

The Wartime Atlantic routes of Pan American Airways.

The Pan American Airways "Trip Summaries" were an abridged form of the voluminous flight records which often ran to several pages for each flight. The summaries were probably kept as a tool for statistical analysis, although there is no indication that this was their actual purpose. Be that as it may, each summary sheet contains detail of the flight route, date and time of each landing and take-off, altitude flown, fuel consumption, weather conditions, IAS and ground speed, cargo and passengers carried and a column of "Remarks". Each sheet is also headed by the allocated flight number, and it is this number that allows, for the first time, a complete understanding of the route structure of the wartime flights. The summaries were found in several locations scattered throughout the PanAm Archive, and it was only after assembling copies of several hundred sheets of paper and spending months of study that the route patterns began to emerge.

What do the summaries tell us?

It is important to keep in mind the fact that the "Trip Summaries" cover ONLY the scheduled flights of Pan American Airways, and do NOT contain any details of the Special Mission flights or the route from Miami to Leopoldville (the so-called FAM-22 route).

What mail did they carry?

You are reading this because you have an interest in airmail systems and not because you necessarily want to know how many suitcases each passenger carried. Therefore let's concentrate on the mail. The flights detailed in the summaries carried mail under the general heading of the FAM-18 USPOD description, i.e. mail between the United States and Europe, and also the "LATI substitute" mail between South America and Lisbon.

The "LATI substitute" routes flown by PAA.

The term "LATI substitute" is clumsy and unmemorable, but it is the actual term used by both Pan American and all UK and US Government departments, and should therefore be kept rather than invent some other title. The whole story of the "LATI substitute" foundation and the allied topic of censorship at San Juan, Puerto Rico was covered in two major articles [1] [2] and these should be consulted for more detail. The simple facts are these: From the end of December 1941 until the end of World War 2 in 1945, Pan American Airways carried mail between South America and Axis Europe on a route from Natal in Brazil to Lisbon in Portugal on an uninterrupted basis for the entire war years. These flights were authorised by the CAB under Docket 713 dated January 10, 1942 which had a special condition that:-

“The carrier shall not carry persons, property, or mail between New York and San Juan; between New York and Port of Spain; between New York and Belem; or between New York and Natal.”

This special condition had a curious effect on the carriage of mail, since in the summer months, from May to October, the FAM-18 mail was carried by the northern route from New York via Shediac and Botwood to Foynes in Ireland, and the “LATI substitute” mail was carried backwards and forwards between Natal and Lisbon by a separate route. In Winter (October through May) when the FAM-18 mail was being carried by the South Atlantic route, Pan American did not need to use the “LATI substitute” CAB permission since their aircraft were flying the “LATI” mail on the southern route FAM-18 aircraft.

However, make no mistake about this; the carriage of the LATI substitute mail was a large part of the Pan American operations across the South Atlantic and was vital not only to maintaining America’s close ties with South American Governments but was equally vital to Allied interception and censorship operations applied to Axis mail.

The Special Missions.

It is necessary at this point to consider the Pan American Airways “Special Missions”, since research has shown [3] that these flights between the United States and the West Coast of Africa during 1942 and the first half of 1943 carried the vast majority of civilian airmail in both directions across the South Atlantic in this period. These flights do not appear in the “Trip Summaries” since they were military operations (despite carrying civilian mail) whose primary purpose was the carriage of men and materiel in support of the British and American operations in North Africa and the invasion of Sicily and Italy. Returning flights of the missions also carried ferry pilots back to the United States after they had delivered their aircraft from America to Africa via Ascension Island. Particular mention must be made of Route 6, which although ostensibly part of the Pan American civilian schedules was in fact a clandestine military operation in support of the “Congo Route”. It is suggested that the inclusion of Route 6 in civilian schedules was part of a deception plan to conceal the true nature of the flights.

Some background.

When Pan American Airways began their trans-Atlantic service to the United Kingdom and France in early 1939 they adopted a simple method of numbering the first outward flight from the United States as flight No.1 with the return flight from the destination terminal as flight No. 2. This pattern of “odd numbers out and even numbers back” was followed consistently thereafter, even during wartime. Although this was adequate when Pan American were flying a single route, as air transport developed and multiple routes were established, the consecutive numbering system began to run out of numbers; indeed by trip 491/492 leaving New York on the 28th of January 1942 and returning by the “Southern” route via Bolama, it must have been clear that the system was becoming unwieldy.

