

The Amelia Earhart & Fred Noonan Case: New Sextant Box Research



by

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Llewellyn “Lew” Toulmin, Ph.D.

- Former Chair, Section on Emergency Management, American Society for Public Administration
- Consultant to 20+ US Federal agencies and 30+ foreign countries
- Fellow of the Royal Geographical Society
- Expeditions in search of missing aircraft, persons, battlefields, plantations and towns
- Ph.D. in public administration & economics
- Traveled to 144 of the 196 countries on Earth
- Co-founder, Missing Aircraft Search Team
- Member, TIGHAR; on 2017 Niku expedition



VANISHED!
My top 10

WHO	WHEN	WHERE
Ambrose Bierce, writer	1913	Juarez (?), Mexico
Percy Fawcett, F.R.G.S. explorer	1925	Amazonia, Brazil
Judge Joseph Crater	1930	New York City
Amelia Earhart, aviator	1937	Pacific Ocean
Richard Halliburton, adventurer	1939	North Pacific
Gertrude Tompkins, WW II WASP pilot	1944	California near LAX
Major Glenn Miller, USAAF , band leader	1944	English Channel
Jim Thompson, ex-OSS, CIA asset, "Silk King"	1967	north central Malaysia
D. B. Cooper, air pirate	1971	Washington State, USA
Jimmy Hoffa, labor leader	1975	near Detroit, MI



Today we will cover these topics:

- ✓ Sextant boxes: who cares?
- ✓ Problems, problems
- ✓ Conclusions re the link
- ✓ National Archives research
- ✓ Final conclusions & what's next?



Flag of the Republic of Kiribati



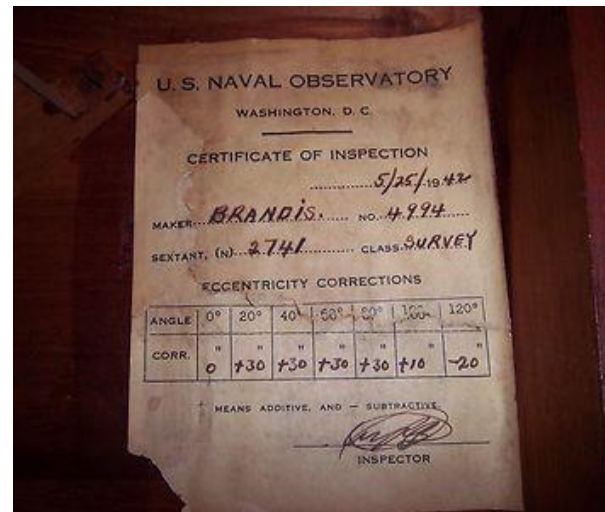
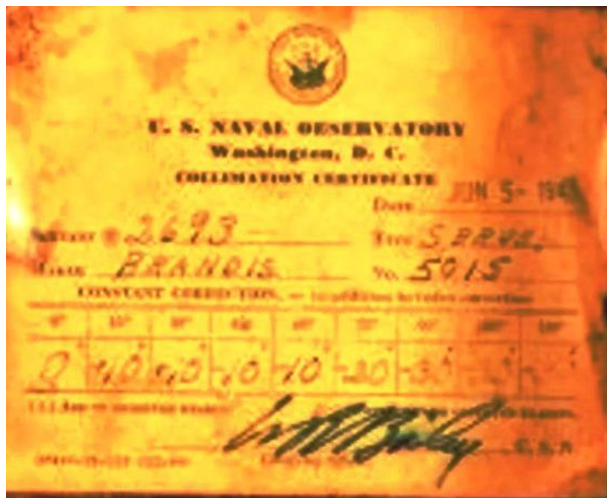
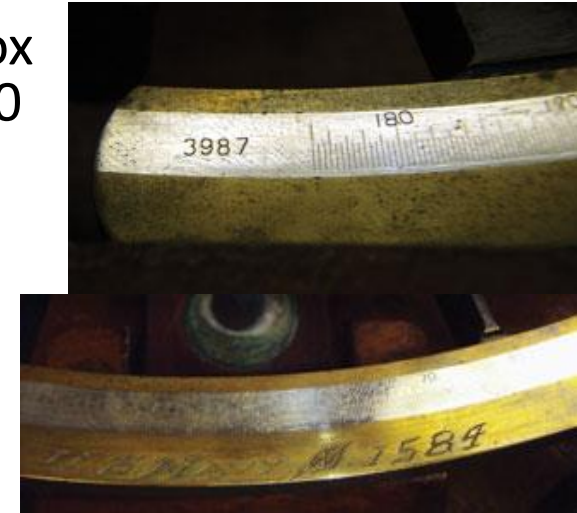
Nikumaroro island, Rep. of Kiribati:
"Niku"

