# TIGHAR TRACKS

A PUBLICATION OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY

Summer 1988 Vol. 4 No. 2

The International Group for TIGHAR Historic Aircraft Recovery

***... 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 Wilmington, Delaware, 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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*SUMMER 1988*



*COVER: Outside the camouflaged forest factory at Obertraubling near Regensburg these stillborn Me262 jet fighters were found by U.S. troops in May 1945. Legen has it that three of their kind may still be hidden in a hillside bunker not far away. Read Operation Sepulchre, "The Case of the Boys and the Bunker," page 10.*




*TIGHAR Tracks* is published quarterly as 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, $25 a year). The Editors welcome contributions of written material and artwork. Materials should be addressed to: Editors, *TIGHAR Tracks*, 1121 Arundel Drive, Wilmington, DE 19808, U.S.A. Photographs and artwork will be returned upon request.

# Overview

## A PLACE TO THINK, A MEANS TO DO, A WAY TO MAKE A DIFFERENCE

TIGHAR just closed its third fiscal year and, while the numbers aren't all in yet, it's clear that '87–'88 was our most successful year to date. Contributions, memberships, and renewals are all up, and so, of course, are expenses as a natural consequence of growth. There was even some progress made against the foundation's backlog of start-up debt. But without a doubt, TIGHAR's most significant accomplishment has been its own survival.

Three years ago there were many—some wealthy, well-meaning, and well-placed people among them—who pronounced TIGHAR doomed to failure. A non-profit membership organization dedicated to pioneering research in aviation archaeology and historic preservation was considered too lofty an idea to be supported entirely by public contributions. But three years later TIGHAR is here, not out of the woods yet to be sure, but well on its way with a solid core of members and a proven record.

This issue of *TIGHAR Tracks* announces a new campaign aimed at bringing the foundation's membership to a self-sustaining level. If we, the individuals who together now make up this thing we call TIGHAR, this place to think, this means to do, this way to make a difference—if we each of us find a few more like ourselves to join TIGHAR, then the foundation's future as a force for intelligent action in aviation historic preservation will be assured.

*Patricia Thrasher*
*Richard Gillespie*
Editors

# Dear TIGHAR


*In reply to the numerous inquiries from TIGHAR members that accompanied clippings of the article shown above—**NO.** There are no immediate plans for a recovery expedition—you turkeys.*

"... Your quarterly, *TIGHAR Tracks*, is splendid—and everything that a foundation newsletter should be. I believe you've found the right combination of editorial tone, graphic design, writing style, and humor, that produces an outstanding member publication. Keep up the good work! ... I hope that the AIAA, especially its History Technical Committee, can be of help to TIGHAR down the road and I look forward to working with you in the not-too-distant future ... Best wishes for continued success."

*Clifford F. Beal*
American Institute for Aeronautics and Astronautics
Washington, DC

"I want to congratulate you on the technical improvements you've made recently in *TIGHAR Tracks*. Since its inception it's been one of the most interesting newsletters to cross my desk, but lately it's become a handsome one as well ... We at the Council also very much appreciate the debate you've begun regarding the proper treatment of flyable historic aircraft. You know better than anyone what a ticklish subject this is, and I imagine that you have cut yourself off from some important sources of support by having the courage to insist that the issue be aired. What you and TIGHAR Tracks are doing, however, constitutes an important service to historic preservation, and I wish you continuing success."

*Thomas F. King*
Advisory Council on Historic Preservation

**Editor's comment to Tom King's letter:**

*TIGHAR's public airing of the problem did indeed draw some flak, as well as many letters like Dr. King's. It is very apparent that a rational assessment of the situation must be in numbers, not opinion. As soon as TIGHAR is able to gather reliable factual data that provide a sound basis for discussion we will make that information public and invite comment.*

# NOTES FROM THE FIELD

## Expedition XIV: April 17–May 21, 1988

For five weeks of what was one of the coldest and wettest springs on record, the TIGHAR team conducted field operations in Township 18 Eastern District of Washington County, Maine. Depending upon the orientation of the observer, the team's activities were either a heroic example of disciplined wilderness archaeological survey work carried out under adverse environmental conditions, or a distressing exhibition of clinical obsessive-compulsive behavior, with overtones of masochism. Judge for yourself.

A typical day began with breakfast at 0700 followed by a briefing at 0730 in the TIGHAR research center—a euphemism for about three cubic yards of files, charts, and aerial photographs assembled at one end of the banquet room in Graham's Restaurant in Machias, Maine. Briefings were concise, giving the volunteers essential information concerning the day's objectives while demonstrating the leaders' concerns for the well-being of the crew: "Anybody sick? Anybody hurt? Good. Today we're going to hit Section 5. Dutch will be on the brush cutter. If you're clearing for him remember to stay behind and to his left or we'll be calling you Stumpy."

