonan, his place in history as merely a scapegoat for the Earhart disappearance is especially unjust. In the early 1930s it was Pan American Airways that invented safe, reliable, intercontinental heavier-than-air passenger travel. The template created by Pan Am was carved by the genius of many great personalities. Juan Trippe was the definitive airline executive – brilliant, savvy and ruthless; Eddie Musick the classic Chief Pilot – laconic, hard-nosed and utterly competent. And Fred Noonan was the navigational wizard who almost single-handedly

perfected the art and science of aerial celestial navigation. In an age of instant Global Positioning it is hard to comprehend that, before Noonan, airliners regularly got lost over open ocean. Noonan's celestial navigation techniques, combined with advances in radio direction finding technology, made transoceanic airline routes safe and practical.

There is no documentation to support allegations that Noonan's departure from Pan American was related to drinking, but it is well established that wages at Pan Am were notoriously low and, as a navigator, his career with the airline had gone as far as it could go. To be fair, there are anecdotes which describe Fred as being prone to go on occasional “benders” when off duty. To what extent he may have had a problem with alcohol is unknown and probably unknowable. What is clear and consistent is that, in the air, he was the consummate craftsman and stories of his navigational prowess are legion.

It is also clear that Fred Noonan's last flight did not end at its intended destination. Aboard the *Clippers* there had been a definite division of labor between the navigator, responsible for celestial and dead reckoning navigation to get the flight close to its destination, and the radio operator, who talked to the technicians at the island-based radio direction finders. Fred was not a radio expert, and tragically, neither was his pilot on that last flight. But although radio navigation failed to bring the Lockheed within sight of Howland Island, there was another island within fuel range which was readily findable by standard celestial navigation techniques. Beyond the historical documentation, the artifact analysis, and the logic which supports *TIGHAR's* identification of Nikumaroro as the place where the Earhart flight ended, there is the conviction that the finest aerial navigator of the 1930s succeeded in saving his aircraft, his pilot and his own life. Our commitment to discovering what then became of them is, in part, based upon a desire to vindicate the memory of one of aviation's great pioneers. 🐾

Sikorsky S-42 of the type used by Pan Am during Fred Noonan's tenure. Photo courtesy National Archives.

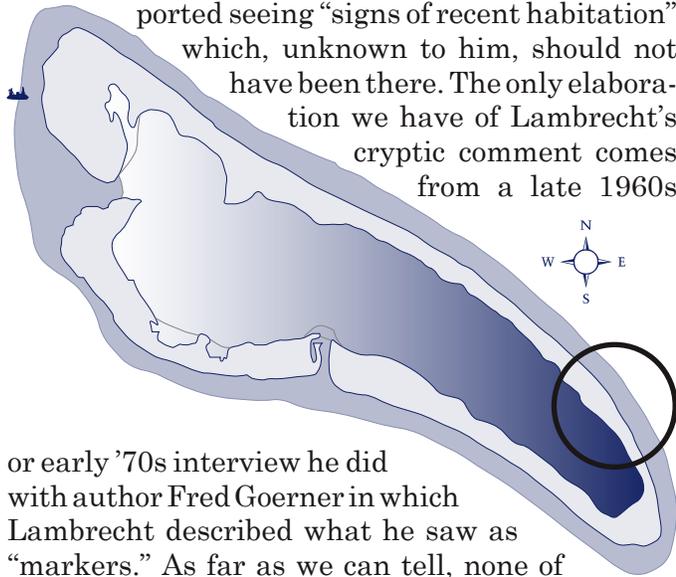


A Whole New Beach Party



A newly discovered photograph of Nikumaroro taken in 1941 shows what may be the abandoned campsite reportedly seen by U.S. Coast Guardsmen in 1944. Followers of TIGHAR's investigations will recall that we had previously come upon several indications of an unexplained human presence on the atoll's windward beachfront. In brief:

- Lt. John Lambrecht, Senior Aviator on the U.S. Navy's aerial search of the island on July 9, 1937 (one week after the Earhart disappearance) reported seeing "signs of recent habitation" which, unknown to him, should not have been there. The only elaboration we have of Lambrecht's cryptic comment comes from a late 1960s



or early '70s interview he did with author Fred Goerner in which Lambrecht described what he saw as "markers." As far as we can tell, none of the pilots or observers who took part in the Gardner search flight are now living. The only aerial photograph known to have been taken during that flight is a picture of the windward beach near the island's southeast tip.

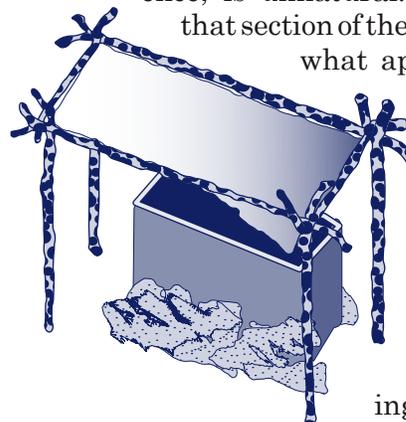
- In August or September of 1944 a group of four Coast Guardsmen from the Loran station at the island's southeastern tip (construction began on July 24, 1944) came across an abandoned camp of some kind along the island's windward beach. When later asked, the island's residents said they were unaware of it but the Coast Guardsmen attached no importance to the site. In December of 1990 one of the four, Richard Evans, sketched for TIGHAR a "water collection device" he had seen at that spot. What he drew was a rectangular tank with rounded corners above which was rigged on poles a rectangular sheet of heavy cloth so as to collect and direct rainwater into the tank (drawing at right is based on Evans' sketch). In size and shape the structure he sketched bears a striking resemblance to one of the fuel tanks from the cabin of Earhart's Electra

with a canvas engine cover stretched on poles above it. Herb Moffitt, who was also there, remembers a low bench, a rusty can and a pile of bird bones and feathers. The other two men present that day are now dead.

