

95- HQ-295754

SECTION 1

SERIALS 1 -



#95-HQ-295754-1#

MENT OF JUSTICE

BUREAU
OF
INVESTIGATION

HEADQUARTERS

FBI - CENTRAL RECORDS CENTER

HQ - HEADQUARTERS

| Class / Case # | Sub | Vol. | Serial # | |
|----------------|-----|------|----------|------|
| 0095 295754 | | 1 | 1 | OPEN |

1/14/61534



RRP005NZZB

FBIHQ INVESTIGATIVE AND ADMINISTRATIVE FILES

Transfer - Call 3421
Use Care in Handling this File

MATERIAL MUST NOT BE REMOVED FROM OR ADDED TO THIS FILE

10/24



Wilmington, DE
Historical Society

October 21, 1990

[Redacted]

FBI Laboratories
Federal Bureau of Investigation
9th and Pennsylvania Avenue
Washington, D.C. 20535

Other-VID

CLASS
SRC'D
SER
REC

Dear [Redacted]

01024013

SL1

In addition to the questions mentioned in our letter of October 1, 1990, to Mr. Hicks, we are curious to know whether the black stripe which runs diagonally across the back of the bookcase is simply organic residue (perhaps from resting on a rotting stick) or some other material.

I'll phone in a couple of days to answer any questions and confirm the artifact's arrival. Thank you for your help.

Sincerely yours,

Richard E. Gillespie
Executive Director

REG/am
encl.

Q1 Bookcase.

95-295754-1

NOV 14 1990

[Redacted]

[Redacted]

[Redacted]

RECEIVED
OCT 24 10 43 AM '90
EVIDENCE
CONTROL
CENTER



7

NO. 10000000

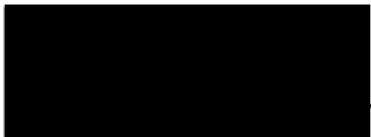
NO. 10000000

NO. 10000000





TIGHAR • A Non-Profit Foundation
1121 Arundel Drive • Wilmington, Delaware 19808 • USA





October 1, 1990

John W. Hicks
Assistant Director
FBI Laboratories
Federal Bureau of Investigation
9th and Pennsylvania Avenue
Washington, D.C. 20535

SSF

CLASS
SRC'D
SER
REC

Dear Mr. Hicks:

[REDACTED] has suggested that we write to you regarding permission for him to do some analytical work on an artifact we believe may prove to be from Amelia Earhart's lost aircraft. Our non-profit foundation recovered the item from an uninhabited Pacific atoll in October of last year and subsequent research has established several facts.

- The artifact is a navigator's bookcase manufactured by Consolidated Aircraft Corporation of San Diego, California. The part number stamped into it, 28F 4023, makes that identification a certainty.
- Although originally manufactured for installation in a U.S. Navy PBX Catalina Flying Boat, this particular bookcase was not installed in that type of aircraft, at least not in the manner prescribed by the manufacturer. The presence of unique mounting holes and features, plus the absence of standard mounting holes, established this fact.
- Paint remnants visible on the artifact do not appear to meet basic U.S. Government specifications.

This is the aspect of our evaluation which would benefit greatly from FBI analysis. If the FBI laboratory could answer a few questions for us concerning the paint on the item it would be of significant help in our efforts to confirm or deny the artifact's connection with the Earhart airplane.

The questions we would like to have answered are:

1. With what kind of paint(s) was the item painted?
2. Were these pigments and resins available in 1937?
3. Was the entire artifact painted, or did some surfaces remain unpainted?
4. Do the drip patterns visible indicate a particular method of paint application (i.e. brush or spray) and orientation of the artifact during painting?

2 JAN 2 1991

RECEIVED
OCT 3 1 31 PM '90
LABORATORY DIVISION

RECEIVED
OCT 9 2 03 PM '90
SCIENTIFIC
ANALYSIS

RECEIVED
OCT 9 2 03 PM '90
SCIENTIFIC
ANALYSIS

With this information we may be able to confirm our suspicion that this artifact was installed in a civilian rather than a military aircraft. If a military origin for this item is eliminated, the possibility that it is from the Earhart plane becomes a probability.

If this work is approved we will ship the artifact to you as you direct. We understand that your analysis will involve some destructive testing and we regard that as acceptable.

At present we are in Maine doing field work on another project. We can be reached at (207) 255-8800, or write to us at TIGHAR, P.O. Box 73, Machias, ME 04654. Thank you.

Sincerely yours,



Richard E. Gillespie
Executive Director

REG/am
encl.

cc:





10/24
Wilmington, DE
Historical Society

October 21, 1990

Other-VID

[REDACTED]
FBI Laboratories
Federal Bureau of Investigation
9th and Pennsylvania Avenue
Washington, D.C. 20535

01024013

SL1

Dear [REDACTED]

In addition to the questions mentioned in our letter of October 1, 1990, to Mr. Hicks, we are curious to know whether the black stripe which runs diagonally across the back of the bookcase is simply organic residue (perhaps from resting on a rotting stick) or some other material.

I'll phone in a couple of days to answer any questions and confirm the artifact's arrival. Thank you for your help.

Sincerely yours,

Richard E. Gillespie
Executive Director

REG/am
encl.

Q1 Bookcase.

ORIGINAL
Copy & Specs Detached

95-295754-2

TIGHAR • A Non-Profit Foundation
1121 Arundel Drive • Wilmington, Delaware 19808 • USA
(302) 994-4410

ENCLOSURE

December 11, 1990

~~COPY~~

Special Agent [REDACTED]
Press Office, Room 7659
Federal Bureau of Investigation
Ninth Street & Pennsylvania Avenue NW
Washington, DC 20535

SSP

Dear [REDACTED]

CLASS
SRC'D
SER
REC

Special Agent [REDACTED] Chief of the Materials Analysis Unit, has been kind enough to perform an analysis of an artifact our non-profit foundation recovered from an uninhabited Pacific island in October of 1989. Both our research and the FBI's analysis strongly support the hypothesis that the artifact, an aluminum aircraft bookcase designed to accomodate an aerial navigator's reference materials, was originally installed in Amelia Earhart's Lockheed "Electra." The aircraft, with Earhart and her navigator Fred Noonan, disappeared in that region in 1937. Over the past 53 years speculation concerning their fate has become something of an American pastime and various sensational theories have been the subject of books, films and television shows. Amateur sleuths have proffered a variety of objects alleged to be the key to the mystery, but, in each case, expert analysis has either disqualified the item or shown it to be so generic as to be meaningless as evidence.

TIGHAR's investigation of the Earhart disappearance represents the first time a professional historical inquiry into the case has been undertaken. The artifact examined by the FBI is the first physical object which expert analysis has shown not only could be from the lost flight, but exhibits characteristics which actively support the notion that the answer to the enigma is at last emerging. In September of 1991, TIGHAR will return to the island of Nikumaroro where the bookcase was found. With us we'll have remote-sensing technology capable of searching the deep waters surrounding the island and our expectation is that we'll come home with photographs of the aircraft itself.

In preparing for this expedition it is important that we generate responsible media coverage of our success to date in order to attract the support we'll need (our funding comes entirely from tax-deductible public contributions). Toward that end, and with the further desire to pay public tribute to the excellent work the FBI Laboratories have done toward the solution of this great American mystery, we would very much like to hold a press conference in Washington on Thursday, January 3, 1991, at which SA [REDACTED] would make public the Bureau's findings. Our preference would be for this event to take place at the FBI building because we feel we could attract a more favorable level of media attention for us and for you that way.

I'll call you on Monday, December 17 to discuss this further. Thank you.

95-295754-3
Sincerely yours,

Richard E. Gillespie

Richard E. Gillespie
Executive Director

REG/am
encl.

cc: SA [REDACTED] ✓

2 JAN 2 1991

SSR

CLASS

SRC'D

SER

REC

25 MIDDLE VALLEY RD
LONG VALLEY, N.J. 07853

Rec'd 1/11/91

RE: AMELIA EARHART (GARDNER ISLAND) JAN 3, 1991

DEAR [REDACTED]

FBI WASH.

Tighar

REGARDING THE FINDING OF A

NAVIGATORS CASE AT NAMPO SHOTO NIKUMARORO ISLAND, NOW GARDNER ISLAND COULD BE A PLANT. SO MANY MADE UP STORIES HAVE COME OUT OF THE AE DISAPPEARANCE, THEY THEMSELVES COULD MAKE A BOOK. AS ANY TYPE OF METAL CONTAINER THAT FOUND ITS WAY TO ANY ISLAND POPULATED, WOULD BE USED FOR NUMEROUS PURPOSES AND HARDLY WOULD BE DISCARDED IN A DUMP. THIS FELLOW GILLESPIE COULD BE INVENTING SOME STORY LIKE THIS, TO PLUG A BOOK, OR SOME OTHER AE PROFIT MAKING GIMMICK. IF PER CHANCE AE DID LAND IN WATERS NEAR, OR CORAL ON THIS ISLAND, CERTAINLY SHE ISN'T THERE NOW OBVIOUSLY. I WOULD THEN AGREE THE POSSIBILITY OF SHE, AND FN COULD HAVE BEEN INDEED TAKEN OFF ISLAND BY A JAPANESE OILER, TRAVERSING THE AREA. SHE COULD ALSO HAVE CHANCED MAKING AN ESCAPE VIA HOKEDANE HART, OR WHAT EVER, GIVING UP BEING FOUND. IF A NAVY LANDING PARTY DIDN'T EXPLORE GARDNER IN 1937, I WOULD FEEL OUR GOVERNMENT WAS LASS IN THEIR DUTIES FOR FAILURE TO SEARCH THIS ATOLL. IF THE BRITISH INHABITED THE ISLAND FROM 1938 TO 1963, SEEMS STRANGE NOTHING SHOWED

95-275754-4

10 JAN 10 1991

SECRET

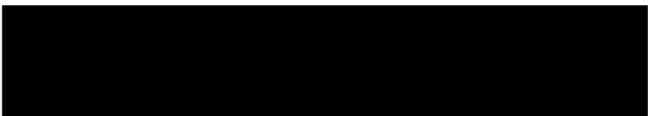
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95-295754

UP, ASSUMING ISLAND WAS ABANDONED DURING WAR YEARS AND RE-SETTLED 1945-1963. THE ISLAND COMMANDER WOULD HAVE BEEN OF THE BRITISH FOREIGN OFFICE, OR A MILITARY TYPE AND A SURVEY OF THE ISLAND CONDITIONS MUST HAVE BEEN UNDERTAKEN PRIOR TO A BRITISH OCCUPATION AS A WEATHER OR TRACKING STATION. IF GILLESPIE "SALTER" THE ISLAND WITH THIS CHART CASE, HE OUGHT TO BE PROSECUTED. IF IT IS GENUINE, THEN EXPLORATION OF THE TRENCH OF 2000' BE UNDERTAKEN BY SUCH TYPE EQUIPMENT USED BY LOCATORS OF TITANIC AKA "ALVIN". WITH THE HIGH TECH AVAILABLE TODAY, FURTHER MATERIAL REMAINS MUST BE AT THE ISLAND TO BE DISCOVERED. STORMS, SAND SHIFTS ETC CHANGE THE ISLANDS IN A CYCLIC PATTERN — PERHAPS CHANGES EVERY SEVEN TO TEN YEARS OF EXCEPTIONAL SEVERITY IN NATURE. AE COULD HAVE BEEN UPLIFTED BY A JAP OILER, TAKEN TO KWATAJEN (sic) AND THEN TO SAIPAN AS PER SOME EARLIER THEORETICAL ESSAY BASED UPON BEATINGS OF A WHITE MALE, AND IMPRISONMENT OF A WHITE WOMAN WEARING PANTS & COKE HAIR AT GARAPAN PRISON, SAIPAN. PERHAPS THE "ROX" MAY BE A VALUABLE CLUE, IF GENUINE. A KEY TO EVENTUALLY UNLOCKING THE DOOR TO THE TRUTH. I DOUBT JAPAN WOULD SUFFER LASTING EMBARRASSMENT SHOULD THE TRUTH BE KNOWN, NOR WOULD IT AFFECT PRESENT US/JAPANESE RELATIONS.

THANK YOU.



25 HIDDLE VALLEY RD.
LONG VALLEY - N.J. 07853



CHIEF MATERIALS ANALYSIS UNIT
F.B.I.

WASHINGTON - D.C.

20001



F4
W 302 76

SSP

Date: December 31, 1990

CLASS
SRC'D
SER
REC

To: Mr. Richard E. Gillespie
Executive Director
The International Group for
Historic Aircraft Recovery
1121 Arundel Drive
Wilmington, Delaware 19808

Tighar

Ref: Letters dated October 1, 1990 and October 21, 1990

Re: MATERIAL ANALYSIS EXAMINATION
OF A NAVIGATOR'S BOOKCASE, PART NUMBER 28F4023,
SUSPECTED OF HAVING
BEEN PART OF AMELIA EARHART'S LOST AIRCRAFT

RESULTS:

Various areas on both the inside and outside of the Q1 bookcase were subjected to microscopic, microchemical and instrumental analyses in an effort to establish the compositional characteristics of any coating and/or paint residues remaining on the artifact and to address the questions listed in your letters to the FBI Laboratory dated October 1, 1990 and October 21, 1990.

