

TIGHAR TRACKS

A PUBLICATION OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY



Spring 1988

Vol. 4 No. 1



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

—JOHN AUBREY
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 was incorporated in January 1985 and recognized as a 501(c)(3) public charity by the IRS in November of that year. Offices are maintained in Middletown, Delaware on the Summit Airport, and staffed by the foundation’s Executive Committee, Richard E. Gillespie, Executive Director, and Patricia R. Thrasher, President. A board of directors oversees the Executive Committee and provides general policy guidelines, while a broad international membership of volunteers provides a wide variety of professional skills with which to carry out the foundation’s work. Funding for TIGHAR is solicited from individuals and corporations which are sympathetic to the foundation’s goals. TIGHAR does not seek direct funding from the government, preferring to stay within the private sector.

TIGHAR’s activities include:

- Compiling and verifying reports of rare and historic aircraft surviving in remote areas.
- Conducting investigations and recovery expeditions in cooperation 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; neither does it engage in the restoration or buying and selling of artifacts. Instead, the foundation devotes its energies to the saving of endangered historic aircraft wherever they may be found, and to the education of the international public in the need to responsibly preserve the relics of the history of flight.

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COVER: Preserved by the environment which imprisons it, the world’s oldest complete and original B-17 Flying Fortress waits patiently in the New Guinea swamp where it was landed forty-six years ago. Can it be saved? See “Goin’ For It,” page 14.

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Overview

The WARBIRD DILEMMA II

In last summer's TIGHAR Tracks (Vol. 3 No. 2) we raised the issue of warbird accidents and warned of impending government interference in the flying of historic aircraft. Our purpose was to encourage an exchange of ideas about how we should all approach the problem. Boy, did we succeed!

The mail poured in and, eight months later, continues to come with a broad range of opinion, suggestion and concern. Clearly we've touched upon a subject of great interest to TIGHAR's members, and to the aviation community in general. From the response so far (see Dear TIGHAR, p. 4, for a representative sample) several facts become clear.

- There is general agreement that there is a problem. Accidents are an inevitable and, within limits, acceptable consequence of flying old airplanes. The concern seems to stem from the feeling that many of the accidents we're seeing could be prevented without any meaningful curtailment of the flying.
- There is an almost unanimous feeling that government intervention would be bad. It is a measure of this issue's emotional impact that a few readers got so steamed at the thought that they completely misread the editorial's point and blasted us for what they saw as a pro-intervention stance.

- There is, among many, a feeling of fearfulness that if anything is said about the accidents the owners and operators will get mad and go home. Others, although troubled by the losses, have grave reservations about anything that could be construed as interfering with personal property rights.

Let's get something straight. The entire idea of historic preservation is based upon the notion that the relics of our common past are the heirlooms of society. Those who hold legal title to historic property are also custodians with a moral responsibility to assure that their charge is safeguarded for future generations. We are fortunate in that most of the keepers of aviation's treasures are dedicated custodians lavishing time, love and money to restore and, where appropriate, fly the great aircraft of the past. But the accidents clearly tell us that something is wrong; we're losing our grandchildren's heirlooms at an alarming rate. We know it is vital that the airplanes keep flying. We know that government meddling is not a solution. We know the impetus for improved safety must come from within the warbird community. We know that personal property rights must be respected. Tell us your opinions, tell us your suggestions, but don't tell us it's none of our business.

Patricia Thrasher
Richard Gillespie
Editors

Dear TIGHAR

Due to the volume of mail generated by The Warbird Dilemma (TIGHAR Tracks, Vol. 3, No. 2), this issue's Dear TIGHAR is devoted to presenting a cross-section of the members' views on that vital subject. Next time we'll return to a sampling of the many other letters we receive. TIGHAR welcomes and encourages your thoughts, comments, and suggestions. Letters should be addressed to Editors, TIGHAR Tracks, 1121 Arundel Drive, Wilmington, DE 19808.

"... I cannot disagree with anything you say about the irresponsible flying of priceless historic aircraft. And, once I have enough factual data in hand, I will do a FLYING column on this topic, hot potato that it may be, and flak that it is certain to draw. . .

Len Morgan
St. Simons Island, GA

. . . If . . . owners want to fly the aircraft in airshows or take them out over the desert and roll them at low level it is their right to do so, as long as the pilot is licensed and capable, the aircraft is licensed, and all operating limits and FARs [Federal Aviation Regulations] are observed . . . No matter how important it may be to preserve historic aircraft, it is not as important as an individual's right to lawfully keep and operate his or her own property . . . If TIGHAR or the Smithsonian, or ACHP [Advisory Council on Historic Preservation], or anyone but the owner is worried that a certain historic aircraft may be in danger from legal but exuberant operation, they should raise enough money to acquire the plane. Once in possession of it, they can fly it in 30 degree banks, put it in a museum, or bronze it like Junior's baby shoes. . .

Arnol Sellars
Tulsa, OK

National Treasures or Private Property?

By Michael D. Leister

The very first thing to consider when lamenting the demise of yet another historically significant airplane is that in the U.S. these planes are privately owned or sponsored by non-profit groups funded by the public. As much as it bothers preservationists to see these planes in the air at risk, they are not public property.

It was correctly noted (TIGHAR Tracks, Vol. 3, No. 2) that aircraft in government controlled museums seldom, if ever, fly. Why? The charter of these institutions charges them to conserve and preserve the artifacts entrusted to them. Using this criterion, having ten generations look at a statically preserved plane makes more sense than one generation seeing it fly.

Where the government's bureaucrats can be pointedly condemned is that myriad types of significant aircraft are either extinct or endangered due to shortsighted policies (war's over, get rid of them) and restrictive licensing policies.

The problem with the private and "flying museum" planes is that they are terribly expensive to operate. The pressure on more than one of these organizations to spend their money on fuel and oil to let the members (read donors) fly is enormous, letting critical maintenance of vintage airframes slide. Combine that with the fact that few pilots can afford to remain truly proficient in most types of warbirds,

toss in the adrenalin rush from showing an airshow crowd just a little bit more than they expected and you have the recipe for disaster.

What's the answer? I hope not well-meaning regulations limiting rare airplanes' ability to fly. Neither will the approach used in the United Kingdom's Battle of Britain flight work here. They maintain a handful of beautifully maintained, professionally piloted planes on "active status" in the R. A. F. In the U.S., we have a much larger airshow circuit to cover and we tend to enjoy less structured displays.

What we need is the self-discipline in the aero community to monitor ourselves. The mechanic's old creed, "If it ain't broke, don't fix it-if it ain't fixed, don't fly it," needs to be adhered to. We have all heard of rolling bad tires to hide the flat spots and safety wiring this open or that closed in order to get one more airshow flown. We need to grow up with our "big boys" toys or the problem will resolve itself when the last of the good ones get bent.