- In 1949 a British Colonial Service official by the name of Paul Laxton spent several months on Nikumaroro. He later wrote an article for the Journal of the Polynesian Society in which he mentioned that the local inhabitants had showed him "a house built for Gallagher on a strip of land cleared from lagoon to ocean beach so that the fresh winds could blow easily through." His account of where he was on the island when he saw the "house" seems to match the place photographed by the Lambrecht flight and spot described by Evans and Moffitt, but his explanation of what the site is doesn't make sense. Gallagher, the island's first and only resident British administrator, did have a house on the island but it was situated in the settled area fully three miles from the site in question. Gallagher lived on the atoll from September 1940 until his death just a year later. No mention of a house being built on the remote windward beach (officially designated as Bush Reserve) appears in his quarterly reports. Also, none of the Coast Guardsmen who were there during WWII ever saw a "house" on that part of the island.

TIGHAR's 1991 expedition made a determined effort to locate traces of the site described by Evans and Moffitt but, without a specific target area, the nearly impenetrable beachfront vegetation limited the search to a metal detector sweep of the beach itself. Nothing of interest was found. However, with the recent discovery in the National Archives of a photo which shows what appears to be the site in question it's a whole new beach party.

On June 20, 1941 at least two and probably three U.S. Navy PBYS visited the island and somebody in one of them took several low altitude oblique aerial photos. Apparent in one photo is a clearing on the windward beach which, based upon our own experience, is unnatural. An enlargement of



that section of the photograph revealed what appear to be not only

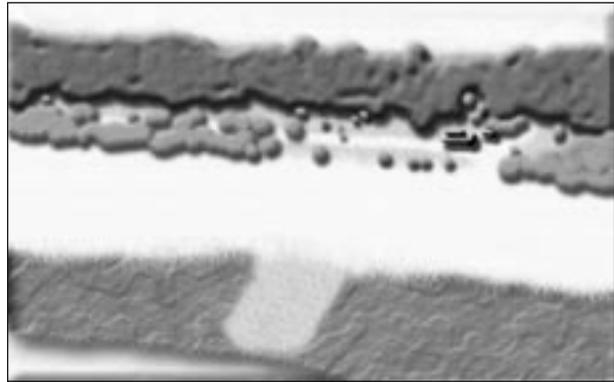
a cleared area but man-made structures and a scarred area on the reef-flat. According to Dick Evans the site appears more open in the 1941 photo than he remembers it being in 1944 (as would

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be expected). But aerial photos taken in 1939 show that the clearing was there then but not as open as it was in '41. Also, a clearer print of the Lambrecht photo just received from New Zealand confirms that the cleared area was there on July 9, 1937 looking about like it did in '39, but neither the '37 nor the '39 photo is detailed enough to tell if the structures are there.

There are a hundred questions that come to mind about the possible significance of the structures on the windward beach, and we still have no firm answers about what happened there. But at least we now have a photograph, however fuzzy, of something we have searched for and couldn't find and which we previously couldn't even prove was ever there. Now we can go to a specific spot on the beachfront, cut back into the undergrowth and find whatever is left of whatever was there. 🐾



ARTIFACT UPDATE

In July all TIGHAR members received an introductory copy of the NIKU III Project Bulletin which contained a review of seven artifacts recovered from Nikumaroro which are now suspected as having come from the Earhart aircraft. Since then, a connector on a piece of aviation electrical gear, Artifact 2-4, has been conclusively identified as a product of the Thomas & Betts Company of Elizabeth, New Jersey. Research is now underway by the manufacturer to pin down its date of production. Also, the large section of aircraft skin, Artifact 2-2-V-1, has been sent to the FBI laboratory by NTSB for analysis of traces of what might be paint on its surface. Four engineering drawings approved by the Bureau of Air Commerce for the repair of NR16020 were recently found in the rare book room at the National Air & Space Museum Library. They describe changes to the aircraft's nacelles and to the attach points for the main landing gear so, while they clear up the mystery of the missing drawings, they don't help resolve the question of the belly rivet pattern. Meanwhile, continuing efforts to find any section of any aircraft which matches the skin found on Nikumaroro better than the Earhart Electra have come up negative.

As the investigation and preparations progress toward next summer's expedition, late developments and details will be published in the Earhart Project Bulletins. To subscribe to this special information service send \$25 to TIGHAR, Earhart Project Bulletins, 2812 Fawkes Drive, Wilmington, DE 19808.

Doolittle B-25

There have been some important developments in TIGHAR's investigation into the possible recovery of one of the 16 North American B-25Bs which participated in the April 18, 1942 Doolittle Raid. Only plane number 15, Air Corps Serial 40-2267, may still survive. It was ditched off the coast of China, near the island of Tanshan, where it floated for eight minutes, allowing the entire crew to escape safely. There is a chance the airplane is still there and intact.

In April, Chinese authorities advised us that another American group was also interested in the airplane and that this was causing some confusion and delay. The other group is known as The USA – China Friendship Expedition and we lost no time in contacting them to coordinate our efforts. The group is associated with the Oregon Air & Space Museum of Eugene, Oregon and is led by Stuart Barr, a local businessman and amateur scuba diver. Mr. Barr and his associates (who are also amateur scuba divers) are primarily interested in diving on the wreck and taking photographs to assess its condition. They have no intention or interest in effecting a recovery themselves but had been planning to contact TIGHAR if they were successful in finding the

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airplane. Because they were far ahead of us in arranging official permission to dive on the site (which is within the borders of a Chinese naval base), and not wanting to do anything to jeopardize or delay their mission, TIGHAR has adopted an arm's-length advisory relationship with the USA – China Friendship Expedition. We'll help where we can, and if they're able to locate the airplane, and if it's in recoverable shape, we'll tackle the problem of what can and should be done with the artifact. The USA – China Friendship Expedition is basically a small, well-funded group of amateur divers who want to go out and find something historically significant. We wish them much luck and success. 🐾

