

# TIGHAR TRACKS

A PUBLICATION OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY

*On April 9, 1992 a team of TIGHAR volunteers tracked down the remains of a Republic P-47 Thunderbolt long rumored to lurk in the tidal marshes that border Delaware Bay. Over the next two days they uncovered a substantial portion of the wreck and made an evaluation of its condition for the Dover Air Force Base Museum who now plan to recover the aircraft. TIGHAR will serve in an advisory capacity for that operation.*



TIGHAR photo by P. Thrasher

## THE BEAST OF BOMBAY HOOK

The bare facts of what might appear to be a relatively routine TIGHAR search and evaluation expedition don't begin to tell the story of what really happened. For starters, it wasn't supposed to happen at all.

On March 30 we had eight TIGHAR members signed up to excavate a barn foundation in New Castle, Delaware which might contain relics of the historic Wright Bellanca W.B.2 "Columbia" (see *TIGHAR Tracks* Vol. 7, No. 3). With field work set for April 9 – 12 and some team members already enroute, the development company that owns the land advised us that "our attorney has determined that the potential complications that could arise from your intended activities are too great to allow this excavation to occur at this time." Right. Mad scramble. Elaborate releases of liability are suggested and refused. They know they can't develop the property until potential historical issues are resolved, but they also know they don't have to resolve those issues until then. For right now, we're stuck.

But what about the TIGHARs that are converging on Delaware? Better think of something – quick. A little rumor-scrouring brings up an interesting story from a local aircraft mechanic. "They say there's a P-47 in almost perfect condition someplace in a marsh down along the coast. So-And-So's been on it."

### SO-AND-SO, OL' WHATSIS, AND WHOSIS

Phone call to So-And-So. "Yeah, she's there alright. The guy had just taken off from Dover [Army Airfield] heading northeast and had a fuel pump failure at about 400 feet. He put it in straight ahead, gear up in the marsh. The guy wasn't hurt at all. They went out with a Weasel and took the engine off but they left the rest of it there. They've got a map on the wall down at the State Emergency Operations Center that has the exact location marked on it."

Phone call to State E.O.C. "Yeah, we've got a map here on the wall but there's no mark like that on it. Of course, there might have been a mark on the old map. We just replaced it last year."

Back to So-And-So. "No map, huh? Well, I can tell you right where the plane is. It's east of Route 9 near Cowgill Corner. You go back in less than a mile. It's right in the vicinity of Muddy Branch. Ol' Whatsis can tell you all about it. He was flying P-47s out of Dover at the time it happened."

Phone call to Ol' Whatsis. "Remember it well. It was the summer of '44. I was a test pilot flying P-47Ns. They were doing training in Ds and I remember this kid was taking off and only got to about fifty feet when he hit a bunch of ducks. He put it down on the marsh and had to wait on the wing all day before they got out there to get him. I think they lost one or two Weasels in the process. Mosquitoes about ate him up. Boy, was he mad!"

Buy maps, check runway orientation versus reported site. Something is wrong. Neither description of the accident would put the airplane anywhere near the described location.

Back to So-And-So. "Maybe you ought to talk to Whosis. He's the one who took me to it."

Phone call to Whosis. "Yeah, I've been to it a hundred times. The guy was on a gunnery run for the range that used to be out on Bombay Hook. He lost power for some reason and put it down on the marsh. Never understood why the Army didn't recover it. Of course, they did lose an amphibious Weasel trying to save the engine. When the vehicle went down the bank into the water that big R-2800 shifted forward and the whole outfit went right to the bottom. They later brought it up but they left the airplane there. I can mark the spot for you on a map."

Go see Whosis. On the map he draws an airplane on an expanse of grassy marshland called Bombay Hook. The spot agrees with none of the previous stories. With just two days before the volunteers arrive, the Delaware State Police Aviation Section agrees to help locate the wreck and we fly their Bell 206L out to check the area. Tooka-tooka-tooka, back and forth, back and forth – nothing. Take a bunch of pictures, fly back to Dover, get them developed at a one-hour place in the mall.



Take the aerial photos back to Whosis. “Whaddya mean you couldn’t find it? It’s right there! Here, let me show you.” He circles a spot on three photos. Back to what seems to have become the TIGHAR Aviation Section. Tooka-tooka-tooka, out to the marsh. Back and forth, back and forth, this doesn’t make any sense. He’s marked three different places and there’s nothing in any of them except indignant ducks.

Phone Whosis. “Sure, I’ll go out there with the State Police and mark the spot myself but it will have to be tomorrow.” Phone the Aviation Section. They can fly him out there but but not until late in the day. Terrific – that’s the night the team arrives and we still don’t know whether we have a project or not.

On the morning field operations are scheduled to begin we stop in at the Aviation Section to see how the marking flight went the previous evening. “He found it, but I still don’t know how. There’s almost nothing left and what’s there is practically invisible because it’s the same color as the mud. He got out and marked it with a yellow flag.” The pilot marked a spot on the map where he thought the yellow flag was and off we went to find the airplane.

## FIELD OPERATIONS

Of course, the spot marked was a good half mile off but thanks to the sharp eyes of Doug Kraner we were on the wreck by early afternoon. Bombay Hook is a tidal marsh laced with rivers and streams known as guts. The only way in is by boat, which complicates the logistics. The other complication is mud – the smelly, slimy, almost bottomless, suck-your-boots-off variety. But the mud is also the reason that there is much more of the airplane surviving than it would at first appear. Washed twice a day in salt water and frequently burned over in marsh fires, it’s hard to imagine a worse environment for aircraft survival. But the fighter’s wings have settled down into the mud and are now covered with sod. To assess the aircraft’s condition we

decided to uncover the upper surface of the left wing.

Moving the sod and mud took two days and was accomplished, after some head-scratching, by means of a 1,000 psi gasoline powered wash pump and cautious shovel work. The task of transporting the equipment overland (overmud?) from the boat landing about a half mile away and the back-breaking job of shoveling mud soon

earned the airplane the name The Beast of Bombay Hook. But gradually the wing emerged, and the team demonstrated the energy, resourcefulness, and camaraderie that has become the trademark of TIGHAR operations.