Sextant Boxes: Who Cares?



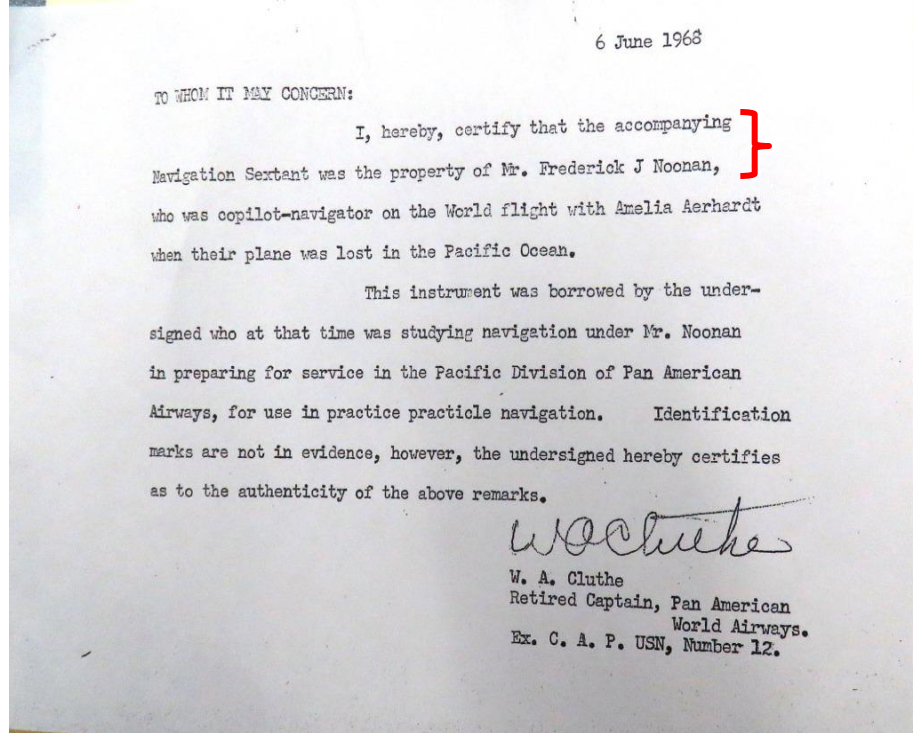
The Niku sextant box: NUMBERS!

- British official Gerald Gallagher in 1940: “Sextant box found near skeleton on Niku has two numbers: 3500 (stenciled) and 1542...”
- Note: no sextant found; box now gone; no measurements taken – but we have two numbers!
- Link numbers to AE/FN/Electra = crack the case!
- 4 types of sextant numbers:
 - Manufacturer’s serial numbers
 - US Naval Observatory calibration numbers
 - USNO inventory numbers (after 1923)?
 - Other numbers?



Box Plaque for Brandis 2763/USNO 348, an Octant

A proven Fred Noonan sextant box in Pensacola, with: more NUMBERS!