Los Padres Survey

TIGHAR has been helping the U.S. Forest Service comply with federal laws concerning old airplane wrecks within the Los Padres National Forest just north of Los Angeles, CA. Starting with a list of well over 100 aircraft, it looked at first like extensive field work would be needed to inventory the wrecks so that the Forest Service could legally allow salvagers in to clean up the forest without fear of damaging historic sites. However, largely through the efforts of Jim Paules (TIGHAR #0624C), we've been able to whittle the list down to just two or three wrecks which may need on-site evaluation to determine whether anything of historic significance survives. Not surprisingly, it turns out that most crashes dating from World War Two and earlier have already been scavenged by rebuilders. At least in the case of the Los Padres wrecks, belated recognition that old aircraft fall under the protection of the Historic Preservation Act means that many fine horses were stolen before the farmer even knew he had a barn door. 🐾

The Beast Of Bombay Hook

What do you do with a P-47 Thunderbolt that has lain for nearly fifty years in one of the worst preservation environments imaginable until only the center section and wings, buried in mud, remain at all intact? Do you dig it up, yank it out and tear it apart to see if there might be some-

thing in good enough shape to use on a rebuilt Jug in a museum or on a flightline? You can do that but it's not saving it – it's using it. Do you carefully excavate it, stabilize it, and display it as a cruddy but treasured artifact? You can do that too, but it's not like this is the last surviving shred of Thunderbolt left in the world. TIGHAR and the Dover Air Force Base Museum have been struggling with these questions ever since we located and partially exposed the remains of a P-47 that had been crash landed on a salt marsh near Dover, Delaware in 1944 (see "The Beast of Bombay Hook," *TIGHAR Tracks* Vol. 8, Nos. 2&3).

Then recently, at the TIGHAR Gathering in Washington, D.C., an idea was hatched that could turn the aircraft to excellent use for the emerging science of aviation historic preservation. Why not recover part of the wreck (say, the wing we exposed last spring) and offer it, or pieces of it, to museum conservation laboratories for use in experiments related to the stabilization of aircraft components? The other wing could remain buried in the marsh as a control, to be re-examined as necessary for comparison to the treated pieces. This too would constitute using, rather than saving, the artifact. But because the in situ wreckage could provide a uniquely accessible and documented control group for conservation experiments, such use might be well justified in the interest of developing new preservation techniques. Comments from members in the scientific community would be welcome.

Further field work on Bombay Hook is tentatively scheduled for late November or early December. It will be cold and muddy (so what else is new?) but at least we won't be bothered by mosquitoes. As soon as dates are firmed up we'll put out a call for volunteers. 🐾

High Priority



There is a new sense of urgency to TIGHAR's investigation of rumors that World War II German aircraft still survive in forgotten underground hangars. Recently inquiries have focused on a former Luftwaffe base known as Mainz-Finthen. Through the efforts of TIGHAR researchers we have uncovered facts that help reveal the airfield's history.

- Walt Holm (TIGHAR #0980C), through interviews with Army Aviation veteran Tom Pal-

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shaw (now TIGHAR #1290), has confirmed the existence of some kind of underground facility at the field.

- Russ Matthews (TIGHAR #0509CE) has discovered that prior to 1944 the airfield was known as Oberolm and also as Mainz-Wackernheim.

- Lou Schoonbrood (TIGHAR #1198) has identified most of the Luftwaffe Geschwadern which were stationed at the field and the aircraft types they operated. Based on what Lou has learned, if aircraft survive at Finthen they are most likely to be ME 110G nightfighters. The only known ME 110G is in the RAF Museum at Hendon.

But the most important piece of news about Mainz-Finthen is that the majority of the airfield's land is scheduled to be turned over to German authorities in the summer of 1993. That means that if we are to do any on-site investigation in cooperation with the U.S. military, Operation Sepulchre needs to move forward – schnell. TIGHAR has already begun the process of working through the Pentagon administrative maze toward ultimate approval for on-site work which we hope can take place sometime next spring. You can expect to hear more in the near future on this important project. 🐾

New Focus

As announced in the Expedition Notice and Project Bulletin recently mailed to all TIGHAR members, we've shifted the search for l'Oiseau Blanc, the White Bird of vanished French transatlantic aviators Charles Nungesser and François Coli, from Maine to Newfoundland.

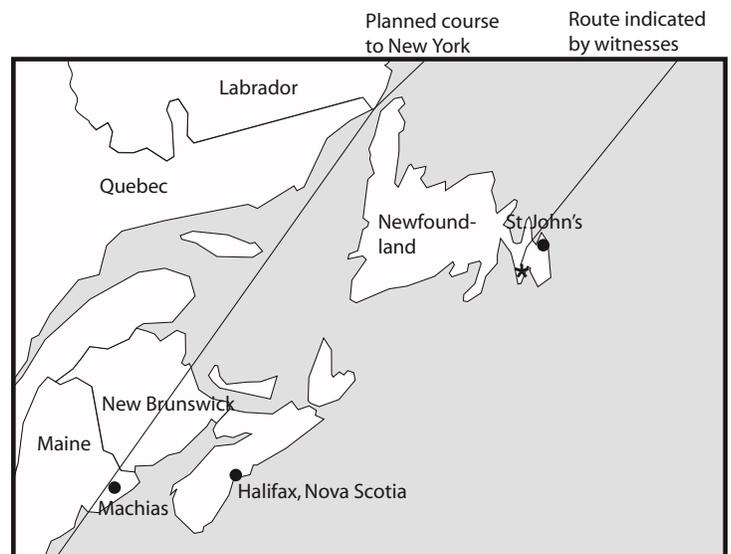
TIGHAR's operations near Machias, Maine have been based upon anecdotal accounts which describe sightings (and hearings) of the missing plane and its wreckage. The stories were all we had upon which to formulate a hypothesis which was then tested by means of some twenty search expeditions. What we proved, despite hopeful leads and cryptic finds, was that we could find no conclusive evidence that l'Oiseau Blanc crashed in Maine.