By 0800 the team was aboard the van and en route to the site, ten miles of country road and five miles of logging road that became as familiar as any commuter route but with considerably less traffic. With the van parked in an abandoned logging yard, a short walk brought the team to Admin, a small administrative area with all the comforts of home, provided of course that you live in a shelter-half beside a fire pit. Here were performed certain rituals, such as the fueling and sharpening of the Stihl power equipment, battery checks and calibration of the White's Electronics metal detectors, and whatever it was people did over behind those rocks. The object of all this preparation—the purpose which had brought these people thousands of miles to spend vacation time doing manual labor in a cold drizzle—was the tracking of an elusive phenomenon known as "hot dirt."

When Expedition XIII had ended amid November's first snows, the White Bird's crash trajectory had been traced across the face of Clark's Hill and down its back slope (see *TIGHAR Tracks,* Vol. 4 No. 1, Notes From the Field). There, pockets of intensely conductive soil were discovered and were later confirmed to be the remains of man-

***The Kolokolo Bird said, with a mournful cry, 'Go to the banks of the great grey-green, greasy Limpopo River, all set about with fever-trees, and find out.'***

—Rudyard Kipling, "The Elephant's Child"

made metal, ferrous in composition, small in mass, and distributed in a distinctive linear pattern. It was apparent that something had happened there a long time ago that had distributed small bits of metal over the ground along a particular line. The metal itself was gone now, broken down by years in the damp acid soil, but its signature was still there, detectable with technology carefully selected and calibrated. The trail of hot dirt began just where all the other evidence indicated the descending aircraft should have begun striking treetops. Would the trail of hot dirt lead to the wreck of l'Oiseau Blanc? The only way to find out was to follow it, and that was the job of Expedition XIV. The problem was very much like that of tracking an animal, except that each "footprint" could only be found by passing the 11-inch disc of a pulse induction metal detector directly over it. The only way to assure thorough coverage of the area was to first clear it of any vegetation that would inhibit a clear sweep of the disc, then lay out ten foot square grids with string to give the operator reference lines by which

to search. Any hits within a square were marked with orange painted tongue depressors, and subsequently excavated to determine the origin of the signal. Once a ten foot square grid had been cleared, swept, and any hits excavated, a block plan sketch was completed and the results later transferred to a master chart of the area.

The normal procedure was for the morning to be spent in brush clearing. Cutting, hauling, and piling small trees and underbrush is hard to romanticize, but volunteers who won't trim the rose bushes at home worked like a chain gang to clear a section to be searched. Lunch was a cold sandwich by a smokey fire. In the afternoon, precision replaced brute force as the cleared section was carefully surveyed and gridded. The search sweep often seemed anticlimactic as a block that took over an hour to clear and grid was swept with the metal detector in ten minutes. "5G4 is clean. No hits."

But bit by bit the trail emerged, revealing its character and its course. "Okay, I've got another strong hit over here. It's really starting to look like this whole thing is curving off to the left." And, in fact, it was. By the end of the fifth week a distinct and highly predictable path of debris had traced a line stretching far longer than had been expected and leading down into an as yet unsearched swampy area. Was this indeed the faint trail left over 61 years ago as two and a half tons of wood, fabric, aluminum and steel rejoined the earth it had left 40 hours before and an ocean away? From hilltop to swamp was nearly 2,000 feet with a 100-foot drop in elevation. Could a pilot, even the redoubtable Nungesser, keep his ship aloft over that trajectory in the face of at least three tree strikes? Expedition XIV had come to find answers. Instead it found new questions.

### Epilogue

To answer those questions, TIGHAR enlisted the aid of NASA/Langley's Subsonic Aerodynamics Branch and the Bureau of Technology of the National Transportation Safety Board. A complete technical description of the aircraft, including its anticipated weight and configuration at the time in question, was submitted to NASA along with the trajectory traced by Expedition XIV. Could this airplane do this? The answer was yes. For the NTSB the question was: "In a practical rather than a theoretical sense, is this the sort of crash trajectory that might be expected under the circumstances described?" The answer, once again, was yes.

In September, Project Midnight Ghost will return to Maine, to the swamp at the end of the line. There are more answers there—perhaps the final answers to the fate of Nungesser and Coli. And there's only one way to find them.

# GROUP EFFORT

Expedition XIV was supported by more individual and commercial sponsors than any previous Project Midnight Ghost field operation. In addition to the 109 TIGHAR members who made contributions specifically in support of the expedition, there were 15 commercial sponsors who made financial contributions. They are:

AAR Oklahoma
American Institute of Aeronautics and Astronautics, Hampton Roads Section
Associated Aviation Underwriters
Champion International Corporation
David Clark Company, Inc.
Ellsworth Building Supply, Inc.
Exxon Corporation
FLYING Magazine
Georgia-Pacific
Hampton Equipment Company
Kelco Industries
Maine Wild Blueberry Company
Nanticoke Homes, Inc.
New England Telephone
Ronson Aviation

STIHL power field equipment for Expedition XIV was provided courtesy of Hampton Equipment Corp. of Lancaster, NH.