3547 173
Pensacola/
Fred Noonan

TIGHAR hypothesis part 1: The Niku box is a Brandis box

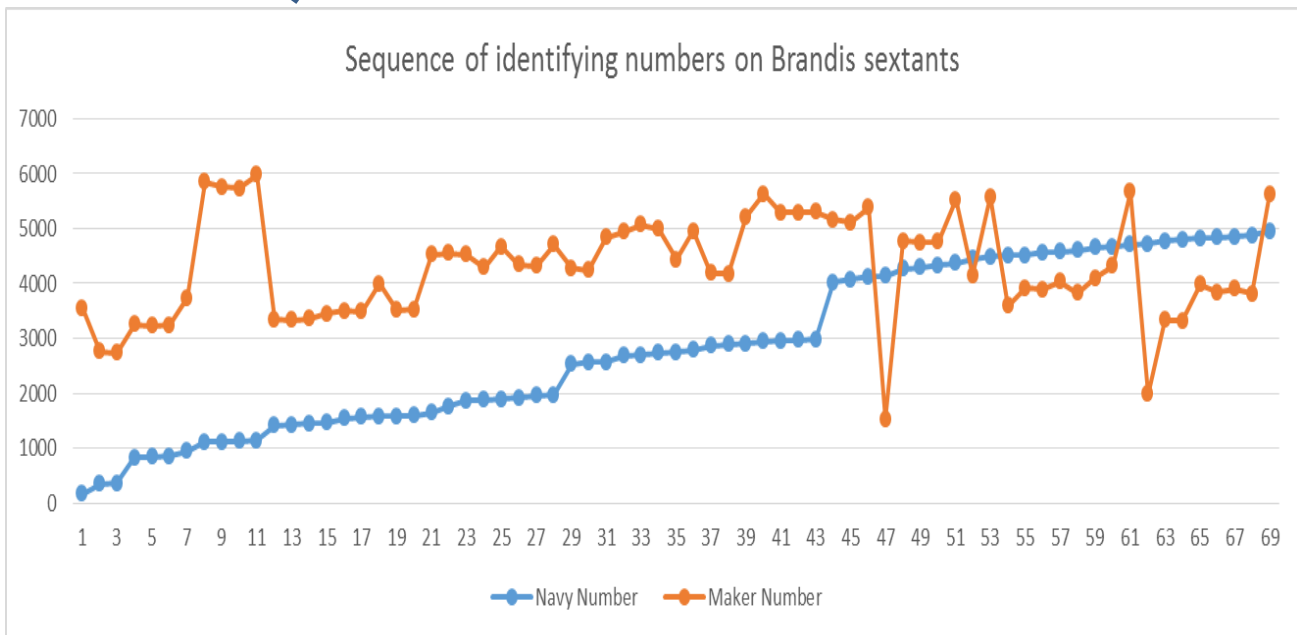
Maker unknown, maybe Brandis?

NIKU

Pensacola?
Noonan's
NIKU?

Brandis 3227	N.O. 845
Brandis 3336	N.O. 4773
Brandis 3500	N.O. 1542
Brandis 3511	N.O. 1585
Brandis 3527	N.O. 1599
Brandis 3547	N.O. 173
Brandis 3987	N.O. 1584
Brandis 4279	N.O. 2531
Brandis 4946	N.O. 2785
Brandis 5292	N.O. 2975
Brandis 5296	N.O. 2977
Brandis 5620	N.O. 2939
Brandis 5760	N.O. 4705

Sequence of identifying numbers on Brandis sextants



TIGHAR hypothesis part 2: The Pensacola/Noonan box was a Brandis box

Maker unknown, is Brandis

NIKU

Noonan's Ludolph sextant, but **was a** Brandis

Pensacola

Fred Noonan's
sextant & box.
Donated by his
nav student.
Has 3547 on back.



Table 3.