The new information from Newfoundland does not provide proof that the aircraft came down there either, but the evidence appears better than anything we ever had in Maine. Earlier

this summer, TIGHAR received photographs of two pieces of what appear to be very old aircraft debris found in the marshy back country of the Avalon Peninsula and brought to a museum in St. John's. Our initial comparisons with photos of l'Oiseau Blanc show a possible match. What is particularly interesting is that both artifacts are alleged to have been found at a site which lines up well with the aircraft's last position and heading as reported by witnesses.

In Newfoundland, as in Maine, there are many accounts of the passage of an aircraft in May of 1927. However, there is an important distinction between the two groups of sightings. The witness reports in Newfoundland are not anecdotes related many years after the event, but testimony gathered and written down within days of the occurrence. At least seventeen contemporaneous accounts describe a large white aircraft that comes in off the North Atlantic at the northern end of the Avalon Peninsula and passes over the tiny settlement of Gull Island at about 9:15 A.M. on May 9, 1927. It then flies down the coast and over the town of Harbor Grace shortly after 9:30 A.M. (the times and distances compute correctly for l'Oiseau Blanc) and continues on to the southwestward. The reported line of flight, if extended for fifty miles, passes over the area where the artifacts were allegedly found.

In mid-September TIGHAR's Executive Committee will travel to Newfoundland to examine the artifacts and possibly borrow them for laboratory testing. Field work in Newfoundland aimed at finding the main body of the wreck the artifacts came from has been scheduled for October 17 – 31, 1992. 🐾



Hollinger Scholarship Awarded



TIGHAR Photo by P. Thrasher

TIGHAR is pleased to announce the awarding of the Chris Hollinger Memorial Scholarship to Gary F. Quigg, TIGHAR #1025CE of Crawfordsville, Indiana. Given once a year, its purpose is to support graduate-level studies in public history and museum studies by a person with a proven academic record and a serious interest in working in aviation historic preservation. Gary has been a TIGHAR member since 1990, and began

graduate work at Indiana University last year towards a degree in history. His academic record and commitment to the field of aviation history exemplify the level of scholarship we hope to foster with this award, and we are proud to have him as the first in a long line of recipients.

TIGHAR is grateful to the family of Chris Hollinger, TIGHAR #0834, for their gift of this scholarship in his memory. The support of studies and careers in aviation historic preservation will keep Chris with us always.

Donations to the scholarship fund are accepted throughout the year. Anyone who wishes to make a contribution, whether as a memorial or as general support, should write to Pat Thrasher, TIGHAR, 2812 Fawkes Drive, Wilmington, DE 19808. 

Home Fund Fulfillment

It took six months to go from dream to reality but today TIGHAR has a bright and spacious new headquarters, a more secure future, and significantly lower overhead costs so that more contribution dollars can go toward research and field work.

At a meeting of TIGHAR's Board of Directors on March 9, 1992 it was decided that the foundation should take steps to secure a more appropriate headquarters facility than the house/office we were then renting. The only practical way to accomplish that end was for the Executive Committee to buy a house which would serve as both residence and TIGHAR office. By having an in-house (no pun intended) landlord the foundation would not only pay less for better facilities but be able

to expand with growth. It was estimated that the acquisition and adaptation of a new facility would cost about \$50,000 and, while the foundation owed the Executive Committee more than that amount in back salary, the money was not on hand. The only solution to the problem was to go directly to the TIGHAR membership. In mid-April, Chairman John Sawyer led the appeal with a generous offer to match any member's contribution. Donations began to pour in and, by the end of June, we were able to close on a property which was not only a terrific buy but was close enough to the previous headquarters to allow us to retain the same phone and fax numbers. A second appeal went out and again the TIGHAR membership responded. July was spent in a massive reconstruction and adaptation of the new property to TIGHAR's needs, and in August we moved into the new facility. There is, of course, still a great deal of work to be done to realize the full potential of the new headquarters but, as the accompanying photo shows, this is a great place to work. Now being created is a plaque which will hang on the wall to bear witness to the 165 TIGHAR members whose contributions to the TIGHAR Home Fund made it all possible. (Donations are still being accepted for the Home Fund, and a supplemental plaque will be made up the first of the year.) From those of us who work here and on behalf of all who benefit from the work done here, thank you. 



TIGHAR Photo by P. Thrasher

OWN YOUR OWN ELECTRA

About a year ago, noting that there was no commercially available model of Amelia Earhart's Lockheed 10E Special, and looking for a way to encourage and reward contributors to the Earhart Project, we contracted for the construction of a number of hand-carved mahogany replicas of the most sought-after aircraft in aviation history. Now, after many delays and corrections, TIGHAR is pleased to announce that the aircraft have arrived.

Rendered in 1/48 scale, each airplane has a wingspan of 14 inches and stands 7 inches tall on its mount. Faithful to the original, the aircraft is overall silver with black registration numbers and orange markings on wings and tail. Special attention has been given to details such as antenna and window placement.*

A few of the aircraft are numbered, limited edition replicas. Each of these has a specially designed stand with a brass plaque inscribed as shown to the right of the photo. To date, 14 of these unique pieces have been reserved by contributors who have made a special donation of \$1,000 to the project. If you would like to have one of these special aircraft please send your contribution and a note as to how you wish your name to appear on the plaque.

A less expensive version, not numbered and with the standard mahogany mount pictured below, is available for the first time for a \$250 contribution to The Earhart Project. Here's your chance to help send the TIGHAR team back to Nikumaroro and, at the same time, acquire a truly unique collector's item. Just send your check, payable to TIGHAR, noted "Electra."