Locke Office Products of Bangor, ME, provided a copier for the TIGHAR Research Center in Machias.

White's Electronics of Sweet Home, OR, made a gift to TIGHAR of two PI1000 pulse induction metal detectors.

## Calvin & Hobbes

# Amelia, Child and Pilot

*by Patricia Thrasher*

**Amelia, My Courageous Sister.** By Muriel Earhart Morrissey and Carol L. Osborne. Osborne Publisher, Inc., 1987, 296 pp. Appendix and index.

This biography of Amelia Earhart is not just one more fantasy excursion to the Pacific. For one thing, it really is a biography, offering us the memories of Amelia's younger sister and a nostalgic record of the childhood that made Amelia the woman she was. Many wonderful photographs from family albums show a decided trend toward "tomboy-ish" pursuits—and even dress—as well as an early fascination with speed occasionally ending in disaster. But it is the story of Amelia's teenage years that gives understanding of the furies that drove her, and her willingness to push back her own—and aviation's—frontiers.

Many people interested in aviation history know that Amelia Earhart's father was an alcoholic. The simple statement, however, does not begin to convey the sorrow and deprivation suffered by Amelia and her sister as they watched their beloved Papa's slow disintegration. A lawyer, first in private practice and then for the railroad, he "should" have been able to provide his family with all the finer things. Instead, by the time his daughters were 11 and 13 years old, he was wandering from job to job, each paying less than the one before. Had it not been for an inheritance from their mother's people, the two girls would have had no educational opportunities at all. As it was, they and their mother lived separately from their father quite often, and when Amelia left for prep school in 1916, she had seen little of her father for several years. By this time, at the great age of 19, she was well used to independence of mind and, to a certain extent, of activity as well. Her ambitions and ideas fluctuated for several years, wavering through a short stint as a nurse, registering as a pre-med student, and involving herself in social reform, before finally settling on a course many of us are familiar with: getting a job, any job, to pay for those flying lessons. Amelia's father had stopped drinking entirely by 1920, and she was able to resume a good and loving relationship with him that lasted until his death; but the die was cast. Whatever else she did, whoever else she was, Amelia would be a pilot.

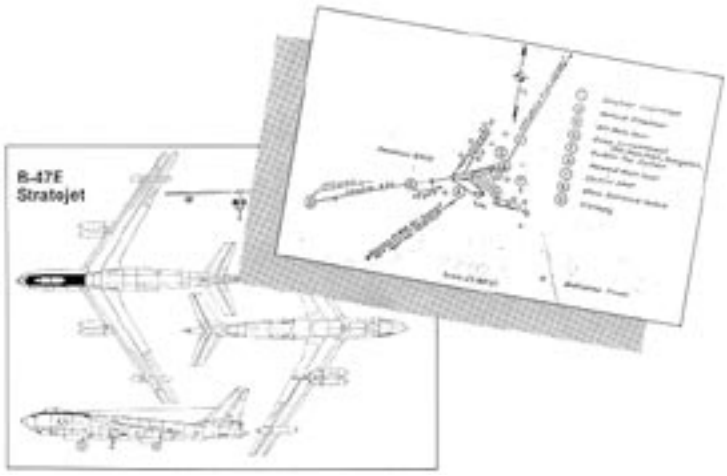
The major part of the book is devoted to the various flying feats for which Amelia Earhart is famous. There are occasional attempts at whitewash, understandable in a book written about a beloved sister. Careful editing and footnotes have kept the facts straight, even if the text interprets those facts more positively than might be warranted. The primary value of this section of the book is the original documents, photos, newspaper clippings, and other archival material reproduced on almost every page. All the "famous" photos are there, but many others as well, and AE's disappearance is documented so thoroughly, so exhaustively, as to make this book an essential tool for anyone seriously interested in the theories and possibilities of that ill-fated flight. Fair warning: the authors hold no brief for any idea that AE did anything but simply run out of fuel, ditch, and drown. After reading this book, you will probably feel the same way.

**Amelia, My Courageous Sister**, available through Aviation Book Company, 1640 Victory Blvd., Glendale, CA 91201. Hardcover $23.95, paperback, $19.95.