Mike Leister is currently the Superintendent of Aircraft Maintenance Management at Dover AFB in Delaware. He is also project officer for the Base Historical Center which is collecting various aircraft that have been stationed at Dover for static display. He was the project director of the B-17G Shoo Shoo Baby restoration for the first four and a half years. He has been active in the aviation community for 17 years and is a Master Sergeant in the USAF Reserve.

"...Sincere congratulations to you and all hands for the wonderful job you are doing for all of us! Please don't slow down—it seems to me that much effort is still ahead in terms of Warbird preservation. I agree without reservation with the comments expressed in the Overview in the current TIGHAR Tracks. There must be action initiated to control the operation of the historic aircraft being lost almost daily in preventable accidents. . . ."

Capt. William E. Scarborough USN (Ret.)
Hilton Head Island, SC

"... I disagree with your position which seems to be against wealthy people owning and flying historic aircraft. I support this because it's the main way that such restoration and preservation gets done ... It is the opportunity to

fly the wonder planes which is the icing on the cake and the final reward for an owner ... And what of accidents? Certainly flying exposes a plane to more risk, but it can be done relatively safely. . . ."

Bill Greenwood
Aspen, CO

"... It bothers me that there may be a threat to the flying of warbirds ... I am concerned with crashes and would be interested in learning their causes so we can try to avoid whatever mistakes were made 'in those cases. I hear about wrecks, but nobody knows or says what caused them. I would like to know more about the causes. The government never seems to solve problems; they just make it more expensive and difficult."

Michael W. Kellner
Crystal Lake, IL

FAA Probing Vintage Bomber Accident Sunday

WEST MAYFIELD, Pa. (AP) — A World War II-era B-17 bomber that overshot a runway while attempting to land at an air show plunged down a hillside, injuring 11 people, three seriously.

The airplane, which was ferrying passengers who wanted an aerial view of the show, came down on one wheel Sunday while landing at the Beaver County Airport, ran through a fence and fell over a 90-foot embankment into a gully.

The accident took place in front of several thousand spectators awaiting the air show's grand finale, a fly-by of numerous fighter planes.

"The plane went down most of the runway on its left wheel and by the time the right wheel touched down, it was too late and the pilot couldn't slow it down enough," said Paul Hawthorne, 20, a spectator from nearby Industry.

"I was with a couple buddies who are pilots and they said right away that he (the pilot) didn't have enough room to stop the plane."

"We just overshot the runway," said James Mackry, 67, of New Brighton, one of nine passengers who reportedly paid \$100 each to ride in the bomber. Mackry suffered minor injuries in the crash, authorities said.

Federal Aviation Administration investigators immediately were called to the crash site, about 30 miles northwest of Pittsburgh, said airport Manager Dan Donatella. He said at least three other accidents have occurred at the airport when pilots overshot the runway.

"I don't know if the brakes failed ... there's just a lot of second guessing going on," Donatella said. "We're just not sure."

Donatella said the bomber, owned by the Collings Foundation of Stow, Mass., is "a real museum piece."

Three men were listed in serious but stable condition today at the hospital. Six other passengers and two firefighters were treated and released at the hospital, authorities said.

Authorities identified the pilot as Ed Lawer and the co-pilot as Mike Phillips, but no ages and hometowns were available. They said three other crewmembers, who were not hurt, were aboard the airplane.



B-17 WRECK — A vintage World War B-17 lays in a patch of trees after plunging off the end of a runway at an air show in West

Mayfield, Pa., Sunday. The crash injured 11 passengers, three seriously. No fatalities were reported. (AP LaserPhoto)

*As you
were saying, Pic -
Lon*

Clipping from The Brunswick News,

Monday, August 24, 1987

PROJECT MIDNIGHT GHOST

On May 8, 1927—twelve days before the transatlantic flight of Charles Lindbergh—two world famous French aviators took off from Paris bound non-stop for New York aboard a biplane called l'Oiseau Blanc (the White Bird). They were never seen again. As Lindbergh later wrote in *The Spirit of St. Louis*, “Step by step newspaper headlines have followed Nungesser and Coli . . . only to have them vanish like midnight ghosts.”

Although officially presumed lost at sea, speculation about the fate of the French flyers persisted through the years. Rival theories were argued and investigated without success. As recently as 1984 the French Ministry of Transportation concluded a two-year inquiry into the Nungesser/Coli disappearance. The report only served to deepen the mystery with its affirmation that the flight was a highly professional and reasonable undertaking that should have succeeded in reaching North America.

The same year the French report was released, TIGHAR began looking into an obscure folk legend from northeastern Maine that told of a woodsman who heard an airplane crash on a foggy afternoon in 1927. The story contained tantalizing coincidences with the lost French flight, and initial inquiries made it apparent that further work was warranted. From these tentative beginnings Project Midnight Ghost has grown into one of the most significant historical investigations of modern times. Its research has brought a new understanding to the pivotal events of the Lindbergh era, while its field operations have pioneered the infant science of aviation archaeology. Always and still critically underfunded, the project has nonetheless found and assembled all but the final pieces of the Nungesser/Coli puzzle. There is every indication that this spring's effort—Project Midnight Ghost's 14th expedition into the Maine wilderness—will result in conclusive proof that l'Oiseau Blanc has been found, solving one of aviation history's greatest mysteries.

NOTES FROM THE FIELD

Expedition XII: July 10—August 4, 1987

One of the first rules of investigating is to stay focused—methodically run down your leads one at a time—don't jump around. Ever since November of '85 our search had centered on an especially enticing description of an engine in the woods, and four major expeditions had doggedly gridded and searched the region where the hunter who saw it said he had been. No one who was there will ever forget the gentle pleasures of the Second Lake country or the tender mercies of the Diamond Match Road. By the end of Expedition XI in May we felt we had "Jim Reed's engine" cornered and July's effort was determined to find it (see TIGHAR Tracks, Summer 1987, Vol. 3 No. 1).

Then on June 4 came the phone call with Sherman Graham of Graham's Restaurant in Machias, Maine:

"Fellah was in yesterday and said he'd found a piece of metal up in the woods about eight years ago—thinks it might have been from the airplane."

"Did you get his name?"

"Ayuh. We dragged him into the back room, put him in front of the video camera and got the whole story."

Clark Matthews, none the worse for his interrogation, described finding what sounded very much like a gusset used in vintage aircraft construction, and the hill where he found it fell exactly on the line of flight established by witnesses. It was a small piece of evidence that fit very nicely with all the other small pieces, but not at all with the fabled engine in the woods almost three miles away.