TIGHAR Photo by P. Thrasher

*Limited Edition #25
Lockheed "Electra" 10E Special
Presented in appreciation for
the contributions of
Your Name Here
to
The Earhart Project
by*



**In an attempt to head off a flood of letters, we'll point out that we have intentionally omitted the large aft starboard window installed prior to the start of the first world flight attempt (March 17, 1937). The opening was not a removable hatch (as has been alleged) and, although it was present in Miami at the beginning of the second attempt (June 1, 1937), it has clearly been skinned over in photos taken in Karachi (June 16, 1937) and thereafter. The dorsal antenna mast was also mounted in a more forward position for the second attempt than it was prior to the Honolulu accident. We chose to portray the aircraft as it looked when it disappeared on July 2, 1937.*

A GREAT GATHERING

If you didn't make it to the 1992 GATHERING OF TIGHARS in Washington, D.C., September 2 – 5, here's just some of what you missed:

- Members who attended Wednesday's workshop session went behind closed doors at the National Archives and discovered that TIGHAR projects and TIGHAR researchers are well known and well regarded in those halls. Archivists in the Civil, Military, and Still Photos branches described and demonstrated the immense resources and expertise available to TIGHAR members. Likewise, at the National Air & Space Museum Library and Archive, TIGHAR members met the directors of those facilities and learned how to do research there.

- On Thursday morning, before the National Air & Space Museum was opened to the public, TIGHAR members were greeted by Dr. Tom Crouch, Chairman of NASM's Aeronautics Department, and were given a special private tour of the museum. The new, and heavily interpretive, Great War In The Air gallery sparked spirited discussion while the popular Star Trek exhibit gave everyone a chance to have their picture taken slouched confidently

in Captain Kirk's command chair ("Warp speed, Mr. Sulu.").

- Much of the afternoon was spent in the National Transportation Safety Board Laboratory watching demonstrations of real analytical technology reminiscent of Star Trek and discussing metal failure as it relates to the Earhart Project with NTSB Senior Metallurgist Joe Epperson.

- Friday morning was spent at NASM's Paul E. Garber Storage and Restoration Facility (still known to many as Silver Hill). If there was ever a place to both delight the eye and furrow the brow of an aviation preservationist, this is it.

In between and around the workshops and special tours were meetings and discussions. We brain-stormed about evidence from Nikumaroro, Newfoundland and Germany; debated preservation policies and philosophies; conspired on ways to improve member services and boost membership; and, in general, just enjoyed being around other TIGHARs. It was a great Gathering. Next year's event will be held a little later in the year on the West Coast of the U.S., possibly San Diego. Watch for details in upcoming issues of *TIGHAR Tracks*. 

Calendar of Events

October 17 – 31, 1992 — Project Midnight Ghost Expedition, Avalon Peninsula, Newfoundland, Canada. Level II expedition.

November 14 & 15, 1992 — Introductory Course in Aviation Archeology, Pensacola, Florida.

Early December, 1992 — Beast of Bombay Hook field work, Dover, Delaware. Level I expedition. Dates tentative.

Late January 1993 — Introductory Course in Aviation Archeology, Museum of Flight, Seattle, Washington (tentative).

April 1993 — Introductory Course in Aviation Archeology, New England Air Museum, Hartford, Connecticut (tentative).

May 1993 — Introductory Course in Aviation Archeology and Historic Preservation Symposium, Royal Netherlands Air Force Museum, Soesterberg, The Netherlands (tentative).

July 2, 1993 — Niku III, Earhart Project Expedition departs San Francisco. Level III expedition.

Florida

Hurricane Andrew, which hit south Florida in late August, left death, disaster, and sorrow in its wake for airplanes as well as people. The Weeks Air Museum, headquartered on the Tamiami Airport in Dade County, was destroyed as high winds leveled structures all over the field. The Weeks Air Museum was home to forty to fifty aircraft, many rebuilt to flying condition.

According to a spokesperson for the museum, all aircraft except their B-17 and B-23 were carefully stored in the hangar as the hurricane approached. As winds on the airfield were clocked at 200 m.p.h. the hangar collapsed, destroying or substantially damaging every aircraft in the collection except the T-6 and the P-51, both of which are salvageable. The B-17 and the B-23 ended up a mile south of the airfield.

At the time we spoke to the museum (September 10) they thought it would be another two to three weeks before they could even begin to assess the chance of recovery. The museum hangar was destroyed (in places nothing but the concrete floor is left), and many of the aircraft were very rare birds. The loss of any old aircraft, whether part of a flying collection or a museum exhibit, is hard; a loss of this magnitude is tragic, on the scale of the fire at the Musée de l'Air in 1990 when 43 museum aircraft burned. Our sympathy to the Weeks Air Museum, and our hopes that we will soon see you flying again. Any TIGHAR member who is able to offer help in labor or money is urged to do so. 🐾

Russia

Three WWII Luftwaffe aircraft recently recovered from northern Russia are to be rebuilt rather than preserved. A Messerschmitt Bf 110 Zerstörer, a Focke Wulf Fw 189 Uhu, and a Ju 87 Stuka have been retrieved on behalf of British crop-spraying operator Jim Pearce. The Bf 110, an extremely rare early variant of the classic twin-engined fighter, has been disassembled and is currently being stripped and rebuilt at several sites around southern England with the intention of returning the aircraft to service as an airshow performer. The same fate awaits the Stuka, while the Fw 189 twin-engined reconnaissance aircraft (the only known example of its type) was scheduled to go on the auction block September 19. It is a sad fact of life that such aircraft are not yet sufficiently prized as historic properties to attract well-heeled collectors who wish to preserve them rather than play with them. That day will come, but what will be left? 🐾

Greenland



One of the Greenland P-38 F's as it appeared in 1942.

After many years of frustration, disappointment, ridicule (some of it from us), and a great deal of expense, the Greenland Expedition Society has brought an essentially complete and relatively undamaged P-38 Lightning to the surface of the Greenland icecap. It is an heroic achievement and TIGHAR salutes Pat Epps, Dick Taylor, Norm Vaughn and all the team for their perseverance in the face of adversity. At a time when more and more rebuilt (and in many cases virtually scratch-built) World War Two types are appearing on the air show circuit, it may be difficult to realize what the Greenland aircraft represent. They are time capsules, preserved in cold storage for half a century, with everything from their paint to their hydraulic fluid still present. They are, in short, the real thing.