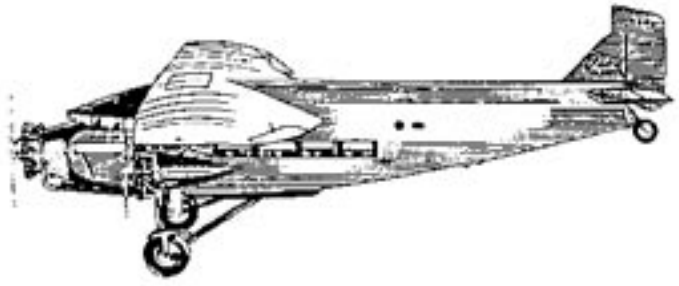
# Members' Exploits

From Bozeman, Montana, long-time member Tyler Merica tells us about an interesting crash he is looking into—for the practice. On May 3, 1963, a B-47 collided with a tanker during a refueling attempt and crashed. No fire occurred, but the aircraft hit the ground so hard it disintegrated. Three people died in the crash; their bodies were recovered by the Air Force, but not enough of the aircraft remained to be worth moving. As Ty says, 'Although the aircraft is not very old it has provided excellent practice in finding, documenting, and researching old wrecks." Ty's packet of information arrived with his renewal, along with three-views of the aircraft, a map of its crash trajectory, and the diagram shown of the wreck itself. Tyler has also made some headway in finding B-17 remains in the hills and has promised to keep us posted. You're doing a great job out there—keep up the local research.

Also from Montana, this time Missoula, new member Al Bel-




lusci wrote us for help with recovering a Ford Tri-Motor from a wilderness area. This particular aircraft was the first to be used for smoke-jumping in an area that pioneered the use of smoke-jumping. A group of retired jumpers is interested in recovering the wreck and restoring it for static display at the Forest Service Visitor Center. One wing was torn off in the crash, so anything but static isn't too practical. This will be an interesting recovery, 25 air miles from a road with the only access on horseback, but we're game. The technical challenge it presents will be excellent training for anyone who participates. Thanks for inviting us in, Al. Members, we'll keep you posted.



## FROM THE GROUND UP
## An Introductory Course in Aviation Archaeology

***October 21, 22, 23, 1988***

**Owl's Head Transportation Museum,**
**Knox County Regional Airport,**
**Owl's Head, Maine**

Where better to inaugurate TIGHAR's educational out-reach program than at Owl's Head on the coast of Maine, at its most beautiful time of year? In 2 1/2 days of classroom and field work, attendees will become familiar with such subjects as:

- Aviation historical investigation techniques,
- Aviation historical research souces,
- Legal and ethical aspects of aviation archaeology,
- Wilderness crash site location,
- Excavation and recovery techniques,

and much more. Each attendee will receive a framed Certificate of Training upon completion of the course.

The Owl's Head Transportation Museum houses one of the finest collections of aircraft, automobiles, engines, and transportation memorabilia in the East. Owl's Head is a working museum. The technology on display is alive and functioning—the cars run and the airplanes fly in living history demonstrations that exhibit the highest standards of education through historic preservation. The museum's recently expanded facilities provide the perfect setting for the debut of this course of instruction. Cost and other details are being finalized, and TIGHAR members will be receiving registration information soon.

October's offering is just the first in a planned series of similar courses that will bring TIGHAR expertise and activities to members all over the U.S., Canada, and overseas. Scheduling is underway now. TIGHAR members who would like to see such a course offered in their local area are encouraged to contact TIGHAR headquarters.

# MEMBERSHIP CAMPAIGN

# 10 IN 10

There are some things money can't buy, and while most of them don't come readily to mind, the premiums in TIGHAR's 10 in 10 Membership Campaign are outstanding examples. Why 10 in 10? TIGHAR's active members now number about four hundred devotees worldwide. But four thousand is the magic number that will bring fiscal stability to the foundation. So over the next Ten months TIGHAR will strive to increase its membership Tenfold.

## TIGHAR Night at The Unite

*Wright-Patterson*

On Thursday evening, May 25, 1989, the doors of the world famous USAF Museum will open for a private function honoring the high-point achievers of TIGHAR's 10 in 10 Membership Campaign. This TIGHAR tour of the museum's more than 200 historic aircraft will be attended only by TIGHAR members who have earned at least 50 points in the campaign. The evening's hosts will be TIGHAR

## ed States Air Force Museum

*AFB, Dayton, Ohio*

President Patricia Thrasher, Executive Director Richard Gillespie, and USAF Museum Curator Jack Hilliard. The following day, Friday, May 26, 1989, the honorees will tour the museum's restoration facilities (and lunch with Museum Director Col. Richard Uppstrom, USAF Ret.). This is a once-in-a-lifetime opportunity for an insider's look at one of the world's greatest aircraft collections.

