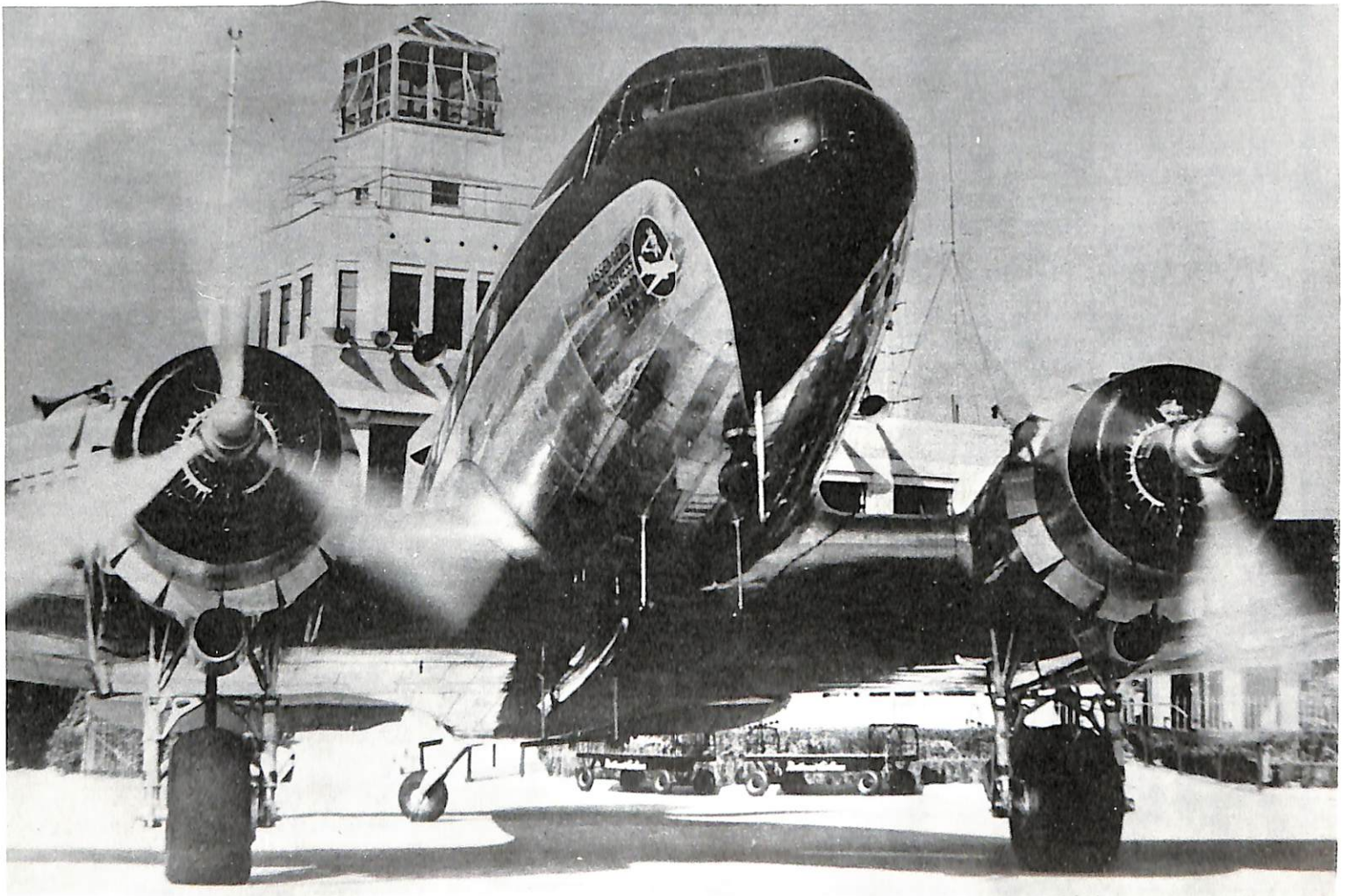




# CAPTAIN'S LOG

Airline and Airliner quarterly



*A scene only too familiar at airline terminals all over the United States and in other parts of the world: a mainline Douglas DC-3 departing the gate for another scheduled service. In this case an aircraft of Northeast Airlines departing Logan Airport, Boston, Mass. This is one of Northeast's original trio of DC-3s.  
(Norm Houle file photograph)*



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**THE FLIGHT EXCHANGE**

The CAPTAIN'S LOG will publish members' wants, trades and items they have for sale. These requests will be published in the "Flight Exchange" section of the LOG at no charge to Club members. Send this material to: Flight Exchange, CAPTAIN'S LOG, 3381 Apple Tree Lane, Erlanger, KY 41018 USA. Please send such requests on a separate sheet of paper, written or typed so it can be easily read. DO NOT include this material within a letter or on your membership and/or renewal form.

**CONTRIBUTIONS WANTED**

All members and interested parties who wish to contribute articles, pictures, or other material of interest to the membership are invited to do so. When sending in your material, please be sure to include your return address. All material, after publication, will be returned to the owner. The Editor welcomes ideas on material to be featured in future issues of the CAPTAIN'S LOG.

**PUBLICATION DATES**

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Thank you

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The CAPTAIN'S LOG is the official quarterly publication of the WORLD AIRLINE HISTORICAL SOCIETY. Annual membership fee, which includes the CAPTAIN'S LOG, is U.S. \$14 per year. Members outside the U.S.A. and Canada can have their issues of the magazine mailed via Air Mail for an additional fee. For extra charges see inside front cover page.



In this issue Hal Rounds concludes his history of Pan American and we also conclude our series of stories on the DC-3. These photographs illustrate both subjects: (Top) Pan Am's DC-3 N55708, c/n 12844, at New York Int'l, 30 Aug 55 (Bill Thompson photo) and (Bottom) Southwest Airways DC-3 N54370, c/n 19220 at Los Angeles Int'l, late 40s. (Bill Proctor photo)

The WORLD AIRLINE HISTORICAL SOCIETY is open to all persons or groups interested in the collecting of airline memorabilia and the study of airlines and airliners. The CAPTAIN'S LOG is the official publication of the SOCIETY and contains articles and photographs on airlines and airliners and the collecting of various items of airline memorabilia. The ASSOCIATION operates world-wide and has members on all continents.

Members must report any changes of address promptly to the Society in order to receive their copy of the CAPTAIN'S LOG. The Postal Department will not forward permit mail. If we do not have your correct address, you will not receive your CAPTAIN'S LOG. To have a replacement copy mailed to you will cost you an additional \$4.00. There will be NO EXCEPTIONS to this charge. Please keep the Society current on your address. The name and address of the membership co-ordinator are listed on the inside front cover page.

Society memberships will expire at various times during the year. Check your membership number for your membership expiry date. The last four numbers represent that expiry date. Example: 0001FIRC1286 indicates this is membership number 1 and receives the CAPTAIN'S LOG via First Class Mail. The membership in this case expires at the end of December, 1986. You will receive several notices before your membership expires. Please get your renewal in as soon as possible. Thank you.

# TAKE-OFF TALK

by HAL ROUNDS

Last of 3 parts



## A NEW BEGINNING

On January 1, 1986 the World Airline Hobby Club ceased to exist and was succeeded by the WORLD AIRLINE HISTORICAL SOCIETY. The name change had been agreed upon at the June 1985 Airliners International convention because it was felt the old name had become inappropriate--even childish--in view of the world-wide membership we have and the very wide range of activities those members are engaged in.

The new name gives us equal status with other aviation historical groups in the world and will give us more credibility when dealing with them and with the professionals in the airline and aircraft manufacturing industries.

With the new name comes a new logo, designed for us by WAHS member Charles Boie, a professional illustrator from New Berlin, Wisconsin. The logo, shown on the front cover of this issue, depicts the globe, symbolizing our world-wide membership, North America, where the WAHS originated and is headquartered, and the DC-3, the airliner of the century.

We are certain you will agree with the WAHS executive and the CAPTAIN'S LOG editorial staff when we express our sincere gratitude to Mr. Boie. Thank you, Charles!

I would also like to thank those members who responded to my appeal for DC-3 photos and material in the previous issue. In alphabetical order, they are: Tony Herben of Beaumont, Alberta, Canada; Norm Houle of Durham, NH; Jeff Magnet of Cambridge, MA; Chuck Pietrosewicz of Lilburn, GA; Jon Proctor of Bethel, CT (who sent photos taken by his brother Bill, also a WAHS member); Dr. Charles Quarles of Spindale, NC; Don Shea of Portsmouth, NH and Bill Thompson of Beecher, IL. Thank you all, gentlemen! Without you this issue would have been somewhat incomplete.

As you may see, I have done some "cleaning up" of the looks of the CAPTAIN'S LOG. I have standardized all "standing heads" as they are called in the trade. Those are the headlines which do not change from one issue to the next (Sticker Chatter, Report From The Field, etc.). From now on they will look as the one

at the top of this page. The type face for all other headlines will be standardized as Helvetica Medium in different sizes as appropriate, from now on. All articles will be typed using IBM Gothic. Picture captions and authors' bylines will all be typed using IBM Script.

I hope these changes will give the CAPTAIN'S LOG a more professional look, in keeping with the new image of the WAHS. To that end I have also increased the size of the letters for the title on the front cover, to make it easier recognizable among the many other aviation magazines demanding our attention.

In this issue I have experimented with typing part of the contents in narrow columns, three to a page, instead of two columns. I invite all readers to comment on this. Do you like it? Do you find the shorter lines easier to read? Do you like the layout with narrow columns better than with wide columns? If you have any thoughts on it, positive or negative, please let me know. After all, I am putting this magazine together for everybody's enjoyment, not only mine. It is a lot easier when I get some feedback. WRITE!

Two items of bad news: Effective immediately the membership fee for the WAHS (including the CAPTAIN'S LOG) has been increased to U.S. \$14 to cover higher production and mailing costs. Current memberships will continue to their normal expiry dates before the new rate comes into effect.

On the bright side is that the fee is still substantially lower than that of any other aviation historical society we know of, and the WAHS and the LOG specialize in what you are most interested in: airline memorabilia, without having to wade through a lot of other material.

Other bad news is that three of our long-time editors have resigned for personal reasons. Jon Proctor and Peter Black have turned their post card column over to William Demarest, a long-time contributor to Jon and Pete's columns, and Slide Editor George Hamlin is also no longer able to do his column. His position is still vacant.

That is all for now. See you in the next issue and in the meantime, don't forget to register for the Airliners International 86 convention in Hartford in July. Time flies, so don't put it off, only to realize too late you have missed it!

## HELP NEEDED

### LOCKHEED TWINS

We would like to borrow photos of Lockheed L-10, L-12, L-14 and L-18 aircraft in service with airlines world wide, for publication in the next issue of the CAPTAIN'S LOG. Especially appreciated will be photos from the late 1930s and the post-World War 2 periods. Preferably these photos should show the aircraft in airline liveries - no private and business planes. All and any photos lent to us will be handled with the utmost of care and will be returned promptly after publication. Please mail your photos to the editor. Deadline for the next issue is 15 APR 86. Thank you.

# PAN AMERICAN AIRWAYS

## World War 2 and beyond

When the Japanese brought the United States into World War 2 with their surprise attack on Pearl Harbor, Hawaii, on 7 Dec 41, the Americans were administratively ready. Two years of bloodshed in Europe and almost 10 in Asia had made it plain to the government and the business community that they had better get ready, for they could not avoid eventual involvement.

Despite its commitment to peace, America had in many ways geared up for the possibility of war. Aircraft manufacturers had begun expansion to support America's Lend-Lease commitments, the draft had been implemented to fill the ranks of the armed services and other measures had been taken. Pearl Harbor provided the kick that slammed the whole mechanism into action.

The commercial airlines were ready too. In 1937 the Air Transport Association (ATA) had initiated a war-readiness program and the government had given this idea official recognition. The plan provided for the airlines to become an auxiliary to the Army Air Corps, transporting troops and supplies, training aviators, modifying aircraft and running airports.

Pan American had started supporting Allied operations in Nov 40, when a subsidiary, Pan American Airport Corp., agreed to build airfields throughout the Caribbean under contract to the U.S. government under the Lend Lease program. This division became the core of major corporate enterprises in future years.

Pan American also began flying operations in

support of the U.S. pre-war buildup as early as June 41. The airline had formed a subsidiary jointly owned with British Overseas Airways Corporation (BOAC) of Britain and named Atlantic Airways. In June this organization started delivering aircraft to the British in North Africa via the Caribbean and the South Atlantic under contract to the U.S. government as part of the Lend-Lease agreement with the British. In July Pan American set up two more subsidiaries under government contracts. One was Pan American Airways Africa Ltd., which had the assignment of setting up route facilities and then provide cargo and airline service along the route. The second was Pan American Air Ferries Inc. This unit set up the route to Khartoum. This was best described by R.E.G. Davies in his book "Airlines of the United States Since 1914":

"Drawing on the considerable fund of experience in building airports and providing the complete infrastructure for an airline operation in barren territory, Pan American Africa completed the work in 61 days. Airports at Dakar, Accra, Lagos, Kano, Maiduguri, El Geneina, El Fasher and Khartoum were either built or substantially improved. If, a decade or so earlier, Pan American was judged to have received special favor in being designated the chosen instrument for development of foreign air routes, especially in South America, it now went a long way towards paying off its debt to the U.S. Government, for it and the British Forces in the Middle East benefitted greatly from the high speed momentum sustained by Pan Am on its trans-African route."



For many years the Boeing Stratocruiser was the mainstay of Pan American's overseas services. In many far-away ports of call, the two, airline and aircraft, were virtually synonymous. N1030V, illustrated, had c/n 15930 and was delivered to Pan American on 30 March 49. It was named Clipper Southern Cross when this photo was taken, but was later renamed Clipper Reindeer and Clipper America. The aircraft was stored at San Francisco in 1961.

(Pan American photo)

Service to Khartoum began in October, to Cairo in November and to Basra just about the time of Pearl Harbor.

Immediately after Pearl Harbor, all airlines in the U.S. were committed to Victory. Many aircraft were bought by the government and then operated by the same airlines that had been operating them before. This was especially the case with aircraft that were to be used on overseas routes. Under this arrangement, the government carried the risk of financial loss if the planes destroyed. The government took this on because the airlines could not be insured against war losses and would not have financially survived the war.

Pan American was part of this agreement between the ATA and the government and pretty soon it was operating their fleet of Boeing 314, Martin 130 and Sikorsky S-43 flying boats and DC-3 landplanes as Government Issue (GI) items.

As the U.S. government found itself allied with the Soviet Union against the Axis powers, it was determined that supply and communications lines would have to be set up between the two giant allies. Just seven days after the Japanese attack on Hawaii, Pan American was asked to extend their African service from Cairo to Tehran, from where the final link to the Soviet Union would be extended.

At the same time, in China, Pan American subsidiary CNAC was having many exciting experiences. On Pearl Harbor Day, the Japanese forces attacked Hong Kong as well, focussing much of their fury on the Pan American aircraft that were parked there. Several DC-3s and Curtiss Condors were demolished and the S-42 "Hong Kong Clipper" was reduced to scrap in spectacular, fiery explosions. The remaining planes were dispersed and hidden, and were thus saved from further attacks later that day. After darkness fell, they were uncovered and put into service evacuating people from the helpless city to safer inland locations.

The Japanese invasion had immediately cut CNAC off from the rest of the Pan American system. Nonetheless, CNAC wasted no time in beginning air services that would prove vital to the survival of major parts of China. Personnel and materials were carried on both regular and charter services between those parts of China that had not yet fallen. In many cases these flights had to pass over Japanese-held territory. Despite the threats, CNAC pressed on with their vital missions.

Many aircraft were destroyed and damaged during these missions. The most famous of these casualties happened before Pearl Harbor. A CNAC DC-3 was bombed as it sat through a Japanese raid. Damage to most of the plane was modest, but the right wing was beyond repair. A quick search of all nearby maintenance facilities determined there were no replacement DC-3 wings available. The closest substitute was a spare DC-2 wing at a base more than 900 miles (1,440 km) away. They decided to give that wing a try, despite it being much shorter than a DC-3 wing. It was flown to the site, tied outside to the belly of another DC-3. Using manual labor, the wing was carried to the damaged DC-3, braced into position and riveted to a metal plate that formed a splice between the two dissimilar wing sections. After the job was done, the aircraft appeared as it would viewed through one of those amusement park mirrors which distort everything: one wing was distinctly larger than the other. But the aircraft flew. They called it the DC2½. It was flown to a safer base and soon given a real DC-3 wing.

With the Japanese onslaught in the South Pacific, Pan American's routes to China had been completely severed. But China had not fallen and the United States refused to let their ally fight on without all the help possible. Just three weeks after Pearl Harbor, three Boeing 314s left New York, headed across the Atlantic and on to Calcutta. With this flight, Pan American had changed its route to China to the other direction around the world. This first mass flight carried a shipment of supplies which would enable the Flying Tigers to repair several P-40 fighters. Two days after these supplies arrived, on Christmas Day 1941, the P-40s pointed their shark noses again to the sky and destroyed 26 Japanese aircraft.

CNAC, chased away from its coastal bases, had immediately set up a route system to connect Kunming and Chungking to Rangoon, Burma. The Japanese had cut off the Burma road that had been the last surface supply line of the Chinese. Now the CNAC route to Rangoon was the only link. The airline's DC-3s brought war materials, personnel, food and medicine critical to the war effort. Each flight had to overcome the obstacles posed by 10,000 feet (3,000 m) high mountains, monsoon rains, a lack of navigational ground stations ... and the occasional enemy fighter aircraft waiting for a chance to shoot them down.

Rangoon only lasted four months before the Japanese took the city in April 42 and CNAC was forced to move its outside base to Assam in India. From there the route crossed the Himalayas at much higher altitudes. The DC-3s often had to climb to 20,000 feet (6,000 m), despite the fact they were not pressurized and often flew without oxygen supplies for the crew. Headwinds sometimes reached 100 miles an hour (160 km/h). Sometimes cattle and other animals were grazing on the runways and on other occasions they were covered with floodwater. But the crews would keep putting their aircraft down until the water exceeded nine inches (23 cm) in depth. All the while the enemy searched the sky to find them. One DC-3 returned with 3,000 bullet holes. Others did not return at all.

CNAC worked hand-in-glove with Pan American-Africa to make for a full supply line from the U.S. to China via Assam.

The U.S. Army Air Transport Command also grew rapidly during these first few years of the war and in Nov. 42 Pan American turned the operations of Pan American-Africa over to Air Transport Command. Pan American operations from the U.S., across Africa and on to India and China were reorganized into a new Africa-Orient Division which worked under the control of the Air Transport Command. The best-known service operated by this division was called the "Cannonball Express." It used C-54 (DC-4) aircraft to cover the 11,500 mile (18,400 km) route from Miami to Karachi.