Of course, the Greenland Expedition Society is not a non-profit historical foundation but a commercial venture openly motivated by a desire for adventure and the hope that the aircraft under the ice might one day be made flyable. TIGHAR does not for one moment suggest that those who have given so much of their time and money to have a P-38 to fly (or to sell) should be cheated out of the fulfillment of their dream. It is our fervent hope, however, that at least one of the six Lightnings that landed on the icecap in 1942 will be conserved rather than rebuilt. According to the original 1986 agreement under which the Danish government granted permission for the search and excavation to take place, "The first aesthetically complete P-38, Lightning aircraft shall be donated to the Danish Aviation Museum regardless of the condition of the rest of the airplanes." Depending upon how enlightened the policies of the Danish Aviation Museum are, this may be the best chance for one of these aircraft to be permanently preserved. 🐾

AIRCRAFT AS ARTIFACTS

Historic Aircraft Recovery and The Movement Toward Aviation Historic Preservation

This is an adaptation of an address delivered to the 1992 Aviation Conference of the International Association of Transportation Museums at the United States Air Force Museum, Wright-Patterson AFB, Ohio, on June 11, 1992 by Richard Gillespie, Executive Director.

Seven and a half years ago The International Group for Historic Aircraft Recovery became a recognized non-profit foundation in the state of Delaware. Since that time TIGHAR has become well known both to the aviation historical community and to the public at large, primarily through media coverage of its work. But as we all know, the media, like MacBeth's witches, are "imperfect speakers" whose attentions bode both foul and fair. As a consequence, there has been some measure of confusion and misconception concerning the foundation's accomplishments, its motivations, and its ultimate objectives. That's probably inevitable. But it is important that the readers of *TIGHAR Tracks* have accurate information about how we see the discipline of historic preservation, and understand what TIGHAR is doing to advance that discipline.

A letter to the editor published in the February 1992 issue of *Air Classics* magazine charged that The International Group for Historic Aircraft Recovery had not recovered a single aircraft. Although the letter was rife with other accusations that are patently untrue, that particular statement is technically accurate. TIGHAR has never recovered a complete aircraft and delivered it into the hands of a museum or collector. The foundation is now in its eighth year and has a membership of over 850 individuals in 15 countries whose average educational level is a university degree with some graduate work, and who, collectively, have funded well over a million dollars in aviation historical research including extensive field operations. In more than two dozen aviation archeological expeditions TIGHAR has demonstrated its ability to put competent teams of trained volunteers on the ground in some of the most remote places on Earth. Obviously therefore, the fact that The International Group for Historic Aircraft Recovery has not yet recovered an historic aircraft is the result of a conscious decision rather than any lack of ability. Why then, has this paradoxical position been adopted?

The answer is over 300 years old. In 1660, British antiquarian and chronicler John Aubrey was struggling to put the Stuart Restoration's new-found enthusiasm for relics of the ancient past within some kind of ethical context. He was particularly interested in Stonehenge and argued against proposals that the ruins be reassembled according to popular assumptions concerning their original appearance and purpose. In "The Stonehenge Manuscripts" he urged that relics of the past be safeguarded "that they might escape the teeth of time and the hands of mistaken zeal." Much as his contemporary Sir Isaac Newton helped lay the foundations of modern science, so did Aubrey outline the framework of what would become the discipline of historic preservation. But it was to be nearly a hundred years before the British Museum opened in 1753 to formalize the idea of an institution that would preserve natural specimens and artifacts for the public's edification, and yet another century before the need to preserve relatively modern, as well as ancient, technology was recognized with the opening of London's Science Museum in 1857. The founding

of the Smithsonian Institution in 1846 brought the concept of historic preservation to the United States and exactly one hundred years later those principles would be formally applied to aircraft with the establishment of the Smithsonian's National Air Museum. A discipline that had painstakingly evolved over 300 years was beginning to encompass yet another field of human accomplishment. Aviation historic preservation might have proceeded along fairly conventional lines were it not for a new development that would have an enormous impact upon the evolution of the discipline.

Beginning in the late 1950s, the reconditioning and flying of old airplanes began to emerge as a hobby, the considerable cost of which could be, at least in part, defrayed by flying them in public exhibitions. In 1957 former Air Force flight instructor Lloyd Nolen, along with four friends from Mercedes, Texas, bought a government-surplus P-51 for \$2,500 and, as a joke, painted "Confederate Air Force" on the tail. That same year an airplane mechanic named Cole Palen bought six derelict World War One types for \$1,500 and two years later opened an airstrip at Old Rhinebeck, New York. Soon, the handful of reconditioned military aircraft were in great demand for airshows around the country. Hollywood recognized the trend and 1959 saw the release of "633 Squadron," the first of a new genre of big budget air war films, shot in color, without military cooperation, and making extensive use of rebuilt aircraft. 1959 also saw the debut of *Air Classics*, the first popular magazine since the comics of the '30s to be devoted entirely to aviation nostalgia. By September of 1961 The Confederate Air Force had become a Texas corporation with assets that included a Mustang, two Bearcats, six T-6s, a Corsair, a P-40, a B-25, a Wildcat, a Hellcat and a P-38. All were airworthy, and the most expensive of the lot had been the Lightning which had cost a whopping \$4,000. On March 10, 1963 the first annual Confederate Air Force airshow was held at Rebel Field, Texas. Attendance exceeded all expectations as 15,000 people came to see nine fighters fly by. Thousands more were turned away for lack of parking space, causing a twelve mile back-up and the worst traffic jam in the history of the Rio Grande Valley. The handwriting was on the sky and on that highway. The public wanted aviation nostalgia and they were willing to pay for it.