It was decision time. Which hunter's recollection—which ghost—should we chase? When in doubt, philosophize. In the 14th century an English monk and TIGHAR member named William of Occam held that the simplest solution to a problem was most likely to be the correct one. Perhaps because it cut through all the moose manure his principle became known as Occam's Razor. When applied to our situation it became obvious that for Jim Reed's engine to be that of l'Oiseau Blanc required a complex pre-crash scenario for which we had no evidence. But for the aircraft to have crashed on the hill where Clark Matthews found his gusset, dubbed Clark's Hill in a flash of genius, supposed only that the aircraft ran out of fuel, descended in the fog, and hit the first thing that got in its way. With Expedition XII the search for the White Bird shifted to Clark's Hill.

In 1979 when Clark had found the gusset he could think of no apparent explanation for the badly rusted plates of steel. He was deer hunting and carried the piece of debris with him for a short way before putting it down on an inviting shelf of rock as he passed one of the many boulders that dot the



"Curiouser and curiouser!" cried
Alice.

—Lewis Carroll,
*Alice's Adventures
in Wonderland*

hillside. In July of '87 we set ourselves the task of finding the rock in the hope that the gusset was still there. This was real progress. We had spent two years in the Second Lake area searching for an engine that looked like a rock, with no success. Now we were looking for a rock that looked like a rock, and getting the same results. Clark had given us precise qualifications the rock must meet to be the right one. It sounded easy. Try it sometime. No rock—and yet everything else fit. This had to be the area.

There was something else, too. There had been a forest fire here—small and a long time ago—but unmistakable if you looked closely. How long ago? A little dendrochronology and local research provided the answer: 1927. Suddenly we were forced to consider a whole new factor. What about a fire? That would explain why the wreckage was never found. Did the crash start the fire? It certainly could have, but there is no mention of a forest fire in any of the folklore. Yet a fire did happen here, and in 1927.

Clark's Hill wasn't giving us many answers but it was doing great at questions. Then came July 22:

"Watcha got?"

"I dunno. Little piece of something. I was checking out a magnetic anomaly that turned out to be nothing. I popped out a root by hooking my fingers under it and this popped out with it."

"Probably just a piece of old bark."

"Maybe—but I don't think so. It's way too even and regular. Almost looks manufactured. I want Al Lewis at the University to look at it."

Dr. Alan Lewis, botanist at the University of Maine Machias, had never seen anything like it either. Over the next few days we carefully excavated over six feet of the stuff—all in a straight line but broken into many pieces. Subsequent analysis at Colonial Williamsburg, George Washington University's Forensic Chemistry department, and a top Canadian forest products lab told us only that we had something man-fashioned, probably between 40 and 100 years old, and made

originally from plant material none of them could identify. We did, however, find an excellent description of what we had in a 1927 book on aircraft construction techniques. The material was used in the attachment of fabric to wing ribs, and the broken strip we had found matched exactly the chord of the lower wings of l'Oiseau Blanc. So maybe there were some answers there after all.

Expedition XIII: Oct. 4–Nov. 16, 1987

The engine-in-the-woods has become as much of a legend as the airplane it came from. Over the years so many hunters have seen it—all in different places—that we joked of publishing A Field Guide to the Engines of Washington County. The logic of its survival as the largest and most identifiable remnant of l'Oiseau Blanc is undeniable, but so is the fact that, as with the Loch Ness monster, the harder you search the less you find. Still, the massive twelve-cylinder Lorraine-Dietrich has become the symbol of instant success in the search for the White Bird, and for twelve expeditions we had all anticipated the moment of discovery. Someone was going to stumble, notice an odd shape, clear away some moss, and suddenly there would be rays of sunlight and the Mormon Tabernacle Choir. But archaeological realities, it seems, have shocking disregard for our pre-conceived notions. The breakthroughs of Expedition XII had come only when we stopped searching for what must be there and started to pay attention to what was there.

In October Expedition XIII returned to carry out a survey dig of the eastern face of Clark's Hill. Independent scientific analysis of the evidence found in July strongly supported our suspicions that we had the right place and that the strip of material we had recovered was part of l'Oiseau Blanc. Where was the rest of the airplane? We already knew that there was nothing on or near the hill to fulfill the engine-in-the-woods prophecy. Could it be that everything was now completely buried? Archaeologists with field experience in New England were unanimous in their opinions: "Sixty years? In that country? What did you think you were going to do? Trip over it?"

The survey dig was two weeks of measurements and grids, metal detector sweeps and test holes dug with dental tools. The result was frustrating. We discovered more of the same stuff we found in July within a few feet of the original find, but the rest of the hill face yielded nothing. How could part of the airplane be on the hill but not the rest of it? A tree strike was the obvious answer, but if the airplane had hit a tree and kept going it could be anywhere within a fan-shaped area beyond Clark's Hill. It was as if the White Bird had flown out the back door.

On October 17 it was back to compasses, machetes, running lines, measuring lines, plotting fines, then sweeping lines with magnetometers and metal detectors. The only

consolation was that ground visibility was much improved over the impossible conditions we'd faced in the summer. That is what accounted for our almost immediate discovery of the long-sought rock upon which Clark Matthews had placed the gusset he found in 1979. The gusset was gone, but the rock unmistakably fit the complex formula of qualifications Clark had given us. With the rock finally located we were able to place with some accuracy the spot on the hill where Clark had found the gusset. Now we had two specific points where debris had landed and that gave us the post-tree-strike line of flight we needed. Calculations of mass, velocity, and trajectory pointed to a sliding, slightly downhill crash behind Clark's Hill to the southwest. We found evidence of a second tree strike and just beyond, right where we had calculated first ground impact should have occurred, we started getting metal detector indications of debris in the ground. But when we excavated the targets no recognizable metal was there—just bits of magnetic gravel in the soil. What was going on? Was this a freak deposit of natural ore, or was it the remains of man-made metal?

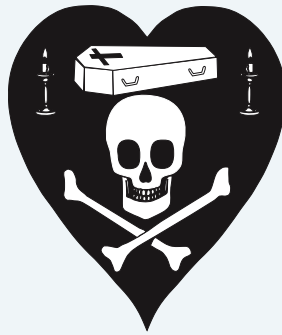
By this time it was mid-November. The money was more than gone and the Maine winter had arrived with a vengeance. We left with a very strong feeling that we had been following the 60-year-old crash trajectory of l'Oiseau Blanc, and that the main body of wreckage must be only a few hundred feet beyond our last excavation. We gave samples of our magnetic gravel to the University of Maine for analysis, and waited for the verdict. It came on Christmas Eve with a message from Dr. Harold Borns, director of the University's Institute for Quaternary Studies: "You have iron-cemented soil with the iron being derived from man-made metal. That should make you pretty happy." Hal Borns is a master of understatement.



"... They were the footprints of a gigantic hound!"