Brandis 3227	N.O. 845
Brandis 3336	N.O. 4773
Brandis 3500	N.O. 1542
Brandis 3511	N.O. 1585
Brandis 3527	N.O. 1599
Brandis 3547	N.O. 173
Brandis 3987	N.O. 1584
Brandis 4279	N.O. 2531
Brandis 4946	N.O. 2785
Brandis 5292	N.O. 2975
Brandis 5296	N.O. 2977
Brandis 5620	N.O. 2939
Brandis 5760	N.O. 4705

TIGHAR Hypothesis, part 3: Noonan had a Brandis sextant that he used as a “preventer”

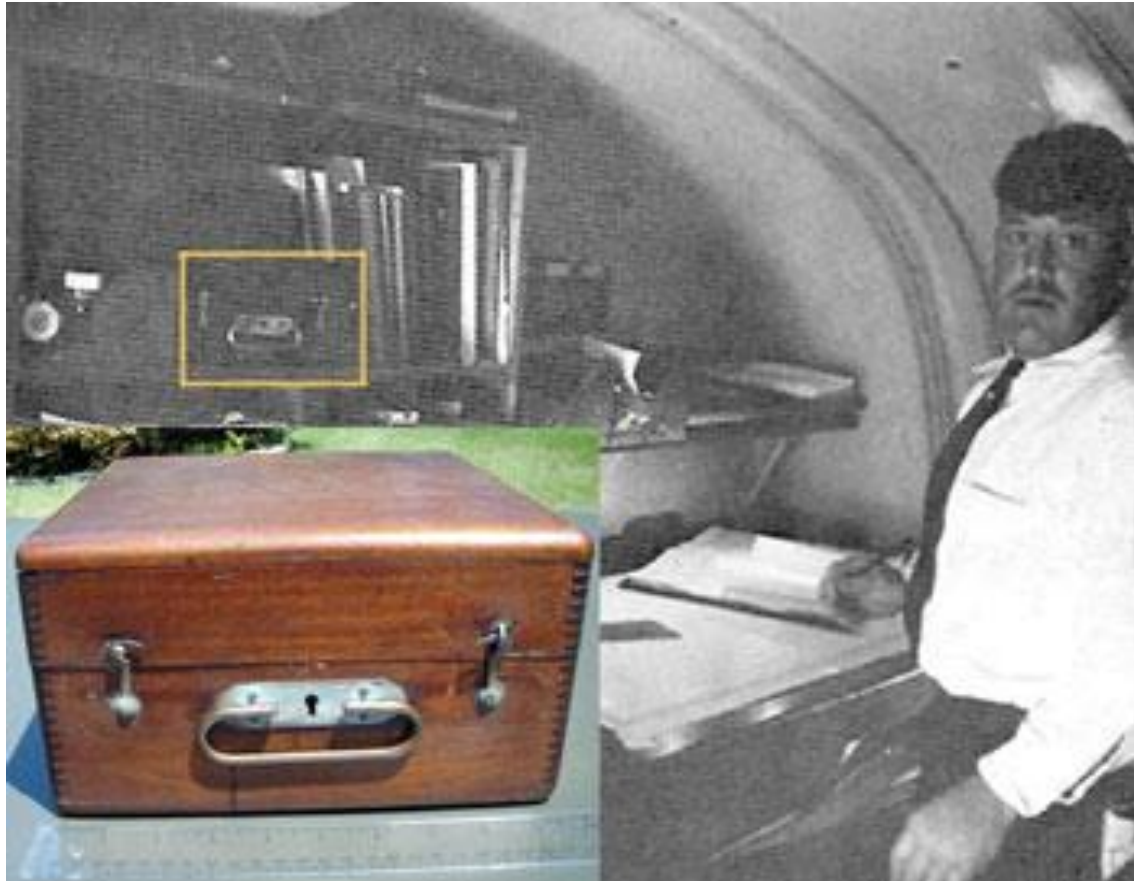


Photo of nav station on a Pan Am – Noonan plane:
Apparently no stenciled number on front of box in B&W pic

TIGHAR hypothesis part 4: Perhaps Noonan acquired a group of Brandis sextants with similar #s...



Niku sextant



Pensacola sextant



Other Brandis sextants



Table 3.

Brandis 3227	N.O. 845
Brandis 3336	N.O. 4773
Brandis 3500	N.O. 1542
Brandis 3511	N.O. 1585
Brandis 3527	N.O. 1599
Brandis 3547	N.O. 173
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Brandis 4279	N.O. 2531
Brandis 4946	N.O. 2785
Brandis 5292	N.O. 2975
Brandis 5296	N.O. 2977
Brandis 5620	N.O. 2939
Brandis 5760	N.O. 4705

...for use in setting up a navigation school

We are trying to see if there is a link:

Niku Box

3500

1542



3547 173

**Pensacola/
Fred Noonan**

Problems, problems...



