Is This Earhart's Electra?

The photograph on this page has already stirred up quite a bit of controversy and will probably stir up more. About ten years ago Capt. George Carrington, USN(Ret.) brought this and another photo to Lockheed Aircraft saying that they had been given to him by a former British seaman who had served aboard the submarine tender HMS *Adamant* in the western Pacific in late 1946 and early 1947. Carrington said that the seaman, who wished to remain anonymous, had given him the pictures because the wrecked airplane in one of the photos reminded him of Earhart's airplane on the cover of a book Carrington had just self-published describing his own theory about Amelia Earhart's disappearance (she was a spy).

The seaman's other photo showed the beach of a tropical island from just offshore. A group of perhaps 40 men in shorts are standing about on the beach and in the shallow water. Most are shirtless. The level beach extends several hundred feet inland and is bordered by a few tall palm trees behind which the vegetation and terrain rise steeply upward to high jungled hills in the distance. According to Carrington, HMS *Adamant* had put these men ashore on the uninhabited island for the purpose of gathering sand used in fighting engine room fires and also for a little recreation. The seaman did not recall the name of the island, if he ever knew it. Supposedly he walked along the beach with a friend until they noted a couple of large coconut palms that had been knocked down. Back in the bush they found the wreckage of a twin engined airplane and took the photo shown at right.

First Lockheed, then the Smithsonian Air & Space Museum, and ultimately TIGHAR (with some hi-tech photo-analytical help) tried to determine:

A. Is the airplane in the photo a Lockheed Model 10 Electra?

B. If it is an Electra, what version is it?

C. What clues may help determine just where the photo was taken?

The results were inconclusive. Most agreed that the aircraft was a Model 10, although there were dissenters. No compelling case could be made one way or the other as to whether it was a 10A (with 450 h.p. Pratt & Whitney R985 engines) or a 10E (with 550 h.p Pratt & Whitney R1340 engines). Earhart's aircraft was, of course, a 10E.

Botanists at the Smithsonian's Museum of Natural History confirmed that the vegetation was appropriate for a Pacific island, but they pointed up some problems with the story. The mature coconut palms visible in the wreck photo are very sick trees, either due an infestation of rhinoceros beetles or from prolonged drought, whereas the trees in the photo of the men on the beach are healthy. The two photos could not have been taken on the same island at the same time. Further investigation turned up other inconsistencies. The seaman's name could not be found among the ship's company of HMS *Adamant* and the vessel's logs showed her to be docked in Hong Kong during the entire time period in question.

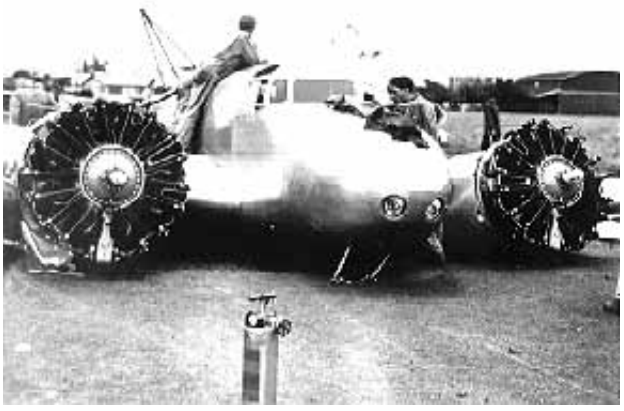
And so the matter stood for nearly ten years–an intriguing photo of a wrecked airplane that seemed to be a Lockheed 10, and might be a Lockheed 10E (but we thought probably not), on what might be Nikumaroro or any of a hundred other Pacific islands. Just one more dead end. Then, just recently, we discovered photographic evidence of a large light-colored metal object in the bushes along the island shoreline in 1988 (see "Corroboration," page 12). Something about the setting was vaguely reminiscent of the old wreck photo. Forensic imaging has seen many advances since 1989 and we asked Jeff Glickman of Photek if he'd like to take a crack at scientifically quantifying the measurements and proportions of the airplane in the photo. Jeff took on the case and has been working with the photo for a few weeks now. We're addressing the same three questions, but with much better research capability than we had before. Here's what we know so far.

The airplane does indeed seem to be a Lockheed 10. All of the visible structural elements match the Model 10 and do not match any other aircraft we've been able to think of. Obviously, much of the airplane is gone. What we can see is the center section from engine to engine. The starboard engine is missing and the inboard leading edge of the starboard wing has been peeled down to reveal the two distinctive lightening holes characteristic of the Model 10. The port engine and propeller are intact and the cant of the engine suggests that the landing gear may be down. The ring cowl is in place but the rest of cowling is missing. The nose section from the base of the windshield centerpost forward has collapsed. A few pieces of skin have been removed to reveal bulkheads and stringers that match the structure of the Electra.

But what Electra is it? There's the rub. The primary difference between the four versions of the airplane was the engines. Each type of engine had a slightly different diameter so, theoretically, if we can measure the engine in the photo we can tell what engine it is and, perhaps, rule out the possibility that this is Earhart's 10E. All versions of the Electra used a nine-foot Hamilton Standard propeller, so the unbent prop provides a convenient ruler. But, as Jeff Glickman explains, there's a hitch (as usual). Because we're looking at the engine from an oblique angle we have to correct for distortion and such corrections have a built-in error factor. To be sure about our conclusions, the error factor must be no more than half of the difference we're trying to distinguish. The engine diameter difference between the R1340 S3H1 engine of the 10E and the R985 SB engine of the 10A is 5.6 inches. The error factor for the oblique projection in the photo is normally 4.58 inches–not good enough. So Jeff is having to extract the actual roll, pitch and yaw angles from the projection in order to get the error factor small enough to permit us to draw valid conclusions. At this point all we can say is that some features visible on the firewalls do not seem to match the 10A and do appear to be right for the 10E. Research continues.

And where is it? That's even tougher. The story that came with the photo is clearly not accurate. We called George Carrington to see if he could explain the discrepancies, but he refused to help (TIGHAR is rather unpopular among the few remaining Earhart conspiracy advocates). So the photo has to stand on its own. Could the photo have been taken on Nikumaroro at the place where we see a reflection in the 1988 RNZAF photo? Not today. The background is wrong. But if the photo was taken in that spot prior to 1949 (when the tall trees were cut down), then–yes, it looks about right. The mature coconut palms would be from Arundel's 1892 planting. Old photos and maps show a stand of cocos right in that area and they would show the effects of the droughts that plague the island. The grasses and sedges in the foreground, the bushes and low trees in the middle distance (*Scaevola* and *Tournafortia*), and tall trees in the distance (*Pisonia grandis*), all match what the area looked like prior to 1949.

Should the airplane measure out to be a Lockheed 10E, then the photo becomes very interesting indeed. Only 15 10E's were built and only one was ever known to be in the central Pacific region. No one knows what became of it. Or do we?



Earhart's wrecked Electra, Luke Field, Hawaii, March 1937. Negative has been reversed for comparison with photo opposite. Photo courtesy Purdue University Library Special Collections.