—A. CONAN DOYLE
The Hound of the Baskervilles

Affairs of the Heart



À COEUR VAILLANT
RIEN D'IMPOSSIBLE
MEME DANS SES
ASPECTS TERRIBLES

In the last issue of TIGHAR Tracks (Vol. 3, No. 2) we traced the known origins of Charles Nungesser's famous Coeur Noir—the black heart that was his personal trade mark through WWI, and which was emblazoned on the fuselage of l'Oiseau Blanc. We also indulged in a little hangar psychology about what the macabre insignia might say about its owner's approach to life—and death.

Since then some intriguing new clues have emerged to help decipher this enigmatic coat of arms and give us a little clearer look at the psyche of one of aviation's most colorful characters. The central death's head, Nungesser fans will recall, is a legacy from an early wartime incident involving a wild ride in a stolen enemy car, a medal and a general's pun. Now it seems that the basic heart design has its roots in a French proverb that dates from the days of chivalry.

Our suspicions were first aroused when we asked Nicolas Durieux, then transportation counselor at the French Embassy, for a translation of Nungesser's statement reported in the American press as, "The strong heart does not fear death even in its most terrible aspects." M. Durieux looked a bit baffled and said, "But in French you would not say that."

"Whaddya mean?" we asked politely.

"The part about death—you would not say that—you would say 'À coeur vaillant rien d'impossible'—it is an old expression. In English it means 'To the valiant heart nothing is impossible' but the feeling is stronger in French."

TIGHAR member Jean Taquet helped us complete the translation and suddenly, instead of a morbid and rather awkward statement of bravado, we have a lyrical declaration of a knight's maxim:

À coeur vaillant rien d'impossible
Même dans ses aspects terribles.

Because it sounds so neat in French, and because we suspect that most TIGHAR members share our ignorance of French pronunciation, we're going to risk a sackful of outraged letters from members in France and attempt a phonetic rendering:

Ah coor vi-yahnt reeyen dim-poss-eebl

Mem dahn sehs ah-speh teh-reebl

So the emblem which even today makes a lot of people uncomfortable is not at all the crude or even sinister device our cultural conditioning has us perceive. It is, instead, a genuine piece of personal heraldry conceived and carried by an individual who saw himself as a modern manifestation of medieval chivalry.

Now how about the coffin and the candles?

Is There a French Major in the House?

One of the most difficult barriers we face in Project Midnight Ghost is also one of the oldest—language. Much of the original source material so necessary to the investigation has never been translated, and English language secondary sources have often proved inaccurate. But this past winter TIGHAR and the University of Delaware knocked quite a hole in the language barrier. Through the good graces of Dr. Bonnie Robb, head of the French Department, two senior undergraduate French majors, with the dedicated assistance of Dr. René Coulet du Gard, undertook the translation of the 1984 French government report, Nungesser et Coli Disparaissent à Bord de l'Oiseau Blanc, Mai 1927. This 90-page in-depth inquiry was the product of a two-year investigation carried out by the Bureau of Civil Aviation. It is a veritable treasure trove of thoroughly researched information, highly detailed and often quite technical. In an attempt to glean some information from it we had paid for rough translations of some sections, but a full interpretation was far beyond our means. The University of Delaware project was therefore a great opportunity for TIGHAR to obtain research information previously inaccessible, while providing an unusual, and as it turned out very popular, for-credit project for the students. Under Dr. du Gard's guidance, Mary Beth Medley and Jacqueline Dougherty spend fifty-five hours completing the translation.

TIGHAR plans to make the English language version of the report, Nungesser and Coli Disappear Aboard the White Bird, May 1927, available to the members as soon as copyright clearance is obtained and production funds found. In gratitude to the translators, all copies will carry a full credit to their efforts.

L'Oiseau Blanc and the Lindbergh Legacy

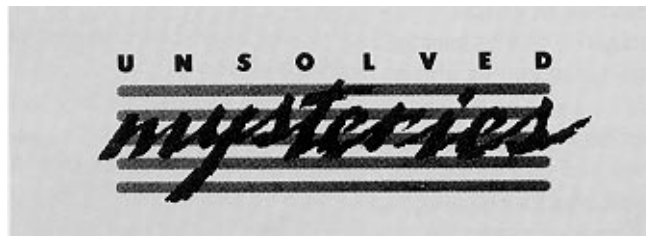
There has been, and perhaps inevitably will be, a great deal of nonsense published and broadcast about TIGHAR's discoveries in Maine and how it all affects Lindbergh's record. The fact is, the solution of the Nungesser/Coli mystery provides important new insights into the pivotal events of 1927, but does not in any way change Charles Lindbergh's place in history. A quick look at the facts makes this obvious.

- Lindbergh was not, of course, the first to fly the Atlantic. By some counts he was the 92nd. Nungesser and Coli cannot threaten a record the Lone Eagle never held.
- Lindbergh was the first to fly non-stop between New York and Paris. That's what Nungesser and Coli were

attempting to do in the opposite direction. He made it. They didn't.

- In making the NewYork/Paris flight, Lindbergh also made the first successful continent to continent crossing of the Atlantic. By reaching Maine from Paris it might seem that the French aviators would take that record, until you remember that such flights must be successful. In the end, that qualification settle any discussion about changing the record books.

The point of Project Midnight Ghost has never been to detract, displace, or debunk. The purpose of the investigation has been, and continues to be, to discover, to understand, and to honor.



Four days of Expedition XIII in October were spent with Cosgrove-Meurer Productions of Hollywood, California, filming a segment for NBC's hit series *Unsolved Mysteries*. Hosted by Karl Malden, this innovative show recreates the events surrounding current unsolved mysteries, using, wherever possible, actual locations and individuals involved. Public participation is encouraged in an effort to draw useful information from the viewing audience, and the program's record in that respect is quite impressive. The segment on Project Midnight Ghost is a bit of a departure for them—most of their mysteries being criminal rather than historical—but for TIGHAR it's a welcome chance to reach an estimated 31 million households.

At the time TIGHAR Tracks went to press the network had still not decided when our piece would air. Television is a black art, and any attempt to predict what will appear and when is madness, but if we find out in time we'll put out a TIGHAR Tracks Extra alerting our members.

“The Far Side”



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Throughout Project Midnight Ghost's wilderness expeditions the cartoons of Gary Larson have been universally popular among the TIGHAR volunteers. Lines of searchers sweeping through the woods have typically maintained their line discipline and spirits by shouting back and forth, "I love the one where the penguin . . ." Perhaps we identify with Larson's wilderness themes, but it's more likely that spending vacation time in a hackmatack swamp (that's Maineese for thick and nasty) gives one a special appreciation of the straight-faced madness of his characters. Whatever the psychology, we're grateful to Gary for helping us keep things in perspective.

Project Midnight Ghost Expedition XIV is scheduled to begin in mid-April depending on weather and funding. Its objective is to find and positively identify the main body of wreckage from the crash of l'Oiseau Blanc.