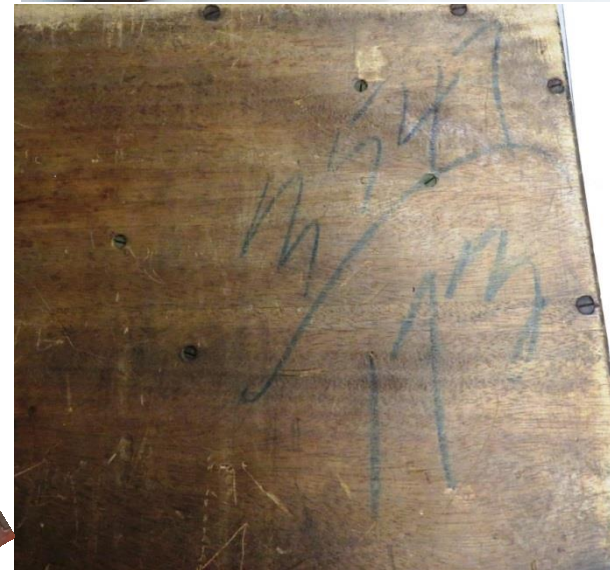
So let's examine the Pensacola/Noonan box:



NOTCH

FINDINGS:

- No # "stenciled"
- No USNO cert.
- #s not formal
- Key # 3547 is v. large, hasty
- No "shadows"



168
(NEW!)



116

3547 (KEY #)
173

And the Noonan sextant:



FINDINGS:

- Ludolph, not Brandis
- No USNO #
- Fits nicely in case
- No "shadows"
- Notch fits Ludolph?



Brandis and Ludolph box dimensions are different:

rtant-sextant-brandis-brooklyn-ny/

onsultant2 www.ogcio.gov.vu/in: www.ogcio.gov.vu/in: logo



10 x 10 x 5"
Typical Brandis



13 x 11.5 x 5.5"
Pensacola Ludolph



Other problems:

- ❖ 500+ boxes examined and none had large cursive #s like the Pensacola Ludolph box
- ❖ The “notch” is not real evidence that the Ludolph Pensacola box previously was modified to hold a Brandis, fits Ludolph?
- ❖ The #s 3500 and 3547 are not really sequential, just similar
- ❖ The # 3547 in Pensacola could be a USN “inventory number,” not a sextant #
- ❖ Pan Am photo sextant box not stenciled?
- ❖ None of #s on Pensacola box are stenciled, and only 3 stenciled have been found:



Conclusions re the link



IMHO, conclusions re the hypotheses are:

1. The Niku sextant box is likely a Brandis sextant box
2. The Pensacola box has likely always been a Ludolph box, not a Brandis; hence no numerical link between the Niku and Pensacola boxes
3. Noonan quite likely had a Brandis as a preventer; therefore the Niku box could be this preventer (Stencil #?)
4. Noonan unlikely to have acquired a near sequential run of Brandis sextants for his school