The brown, green and yellowish deposits as depicted in photograph number one (1) are essentially consistent with respect to the numbers of elements present with variations in the quantitative comparisons of the individual elements dependent upon the area(s) sampled. The elements detected in these residues consisted essentially of aluminum, silicon, calcium, chromium, iron, phosphorus, lead, chlorine, potassium, titanium and zinc. It is pointed out that in-depth metallurgical examinations and corrosion studies were not conducted in the FBI Laboratory (per conversation with you on December 6, 1990) and consequently, the metal (aluminum) alloy itself, the environmental contamination and corrosion residues may account for some of these elements along with any paint pigment(s) present.

The following compounds were identified among the scrapings/deposits removed from these areas: lead chromate, titanium dioxide and kaolinite. These compounds are considered to be significant because they are all common pigments utilized in paints. Although there are indications that zinc chromate is

Dep. Dir. _____
ADD Adm. _____
ADD Inv. _____
Asst. Dir.:
Adm. Servs. _____
Crim. Inv. _____
Ident. _____
Insp. _____
Intell. _____
Lab. _____
Legal Coun. _____
Rec. Mgnt. _____
Tech. Servs. _____
Training _____
Cong. Affs. Off. _____
Off. of EEO _____
Off. of Liaison &
Int. Affs. _____
Off. of Public Affs. _____
Telephone Rm. _____
Director's Sec'y _____

MAIL ROOM ☐

(Continued FEB 04 1991)

Mr. Richard E. Gillespie

present, this could not be positively confirmed instrumentally. The particulates consisting essentially of zinc and chromium are extremely limited and widely dispersed. One explanation for the limited amount remaining, if zinc chromate were used as an anticorrosive pigment, would be that it is partially water soluble and when the paint vehicle (binder) deteriorated, zinc chromate would dissipate in the presence of any moisture.

The residual, paintlike material that surrounded the metal clip depicted in photograph number two (2) and other areas selected at random were found to be generally consistent with the elemental compositions of the brown, green and yellowish deposits previously described. This consistency suggests that the artifact was chemically treated (surface pretreatment) and painted in its entirety. The particular method of painting or orientation of the artifact during painting cannot be determined.

Other inorganic compounds identified on Q1 such as calcium carbonate, aluminum oxide and some complex mineral composites are not considered to be significant from a coatings perspective given the nature of the exposure time and conditions.

Several chemical washes and solid residual sampling of various areas were instrumentally analyzed and they revealed trace amounts of chemicals that are found in alkyd-type resins. It is pointed out that any paint binder remaining on Q1 is extremely limited and contamination from handling, processing, packaging and other testing prior to receipt by the FBI Laboratory cannot be ruled out completely. No phenolic, acrylic, nitrocellulose or any other type of a paint binder was specifically identified on Q1. There were indications that a nitrocellulose resin was present on the metal clip riveted to Q1 as shown in photograph number three (3), but this could not be confirmed instrumentally.

Many variables enter into the evaluation of paints and it is not possible to make absolutely positive statements/ conclusions about paints particularly when there is such a limited amount of sample present to analyze and when very little is known about the exposure period. The effects of the different combinations of climatic conditions, environmental contamination and corrosion over an extended period of time present a very complex picture.

Based upon the analyses conducted by the FBI Laboratory with respect to the paintlike deposits on Q1, nothing was found which would disqualify this artifact as having come from the Earhart aircraft.

Mr. Richard E. Gillespie

Additional examinations were conducted in an effort to identify the dark stripe which runs diagonally across the back of Q1 as depicted in photograph number four (4). This material consists essentially of calcium and phosphorus with trace amounts of sulfur, potassium and iron. Both inorganic and organic analyses indicate that this material is typical of and consistent with a "glue stock" produced from osseous tissue. Although no leather could be specifically identified in these deteriorated deposits, a glue derived from "hide stock" which was used with leather goods and belting could account for this stripe or the glue could have been used to affix something else to the bookcase. The presence of a urea-formaldehyde resin was also indicated in the stripe area. The specific origin of this resin cannot be ascertained but it is used in some adhesives and coatings. No rubber or rubber by-products or plastics were identified on Q1 in this area.

The Q1 bookcase was returned to you by Federal Express on December 21, 1990.

Enclosures (4)

Federal Express # 583 4419 902

* Note: Report furnished on official black letterhead stationery, not usual FBI lab report format, (form 7-1) per instructions of AD John Hicks on Dec. 12, 1990 [REDACTED]

Also advised on 12/12/90 by AD John Hicks and SA [REDACTED] FBI press office, not to participate in person at any scheduled press conference arranged by TIGAR. [REDACTED]

Personally delivered the Press Office copy to room 7659 on 12/31/90. [REDACTED] was not in the office. [REDACTED]

RECORDED
11/9/90
[REDACTED]FEDERAL BUREAU OF INVESTIGATION
UNITED STATES DEPARTMENT OF JUSTICE10/24/90
[REDACTED]

Laboratory Work Sheet

Date:

To: Mr. Richard E. Gillespie
Executive Director
The International Group for
Historic Aircraft Recovery
1121 Arundel Drive
Wilmington, Delaware 19808

FBI File No. 95-

Lab No. 01024013 S RI

Reference: Letter, dated October ~~21~~¹, 1990 and October 21, 1990

Your No.

Re: MATERIALS ANALYSIS EXAMINATION
OF A NAVIGATOR'S Bookcase, part number 28F 4023,
SUSPECTED OF HAVING
BEEN PART OF AMELIA EARHART'S LOST
AIRCRAFT

Q1 to [REDACTED] on 11/27/90 received back 11/30/90
to [REDACTED] 11/30/90 ret. 12/3/90

Specimens received: October 24, 1990

Specimen:

Q1

~~Bookcase~~

Navigator's Bookcase with stamped number 28F 4023

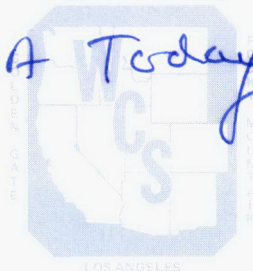


Q1 IEL

20TH BIENNIAL
WESTERN COATINGS SOCIETIES
SYMPOSIUM AND SHOW
HILTON HOTEL SAN FRANCISCO, CALIFORNIA
FEB. 18-20, 1991

Paul Haversten

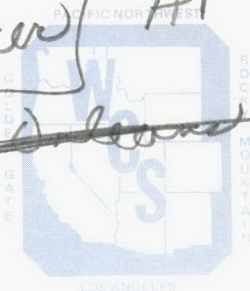
USA Today



TOM DOWD - EXHIBIT CHAIRMAN 415-820-7222

20TH BIENNIAL
WESTERN COATINGS SOCIETIES
SYMPOSIUM AND SHOW
HILTON HOTEL SAN FRANCISCO, CALIFORNIA
FEB. 18-20, 1991

Paul ^ARecew AP 12:45
~~Paul Haversten~~



TOM DOWD - EXHIBIT CHAIRMAN 415-820-7222

RECORDED
11/9/90
[REDACTED]

FEDERAL BUREAU OF INVESTIGATION
UNITED STATES DEPARTMENT OF JUSTICE

10/24/90
[REDACTED]

Laboratory Work Sheet

To: Mr. Richard E. Gillespie
Executive Director
The International Group for
Historic Aircraft Recovery
1121 Arundel Drive
Wilmington, Delaware 19808

Date:

FBI File No. 95-

Lab No. 01024013 S RI

Reference: Letter dated October 21, 1990

Your No.

Re: MATERIALS ANALYSIS EXAMINATION

Specimens received: October 24, 1990

Specimen:

K1 Bookcase

*Mailed back to
Contributor Dec. 21st
by Federal Express*


Violation(s): OTHER
Violation date:
Violation location:
Victim:

Lab No: 01024013 S
City: WILMINGTON, DE HS
Form: LT 10-21-90
Bufile No: 95-
Contributors No: 295754-5

Subject:

Remarks:

Status 1 Status 2 Status 3 Category: 3
Trial Importance Doc\Sp Complex Volume Await Evid Buded: 12-07-90
Ack Type: 7-~~X~~ Principal Unit: IAU SFO UC

| Examiner(s) | Symbols | Evid./Exams | Date Delv | Date Ret | Dict Date | Partial/Final Date(s) |
|--|---------|--------------------|-----------|----------|-----------|-----------------------|
|  | RI | Materials Analysis | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Q 1 K Items 1 Evidence ret:
Resub? NO Request? NO Return No:
Call when ready? EXT
Latent? YES NO Q tabs? YES NO Print 1 Assignment Card(s)

NO PREVIOUS SUBMISSIONS FOUND
Original to BCC on 10/6/90. For worksheet check incoming for specimen listing Thanks.



Parcel Method and No: AF-8729399862
Received In ECC: 10-24-90
01-Boxes

SFO, RM 3266
✓ ECC, RM 3233
RM
WPC, RM 3431

FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D. C. 20535

DATE: December 21, 1990

Re:

TO: Richard E. Gillespie
Executive Director (TIGAR)
1121 Arundel Drive
Wilmington, Delaware 19808

Invoice of Contents

Description of Contents:

Piece of Metal

FBI File#

95-295754-5

Case#

01024013

Returned by SSA
on 12/21/90

Shipping#

SHIPPING METHODS

Air Freight and Express Services

☒ Overnight (FEDERAL EXPRESS)☐ 2-Day Standard Service☐ Saturday Delivery☐ Economy (2-3 Days Service)☐ Deferred (4-5 Days Service)

Your#

☒ Return to

Room 3971-F TL 241

Ext. 4(4404)

☐ Mail Room: 1B327, TL 152

(registered mail)

☐ FMSS - Supply Room, 1B353

(not registered)



5834419902

CUSTOMER PACKAGE TRACKING NUMBER — PULL UP PURPLE TAB

Hazardous Materials Only

Weight of Hazardous Materials:

Packaged By

Signature

Date

All items listed above are contained in this package.

A detailed description items will be found in Bureau communication dated

(SHIPPING HOURS - 9:00 A.M. TO 4:00 P.M.)

DANIEL K. AKAKA

HAWAII

WASHINGTON OFFICE:

720 HART SENATE OFFICE

BUILDING

WASHINGTON, DC 20510

TELEPHONE: (202) 224-6361

HONOLULU OFFICE

3104 PRINCE JONAH KUHIO

KALANIANAOLE FEDERAL BUILDING

P.O. Box 50144

HONOLULU, HI 96850

TELEPHONE: (808) 541-2534

United States Senate

WASHINGTON, DC 20510-1103

April 17, 1991

MEMBER:
COMMITTEE ON ENERGY AND
NATURAL RESOURCES
COMMITTEE ON GOVERNMENTAL AFFAIRS
COMMITTEE ON VETERANS' AFFAIRS
SELECT COMMITTEE ON INDIAN AFFAIRS

Honorable John E. Collingwood
Inspector in Charge
Federal Bureau of Investigation
U.S. Department of Justice
Ninth and Pennsylvania Ave., N.W.
Washington, D.C. 20535

O TIGHar

Dear Mr. Collingwood:

Re: Analysis of Alleged Items Belonging to
Amelia Earhart

I am enclosing a copy of a letter Col. Rollin Reineck sent to Mr. Sessions concerning an FBI material analysis of items alleged to belong at one time to Amelia Earhart.

I would appreciate your providing Col. Reineck with a complete and comprehensive response to the information he is requesting.

Also, I would appreciate receiving a copy of your response to Col. Reineck. I am particularly interested in learning what guidelines the FBI uses when it responds to requests by private individuals to make use of the resources of the FBI investigative services.

Thank you for giving this matter your attention.

Aloha pumehana,

Daniel K. Akaka

DANIEL K. AKAKA
U. S. Senator

95-295754-6

2 - ENCLOSURE

Enclosure

*Interim to
Sen. Akaka
4/22/91*

*Final reply
5/21/91*

OPA

RECEIVED

APR 23 12 40 PM '91

OFFICE OF
CONGRESSIONAL AFFAIRS
FRONT OFFICE

RECEIVED
CORRESPONDENCE
FBI

APR 25 9 42 AM '91

SENATOR DANIEL K. AKAKA
WASHINGTON, D.C.

Rollin C. Reineck
1127 Lauloa St.
Kailua, Hawaii 96734

91 APR 17 PM 12:39

26 MARCH 1991

MR. WILLIAM S. SESSIONS
DIRECTOR
FEDERAL BUREAU OF INVESTIGATION

DEAR MR. SESSIONS;

RECENTLY, I HAVE READ SEVERAL NEWS ITEMS CONCERNING THE
ALLEGED - AMELIA EARHART METAL CABINET - THAT WAS FOUND ON GARD-
NER ISLAND BY THE TIGHAR ORGANIZATION AND THE ANALYSIS OF THE
PAINT THEREON BY [REDACTED] DIRECTOR, MATERIAL ANALYSIS,
FOR THE F.B.I.

I WOULD VERY MUCH APPRECIATE A COPY OF THE WRITTEN REPORT
PROVIDED TO MR. GELLISPIE, DIRECTOR TIGHAR, BY [REDACTED] CON-
CERNING THE ABOVE MENTIONED CABINET.

TO MY KNOWLEDGE, THERE WAS NO CRIMINAL INVOLVEMENT EVER
ALLEGED IN THE DISAPPEARANCE OF AMELIA EARHART. I AM CURIOUS
AS TO HOW THE F.B.I.-- A GOVERNMENTAL, TAX SUPPORTED AGENCY OF
THE UNITED STATES -- BECAME INVOLVED SUPPORTING A PRIVATE ORGAN-
IZATION WITH THIS TYPE OF TIME CONSUMING ANALYSIS.