GROUP EFFORT

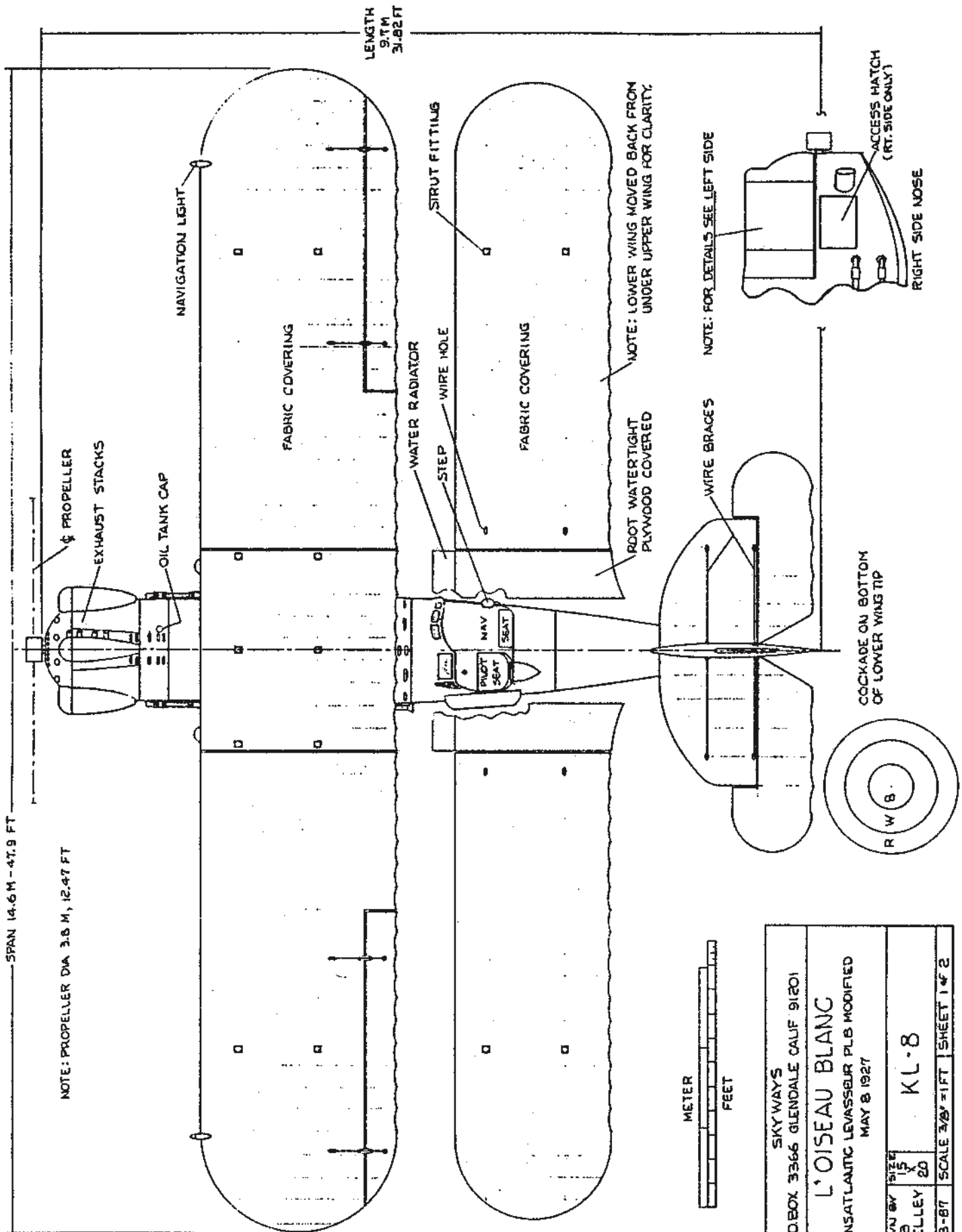
TIGHAR's members continue to be the driving force that makes the foundation's work possible. Response to the Expedition XIV funding campaign has been good with another \$3000 raised toward our \$20,000 goal and 31 more members adding their names to the list of Project Midnight Ghost supporters. If you're not aboard yet, send your tax-deductible contribution to TIGHAR, 1121 Arundel Drive, Wilmington, DE 19808.

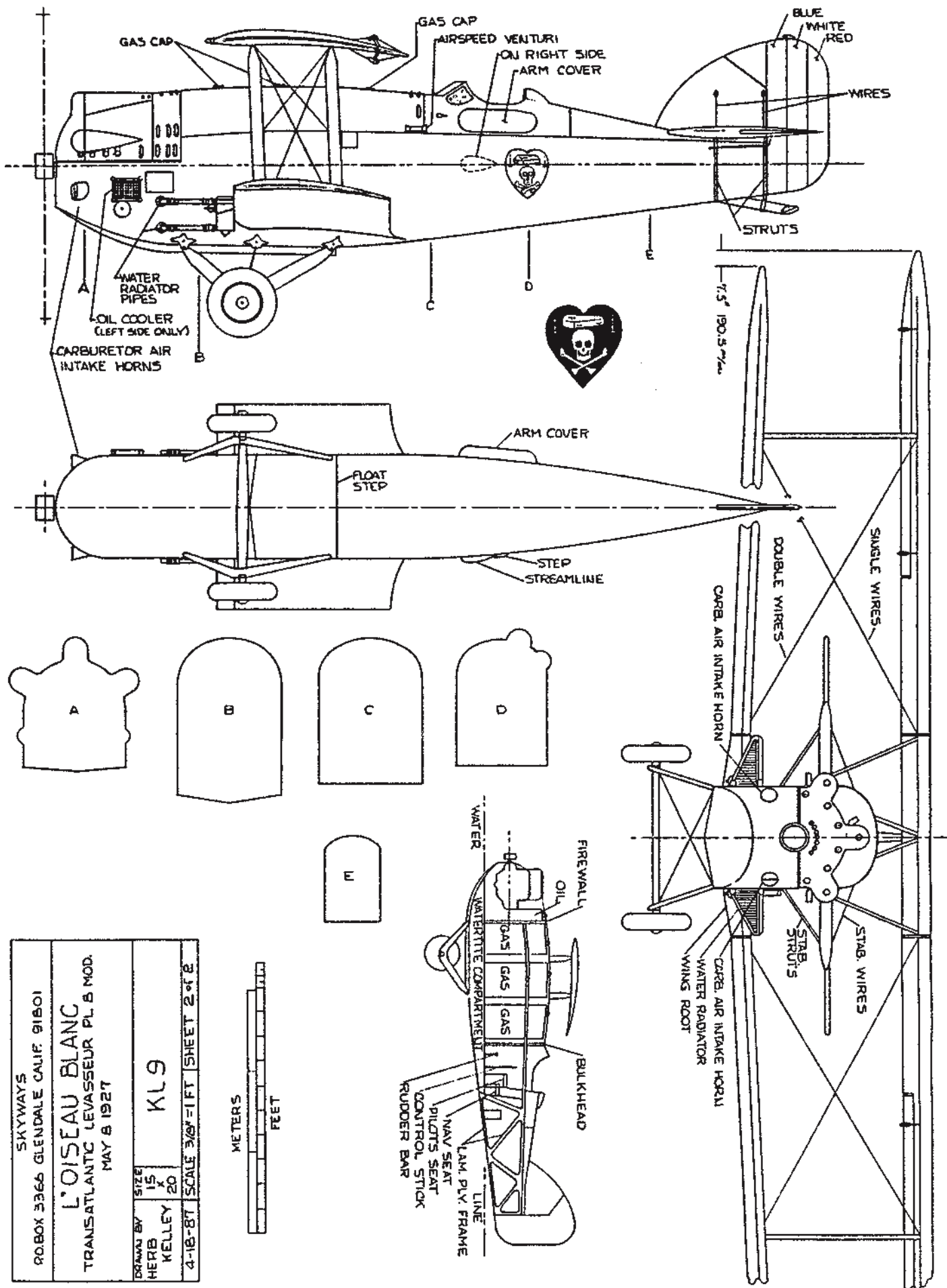
Members' contributions are the all-important proof of broad popular support which makes corporate support possible. The following companies have made significant donations of money and/or services toward Expeditions XII, XIII, and the upcoming Expedition XIV.