Hence overall “link”
theory is greatly
weakened

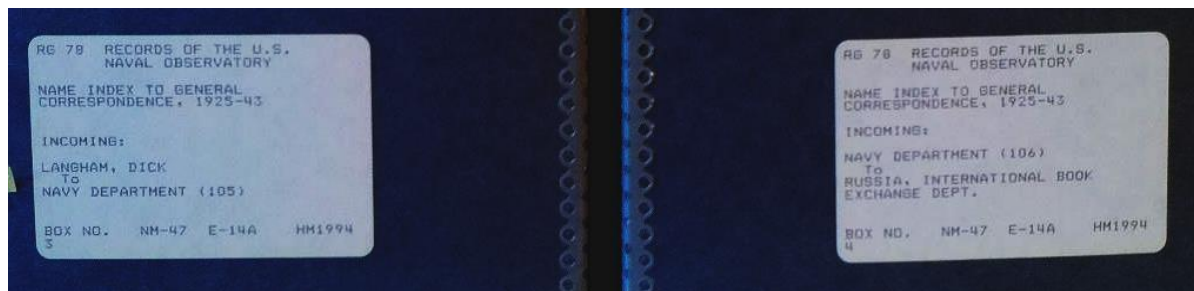


3547 173

National Archives research

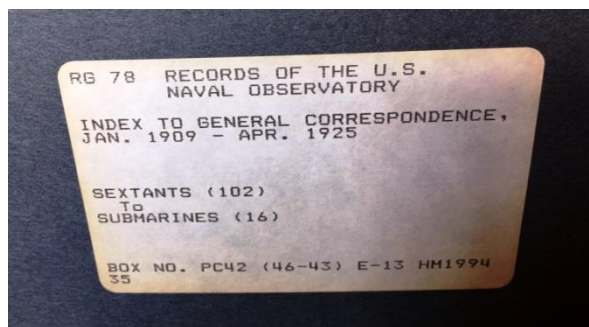
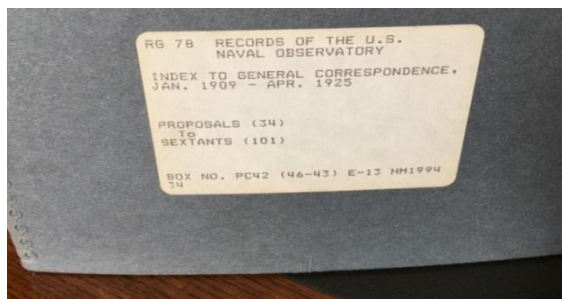


No joy at National Archives:



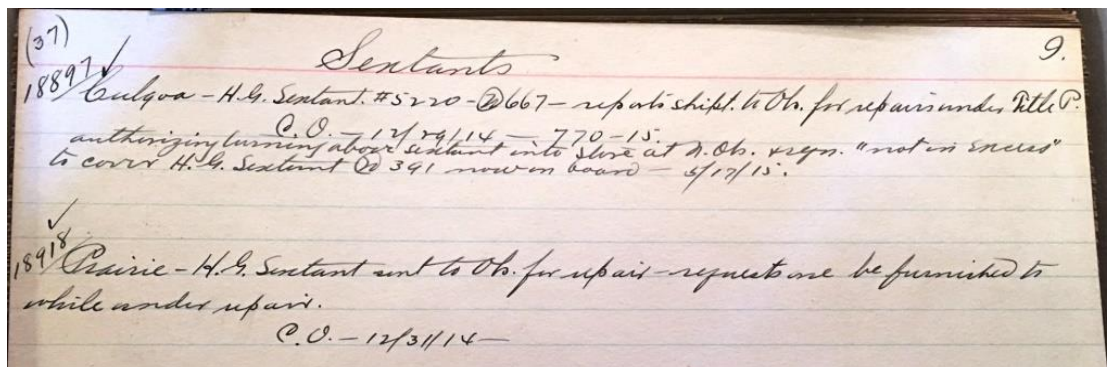
USNO
1925-43

Previous research done by Osterhout & Davis of TIGHAR, no final report



USNO
1909-25

My research yielded some info and sextant numbers but not **THE** Niku numbers



One of the best cards:

USS *Culgoa* shipping High Grade sextant #5220, USNO #667 to USNO for repairs, in Dec. 1914

Much more typical entry from USS *Prairie*

Final conclusions and what's next?



Final thoughts:

- My full report is available (13 pp. + 47 pp. of annexes) →
- US National Archives not exhausted, but tough
- Search needs to continue for Niku sextant box numbers
- I am pursuing inquiry with Ludolph

THANKS!
QUESTIONS?

SEXTANTS AND NOONAN/EARHART:

The Pensacola Fred Noonan Sextant and Box and the Amelia Earhart—Fred Noonan Disappearance and Sextant Research on the US Naval Observatory at the US National Archives

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