The Pan American and Air Transport Command operations grew rapidly. During one peak month the number of flights crossing the "Hump" from India to China totalled 5,000. This was an average of one flight every 2½ minutes for a whole month. During the three years of its operation, the Africa-Orient Division alone operated seven times as many load ton-miles as the whole airline had during the very active year 1941.

The war materials carried during these operations varied from ammunition to tools to medicine. One of the many supply flights carried cyanide dust for the U.S. forces under General Stilwell. This sinister load was not for chemical warfare against the Japanese, but was used to kill rats that carried the plague and it helped prevent a threatened outbreak of the disease among the troops.

Pan American's Latin America Division also made major contributions toward the war effort. The Rubber Reserve Corporation had the responsibility of ensuring the continued supply of rubber for the American war wheels. The Japanese had conquered U.S. resources of rubber in Southeast Asia and now the U.S. government and Brazil were co-operating in building a whole new rubber industry far from the enemy's reach. Pan American was very much involved in supporting this and other war activities. The airline carried high-priority items and personnel south and returned with plane-loads of rubber and other materials.

As described in Part 2 of this series on Pan American Airways, the airline had made what were perhaps its most important contributions to allied victory even before the U.S.A. had actually entered the war.

The airline had been instrumental in ridding the skies in South America of German influence by compe-

*Constellation NC86520, c/n 1962, started life in 1944 as a USAAF C-69-1-LO, s/n 43-10310. After conversion to L049-39-10, the aircraft flew with TWA before going to Pan American. Here it is seen before the white top came into fashion. The aircraft was later sold to A. Schwimmer of Intercontinent Airways, and crashed at Burbank, Calif. 22 Jan 53. (Pan American photo)*



ting with and eventually replacing the German-affiliated airlines which had established links reaching from Europe nearly to the Panama Canal. But German influence throughout the area was still strong and a distinct threat. This was illustrated by a story reported in 1942: President Roosevelt's son Elliott, a captain in the army, stayed one night in a hotel in Belem, on the Pan American route through Brazil. He signed in on the hotel register and took a room. That night Radio Berlin announced Capt. Elliott Roosevelt was staying at the hotel. Another example is that of Italian sympathizers who tampered with a Lockheed Lodestar which was being flown to Africa by Pan American, while it was on the ground at Natal. After departure the aircraft was 300 miles (480 km) out over the South Atlantic when it had to return with only one engine running and with one landing gear leg hanging in the down position. As it returned to the field in the late night darkness, no landing lights were available. The Italians had fooled the airport staff into leaving early for the night, making them believe no more traffic would arrive. After five attempts at landing, the Lodestar made it safely on its sixth attempt using only its own landing lights for illumination.

In Alaska Pan American supported the campaign to take the Aleutians back from Japan, to supply the Soviet allies by air.

In the Pacific region, Pan American operated the route from the mainland to Hawaii for the Naval Air Transport Service. In this role the airline operated its own aircraft, such as the Consolidated Coronado and the monstrous Martin Mars flying boats. The Martin was nearly twice as heavy as the Boeing 314 Clippers, with a wingspan of 200 feet (61 m, 45 ft/13.72 m greater than that of a

DC-10) and capable of carrying 308 passengers on its two decks.

#### THE GRIP WEAKENS

Pan American had contributed tremendously to victory in the war and had expanded to areas that would have been unthinkable in peacetime. But the war also took away the unique position that had allowed Pan American the opportunity to grow around the world without competition from other U.S. airlines.

The problem for Pan American had actually begun in 1938, well before the war. A shipping line named American Export Lines had convinced the Civil Aeronautics Board (CAB) it would be healthy for commerce if Pan American had competition from another American air carrier in the international market. The admiration for what Pan American had achieved had given way to the popular American mistrust for the large and po-

werful. American Export Airlines was formed and in 1940 was given authority to open services to Europe. It took almost two years to get the aircraft, the Sikorsky VS-44, which were comparable to the Boeing 314. Services began under wartime condition on 20 June 42, to Foynes, Ireland.

The war created a tremendous demand for transportation of vital materials all over the world. It was too great for Pan American to handle without "help". The other major U.S. airlines immediately began to receive assignments and authority to handle air transport to and in many foreign territories.

Northwest Air Lines received authority to serve Alaska, going from Minneapolis to Fairbanks and Anchorage. This service was extended to Adak in the Aleutians in support of the U.S. counteroffensive against the Japanese invaders on Attu and Kiska. Northwest also ferried aircraft across Alaska to Siberia on another delivery route from American factories to the Soviets.

Transcontinental and Western Air (TWA) flew the Atlantic occasionally, carrying government and military leaders such as President Roosevelt and General Eisenhower, in its Boeing 307s. Eastern also eventually crossed the Atlantic, when it started services southward along the chain of airports carved out of the wilderness.

In the Pacific, United Air Lines opened trans-Pacific services which ultimately stretched from Alaska to California and to Australia.

## PAN AMERICAN POSTWAR AIRCRAFT

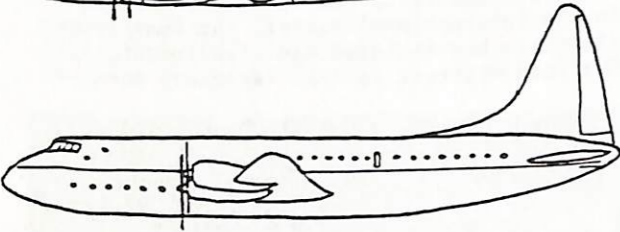
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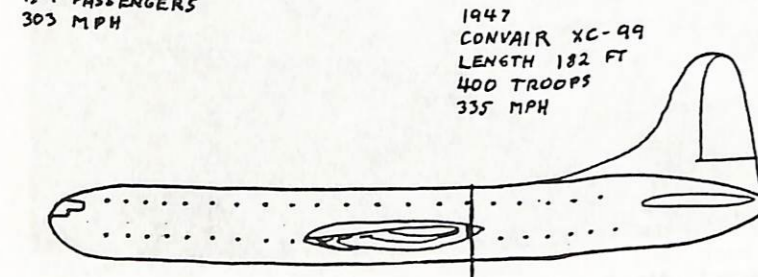
1947  
REPUBLIC XR-12 RAINBOW  
LENGTH 100 FT  
46 PASSENGERS  
450 MPH



1945  
DOUGLAS C-74  
GLOBEMASTER  
LENGTH 124 FT  
125 PASSENGERS  
328 MPH



1946  
LOCKHEED X-40 CONSTITUTION  
LENGTH 156 FT  
179 PASSENGERS  
303 MPH

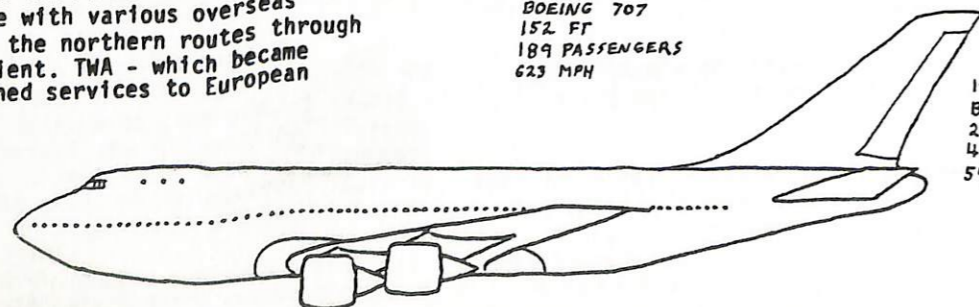


1947  
CONVAIR XC-99  
LENGTH 182 FT  
400 TROOPS  
335 MPH

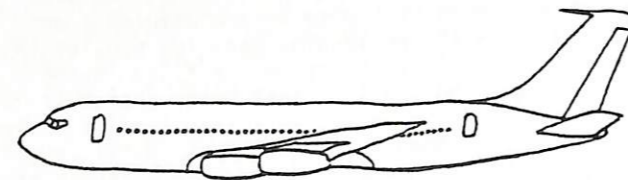
American Airlines specifically benefitted from President Roosevelt's antipathy for Juan Trippe and Pan American. In early 1942, the CAB denied American Airlines rights to serve Mexico City from Dallas and El Paso, but in April of that year Roosevelt overruled the CAB decision and, citing the emergency war-time requirements, gave American Airlines authority for those routes. This gave American the ability to fly from New York to Mexico City entirely within their own system. American also flew virtually everywhere else: Alaska, Brazil, Africa, Europe and even to India and China.

At the same time, Pan American was consistently denied any authority to fly domestic U.S. services even between its own port of entry terminals on the east and west coasts.

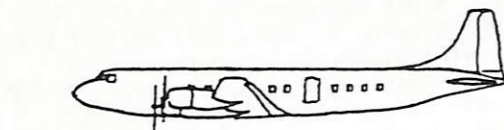
After the war the other airlines were rewarded for their excellent service with various overseas routes. Northwest received the northern routes through Alaska to Japan and the Orient. TWA - which became Trans World Airlines - opened services to European



1958  
BOEING 707  
152 FT  
189 PASSENGERS  
623 MPH



1952  
DOUGLAS DC-6B  
105 FT  
102 PASSENGERS  
315 MPH



1949  
BOEING 377 STRATOCRUISER  
110 FT  
100 PASSENGERS  
375 MPH



1946  
LOCKHEED  
CONSTELLATION  
95 FT  
51 PASSENGERS  
329 MPH



### TYPES IN SERVICE

cities such as Paris, Madrid and Rome. As the airline expanded rapidly in 1945/46, this service was extended to Cairo and Bombay.

In late 1945 American Airlines bought American Export Airlines. This buyout was the result of a CAB ruling, which said a surface transportation company could not own or operate an airline. The new subsidiary of American was renamed American Overseas Airways and was given authority to serve all of northern Europe from Britain to the Soviet Union.

The great air route giveaway even extended to a relatively small domestic airline called Braniff. It received authority to stretch south from Texas through Mexico and Central America, down the west coast of South America to Santiago in Chile, then east to Buenos Aires and Rio de Janeiro. Braniff had no small problems swallowing this route award and it took five years before service was in place along the whole route. In all fairness to Braniff, it must be mentioned that various bureaucratic problems caused many of the delays, and these may even have been encouraged by Pan American's many friends in the various countries involved. When it had all been accomplished, Braniff renamed itself Braniff International.



Several of Pan American's fleet of 25 Douglas DC-7Cs remained in service long enough to wear the jet-age "meatball" color scheme. Illustrated is N776PA, c/n 44870 "Clipper Nonpareil". The aircraft was delivered to Pan American on 18 Aug 55 and remained in service until 1964, when it was sold to Cross Aero Corp. as N776U. In the following year it went to California Airmotive and was registered to Aerolineas Peruanas on 22 Sep 65 as OB-R-784. It was stored at Miami several years later.  
(Pan American photo)

### PROMOTING AIRCRAFT DEVELOPMENT

Pan American had always played a major role in pressuring aircraft manufacturers to create larger, faster, safer and more-economical aircraft. The airline's engineers were constantly in the offices of the major manufacturers, presenting specifications and making design suggestions. During the war, this pressure continued with increased urgency. The war effort would be helped if American manufacturers could create better air transports. Of course, after the war Pan American would enjoy undeniable advantages from such developments.

Pan American played a secondary role in the development of the Lockheed Constellation, which first emerged in 1943 as the military C-69. The aircraft was sponsored primarily by Howard Hughes and his airline, TWA. But the Pan American engineers were also working at Lockheed on another project: the XR60 Constitution. This huge transport was officially sponsored by the U.S. Navy for military missions. It was intended to replace large flying boat transports such as the Martin Mars. The Constitution had four engines and a 150-ft. (45.72 m) double-deck fuselage. Circular staircases fore and aft led from the lower to the upper deck. The Pan American version of the Constitution would carry 129 day passengers or 109 sleepers.

The first Constitution made its maiden flight in 1946, but only two were built. They saw service with the Navy for a few years and proved to have poor performance. They were grounded after only a few years.

At Douglas, Pan American was a factor in the design of two transports too. The C-54, or DC-4, was one of the most-heavily used planes in Pan American's (and other airlines') military contract services. After the war, Pan American bought a total of 84 DC-4s. The lessons learned from operating the C-54/DC-4 were worked into the design of the successor to the DC-4, the DC-6. Pan American bought 45 of the slightly-longer DC-6B variant, with delivery beginning in 1952.

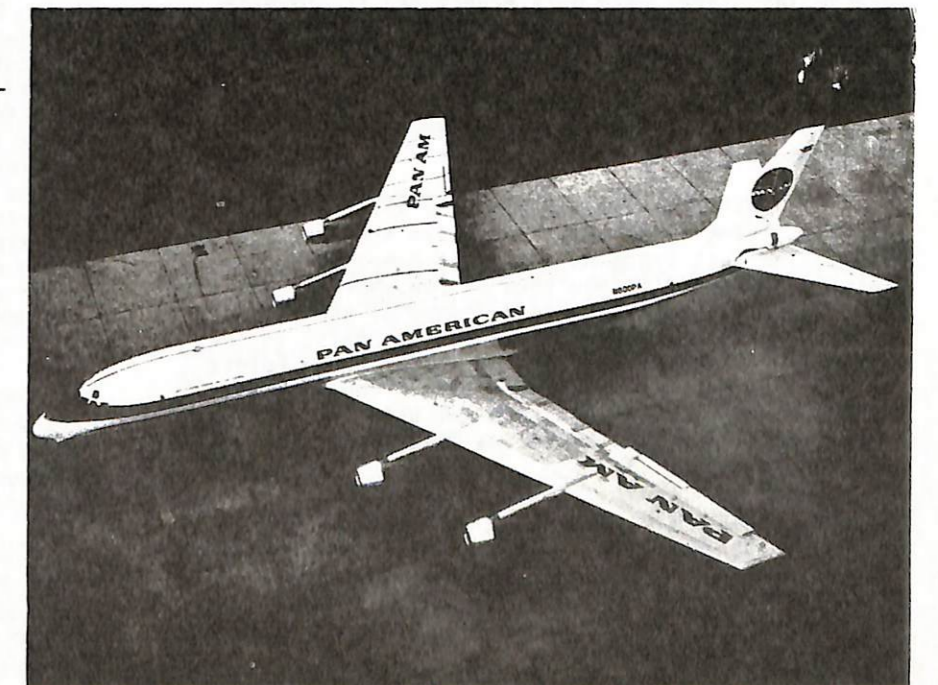
But there was a less-known design which Douglas and Pan American engineers were working on during the war. This transport were never to see Pan American service, but was developed for and entered service with the Army Air Corps as C-74 Globemaster. It too was larger than any land transport then in service when it was rolled out of the plant in 1945. The C-74 was

124 ft (37.59 m) long and could carry 125 passengers in its military configuration. Pan American ordered 26 of them in late 1945. Unfortunately the predicted post-war traffic boom did not materialize and the order was cancelled in 1947. Pan American had already shown the new aircraft in its advertising under the type designation DC-7. Only 14 aircraft were completed and these all went to the USAAF.

Keeping the same wing, engines and tail surfaces, Douglas designed a new, double-deck fuselage to produce the C-124 Globemaster II, nearly 450 of which were built for the USAAF, with which they remained the biggest load hauler until the arrival of the jet age.

After the war, Republic Aircraft was working on a large reconnaissance aircraft for the military. Pan American saw the aircraft had potential as a high-speed, medium-load passenger plane. In 1947 this military plane, the XR-12 Rainbow, flew at a speed of 450 mph

N800PA, c/n 45253 "Clipper Flying Cloud" was the first of 25 DC-8s ordered by Pan American. The aircraft flew first on 20 Feb 59 as a Srs. 32 aircraft and was delivered on 2 June 61 as a Srs. 33. It served only a short time with the airlines, as it was transferred to Panair do Brasil on 26 Sep 62. Serving with VARIG after Panair do Brasil's collapse in 1965, the aircraft crashed on 4 March 67 while on approach to Robertson International Airport, Monrovia, Liberia.



(720 kph), only 40 mph/64 kph slower than the pure-jet deHavilland Comet which was the world's first operational jet transport, entering service in 1952. It carried 44 passengers compared to the Rainbow's 46. Although the Rainbow's performance was quite spectacular for a piston-engined plane, Pan American cancelled its order, only one month before the first passenger fuselage was to emerge from the construction jigs.

Pan American engineers were busy at Convair too. The manufacturer had been developing the gigantic six-engined B-36 bomber known unofficially as the "Aluminum Overcast" and officially as the "Peacemaker" during the war. Pan American was interested in a transport version of this monster, which was built as the XC-99 for the military. Pan American took options on three in 1945.

The XC-99 carried 400 troops and it had the largest fuselage ever built for a landplane up until the Boeing 747. After the war Pan American planners saw there would not be enough traffic to justify the behemoth and the orders/options were cancelled.

Only one XC-99 was built and it served for many years with the air force before being retired. It is now on display at Kelly AFB in Texas.

Boeing was also using war designs to develop transports for peacetime use and Pan American was working with this manufacturer too.

Boeing took the basic design of the B-29 bomber that thrashed much of Japan and which was used for the atomic bomb attacks on Hiroshima and Nagasaki, as the starting point for its entry in the postwar transport aircraft competition. The fuselage was redesigned with a two-deck "double-bubble" cross section. The main upper deck carried passengers in spacious comfort and a circular staircase led to a lower deck lounge aft of the wings. In military service the aircraft became the C-97 and in commercial airline service it was known as the Stratocruiser. Depending on interior arrangements, it carried from 55 to 100 passengers, cruising at up to 375 mph (600 kph). Pan American bought 29 of them, putting the first ones in service in 1949. Some of these are still flying, although they are hard to recognize in their configuration as "Guppy" conversions.

The flood of new aircraft types emerging after the war were all landplanes. This was natural, because landplanes were more economical in operation (boat-shaped bottoms cause an awful lot of aerodynamic drag). With all the construction that went on during the war, the world was covered with land airports and no place important was without such an airfield. Many of these fields between distant cities had been built by Pan American.

All this spelled doom for the beautiful and romantic flying boats which had built the Pan American empire. The last trans-Atlantic Pan American Boeing 314 service landed in New York on Jan. 6, 1946, the day after Pan American had taken delivery of the first of their 34 Constellations to replace the boats. In that same month DC-4s started service to Caribbean points formerly served by flying boats and in the same month the Dinner Key flying boat terminal base in Miami was closed. So after all the Boeing 314s and Sikorsky S-42s had been scrapped.

Landplanes took over even on the shorter routes. DC-3s continued on their schedules and were joined in 1948 by war-surplus Curtiss C-46 Commandos for Latin American cargo services. Also in 1948, 20 Convair CV-240s started serving various Central American and Caribbean routes.