AAR Oklahoma, Oklahoma City, OK
Aerospatiale Helicopter Corporation, Grand Prairie, TX
All the Write Stuff, Newark, DE
Associated Aviation Underwriters, New York, NY
Avon Products, Inc., Newark, DE
Champion International, Stamford, CT
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Georgia-Pacific, Woodland, ME
Graham's Restaurant, Machias, ME
Hampton Equipment Company, Lancaster, NH
Homeport Computers, Bangor, ME
Irving Oil Company, Ellsworth, ME
Kelco Industries, Milbridge, ME
Locke Office Products, Bangor, ME
Maine Army National Guard, Augusta, ME
Maine Wild Blueberry Company, Machias, ME
Nanticoke Homes, Greenwood, DE
Narco Avionics, Fort Washington, PA
New England Telephone, Portland, ME
R.H. Foster, Inc., Machias, ME
Schonstedt Instrument Company, Reston, VA
Stead Aviation, Manchester, NH
Thomas Diczno, Inc., Calais, ME
Timelines, Inc., Groton, MA
United Airlines, Chicago, IL
White's Electronics, Sweet Home, OR

Considerations of space and propriety do not permit us to list the many, many scholars, scientists, and technicians who have donated their time and expertise to help us analyze evidence and materials. TIGHAR is blessed with the enthusiastic support of leading authorities in a wide range of forensic and analytical disciplines. Often the work they do for the foundation is with the full knowledge and endorsement of their employers, be they government, university or institute; but sometimes they just go ahead and help us out. So we'll mention no names and just say THANK YOU.

PROJECT MIDNIGHT GHOST





SKYWAYS		90 BOX 3366 GLENDALE CALIF. 91501	
L'OISEAU BLANC		TRANSATLANTIC LEVASSEUR PL 8 MOD.	
MAY 8 1927			
DRAWN BY HERB KELLEY	SIZE 15 X 20	KL 9	
		4-18-87 SCALE 3/8" = 1 FT SHEET 2 of 2	

Goin' For It



We've called her the Lady in Waiting. To the people of the nearest village she is "Big fella balus belong Agaiambo" (the great bird of the Agaiambo). To the Travis Air Force Base Historical Society she is the Swamp Ghost. To history she is Boeing B-17E Air Corps serial number 41-2446, the oldest complete and original Flying Fortress still in existence. And to Fred Eaton, her pilot, she is simply "my airplane." The bomber, which today rests essentially undamaged and intact in an open grassy swamp on the north coast of Papua New Guinea, was a new airplane when Fred set her down in the 12 foot tall kunai grass on the morning of February 23, 1942. He, its crew, and 446 had come a long way to land out of fuel in one of the most remote places on earth. Just over two months before they had watched the smoke billow over Pearl Harbor, and that morning had caused some billowing themselves at a place called Rabaul.

Today Fred Eaton and most of his crew members are still around. Like the airplane, their topsides are silver now, but unlike her they came home to the gratitude and honor they deserved. 446 is still out there, forty-six years later, preserved by the very environment that imprisons her. That this airplane should be recovered, restored, and preserved has long been recognized, but until recently political forces in Papua New Guinea have presented barriers more formidable than the Agaiambo. But unlike the swamp, governments change, and today new avenues are open which could lead to diplomatic approval of a recovery. Before that can happen, those of us who are willing to do what is necessary to save this airplane must face some hard facts:

- 41-2446 survives today because it is preserved in a sterile, pollution-free environment. To remove it from there to anything less than climate-controlled indoor restoration and exhibition would be worse than no recovery at all.
- The difficulty, danger, and expense of this recovery must not be underestimated. It can be done by a well-equipped, well-financed team of young, tough, and very knowledgeable professionals. A lesser attempt would be disastrous for both the recoverers and the recoveree.

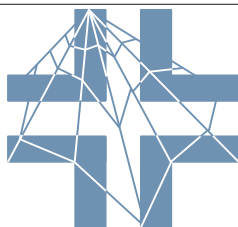
TIGHAR is sensitive and sympathetic to the aspirations and enthusiasm of preservationist groups such as the Travis Air Force Base Historical Society near San Francisco. This civilian and military volunteer group nurtures a growing collection under the USAF Heritage program, and has long dreamed of bringing 41-2446 back in one of the C-5s based there at

Travis AFB. But so far, despite rumors and press releases to the contrary, it's still a dream. No airlift has been approved by the Pentagon; no formal proposal has been received, let alone approved, by the government of PNG; no money has been raised; no suitable facilities are present or realistically foreseeable for the restoration and exhibition of this aircraft. If the aircraft is to be recovered by anyone, there must be an end to everyone's posturing and wishful thinking, which in the hands of the media become flat falsehood. TIGHAR has surveyed a wide selection of potential homes for the aircraft and believes Seattle's Museum of Flight to be the most appropriate and the most capable of restoring and exhibiting the airplane. The recently completed Great Gallery there is a made-to-order showcase for the airplane manufactured literally down the street at the Boeing plant. Discussions with management have resulted in a commitment to work together toward the Museum of Flight's acquisition of this aircraft. Top level meetings at the Air Force Museum in Dayton have cleared away any proprietary concerns. TIGHAR sincerely hopes that the Travis AFB Historical Society and all other interested preservationists will also endorse this proposal so that recovery efforts can move forward on a single front. Only then will the Big Fella Balus come home.