To accomplish this goal we'll be running ads in major publications (in most cases donated space) and stepping up our public appearances and speaking engagement activities. The real key to the membership drive, however, is you, the TIGHAR member. To reward you for your efforts in recruiting new members we're putting together a whole catalogue of premiums. These items will go our free to members based on a simple point system. This is not a competition, nor is it like a frequent flyer program where you save up and then cash in points. In this campaign you are rewarded with increasingly nifty premiums at various stages as you build your cumulative tally of points. The campaign runs from July 1, 1988, to April 30, 1989, and will conclude with a truly memorable event for those who have earned a total of 50 points: TIGHAR Night at the United States Air Force Museum.

Here's how the point system works.

1. For each 1-year, $35.00 membership received on one of your specially personalized membership forms, you will be credited with 1 point.
2. Each 2-year, $60.00 membership is worth 2 points.
3. Each 5-year, $125.00 membership is worth 3 points.
4. Each Lifetime, $1,000.00 membership is worth 10 points.
5. Your individual renewal for 1, 2, or 5 years, or Life Membership, will count toward your points if received during the period May 1, 1988 to April 30, 1989 (please note that this means some of you already have points.)

Premiums will be awarded at the 10, 20, 30, and 40 point levels. All those earning 50 points or more will be invited to TIGHAR Night at the Air Force Museum.

To begin building points, simply write for your own personalized forms and a supply of extra *TIGHAR Tracks* to help you spread the word. You'll also receive your catalogue of premiums you'll earn as you build points. Write today!

OPERATION SEPULCHRE

# The Case of the Boys and the Bunker

Operation Sepulchre is TIGHAR's ongoing investigation into the possibility that World War II Luftwaffe aircraft survive today in undiscovered underground storage facilities in Germany. The tremendous historic significance of Messerschmitts and Focke-Wulfes preserved like chariots in a pharoah's tomb is offset by the monumental task of sifting truth from 40-odd years of speculation and rumor. That such places once existed is well documented. The suggestion that some remain sealed, forgotten, awaiting discovery, brings reactions ranging from guarded enthusiasm by American preservationists to bemused skepticism among Luftwaffe veterans. In the summer of 1985 TIGHAR embarked upon a full-scale investigation of the situation, seeking and securing initial funding from a limited group of interested individuals. Although hopeful of one day seeing aircraft emerge into the sunlight, researchers and sponsors alike know that only by careful and thorough investigation will established fact replace enticing possibility.

The nature of Operation Sepulchre requires that the work be carried out quietly. But occasionally circumstances make it possible and prudent to share with the general membership a specific case study both as an example of the methodology employed in TIGHAR investigations and as a means of soliciting new leads that may help move a stymied case forward. Here is our tale.

## The Story

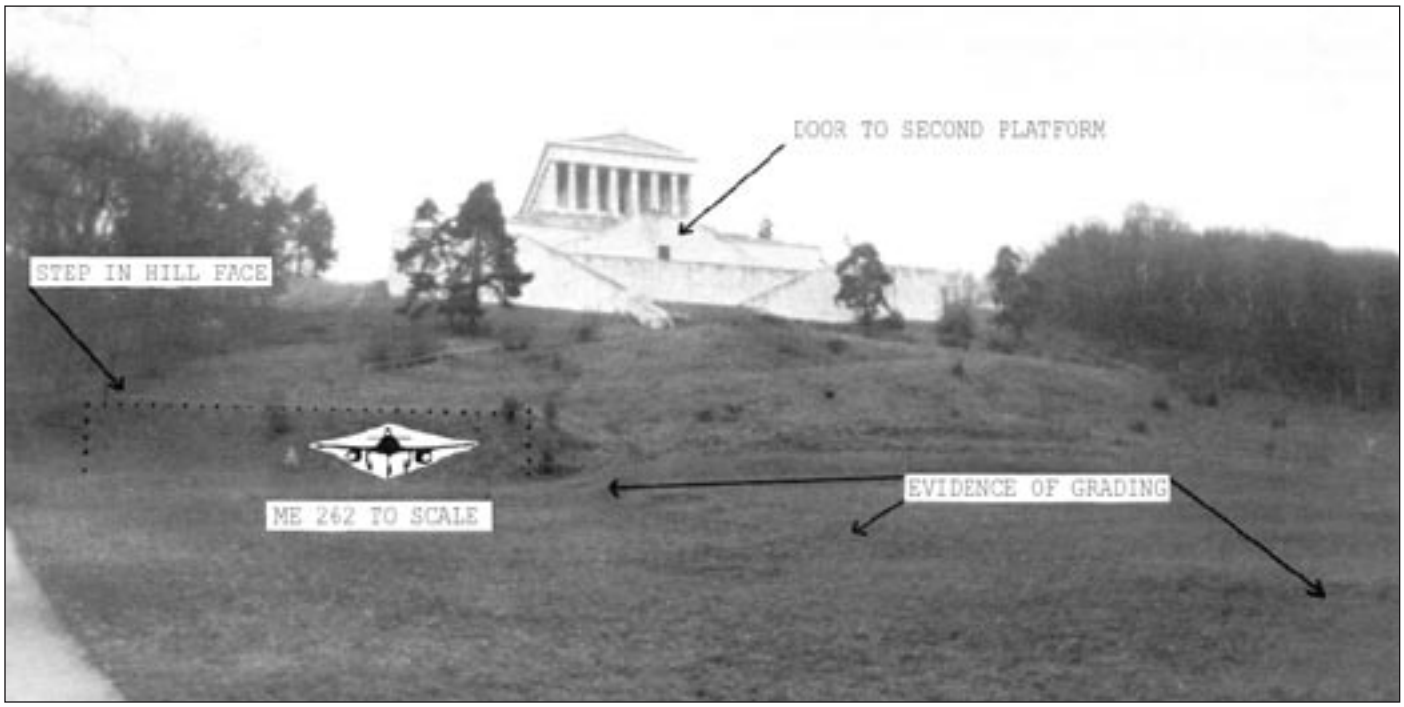
In May, 1945, three boys about 12 to 13 years old were playing on a hillside near a town in what was soon to be American-occupied territory. A German truck convoy approached on the road that ran beside the river at the foot of the hill. Then the artillery barrage opened up on another hill not far away. The men driving the trucks stopped and were about to abandon their cargo when the boys pointed out a bunker entrance in the nearby hillside. The men backed the trucks up to the bunker and deposited their cargo inside. The cargo consisted of three aircraft of a type unknown to the boys. They were protected by open crating and covered with what appeared to be waterproof tarpaulins. After the men left, the boys took 88mrn flak shells from a nearby anti-aircraft battery and planted them in the ground above the bunker entrance. One of the boys knew how to wire the shells to a field telephone. By cranking the magneto a current was generated that detonated the shells, collapsing the hillside and bunker entrance and sealing the bunker.