THANK YOU FOR YOUR HELP IN THIS MATTER. I REMAIN

SINCERELY

Rollin C. Reineck
ROLLIN C. REINECK
COLONEL USAF (RET.)

CC SENATOR DANIEL K. AKAKA

95-295754-6
ENCLOSURE

AVIATOR MISSING SINCE 1937

Sleuths link metal cabinet to Earhart airplane

By PAUL RECER
Associated Press

WASHINGTON — Amateur aircraft sleuths speculated Thursday that a metal cabinet found on a remote South Pacific island is from the plane of aviator Amelia Earhart, who has been missing since 1937.

And while the investigators acknowledged that evidence linking the cabinet directly to the Earhart plane was strictly circumstantial, an FBI expert said he found nothing "which would disqualify this artifact as having come from the Earhart aircraft."

Richard E. Gillespie, executive director of The International Group for Historic Aircraft Recovery, said at a news conference that the aluminum box found on Gardner Island had been identified as a navigator's bookcase of the type used during the era when Earhart's airplane disappeared.

"We've got the first artifact alleged to be from the Earhart aircraft that has passed muster of testing," Gillespie said, adding that members of his group must return to the island to gather more evidence before the theory can be proved.

James E. Corby, chief of the materials analysis unit at the Federal Bureau of Investigation, analyzed the paint on the metal bookcase and said it was "consistent with the materials that

were being used" in 1937.

Gillespie said the type of paint and the modifications of the box weren't consistent with military use, suggesting that it came from a civilian aircraft.

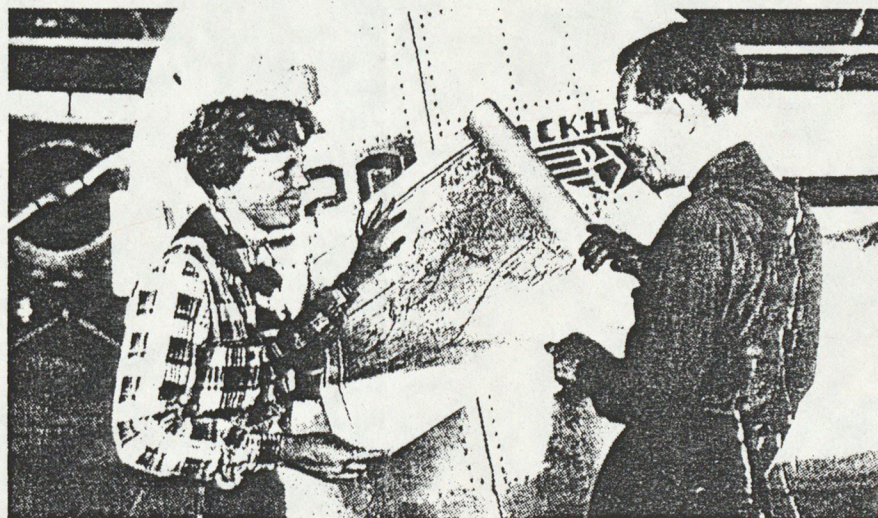
A floor plan of the Earhart aircraft indicates that the 14-by-9-by-9½-inch box could have fit exactly against a bulkhead under the navigator's table, he said.

Earhart was a pioneering aviator who in 1932 became the first woman to make a solo flight across the Atlantic. She and her navigator, Fred Noonan, disappeared July 2, 1937, while trying to complete an around-the-world flight in a two-engine Lockheed 10-E Electra.

Gillespie said Earhart was trying to fly from New Guinea to Howland Island, a tiny bit of land with an air strip and fuel and that she planned to navigate by the sun until her plane was within range of a Coast Guard radio signal.

Crew members on the Coast Guard vessel anchored at Howland heard signals from Earhart, but she radioed that its signals weren't strong enough to guide her to the island, Gillespie said.

Gillespie speculates that Noonan had Earhart turn 90 degrees and fly along a specific navigation line in search of the island. That line, Gillespie said, would have brought Earhart to Gardner Island, then a deserted atoll called



ASSOCIATED PRESS

Amelia Earhart and navigator Fred Noonan hold map of the Pacific showing route of flight in 1937.

Nikumaroro.

Gillespie said his group, a non-profit foundation known by the acronym TIGHAR, searched uninhabited Gardner Island in 1989 and found 19 pieces of metal that could have come from aircraft.

Eighteen of the artifacts were useless, he said, but the aluminum box bore a serial number. The number was

traced to the Consolidated Aircraft Co. of San Diego, and showed the box was manufactured in the 1930s as a navigator's map case.

Gillespie said when Earhart could have landed at Gardner, the island was uninhabited and had no fresh water.

Asked how he thinks Earhart died, Gillespie replied: "Thirst."

ENCLOSURE
95-245754-6

May 21, 1991

SSE

CLASS

SRC'D

SER

REC

Colonel Rollin C. Reineck, USAF (Ret.)
1127 Lauhoa Street
Kailua, Hawaii 96734

Dear Colonel Reineck:

Your March 26th correspondence to Director Sessions has been brought to my attention, and Senator Daniel K. Akaka also forwarded his copy to FBI Headquarters.

As you pointed out in your letter, the FBI performed an analysis on paintlike residues from an aluminum aircraft bookcase which was recovered from a location consistent with the area in which Amelia Earhart and her navigator perished in 1937. TIGHAR, a nonprofit foundation for the recovery of historic aircraft, originally requested the examination after verifying that the bookcase was manufactured in the 1930s and determining that certain modifications to the bookcase suggested it was installed in a private aircraft. With this information, TIGHAR requested an examination of the paintlike residues to determine if the bookcase had been painted subsequent to 1937. This would prove the bookcase could not have been a part of the Earhart aircraft and further investigation regarding its origin would be terminated.

The examinations performed by the FBI Laboratory Division determined that the residues are consistent with paints available in the 1930s and, with respect to these paintlike deposits, nothing was found which would disqualify the bookcase as having come from the Earhart aircraft. TIGHAR has advised that with this additional information it will initiate an extensive search for the Earhart aircraft and the remains of Ms. Earhart and her navigator.

The FBI's Laboratory Division conducts scientific examinations under the authority of 28 Code of Federal Regulations, Part 0.85(g), a Regulation promulgated by the Department of Justice. Under the provisions of the Regulation, the Laboratory Division serves the interests of the FBI and provides, without cost, technical and scientific assistance to state and Federal agencies and to foreign law enforcement agencies. In this role, we frequently assist state and Federal

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Int. Affs. _____
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Telephone Rm. _____
Director's Sec'y _____

Mr. Hicks

(Room 6975, TL 314) - Enclosures (3)

Congressional Affairs Office

SEE NOTE PAGE TWO

MAIL ROOM

95-295754-7

Handwritten notes and signatures at the bottom right of the page.

MAY 17 2 35 PM '91
RECEIVED
READING ROOM
FBI



12:30
5/24/91

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FBI

MAILED 5

FBI

Colonel Rollin C. Reineck, USAF (Ret.)

agencies in the identification of missing persons and assist in the identification of victims of aircraft accidents. While TIGHAR is not a funded Federal agency, it is a nonprofit agency which is assuming a role frequently undertaken by the Government, the recovery of the remains of American citizens. Accordingly, we chose in this limited circumstance to assist them in their efforts.

In addition, the decision of the FBI Laboratory to undertake the examination was influenced, of course, by Ms. Earhart's status in American history. By all accounts, she pioneered a path for other professional women to follow, and the recovery of even the remnants of her aircraft could resolve unanswered questions concerning her last and most famous flight. Ms. Earhart and her navigator remain missing, and we hope that the examination conducted by the FBI Laboratory will assist in their recovery.

I hope I have fully addressed your interest. Your request for a copy of our Laboratory report is being processed separately under the Freedom of Information/Privacy Acts.

Sincerely yours,

John W. Hicks
Assistant Director in Charge
Laboratory Division

1 - Honorable Daniel K. Akaka
United States Senate
Washington, D.C.

NOTE: Colonel REINECK wrote to Director Sessions and provided a copy of his letter to Senator Akaka. Senator Akaka forwarded his copy to the FBI and asked that we respond with a copy for him. REINECK requests a copy of the Laboratory's report prepared for TIGHAR and that request is being handled separately by the FOI-PA Section, IMD. He also says he is curious as to how the FBI "A Governmental, Tax supported agency of the United States" became involved supporting a private organization with this type of time-consuming analysis. Substance of above reply suggested by SSA [REDACTED] LCD. Response also discussed with Unit Chief [REDACTED] Materials Analysis Unit, Laboratory Division.

- 2 -

APPROVED: _____
Director _____
Dep. Dir. _____
ADD-Adm. _____
ADD-Inv. _____
Adm. Servs. _____
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Ident. _____
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Training _____
Cong. Affs. Off. _____
Off. of EEO _____
Off. of Liaison _____
& Int. Affs. _____
Off. of _____
Public Affs. _____

RECORDED
11/9/90
[REDACTED]

FEDERAL BUREAU OF INVESTIGATION
UNITED STATES DEPARTMENT OF JUSTICE

10/24/90
[REDACTED]

Laboratory Work Sheet

To: Mr. Richard E. Gillespie
Executive Director
The International Group for
Historic Aircraft Recovery
1121 Arundel Drive
Wilmington, Delaware 19808

Date:

FBI File No. 95- 295754

Lab No. 01024013 S RI RU

Reference: Letter dated October 21, 1990

Your No.

Re: MATERIALS ANALYSIS EXAMINATION

Specimens received: October 24, 1990

Specimen:

K1 Bookcase

rec'd 11/27/90

ret'd 11/30/90

ENCLOSURE

ENCLOSURE ATTACHED

95-295754-

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By giving us your package to deliver, you agree to all the terms on this Airbill and in our current Service Guide, which is available on request. If there is a conflict between the current Service Guide and this Airbill, the Service Guide will control. No one is authorized to alter or modify the terms of our Agreement.

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10/24
Wilmington, DE
Historical Society

October 21, 1990

Other R-VID

[REDACTED]
FBI Laboratories
Federal Bureau of Investigation
9th and Pennsylvania Avenue
Washington, D.C. 20535

01024013

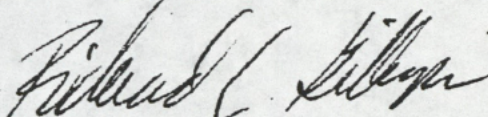
SR1

Dear [REDACTED]

In addition to the questions mentioned in our letter of October 1, 1990, to Mr. Hicks, we are curious to know whether the black stripe which runs diagonally across the back of the bookcase is simply organic residue (perhaps from resting on a rotting stick) or some other material.

I'll phone in a couple of days to answer any questions and confirm the artifact's arrival. Thank you for your help.

Sincerely yours,


Richard E. Gillespie
Executive Director

REG/am
encl.

Q1 Bookcase.

ORIGINAL
Copy & Specs Detached

Copy

October 1, 1990

John W. Hicks
Assistant Director
FBI Laboratories
Federal Bureau of Investigation
9th and Pennsylvania Avenue
Washington, D.C. 20535

Dear Mr. Hicks:

[REDACTED] has suggested that we write to you regarding permission for him to do some analytical work on an artifact we believe may prove to be from Amelia Earhart's lost aircraft. Our non-profit foundation recovered the item from an uninhabited Pacific atoll in October of last year and subsequent research has established several facts.

- The artifact is a navigator's bookcase manufactured by Consolidated Aircraft Corporation of San Diego, California. The part number stamped into it, 28F 4023, makes that identification a certainty.
- Although originally manufactured for installation in a U.S. Navy PBY Catalina Flying Boat, this particular bookcase was not installed in that type of aircraft, at least not in the manner prescribed by the manufacturer. The presence of unique mounting holes and features, plus the absence of standard mounting holes, established this fact.
- Paint remnants visible on the artifact do not appear to meet basic U.S. Government specifications.

This is the aspect of our evaluation which would benefit greatly from FBI analysis. If the FBI laboratory could answer a few questions for us concerning the paint on the item it would be of significant help in our efforts to confirm or deny the artifact's connection with the Earhart airplane.

The questions we would like to have answered are:

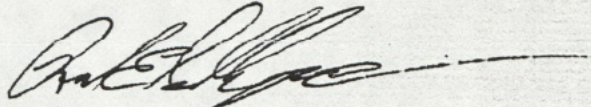
1. With what kind of paint(s) was the item painted?
2. Were these pigments and resins available in 1937?
3. Was the entire artifact painted, or did some surfaces remain unpainted?
4. Do the drip patterns visible indicate a particular method of paint application (i.e. brush or spray) and orientation of the artifact during painting?

With this information we may be able to confirm our suspicion that this artifact was installed in a civilian rather than a military aircraft. If a military origin for this item is eliminated, the possibility that it is from the Earhart plane becomes a probability.

If this work is approved we will ship the artifact to you as you direct. We understand that your analysis will involve some destructive testing and we regard that as acceptable.

At present we are in Maine doing field work on another project. We can be reached at (207) 255-8800, or write to us at TIGHAR, P.O. Box 73, Machias, ME 04654. Thank you.

Sincerely yours,



Richard E. Gillespie
Executive Director

REG/am
encl.

cc: 

TIGHAR TRACKS

A PUBLICATION OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY

BATTLE OF BRITAIN II



TIGHAR photo by P.R. Thrasher

New fiberglass Spitfire and Hurricane gate guardians at the Royal Air Force Museum, Hendon, London.