## THE ARTIFACT

Although the left wingtip is missing and sod has formed in the exposed gun and ammunition bays, the wing structure and skins remain intact. In many cases, rivets have corroded away while the skin survives in much better condition. Test holes dug

through the sod confirmed that the right wing is still in place and metal detector hits in the surrounding area suggest many other pieces of the structure are present. Further exposure of the artifact was judged to be unwise until a full recovery could be organized by the Dover AFB Museum. The site is within the Bombay Hook National Wildlife Refuge and TIGHAR’s work was performed under special permit #BH-66258 issued by the

U.S. Fish and Wildlife Service. The Dover museum is now clearing the necessary paperwork to proceed with a recovery. Once recovered, cleaned and stabilized, the surviving components will be exhibited and interpreted in a display at the Dover Air Force Base Museum. They will not be rebuilt, or disappear into a composite reconstruction, but, as the remains of an aircraft directly connected to the base’s history, they will take their place among the Dover collection’s more complete but no less evocative aircraft.

Like all TIGHAR projects, this one was carried out purely as a service to the aviation historic preservation community. TIGHAR received no fee and will retain no artifacts. While the Dover Air Force Base Museum and the Delaware State Police Aviation Section provided vital logistical support; the funding, the research, and the labor that turned stories and rumors into an aircraft for permanent preservation came entirely from TIGHAR members. So here’s a “Well done” to the muddy TIGHARs who saved the Beast of Bombay Hook:

Christopher Engel, #1042  
Brooklyn, NY

Douglas Kraner, #0588  
New York, NY

Russ Matthews, #0509CE  
N. Hollywood, CA

E. Farley Sharp, #1029  
Milford, DE

George W. Jones, #1298  
Sedona, AZ

Vetris Lamb, #1269  
North East, PA

Gary Quigg, #1025CE  
Crawfordsville, IN

Vernon L. Wiese, #728C  
Beavercreek, OH



TIGHAR photo by P. Thrasher

*George Jones mans the wash pump.*



TIGHAR photo by P. Thrasher

*The glamour of aviation archeology.*



TIGHAR photo by P. Thrasher

*Gary Quigg plies his shovel while Doug Kraner and Vern Wiese look on.*

# Project Midnight Ghost



On May 8, 1927, the Levasseur biplane "L'Oiseau Blanc" took off from Le Bourget airfield, Paris, on an attempt to fly to New York. Piloted by Charles Nungesser and navigated by François Coli, the wood and fabric aircraft disappeared somewhere between the west coast of Ireland and New York City. No trace of it was found in spite of extensive sea and land searches.

In April 1984, Ric Gillespie and his brother, Bob, went to Machias Maine to check out some local stories concerning an airplane which crashed in the hills of Washington County in the spring of 1927. Based on folk tales of a woodsman named Anson Berry, the story claimed that an airplane had crashed in the hills which rise to the west of Round Lake, and that it was "that French airplane." This trip to Machias was the first of many, and formed the foundation of Project Midnight Ghost, TIGHAR's search for l'Oiseau Blanc and her lost crew.

Following Expedition XX in April 1991, Jay Veith, TIGHAR #0767CE, volunteered to re-examine the entire Anson Berry legend in the light of all the information gathered over the years. His research, conducted independently but with full access to the TIGHAR files and contacts, is extensive. The report by Jay which appears below on the questions of weather and route is but a small part of the work he has done in the last year. Field work in Maine is scheduled to resume with Expedition XXI in October, 1992.

Project Midnight Ghost's 20th expedition in April, 1991 began with high hopes as a body of evidence pointed to an area southwest of Third Round Lake Hill as the probable crash site. The failure of that search to find any conclusive artifacts caused profound frustration, and led to the Project taking a new direction. TIGHAR decided to apply the research methodology and standards developed in the Earhart Project to the Anson Berry story, and I volunteered to tackle the job.

By going back to the beginning of the flight and re-examining the evidence, I hoped to find out if an overflight of Anson Berry by l'Oiseau Blanc could have occurred.

With the help of other TIGHAR members (you know who you are and I thank you), research on l'Oiseau Blanc has quietly continued for some months. During

the course of nine research trips to Washington and one to Paris, Project Midnight Ghost has uncovered much new evidence and exploded some myths about the last flight of Charles Nungesser and François Coli.

**Myth #1: Headwinds.** There should have been no headwinds on Coli's planned route. However, "Doc" Kimball, the noted American meteorologist, publicly stated that the crew would face headwinds. He based this on erroneous information about their flight plan, which originally called for them to fly a great circle route through St. Johns, Newfoundland. Kimball was unaware, as were most people, that Coli had modified the route to strike land at Belle Isle, Newfoundland, instead, where there was a prominent light house. By riding above a low pressure system moving east from Labrador, Coli planned to take advantage of the east-

erly winds offered by the counterclockwise flow of the air, giving them at the least no headwinds, and possibly providing some tail winds. Because the prevailing winds blow from west to east across the Atlantic, Kimball's error was not

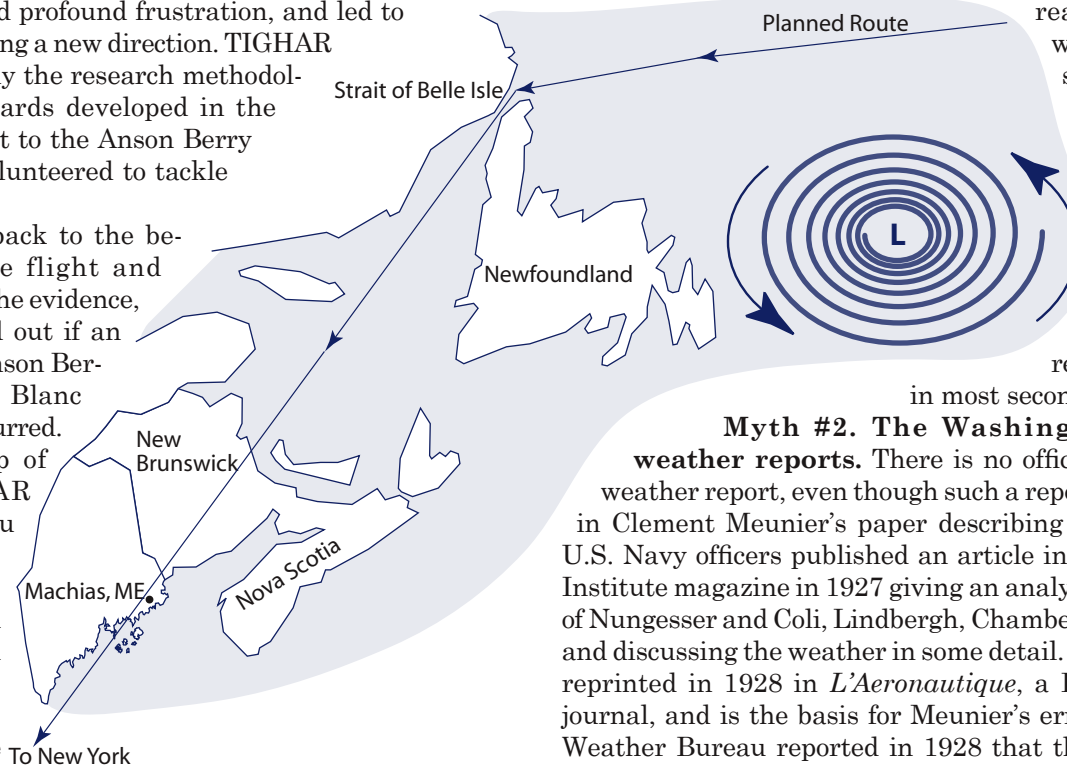
readily detectable without original source research.