This tale came from one of the boys. He and his family had emigrated to Canada after the war, and he has lived there all his adult life. He mentioned that he had returned to Germany for a visit in the 1970's, and no one seemed to know anything about the aircraft. He took this to mean they were still there, having never been found after the war. We acquired the story third-hand through connections in Germany; those who passed it on did not remember or had never known the exact location, other than that the hill in which the bunker was located had on its top a large Greekstyle temple with tall pillars. Our contact in Germany thought it likely that the description of the scene might well fit a popular tourist attraction near the town of Regensburg in southeastern West Germany. We went to Germany in December of 1986, and with this information in hand decided to look into the story.

## The Research, Part I

We drove to Regensburg and acquired a map and a guidebook. Sure enough, there was a Greek-style temple listed as an attraction. After looking at the map and noticing the proximity to Regensburg of two towns where aircraft were built during WW 11, we decided to take a look. It wasn't hard to find. The temple appears to be a full-scale replica of the Parthenon built on a prominent hilltop 100 meters above the Danube River. It was conceived in 1807 and completed in 1842 by King Ludwig I of Bavaria as a hall of fame. Along the walls of its ornate marble hall the busts of famous Germans are enshrined under the regal gaze of King Ludwig himself, portrayed as a Roman emperor. The whole monument is named Walhalla (Valhalla) after the martial heaven of Norse legend. Although it is a magnificent structure, it also leaves little doubt as to why its builder is known to history as Ludwig the Confused.

It was apparent to us that the hillside in front of Walhalla fits the description in the story. We examined it for any anomaly in its contours on the theory that disturbances such as the construction of a bunker and the subsequent destruction of its entrance should leave evidence visible even 42 years later. Evidence was readily visible in the form of an abrupt step in the hillslope at a point approximately on third of the way up, and just where the hillside changes from a gentle to a more pronounced incline. On the lower gently sloping third of the hill between the step and road, the natural incline of the hill shows evidence of grading so as to create an access road from the main road to the face of the step. The contour of the step itself is consistent with the possibility that it is actually the remains of a collapsed bunker entrance. After taking photographs of the hill for later use, we left to continue research elsewhere, primarily in archival sources in Koblenz and London.