TIGHAR's *Aircraft to Artifact* seminar at the Royal Air Force Museum is now history, and no one who was there is likely to forget it. Directors and representatives from ten museums and collections in eight countries spent two intense days discussing and debating the principles which define their profession. An audience of Europeans and Americans participated in lively and often heated discussions with a panel comprised of some of the most distinguished names in aviation historic preservation. The opinions offered were as diverse as the accents in which they were expressed, but debate did bring consensus on some

issues, and the promise of eventual agreement on others.

An analysis of what was said must fairly wait upon the transcription and review of the tapes made during the seminar. These will be published as Proceedings later this fall and made available to all TIGHAR members and interested parties at minimal cost.

It is TIGHAR's hope that out of this seminar can come the beginnings of agreed-upon standards, definitions, and protocols for the entire aviation historic preservation community. Watch for much more on this very important effort.

L to R: Moderator, TIGHAR's Richard Gillespie (in profile) and the distinguished panel: Stephen Grey, The Fighter Collection, Duxford; David Hallam, Australian War Memorial; Tom Crouch, NASM; David Lee, Imperial War Museum; Michael Fopp, Royal Air Force Museum.



TIGHAR photo by P.R. Thrasher

THE TOUGH ONE

On October 1 TIGHAR teams will begin the 19th expedition in search of the French transatlantic fliers who vanished, in Lindbergh's words, "like midnight ghosts" just days before his New York to Paris triumph. Over six years of work, countless hours of searching by TIGHAR volunteers, usually under uncomfortable and sometimes hazardous conditions, something over \$200,000 raised, virtually all in contributions of less than \$100 — Why? Why the persistence? Why the sacrifice? Why the dedication?

Bone stupid, that's why. Or so it seems in the darker moments when a promising lead has, once more, turned out to be a dead end. But there are other reasons, of course.

There's the challenge of attempting the nearly impossible. Finding an essentially biodegradable airplane that crashed over sixty years ago, from which the bigger metal bits, like the engine, have very likely already been salvaged — that's a pretty good definition of difficult.

There's the knowledge of the forgotten historical significance of the Nungesser/Coli flight: The realization that had they made it to New York, Lindbergh would not have flown the Atlantic, would not have become America's greatest 20th century hero, would not have pioneered the airline routes he later explored, would not have inspired a whole generation of American youth who designed, built and flew the machines that won World War II, and who now sit in the board rooms of the world's great aviation companies. How different would our world be were it not for the events of that foggy day in 1927 when the White Bird did not arrive in New York?

Perhaps we continue the search because each time we've thought we were up against a blank wall, some new piece of evidence or testimony has emerged like a ray of light. This exhilaration of discovery is the energy that drives all research, whether historical or scientific. It's the ultimate human addiction — the thirst for knowledge.

Then, too, there is something we call "the curse." It's the force of the story itself, the gothic romance that is the tale of l'Oiseau Blanc, captivating the searcher and creating in him or her a feeling of being part of the story by the very act of searching. And, of course, that feeling is absolutely correct.

Finally, we continue to search for the White Bird because the project has shown itself to be the best of proving grounds for aviation archeological techniques. By constantly testing and revising investigative logic, witness interview style, metal detection procedures, search patterns, artifact excavation, and a host of other disciplines, we have developed skills that have brought success to other, less difficult, projects.

So that's why TIGHAR will be back in Maine for the month of October — because we must. As Charles Nungesser said, "To the valiant heart nothing is impossible, even in its most terrible aspect."



TIGHAR conducts business as usual during expeditions in Maine. Mail is forwarded, or you can write directly to TIGHAR, P.O. Box 73, Machias, ME 04654. From October 1 through October 27 you can phone expedition headquarters in Machias at (207) 255-8800. A machine will take your message and we'll return your call in the evening when we come in from the field.

... NOR ANY DROP TO DRINK



There has been an important new development in TIGHAR's investigation of the Earhart disappearance. On August 25, 1990 the following letter was received:

Dear Patricia Thrasher:

If you are reading this I am half way home, as I am seeking the Patricia Thrasher mentioned in the Associated Press article about the search for Amelia Earhart's plane. The article says the organization is based in Wilmington and yours is the only Thrasher name listed in the telephone book ... so I hope I got this right.

The article says your group has found a navigator's box picked up on Nickumaroro (sic) and also mentions the Coast Guard base located there during WWII. I was stationed on that base for a good part of the time it was in operation. ... Of course, we were not stationed on Nickumaroro, it was still Gardner in those days.

Among other things, the article indicates you are inclined to discount the idea that the box came from a PBY used to service the base. Your idea is very sound. 99% of our supplies, mostly diesel fuel, came by boat. The PBYs brought our mail about once a month. They arrived from Canton about 10 AM, always landing in the lagoon. They were back in the air by about 2 PM - since there wasn't a damn thing for them to do while they were there. There was never an occasion when one stayed overnight and never, while I was there, did any of them have anything other than a routine landing and takeoff. ... I think you are safe in assuming with absolute certainty that the mysterious box did not come from a PBY connected with the Loran base.

I would also be interested in learning the general location on the island where

you found the box. ... The base was built on the tip of the tear drop ... [t]he native village was North, beyond the inlet, near the shipwreck. ... So if you found things on the East side of the island, you can be pretty sure it had nothing to do with the base. To my knowledge there were only three times when anyone went over there. With one exception we found nothing but turtles.

The exception was a small structure we found designed to collect rain water. We assumed the natives had built it and we ignored it. But when we mentioned it to them a few months later they didn't know anything about it. We suggested that a previous group of natives had built it but they said there were never any people living on the island (prior to their arrival). All we were sure of is that we didn't build it and neither did the natives.

I hope these tidbits of information might be of help to you and, naturally, would be happy to supply you with anything else I might know that would be helpful.

If you are not the Patricia Thrasher who is President of TIGHAR and therefore never received this letter, please ignore it. In any event, Good Luck.

Richard K. Evans, PhD

Knowing Nikumaroro's history and topography as we do, we were intrigued by this report of a structure on the island's eastern shore, so we immediately telephoned and found Dick Evans to be as affable and helpful as his letter implied. Now 64 and recently retired from the Labor Relations department of the Pennsylvania state government, he was an 18 year old Coast Guardsman in 1944 and the youngest man at the Gardner Loran station. The "small structure ... designed to collect rain water" was found during a casual exploratory hike about a month or six weeks after he arrived at the island with the original construction detachment. Others who were with him that day included "Mac" McDonald

from Nebraska, Herb Moffett from Henning, California, and Charlie Race, a Pharmacist's Mate from Ft. Worth, Texas. Our subsequent attempts to find them have not been successful.

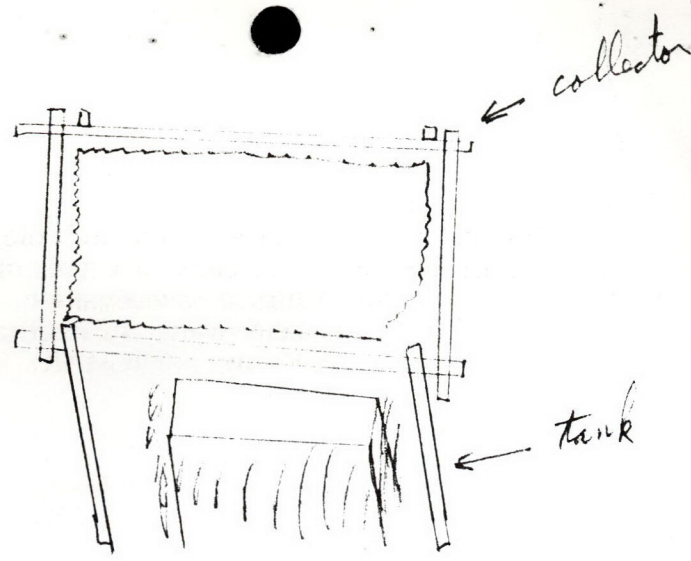
Dick was able to provide further details concerning the structure's make-up and location as well as a rough sketch of what he remembers seeing. After studying his testimony and comparing it with what we know of events in 1937, we were struck by a number of interesting apparent correlations.

The presence of such a structure on the island's eastern shore is indeed unusual. Dick says it was "less than halfway up the beach." That puts it somewhere along about a mile of some of the most unpleasant beachfront on Nikumaroro. The eastern side is the windward side of the island, and those TIGHAR members who participated in the brief survey that was done in that area on September 25, 1989, will remember the constant 15 to 20 knot wind, the soft, steeply sloping beach, and the ceaseless, deafening pound of the surf along the reef. To attempt a boat landing here would be suicidal, and no work party ever tried to clear the dense beachfront scaevola brush to plant coconuts on this part of the island. Neither is there any apparent reason for anyone to camp on the ocean beach rather than on the sheltered lagoon shore just a few hundred yards inland unless they needed to watch the ocean horizon. What Evans saw seems explainable only as a wreck survivor's attempt to get drinking water and shade while awaiting rescue. We can certainly understand the motivation. TIGHAR teams were consuming upwards of a quart of water an hour in the island's 120°F heat, and in the entire three weeks we were there only two brief rain showers passed over Nikumaroro.

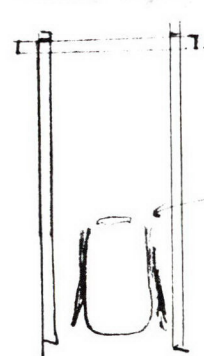
The structure itself, as Evans remembers it, seems odd. He says the upright supports were made of tree branches and stood about six feet tall. They supported (he doesn't remember just how) a piece of heavy cloth or canvas which he estimates was about eight feet long by about three feet wide. He describes the material as being light tan in color and similar in weight to a sailor's hammock. The tank which caught the rain was, he estimates, about five feet by two feet by two feet. Although he doesn't know what it was made of, it had coral piled around it and was full of water when he saw it.

There is nothing occurring naturally on Nikumaroro (larger than a coconut) from which to make a watertight container. The Gilbertese colony used concrete cisterns and corrugated iron sheeting to catch rainwater. So what was the tank Evans saw made of? It had to be metal of some kind, but the only metal tanks on the island in pre-colony days were massive steel structures from the wreck of S.S. Norwich City at the northwest end. A steel tank of those dimensions would be so heavy as to be difficult to move to the other end of the island, and would not require coral piled around it to keep it upright. We're left with the probability that it was an aluminum tank. But where could it come from? Faced with an anomalous artifact unexplainable in the context of the island's known history, we must consider the possibility that it is connected to the only known alternative explanation, that of the Earhart disappearance.

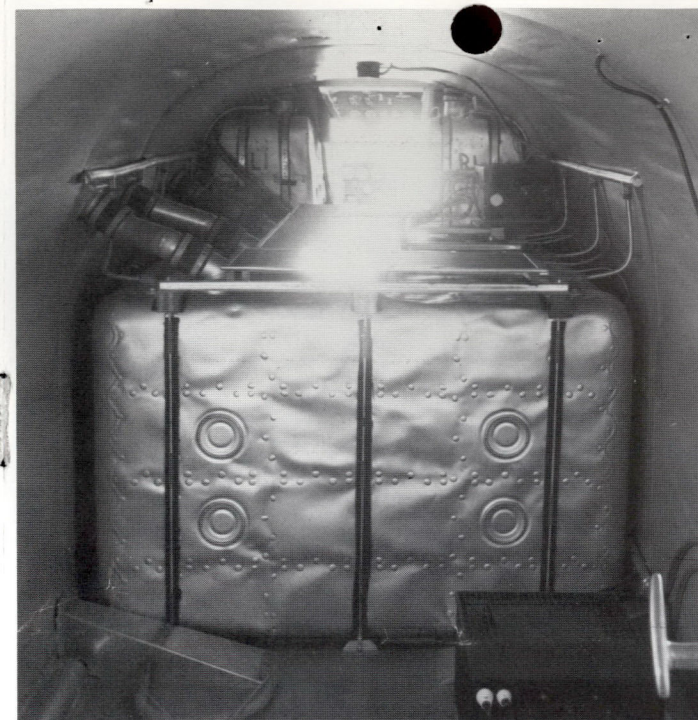
The 149 gallon main fuel tanks in the fuselage of NR16020 were very similar in dimension to the tank described by Evans. They were, of course, aluminum, and weighed 64.3 pounds each (according to original CAA records). Readily removable from the aircraft (they were just strapped down and would fit through