Calling them the Super 6 Clipper, Pan American bought 45 Douglas DC-6B. They were the airline's first major new long-haul aircraft after World War 2. Most had gone by the mid-Sixties, but a few remained in service on the airline's domestic routes in West Germany until being replaced by the Boeing 727 from 1966 on. Illustrated is N6528C "Clipper Midnight Sun", c/n 43528. The aircraft was later renamed "Clipper Morning Star" and was leased to Capital Airlines for a period during 1960 and 1961. (Pan American photo)

#### SETTLING DOWN

By the late 1940 international airline business had begun to settle into the same routine that characterized that of the domestic airlines in the U.S. and around the world. The true pioneering which had distinguished Pan American from other airlines, had mostly been accomplished. Now that it had all become routine, nobody cared to remember who had made it all possible, who had made it all routine. Juan Trippe and Pan American were, to the average onlooker, just another big businessman running a big business. But the constant striving for new ideas to advance air transport would continue to be the hallmark of Juan Trippe's reign over Pan American.

In one manifestation of this, Pan American proposed radically lower trans-Atlantic fares, beginning in Oct 45. This was simply a reflection of the anticipated lower costs of operating DC-4s to Europe compared to the cost of operating the old flying boats. Pan American proposed to replace the old \$572 fare with a \$275 one-way fare. This drastically undercut BOAC and American Export. However, the CAB allowed only a cut to \$375. Their success on this marketing maneuver led three years later to a major change in pricing structures that has revolutionized all airline pricing ever since. Beginning on the New York to San Juan, Puerto Rico service, Pan American converted its DC-4s from 44 seats to 63 seat layout. They also reduced amenities and the result was a fare of \$75 each way, instead of \$133. The service was called tourist class and traffic volume tripled within five months.

With innovations like this, and with faster and longer-range aircraft, Pan American continued to expand its route system. Regular services extended as far as Australia and around the world . . . . except of course, for that elusive link across the U.S., which remained forbidden territory for the airline.

In Europe, Pan American helped carry supplies to Berlin during the Berlin Airlift. The post-war allied agreement forbade Germany to operate an airline of its own. American Overseas Airlines had been given a complete network within West Germany to

offer the necessary services. This helped lead to a major expansion when Pan American bought AOA from American Airlines in 1950. This purchase also gave Pan American the rights to serve Paris and Rome, which had not been included in earlier route awards. Pan American has been active on these European services ever since and continues to be a major force on the continent.

Innovation and expansion efforts had other, unconventional, manifestations as the airline strove for continued leadership of the industry. To encourage tourism to many of the world's exciting and interesting destinations, Pan American realized it would be necessary to provide modern, comfortable places for travellers to stay. Such places were often impossible to find. Pan American's answer to this problem was to found the Intercontinental Hotels Corporation in 1946. The first hotels to be built were in Montevideo, Uruguay and in Caracas, Venezuela. The chain expanded throughout Latin America in the years that followed. In 1961 the first Intercontinental Hotel outside the Americas was built in Beirut, Lebanon. It seemed like a pretty good idea at the time.

In another unusual enterprise, Pan American took a very active part in the American rocket and space program. It began in 1953, when the Guided Missiles Range Division assumed responsibility for operating the Cape Canaveral (later renamed Cape Kenney) missile test range, including the downrange facilities which extend to the South Atlantic. This division was renamed the Aerospace Services Division in 1967. Test ranges were also set up and operated on the west coast of Hudson's Bay, Canada, at Jackass Flats in Nevada and in South Africa.

#### DISSOLUTION OF THE EMPIRE

A major characteristic of Pan American's early growth was the co-operative creation of new local and national airlines which operated as subsidiaries and affiliates of Pan American throughout the world. But as the postwar world developed, any relationship that was even remotely reminiscent of colonialism became popularly seen as exploitive and unfair, no matter what the benefit had been to the "victims". This popular perception probably had a major effect on the changes in Pan American's relationships with its early affiliates. The various airlines began to go their separate ways, in some cases as soon as the war ended and each case having its own specific cause.

In early 1946 the Chinese government bought out Pan American's holding in CNAC. They were negotiating a new arrangement which would bring Pan American back in at a 20% ownership, but the successful conquest of the China mainland by the Communist revolution ended those thoughts.

Nearer to home, the divestiture of Pan American's affiliates took place in a more-orderly manner, primarily through the sale of the holdings of the stock of these airlines. For example: Aerovias de Guatemala had been 40% owned by Pan American. This holding was reduced to 20%, then sold entirely in Nov. 45. Bahamas Airways was sold in 1948, Cia. Dominica de Aviacion in 1957, Aeronaves de Mexico in 1959, Cubana in 1954, Mexican in 1968, Panair do Brasil in 1961. The onetime holding of 84% in Avianca was slowly sold off to less than 11% in 1975.

In each of these cases Pan American's efforts had helped many small, developing "third world" economies crawl, then stand strong in the hitech world of air transport.

Panagra was another dropout from the Pan American family, in 1967. After 40 years of testy, though successful, co-operation between Pan American and the Grace shipping company, both sold their shares to Braniff. This made Braniff a major contender in the South American market.

#### THE JET AGE

In the late 1940s the British were trying to get a jump on America's technological lead in air transport. One area of this effort centred on the development of a jet-powered transport aircraft. The deHavilland company designed and built the famous Comet, which first flew in 1949. Pan American at first considered the aircraft, but then rejected it because of its payload, range and cost limitations. The Comet entered service on BOAC's empire services in 1952 and larger versions were proposed. Pan American ordered three of these, with special modifications enabling them to be used on transAtlantic services. However, before these could be delivered, several Comets crashed due to metal fatigue brought on by the repeated pressurization and depressurization of the cabin, required after each take-off and before each landing on the multi-stop empire routes. This led to a significant setback in the Comet development program, and Pan American never actually took delivery of any of these Comets. (For those people who would like to see a Comet, there is one at Chicago's O'Hare, which can be seen from the Delta terminal. It has been parked near the main highway entrance to O'Hare for several years.)

In the meantime, Boeing was considering jet-powered developments of its Stratocruiser. This led to a momentous commitment by Pan American on 13 Oct 55. On that date Juan Trippe signed orders with Boeing for 20 large jet transports named Boeing 707. He also signed with Douglas for 25 DC-8s. These similar designs were revolutionary in every respect - engine, size, range, speed, comfort and cost. The orders totalled \$269 million, more than the annual revenue of the company.\*

The developed 707 promised speeds of 575 mph (920 km/h) or more, with a payload of 189 passengers. It weighed twice as much as the DC-7C, which was still entering service at that time.

The first service 707 was delivered to Pan American on 15 Aug 58 with a provisional cer-

\* Editor's Note: Douglas had a much longer tradition of and experience in selling transport aircraft to commercial airlines, and there was no doubt Pan American preferred the DC-8, hence the order for 25. But since the Boeing 367-80 (prototype of the 707) had already flown in 1954, Boeing was able to offer significantly earlier delivery dates than Douglas for its yet-to-be-flown DC-8. So, Pan American ordered 20 707s as "insurance" against other airlines beating it to being first with jets. Significant is, however, that while Pan American ordered more DC-8s initially, it never placed a repeat order, while it ordered a total of 130 707s between Oct. 55 and Dec. 67. All but a few of these were new aircraft, bought from Boeing. The airline also bought nine second-hand 720s from Boeing for its Caribbean and Central American services.

tificate of airworthiness. It performed an extensive program of route proving, crew training and publicity flights. In the course of these route proving and crew training flight, this aircraft, N709PA (the third production 707) operated some cargo services between New York and San Juan, Puerto Rico. It was christened "Clipper America" by Mrs. Eisenhower, wife of President Dwight Eisenhower.

The first scheduled passenger jet services by Pan American were set to be operated on the New York to Paris route on 26 Oct 58. It would have been the first commercial jet crossing of the Atlantic, except for an unexpected move by the British. The DH Comet had been fixed by this time and had been developed in the larger, much-longer-range Comet 4, for BOAC. In early October one of BOAC's new Comets was in the U.S., ostensibly on a demonstration tour. But on Oct. 4, three weeks before the widely-publicized first jet service by Pan American, a group of BOAC passengers, booked on a Stratocruiser flight from New York to London, was instead invited to board the Comet. When they did, they boarded what was to become the first commercial transAtlantic jet flight. At the same time that this Comet was speeding toward London, a second Comet was on its way in the opposite direction and the two aircraft passed each other over the Atlantic.

The Comet 4, however, was not really suited for transAtlantic services and BOAC began 707 service on the London-New York route as soon as it could its first aircraft, in 1960.

The significance of the BOAC and Pan American inaugural jet services lies in the fact that only a few years later the jet age had revolutionized air transport all over the world.

#### OTHER ACTIVITIES -1960s

In 1960 Pan American became involved in another history-making project. In this case it was the construction of the largest commercial office building in history. The 57-floor Pan Am building, in a prominent Manhattan location, was opened in 1963. It cost \$115 million to build and became available just as the 30-year lease of the Pan Ameri-

The magnificent Pan Am building against the New York skyline. The roof was reinforced to permit helicopter operations. Opened in 1963, the airline sold the building in 1980 to raise cash just to stay in business. (Pan Am photo)



N790PA, c/n 18714, is a Boeing 707-321C. Named "Clipper Courser" the aircraft was delivered on 27 Feb 64. (Pan American photo)



The second Boeing 707-121 for Pan American, N707PA c/n 17587 "Clipper Maria." It was delivered to Pan American on 19 Dec 58 and was returned to Boeing on 5 Nov 64 for conversion to 707-121B. It was redelivered on 18 Dec. 64. Although having a higher civil registration, N708PA c/n 17586 "Clipper Constitution" was actually the first 707 delivered to the airline, on 30 Nov 58. (Pan Am photo)

can space in their old Chrysler Building quarters was up. The new building was built with the joint participation of some British investors, but Trippe bought them out later on.

A unique feature of the new Pan American

building was the heliport on the roof. This heliport operated from 1964 until 1977, serving to provide a quick link between the New York airports and the Manhattan business district. The service was terminated when a helicopter threw a rotor blade which killed a pedestrian on the street below.

In 1963 Pan American formed its Business Jets Division. The idea was to market the French-built Dassault Mystere 20 business jet, which was renamed Falcon 20 for the American market. Pan American offered the aircraft for sale and for customers who could not justify the purchase of an executive jet but needed them from time to time, leases were available.

Pan American initiated the all-cargo and quick-change cargo/passenger version of the Boeing 707 when it ordered two -231Cs in April 62. The -320C version of the Boeing were essentially -320Bs with a large forward cargo door, strengthened floor and landing gear, and a higher zero-fuel weight to allow full use of the 90,000 lbs (20,000 kg) payload capacity rather than the 50,000 lbs (11,250 kg) of the -320B. Most 320Cs built were convertible cargo-passenger aircraft, but several airlines, American Airlines being one of them, bought pure cargo aircraft, which did not have the cabin windows.

(Pan American photo)



Although initially successful, there was a falloff in business during the fuel crisis of the early 1970s and Pan American abandoned the venture. However, the name of the aircraft, Falcon, stuck with it and that is the name used universally, rather than the original name of Mystere 20.

The problem of getting rid of the excess inventory of Falcons led to another amazing chapter in aviation history. In 1971-72 a young man who, like Juan Trippe, was also a Yale graduate who had served in military aviation, whose father had died at an untimely young age, and one who had a brilliant idea for a new aviation enterprise, was looking for a fleet of small jets. This young man was Fred Smith and the company he was forming was to be named Federal Express. The excess Pan American Falcons were just what Smith needed. He bought 32 of them, converted them to cargo configuration and began operations in 1973. The rest of the Federal Express story will have to be told some other time.

#### THE 747

Anticipating continued growth of international air commerce, Pan American repeated its historic initial jet purchase initiative of the previous decade on 13 April 66. On that day the airline announced a purchase order for 25 Boeing 747s, a new generation of airline aircraft. The type has remained the largest aircraft in commercial airline service ever since its introduction and is still the standard of international transport 16 years after its maiden flight.



The original 747 was designed to carry 360 to 450 passengers over distances of 6,000 miles (9,600 km) and more. Its inaugural flight of the 747 (9,600 km) and more. The inaugural scheduled passenger flight of the 747 took place on 22 Jan 78 as the Pan American name rode another pioneering flight into history.

When the commitment for the 25 747s was made, Pan American was riding the crest of years of success. In the 1966 annual report Pan American showed a profit of \$83 million, a 60% increase over the 1965 results. It looked as if passenger traffic would continue its long-running trend of annual growth, and the big jets were certainly the only answer to this growing demand.

#### SUCCESSION AND DECLINE

Juan Trippe had begun to make half-hearted preparations to groom a successor in 1963, when he changed his from the position of president of the airline to that of chairman. He made Harold Gray president. But Trippe remained in firm control of Pan American for the next five years. Then, at the 7 May 68 annual stockholders' meeting, Trippe announced his decision to retire, almost as an afterthought. He nominated Gray as the new chairman of the board and Najeeb Halaby as president.

Gray was one of the old-time Pan American leaders and had a proven record in charge of the Atlantic Division. Halaby was a recent hire,

Pan American's Juan Trippe was the driving force behind Boeing introducing the 360- to 450-passenger Boeing 747 into production. The airline ordered 25 of them on 13 April 66 and has since placed several repeat orders. N753PA, c/n 19657 "Clipper Westwind" was one of the original 25 747-121 aircraft. (Pan American photo)

fresh from a government career in aviation.

At that time Pan American had 40,000 employees, 143 jets and more than \$1,500,000,000 worth of jets on order. Revenues for 1967 were down 21% from the record previous year, but that was still a healthy profit of \$65 million.

In 1967, however, the commitments to make progress payments on the 747 and a decline in traffic growth, aggravated by more-competitive route awards to other U.S. airlines, caused Pan American to lose more than \$20 million. But this was just the beginning of a long downward slide. The economic recession of the following year emptied airline seats all over the world, just as Pan American and other airlines were taking delivery of their first 747s, the largest aircraft they had ever operated. Harold Gray stepped down for health reasons, and Halaby took the helm. He reacted to the crisis by replacing experienced Pan American veterans with new executives from outside, few of them with any airline experience. In 1970 the loss more than doubled to \$47.9 million.

In 1971 Halaby hired William Seawell as president and Chief Operating Officer. Seawell had experience in the air force and at American Airlines. But the losses continued, amounting to \$45 million in 1971. Under board pressure, Halaby resigned. Seawell soldiered on in efforts to save the beleaguered company, but misfortune heaped upon misfortune. In 1973 the Arab oil strangulation began. Pan American's prime fuel sources were outside the U.S. and thus outside U.S. price-control regulations. The result was that Pan American's fuel costs in 1974 more than doubled over those of the year before. There was an attempt to get financial help from the Shah of Iran, but that fell through.

In 1974, just months before he died, Charles Lindbergh retired from the board of directors. Trippe retired from his inactive board membership one year later.

The airline's losses from 1969 to 1976 totalled \$319 million. But in 1977 Seawell managed to come up with a profit. More hard times were ahead, however. Airline deregulation took the U.S. by storm in 1978, just as Pan American was turning the corner toward survival. In the struggle that followed, Pan American won a costly battle to buy National Airlines. The prize for Pan American was the extensive domestic route system operated by National. Pan American saw it as a highly valuable feeder network to its international and intercontinental system. A domestic feeder network that it had long coveted but had never been able to get because of the rules which were applied before deregulation.

To provide financial relief from all these pressures, Pan American sold the Pan Am building in 1980 for \$400 million. At that time it was the highest price ever paid for an office building in Manhattan.\*

1980 was also the year in which Juan Trippe died, ending the colorful era of American power and benevolence in international air transport.

Today the struggle for survival of Pan American continues under the leadership of C. Edward Acker. In the spring of 1985 the airlines suffered a strike which cost it an estimated \$200 million in revenues. Drastic measures were required to bring the

Ed's note: The airline kept its offices in the building under a 20-year lease.

once-proud Pan American back onto a solid financial footing. But none were so dramatic as the announcement on 9 Nov 85 that the airline would sell its entire Pacific route system to United Airlines for \$750 million. The sale includes aircraft and personnel required to operate the Pacific system.

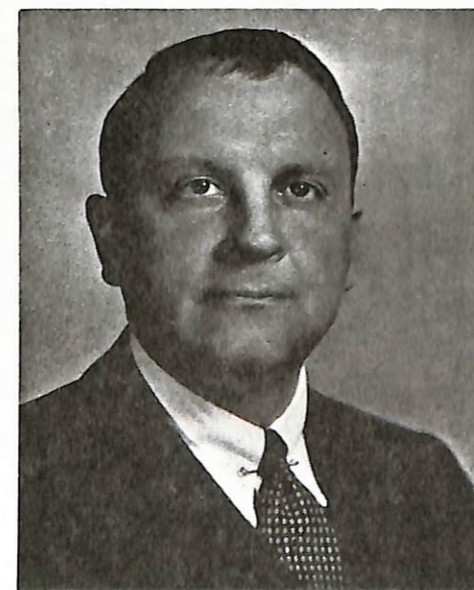
This sale ends the 50-year Pacific era for the airline. An era which was responsible for much of the romance that surrounded Pan American in its glory days. But with nearly unrestricted competition and continuing economic difficulties, Pan American's only hope of survival appears to be a reduction in operations and debts to a level which is more manageable in size, and to confine the system of services in a more compact and responsive configuration. The sale of the Pacific system, besides giving a sizeable infusion of cash, will reduce the overall system to 3/4 of its present size. The Pacific Division is Pan American's most-profitable one, but the airline was rapidly losing market share.

The new emphasis for Pan American will be on improving European services, using Airbus aircraft and on maintaining a new, less debt-burdened structure.

With this sweeping change, a new opportunity lies ahead for Pan American. This airline is not just another corporation. It is a major part of the heritage of the American people and of the people in all the countries where it helped bring people from pack animals to modern air transport, and helped bring their countries into the modern world, with all its mixed blessings.

A debt is also owed by all the people who did not fall under the shadow of Nazism during World War 2, because Pan American is a major reason the Pacific, the Americas and the Atlantic air lanes were securely held by the free nations during that dark period in history.

I wish them well!



JUAN J. TRIPPE  
The man who started it all

For credits and bibliography  
see next page.

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# PAN AM

Ed's note: Since Mr. Rounds wrote this part of his series on Pan American, U.S. Transportation Secretary Elizabeth Dole has approved the sale of the airline's Pacific Division to United Air Lines. UAL then announced it would start service on 28 Jan 86. But the Japanese government blocked the transfer of licenses because, as it said, a carrier the size of United, with its huge domestic network, would have a negative impact on Japanese airlines. It also wanted extra frequencies to the USA for Nippon Cargo Airlines. However, in February the Japanese withdrew their opposition to the Pan American - United route transfer and from 11 Feb on UAL thus had permission to operate 53 weekly flights on the trans-Pacific routes, increasing to 58 from 28 April 86.

Also, since Mr. Rounds completed his history of Pan American, a subsidiary of the airline, Pan American World Services, Inc., has received a \$122.5 million contract from the U.S. Air Force to support operations at the Air Force Eastern Test Range.