Prior to the great explosion in the popularity of flyable vintage aircraft, the world's free-standing air museums could be counted on the fingers of one hand. The Musée de l'Air, founded in 1921; the United States Air Force Museum, established in 1923; the Caproni company's in-house museum set up in the early '30s; and, in 1937, the Canadian War Museum opened an aeronautical museum that contained one airplane (a Sopwith Camel). Lastly, in 1952 the Royal Australian Air Force Museum got its own hut at Point Cook. Of course, there were many other aircraft within larger national collections, such as those of the Smithsonian, the Science Museum, the Imperial War Museum, and the Deutsches Museum; and a

OVERVIEW

few in other museums, such as the Henry Ford Museum and Chicago's Museum of Science and Industry. The aircraft in these collections were, and in some cases still are, managed and conserved in much the same way as the museums' other historic properties. But, beginning in the early '60s, the building wave of enthusiasm for old airplanes created a market for more and bigger air museums.

The National Museum of Naval Aviation had its beginnings in 1962 and in 1963 the first air museum on the West Coast opened in San Diego. Looking for a way to get more of the USAF collection in out of the weather, the Air Force Museum Foundation, in 1964, launched a fund-raising drive which eventually raised over six million dollars, permitting the construction in 1970 and '71 of the first of the buildings that make up the current complex. That same year, 1964, the EAA decided to start a museum at Hales Corners, Wisconsin; and in New Zealand, the Museum of Transportation and Technology was opened.

Hollywood stepped in again in 1968 and '69, fulfilling its traditional role as both barometer and booster of popular culture, with a trilogy of mega-budget air war films. *The Blue Max* recreated World War One with rebuilds, replicas, Tiger Moths and Stampses; while in *Battle of Britain*, art imitated art as Confederate Air Force pilots flew reconditioned Spits and Hurries against Hispano Messerschmitts and Casa Heinkels. *Tora, Tora, Tora* went a step further and proved what pilots had known all along – that a T-6 can be anything you want it to be. With these three films the burgeoning movement seemed to achieve critical mass and before the end of the decade the proliferation of new air museums had expanded to include the New England Air Museum, the Pima Air Museum, the Champlin Fighter Museum, the Planes of Fame Museum, the Netherlands Museum of Military Aviation, and the Portuguese Air Museum. In March of 1969 a *Flying* magazine editorial bemoaned the sorry state of the Smithsonian's collection and its lack of a proper facility. A Congressional inquiry followed and, before long, genuine progress was being made toward the construction of the long awaited museum on the Mall. Meanwhile, in addition to the Confederate Air Force, other flying associations such as Warbirds of America, the Valiant Air Command, and the National Warplane Museum emerged in the U.S. to help feed the growing public appetite for World War Two with the original cast. In Canada, Australia, Britain and Europe, the pattern was much the same. Increased flying activity sparked even more public enthusiasm, which, in turn, shook loose the funding for more air museums. The early 1970s saw the opening of the Imperial War Museum's Duxford facility, the Royal Air Force Museum at Hendon, the Fleet Air Arm Museum at Yeovilton, Seattle's Museum of Flight, and, in 1976, the National Air & Space Museum in Washington.

The natural consequence of such an explosion in demand for airplanes that were, by definition, in limited supply caused a corresponding explosion in prices. Because the new air museums lacked the established infrastructure, and therefore the funding, to compete with private collectors, the best surviving examples were soon in private hands and were either being flown or were undergoing rebuild toward that end. Recoveries of rare aircraft followed the same economic dicta and were carried out, not by historical teams on behalf of museums, but by salvagers seeking to acquire valuable commercial properties. Air museums, rather than being the repositories of the finest historical specimens, were more often left to make do with the aircraft private collectors found uneconomical to make airworthy. The situation was compounded by the fact that the

public's expectations concerning what a vintage aircraft should look like were set by what it saw at air shows, in magazines, and on the movie screen. Air museum directors and staffs came, for the most part, from aviation rather than museum backgrounds and, therefore, shared the public's view. This demand for museum aircraft of pristine appearance not only opposed genuine preservation but imposed upon air museums a tremendous financial burden in acquiring and maintaining the facilities, tooling and personnel to carry out extensive aircraft modification and reconstruction.

Today, we see in the air museum world an almost complete inversion of the historic preservation process. The most basic premise of all historic preservation is the safeguarding of the physical material that has come down to us from the past. Artifacts are valued for the degree to which their original fabric has survived, and the whole art and science of historic preservation has, for three hundred years, had that principle at its center. But air museums, as we have seen, are not an outgrowth of that tradition. Consequently, historic aircraft are not so much conserved as artifacts as they are maintained as airplanes. Air museums do not have preservation centers staffed by conservators, but rather "restoration" shops staffed by airplane mechanics. The goal is not to save what is there but to fix it up to look like we think it once did, or more often, to change it to look like we wish it once did. The result is that, despite the profusion of air museums, very little aviation historic preservation is going on. What is of greater concern is that the opening up of new areas for historic aircraft recovery (either because of technological advances or political changes) will condemn aircraft that have been slowly succumbing to the "teeth of time" to a more rapid demise at the "hands of mistaken zeal."

Lest anyone misconstrue these observations as holier-than-thou sermonizing, let me point out that my own background is firmly rooted in the cockpit, not the halls of academia, and that TIGHAR's original motto was "Bring 'Em Back Alive." The foundation does not advocate the forced grounding of any flyable aircraft or the imposition of any other action, restriction or standard upon any organization, museum, or individual. What TIGHAR does advocate, encourage and implore is for the aviation historic preservation community to accept and adapt to its own use the language, the conventions, and the wisdom of three hundred years of historic preservation.

And it has to start with the language. Without standardized terminology the air museum world is a Tower of Babel where each museum feels free to define labels in whatever way makes its own collection look best. For example, according to the Royal Air Force Museum, "a replica is merely a look-alike, of different construction to the original" while the United States Air Force Museum holds that a replica is "a reproduction built by the builder of the original artifact in part or in total" while the San Diego Aerospace Museum maintains that a true replica must have been constructed within a few miles of where the original was built. None of this makes any sense until you understand that the RAF Museum contracted for the construction of a replica World War One observation plane and got something that was built to much higher standards than the original; that, as a gift to the USAF Museum, the North American company converted one of its later model B-25s to resemble Doolittle's B-25B; and that San Diego has a Spirit of St. Louis double that was built within a stone's throw of the old Ryan plant.