The assumption that headwinds delayed Nungesser and Coli quickly became "fact," and is recorded as such

in most secondary sources.

**Myth #2. The Washington v. Paris weather reports.** There is no official Washington weather report, even though such a report is mentioned in Clement Meunier's paper describing the flight. Two U.S. Navy officers published an article in the U.S. Naval Institute magazine in 1927 giving an analysis of the flights of Nungesser and Coli, Lindbergh, Chamberlain, and Byrd, and discussing the weather in some detail. This article was reprinted in 1928 in *L'Aeronautique*, a French aviation journal, and is the basis for Meunier's error. The French Weather Bureau reported in 1928 that the low pressure system off Labrador had moved to the east just as they had predicted; the Naval Institute article claimed that it had not, causing serious navigational problems and icing conditions. The Naval Institute article does not, however, claim that headwinds were a factor in the flight.

Two separate but distinct weather and witness scenarios have emerged concerning an overflight of Anson Berry. One is based on no headwinds, and postulates a morning crash. The other calls for headwinds and an afternoon crash. Either one could have resulted in the aircraft flying over Anson Berry in the vicinity of Round Lake. Further work in the Round Lake Hills seems to still be our best hope for finally solving the mystery of the midnight ghosts.







# THROUGH THE FLAK

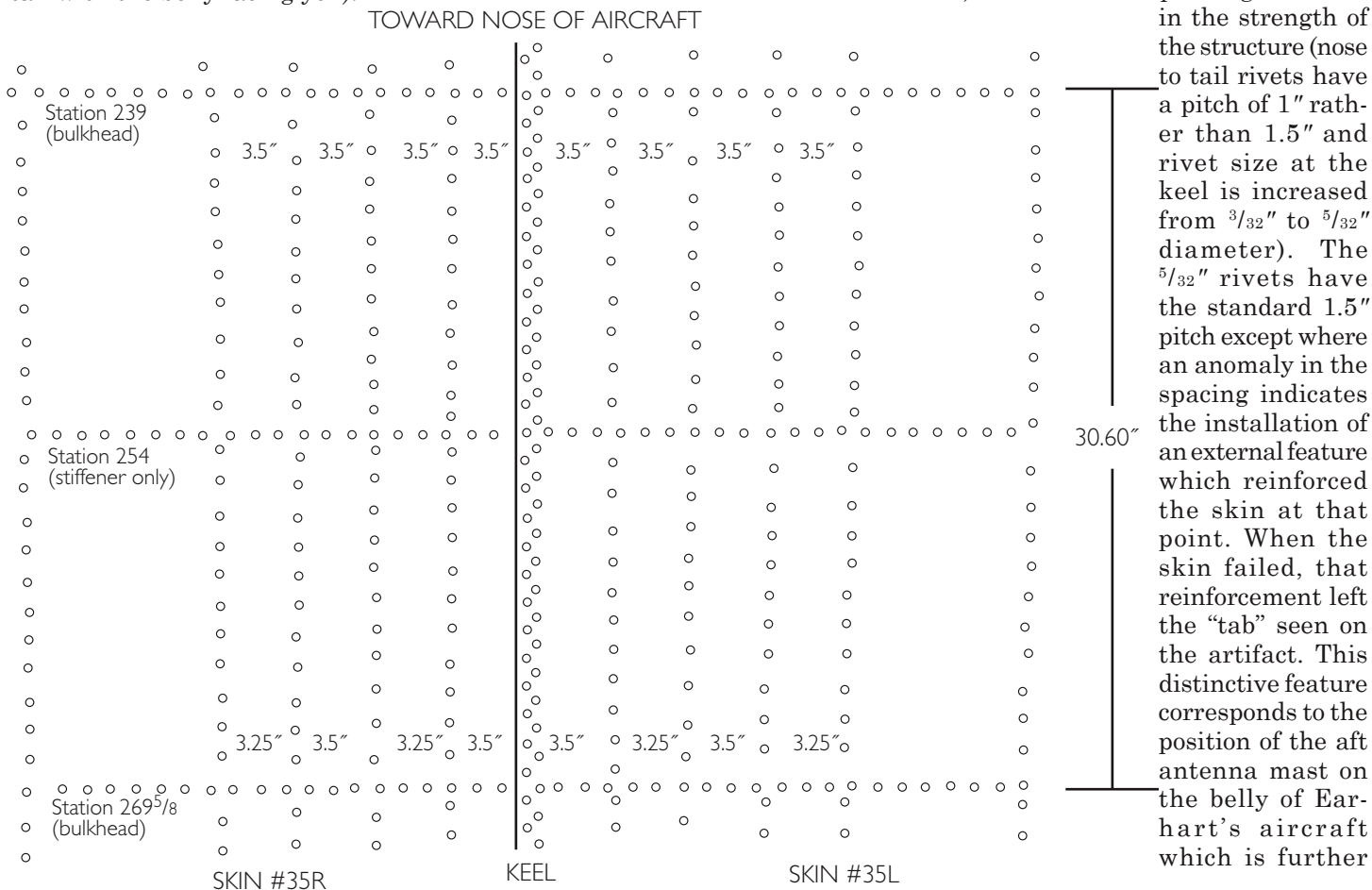
We said it would be thick, and it is. Following TIGHAR's March 16 announcement that the Amelia Earhart mystery is solved, the various Earhart-theorist camps put up a veritable barrage of criticism and a battle for public opinion has been raging ever since. As in every battle, confusion reigns supreme, so to help you make your own objective judgement about the evidence we've addressed some of the most common criticisms.