You're better off with Pan Am -  
world's most experienced airline



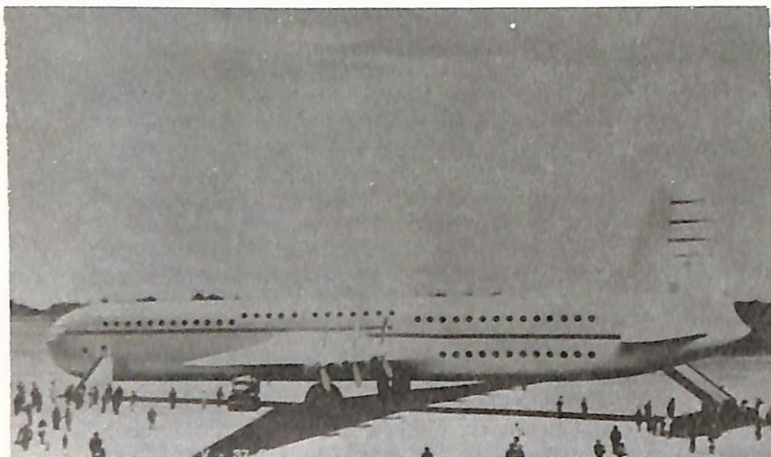
Pan American operates a fleet of 16 Boeing 737 twinjets on its internal German services, to West Berlin and to other European destinations. All are Series 200 aircraft and all are leased from other carriers. Illustrated is 737-222 N63AF, c/n 19553, "Clipper Schöneberg." All 737s are named after West-German cities. (Pan American photo)





# PROJECTS & PROTOTYPES

by JOOP  
GERRITSMAN



Model of CONSOLIDATED VULTEE 37

In 1938 Pan American Airways sent specifications for a large passenger aircraft (100 or more passengers) to the major U.S. aircraft manufacturers and requested proposals from them for such an aircraft. The airline planned to use these large (for that time) aircraft on its trans-Pacific services which were then being operated by flying boats, and on its proposed trans-Atlantic services.

But by the time the airline had studied the proposals it had received and was ready to discuss details, World War 2 had broken out. The military had imposed a ban on all development of commercial and other civilian aircraft and Pan American just had to wait.

In the fourth instalment of his Pan American history elsewhere in this issue, author Hal Rounds mentions that after WW2, Pan American again showed an interest in a number of large transport aircraft then on the drawing boards for the military.

In this issue's PROJECTS & PROTOTYPES (formerly called Gone - but not Forgotten) we take a look at the most significant of these large transports in which the airline was interested during those optimistic days immediately after the war.

## CONSOLIDATED VULTEE CV 37 CLIPPER

The 204-passenger, double-deck fuselage CV 37 was the largest landplane ever built at that time. It was a commercial version of the military XC-99 transport for up to 400 troops and was based on the XB-36 strategic

bomber of the same builder, powered by six pusher engines.

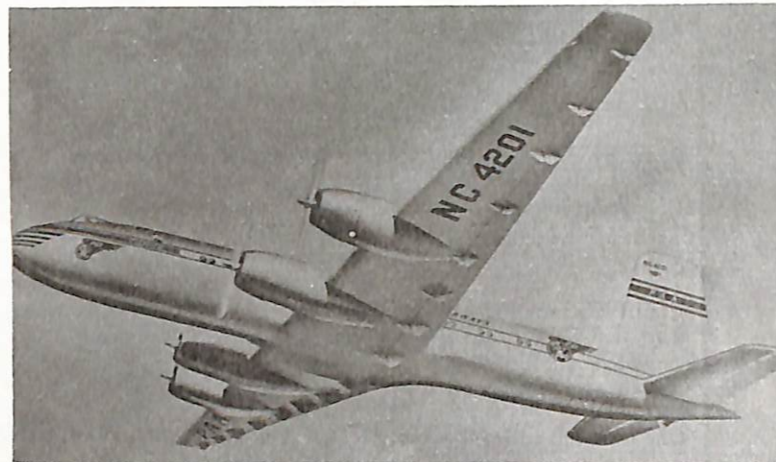
The origins of the CV 37/XC-99 go back to 1942/43. A mock-up, configured as a long-range strategic transport aircraft, was completed in 194- and prototype construction continued steadily throughout the remainder of the war.

Already before the first flight of this prototype, on 23 Nov 47, Pan American was negotiating for an order of 15 aircraft. Discussions, however, were never finalized because the airline soon realized that the CV 37 would simply be too big for the traffic that even the most optimistic futurists said would develop once the war was over.

Besides, it became apparent to Consolidated Vultee (to become Convair for short only after WW2) that even if Pan American or any other airline would buy the CV 37, only very small numbers would be involved per order because very few air routes could justify such a large aircraft and because airport facilities in most of the world were not able to handle it.

The high cost of development could therefore not be spread over a long production run. The company was therefore faced with the prospect of selling the aircraft at a unit price far beyond what any operator could afford.

Convair ended up building only one prototype of its mammoth air transport. It went to the USAF as XC-99, but since the air force did not need such a large aircraft either after the war was over, no production



Artist's impression of DOUGLAS DC-7 (C-74) of Pan American

orders were placed.

The lone XC-99 was operated by the USAF for several years and it even made some trans-Pacific supply flights during the Korean War. It was retired several years ago and is now on permanent display at Kelly Air Force Base in Texas.

The XC-99/CV 37 was powered by six 3,500 hp Pratt & Whitney R-4360 Wasp Major engines, each driving a pusher propeller behind the wing trailing edge. Wing Span was 230 ft (70.10 m); fuselage length 182 ft 6 in (55.60 m); tail height 51 ft 6 in (15.70 m); cruising speed 210 mph (340 km/h); service ceiling 30,000 ft (9,000 m); range 3,000 mi (4,800 km) at 210 mph (340 km/h) with a payload of 79,000 lbs (35,800 kg) and 9,000 mi (14,400 m) with a payload of 35,000 lbs (15,875 kg).

## DOUGLAS DC-7

At the time of its first flight, the Douglas C-74 Globemaster also was the world's largest landplane ever flown. The aircraft resulted from the pre-WW2 Pan American specification and had been developed for the USAF during the war as a long-range transport. With the war over, Pan American ordered 26 of the planes late in 1945, but cancelled the order in 1947 when the expected traffic boom had not materialized and aircraft such as the Constellation and DC-6 proved large enough to handle demand.

With Pan American no longer interested, and other airlines not wanting the aircraft either, Douglas built only 14 of them (including

the prototype) for the USAF as C-74. These would remain in military service until their retirement in the early 1960s. After that a few found their way onto the civil market. Aeronaves de Panama used two on its world-wide cargo charter services and one of them crashed in France on 9 Oct. 63. The other was withdrawn shortly thereafter.

A most-remarkable design feature of the C-74 prototype were the two separate cockpit canopies for the captain and first officer, much like the cockpit of a fighter aircraft. However, this set-up was changed to a conventional cockpit in production aircraft, and the prototype was modified accordingly before going into USAF service.

The C-74 will probably be best remembered for being the fore-runner of the C-124 Globemaster II. Employing the same engines, wing and tail planes, the C-124 had an entirely new and much larger fuselage and the 240 aircraft built would remain the USAF's largest and principal strategic transport aircraft until the arrival of the Boeing C-135 (707) and other jet types that came later.

The C-74/DC-7 was powered by four 3,500 hp Pratt & Whitney R-4360 Twin Wasp Majors. Wing span was 173 ft 3 in (52.81 m); fuselage length 124 ft 1½ in (36.70 m); height 43 ft 9 in (13.34 m); cruising speed 300 mph (480 km/h); max. range 7,800 mi (12,480 km); empty weight 85,000 lbs (38,550 kg); max. take-off weight 165,000 lbs (74,840 kg).

## CONSTITUTION

The Lockheed Model 89 Constitution (named after the frigate USS Constitution of War of 1812 fame) was also a result of the specifications Pan American had issued in 1938. However, it was substantially larger than the DC-7/C-74. But while Pan American

had to wait, the U.S. Navy did not and it ordered two prototypes of the aircraft in 1942 under the type designation XR60-1 (later changed to XR6V-1 and later still to C-89).

The Constitution had two decks in a fuselage with a cross-section shaped like the figure 8 and the cabin was pressurized for an altitude up to 20,000 ft (6,100 m). It accommodated 180, including a crew of 12 and 92 passengers on the upper deck and 76 people on the lower deck. The two levels were connected by a stairway.

The first Constitution made its maiden flight in late 1946 and both prototypes went into service with the U.S. Navy to fly priority personnel, mail and cargo. They served in this role during the Korean War, but the Navy soon concluded that flying a payload of 35 tons did not compare favorably with a maximum take-off weight of 92 tons and it placed no production orders. This unfavorable payload/max. take-off weight ratio was also the reason that Pan American did not show any interest in the Constitution.

A propjet version of the aircraft was proposed at some stage after the war, but suitable engines were not yet available and the proposal was abandoned. However, it seems certain that powerful propjets would have improved the Constitution's load-carrying capabilities considerably.

In an attempt to improve performance at maximum take-off weight, the Navy equipped the two aircraft with JATO (Jet Assisted Take-Off) bottles under the fuselage and in this form they served for several years, mainly on trans-Pacific runs. After they were withdrawn from transport duty, the two aircraft served out their lives promoting the Navy as a career option. They appeared at air shows and other events throughout the U.S., awing people by their size wher-

ever they went. One of the two was later broken up, but the other, carrying the civil registration N7673C, with c/n 85165, stood for years at Opa Locka, Florida, waiting to be turned into a fast-food restaurant. However, about 10 years ago it was reported those plans had been cancelled.

The Constitution was powered by four 3,500 hp Pratt & Whitney R4360 Wasp Majors. Wing span was 172 ft 7 in (52.60 m); fuselage length 156 ft (47.55 m); height 50 ft (15.24 m); cruising speed 303 mph (485 km/h); range 6,250 mi (10,000 km); payload 77,175 lbs (35,000 kg); max take-off weight 202,860 lbs (92,000 kg).

## REPUBLIC RAINBOW

The Republic RC-2 Rainbow was not a large aircraft, not even by 1946 standards. But it was fast and that is why Pan American expressed interest in this military aircraft. It wanted to use it as a fast mail plane and for the carriage of passengers who were willing to pay a premium price to get to their destination before the competition did.

The Rainbow was designed as a high-altitude, high-speed military photo reconnaissance aircraft with the USAF designation XR-12 (also XF-12). Development started during WW2 but was not completed until well after the war had ended. The end of the war meant the air force no longer had any use for the XR-12 and the design was cleared for commercial development.

Pan American executives had been impressed with the test flight performances of the Rainbow and discussions took place with Republic to redesign the aircraft for Pan American service. An order for 26 aircraft was held out by the airline as bait. But development was halted when it turned out the aircraft's operating costs would be too high to justify operation.

LOCKHEED CONSTITUTION in U.S. Navy colors



REPUBLIC XR-12, from which the RAINBOW was developed



The RC-2 was powered by four 3,500 hp Pratt & Whitney R4360 Wasp Majors. Wing span was 128 ft 10 in (39.37 m); fuselage length 98 ft 9 in (30.10 m); height 29 ft 3 in (8.92 m); Cruising speed 400 mph (640 km/h); range 4,150 mi (6,640 km) with 10,000 lbs (4,540 kg) payload; max take off weight 89,100 lbs (40,410 kg); service ceiling 41,100 ft (12,510 m).

#### DE HAVILLAND COMET

The 36-passenger de Havilland Comet jetliner from Britain started commercial operations to South Africa in 1952 on the empire service of British Airways Corp. (BOAC). In fact, the early Comets (Mk 1 and 2) had been optimized for the multi-stop African and Asian/Australian services which tied the old Empire together. The aircraft were not suitable for commercial operations across the Atlantic. The de Havilland company therefore announced a stretched, longer-range version, the Comet 3, for these services.

Pan American showed an early interest in this 58-78-passenger aircraft and ordered three, because it was certain that it was only a matter of time before BOAC and other European carriers would be operating the 500 mph (800 km/h)-jetliner to New York, competing against Pan American's then-new 300 mph (480 km/h)-DC-6B aircraft.

Following the order, de Havilland was quit to capitalize on the publicity value of the Pan American order and it distributed photographs of a model of the Comet 3 in the airline's colors.

As we all know now, there was something terribly wrong with the Comet. After two had crashed in the Mediterranean, it was discovered the fuselage of the aircraft had broken up in flight due to metal fatigue.

All Comets were grounded and Pan American's interest waned.

However, the structural problems were corrected and the Comet went on to become a highly successful and popular aircraft in its Comet 4 version. But by that time the Boeing 707 and Douglas DC-8 had appeared and the world's airlines, Pan American included, never revived their interest in the Comet.

The Comet 3 was powered by four 10,000 lb.s.t. Rolls-Royce Avon 521 jet engines. Wing span was 115 ft (35.05 m); fuselage length 111 ft 6 in (33.54 m); height 28 ft 4½ in (8.64 m); cruising speed 500 mph (800 km/h) at 42,000 ft (12,800 m); payload (with 58 seats) 16,800 lbs (7,600 kg), (with 76 seats) 19,500 lbs (8,850 kg); range 2,600 mi (4,160 km).



Model of deHAVILLAND COMET 3 jetliner in Pan Am colors

## READERS SAY:

A number of readers have sent us letters in reaction to articles published in previous editions of the LOG.

Gil Hausier of Phoenix, AZ, says there is one Northrop YC-125 in possession of the Pima County Air Museum at Tucson, AZ. The YC-125 development of the Pioneer was discussed in Vol. XI, No. 2 of the LOG (p. 44).

George Fuller of Lynchburg, Virginia, writes the DC-3 which lost sections of one wing and the aileron (Vol. XI, No. 3, p. 6) was stationed at Roanoke, Virginia, where Pennsylvania Central Airlines (later named Capital Airlines - Ed.) was operating a Pilot Transitional School for the Army Air Force. This particular DC-3 was on a training mission with a PCA captain and two air force students. The captain was able to recover from a spin following the incident and make an emergency landing at a CAA auxiliary field (cow pasture) near Pulaski, Virginia. The skin on the lower side of the horizontal stabilizer had wrinkled and buckled under the stress. Both wings had to be replaced and the aircraft was ferried to Washington, D.C. for permanent repairs at the PCA facilities at National Airport. Mr. Fuller says he remembers that after the temporary work was completed in the field and the aircraft was ready to be ferried to Washington, one of the replacement wings still had the old Army Air Force star and red centre insignia on the underside. Not having any paint out in the field to paint out the red centre, mud was smeared on the centre. "We didn't

want to be identified with Japanese insignia," Mr. Fuller, who is a retired United Air Lines aircraft maintenance manager, said.

With regard to the story on the Super Dakota (Vol. XI, No. 3, p. 12), Ed Young of Burbank, CA, writes that the first flight of the DC-3S prototype took place on 23 June 49, NOT 26 June. He should know, because he was there and witnessed the takeoff. Mr. Young spent 40 years at Douglas after his father had spent 20 years there.

## Ooops

The gremlins really got to us in the previous issue of the CAPTAIN'S LOG.

To begin with, several photos were switched by the printer: the Hawaiian CV-340 and DC-6B on page 33, the Fairey Rotodyne and Lockheed helicopter project on page 42 and the Millardair Navajo Chieftain and Twin Comanche on page 52.

The numbers 1 places alongside the photos of the dinnerware items on pages 49 and 50, somehow disappeared. However, it should not be too difficult to match the pictures up with the appropriate sections of the text.

Then there are several pages in the issue which were reproduced much too light, some to the point where parts of illustrations disappeared, or words became illegible.

## AIRLINE PROFILE

# NORTHERN AIRWAYS

(With information provided by JEFF MAGNET and supplemented with details from the editor's files.)

Northern Airways of Burlington, Vermont, is one of about 40 U.S. air carriers still operating the DC-3. Its scheduled and charter freight services are typical of current Dakota operations in most of the Western world.

The airline had six Dakotas - three acquired as recently as June 1985 - and flies scheduled cargo services under contract to United Parcel Service, Emery, Flying Tigers and other organizations, company president Harold B. Finlay told Captain's Log contributor Jeff Magnet last summer. Main routes are between Boston, Burlington and Hartford. The airline is also eyeing Montreal in its expansion plans.

Besides freight, the airline will also take on any other aerial activities its Dakotas can handle, such as aerial photography and spraying, Mr. Finlay said. Present utilization for the Dakota fleet is 55 hours per aircraft per month, or 2½ hours per day. Northern also carries out all its own DC-3 maintenance at its Burlington base and does their own avionics installation.

Northern Airways dates back to the founding of Vermont Airways, a fixed base operator (FBO) at Burlington in 1929. The present name was adopted in 1950 and flight charter operations with small aircraft started in 1956.

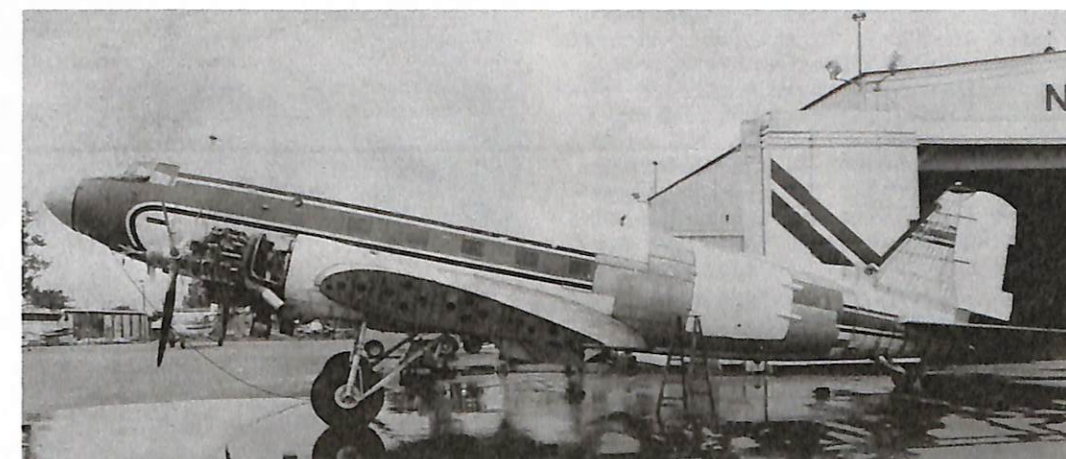
In 1963 the company was re-organized by E. Andrew (Andy) Deed II, the majority shareholder. It began scheduled passenger and freight services from Burlington Municipal Airport to destinations in New England in the same year.

The name Air North was adopted as the operating name for the passenger division when the airline began scheduled commuter services under the Allegheny Commuter umbrella in 1970 and in 1971 a Twin Otter was bought for these services.

For AIR NORTH history, see separate story



Northern Airways' DC-3 N53NA still wears the black, orange and white colors of its previous owner, Air Inuit of Canada. (All photos by Jeff Magnet)



DC-3A N400RS is a former drug runner and was once seized by the U.S. drug enforcement authorities. Northern Airways bought it for its freight operations from a cropduster who had purchased it at an auction.