"Restoration", "reconstruction", "original", and dozens of other essential terms all mean different things to different air

museums. And because this terminology has grown wild for so long, the real obstacle to standardization is that now, by adopting somebody else's definitions, you instantly devalue your own collection. Suddenly your original is a restoration, or your reconstruction is only a reproduction. How will the definitions be arrived at? By negotiation? Will the Museum of Flight agree to stop calling its post-war Nord in bogus Luftwaffe markings a Bf 108, if EAA agrees to knock off calling its post-war Hispano in bogus Luftwaffe markings an ME 109? As long as aviation historic preservation refuses to tap into the wealth of knowledge amassed by other preservation disciplines the situation will persist and deteriorate.

Fortunately, a great deal of work has already been done toward adapting historic preservation terminology to the special considerations of machines. Studies at the Museum of Applied Arts and Sciences in Sydney, Australia laid the foundation for work at the Australian War Memorial which resulted in terminology specifically recommended for managing collections of vehicles, weapons and aircraft. In May of 1990 the U.S. Department of the Interior published a 101 page booklet entitled "The Secretary of the Interior's Standards for Historic Vessel Preservation Projects." The publication is the product of a 1984 Congressional request to the National Park Service which established the National Maritime Initiative to "conduct a survey of historic maritime resources, recommend standards and priorities for the preservation of those resources; and recommend appropriate Federal and private sector roles in addressing those priorities." Written by a committee of five maritime preservation professionals and reviewed by twenty-four others, the Standards for Historic Vessel Preservation Projects is, in TIGHAR's opinion, an outstanding model for what is needed in the aviation world. Vessels and aircraft are two sides of the same preservation coin, presenting many of the same challenges and quandaries for the archeologist, recoverer, conservator and restorer. The Standards provide, in addition to definitions of basic terms, recommended guidelines for acquisition, protection, stabilization, preservation, rehabilitation, restoration, and interpretation. I would urge any air museum professional to obtain a copy of this publication, read it, and think about how the guidelines it espouses might apply to aviation.

An air museum director might well react to TIGHAR's admonitions and urgings with a muttered, "That's easy for you to say." And while it is true that TIGHAR does not have a collection to manage and is not faced with conflicts between curatorial responsibilities and marketing demands, it is also true that TIGHAR collects no admissions, has no endowment, receives no appropriations, but must rely entirely upon charitable contributions for its operating funds. We understand the courage it takes to say what is not easy to say. We harbor no illusions that changes are going to come about easily or quickly. And TIGHAR does not merely stand on the sidelines and shout criticism. In September of 1990, in cooperation with the Royal Air Force Museum, we conducted a three day open seminar at Hendon called *Aircraft to Artifact, Exploring the Principles of Aviation Historic Preservation*. An audience of about 40 people, including directors and representatives from 10 air museums in 8 countries, heard presentations and participated in spirited discussions with a panel made up of the RAF Museum's Michael Fopp, David Lee of the Imperial War Museum, David Hallam of the Australian War Memorial, Stephen Grey of The Fighter Collection, and NASM's Tom Crouch. A Proceedings of that memorable meeting is available from TIGHAR. What we heard at Hendon prompted us

to research, write and publish the *TIGHAR Guide to Aviation Historic Preservation Terminology* as a way of introducing the language of historic preservation to aviation. The booklet is available free to any museum that requests it and since its publication in January 1991 fifty-four such requests have been received and filled. The Guide is also sold, at cost, to individuals and has been a consistent seller since publication. TIGHAR also educates aviation enthusiasts through our Introductory Course in Aviation Archeology. This week-end course is held four times a year in cooperation with various air museums around the U.S. and includes in its syllabus a major section on the principles of historic preservation. So far, nearly two hundred people have completed the course including many staff members from host museums for whom tuition is always free. Demand for the course is increasing and we're considering expanding the schedule.

TIGHAR will recover complete historic aircraft when aviation historic preservation has come of age; with our members and supporters around the world, we are doing our best to hasten that day.

— Richard E. Gillespie
Executive Director, TIGHAR
Reprints available from TIGHAR.

BLUE SIDE UP

Overheard at the 1992 TIGHAR Gathering –

"... so I told him if he scared me like that again I wouldn't go up with him any more."

"How long had you been his flight instructor?"



"I picked up the phone and said 'National Archives, Military Records' and this fellow says, 'Could you please send me everything you have on World War II?'"



And the non-partisan political joke of the week:

What's the difference between Dan Quayle, Bill Clinton, and Jane Fonda? She's the only one who's been to Viet Nam.



COMING IN TIGHAR TRACKS — DECEMBER 15, 1992

- **The News From Newfoundland** – Are the artifacts in St. John's pieces from the wreck of l'Oiseau Blanc?
- **Niku III** – The team, the plan and the prospects for TIGHAR's third expedition to Nikumaroro.
- **Sir Charles Kingsford-Smith** – In 1935 the great Australian aviation pioneer vanished without a trace somewhere over the Bay of Bengal (or did he?).

AND MUCH MORE!

MEMBERSHIP FORM

I would like to join TIGHAR. Enclosed is my donation of

\$35 for a one year membership*
(\$25 for full-time students)*

\$60 for a two year membership

\$125 for a five year membership

\$1,000 for a corporate membership

Please send me —

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Invitations to participate in expeditions, courses, seminars, and Gatherings
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Opportunities to do research, interviews, and reports for aviation historical projects*

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Please return this form with your membership dues in U.S. funds only, to TIGHAR, 1121 Arundel Drive, Wilmington, DE 19808 USA; Telephone (302) 994-4410, 9 a.m. to 5 p.m. EST/EDT, M-F. ALL DONATIONS TAX-DEDUCTIBLE WITHIN THE LIMITS OF THE LAW.