## The Research, Part II

With our examination of the Walhalla site lending superficial credibility to the story we were told, we evaluated the details of the story to further check on its possible authenticity. The results can be summarized as follows:

1. The time of the incident, May 1945, coincides with the U.S. Third Army's advance on Regensburg in the very last days of the war.
2. That three boys would be "playing on a hillside" near a forward battle area seems a little odd. There is, however, the possibility that the boys were not playing, but were Hitler *Jungend* manning the bunker complex.
3. Why would there be trucks carrying crated aircraft at that place and at that time? The woods surrounding the village of Obertraubling, only 10 km across the river to the south, contained a major Messerschmitt 262 assembly complex that produced aircraft right up to its capture in May 1945. Allied bomber commands and intelligence forces were apparently not aware of this assembly point. We were told there was no runway adequate for jets at Obertraubling because of bombing raids. If there was not, the aircraft that have had to be shipped unassembled to an airfield which was both long enough and un-bombed enough to use. The route from Obertraubfing to such a field would take the trucks over a then- and still-existing bridge at Donaustauf, and directly past Walhalla.
4. Would an Me262 or parts thereof fit into a bunker matching the dimensions of the Walhalla site? Even if the bunker entrance did not extend lower than the present ground line, an Me262 on its gear would easily fit into the entrance. The site is more than twice as wide as the fully-assembled wingspan of a 262.
5. Does the use of flak shells to collapse the entrance make any sense? The answer to this question becomes a matter of surmise. We were unable to find photos in Allied archives of Walhalla, so do not know if there were flak batteries right there. It is possible that there were, but not likely. The 88mm flak rounds weighed 9.4kg, not too heavy for a 12 year old. The fuses were electrically fired proximity fuses at that time. And it is possible that a Hitlerjunge, trained to assist in a flak battery, could have known how to rig a charge sufficient to cave in a hillside.
6. Why would there be a bunker in that particular hill? German bunkers were built for many purposes; this site, close to a major road and river landing, argues for its use as a storage facility. If it was, in fact, so used, it seemed likely to us that it was connected, probably by underground ramp, with the warm, dry, and secure storage available in the basement of Walhalla, possibly to store ammunition—therefore the availability of flak shells with which to collapse the bunker entrance.

These and other questions were at best only partially answered when we had to leave Germany. Between limited time, limited funds, and limited German, we knew we could not hope to make a full-scale research project out of Walhalla without help. But help was at hand, in the shape of a retired Luftwaffe officer and history graduate student who was intrigued by our search and offered to wander about Bavaria on our behalf during the winter of '86-'87. In March of 1987 we received his report—in English, seven single-spaced typewritten pages.

## The Research, Part III

After carefully demolishing our assumptions and ideas about Hitler *Jungend*, electrical proximity fuses, the number of shells necessary to collapse a hill face/bunker entrance, and the flying of Me262s out of Obertraubling, our researcher proceeded to what we thought was the most important part of his paper. Walhalla does, indeed, have a large basement, which at one time housed a heating system. While the heating system is now disused, as is the basement generally, our researcher was able to minutely inspect all of the subterranean area for any signs of disturbance, trap doors, new masonry, tunnels, filled-in corridors, or any other such tell-tales of WW 11 activity. No such edifices were seen at any place in the building. Nor is there any record of any such tunnels, civilian or military, at any time in the last century and a half. Not content with a negative answer, our researcher continued until he found a positive explanation for the anomalies we saw (and photographed) on the hillside. Here are his findings in his own words:

. . . Leo Klenze's original plans called for an extensive substructure on the hillside, so as not to leave the building itself isolated on the hilltop ... This was done by a line of open stairs leading all the way down to a level where the old road from Donaustauf to Sulzbach was running at that time—nowadays roughly coinciding with the small footpath immediately northeast and parallel to the modern road. At about midway Klenze's plan envisaged a pedestal with fliers to the left and right of it. The position of this pedestal was to be exactly at the contour line where the step in the hillside is visible today. Grading and filling for these stairs was actually begun, but discontinued 'in 1848 when Ludwig I had to resign and was succeeded by Maximilian II, a more sober specimen of Bavarian king with definitely profane intentions.

I checked the original survey maps of 1834 (being exact enough to serve as basic information for even today's maps) to reconfirm this fact. An addendum to this survey (most probably of 1847, although unconfirmed) leaves absolutely no doubt that preparatory work on the original plans was done. When standing on the step atop of the door leading to the second platform of Walhalla, looking down toward the river, one can clearly see this and even a similar anomaly on the left flank of the hill ... Admittedly this one is not ready discernible when looking uphill from the river bank.

So, chances of finding anything (let alone three aircraft) in that place are now definitely down to zero. It is hard to conceal disappointment about this, but we have to admit the facts ...

Once more the enormous value of hands-on, hotly pursued research is demonstrated. Our friend spent several weeks travelling around Bavaria by car in the snowiest winter in years to bring us this information. We were (and are) enormously grateful for his help; he saved us untold dollars, time, and confusion. But what did we have after the shouting was over?