## A RIVETING QUESTION

You've seen the allegations. The airplane skin TIGHAR found on Nikumaroro could not have come from Earhart's aircraft. The rivet pattern "is not even close" to that on a Lockheed 10. The repairs made to Earhart's Electra could not have resulted in the rivet pattern present on TIGHAR's artifact. And so on. Here are the facts. Judge for yourself.

### THE RIVET PATTERN

The area in question is a .032" section of 24ST Alclad attached with AN455 AD 3/3 rivets on the belly of the Electra between Fuselage Stations 239 and 269<sup>3</sup>/<sub>8</sub>. As it came from the factory, that section of the belly of a Lockheed 10 looked like this (imagine the airplane standing on its tail with the belly facing you):



The two skins overlap at the keel and are attached with a double row of rivets. The vertical (nose to tail) rivets have a pitch (space between individual rivets) of 1.5 inches and attach to stringers, four on each side of the keel, which taper together slightly as they go aft (because the fuselage tapers). The horizontal rivets are spaced one inch apart and are attached to bulkheads at Stations 239 and 269<sup>3</sup>/<sub>8</sub>. At Station 254, however, the rivets attach only to stiffeners on the interior surface of the skin. There is no bulkhead at that location.

The section of airplane skin found on Nikumaroro looks like the illustration on the next page. It also is a .032" section of 24ST Alclad that was attached with AN455 AD 3/3 rivets (one rivet survives). Four rows of rivets indicate attachment to stringers which taper together at the same rate as those on a Lockheed 10, and the skin bears the same pre-war labeling present on existing Lockheed 10s. Some details of rivet spacing on the artifact are different from the standard pattern shown below (as was also true of Earhart's aircraft). The underlying structure evidenced by the rivet pattern is, however, identical to that on the belly of the Lockheed 10, i.e. four closely spaced stringers which taper at a specific rate. Where rivets are absent (those associated with the stiffener at Station 254, and the double row at the keel) there are corresponding increases

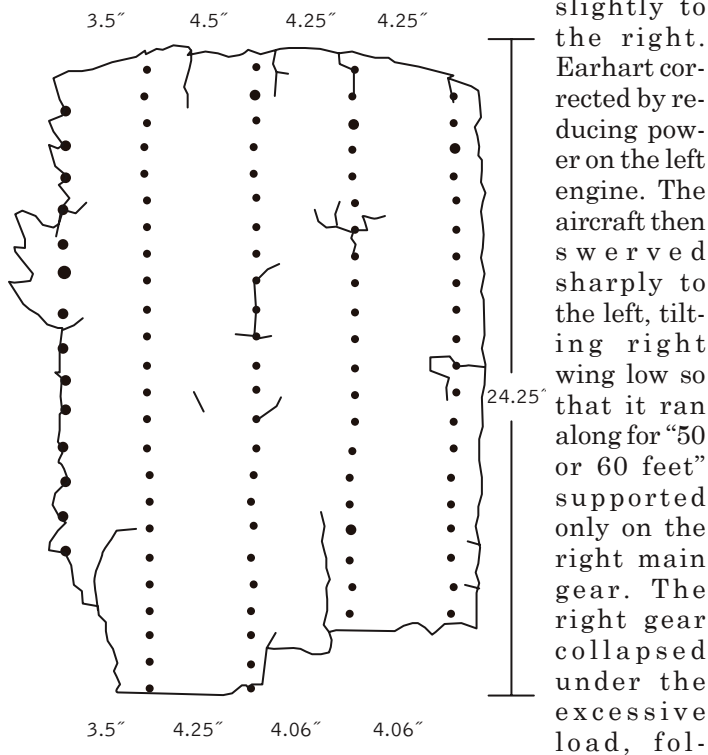
in the strength of the structure (nose to tail rivets have a pitch of 1" rather than 1.5" and rivet size at the keel is increased from <sup>3</sup>/<sub>32</sub>" to <sup>5</sup>/<sub>32</sub>" diameter). The <sup>5</sup>/<sub>32</sub>" rivets have the standard 1.5" pitch except where an anomaly in the spacing indicates the installation of an external feature which reinforced the skin at that point. When the skin failed, that reinforcement left the "tab" seen on the artifact. This distinctive feature corresponds to the position of the aft antenna mast on the belly of Earhart's aircraft which is further

indicated by the presence of 1930s aviation antenna lead wire found entangled on the artifact.

All of the variations from the standard pattern are entirely consistent with the Lockheed Engineering Repair Orders which describe the repairs made to Earhart's aircraft in April/May of 1937. Understanding those repairs and the historical context in which they were carried out is essential to an intelligent evaluation of the aircraft skin found on Nikumaroro.

## THE LUKE FIELD CRASH

At 5:45 a.m. on March 20, 1937, Earhart's first attempt to fly around the world came to an abrupt end when the aircraft ground-looped on take-off from Luke Field, Hawaii. Early in the take-off run, according to the official U.S. Army Air Corps report of the accident, the aircraft swung



slightly to the right. Earhart corrected by reducing power on the left engine. The aircraft then swerved sharply to the left, tilting right wing low so that it ran along for "50 or 60 feet" supported only on the right main gear. The right gear collapsed under the excessive load, followed quickly by the left gear, and the aircraft "spun sharply to the left on its belly ... amid a shower of sparks from the mat ... coming to rest headed about 200 degrees from its initial course." The mat referred to was the pierced steel matting which comprised the runway surface at Luke Field. Some fifty square feet of the mat was torn up and had to be replaced. The aircraft fared worse.

## THE DAMAGE

Amelia had cut the switches when she saw that a crash was imminent so that, although both props were bent, there appears to have been no serious damage to the engines. The right wing, however, was a total loss as was the entire right-hand underside of the belly where it had scraped and spun along the torn steel matting. In addition, eight inches of the left-hand side of the belly would have to be rebuilt. Earhart and company did not stick around for the accident investigation but sailed for California at noon that same day aboard the S.S. *Malolo*. The airplane followed a week later, on March 27, 1937 aboard the S.S. *Lurline* and by early April was back at Lockheed in Burbank for repairs.