Fred Eaton, TIGHAR member, then and now.

OPERATION SEPULCHRE



A Shocking Tail

TIGHAR's investigation of WWII German underground hangars continues despite a sinister plot by the international money market to keep us out of Germany. Until the exchange rate improves, TIGHAR's European travel will be minimal.

One aspect of conducting historical research in Germany is the need to be mindful of lingering sensibilities concerning the war. To Americans it often seems that there is a great national amnesia concerning those years, and a generation of self-censorship has created a feeling of great distance between then and now. Occasionally though, the skeleton falls out of the closet and the effect can be startling.

On one Operation Sepulchre research trip we were meeting with the director of a prominent privately owned museum near Heidelberg. Knowing we would be there and that the museum had recently acquired the wreck of a Ju88 from Norway, the publisher of an aviation magazine asked us to snap some pictures of the new acquisition. Assigned by the director to help us get our pictures, a new and somewhat bored employee of about 20 led us to the warehouse where the fuselage of the Junkers lay with

a camouflage net thrown over the tail. We asked him in our halting German if he would remove the net so that we could get a clear shot. He shrugged, clambered up onto the horizontal stabilizer, dusted himself off and with a casual sweep threw back the netting.

It was a moment worthy of Alfred Hitchcock. There, inches from his young nose, was the forbidden symbol of the Third Reich, uncannily preserved, black, stark, and real. For a moment he just stared—unbelieving and ashen—then scrambled to retrieve the netting, all the while stammering apologies to us. Our assurances that we were not offended and that we actually wanted to photograph the uncovered tail fell on deaf ears. He made a couple more tries to throw the net over the fin, but it kept sliding off and the swastika just stared back at him. He apologized again and walked quickly away.

What's missing in this picture? Messerschmitt Bf109E currently on display at the Deutsches Museum in Munich.

TIGHAR's Ric Gillespie inspects the offending empennage. Note the uncooperative camouflage net on the leading edge.



MEMBERS' EXPLOITS

Truk Odyssey

By Alan Olson

During World War II, Truk Lagoon was Japan's foremost naval base in the Pacific. Truk was believed impregnable to amphibious assault such as had been undertaken against other Japanese island bastions in the Pacific, and Allied planners dubbed it "Fortress Truk."

Ruling out invasion of Truk, the Allies elected to attempt to neutralize the powerful base from the air. "Operation Hailstone" was launched against the Imperial Japanese Navy at Truk February 16, 1944, and continued for two days and one night. Planes from one of the most powerful naval forces ever assembled, the U.S. Navy's Task Force 58, pounded the 40-mile lagoon while submarines lurked outside its passes to catch fleeing vessels.

When it was all over, nearly 60 ships had been sunk in the relatively shallow waters of the lagoon. They are still there, intact and practically untouched, and providing the greatest underwater air museum in the world. Divers will find fighter planes still nestled in the holds of transports, guns still pointed upward at long-gone aerial raiders, trucks still lashed to the decks of sunken freighters, and officers' china with brand names still readable on the undersides of utensils.

For anyone interested in naval aviation history, a visit to Truk is like a journey to Mecca. Of particular interest are several examples of Japanese aircraft in shallow waters of 60 feet. An A6M3 Zero can be found off the end of the once massive airfield at Eton Island. The aircraft still has its landing gear down, possibly losing power and ditching after takeoff. Another example is an H8K2 Emily flying boat that crash-landed in the lagoon after being damaged by Hellcats from Task Force 58. Nearby, a beautiful example of a G4M1 Betty

bomber is virtually intact with its guns and ammo still loaded and at the ready.

Besides the gun emplacements and tunnels on the islands, the 18" warheads on the Yamagiri Maru, and the beautiful coral growths on the Shinkoku Maru, the highlight of the trip has to be a dive to the bottom of the Fugikawa Maru. It was a supply ship with a load of Zeros and other aircraft parts on board. Sitting in one of the Zeros with the panel intact and the control stick still movable, 120 feet below the surface, in the hold of a Japanese ship that was sunk in 1944, is an experience never to be forgotten.

My journey to Truk left a deep impression on me. It gave me a sense that we are all a part of history, no matter the years apart, and that history holds many lessons for future generations. The preservation of aviation history can, at times, be expensive and frustrating, but not nearly as painful as what these men experienced in Truk in 1944.

Alan Olson is from El Cajon, California, and flies for PSA when he isn't diving Truk Lagoon or finding moose bones in Maine. He's a real handy fellow to have with you in the woods, and we're looking forward to working with him again in the near future. Thanks for contributing, Alan.

Liberty Bell-7 Mercury Project

Member Curt Newport from Annapolis, Maryland, writes that he has been researching and organizing an effort to recover Gus Grissom's Liberty Bell-7 Mercury capsule from the ocean where it sank after its flight. Curt's research indicates that the technology exists and is obtainable to do the recovery, and that the size, construction, and general location of the capsule make it an attractive candidate for a side scan sonar search operation. The condition of the capsule is likely to be fair to good due to the depth and cold, with possibly some structural failure due to pressures at that depth. If all goes well, Curt hopes to do at least the search and possibly the recovery this year.

Thanks for letting us know what you're up to, Curt. It's a wonderful project, and TIGHAR stands ready to give you any help we possibly can. If anyone out there would like to get in touch with Curt, write him care of TIGHAR, and we'll be happy to forward mail to him.

Curt Newport lives in Annapolis, Maryland, and works in the underwater salvage field. He has participated in recoveries of military and civilian aircraft, including an F-16 lost off Japan, the Air India recovery off Cork, Ireland, and the space shuttle Challenger recovery. We're lucky to have him aboard, and look forward to more reports from his particular field. Thanks for writing, Curt.



The Case of the Vanishing 'Cobra

Some time ago we were approached by a man who said that, as a member of Mr. Pieper's aviation class at the Central Vocational High School in Cincinnati in about 1950, he assisted in moving a P-39 Airacobra from the school's roof into storage in a tunnel near Forest and Burnett Avenues. He wondered if the airplane might still be there. So did we.

A preliminary investigation by TIGHAR member Bill Decker proved promising and, with funding provided by another interested member, we went to Cincinnati to take a look. The Central Vocational High School is now an administration building—the aviation shop long since cleaned out. The airplane was, indeed, once there, but apparently only for a short time around 1946. Mr. Pieper, now retired, has no recollection of it. There is a storage tunnel traditionally used by the school system near Forest and Burnett Avenues, but there is no airplane there now nor within anyone's memory. In fact, this airplane is so elusive that, were it not for the photographic proof from the



1946 yearbook, you'd think it never existed. It very likely did go into the tunnel for a while, but where did it go from there? No records, no paperwork, no memories, but somebody knows. If it's you, we hope you'll call us.