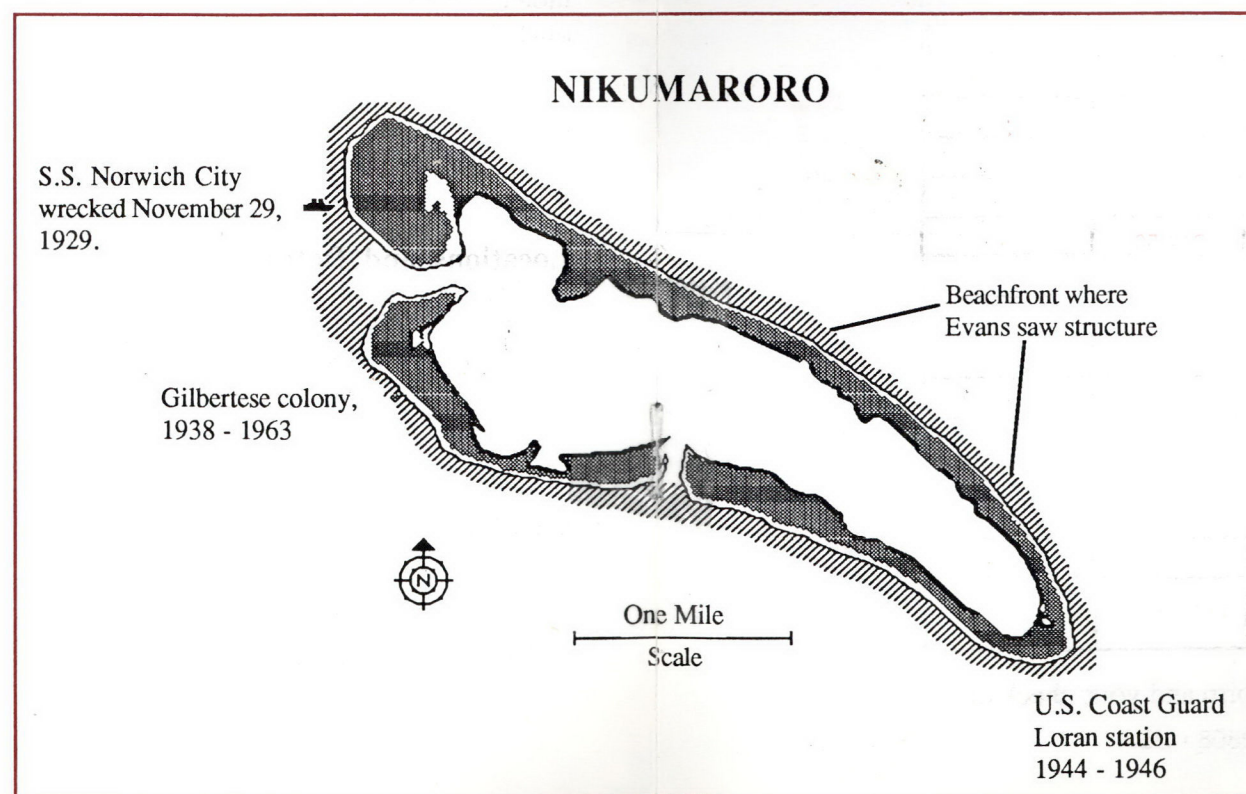
admission



the tank itself was covered with something you could sit or lean on. It did not seal the top, you could reach into the water. The water level was up to the edge. The tank had coral piled around it.



Main fuel tanks as installed in Earhart's Electra.
Photo courtesy Lockheed Corp.



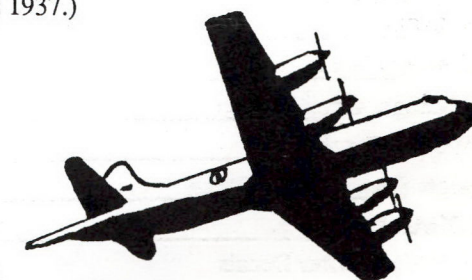
the door), an empty tank used as a cistern would need to be stabilized with coral slabs as Evans describes. One cannot help but notice the similarity between Evans' sketch of the tank with "something to lean or sit on" partially covering it, and the Lockheed photo (which Evans had never seen) of the fuel tanks as installed in the Electra.

The "piece of heavy cloth or canvas" described by Evans is also interesting. A March 7, 1937 article in the New York *Herald-Tribune* includes an interview with Amelia in which she describes "specially made covers of Grenfell cloth for the propellers and engines." How big would a piece of Grenfell cloth have to be to cover the nacelles and face of the Electra's R1340s? About eight feet by three feet would do it. And what, by the way, is Grenfell cloth? TIGHAR researcher Bob Kujawa (TIGHAR #962) came up with the answer from *Fairchild's Dictionary of Textiles*: "A closely woven twilled fabric of ply yarns of Egyptian cotton. Water repellent, windproof, and reversible." Wherever the cloth came from, it could not have been more than about 10 years old when Evans saw it in 1944, for the intensity of the equatorial sun is devastating to organic fibers.

But perhaps Dick Evans' testimony is not the first report we've had of such a structure seen on the beach at Nikumaroro. We have long wondered what Lt. John O. Lambrecht, Senior Aviator, U.S.S. Colorado, saw that caused him to include the following passage in his official report of his flight over Gardner Island on July 9, 1937, one week after Earhart disappeared:



"Here signs of recent human habitation were clearly visible, but repeated circling and zooming failed to elicit any answering wave from possible inhabitants, and it was finally taken for granted that none were there." (*Aircraft Search for Earhart Plane*, Lt. John O. Lambrecht USN, to Chief of the Bureau of Aeronautics, 16 July 1937.)



On September 20, 1989, a Royal New Zealand Air Force P-3 Orion flew over Nikumaroro and engaged in "repeated circling and zooming" over the island and over TIGHAR's expedition ship Pacific Nomad. The crew of the P-3 failed to see more than a dozen people on the island, in the open, dressed in colorful clothing, jumping up and down and waving. But we had a way home ...





BOOKCASE UPDATE



Although the photo of "our" bookcase in Earhart's airplane has yet to surface, a great deal of other information has come out as a result of the search. The appeal for research help in the last issue of TIGHAR Tracks (see The Grail, Vol. 6, No. 3) brought a flood of excellent work by TIGHAR members all over the U.S. and, so far, everything we learn seems to bring Artifact 2-1 closer to being the long-sought proof that we have the answer to the Earhart riddle. Even some of those who espouse other theories have uncovered information which strengthens TIGHAR's hypothesis while trying to disprove it.

Where did the books come from?

Elgen Long is a retired airline captain who has spent many years researching the Earhart disappearance. He believes the airplane ran out of fuel and ditched at sea northwest of Howland. Although we disagree with his conclusions, we respect the tremendous amount of information he has gathered over the years and have always enjoyed a friendly and open relationship with Captain Long in the belief that honest peer-review is a cornerstone of sound research. In that spirit we sent him a copy of the project book and asked for his comments and criticisms. He reviewed his several hundred photos of the Electra in an attempt to either confirm or deny our suspicions that the bookcase came from NR16020, but what he came up with was both frustrating and fascinating. He was unable to find photographic coverage of two important areas within the airplane, either of which would be logical locations for a navigator's bookcase. Neither was he able to find, in the remainder of the airplane, any means for stowing a navigator's books. Among his files was a copy of an inventory of the contents of the Electra made on March 20, 1937. That was the day Amelia wrecked the airplane in Hawaii on the first 'round-the-world attempt and then turned it over to the military for preparation for shipment home for repairs. In the process, a very detailed inventory of all contents of the airplane not affixed to the airframe was made. That inventory clearly lists the navigator's reference books but, unlike all other instances where bags, boxes or containers are listed along with their contents, no

means of stowing or carrying the books is listed. We must conclude, therefore, that whatever the books were in remained in the aircraft as an installed component. Whatever they were in does not show up in Elgen Long's photos and so must be in one of the two areas as yet not seen in any photo.

Bo Doesn't Know

Memories are not nearly as good as photographs, but when we learned that Earhart's mechanic, "Bo" McKneeley, was still alive it seemed worth a try to see if he remembered how the navigator's station was set up. The only address we had for him was in Houston and that proved to be no longer good, but the TIGHAR network once more came to the rescue. One call to Houston member Rick Siciliano (TIGHAR #247) and some on-site investigation resulted in a current address for McKneeley in no time. Unfortunately, after all that, Bo McKneeley just doesn't remember any more and, of course, we'd much rather have someone say they don't remember than have him remember poorly.

Fuzz Does

Francis O. "Fuzz" Furman remembers a great deal about the time he spent with AE and Fred in Java while they were having some repairs made to the airplane. Fuzz was the representative of the Martin Company servicing the new B-10 bombers used by the Netherlands East Indies Air Force. He spent five days with Earhart and Noonan while mechanics fixed a broken exhaust gas analyser on the Electra. He remembers that AE kept to herself, took her meals in her room, and frequently called

| | | |
|---|------|--|
| 1 | Qd. | 1 Qt. Sealright containers |
| 2 | " | Canteens, type 4 M |
| 1 | " | Mitto 5 M |
| 1 | Adl. | Containing: 4 Prop. Blade Covers and 2 engine covers |
| 1 | Pkg. | Kleanex |
| 1 | Ka. | Funnel with onsmois strainer |
| 1 | Pkg. | Air Bottles for life jackets |
| 2 | Ka. | Fuel tank gauges |
| 1 | Book | Radio Aids, Navigation |
| 1 | Box | Lead Pencils |
| 1 | Book | List of Broadcasting stations |
| 2 | " | American Nautical Almanac 1937 |
| 1 | " | List of Coast Stations & Ship Stations |
| 1 | " | List of Aeronautical Stations & aircraft stations |
| 1 | " | List of Stations performing special services |
| 2 | " | Navigation tables for Mariners and Aviators |
| 1 | Ka. | Envelope containing miscellaneous navigation papers |
| 1 | " | Parallel |
| 2 | " | Dividers |
| 3 | " | Scratch Pads |

Excerpt from inventory of NR16020 made March 20, 1937, following groundloop accident at Luke Field, Oahu. Note nine various books listed, but no listing of any case to contain them, although the envelope containing parallel, dividers, and scratch pads is separately catalogued. Whatever the books were in stayed in the airplane. Note also the bundle "Containing: 4 Prop. Blade Covers and 2 engine covers."

her husband, George Putnam, on the telephone. Furman spent most of his time with Fred Noonan, who he remembers as being quite concerned about the upcoming Howland leg. But far from hitting the bottle as some have alleged, Fuzz remembers Fred as never taking a drink while he was in Java, and being almost obsessive about checking his chronometers for accuracy. He does not remember Fred having his navigational books out of the airplane, nor did Fuzz ever have occasion to board the Electra, so he was unable to help us regarding the bookcase.

Paint Drips and Screw Heads

Research into the physical characteristics of the artifact itself has been more rewarding. An inspection of the paint remnants visible on the bookcase by Alexander A. Chasan, Coatings Specialist at the U.S. Navy's David Taylor Research and Development Center in Annapolis, Maryland, brought a very strong opinion that the case had never been installed in a military aircraft. Another line of research focused on the fact that one of the modifications to the case (an apparent anchor for a canvas strap) is attached with a truss type Phillips head screw. When did that type of screw come into use? If the date was after June of 1937 we would be — well, screwed. We were surprised at the number of aircraft restoration experts who couldn't answer the question, and it was finally TIGHAR member Bob Kujawa, TIGHAR # 962, who put us in touch with, guess what, the Phillips Screw Company of Gloucester, Massachusetts. It turns out the Phillips head screw was developed by Dr. Henry Frank Phillips, a dentist in Eugene, Oregon, who bought out early patents on cross head screws and patented his own improved version in 1932. By 1936 screws such as the one on Artifact 2-1 were being test marketed in various industries (Cadillac automobiles, for one). Bulk orders of the new screws were not placed by the aviation industry until 1939 and 1940.

So could a test market Phillips head screw have been used on the Earhart "Flying Laboratory" in 1937? The answer is certainly yes. Was it? To answer that we still need the elusive photograph.

H.M. Navigator's Bookcase

Other research has eliminated one more possible alternative explanation for the unique mounting holes and bracket on Artifact 2-1. We know that our bookcase was installed very differently from those in U.S. military PBYS, but there was another major purchaser of the aircraft. Might the bookcases in British Catalinas be installed differently than those in their American cousins? After all, Nikumaroro's primary affiliation was British, and if a post-war Catalina had visited the island it might well have started out as an RAF or RAAF airplane.

Thanks to librarian Peter Elliott at the RAF Museum we have the answer. British Catalinas carried an entirely different navigator's bookcase than the U.S. aircraft, and a moment's thought makes the reason obvious. Part No. 28F 4023 was designed for publications of the U.S. Navy's Hydrographic Office; while the British bookcase, Part No. 28F 5662, was designed for manuals produced by the Royal Observatory. Different size books, different bookcase. Is Artifact 2-1 from a British airplane? No way.

The Search Goes On

Nobody said this was going to be easy and there are still plenty of sources being investigated by a number of TIGHAR members. Bob Kujawa (TIGHAR #962) in Wisconsin, Kristin Tague (TIGHAR #905) and Mike Bowman (TIGHAR #758) in California, and Mike Williams (TIGHAR #371) in Indiana are just a few of those who are digging for the next piece of the puzzle. That photo is out there somewhere. If you'd like to help find it call Project Director Ric Gillespie. Maybe there's a source that needs checking in your area.



Is There Life Beyond Earhart?

Although it may seem like it lately, TIGHAR is not The International Group for Historic Amelia Recovery. Other active, if less media-hyped, projects include:

Operation Sepulchre — WWII Luftwaffe aircraft sealed in underground German hangars since 1945.

Lady in Waiting — B-17E 41-2446, the world's oldest complete and original Flying Fortress, awaiting recovery from a Papua New Guinea Swamp.

Under investigation: A Doolittle B-25 in shallow water off the China coast; Curtiss Sparrowhawks with the wreck of the Airship Macon; relics of the Bellanca WB2 Columbia buried in Delaware; and much more.

At the same time, TIGHAR has become the leader in discussions throughout the air museum world concerning the establishment of long-overdue standards, definitions and protocols which will have a profound effect upon the future of both static and airworthy historic aircraft.