ANA Limited, holding company for both Northern Airways and Air North, sold the scheduled passenger side of the business (Air North) to the Brockway Corporation in mid-1983 and continued with the freight and FBO operations under the resurrected name of Northern Airways, using the one remaining Twin Otter and another leased one.

The Twin Otters soon became too small, Mr. Finlay said, and Northern Airways acquired three DC-3s in 1984. One of these, DC-3A N400RS, c/n 4979, had originally been ordered by Northwest Airlines before World War 2. Upon its completion in Oct 42 the aircraft was delivered to the USAF and

after the war flew for United Airlines for several years.

In the 1950s it was with the Chrysler Corporation (as N81R) and had several private owners in the 1960s and 1970s.

Mr. Finlay said it was during the 70s that the aircraft was seized by U.S. authorities in Georgia after it had landed in a field following an 18-hour drug smuggling flight from Colombia. Northern bought the aircraft in early 1984 from a cropduster for \$17,777. The cropduster had paid only \$900 for it when he bought it at a government auction after the drug

smuggling case had been cleared by the courts.

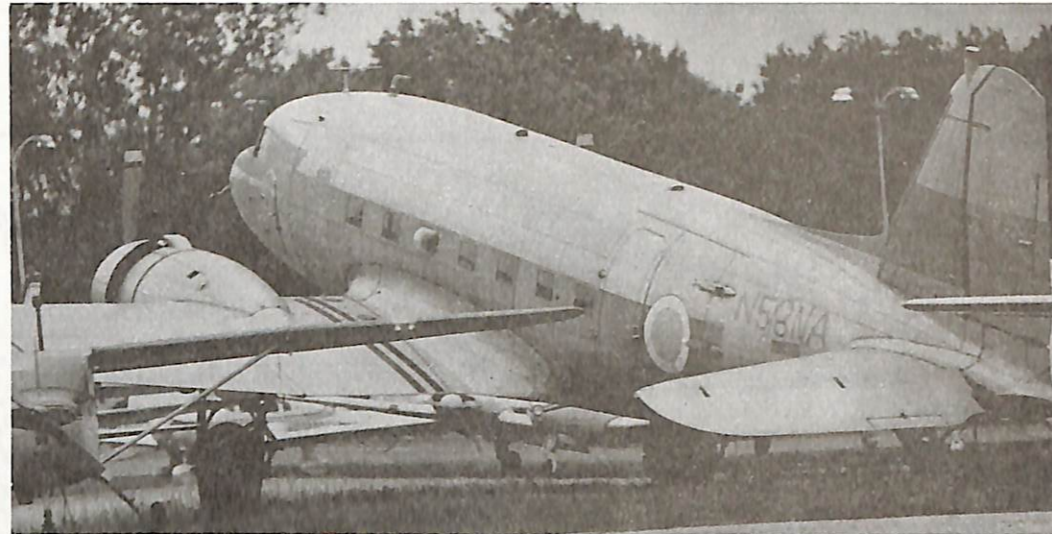
At the time of the Captain's Log's visit to Northern, this aircraft was being rebuilt, including the installation of a cargo door. This DC-3 has several speed modifications, including P&W R-1830-94 engines, instead of the -92 of lower rating; close engine cowlings, and a one-piece windshield.

Another of Northern's first trio of DC-3s, N53NA, c/n 27202, was bought from a small Canadian airline, Air Inuit, and still flies in that carrier's black, orange and white colors with Northern Airways titles added.

Northern's third DC-3, N54NA, c/n 19475, operates in authentic USAF colors with European theatre invasion stripes. The aircraft was bought from the British organization Aces High which had it painted in those colors for movie picture production purposes. Mr. Finlay said Northern Airways, after acquiring the aircraft, stripped off the house paint Aces High had used, and applied proper aircraft paint while retaining the invasion-type color scheme.

Three more DC-3s were delivered to Burlington in June 85. They are former Finnish Air Force (Ilmavoimat) aircraft and served with Finnair before that. They were readied to be placed in operations later in 1985.

Besides the DC-3s, Northern Airways also operates three Beech Baron and two Beech King Air B90 twins and a Cessna 500 Citation business jet for general charter and air taxi work, as well as the two Twin Otters with which it began operations.



Formerly with the Finnish Air Force as DO-12, Dakota N58NA is awaiting conversion to Northern Airways freight service.



N54NA flies in USAF European invasion WW2 colors, applied when the aircraft starred in a movie while based in England with Aces High.

## AIR NORTH

(With information provided by JEFF MAGNET and supplemented with details from the editor's files.)

Northern Airways, which began offering charter flight services from Burlington, Vermont, in 1956, started scheduled passenger services in Vermont and New York states over several former Mohawk Airlines routes in 1967, using Cessna and Piper aircraft.

Three years later the name Air North was adopted as the operating name for the passenger division and a Twin Otter was acquired in 1971.

Beginning 1 Sep 72 Air North operated under the Allegheny Commuter umbrella. A second Twin Otter was acquired

in the same year.

Operations were so successful, 56,981 passengers were carried in 1973, which rose to 95,504 the following year and in 1975 the Air North network included Burlington, Newport and Rutland in Vermont, and Albany, Massena, Ogdensburg, Plattsburgh, Saranac Lake, Syracuse and Watertown in New York. All destinations were served under the Allegheny Commuter flag and Air North operated the seasonal Burlington - Newport route on its own.

Expansion continued and by 1979 the Twin Otter fleet had grown to five. But the young airline wanted to expand beyond the Allegheny Commuter system. It especially eyed New York City and

other major cities in the northeast. Allegheny did not agree and the two parted company in 1979.

Soon after, Air North bought its first Shorts 330 propjet and inaugurated service to New York City. By 1981 it was operating four 330s (including two leased from Hawaiian Airlines) and in the same year it bought two Grumman Gulfstream I business propjets which had been converted to carry up to 37 passengers in commuter services. These aircraft went onto the New York City and Boston services, replacing the 330s.

In 1980 Air North established its own ticketing and reservations system. When Californian commuter airline



Air North Twin Otter N57NA, c/n 576, was in service with the carrier in 1979 and 1980. (Bob Parmeter photo)

Swift Aire ceased operations 18 Sep 81, Air North acquired that airline's three Fokker F.27-600 Friendship aircraft several months later. It added two more, ex-AeroPeru, in 1984.

The F.27s allowed Air North to phase out the two Gulfstreams and the last two Twin Otters it was still operating (three others, owned by the carrier) were on lease to other airlines). Two of the Shorts were leased to Mississippi Valley Airlines after arrival of the F.27s. Pending delivery of its second former AeroPeru F.27, Air North leased an F.27 from the British operator British Midland Airways during

the Summer of 1984.

In 1983 ANA Limited, holding company of both Air North and Northern Airways, sold the Air North passenger side of the business to the Brockway Corporation (which already controlled Clinton Aero of Plattsburgh, N.Y. and Crown Airways of Franklin/Oil City, Penn.). As told elsewhere, ANA Ltd. continued the freight and FBO side of the operation under the old name of Northern Airways.

The name Air North disappeared altogether on 1 Sep 84 when its network and fleet were fully integrated



Shorts SD-330, N373HA, c/n SH-3025, was one of two leased from Hawaiian in 1980 (Bob Parmeter photo)

into the Brockway Air system. In its last full year of operations, 1983, Air North had carried 155,375 passengers.

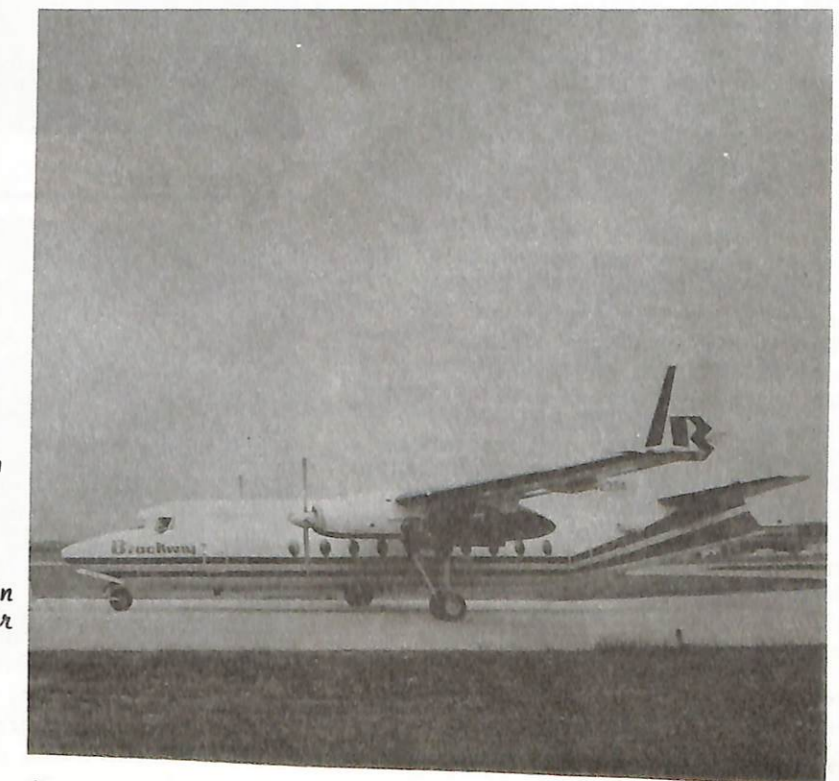
Today Brockway Air operates over most of the old Air North network. It still flies the five former Air North F.27s and three of the Shorts SD-330s. But the Beech 1900 Airliner is the most-numerous type in the fleet, with seven aircraft.

(The Captain's Log would like to thank Mr. Finlay of Northern Airways for granting Mr. Magnet an interview, and Mr. Magnet for sharing the information with us.)



(Above) Fokker F.27 N1036S was leased by Air North from the British airline British Midland Airways during the summer of 1984. It continued to fly in BMA colors, but with Air North titles. (Joop Gerritsma photo)

(Right) Former Swift Aire F.27, acquired by Air North in 1982, now operates with Brockway Air over the former Air North network. Aircraft is N423SA, c/n 10594. (Jeff Magnet photo)



# Prize-winning photographer

WAHS member and Captain's Log contributor Jeff Magnet of Cambridge, Massachusetts, recently captured two second-place awards in a world-wide airport operators convention photo contest in Los Angeles.



Jeff Magnet

Mr. Magnet, 35, is well-known at Logan International Airport, Boston, Mass., where he does most of his airplane shooting. The contest was sponsored by the Airport Operators Council International and Mr. Magnet entered six of his photographs.

He placed second in the human interest category with his shot of the nose area of a TWA TriStar. When this color shot was blown up, you could see the pilots in the cockpit talking with one another.

"I was standing on the grass between runways and TWA's L-1011 had just touched down after a flight from Paris," Mr. Magnet recalled.

He also took a second place with a shot he called "Landing Still." The photograph catches the sun reflecting off the wing of a Piedmont 737-200 with the Boston skyline looming in the background.

"This was taken on a hot afternoon from one of my favorite vantage points in Winthrop," he said. "It is from this spot that I shoot planes landing on Runway 27."

For photo buffs among us, Mr. Magnet said he shot the TWA photo with a 500 mm lens at f8 to get the desired compression of the nose area. The 737 landing shot was taken with a 105 mm lens at f8 and 1/500th of a second.

Mr. Magnet is employed in the travel industry and is a regular contributor of high-quality photographs to the Air Travel Journal, the fortnightly newspaper of Logan International Airport and airline news in New England. His work also appears regularly in the British aviation trade weekly FLIGHT International. He is also president of Flightsource International which supplies aircraft photographs to many other newspapers, magazines, airlines and collectors. He specializes in mid-air shots, as well as in photos of airplanes landing and taking off.

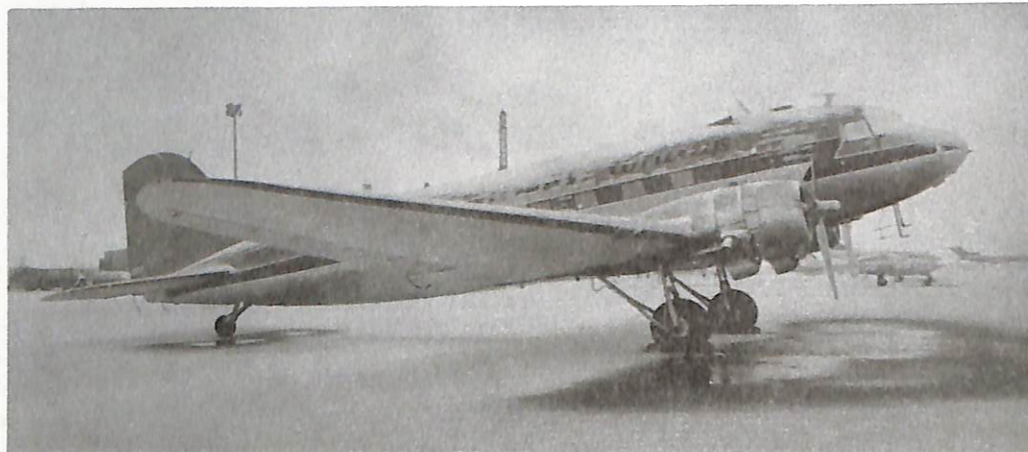
The Captain's Log congratulates Mr. Magnet with his prize-winning achievement and we hope he will continue to contribute photographs and information to this publication.



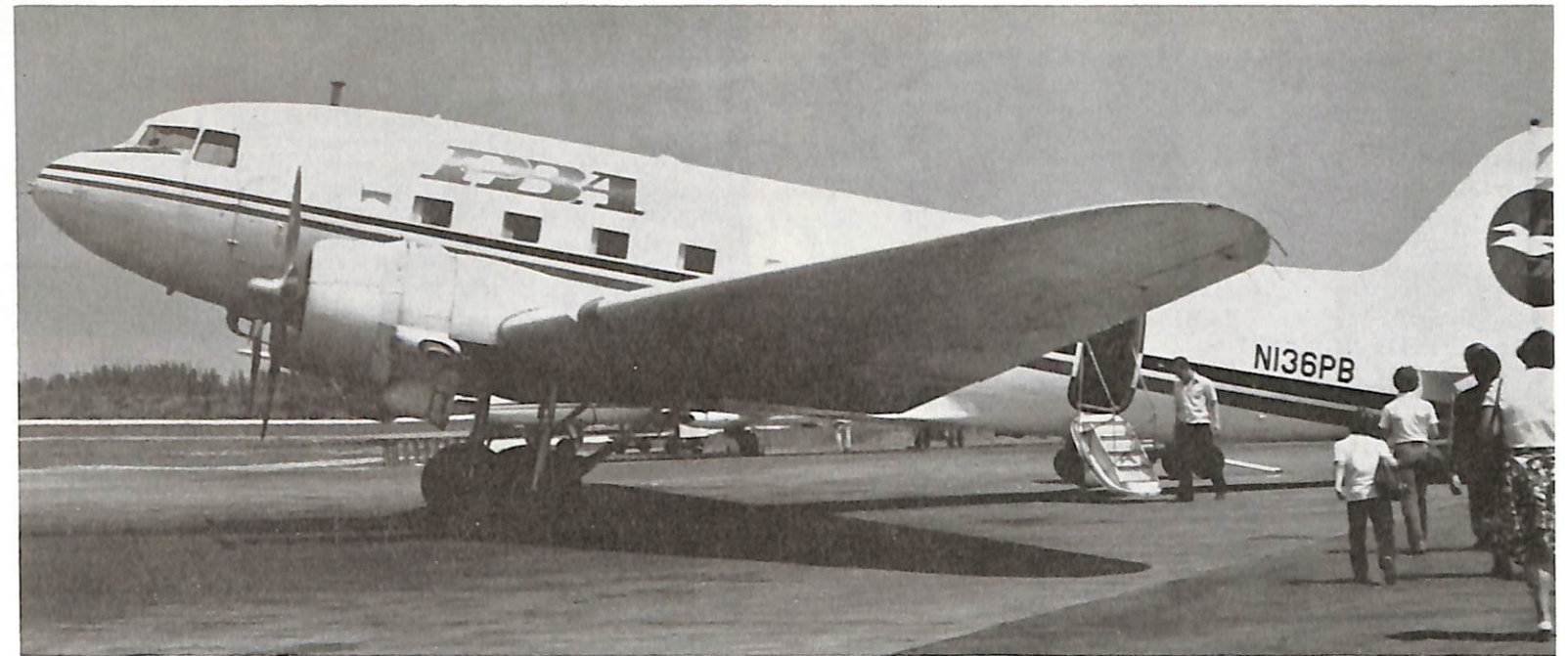
TWA TriStar



"Landing Still"



Another photo by Jeff Magnet, submitted with his Northern Airways material which is published elsewhere in this issue. DC-3 N53NA in the snow at Burlington, Vermont, the airline's home base.



With more than 87,000 airframe hours, this DC-3 still operates scheduled services with Provincetown Boston Airlines. No other commercial aircraft in the world has reached this level of flight time. The aircraft

was first delivered to Eastern Air Lines in 1937, served with the military during World War 2 and was acquired by PBA in 1974. N136PB is a DC-3A with Douglas c/n 1997. (McDonnell Douglas photo via Tony Herben)

## In the U.S.A:

# DC-3: POST-1945 SERVICE

by JOOP GERRITSMAN

Americans had become increasingly air-minded as the decade of the Thirties progressed. The first impetus to this had been provided by the epic flight by Charles Lindbergh across the Atlantic to Paris in 1927. It had been re-inforced by the introduction into service by the fast, modern and comfortable Boeing 247 in 1933 and the DC-2 and Lockheed L-10 in the following year. Americans had become to see the benefit to commerce of fast air transport.

The Thirties were followed by five years of war during which travelling by air, even domestically, was at least severely restricted. In late February 1942 the U.S. War Department requisitioned 200 aircraft from the nation's airlines, out of a total fleet of some 360 aircraft. Invariably these requisitioned aircraft were the most-modern in the fleet, such as the 247, DC-2 and -3 and the Lockheeds. These aircraft continued to be operated by the airlines that owned them, but exclusively for the military and for authorized priority civil traffic.

It was therefore no surprise that when the war was over, people wanted to take to the air again, be it for business or pleasure. The major airlines from before the war immediately bought up all the war-surplus transports they could get their

hands on to satisfy this pent-up demand for travel. But while they looked to the Douglas C-54 (DC-4) Skymaster and the Lockheed C-69 (Constellation) for their transcontinental and other long-haul services, they welcomed back the survivors of the aircraft requisitioned by the military three years earlier, and topped off their fleets with hundreds of surplus military Dakotas for their short- and medium-range routes.