## THE SHOP

It is important to understand the historical context in which the repairs to the Earhart aircraft were made. At that time, Lockheed employed about 200 people at Burbank building the Model 10 Electra and the Model 12 Electra Junior. The Model 10 had been in production since 1934 and the plant normally produced two or three aircraft per month. But the situation at Lockheed in April and May 1937 was far from normal. Company records confirm that during the two months NR16020 was under repair the company delivered 14 new airplanes, more than twice as many units as at any other time in the type's production history.

Another factor was Amelia herself. During the time the aircraft was under repair AE was a frequent visitor to the shop. Robert Tallman, who worked in the sheet metal shop at the time, recently wrote to TIGHAR to say, "Amelia was one impatient woman while waiting for repairs to her Electra. She shortcut through our department from the front office to her airplane."

## THE REPAIRS

Upon arrival at Burbank the airplane was evaluated and Engineering Repair Orders providing a general narrative description of the work to be performed were written by James Gerschler, Assistant Chief Engineer.

Although the damage required an almost complete rebuild of the belly, returning the aircraft to the original construction jig was not an option. Not only was the jig occupied with new aircraft, but it could not accommodate an airframe once it had been mated with the center section. Consequently, the Earhart aircraft was repaired propped up on sawhorses (see photo below). The repairs were effected according to Lockheed Standard Design Handbooks which contained a wide selection of pre-approved repair techniques which could be selected at the discretion of the



Reprinted with the permission of the Purdue University Libraries, Special Collections, W. Lafayette, IN 47907.



Luke Field, Hawaii, March 20, 1937



NR16020 under repair at Lockheed Burbank, April/May 1937.

# HELP WANTED

The following help is needed to identify artifacts found on Nikumaroro:

We're looking for a photograph or example of the Western Electric No. 53-A Test Set that went with the Type 13C transmitter and Type 20B receiver. This was a portable device containing a special two scale test millimeter and was carried aboard the aircraft. An object found on Nikumaroro in the same debris field with the aircraft skin may be part of such a unit.

We need a timepiece guru. In the same debris field mentioned above there was what seems to be the bezel ring of a timepiece, made of German Silver (a nickel, zinc, copper compound) and apparently metric in measurement (5cm in diameter). A ferrous pin four inches in length has been installed through the case bow as if to provide a way to mount the timepiece. We suspect a chronometer or a stop watch.

We need detailed mounting information for the installation of the PBY style navigator's bookcase (Part #28F 4023) in the B-24D or PB4Y-1 aircraft. We've recently learned that some models of the Liberator included these Catalina parts and we suspect that this could be the origin of the navigator's bookcase found on Nikumaroro in 1989. It's clear that we have two distinct types of aircraft parts on the island; World War II debris brought to the island as trading material, and wreckage from the Earhart aircraft. The trick is sorting them out.



TIGHAR photo by P. Thrasher.

*Lockheed 10A Electra N38BB at Oakland's Western Aerospace Museum, used for artifact comparison by TIGHAR's critics.*

men doing the work. These provided for substitutions in rivet size, pitch and spacing which would result in the same or greater structural integrity as the original design but afford more flexibility in a repair situation. Surviving official correspondence documents that substantial changes were made requiring new engineering drawings approved by the Bureau of Air Commerce on April 29, 1937. Unfortunately, none of these drawings of how the rivet pattern looked after the repairs were completed are known to survive. All that can be said for certain is that it did not look like the pattern on a standard Lockheed 10.

The work was completed and signed off on May 19. Earhart embarked upon her second world flight attempt the next day.

## THE CRITICS

So if all the knowable features of the skin (material, size, thickness, rivet type, labeling, stringer orientation, taper, etc.) match TIGHAR's artifact exactly, and no one really knows just what the rivet pattern on Earhart's airplane looked like, and nobody can find any other possible source for this piece of skin, what's behind all the criticism? The answer is simple – money. All the criticisms regarding the rivet pattern were orchestrated by one individual whose efforts to raise money to investigate his own theory are threatened by TIGHAR's success.

Two former Lockheed employees, recruited by the same person, have made highly publicized statements about how Lockheed would have repaired Earhart's airplane. However, neither of these individuals was involved in those repairs. Their remarks are entirely speculative and have been contradicted by equally qualified sources. None of these people has ever personally examined the artifact in question. The aircraft they used for a comparison with TIGHAR's artifact (or rather, with a plastic template based on photographs) is a standard Lockheed 10A. Of course, it didn't fit. Nor should it.

## YOUR FEETS TOO BIG

TIGHAR's discovery of the remains of a size nine woman's shoe of the same type worn by Earhart has attracted another round of fire. Allegations have been made that Amelia Earhart did not wear a size nine shoe. Instead, it is said, she wore a size six. The proof offered is that a museum in Atchison, Kansas supposedly has a size six shoe which is known to have belonged to Earhart. Here's the truth.

The County Historical Society Museum in Atchison has a pair of brocade dancing slippers which once belonged to Amelia. They are labeled size 6½. No one knows when in her life Amelia wore them. TIGHAR has a pair of medium





*Earhart's modified and repaired Lockheed 10E Special NR16020 at Singapore on June 20, 1937.*

heeled shoes loaned by the daughter of Amelia's secretary. They were purchased by AE in Ireland in 1932 and were made in France. The Sterling Last Corporation has examined them and thinks they are about a size seven, AA or AAA. Amelia gave them to her secretary because they hurt her feet.

These discussions, while interesting, are not relevant to the question of what size shoe AE was wearing at the time she disappeared. Fortunately, that question is easily answered. An accurate measurement of the blucher-style Oxfords AE was wearing is readily obtainable from a photograph which shows her standing on the wing of the Electra in Bandoeng, Java on June 22, 1937 (see *TIGHAR Tracks*, Vol. 8, No. 1/2). Features of known dimension in the same plane of perspective with the shoe make it easy to determine its length. That measurement has been done independently by Bilrite Footwear, by Sterling Last, and by TIGHAR. We all come up with 278mm. That's a size 8½ or 9 (depending on the manufacturer). The sole of the shoe found on Nikumaroro was reassembled before this information became available. It measures 278mm.