In January 1942, Pan American established a numbering system by route, with each route having an identifying prefix number, with successive digits denoting the flight. For example, the trans-Atlantic route that had reached flight 491/492 was re-designated as "Route 4" and the next flight in the sequence was therefore not 493 but 4493, leaving New York on the 2nd of February, 1942. Thus we found the Pan American system of route numbering and once this was clear, the other routes fell into place in a very logical sequence. Each flight recorded in the trip summaries started with a number that indicated what route was being flown, with the next three digits giving the flight sequence. New routes such as Route 5 began with the first flight as 5001 with the return flight being 5002. The next flight out on the route was 5003 with the return flight as 5004 and so on. As each new route was established, a new prefix number was allocated, and the flights shown as (X)001/002. Route 4, as long as it lasted, carried on from 4493/94 to 4523/24 in May 1942 when the flights were switched back to the northern route via Shediac and Botwood.

How to present the data?

The simplest approach to this would be to construct a calendar-style list of all flights, assembled in strict date order. Attempts to do this in the past [4] have resulted in a confusing stew of flights and routes that are impossible to understand and frequently downright misleading or completely inaccurate. There would be little point in spending weeks and months transferring all the data on the pages of the trip summaries into this type of list. Instead, consider the most likely scenario for the airmail collector or researcher. He or she is holding a cover sent from, say, Buenos Aires to Cairo and would like to know how, when and by what route that cover travelled. The date of sending will be on the cover as will (hopefully) the date of arrival at destination. If really lucky there may even be a transit mark or two. The first question to be answered is "What flights were operating at this date, and what routes were being flown"? Based on this scenario, and accepting that it is not the only way in which the data could be used, I decided try and present an analysis of the information in a different but hopefully more logical way.

The route numbers.

For the purposes of this analysis, only the wartime flights of Pan American Airways are being considered, i.e. from December 1941 through October 1945.

The trip summaries reveal route numbers from 1 to 14, and one can therefore understand how complex this all becomes without some guidance. Having said that a "date order" presentation may not be the easiest to understand, it was thought helpful to provide a calendar showing each route by start and end dates so that a collector studying a cover can easily check which route or routes were being flown within a defined period. Following this calendar is a more detailed description of each route arranged in route number order.

Pan American Airways Wartime Atlantic Flights

A brief calendar for the trans-Atlantic routes 1942 to 1945

Excluding the Special Mission flights.

Duration of service	Route	Route description
28/Nov/1941 to 28/Apr/1942	Route 4	Re-designated FAM-18 service operated as Route 4 on 2 nd Feb. 1942, then see Route 2.
20/Dec/1941 to 17/Oct/1942	Route 6	The so-called "FAM-22" Miami to Leopoldville service. In reality a military route flown on an intermittent basis. Only twelve round trips made. Actually part of the Special Missions operation.
14/Jan/1942 to 24/Apr/1942	Route 5	The LATI substitute "U" service flown on an irregular ad-hoc basis with unscheduled calls at Bathurst to allow censorship of Axis mail. Then see Route 7 and 8.
1/May/1942 to 16/May/1942	Route 2	Two flights only at the end of Route 4 period.
8/May/1942 to 10/Oct/1942	Route 7	The LATI substitute anti-clockwise "O" service interleaved with Route 8.
11/May/1942 to 12/Oct/1942	Route 8	The LATI substitute clockwise "O" service interleaved with Route 7.
28/May/1942 to 13/Oct/1942	Route 3	Resumption of summer route New York-Shediac-Botwood-Foynes and return, designated as Route 3. South Atlantic "LATI substitute" service started on Routes 7 and 8.
17/Oct/1942 to 17/May/1943	Route 9	The combined FAM-18 and LATI substitute clockwise-only service. Interleaved with Route 10.
23/Oct/1942 to 24/Apr/1942	Route 10	As Route 9 but with an additional "LATI shuttle" between Natal and Lisbon. Interleaved with Route 9.
28/May/1943 to 11/Oct/1943	Route 3	Resumption of summer route New York-Shediac-Botwood-Foynes and return. South Atlantic "LATI substitute" service resumed on Routes 7 and 8.
30/May/1943 to 11/Jun/1943	Route 11	Two trips only. First, from New York to Foynes via Lisbon, returning via Horta and Bermuda. Second, New York to Lisbon and return, not even going to Foynes. No other flights recorded. Reverted to Route 7.
13/Jun/1943.	Route 12	Single flight from New York on the clockwise "O" route, re-designated as a Route 8 flight from Natal to New York. In effect the first Route 8 flight of 1943.
13/Jun/1943 to 19/Oct/1943	Route 8	Began as 12001/2 as above. The LATI substitute clockwise "O" service interleaved with Route 7.
23/Jun/1943 to 23/Oct/1943	Route 7	The LATI substitute anti-clockwise "O" service interleaved with Route 8. Last flight 7041 re-designated as 13001 at Bermuda.