The Ushers Will Now Collect the Offering

Everything TIGHAR does is funded entirely by public contributions, and the progress we're making can only continue if TIGHAR members make it possible. With this issue of *TIGHAR Tracks* we've included a summary of the many high quality publications and wearables the foundation offers exclusively to you, the members. Use the order form to express your support for the work your organization is doing. Renew your membership promptly, and when you do, take advantage of the reduced rates for multiple year renewals. And if you're especially moved by something we're doing, there's no better way to express your approval than by sitting down, writing a note, and enclosing a check as a tax-deductible contribution. That's the most meaningful way to say "Go get 'em, TIGHAR!"



STRICTLY BUSINESS

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A big THANKS!! to Federal Express Houston who, through TIGHAR member Rick Siciliano, has donated two desks and two large filing cabinets to TIGHAR. We still need bookcases, credenzas or low cabinets, a large table suitable for meetings (and maybe some folding chairs?), more bookcases (actually, utility shelving would do very nicely), one or two two-drawer filing cabinets, and a partridge in a pear tree. Further donations of desks would also be welcome, as additional work stations will be necessary soon. Please call before sending anything — if we're in Maine, we'd just as soon stuff didn't sit outside for five weeks ...

Membership renewal notices are now being mailed on the 17th of each month. Please renew your membership on the first notice — every quarter spent on postage means a quarter not spent on a project. If you are in any doubt about the status of your membership, do not hesitate to call.

If you have not received your membership directory, please call or drop a postcard to us, and we'll send you one. A major snafu developed in the mailing list, apparently, and quite a few people did not get one. If you want yours, let us know and we'll send it right out.

Already panicking about that impossible-to-buy-for person on your holiday shopping list? Try a gift membership in TIGHAR for something different that gives all year 'round. Sure to please anyone interested in history or airplanes!

Additional TIGHAR patches and membership decals can be purchased for a small price — see the order form in this *TIGHAR Tracks* for details.



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

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

TIGHAR maintains no collection of its own; 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.

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

Editors: Patricia R. Thrasher, Richard E. Gillespie



MEMBERSHIP FORM

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

☐

\$35.00 for a one year membership

☐

\$60.00 for a two year membership

☐

\$125.00 for a five year membership

☐

\$1,000 for a life membership

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

- Annual subscription to *TIGHAR Tracks* (published nine times a year)
- Membership patch, decal, and directory
- Expedition and educational opportunities

Name _____

Address _____

Telephone _____

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



TIGHAR TRACKS

A PUBLICATION OF THE INTERNATIONAL GROUP FOR HISTORIC AIRCRAFT RECOVERY



What if the world leaders in aviation historic preservation sat down together in a public forum to tackle the most important issues facing air museums today? That's exactly what will happen on September 1 & 2 when TIGHAR's open international seminar *Aircraft to Artifact* convenes at the Royal Air Force Museum in London. On the stage of the museum's 200 seat theatre will be a panel which will include:

| | |
|--------------------|--|
| Michael Fopp, PhD | Director, Royal Air Force Museum, Hendon |
| Thomas Crouch, PhD | Chairman, Aeronautics, National Air & Space Museum, Washington, D.C. |
| David Lee | Ass't Director, Imperial War Museum, Duxford |
| David Hallam | Senior Conservator of Metals, Australian War Memorial, Canberra |
| Stephan Grey | Owner, The Fighter Collection, Duxford |

In the audience will be directors and representatives of Seattle's Museum of Flight, the San Diego Aerospace Museum, the Royal Netherlands Air Force Museum, and many more. But this is not a closed session for professionals only. Anyone who is interested in the future of aviation historic preservation is welcome and encouraged to attend.

This first-of-its-kind seminar comes at a time when air museums, both flying and static, are under increasing pressure to rethink long held attitudes and practices. This year has seen new and tragic records set in the loss of flying and non-flying historic aircraft (see *A Banner Year for Scrapmetal*,

next page). New discoveries are solving old mysteries (see *The Grail*, page three) and bringing extremely rare aircraft to light (see *No Longer Lost*, page six). It is a time for fresh ideas and hard questions. Among those to be addressed at Hendon are:

| | |
|------------------|---|
| Preservation — | We can't save everything, so what are the priorities? |
| Restoration — | Have we been destroying historic aircraft by turning them into like-new replicas? |
| Interpretation — | Do our static and flying displays describe the aircraft we have, or those we wish we had? |
| Operations — | What should fly, and what shouldn't? |

In addition to the presentations and discussions, attendees will participate in workshops throughout the RAF Museum, including an interior inspection of the B-17, Lancaster, and Sunderland. On Monday, September 3rd, an optional visit to the museum's reserve collection and restoration shops at Cardington has been arranged, as well as a tour of the famous Shuttleworth Collection.

It is fitting that this unique and important seminar take place in England during the 50th anniversary commemoration of the Battle of Britain. Like the Royal Air Force, TIGHAR is committed to preserving the past that it may serve the future. North American TIGHAR members and others interested in attending *Aircraft to Artifact* should contact Patricia Thrasher at TIGHAR headquarters for registration and tuition information. In Great Britain and Europe, contact Michael Tagg, TIGHAR Seminar, RAF Museum Hendon, London NW9 5LL, phone 81-205 2266.



A BANNER YEAR FOR SCRAP METAL



It's only August and the 1990 toll of historic aircraft losses is already staggering.

A storage hangar fire at the Musée de l'Air, Le Bourget, Paris on May 17 destroyed 43 aircraft including a Lockheed F-5G (photo-recon version of the P-38), Spitfire IXB, B-25, A-26, Dewoitine 520, Bolingbroke, Lysander and many others. This tragedy once more makes it painfully clear that the safeguarding of historic aircraft must go beyond simply removing the risk of flying accidents. Permanent preservation must include display, restoration and storage facilities which provide protection from natural and man-made disaster. Undetected residue from welding operations is believed to have caused the late-night fire at Le Bourget.

The calamity of losing irreplaceable aircraft is compounded when there is also loss of life and so far this year at least 10 aircraft have been lost and no fewer than 10 people have been killed in warbird crashes.

| | | |
|---------|---------------------------------------|-------------|
| P-51 | Crashed in Minnesota | 2 fatal |
| P-51 | Crashed at airshow in Canada | 2 fatal |
| P-51 | Ditched off Galveston, TX | no injuries |
| P-51 | Crashed on landing, Seattle, WA | no injuries |
| P-63 | Crashed at airshow, France | 1 fatal |
| Seafury | Crashed in forced landing, England | 2 injured |
| T-6 | Crashed at airshow, Niagara Falls, NY | 1 fatal |
| T-33 | Crashed in New Mexico | 2 fatal |
| Venom | Crashed on takeoff, Oklahoma | 1 fatal |
| SAETA | Crashed at airshow, Alabama | 1 fatal |



The causes vary from inflight airframe or engine failure, to weather, to incompetent aerobatics. The pilots range from the highly competent professional to the low time amateur. What is consistent is that the airplanes, and the people, are gone forever.

TIGHAR's position on this distressing situation is this:

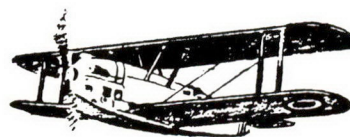
- The rate of warbird losses is alarmingly high and, unless checked with better safety standards and procedures, will mean the premature extinction of flying examples of these aircraft.
- A far more serious problem is the misconception that the flying of old airplanes is historic preservation. It is not. It is entertainment.
- Entertainment is a perfectly legitimate use for examples of types which are still relatively plentiful and often inspires interest in historical study and genuine preservation. But pretending that a last-of-type or an individually historic aircraft has been saved by making it a "warbird" is folly.
- The point of historic preservation is to save what was really there at an important time in history. Extensive restoration, particularly to airworthy condition, is necessarily a destructive process and results in a hybrid replica, which then usually masquerades in colors the individual aircraft never wore. When an individually historic aircraft goes this route, the airshow crash is merely the last step in its destruction.
- Historically important individual aircraft must be identified and set aside for permanent preservation, but that can't happen without a wider public recognition of what preservation is.

TIGHAR is committed to helping the aviation historic preservation community develop intelligent and practical standards for the treatment of historic aircraft, and to the education of aviation enthusiasts worldwide. As long ago as the 17th century British antiquarian John Aubrey recognized that historic properties can be as much at risk from uninformed enthusiasm as from the forces of nature. Although written when flight was still but a dream, his words ring true over 300 years later:

Let us bend our best efforts to the saving of antiquities, that they might escape the teeth of time and the hands of mistaken zeal.



PROJECT MIDNIGHT GHOST EXPEDITION XVIII 4/16 — 5/16, 1990



Call it perseverance, conviction, or just plain stubbornness, TIGHAR's search for l'Oiseau Blanc continues to comb the Maine wilderness for the lost French flyers described by Charles Lindbergh as having "vanished like midnight ghosts." Evidence continues to mount that Nungesser and Coli's White Bird crashed in the Round Lake Hills of Washington County on May 9, 1927. This spring's expedition, the eighteenth since 1984, meticulously gridded and searched over 2,440,000 square feet of the third and

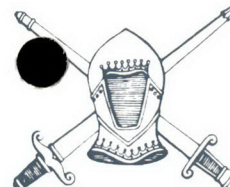
highest of the three hills. Twenty-five TIGHAR volunteers battled steep and treacherous terrain, one of the wettest springs on record, and the infamous Maine black flies to eliminate one of two areas now suspected of concealing the scant remains of the wood and fabric aircraft.

In October Expedition XIX will tackle the remaining area. Use the registration form in this issue of *TIGHAR Tracks* (see *Engagements Volontaires*) to sign up for some of the most miserable fun you'll ever have.



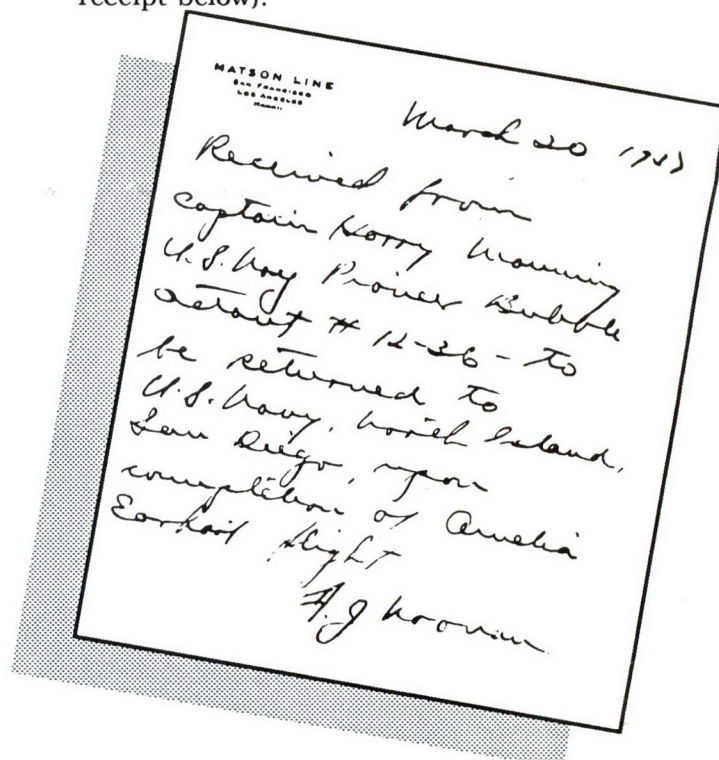


THE GRAIL



It is, quite simply, the most promising clue ever discovered in the 53 year search for Amelia Earhart and, with the help of TIGHAR's members, may soon become the long-sought proof that solves the mystery of her disappearance. Found by TIGHAR on the island of Nikumaroro, September 18, 1989, its aluminum structure and features aroused suspicion that it might be an aircraft component. Subsequent research revealed that the numbers stamped into the metal identified it as Part Number 28F 4023, a Navigator's Bookcase manufactured by the Consolidated Aircraft Corporation of San Diego, California for their Model 28 flying boat, known to the U.S. Navy as the PBY Catalina. Because PBYs were used to resupply the U.S. Coast Guard radio station on the island during World War II, the bookcase was, at first, thought to have come from one of those aircraft (see TIGHAR Tracks Vol. 5, No. 5, December 1989). However, further research has now shown that explanation to be incorrect.

- The navigator's station aboard the Electra was not part of the original construction by Lockheed but was designed, probably with Harry Manning's advice, and built, probably at Paul Mantz's facility, sometime between September 1936 and early February 1937.
- Harry Manning was borrowing navigation equipment with which to outfit the Electra from the U.S. Navy at North Island, San Diego (see receipt below).



- Wartime PBYs carried a later model bookcase than the one found on the island.
- Paint remnants on TIGHAR Artifact 2-1 do not appear to meet U.S. government specifications.
- The mounting holes and fixtures on our bookcase are all wrong for installation in a PBY and the unique features present are so professionally rendered as to eliminate the possibility of a field modification.

Analysis and opinion by experts at the United States Air Force Museum Restoration Facility at Wright-Patterson Air Force Base, Ohio and at the Smithsonian's Garber Facility, Silver Hill, Maryland, indicate that TIGHAR Artifact 2-1 was obtained from the manufacturer before PBY mounting holes were drilled and that specialized mounting features were added to install the bookcase in some other aircraft — an aircraft that did not have to meet government specs.