## DEBUNKING THE DEBUNKERS

TIGHAR undertook the Earhart Project not only to find Amelia Earhart but to set an example in sound, thorough historical research. The criticisms of TIGHAR's findings are, predictably, the result of just the kind of speculative and insufficient research that kept Earhart lost for 55 years. Space does not permit, and reason does not merit, a rebuttal of every half-thought-out and often downright screwy objection that has been raised. But if you've read something that bothers you, drop us a line. We haven't seen any criticism yet that stands up to documented fact.

## ONWARD

Meanwhile, the work continues. There are some very interesting artifacts from Nikumaroro still under analysis which could turn out to be every bit as significant as those we've already identified (see "Help Wanted," page 6). TIGHAR researchers are also turning up new historical data that are helping to fill in the picture of what happened in 1937. And, as a result of all the publicity, we're constantly hearing from people who have information, expertise or equipment to contribute. The monumental task of planning, staffing and funding the 1993 expedition is well underway. Some new developments in transportation, technology, and search capability should mean a bigger team, more time on site, and greatly increased ability to uncover the rest of the story.



# BIASED TOWARDS THE FACTS

Throughout the month of April the syndicated two-hour television documentary "Untold Stories: The Search for Amelia Earhart" was aired all around the U.S. at various times and on various dates. Whether or not you caught it on a local channel or might want to get the video tape when it comes out, we thought you might like to know how it was made and what we think of it.

The show is a biography of Amelia interlaced with the story of the search for the answer to her disappearance. Although a whole gallery of Earhart authors, researchers and theorists make cameo appearances, the show focuses mainly on TIGHAR. And let's be fair – that's mainly because NBC News Productions, who produced the show, paid TIGHAR for the right to send a cameraman with us to Nikumaroro last year. The fee helped fund the expedition. Afterward, we worked closely with the producers to insure that the show would be historically accurate, and the extent to which we succeeded is due largely to Russ Matthews (TIGHAR #509CE). Russ served on both expeditions to Nikumaroro, then signed on as Senior Researcher for NBC's production. It was Russ who tracked down the rare newsreel footage, photographs, and documents that make the show, by far, the best biography of AE ever made. Throughout the production process TIGHAR headquarters fought Hollywood "Who's gonna know?" attitudes and was accused of being "biased toward the facts" (we plead guilty).

Of course, it's not the show we would have made if TIGHAR had been calling the shots. The style is far too gushy for our taste. Besides, there's too much of Gillespie and not nearly enough of the team and Nikumaroro (both of which are better looking than Ric). And despite Russ's best efforts, some of the chronology in Amelia's life got screwed up, some of the airplanes shown in the 1937 search sequence are completely wrong, and poor old Fred Noonan gets the weeny again about his alleged drinking. Then, of course, they had to let Al Bresnick tell his silly story about Amelia being pregnant and then show us excavating what turned out to be an infant's grave. The phone has been ringing off the hook with people wondering if that could have been AE's kid (buried in a traditional Gilbertese grave).

So it ain't *The Civil War*, but it's not bad either. The overall impression of who Amelia was and what made her tick is really very good and the story of TIGHAR's research, expeditions, and results is absolutely accurate (because we wrote that part of the script). As soon as it's out on video tape we'll let you know how to get a copy.



# A ZERO-SUM EXPERIENCE



For years now, the Champlin Fighter Museum in Mesa, Arizona has been looking for a Japanese fighter to round out its outstanding collection of World War II reconstructions. Last fall it looked like a well preserved A6M5-B Zero would finally fill that need, but it was not to be. Instead of acquiring an airplane, the Champlin organization found itself in the middle of a Micronesian political scandal and went home empty-handed. The story of what went wrong serves as a cautionary tale for all of us interested in historic aircraft recovery.

About three years ago, according to the museum's founder Doug Champlin, scuba divers from a local dive shop, NECO Marine, in the Republic of Palau, happened upon a previously undiscovered Zero on the floor of the atoll's large lagoon. An American tourist from Phoenix, Arizona was diving with guides from NECO Marine and became aware of the find. When he returned to the States he described it to Champlin. Further investigations showed the aircraft to be a Mitsubishi A6M5-B, a land-based interceptor version of the Zero known as the Otsu-sen. The machine, on its back and mostly covered with sand, was in relatively good condition and appeared to be an excellent candidate for recovery. Champlin decided to go for it and began to investigate what would be involved in obtaining the aircraft.

As with many Pacific island nations, tourism (and especially dive tourism) is a significant factor in the economy of the Republic of Palau. Because underwater World War II relics are a major tourist draw the legislature has declared the area to be the Palau Lagoon Monument under Chapter 3, Title 19 of the National Code. Nothing there can be removed or tampered with in any way by anyone. However, on October 10, 1991, the Minister of Commerce and Trade, Mr. Okada Tachitong, wrote a letter to the president of NECO Marine, Mr. Shallum Etpison, granting permission "to search for, examine and remove one Japanese Zero Plane from the waters around Palau for the sole purpose of shipping it to Champlin Fighter Museum who will restore and display this plane in their collection, with the war history of Palau, and in this way create an interest for our tourist industry." No fee

was associated with the transfer of the aircraft. With official permission in hand, NECO Marine and Champlin struck a deal and got ready to begin salvage operations. That's when it hit the fan.

On November 19, 1991 the owner of a competing dive shop, Mr. Francis Toribong, brought suit in the Supreme Court of Palau against NECO Marine, its owner, and against the Minister of Commerce and Trade, charging that the permission granted was in violation of the Palau Lagoon Monument laws. To make matters worse, the original request letter had been written by Mr. Shallum Etpison, President of NECO Marine, to the President of the Republic of Palau, The Honorable Ngiratkel Etpison – who turns out to be Shallum's dad. The judge issued a restraining order and the President of the Senate, Mr. Joshua Koshiba, wrote the President a scathing letter which charged that he had used "the color of authority to purportedly authorize such a damaging act for personal profit." A later hearing before the Court formalized the denial of permission and the airplane remains where it was, on the bottom of the lagoon.

What can be learned from an experience like this? Several lessons seem apparent –

#1 – While developing nations certainly have a right to use World War II aircraft as tourist attractions, it needs to be pointed out that unrecovered aircraft represent only a temporary source of revenue because corrosion and souvenir hunting will inevitably exhaust the resource. National policies which do not provide for recovery and preservation of at least some historic properties are self-defeating.

#2 – The most successful approach for Western museums hoping to recover aircraft is to help the host country develop their own museum facilities and exhibits. The Champlin Fighter Museum was certainly on the right track with an offer to build a 50' x 50' building for Palau and install a Zero replica, but ultimately they fell victim to political factors.