24/Oct/1943 to 12/May/1944	Route 13	Same service as Route 9 but call at Dakar replaced call at Bolama. Combined FAM-18 and LATI substitute service. Clockwise only. Interleaved with Route 14.
5/Nov/1943 to 18/Apr/1944	Route 14	Same service as Route 10 but with additional call at Dakar. Unlike Route 13, call at Bolama retained, and the additional "LATI shuttle" also included Dakar in both directions.
15/May/1944 to 8/Oct/1944	Route 12	New service combining LATI substitute clockwise/anti-clockwise routes 7 and 8 into a single bi-directional route New York-Natal-New York beginning with flight 12003/4.
28/May/1944 to 13/Oct/1944	Route 3	Resumption of summer route New York-Shediac-Botwood-Foynes and return. South Atlantic "LATI substitute" service resumed on Route 12.
22/Oct/1944 to 12/May/1945	Route 13	Resumption of Route 13 winter flights. Interleaved as before with Route 14.
23/Oct/1944 to 11/May/1945	Route 14	Resumption of Route 14 winter flights. Interleaved as before with Route 13.
May to October 1945	Route 12	Not confirmed by Pan American Archive since no records located. However, Berry [The Foynes and Botwood Logs] confirms that the winter/summer route change did take place in May 1945 and it seems reasonable to assume that Route 12 was resumed.

Notes on interpretation of the Trip Summary documents.

Location codes

NBA	New York	North Beach Airport
BDA	Bermuda	
HTA	Horta	Azores
LBN	Lisbon	Portugal
FOY	Foynes	Eire
BLO	Bolama	Portuguese Guinea
YTY	Port Lyautey	Morocco
HST	Bathurst	The Gambia
FSH or FSL	Fisherman's Lake	Liberia
NAT	Natal	Brazil
BEL	Belem	Brazil
SPA	Port of Spain	Trinidad
JUA	San Juan	Puerto Rico
MIA	Miami	Florida
SHE	Shediac	Newfoundland
BTW	Botwood	Canada

Note: These are the acronyms used by Pan American Airways' staff and crews in the Trip Summaries

The term G.C.T. used in the Trip Summaries is an acronym for "Greenwich Civil Time", which was the term used by the United States Navy and Coastguard at the time. It is equivalent to Greenwich Mean Time, or GMT except that zero hours in GCT occurs at noon rather than at midnight. In fact, the times shown in the trip summaries appear to be in GMT.

There are three columns under the heading "Cargo". The first is headed "Contr. mail" and refers to mail carried under contract to the US Postal Department. On each sheet of the summaries is a note saying "Mail weights listed are local loads only". A very early summary says "Mail weights as listed are local loads only, or mail originating at the point of departure according to records available in this office". Care should be taken in interpreting these figures since they only indicate mail picked up, and there are no corresponding figures for mail put down. As a consequence it is not possible to analyse the destination of mail so carried, nor how much mail was carried between intermediate stages.

As an example, take the summary covering flight 7001/7002. This shows 3492 lbs. of mail being picked up in Lisbon but none in Horta or Bermuda. There is no indication of where this mail was delivered and one has to assume that it all went to New York (but there is no proof of that). Similarly the record shows 218 lbs. of mail in the NAT-FSH stage. This does not mean that 218 lbs. were picked up in Natal and deposited at Fisherman's Lake, simply that mail was picked up at Natal and it may well have proceeded to Lisbon, together with an additional 4.4 lbs. picked up at Bolama. Be careful in interpretation.