The Legend of the Lost Lightnings

TIGHAR's hat is off to the Greenland Expedition Society, whose approach to finding and recovering the legendary P-38s buried on the Greenland ice cap seems to be showing a refreshing spirit of professionalism. The group's recovery rights to the six Lightnings and two Fords landed on the ice in 1942 extend until September 1989. They readily acknowledge that nobody has yet found the aircraft, and that the charts and readings punctuating

their prospectus are theoretical rather than testimonial.

TIGHAR would like to see more documentation of what salvage operations were and were not conducted by the AAF in '42 and '43 to confirm that what is still there is worth all the fuss. But it's their baby and we wish them all the best.



The Aviation Archaeologist

Thanks for the Memories

Last time, *The Aviation Archaeologist* (TIGHAR Tracks, Vol. 3 No. 2) reviewed the dos and don'ts of witness interviews. The techniques outlined were aimed at getting information out of your subject's head and into yours with as little loss and distortion as possible. But once you have that knowledge, what do you do with it? How do you evaluate it? To do that requires some basic understanding of how human memory works, where it's likely to be good and where it's likely to be misleading. For the purposes of this discussion we're going to assume that our subject is telling the truth to the best of his or her ability. That is not, regrettably, always the case, but it's a rare person who will lie without a motive, and motives are much easier to spot than lies—more about that another time.

Typically the witness is attempting to recall details of an event several, perhaps many, years in the past. In reviewing those recollections there are a few guidelines it's useful to keep in mind.

FORCE. Human memory is event-oriented, and the stronger the impression created by the event the more likely it is to be remembered. The exception to this is when the impression, or emotion, associated with the event is so intense as to cause a traumatic blocking of the memory. For example, details about a P-47 that went down on a training mission might be remembered very well 40 years later by a crew chief who felt close to the airplane and pilot. The base commander, for whom the loss was mostly an administrative matter, might not remember it at all, while the pilot's widow may have very few recollections beyond the knock at the door.

Childhood experiences are often preserved to a surprising degree, and it is not uncommon to find people in their 70s and 80s who can relate specific occurrences from their youths with great accuracy. The key, once more, is the impression made at the time, and children are simply more impressionable than adults.

REINFORCEMENT. Memories are like places in the mind. Each has one or several trails leading to it, but if left untravelled the trails tend to become overgrown—hard to find and follow. Generally speaking, the longer it's been between visits the harder the memory is to find. Fortunately, many memories of interest to aviation archaeologists have received plenty of reinforcement over the years. Airplane stories are frequently retold, keeping the trail clear—but not necessarily clean.

DISTORTION. It's hardly a secret that stories, especially airplane stories, tend to improve with telling. A crated P-38 buried in a ditch will soon become a squadron; a Curtiss Robin in a barn evolves into a Condor. Not all distortion is attributable to simple exaggeration. Semantics is often the villain. When a hunter says he "found" an engine in the woods, does that mean he looked at it and walked on or that he hauled it out? Or try this one: "On an airfield in South America there is a silver twin-engined old airplane with a twin tail. It has tricycle gear and three-bladed props." P-38? Nope—Twin Beech.

One of the most important features of all stories is that they tend to evolve in the direction of logic. Every storyteller wants to be believed, so details that seem illogical tend to be dropped or altered unless they're essential. In evaluating witness testimony be especially watchful for elements in stories that don't seem to make sense. They often hold the key to the truth.

The accurate evaluation of witness testimony is one of the most important skills an aviation archaeologist can develop. Millions of dollars have been wasted chasing stories with no foundation in truth, while great aviation historical treasures remain undiscovered because legitimate and accurate memories have been dismissed as nonsense. A better understanding of how memory works could lead to less frustration and more airplanes.

STRICTLY BUSINESS

Changes in the Wind

You will note—Please!—our change of address below, and at various places in the magazine. TIGHAR had seriously outgrown its four-room house on Summit Airport by last summer, so in a few spare moments between Expeditions XII and XIII we moved to much more spacious quarters in Wilmington. Our local airport is now New Castle County Airport—about 15 minutes by car. We are quite close to I-95. If you're passing this way, by land, sea or air, stop by! We'd be happy to see you. Here's our new address and telephone number: TIGHAR, 1121 Arundel Drive, Wilmington, Delaware 19808; 302/994-4410.

Another change—those of you who have recently gotten renewal notices will have discovered that TIGHAR is not immune to inflation. After three years, we've had to raise our membership fee to \$35.00 per year. However, we are also willing to cut a deal with those who like to invest in the future. Here's how it works now:

1-year membership	\$35.00	
2-year membership	\$60.00	(you save \$10)
5-year membership	\$125.00	(you save \$25)
Lifetime membership	\$1000.00	(you are protected forever against rising rates)

Thanks for your support. Tell a friend about TIGHAR, and share the fun!

For all of you who have not received membership patches: We know who you are! We have not forgotten you! We have not found a suitable vendor to produce the kind of quality we want at a reasonable price! Please bear with us a little while longer—we're still working on it, and think we have the problem solved. Thanks for your patience.

If your membership expired any time prior to April 30, 1988, this is your last TIGHAR Tracks unless you renew now. Notices have been sent to everyone in this category as of March 15. If you have received a FINAL NOTICE renewal form and have already renewed, please drop us a card saying so and give us the date on your check so we can update our records. Thanks for helping us keep things straight.

If you ordered a Nungesser/Coli commemorative poster and it arrived damaged, drop us a note and we'll replace it at no charge.

Parting Shot:

Don't forget to tell us when you move. We don't want to lose you.

MEMBERSHIP FORM

☐ I would like to join TIGHAR. Enclosed is my donation of _____ for a one-year membership (\$35.00 minimum).

☐ New

☐ Renewal

As a member of TIGHAR, I will receive the following benefits:

- Annual subscription to TIGHAR Tracks (published quarterly)
- Membership decals and patch
- Expedition opportunities

Name _____

Address _____

Telephone _____

Special Interests or Skills:

ALL DONATIONS TAX-DEDUCTIBLE IN THE U.S.A.

Please return this form with your membership dues to TIGHAR, P.O. Box 424, Middletown, DE, 19709, USA

The International Group for
TIGHAR
Historic Aircraft Recovery

Inside *TIGHAR Tracks*

Overview: The Warbird Dilemma II

A thundering public response to TIGHAR's call for improved safety in the flying of historic aircraft.

Project Midnight Ghost

Major breakthroughs bring the search to the threshold of proving that the White Bird has been found.

B-17E Recovery

Can-do, voo-do, and doo-do in the crusade to save the queen of a New Guinea swamp.

The Aviation Archaeologist

A treasure map to the riches of the human memory—and how to follow it.



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