It was thus that American Airlines operated about 100 DC-3 flagships post-war; Eastern Air Lines had more than 50 DC-3s in its Great Silver Fleet; United Air Lines flew well over 100 DC-3 Mainliners; TWA had a post-war total of 57 DC-3s, Western had a large fleet, and the list goes on and on.

However, the writing was on the wall for the DC-3. With its tail-wheel undercarriage, it looked clearly out of place among the long-range DC-4, DC-6, Constellation and Stratocruiser aircraft which soon crowded the ramps of the nation's airports. Besides, even with seating arrangements bumped up to 28 and even 32 passenger seats, the DC-3 soon could no longer meet the demand for seats.

On 22 Nov 46 the Glenn L. Martin Company of Baltimore, Maryland, flew the first of its 2-0-2 series of modern, 36-passenger airliners. It was followed

on 16 March 47 by the first of the 40-passenger CV-240s by Convair.

One year later, in Nov 47, Northwest Airlines became the first airline in the country to place this post-war generation of short- and medium-haul transports in service. The airline had chosen the Martin to replace its fleet of Dakotas. American Airlines followed seven months later, in June 48, with the first of its 75 CV-240s.

One after another, the trunks fell in line in the years that followed: TWA and Eastern Air Lines bought the pressurized Martin 4-0-4 (the 2-0-2 was not pressurized); Pan American, Western and Continental opted for the CV-240 and Braniff selected the CV-340, a 44-passenger, stretched CV-240.

United Air Lines was the last of the trunks to make the switch. It had found that its Dakotas were still attracting passengers well above break-even load factors, but it too was forced before too long to admit the inevitable: the DC-3 could not remain its mainline short-hauler for very much longer. It ordered 55 CV-340s and placed the first one in service on 16 Nov 52. A few years later the last United DC-3 was paid of.

United had had a total of at least 114 pre- and post-war DC-3s in its fleet. This was certainly the largest fleet of this type in the U.S.A. and perhaps in the world. Records of the Soviet airline Aeroflot's DC-3/Li-2 fleet are not available, but it is possible that this airline had more Dakotas in service than UAL did.

The last of the major U.S. carriers, Delta Air Lines sold the last of its DC-3s in 1963, after having operated a total pre- and post-war of 33, including 20 formerly operated by Chicago and Southern Air Lines, which was taken over by Delta in May 53. Delta switched to the CV-340.

There was another factor which contributed heavily toward the phasing out of the DC-3 from the fleets of the major airlines. When these carriers acquired four-engined equipment for their longer trunk services, they could no longer economically justify serving many of the small communities on these routes. Instead, they preferred to concentrate on the larger cities along these routes. Even the Martins and Convairs were in many instances too big for many of these stations. The major airlines therefore were glad to be rid of these small places and gladly turned them over to the feeder airlines, a new category of air carrier which was emerging rapidly in the United States of the late Forties and early Fifties. In fact, the idea of starting air services was so popular immediately after war's end, that the CAB had some 400 applications for feeder-type air services. Of these, 21 actually started service and 11 of them did so with the DC-3.

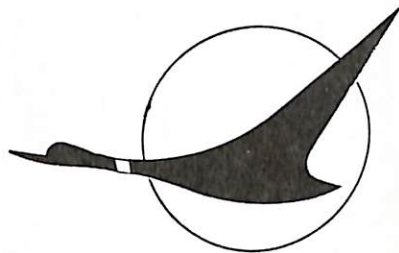
The first of these feeder airlines was Essair of Houston, Texas. It had been founded in 1939 to operate between that city and Amarillo, via Abilene. But objections by Braniff scuttled the service a few months later and it was not until Aug 45 that services resumed. Operations had started with Lockheed L-10 Electras, but the airline acquired DC-3s in 1946, by which time it had been renamed Pioneer Airlines.

In his book "Airlines of the United States since 1914," author Ron Davies writes, "During the first four years after World War 2, about 200 new cities appeared on the airline map of



Wisconsin Central Airlines DC-3 N38941, c/n 6332, was one of six. It is seen at Lacrosse, Wisc. on 1 Feb 52. WCA became North Central Airlines on 16 Dec 52 and N38941 remained in service with them until 11 Feb 66. (Bill Thompson photo)

**NOW  
Deluxe DC-3  
Airliners**



Wisconsin Central ringed goose symbol was retained by North Central after name change in 1952 and is now used by successor Republic Airlines.



Pre-WW2 DC-3 N33632, c/n 4138 of North Central Airlines. Originally delivered to Eastern A.L., North Central acquired the aircraft in July 53 and kept it in service until 30 Nov 64. (Bill Thompson photo)



Central Airlines, Fort Worth, Texas, introduced DC-3s in 1950. N49541 was acquired in Sep 54 and when Central merged with Frontier on 1 Oct 67, it remained in service until Dec 68. Seen here at McAcham Field, Fort Worth on 9 Oct 55. (Bill Thompson photo)

the United States. About half were authorized as additional stops on established air routes of the trunk lines; the rest were new points on new routes served by new feeder airlines." Davies continues to say that, "because of their dependence for many years on the trusty Douglas DC-3, the feeder airlines became to be identified largely with that aircraft."

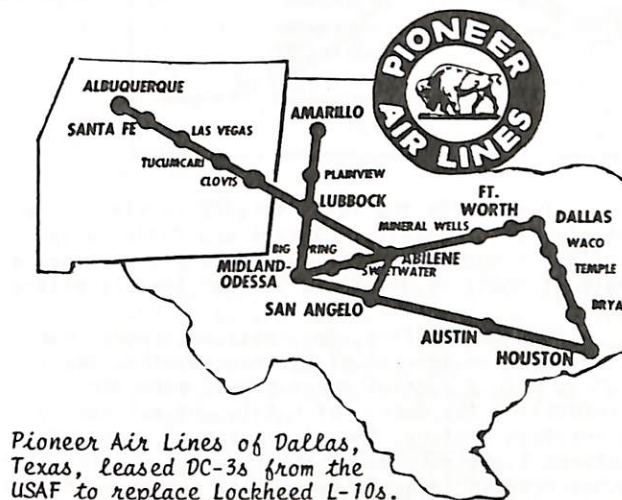
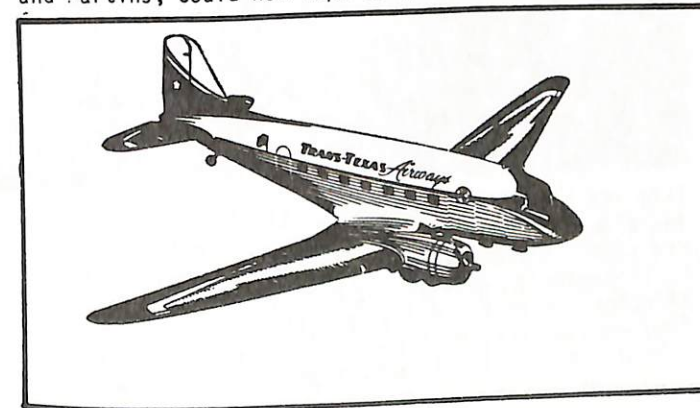
Not all new airlines which started out with high hopes and some Dakotas in these post-WW2 days of unbridled optimism, did survive.

A typical example is the Santa Fe Skyway. Formed as a cargo carrier subsidiary of the Atchison, Topeka and Santa Fe Railway, the airline started operations on 31 July 46 when a DC-3 left Los Angeles with a load of perishables for Chicago. Business was soon booming and the fleet expanded to three DC-3s and four DC-4s. However, the carrier ceased operations on 15 Jan 48 after the CAB had refused to grant it a certificate.

A number of these feeder airlines which had sprung up in the late Forties and prospered in the Fifties, did extremely well for themselves. Monarch Airlines for instance, started service from Denver, Colorado in 1946 with DC-3s. The carrier was renamed Frontier Airlines in 1950 and today is one of the major air carriers in the western U.S., but by no means confining its services anymore to that area. Southwest Airlines started services in southern California in late 1946. In 1968 the carrier merged with two other local service airlines - as this category of airlines had become known in 1955 - to become Air West Airlines. The two other carriers were Bonanza Airlines of Las Vegas, Nevada, and West Coast Airlines of Seattle, Washington. Bonanza had operated its first service in Dec 49 and WCA in Dec 46. Air West was bought by Howard Hughes after he had been ousted from TWA, and was renamed Hughes Air West in 1970. Today the airline forms the western division of Republic Airlines, which took over the carrier as of 1 Oct 80.

Other successful feeders/local service carriers include Trans-Texas Airways (now Texas International) and All American, which became Allegheny Airlines in 1953 and was renamed USAir on 27 Oct 79.

It was thus that beginning in 1945 and lasting for the next 10 years or so, DC-3s crisscrossed every region of the United States and there are few air travellers in the nation's remote areas where distances are great and road transportation modes thin, who have not in some way been touched by the "Three," whether they were commuters in New England or California, vacationers in Florida or trappers and hunters in the Midwest and Rocky Mountain ranges. The Dakota carried them all. It carried them safely into and out of strips where the new twins such as the Convairs and Martins, could not hope to go.

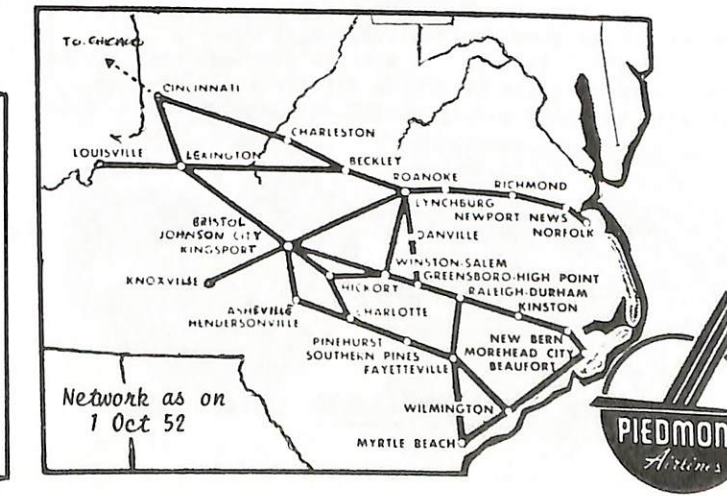


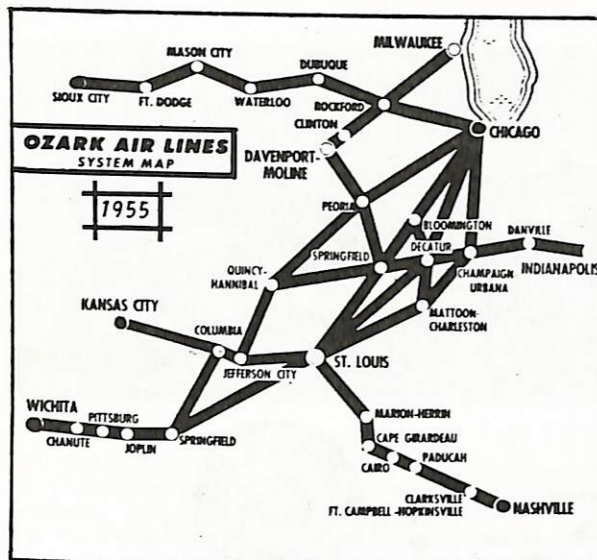
Pioneer Air Lines of Dallas, Texas, leased DC-3s from the USAF to replace Lockheed L-10s. DC-3s went back to the USAF in 1952, after Pioneer had bought Martin 2-0-2s. DC-3 N79021, c/n 19731, is seen at Dallas, Texas, in Aug 1950. (Bill Proctor photo via Jon Proctor).

Above is 1951 Pioneer network (Courtesy George Cearley)



Mid-Continent Airlines of Kansas City, Missouri, operated two dozen DC-3s from 1944 until it merged with Braniff on 15 Aug 52. This unidentified DC-3 is at Seattle, Wash. (Bill Proctor photo via Jon Proctor)





Even while the local service carriers were re-equipping with Convairs, Martins and F-27s during the Sixties, a number of them made attempts to improve the image of their DC-3s in the eyes of the travelling public.

Mohawk Airlines, for instance, began "Gas-Light Services" on several of its routes. They featured DC-3s with a special interior and exterior decor resembling the decor of hotels and saloons in the previous century. The aircraft even featured a gas street light painted on the fuselage and flight attendants dressed in gowns as worn by saloon hostesses in that time.

Hawaiian Airlines tried to get a few more years out of its Dakotas by installing large panoramic windows in the cabin which gave passengers a better view of the islands below.

However, gimmicks were not enough to save the DC-3, for such is the progress of aviation technology that even the DC-3 could not last forever, not even with the local service carriers which built their business on them.

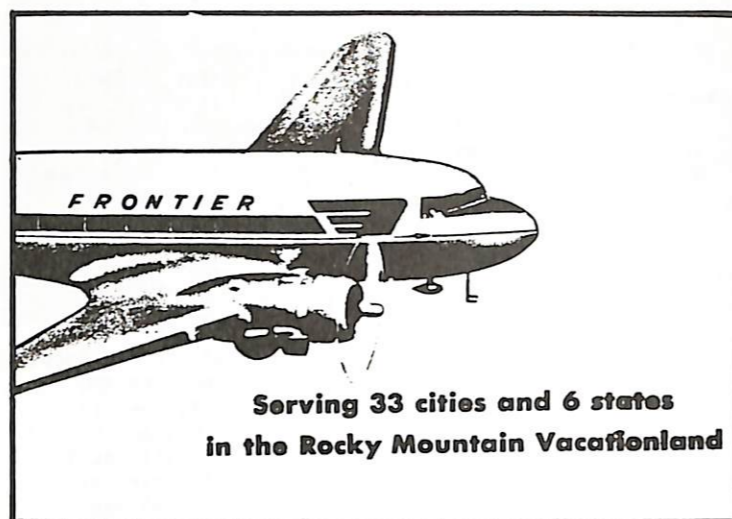
Beginning in 1942, several attempts were made by the CAB to ground the DC-3 because, the agency said, it did no longer comply with modern safety standards. But the DC-3 survived all attempts to take it out of the sky and in 1952 the CAB gave up. It adopted a "grandfather clause" exempting the DC-3 from most of the modern standards and thereby allowing it to fly on.

Many times the DC-3 has since proved it deserved the confidence placed in it by this CAB "grandfather clause." In a nostalgic look back at the 50 years since the DC-3 made its first flight, the British aviation weekly *FLIGHT INTERNATIONAL* of

**ALL-AMERICAN AIRWAYS**



**DAILY SCHEDULED SERVICE**



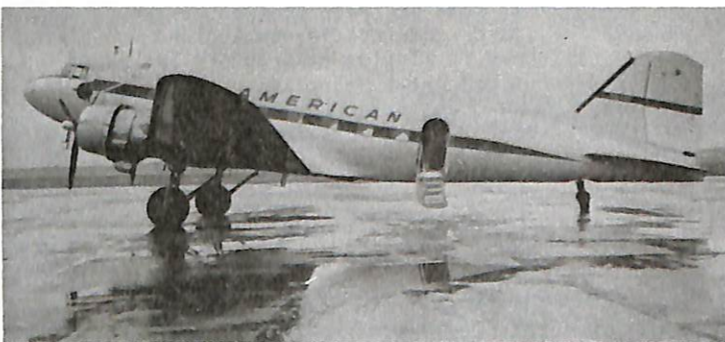
21 Dec 85 relates the following incident, which perhaps better than any other, shows the legendary strength of the DC-3 airframe:

"One day in April 1957 Frontier Airlines pilot Dave Welling took off from Phoenix, Arizona, on a routine flight carrying 26 passengers. He climbed to 6,500 ft (1,980 m), then began climbing a further 2,500 ft (760 m) to avoid rapidly gathering stormclouds. Suddenly the DC-3 hit a massive down-draught and plummeted earthwards. Welling struggled desperately to regain control. Eventually he levelled off, paused for a breath, and glanced out the window. A large part of the port wing was missing.

"With extreme delicacy, Welling about-turned and flew back to Phoenix. He landed safely, disembarked the passengers, and inspected the aircraft. Where the outer 10 ft (3 m) of the wing had been, there was now just a ragged edge.

"A few days later the missing piece of wing was found 50 miles (80 km) north of Phoenix, just below a mountain peak which the DC-3 had scraped."

On 19 May 55 President Dwight Eisenhower authorized the issue of permanent certificates to the feeder airlines. Under the bill, they were now called local service airlines and they began immediately casting about for larger aircraft, based on the respectability and position of permanency they now had.



This All-American Airways of Washington, D.C. started operations as All-American Aviation, adopting the the first name in Sep 48. The airline operated 14 DC-3s beginning in 1949. It changed its name to Allegheny Airlines in 1953 and is now called USAir. This unidentified DC-3 was at Cincinnati, Sep 51. (Bill Proctor photo via Jon Proctor)



This started the move away from the DC-3 by the local service carriers. They bought second-hand Convairs and Martins wherever they could find them, to place them on their busier routes. The local service airlines also began applying to the CAB for authorization to serve major routes, often in head-to-head competition with major airlines in the late Fifties and early Sixties. The DC-3 simply would not do on such services. Several of these local service carriers has grown big and sufficiently strong enough to buy new propjet equipment, such as the F-27 (for instance Ozark, Pacific, West Coast), the Japanese YS-11 (Piedmont) or propjet conversions of the Convair series (Trans-Texas, Lake Central, Frontier and many others).

On 26 Oct 58 Pan American inaugurated transAtlantic jet services with its first Boeing 707 and soon after, on 10 Dec of the same year, National Airlines operated the first domestic jet service when it leased Pan American 707s for the Miami-New York route. This started the move by the domestic trunk airlines toward jet equipment which passengers started to demand.

The aircraft manufacturers responded with short-range aircraft such as the Boeing 727 and 737 and the Douglas DC-9. From foreign shores came the BAC One-eleven and the Sud Caravelle. These aircraft quickly replaced the Convairs and other twins in the fleets of the nation's major airlines, releasing them to the local service carriers while they still had lots of flying hours left in them.

It was of course the chance the local service carriers had been waiting for: the availability of many reasonably-priced, well-maintained modern aircraft with the right seating capacity for the growing traffic on their busier routes.

For a few years the DC-3 stood firm on the last part of its shrinking territory: the low-density, low frequency routes of the local service carriers. But when these carriers acquired small jets such as the DC-9, 737 and One-Eleven for their major routes, they transferred the Convairs et al. down to the lesser routes, ousting the DC-3.

The DC-3 was also under pressure from the other end of the seating capacity spectrum. Aircraft such as the DHC Twin Otter, Beech 99, Metro, Bandeirante and others had occupied the 20-passenger niche of the market and they combined to deny the DC-3 even the low end of the scale.