Route		Times G. C. T.		Performance						Cargo		
Trip	Date	Depart	Arrive	Dock to Time	TAS Kts.	GS Kts.	Av. Wind Kts.	Gas Cons. G1/Hr.	Alt.	Contr. Mail Lbs.	Paid Exp. Lbs.	No. Paid Psgs.
NBA-BDA	5/8/42	2021	0225	6:04	128	128	0	206	8000	0	1743	27 FSH 1 BLO 1 LBN 18 BDA
BDA-JUA	5/9/42	0508	1212	7:04	135	124	-11	214	8000	0	0	0
JUA-SPA	5/9/42	1358	1845	4:45	125	119	-6	222	8500-	0	0	1 NAT
SPA-BEL	5/10/42	1037	2040	10:03	131	115	-16	224	8000- 10000	0	0	0
BEL-NAT	5/11/42	1027	1747	7:20	139	118	-21	212	8000- 10000	0	0	0
NAT-FSH	5/11-12/42	1954	0842	12:48	133	131	-2	203	1500- 8500- 9000	218	0	1 FSH
FSH-BLO	5/12/42	1129	1459	3:30	141	145	4	183	8000	0	0	0
BLO-LBN	5/13/14/42	1230	0347	15:17	134	138	4	205	8000	4.4	0	1 LBN
Trip 7002												
LBN-LBN	5/14/42	0900	1335	4:35	131	122	-9	185	8000	3492	46	7 NBA
LBN-LBN	5/16/42	0918	0937	:19	-	-	-	-	-	-	-	-
LBN-Hta	5/16/42	1145	1944	7:59	140	112	-28	238	8000 1000-	3942	46	8 NBA
HTA-BDA	5/16-17/42	2058	1116	14:18	131	121	-10	212	8500- 9000	0	0	0
BDA-NBA	5/17/42	1431	1935	5:04	144	150	6	254	8000	0	0	42 NBA

GENERAL REMARKS: Mail weights listed are local loads only.

The second column under "Cargo" is headed "Paid Expr." Pan American used the term "Express" to mean paid cargo as distinct from mail and passengers. The third column is obviously the number of passengers carried, but unlike the mail column, the passengers are usually shown as boarding and leaving at their destinations.

The "Remarks" column, not shown in the above illustration, provides a detailed insight into the delays and unusual occurrences experienced during the flights. One notable fact is the number of delays caused by weather, particularly at Horta and Bermuda, which makes the study of printed timetables rather pointless.

Conclusion.

For the collector or researcher wanting specific details of the wartime services of Pan American Airways, it would be necessary to have access to the original documents described in this text. Since this would normally involve a visit to the University of Miami, this option is unavailable to most people. However, having located the trip summaries and had copies made of them, it seemed an obvious step to try and make the information available in digital format. Accordingly, and with the most generous permission from the Richter Library, images of all the actual trip summary documents are here for your inspection alongside my work on the British CAA Report and available as a free to download resource. The Pan American Archive documents are held as Special Collection ASM 0341 in the Richter Library and

constitute some 25,000 folders. To aid searching, the Library has produced an index to the collection and this has also been made available.

Please note that the Trip Summaries remain in the possession and copyright of the Richter Library, and permission to reproduce was granted on the basis that the images are to be used for research and not for any commercial purposes. Information about the Special Collection is available on the following link:

<http://scholar.library.miami.edu/panam/>

It is hard to comprehend the importance to the airmail collector of the discoveries made in the Pan American Archive held in the Richter Library at the University of Miami. On a personal note I cannot adequately express my gratitude to the staff of the Library for their enormous assistance and dedication in supporting my research over the last few years. In particular I would thank Cristina Favretto, Steven Hersh and Laura Capell who must have been stressed at times by my incessant questions, but nevertheless were swift to respond with the utmost courtesy.

I would also like to record my gratitude to my friend Peter Wingent for producing most excellent maps of the various routes, all of which help to give a true idea of the route structures.

John Wilson
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References

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- [3] Wilson J. *"Pan American, FAM-22, Special Missions, 1942 and 70 years of misunderstanding."* (Air Post Journal, December 2011), and ("Cameo", Journal of the West Africa Study Circle, January 2012).
- [4] Proud Edward B. *"Intercontinental Airmails Volume 1"*, (Proud Publications, Heathfield, Sussex).