#3 – Assumptions that the governments of developing nations are less sophisticated than ours are usually mistaken. Presidents' sons seem to be a problem everywhere.







*Here are a few of the TIGHAR members doing essential research on the foundation's various projects. If you have a special skill or interest and would like to do research on a TIGHAR project we may be able to match you with a specific need. Just give us a call.*

## **THE EARHART PROJECT**

### **RANDY JACOBSON, TIGHAR #1364** **Arlington, Virginia**

Randy is an oceanographer with the Office of Naval Research. He's investigating the dynamics of the near-shore environment for atoll's such as Nikumaroro so that we can develop informed hypotheses concerning probable wreckage distribution. Randy is also researching navigational and meteorological factors bearing on the Earhart disappearance.

### **BERNIE HERTLEIN, TIGHAR #1353** **Asheville, North Carolina**

Bernie is Project Scientist for STS Consultants. His field of expertise is nondestructive evaluation of structures and foundations using sonic and ultrasonic tests, vibration analysis, ground penetrating radar, seismic and parallel seismic tests, electromagnetic and electrochemical tests and gravity anomaly meters. He's helping us work out the best technology to employ to find the rest of the Earhart aircraft.

### **PAUL HARUBIN, TIGHAR #1322** **Southeastern, Pennsylvania**

Paul is a self-employed consultant whose expertise in Washington, D.C. archival research has turned up many of the original source documents that are at the heart of TIGHAR's work. For example, it is through Paul's efforts that we got the ship's logs containing meteorological data that are helping Randy Jacobson determine where we should look for the wreckage that Bernie Hertlein will work out the best way to find. How's that for networking?

### **LARRY WEBSTER, TIGHAR #0084** **Shannock, Rhode Island**

Larry has been hunting and collecting WWII aircraft wreckage in New England for many years and has helped a number of museums with components for reconstruction projects. He's using his familiarity with vintage aircraft structures, manuals and procedures, as well as his extensive collection of material, to help identify artifacts still under investigation.

### **PAT DONOVAN, TIGHAR #0106** **Seattle, Washington**

Pat is a FedEx (formerly Flying Tigers) pilot who is rebuilding a Lockheed 12 and has an intimate familiarity with Lockheed structures and components of the 1937 era. Armed with photos and information about still unidentified aircraft pieces from Nikumaroro, he has been pawing through his piles of parts and is helping us confirm some suspicions which could lead to another breakthrough on the project.

### **NORM CHIPPS, TIGHAR #1329** **Hyattsville, Maryland**

Norm owns Chipps Research Ltd., and his field of expertise is vintage aircraft radio. Norm has done most of the radio restoration on Enola Gay for the Smithsonian and it was he who identified (and documented with examples) the wire found on Nikumaroro as mid-30s aviation antenna fairlead wire. He's presently working on identifying another radio component found on the island.

## **PROJECT MIDNIGHT GHOST**

### **JAY VEITH, TIGHAR #0767CE** **Andalusia, Pennsylvania**

While the headquarters staff has been chasing Amelia, Jay has been almost single-handedly carrying the ball on the Nungesser/Coli investigation (see "Project Midnight Ghost," p. 3). The wealth of historical documentation he has assembled clears up many long-standing questions and will help determine the focus when field operations resume in Maine next fall.

### **DICK REYNOLDS, TIGHAR #0981C** **Portola Valley, California**

Dick has been doing yeoman service translating French archival documents and publications ferreted out by Jay Veith. Without his help, much of the new information on Project Midnight Ghost would still be inaccessible to us.

## **OPERATION SEPULCHRE**

### **WALTER HOLM, TIGHAR #0980C** **Union City, California**

Walt has been doggedly tracking down former U.S. servicemen who might have knowledge of underground Luftwaffe hangars rumored to be beneath the present U.S. Army airfield at Mainz-Finthen, Germany. It's the most frustrating kind of rumor-chasing. Every time you find the guy who's supposed to be the source of the story, he says, "No, I heard it from another guy" and off you go again.



## DOOLITTLE RAIDER

RICHARD PINGREY, TIGHAR #0908C

Selah, Washington

Dick is a 747 captain on United's Pacific run and is TIGHAR's Project Coordinator for our investigation of the Doolittle Raider B-25 that ditched off the China coast. Dick is working on some significant new developments in this project.

## COLUMBIA DIG

E. FARLEY SHARP, TIGHAR #1029

Milford, Delaware

Ed Sharp is pursuing background research on the oft-thwarted but never abandoned excavation to recover any possible surviving relics of the Wright Bellanca W.B.2 "Columbia" that burned in a barn fire in New Castle, Delaware in 1934.

## LOS PADRES SURVEY

JAMES D. PAULES, JR., TIGHAR #0624

West Hills, California

Jim is Project Coordinator for what will be a multiple-expedition project to find and evaluate potentially historic aircraft wrecks within the Los Padres National Forest north of Los Angeles, California. Jim has been compiling and correlating crash information from disparate sources and reconciling it with current topographic maps. As soon as coordination with the National Forest Service is completed we'll be setting dates for field work and calling for volunteers.



## WHO'S IN CHARGE HERE?

If you've been a TIGHAR member since at least February of this year you recently received a letter from the chairman of TIGHAR's Board of Directors asking you to contribute to the TIGHAR Home Fund. This may have come as something of a surprise to members who didn't realize that TIGHAR has a Board of Directors, let alone a Chairman of the Board, but we do, and the Board is, in fact, the foundation's governing body. At present, the Board is made up of seven TIGHAR members (the Bylaws permit up to fifteen) who each serve a two year term and can be re-elected without limitation. They are:

- **John Sawyer (TIGHAR #0618B).** Mr. Sawyer is a business executive from Cincinnati, Ohio who flew B-17s during World War Two and later owned his own P-51. He serves as Chairman of the TIGHAR Board.
- **Donald V. Earnshaw (TIGHAR #0296B).** Mr. Earnshaw is a consultant who lives in Chatham, Massachusetts and has held high level state and federal government positions in the field of commerce. He flew B-25s during World War II.
- **Gerald F. Schwam (TIGHAR #0611LB).** Mr. Schwam owns an architectural firm in Elkins Park, Pennsylvania and has served on TIGHAR's Board since its founding in January, 1985. He also owns and flies a deHavilland DH-82A Tiger Moth.
- **Geoffrey Hurlbut (TIGHAR #0242CEB).** Mr. Hurlbut is Director of Marketing for a large computer company and lives in Bloomfield, New Jersey. He is a life-long student of aviation history.
- **Edward Meell (TIGHAR #0193BCL).** Mr. Meell owns a marketing and publishing firm in

Yardley, Pennsylvania. He has a masters degree in history and a special interest in World War II aviation.