As a result, the Seventies saw the withdrawal of the DC-3 from scheduled passenger service



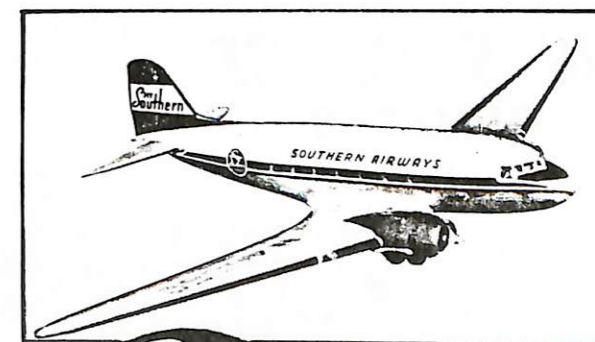
Late attempts to popularize the DC-3 in the face of more modern aircraft included this "Viewmaster" conversion by Hawaiian Airlines (left) offering nearly unsurpassed views of the islands below (DC-3A N33608, c/n 4808, late 1950s), and Mohawk Airlines' "Gas Light Service" DC-3s, featuring exterior and interior turn-of-the-century decor (top) and flight attendants dressed in period saloon girl uniforms. (DC-3 N409D, c/n 3277, late 1950s) (Hawaiian and Mohawk photos)

take place at an ever-increasing pace. Today only a handful of passenger Dakotas remain in service in the U.S.A. and these are used only on charters. The vast majority of the approximately 120 airline Dakotas still in service in the nation are freighters, used on some scheduled, but mostly on non-scheduled and ad-hoc cargo services.

Northern Airways of Burlington, Vermont, is one operator which still uses the DC-3 on cargo services. Its operations are described elsewhere in this issue.

Fortunately there are many concerned enthusiasts in the U.S.A. and in the rest of the world who have made it their task to preserve examples of the DC-3 for future generations. Most of these preserved aircraft are on static display only, but others are still flying on very special occasions.

Sentimental Journeys of Bluefield, West Virginia, is one such organization which is maintaining



Southern Airways DC-3 taxis away from the gate at Mobile, Alabama, 1963. (Chuck Pietroszewicz photo)

a DC-3 in operation for passenger service. Its operations are also described in this issue.

The role of the DC-3 in modern air transport is all but over. But it is still too early to write the aircraft's epitaph. Because a few examples of the "GRAND OLD LADY OF THE SKIES" will be with us for a long time yet.

Route of the Pacemakers

# PIEDMONT Airlines

We would like to end this series of accounts of the DC-3's 50 years in service by recalling a poem that appeared in the company magazine of British European Airways. The poem was written by radio service engineer Jim Frost. As FLIGHT of 21 Dec 85 says, this poem, entitled "The lay of the last Pionair", marked the passing of BEA's last Pionair conversion of the DC-3, and the advent of that upstart, the de Havilland Comet 4D. A parody of Lewis Carroll's "You are old, Father William," the poem takes the form of a conversation between the two aircraft, in which the Comet mercilessly ribs the Dak about its extreme old age. The Pionair's final retort gives food for future though, FLIGHT writes. It goes like this:

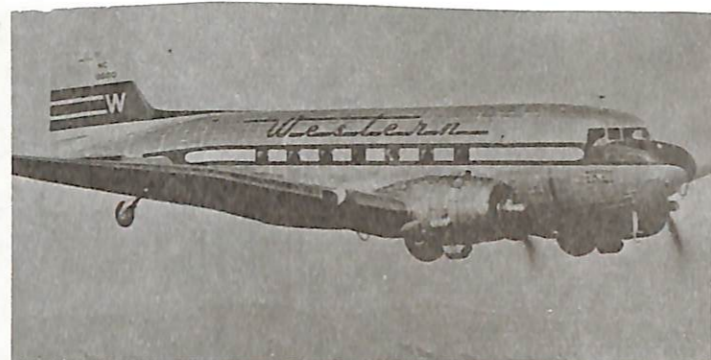
"In my youth, I declare,"  
said the old Pionair,  
"I was always the belle of the sky.  
"I am now past my prime, but in  
twenty year's time -  
"Will you be as nimble as I?"

(Ed's note: the last operational Comet has since disappeared from the scene, but FLIGHT estimates about a thousand Dakotas are still in civil and military use world wide.)

# WEST COAST AIRLINES



Braniff Airways (Braniff International) began DC-3 services in 1939 and sold its last one in 1961. N21774, c/n 2180, seen here at Chicago Midway, was with them until Sep 50, excepted two years in WW-2 (Bill Proctor)



N18600; c/n 4900 went to Western in 1945 and saw service with Piedmont as N56V "Potomac Pacemaker" from Jan 56 to sometime in 1963. (Western photo).



Chicago & Southern Air Lines took delivery of N31538, c/n 6317, on 8 Feb 45. It went to Delta C&S when Delta took over the Chicago carrier. The aircraft later went to Capitol. (Don Shea photo)



Somewhat of a mystery, DC-3 N57131, c/n 19040, is seen here in the colors of Lake Central Air Lines at McAham Field, Fort Worth, Texas, on 5 Nov 50. The aircraft was one of three with which Nationwide Airlines of Detroit started services in 1947. The line was merged into Lake Central in 1950, but N57131 was never formally registered to them, despite the colors. (Bill Thompson photo)



Eastern Air Lines' Great Silver Fleet included DC-3 N33638, c/n 4139. It went to North Central later. (Bill Thompson photo)

# STICKER CHATTER

by DON THOMAS

Illustrated this time are some post-WW2 DC-3 items: Pennsylvania Central (#1), Frontier Air Freight (#2) and two Air Express items (#3 and 4) used in domestic (U.S.) wartime service. PCA and Inland Boeings were previously included with the DC-3 illustrations. Both the DC-3 and the Boeing 247 have two engines and I find I must restrain myself from thinking that any airplane with two engines is a DC-3. It just isn't so. Bob Keller of Gate 66 and Malcolm Stride in England both called attention to the fact the KLM and Central Air Transport Corporation labels in Vol.11 No. 2, pages 22 and 24, show the CV-240 and not the DC-3. Thank you, gentlemen. Now what about the Cubana label in the same issue, page 24? That one has two tails. My eagle eye detected that one, but only after the magazine had been printed and delivered.

(The Cubana aircraft is a Lockheed L-10 Electra - Ed.)

Now I have to look at the tails as well as at the two engines. Maybe I am getting too old for all that bother. Anyone wanting to take over Sticker Chatter?

Seriously, though, I wish that some younger collectors in the U.S. could get as serious about collecting labels as some of us old-timers, and could write about them so they could take over as the authority when we old-timers pass on. Labels are very well identified and catalogued now, which is more than can be said for some other collectibles. But who is ready to continue cataloguing the new ones coming out every week?

The 1986 editions of Vol.I (Europe) and Vol.IV (Latin America) of the Air Transport Label Catalogue are finished and will be in print in April. That leaves only Africa and Asia to do in 1986, plus, I hope, a revision of the North American catalogue (Vol.III). This is badly needed because there are hundreds of new labels and airlines to list since the latest issue, published in 1982.

For catalogue information,



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write: AFA, Box 1239, Elgin, Ill. 60121-1239, U.S.A.

Also shown this time is an Eastern Air Lines BIL (#5). Space for name and address in on the back. This BIL was sent in by Lee Bachar of Chicago and by Frank Blumenthal of D.C. Lee also sent in a new BIL he picked up in St. Louis (#6). It reads TW Express and I have no information on the airline. This BIL is red on white.

John Whitehead sent in some Federal Express labels used in Brussels for 727 freight. Since the DC-10 is now on that run, the label may be changed. John said San Juan is still using a 727 label - I must try to get a sample of that one so I can show it to you.

How about this nice new Boeing 767 label from Air New Zealand (#7)? It is mostly green in color. I expect to be flying to New Zealand in August and maybe I can get a good supply of them.

(All these illustrations are reductions - DT)

Tony Schneider sent in a sticker from the new Louisville Airport. Airport stickers may be catching on in the U.S., but they are usually found only in airport gift shops. However, in England and Germany, airports are promoting themselves by using stickers so much that we must put them in a separate catalogue. We are depending on Dave Rowe and John Ellis of Britain to get the airport labels and the manufacturers' labels together in separate catalogues. Our air transport catalogue from Europe, for instance, is 226 pages big, with no room for airport or manufacturers' labels. The same goes for cardboard baggage tags, the destination tags. There are millions of them, used by all the world's airlines. It would be a waste of time to try to catalogue them, since very few people have saved any of these.

Pat McCollam sent in a new cardboard BIL from Air Hawaii (#8). The lines for name and address are on the back.



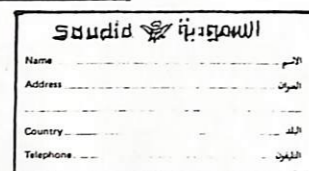
Lee Bachar did sent in a lot of cardboard BILs as well, beside his other contribution, mentioned earlier. It seems a lot of airlines are switching to these types of BILs. We have them now from Air Midwest, Midway Express, Midway Airlines, Midway Metrolink, Delta, KLM and American, as well as adhesive labels from Midwest Express, People Express, Western, ALIA and a new Capitol Airlines.

We really appreciate all those biddogs out there watching for new airlines and new labels. They may not all be stickers, but most are transport labels for baggage identification.

John Gilyard of Ohio sent in a Saudia BIL (#9A) in green, dark green, purple, blue and black on



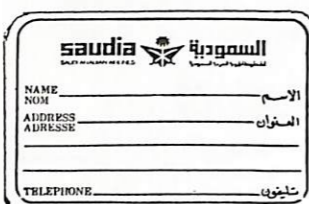
#9A



#9B



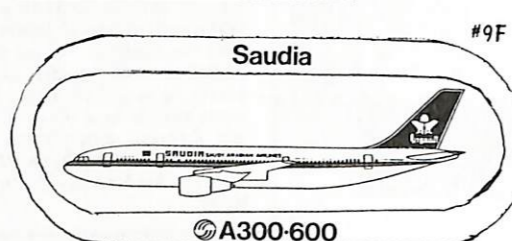
#9C



#9D



#9E



#9F

white. It is the bottom label of a four-label vertical sheet which comes with the air ticket. Instructions in English and Arabic are on the back.

This is only the latest one from that carrier. Four other Saudi BILs are illustrated here too and they show how often airlines change their BILs. Everyone should watch for the changes so they can add to their collections. #9B also comes four vertical in a ticket book. It is green and black on white. Instructions on the back are in red and picture the various objects prohibited on board aircraft. #9C is also several colors on white, with different size and printing arrangement. #9D is blue on white and appears to be single. #9E is simi-

lar but comes two horizontal, with instructions above in Arabic and below in English.

One could forget these BILs when viewing the beautiful A300-600 label of Saudia (#9F) in light green and silver.

Here are a few personal comments on the contents of the previous issue of the Captain's Log.

The picture of the DC-9 landing at Logan Airport in Boston brought back memories. What a change from when I was 10 years old. I lived in east Boston and used to play on the marshes of what is now Logan International Airport. Instead of the skyscrapers shown in the photo, the vista was mostly a muddy shoreline where we kids used to catch small fish and eels for our aquariums.

Don't ask me how old I am!

Dick Koran's "Wings and Things" was fascinating as usual. After Ford purchased the Stout Metal Airplane Company, Stout designed a trimotor which was not a success and soon a mysterious fire destroyed the hangar and the plane in it. The trimotor was then redesigned by Tom Towle and became the successful Tin Goose.

The "Flivver" plane in which Ford had much confidence before it crashed, was actually a good airplane. The crash, in which Ford's friend died, was due to pilot error. The pilot, who had inserted a match stick in the fuel tank air hole to prevent evaporation of the fuel, forgot to remove it before taking off and the tank stopped delivering fuel, causing the plane to crash in the ocean off Daytona Beach.

Our Florida Aviation Historical Society, which built the replica of the Benoist airboat of the St. Petersburg - Tampa Airboat Line on 1914, now expects to build a Ford Flivver as its next project.

Re Poingdestre's flights to Egypt in the big Handley-Page around 1932, we illustrate an earlier Imperial Airways aircraft, the Handley-Page W8b (#10), which was used on the routes from London to the Continent in the mid- and late-20s. Besides the illustrated ZURICH destination there were also BASLE, BRUSSELS, COLOGNE, LONDON, OSTEND and PARIS. Also shown is the trimotor DH-66 Hercules airliner (#11), which inaugurated the desert air mail service in 1926, from Cairo to Basrah, via Gaza and Baghdad. This very rare label is also known with CAIRO destination in the Smithsonian

Cont. at bottom of next page

## REPORT FROM THE FIELD

by JIM "JET" THOMPSON

### Santa Monica Municipal

For this issue I decided to tie in with the coverage of the DC-3 and the 50th anniversary of the first flight of the Douglas Sleeper Transport (DST) in Dec 35 and took into the airport where this historic event took place. For this, what better airport to cover than Santa Monica Municipal Airport (SMO)?

Located just five miles (eight km) northwest of the bustling Los Angeles International Airport, Santa Monica's Clover Field seems far removed from the mass operation such a short distance away. A visit there today reveals a quiet yet busy airport, but without scheduled airline service. Wings West operates a hangar there, but that is as close as you will get to any airliners at SMO.

When we go back in time, 67 years to be precise, and we find that this was one of the first air fields in the Los Angeles County area. It is still the oldest continuously-operated airport in the county and for a while it was the second-busiest general aviation airport in the entire United States. This has since changed, mainly because of complaints from neighbors. But that will be covered later.

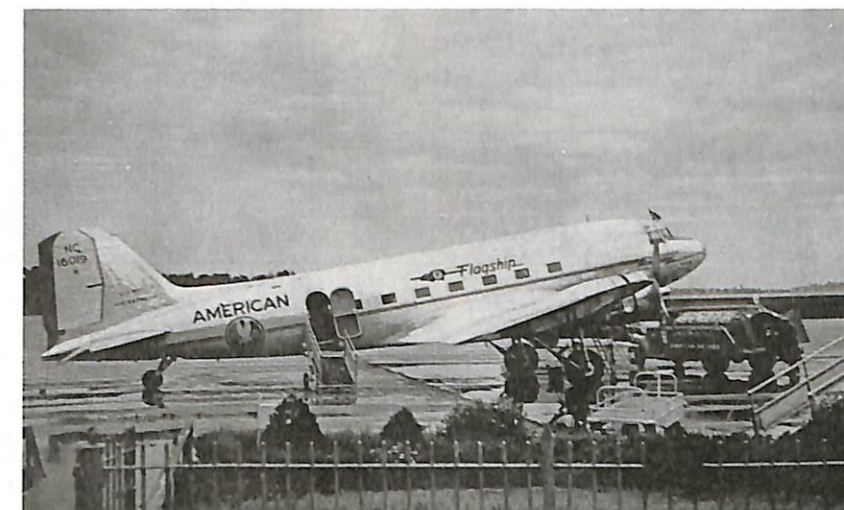
The airport was opened in 1919 and wasn't much more than a dirt field. We must not forget that this was just 16 years after the Wright Brothers had put the first powered aeroplane into the air.

#### STICKER CHATTER (cont.)

collection and with GAZA in my own collection. It was after 1930 that Imperial Airways introduced the HP-42 airplanes of the Hannibal type on which Poingdestre flew.

The DC-2½ illustrated in the same issue of the Log brought back memories of WW2. The pilot who made the hair-raising takeoff in the DC-2½ was Hal Sweet of CNAC, who was later the pilot on one of the B-25 bombers we ferried to the Russians at Basrah in Iraq in 1942. I was the radio-navigator on that trip.

There are lots more label issues, but space is running out and I will picture some of those the next time.



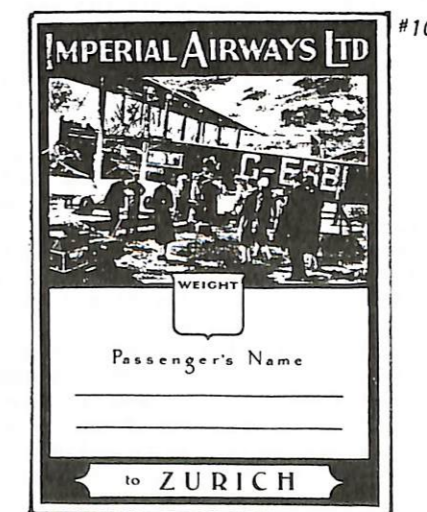
AMERICAN AIRLINES DC-3 "Flagship Oklahoma" (NC16019) was the 19th DC-3 built. In this postcard, published by the 6th annual Airliners International Convention at Newport Beach, CA. in 1982, the aircraft is seen at East Boston Airport on a wet day in June 1941. (Photo from the ATP Collection)

The field was named after Grier Clover, a World War I aviator who died in the war. Clover Field was a base of operation for barnstormers and Hollywood stuntmen for the next two years.

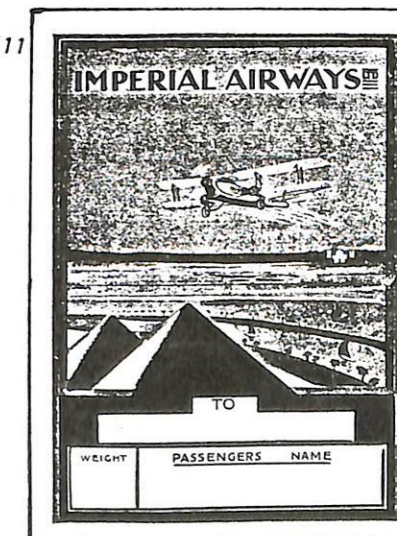
In 1921 the Army leased the field for \$1 per year and began operations there. This was also the year a young aircraft designer named Donald Douglas decided to invest \$15,000 in an aircraft factory to be

built on the north side of the field. A year later the Douglas Aircraft Company opened for business and made its home at Clover Field for the next 40 years. Until the dawn of the jet age, all Douglas airliners were built here, and most of the company's other designs as well.

Clover Field was the site of many historic events in aviation. The first of these took place just five years after the field was opened. On St. Patrick's Day (17 March) in



#10



#11



1924, four small aircraft set out from Clover Field on what would be the first round-the-world flight. The aircraft were called the Douglas World Cruisers and had been built right there at Clover Field by the Douglas Aircraft Company. The official start and finish point was, however, further up the coast, at Seattle, Washington. Two of the four aircraft made the entire trip, which took six months to complete. It won for the United States the right to call itself the nation which had first completed a flight around the world.

In 1926 the City of Santa Monica purchased 165 acres (87 hectares) of land surrounding Clover Field and in the following year a municipal airport was dedicated on 65 of those acres (26 ha.). The remaining land was developed for recreational uses, which included a golf course

Everything remained relatively quiet until six years later. On 22 June 33 a new aircraft was rolled out of the assembly hangar at Douglas'. Little did anyone realize at that time that this new aircraft would revolutionize the world and would be the first step to a total change in world aviation.

This new aircraft was called the DC-1 (for Douglas Commercial one) and it made its first flight nine days later. A first flight which would almost be its last flight.