## Research, Part IV

We still have the original story, sketchy though it is. We have a few conclusions we can draw about the likelihood of its being true, but no solid facts as such. We know, for instance, that the Me262 could be crated and trucked before the wings were assembled, and it is about the only aircraft of German origin that German boys would not have been familiar with in 1945. We know there is a section of road very close to the site of the forest factory for Me262s near Obertraubling that is long enough and straight enough to have served as a jet runway in WW II. We know, via our friend in Germany, that there are "Greek-style temples" all over southern Germany and into Saxony, now in the DDR. We know, or at least have been told, that Robert Diemert, an aircraft restorer from western Canada, was the original recipient of this story. He was told a specific place, a specific hillside, and went and looked; he dismissed the whole idea of recovering the aircraft as impossible because of difficulties with the site. We know all these isolated facts, but have no solid geographical lead to link the facts together in any coherent fashion. We now appeal to our readers for their ideas, their knowledge. We're back to square one on this story. Can anyone put us in touch with Diemert? He is our best source now for new information, but we haven't been able to find him. Can you help us?

# The Aviation Archaeologist

## ARCHAEOLOGY FROM THE AIR

In this installment of The Aviation Archaeologist we'll take a look at situations that call for flying, and review techniques designed to increase your chances of getting useful results while minimizing your chances of becoming a subject rather than a practitioner of aviation archaeology.

It is the search phase of field operations that most often lends itself to the use of aircraft and, in that respect, the principles that apply are much like those of any airborne search. There are, however, some important differences. The historical researcher is not burdened with the burning need to rescue the injured and the dying and so, in theory at least, should be able to plan and execute a search free from the pressures that can turn methodical into frantic. And yet, the same time factor that removes the urgency in finding lost aircraft makes their discovery a far greater challenge. An aircraft—any aircraft—on the ground in the wild is more difficult to see from the air than it has any right to be. Take away the telltale clues of tree strikes, ground scars or burn marks, introduce a few decades of vegetation, and suddenly looking for needles in haystacks begins to seem like a more promising pastime.

In order for an aerial search of an old crash site to have a reasonable chance for success, a couple of specific circumstances should be present:

- You should already know within a few square miles where the crash site is. If you can't pin it down that closely through original source documentation or witness reports you've got more work to do before you shout "clear prop."
- The search area should be open country, whether marshland, prairie, desert, or mountainside. You can't find old crash sites in the woods from the air. Not even with a helicopter. Really.

Once you've determined that an aerial search is appropriate, the next step is to select an aircraft. Who are we kidding? You're going to use what you've got—but it is worthwhile to mention that high-wing aircraft with good slow-flight characteristics and lots of loiter time lend themselves very well to this kind of work. If you happen to have an Edgeley Optica or a Partenavia Observer, more power to you. Otherwise a Skyhawk or a Tri-Pacer work great. Helicopters are, of course, unmatched as aerial search platforms, but the expense is beyond most historical projects, and if the search area is far out in the boonies the fuel limitations of most types make for short search sessions.

Because the search area will be small, only one aircraft should be working it at a time. Aboard that aircraft there are two executive jobs to be done, each distinct from the other even if performed by the same individual:

- The search director is responsible for seeing that the mission is carried out as planned and that the results are properly recorded with notes, film or videotape as appropriate.
- The pilot is responsible for the safety of the mission, and has the last word concerning passenger load, altitudes, airspeed, when it's time to refuel, or any question bearing upon the well-being of the flight. This is true even when you have chartered the aircraft and are paying the pilot.

In any search the nature of the terrain will dictate the most logical pattern to fly, but generally speaking a series of overlapping circles flown at about 1,000 AGL at a shallow angle of bank and a moderate airspeed (about 80 knots for a Skyhawk) works well. A manageable piece of ground can be examined from all angles, giving the sun every chance to glint off metal or glass. Flying early in the morning or late in the afternoon takes advantage of fighting angles that accentuate terrain relief and throw telltale shadows. The smoother air also lessens the chance of observers spending most of their time observing the inside of a sick-sack.

There may be occasions when some low flying is warranted and, naturally, these are the times that call for the highest standards of judgment and proficiency. Federal and local regs concerning minimum altitudes must, of course, be observed, but out where the old crash sites hide, the rules that govern low flying are enforced by a far harsher authority than the FAA. Individual pilot experience will be the primary factor in determining how low is too low. A good rule of thumb is: if what you're doing feels thrilling and a little scary to you, you're too low for your level of experience.

Any time you know you'll be working on the deck, there are a few common sense procedures to have in mind:

- Keep the airplane as light as possible. No extra people, gear, or gas—just what you need to safely do the job.
- Keep your speed up. You can't trade airspeed for altitude if you don't have it to trade.
- Low flying is a full-time job. Let the observer take the pictures, use the binoculars or count the blades on that prop down there.

In the end, it's professional attitude that makes the difference between genuine field research and genuine fiasco. Happy hunting!

# STRICTLY BUSINESS

If you need to get in touch with us, want to comment, know a good joke, or for any other reason feel like writing or talking to someone at TIGHAR, here's how:

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