The presence of such an artifact on Nikumaroro is, to say the least, intriguing. There has never been an airstrip on the island nor a known airplane wreck (wartime or otherwise). There is, however, an impressive body of evidence that the island's reef-flat was the landing place of the lost Earhart/Noonan flight. Could the bookcase have come from that airplane? Here's what we know so far:

- The Electra's navigator would have need of just such a bookcase in which to stow precisely the navigational reference materials (Air Almanac, Sight Reduction Tables, etc.) it was designed to accommodate.
- Early versions of the bookcase (such as Artifact 2-1) were available in late 1936/early 1937 when the Electra was being outfitted for the 'round-the-world flight.

This little gem was discovered by Russ Matthews (TIGHAR #0509) during his examination of the Harry Manning Collection at the American Merchant Marine Museum at King's Point, New York on June 10, 1990. It is a hand written receipt dated March 20, 1937 for U.S. Navy Pioneer Bubble Octant #12-36 given to Manning by Fred Noonan and specifying that the instrument is "to be returned to U. S. Navy, North Island, San Diego upon completion of the Earhart flight." March 20th is the day Amelia groundlooped the Electra on takeoff in Hawaii with Manning and Noonan aboard. After the accident Manning, his confidence in AE's ability much shaken, abandoned the project and turned over all the navigational responsibilities, and the equipment he had assembled, to Fred Noonan. The significance of this receipt is that it proves that the navigator's octant used for the flight was borrowed from the U.S. Navy at San Diego. We suspect the same was true of the navigator's bookcase. Nice goin', Russ.

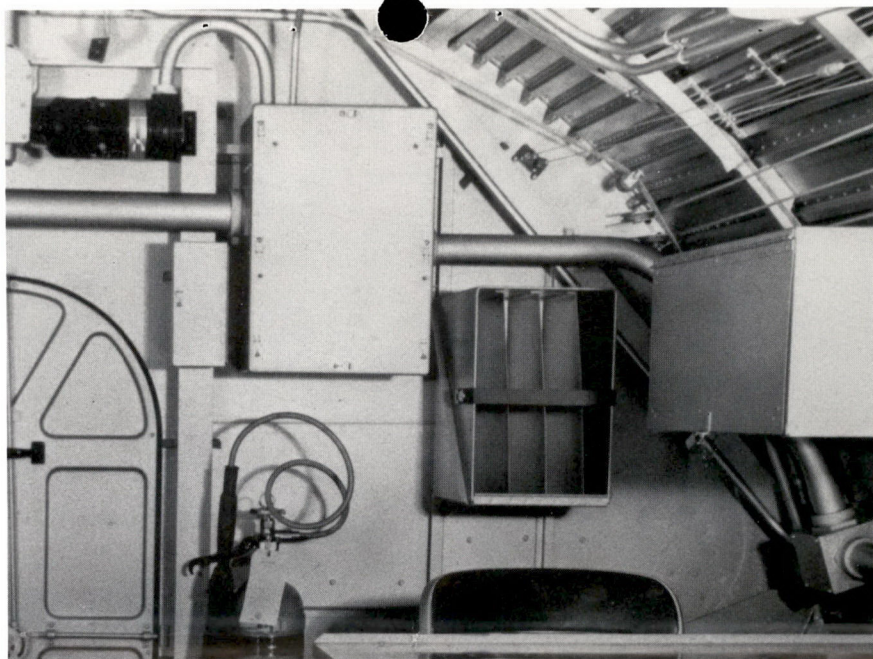
But if the bookcase was aboard the Electra why did it and no other part of the airplane end up on the island? If TIGHAR's hypothesis concerning the aircraft's fate (that it was landed on the dry reef-flat at low tide and was subsequently washed over the reef edge a few days later) is correct, the bookcase is, perhaps, the only aircraft part that would be found on the island. If you were Fred Noonan seeking to rescue your crucial navigational materials from an

aircraft awash on a reef-flat wouldn't you remove five screws and take your bookcase ashore? Later, during the period when the island was inhabited (1938-1963), someone cut the bookcase apart to convert it to their own use. TIGHAR found the discarded portion among the debris of the abandoned village.

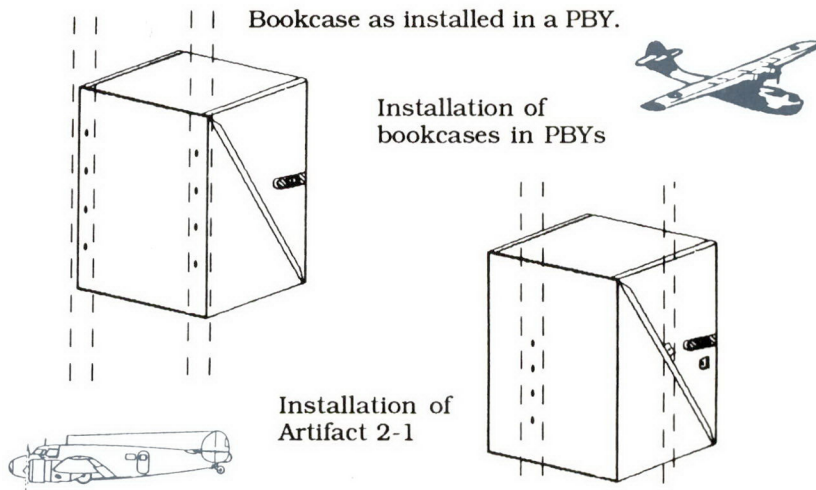
Given what we now know about the artifact, the aircraft and the island the bookcase's presence aboard the Earhart Electra is not merely an enticing possibility but, rather, the most sensible explanation of its presence on Nikumaroro. What we need now is proof and for that **we need your help**. If we can find a photo or official sketch which shows our bookcase in that airplane Artifact 2-1 will become nothing less than the Holy Grail of aviation historical investigation — the diagnostic artifact that solves the Amelia Earhart mystery. With that proof in hand, funding for next year's return to find and photograph the airplane in the deep water near the island would be virtually assured.

So far, we've found documented information about the navigator's station aboard the aircraft to be very scant. The only photos we have show AE and Manning sitting on the navigator's table and looking out the forward, starboard window. They show very little of the actual set-up. Descriptions in Earhart's book *Last Flight* and in contemporary newspaper articles are brief and not very helpful. The cut-away drawing of the Electra which appeared in the Time/Life book *Women Aloft* purports to show the navigator's station but we've tracked down the man who supplied the information to the artist and he admits he was speculating. Analysis of the few photos available shows the drawing to be incorrect. Included here are the best reconstructions we've been able to make so far. There seems to be one place where the bookcase would reasonably fit but there may be others.

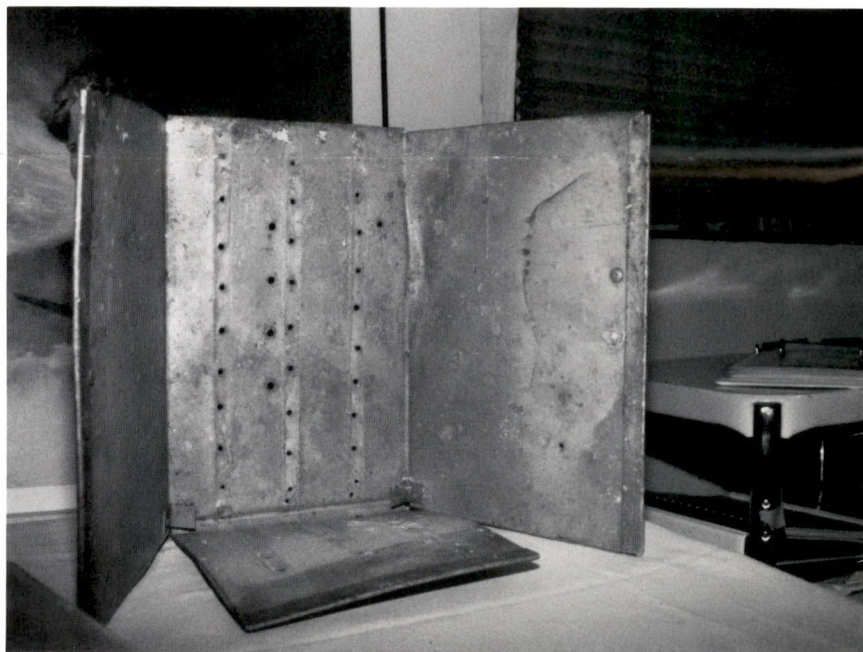
TIGHAR members who would like to assist in the search for this crucial piece of evidence — in this quest for the Holy Grail— are urged to contact Project Director Richard Gillespie at TIGHAR. He'll tell you what sources have already been covered and help you direct your search. Despite the admittedly Arthurian overtones of this whole thing, Ric has promised not to insist on vows of purity and chastity (although he reserves the right to confer an occasional knighthood). Let us hear from you. 🐾



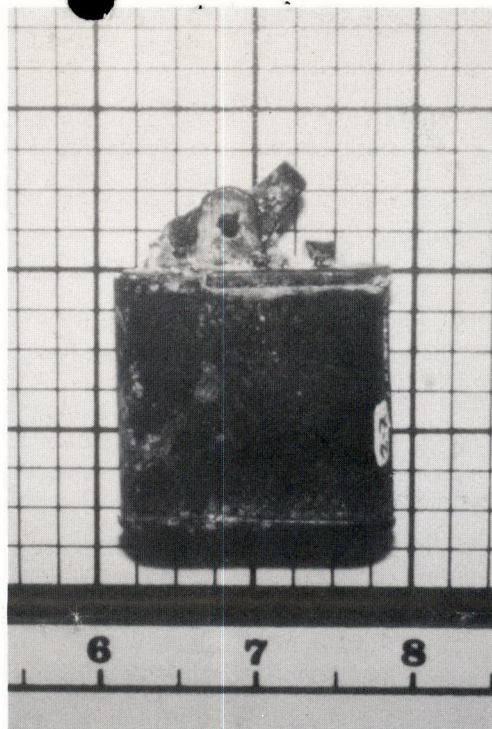
Bookcase as installed in a PB4Y.



Installation of Artifact 2-1



Artifact 2-1



Artifact 2-7, Cigarette Lighter

More On the Lighter

Work is continuing in an attempt to find out all we can about the cigarette lighter found on Nikumaroro's southwest beach (see *TIGHAR Tracks* Vol. 5 No. 5). So far we can find no unique markings or features which might allow us to connect the artifact to a particular source but W.T. Chase, Head Conservator at the Smithsonian Freer Gallery of Art, has performed a laboratory examination of the lighter and has offered his opinion that the accumulation of cuprite crystals (a product of oxidation) visible under magnification indicates that the lighter had been in the highly corrosive sands of Nikumaroro for "fifty to sixty years." That puts it within the time frame of the Earhart disappearance in 1937 and the USS Bushnell survey in 1939 rather than the World War II and postwar period. That corresponds with Miami lighter expert Jack Seiderman's opinion that the lighter was sold in the U.S. sometime in the early 1930s. What is clear is that an expanded metal detector survey needs to be done along the island's beach front and that work will be incorporated in next year's return to Nikumaroro.

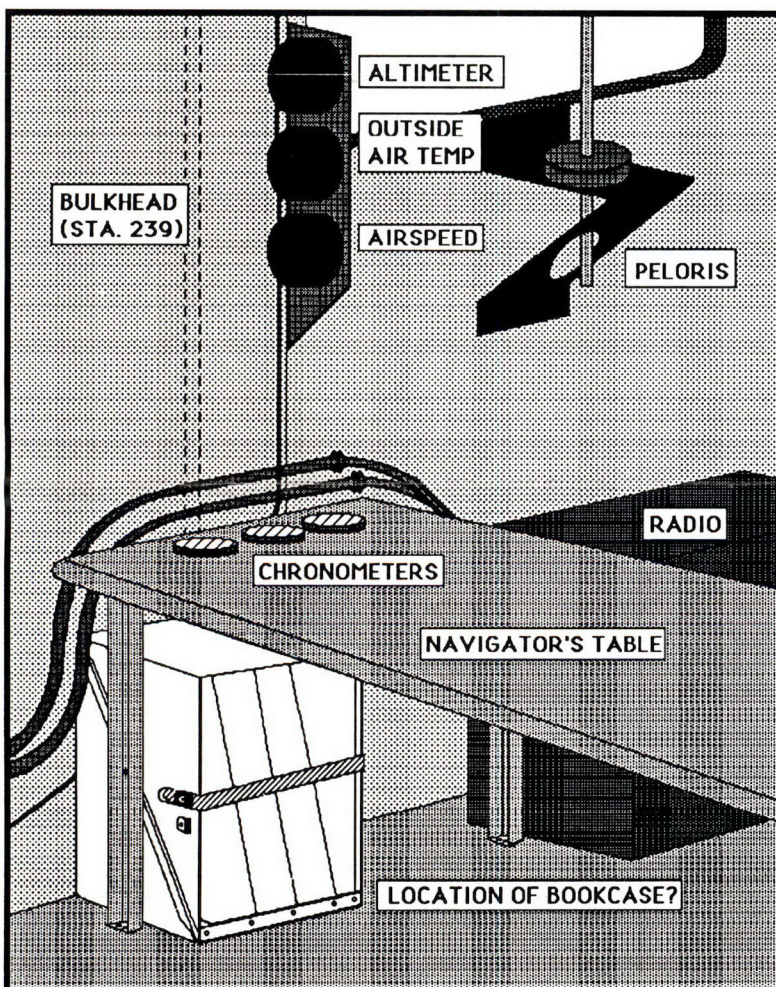
Not Even Close, and Definitely No Cigar

Previous attempts to establish physical proof of Earhart's fate have been disappointing. In 1960 Fred Goerner (*The Search for Amelia Earhart*, Doubleday, 1966) recovered an aircraft generator from the bottom of Tanapag Harbor, Saipan. Earhart's former technical advisor, Paul Mantz, announced at a press conference, "[I]t looks just like the generator I put aboard AE's plane," but an inspection by the Bendix Corporation later established that the part "...did not come from the plane in which Amelia Earhart disappeared ..."