- **Patricia R. Thrasher.** Ms. Thrasher is a co-founder and full-time employee of TIGHAR. As President, she serves on the Executive Committee and runs the foundation's day-to-day business from its offices in Wilmington, Delaware. She is married to TIGHAR's Executive Director, Richard Gillespie.
- **Richard E. Gillespie.** Mr. Gillespie is a co-founder and full-time employee of TIGHAR. As Executive Director, he serves on the Executive Committee and oversees historical research and field operations. He is married to the foundation's President, Patricia Thrasher.

The Board of Directors determines the foundation's general policies and direction, and oversees the activities and decisions of the Executive Committee. In addition to its other duties, the Executive Committee is responsible for presenting the foundation's message to the membership and to the general public through TIGHAR publications and contact with the press.

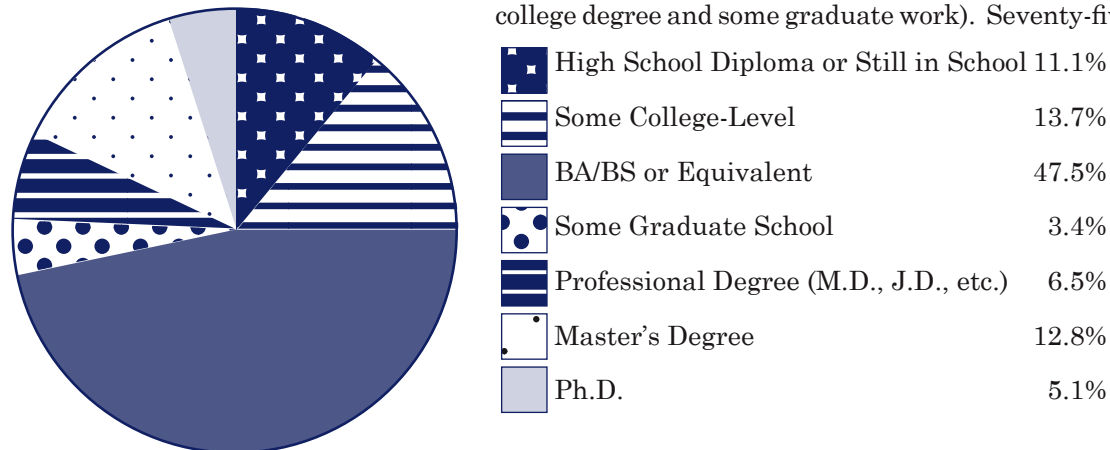
Response to Mr. Sawyer's generous offer to match all contributions to the TIGHAR Home Fund has, so far, been excellent. Securing adequate and appropriate office facilities is perhaps the single most important factor in the foundation's continued growth and success. The amount you're able to contribute is not nearly as important as it is that every TIGHAR member participate. The July first deadline is fast approaching, so if you have not yet made your donation please send your check, payable to the TIGHAR Home Fund, today.



## THY FEARFUL SYMMETRY

How does a still relatively small organization like TIGHAR (under 900 members worldwide) make such an impact? Media exposure? Sure, but that's effect, not cause. What the press does is cover news, so the real question is, How does a small non-profit foundation like TIGHAR manage to make so much news? The answer, of course, is its ability to get things done – to get out there and find the answers, the documents, the artifacts and the aircraft. The secret behind that ability to accomplish is the TIGHAR membership. From the questionnaires most of you have filled out it's easy to see that we're a pretty unusual bunch. Let's take a look.

The first pie chart is a representation of the educational levels of TIGHAR members. The average American over 25 has 12.7 years of formal education. The average TIGHAR has something over 17 years of schooling (or, in other words, a college degree and some graduate work). Seventy-five percent of us have at least



a four-year degree (for comparison, 21.3% of Americans over 25 have at least four years of college), and those who don't, do have a lot of education in technical fields and have been some of our most valuable volunteers on expeditions.

The second pie chart shows what we do for a living. The headings aren't

in any particular order, that's just the way it turned out. But some of

the headings might be a little confusing, so here's a translation: Professional Pilot – someone who makes a living flying aircraft. Not Employed – a full time student, a homemaker, a person who is out of work, or retired; anyone who doesn't receive a paycheck or income from the fruits of his or her daily labors. Education Professional – a teacher, at whatever level. Technician or Skilled Trade – computer programmers, skilled tradespeople, lab technicians, all those people we rely on to know how to do things. Business Owner/Self-Employed – a person who owns a business, whether small (1 person), medium (500 employees), or large (over 500 employees). Physician, Attorney, Other Professional – doctors, lawyers, accountants, research scientists, engineers, whether or not self-employed. Business Executive – people holding management-level positions (up to and including CEO) in large businesses. Government or Career Military – diplomats, police officers, government employees, military officers or enlisted. Arts & Letters – people who make their livings from writing, art, film, or other activities commonly considered "art."

You'll notice that a large proportion of us are in business for ourselves (especially when you factor in the many members in the Professional and the Arts

& Letters categories who are self employed). And it's probably safe to say that most of the rest of us are also the type of people who make our own way in the world regardless of who we work for. When you have such a remarkable group of educated, skilled, and independent people pulling together, it's hardly surprising that the world takes notice.







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.

**TIGHAR Tracks**, published six times each year, is the official publication of The International Group for Historic Aircraft Recovery. A subscription to **TIGHAR Tracks** is included as part of membership in the foundation (minimum donation \$35.00 per year). The editors welcome contributions of written material and artwork. Materials should be addressed to: Editors, **TIGHAR Tracks**, 1121 Arundel Drive, Wilmington, DE 19808 USA, Telephone 302/994-4410. Photographs and artwork will be returned on request.



## 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 —

*TIGHAR Tracks* seven times a year, and a membership patch and decals  
Invitations to participate in expeditions, courses, seminars, and Gatherings  
Opportunities to subscribe to special internal TIGHAR project publications  
Opportunities to do research, interviews, and reports for aviation historical projects

Name

Address

Telephone

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.