In 1961 Fred tried again with bones dug up on Saipan. Pathological analysis found the hypothesis that they were the remains of Earhart and Noonan to be "not supported."

A 1979 expedition to the Marshall Islands recovered a fragment of what was thought to be the mysterious "silver container" allegedly buried by Earhart and Noonan prior to their supposed capture by the Japanese (*Amelia Earhart: The Final Story*, Loomis/Ethell, Random House, 1985) Analysis, however, showed it to be a nondescript piece of sheet metal.

In 1988 *Witness to the Execution* (T.C. "Buddy" Brennan, Renaissance House) proclaimed a fragment of cloth found buried on Saipan to be the blindfold used in Earhart's execution by the Japanese. Brennan's witness, a Mrs. Blas, claimed to have seen the soldiers "tear the blindfold from her face and throw it into the hole" before shooting her. No explanation is offered for this procedure (at *TIGHAR* we generally leave the blindfold on when we shoot prisoners) nor for the absence of any bones in the alleged grave. Analysis of the "blindfold" showed it to be simply a piece of cotton cloth.

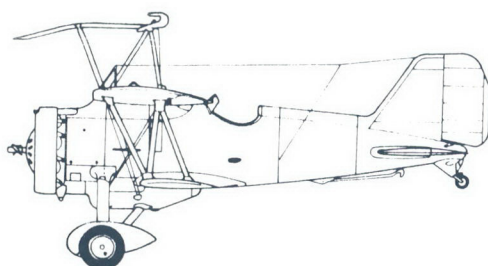
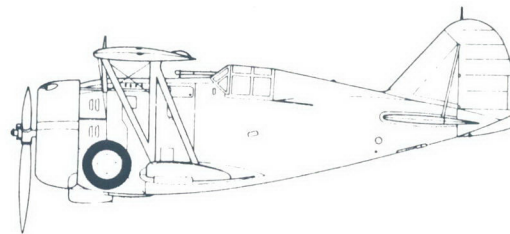


Navigator's station, NR16020, starboard side looking aft.

NO LONGER LOST

Recent discoveries and recoveries have brought some extremely rare aircraft to light and, once more, pointed up the need to bring more professionalism to the field of aviation archeology.

The U.S. Navy has raised Grumman F3F-2, Bu. No. 0976 from 1,800 feet of water off the California coast. First found and in virtually undamaged condition in 1988, an amateur salvage attempt wrecked the right wings and empennage before the Navy was able to recover the aircraft this year. Now at the San Diego Aerospace Museum for restoration, the fighter will eventually go to Museum of Naval Aviation in Pensacola. This is a rare second chance for this classic pre-war type which had been extinct since an inflight fire claimed the only surviving aircraft in 1974 (a fuel cap was not secured prior to an aerobatic flight).



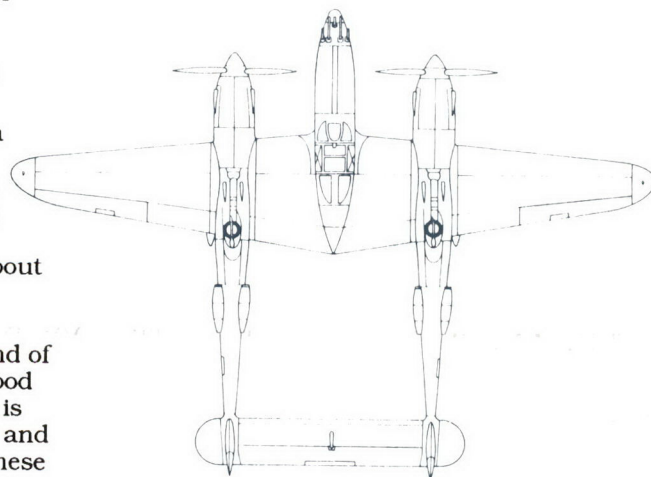
In an encore performance the Navy made another historic discovery off California when, on June 24, the research submersible Seacaliff located the wreckage of the airship Macon in 1,500 of water. Lost on February 12, 1935, the 785 foot-long dirigible had four Curtiss F9C Sparrowhawks in the hangar deck when violent winds forced her down. The fighters were ordered jettisoned but reportedly only one went over the side before she settled into the water. The Seacaliff photographed two of the aircraft in excellent condition and the Navy is attempting to keep the exact location secret while it organizes a recovery. There are, however, reports of a leak and a repeat of the F3F-2 debacle is feared. TIGHAR has offered its assistance to the Navy to see that these aircraft are recovered quickly and competently. The only other Sparrowhawk known to exist is in the National Air & Space Museum in Washington.



Meanwhile, the on-going drama of the so-called "Lost Squadron" of P-38s and B-17s under the Greenland icecap continues. As of TIGHAR's most recent conversation (July 20) with Patrick Epps, co-founder of the Greenland Expedition Society, the situation was this:

- A ten foot square room had been excavated over one engine of a B-17. The cowling looked good but at least one cowl flap was crushed. They were not sure which direction to dig to get to the fuselage (?) and no one could say what condition it might be in when, and if, they got there.
- A sixteen, now expanded to eighteen-foot, hole had been dug about halfway down to one of the P-38s but glacier melt-water was becoming a serious problem.

Epps is now less than optimistic about getting a P-38 out by the end of this season and has revised his estimate of their condition from good to fair. There is now less talk of flying aircraft off the ice, but there is more awareness that particular care should be taken to document and preserve the interiors before the aircraft are disturbed. If intact, these airplanes are time capsules of information about how it was all done in 1942.



Seattle's Museum of Flight has acquired title to one of the two surviving B-17Fs and has retired the aircraft from flying displays. Formerly owned and flown by the late Robert Richardson, serial number 42-29782 was bequeathed to the museum on the condition that it be set aside for permanent preservation. The only other F is *Memphis Belle*, part of the USAF Museum collection and preserved in Memphis, Tennessee. TIGHAR congratulates the Museum of Flight on this important acquisition. (Note: the Museum of Flight will host the 1991 TIGHAR Gathering. See *THE YEAR OF THE TIGHAR*, next page).



THE YEAR OF THE TIGHAR



Major TIGHAR events scheduled for the next twelve months

1990

- September 1 & 2 *Aircraft to Artifact — Exploring the Principles of Aviation Historic Preservation.* International TIGHAR Seminar, Royal Air Force Museum, Hendon, London, England.
- September 22 New England Regional TIGHAR Gathering. Immediately following the Manchester, New Hampshire warbird airshow on Saturday, September 22, TIGHAR will hold a Gathering for TIGHAR members at The Highlander Inn near the airport. The general public will also be invited to this buffet dinner and social evening. More information will be available shortly.
- October 1-27 Expedition XIX, Project Midnight Ghost. Washington County, Maine.
- November 3 & 4 *Introductory Course in Aviation Archeology,* Owl's Head Transportation Museum, Owl's Head, Maine (call or write TIGHAR to register).

1991

- January 19 & 20 *Introductory Course in Aviation Archeology,* San Diego Aerospace Museum, San Diego, CA.
- April 15 - May 3 Expedition XX, Project Midnight Ghost (if required).
- May 15 - 17 TIGHAR Annual Gathering, Museum of Flight, Seattle, Washington.
- May 18 & 19 *Introductory Course in Aviation Archeology,* Museum of Flight, Seattle, Washington.
- June 8 & 9 *Introductory Course in Aviation Archeology,* TIGHAR Headquarters, Wilmington, Delaware.
- September/October Return to Nikumaroro, Earhart Project Expedition.



STRICTLY BUSINESS

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By now you should have your Directory. If you don't, or if there is anything wrong with it, please get in touch with us ASAP so we can do something about it. We are most grateful to all those who contributed to the Directory Mailing Fund. We now have our floor back.

TIGHAR needs some office furniture, but have you noticed the price of the stuff? If you have an office and are thinking of redecorating, please consider donating your old office furniture to TIGHAR for a tax deduction. It doesn't need to be beautiful, just sturdy. We need large desks, filing cabinets, bookcases (lots of bookcases), and various other accoutrements of a growing-but-not-yet-large business. Any help anyone can give us will be greatly appreciated. Call Pat Thrasher at TIGHAR for further information.

TIGHAR is also looking for donations of aviation magazines, the older the better, for our reference library. AS TIGHAR grows, we plan to have a research facility which is open to our members; meanwhile, we are trying to build our collection. Again, a suitable tax deduction is yours for donating such papers to TIGHAR. Get in touch with Ric Gillespie to find out what we have and what we need. Clean out your attic and garage without guilt!

Our other major need is for more members. Spread the word! Tell your friends!! Let us send you a stack of newsletters to pass out, and join in the fun!



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

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

TIGHAR maintains no collection of its own; 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.

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

Editors: Patricia R. Thrasher, Richard E. Gillespie



MEMBERSHIP FORM

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

☐ \$35.00 for a one year membership

☐ \$60.00 for a two year membership

☐ \$125.00 for a five year membership

☐ \$1,000 for a life membership

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

- Annual subscription to TIGHAR Tracks (published nine times a year)
- Membership patch, decal, and directory
- Expedition and educational opportunities

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



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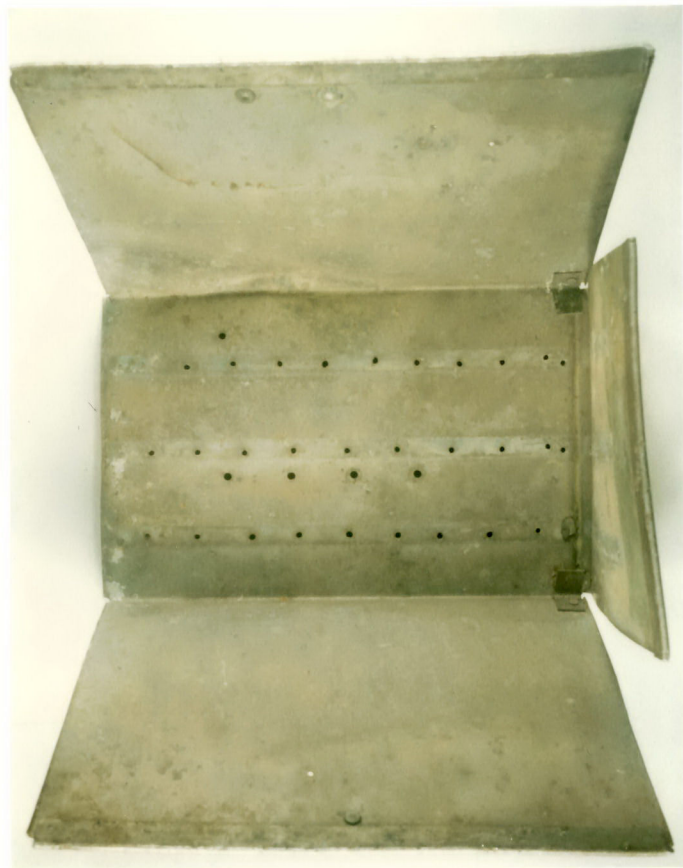
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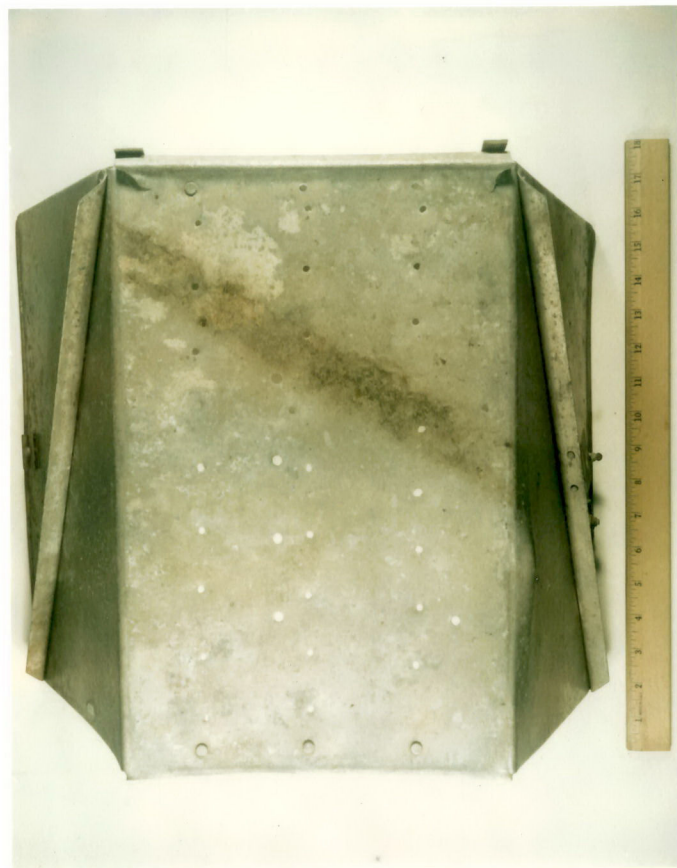
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