At 1:36 p.m. on Saturday, 1 July 33, the DC-3 lifted off the ground at Clover Field. Pilot Carl Cover circled the field and then, as he began to climb, the engines began cutting out, first one and then the other. Cover lowered the nose below the horizon and began looking for a pasture or other flat surface where he could put the aircraft down without causing too much damage. But as soon as the nose dipped below the horizon, the engines came back to life, only to cut out again the moment Cover started to climb again. Everything pointed toward fuel starvation in the nose-up position.

Below, on the ground, everyone from Douglas was out there watching and holding their breath at what was happening. The financial position of the Douglas company was so precarious at the time, and so much capital was tied up in the DC-1, a crash of the aircraft would almost certainly have meant the end for the company.

But with some materful flying, Carl Cover managed to get the DC-1 back onto the ground. Back in the plant, engineers swarmed over here and they found the problem was caused by the carburetors. They were removed,



Built at Santa Monica, this R5D-2 Skymaster was one of 20 leased to Eastern Air Lines by the U.S. Navy in 1946 for five years. Eastern operated a total of 32 Skymasters from May 1946 to May 1955. (Photo courtesy International Airline Museum, published in postcard form by Aviation World.)

reworked and re-installed, only in reverse position. This 180-degree switch did the trick and the test program continued without a hitch.

The next historic event at Clover Field took place a year and a half later, but attracted little or no fanfare. Looking back at it, it is surprising, but the event would change the shape of the entire airline industry around the world.

On 17 Dec 35 the new Douglas Sleeper Transport (DST) was rolled out of the factory for the first time. Remarkably, the first test flight of this new plane was made that same day. Test pilot Carl Cover was again at the controls and this first flight went off without any problems. Cover reported the plane "handled beautifully."

Things at the airport remained much the same for the next four years, with Douglas manufacturing first the DC-2, then the DST and DC-3, plus small orders for military aircraft.

1939 proved to be another big year for the airport. For starters, Douglas Aircraft Company acquired 65 acres (26 ha.) of land at the municipal airport. This land was to be used for additional factories. The remainder of the land, including the golf course, was again leased to the federal government for \$1 per year.

1939 was also the year in which the government commissioned Douglas to build a huge test plane, called the BIG C19. The plane would require more runway length than was available at that time. The runway at Clover Field was therefore extended at both

ends to a total of 5,000ft (8,000 m). Bundy Avenue was vacated and the golf course was modified to accommodate the changes.

As the U.S. involvement in WW2 developed, the scenery at the airport changed too. Many attack bombers and military transports were coming off the Douglas production lines at the field. A second large hangar was built as a decoy. Located at the south side of the field, the hangar is still there today. All of the facilities at the airport were heavily camouflaged to look like a large residential area when seen from the air. Trees and grass were planted on the rooftops and additional roads were painted on large open areas. From photos this writer has seen of this job it is very hard to tell there was an airport there. One large open area where the runway was located, is the only indication of an airport, and it wasn't even marked as a runway.

In 1943 Douglas built the present 5,000 ft (8,000 m) runway at the field. It was needed to handle the new large DC-4s and C-54s which were being built there. Five years later, in 1948, the Army sold the airport back to the City of Santa Monica for \$1. With that, the wartime era came to a close. An era which had seen the likes of Jimmy Doolittle and Howard Hughes at Clover Field on a regular basis.

1956 was the first year the airport began operating in the black and make a profit for the city. But there were complaints from neighbors about the noise. The airport is on three sides surrounded by houses and many of these are only 300 ft (100 m) from the departure end of the runway.

Several things came to a head in 1962. The huge Douglas Aircraft Company wanted to level 140 acres of residential properties on the north and west sides of the airport to construct new corporate headquarters and more parking facilities. The residents of the area were totally opposed to the plans and protested. They proposed that the city close the airport rather than allow their houses to be torn down. The end result of all the wrangling was that the houses stayed, but Douglas moved south to Long Beach.

By 1965 Clover Field had become the second-busiest general aviation airport in the country. Van Nuys, just down the road, was the busiest. The following year saw the highest number of operations ever at Clover Field: 374,000. But this proved to be a mixed blessing. The city wanted extensive renovations done at the airport to handle even greater numbers of aircraft. But the neighbors objected and wanted fewer operations instead, especially business jets. The noise created by these biz jets became a major issue. The residents filed a lawsuit which took almost 10 years to settle. The California Supreme Court finally decided the city could be liable for noise damage caused by aircraft using the airport. The city then set up five new ordinances to help reduce noise levels. This in turn resulted in a lawsuit against the city by the local pilots' association. A new court decision upheld all of the city's new noise rules except the ban on jet aircraft. The city turned around and lowered the permitted 100 decibel noise level to a maximum of 85 dB. This would exclude any jet aircraft as well as put into a large section of the fleet of aircraft based at the airport. Aviation interests fought this and sued to get rid of the 85 dB level. They won and the level was declared invalid.

At the same time when this was going on, the city was having an economic study done for the area. The results were that the city could earn millions of dollars of revenue if the airport property was developed for other uses.

By 1977 the last of the Douglas plant was dismantled and the new company headquarters were moved to Long Beach Airport.

The noise regulations enacted in 1975 were having an effect on other airport operations too and in June 1981 decided to close the airport as soon as legally possible.

However, local aviation interests filed a lawsuit in the state

court, as well as an administrative complaint with the Federal Aviation Agency (FAA). The FAA responded by threatening to sue the city if it attempted to reduce any airport operations or close the airport before their leases expired in the year 2015. In 1982 the U.S. Department of Justice also got into the act and declared it would sue the city for any violations of federal law and contracts in the operation of the airport.

The City of Santa Monica wanted to end the legal battles, which had now been going on for 20 years, without another court fight. A planning and noise study was undertaken to develop a master plan for the continued operation of the airport and to come to some compromise with neighbors and local aviation interests.



DC-6B of CAT, Republic of China (Taiwan), B-1006. (McDonnell Douglas photo, postcard by Aviation World)

A working group set up to solve the problems finally decided on several changes in the operation of the airport. Different maximum noise limits for different categories of aircraft would be developed. The existing airport layout would be changed to be less intrusive on nearby homes. Since the city had to maintain the airport at its current level of operations until the year 2015, it was building sound walls where appropriate and valuable airport land not required for operations, would be freed for use by commercial and industrial projects to bring in additional revenues for the city. A 4.5 acre (nearly two ha.) would be built on the site.

The plan was a compromise to all parties and received the approval from the FAA. Today Clover Field is the home of the Donald Douglas Museum and Library, but this may soon change. The city has asked the museum to move and it is now looking for another site in the area. There are about 200,000 aircraft movements at the airport each year and it is no longer one of the busiest. But there is more trouble on the horizon. The airport's neighbors may file a lawsuit against the airport

Radar-equipped DC-7C of Northwest Orient. (Northwest photo, card by Colorpicture Publishers).



as a result of the recent Baker decision by the California Supreme Court. This ruling states that airports can be sued by their neighbors as a continuing nuisance.

Photography at the airport is

relatively easy. There are few security problems here. Please do stay away from restricted areas. The east end of the field seems to be a good location for photography of aircraft landing on runway 21. The departure end may require parking a short distance away and walking around to that end of the field. I saw no parking spots there on my latest visit. As I mentioned before, there is no scheduled airline traffic at the present time. In spite of this, the airport is well-worth a visit the next time you are in the area, just so you can see where the DC-3 made its first flight.

Happy landings.

I would like to thank Linda Sullivan, Senior Administrative Analyst for Santa Monica Municipal Airport for her help in preparing this article. I could not have done it without her. Additional information for this report came from: The Plane that Changed the World, by Donald J. Ingells; Airliners International magazine Fall 1973, story "The Day the DC-1 Showed the Nation," by Bob Van Ausdell; Airline Quarterly Vol. 4, No. 1, Spring 1980, story "First of the World-Beaters," by Robert L. Trimble.

# POST CARD CORNER

by WILLIAM DEMAREST

There are many new developments and new card issues to report in this issue of the Captain's Log. Some are exciting and others are not so good.

The bad news is that Aviation World, Inc. has ceased publishing postcards. Both Jon Proctor and Peter Black have decided to devote their time and energy to other activities.

On behalf of all airline postcard collectors I would like to thank Jon and Peter for providing us with the multitude of Aviation World postcards during the past eight years. I hope that other publishers will continue in your footsteps and provide us with the same variety and quality of cards we have become accustomed to see flowing from your company.

You'll also notice that I am the new Postcard Editor of the Captain's Log. With your help I will do my best to provide you with the latest information on new issues, tips on storing your collection, and sources for new postcards. If you come across a new airline issue, please send me a photocopy of the card (or a spare if you have one), so I can inform other collectors through this column.

And now on to the new issues: Aviation World's last issues are an Aspen PAe 146 (B-104), Western 737-200 in the "Bud Lite" colors, TWA L-1011-1 (L-030), TWA 747 (B-071), Sunbird/Piedmont Commuter SD-330 (Z-071), PanAm A300 (A-006), Continental West 737-300, Skybus 737 and a Trans World Express Metro II.

Airlines from around the world are continuing to publish new post-

*Photographed by Colin Ballantine and published by Four Colour Ltd. of New Zealand, this Air Pacific 737-2X2 Adv. is a new issue by this publisher.*



*Issued by the Civil Aviation Administration of China (CAAC), the Chinese airline, this attractive card shows one of the airline's 737-2T4 Advanced at Guilin Airport. The aircraft is B2501, c/n 22802.*

cards of their aircraft. From the U.S. we have Air Atlanta with a beautiful 8½ x 4½ card of a 727 in flight. This card was mailed to travel agents to promote the airline's new service to Philadelphia, Orlando and Tampa.

Air New Zealand once again has issued new cards of their 737-200 and F-27 in their current livery. Martinair has a nice 3-view card showing their DC-10, MD-80 and A310 in take-off positions.

*Editions P.I. of France brought out this postcard of AirCal's 737-3A4. Photography is by Boeing. The aircraft is N307AC, c/n 23251 and is leased from International Lease Finance Corporation.*



*Sunbird Aviation of Kenya has published two DC-3 cards. Both show the aircraft in flight. Pictured is 5N-BBN, c/n 32845, a former C-47B-DK which was previously re-registered 5X-AAQ.*

CAAC of China has published two breathtaking postcards: one shows a 737 at Guilin with another 737 taking off behind it; the other has a 747SP at the gate with various ground vehicles. Both cards are of excellent quality and are a welcome addition to any collection.

Varig of Brazil has a new card showing an artist's conception of their new 747-300.

In keeping with tradition, British Airways has a new postcard set showing the 737, 747, 757 and Concorde in their latest color scheme.

American Trans Air now has a card of their L-1011 available from their headquarters in Indianapolis.

During 1985, the 50th anniversary year of the DC-3, Sunbird Aviation of Kenya produced two in-flight postcards of their DC-3.

Two new issues were just received from Icelandair, showing their 727-200 and DC-8-63CF.

During their short existence,

*This VARIG card shows an artist's impression of the airline's new Boeing 747-342 (SCD). The registration PP-VRG is fake.*



Pride Air did publish a very nice postcard of their 727, showing the aircraft in flight.

Empire Airlines recently merged with Piedmont. I hope everybody has a few Empire F-28 postcards in their collection. I know of three different of their F-28 cards.

Our friends at Editions PI have released several new postcards with more to come this winter. Briefly, the cards are #420 - Tunis Air A300; #421 - AirCal 737-300; #422 - America West 737-300 and #423 - Northwest Orient 757.

US Publications in West Germany now has four more postcards to their credit: #38 - Royal Air Maroc DC-4; #39 - Air Zaire DC-4; #40 - Air Afrique DC-4 and #43 - Sterling L-188.

From sunny Miami we have received news of 15 new postcards from Aerogem. They are:

- 401 - Air Atlanta 727
- 402 - Alaska/Seahawk 727-200
- 403 - Allegheny Commuter F.27

- 404 - Aloha 737
- 405 - Arrow Air 727-200
- 406 - Atlantic Gulf BAC 1-11
- 407 - Cite Express Dash-7
- 408 - Continental MD-82
- 409 - EPA 737-200 new colors
- 410 - Five Star L-1011-385
- 411 - Key Air 727-22
- 412 - Mid Pacific F-28
- 413 - Pride Air 727-200
- 414 - Sun Country 727-200
- 415 - Sunworld 737-300

From Fourcolour Productions in Australia, 12 new postcards are available, showing various Australian and New Zealand aircraft:

- FCV 3000 - Air Niugini A300
- FCV 3001 - Trans Austr. F-27 (new cs)
- FCV 3002 - Trans Austr. F-27 (old cs)
- FCV 3003 - Ansett Air Freight F-27
- FCV 3004 - Ansett Air Cargo L-188
- FCV 3005 - Air Express Br. 170
- FCV 3006 - Airline of the Marshall Islands HS748
- FCV 3007 - Air Pacific DC-10
- FCV 3008 - Air Pacific 737
- FCV 3009 - Air Pacific Bandeirante
- FCV - Air Pacific Twin Otter
- FCV - Air Pacific 747

The latest issues from APC Publications are: Aer Lingus Viscount (APC-A47), Phoenix BAC 1-11 (APC-A48) and Atlantis DC-9-30 (APC-A49).

The Aviation Hobby Shop's newest releases are: American Trans Air L-1011 (AHS-63), Silver City C-47 (AHS-64), British Eagle BAC 1-11 (AHS-65), LAN Chile DC-6B (AHS-66) and British United BAC 1-11 (AHS-67).

From Scandinavia, Aeroprint of Sweden's recent offerings include an American Trans Air L-1011 (Nr. 94), Maersk Air 737-200 (Nr. 95), Maersk Air 737-300 (Nr. 96) and Swedair Saab-Fairchild 340 (Nr. 97).

Air Shop Publications in West Germany has issued postcards showing

*Pan Am now operates its Airbus Industries A300B4 aircraft over its West-German network and on some Caribbean and domestic U.S. services. Card by Aviation World.*



a Northeast Airlines (US) Viscount, Air Afrique DC-6B, Air International Viscount and an Air Trader Vanguard.

The latest Collector Card Set, #7, is now available from The International Airline World Publishing Co. this set features 48 postcardsshowing aircraft of a wide range of eras and air carriers.

Jet Stream Publications in West Germany has several new issues available to collectors, including a

Trans-African DC-8. JAT Yugoslav DC-3, British United Bristol 170 Freighter, SAS DC-7C, AirWA BAe 146, Aloha DC-10, Cymru BAC 1-11 and Cite Express Dash-7.

And finally, a fine set of 16 limited edition commemorative DC-3 postcards can be obtained from DPR Marketing and Sales in conjunction with the Friends of the DC-3 Society. The postcards show DC-3s in the following liveries: Polair, El Venado, Pyramid Airlines, Firestone/Kings Island, Turorca, Gibair, Intra,

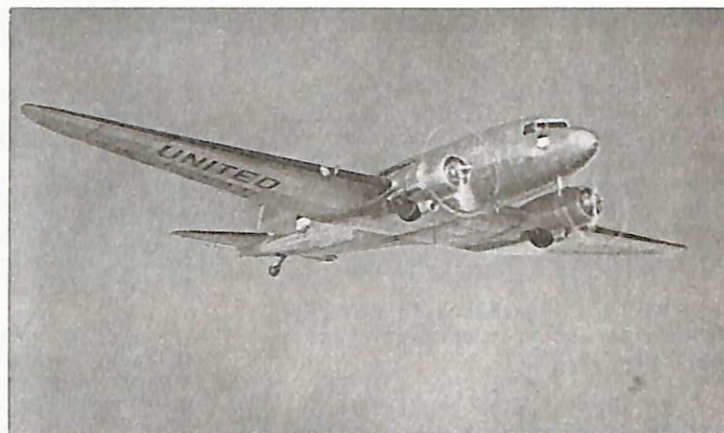
Northern, Paradak, Connair, SMB Stage Lines, Argosy, Viking International, Masling, Frontier and PBA.

This fall we'll be seeing a new postcard publisher called Flite-Line Fotos, under the guidance of Jon Proctor. I know that Jon will continue to publish more exciting and high-quality postcards of commercial aircraft.

I hope this information whets your appetite to expand your collection even further. Until the next issue. Have fun with your collection!



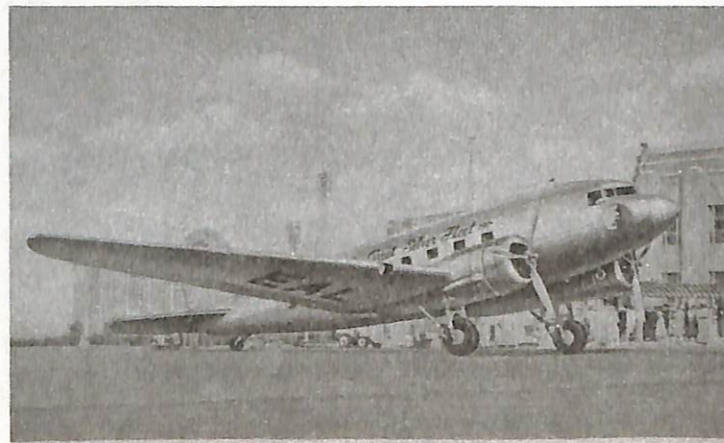
#2



#3



#4



Mr. Demarest also sent us six great historic post cards depicting DC-3s operated by U.S. domestic airlines before and after World War 2. All are airline issues and carry interesting and descriptive texts on the back.

#1. Pre-war American Airlines card w/ with text in Spanish and English. In the top left corner it says: Volando Por la Tuta de los "Flagships" and : In Flight, Route of the Flagships. Also shown is a flying pennant with the AA Eagle and letters AA. The bottom left corner reads: Este vuelo es un magnifico ejemplo del verdadero modo de viajar ... y tambien de lo mucho que se puede hacer en poco tiempo, and: This Flight is a fine example of the real way to travel - and to get much done in little time.

#2. Pre-war United Air Lines card. It tells us: United's Mainliner fleet includes giant sleepers for overnight coast-to-coastflights and 21-passenger day planes for inter-city flights.

#3. Lake Central Airlines is the "world's only employee-owned airline" this post-war card says proudly. The text continues: It serves 33 cities in the six states of Illinois, Indiana, Michigan, New York, Ohio and Pennsylvania. Lake Central flies a fleet of the world's safest airplanes ... the dependable Douglas DC-3.

#4. This post-war card says: A Trans-Texas Starliner flies over San Jacinto Monument ... symbol of the Battle of San Jacinto ... in which Texas won her independence from Mexico. This card was photographed by Houston, Texas photographer Jim Thomas, according to the card.

#5. Insist on the best - fly Pacific Southwest scheduled airlines, is the advice on the back of this black & white post card. It also gives the phone numbers in three southern California cities where travellers can book their flights. They are: San Diego J-2105; Los Angeles CH-82238 and ST-74163; S.F. Bay area LO-97017 and YU-2 4818, Or call your local travel agent. The face and back of this black & white post card are marred by dried out residue of transparent tape, which should present a clear message to us all.

#6. This pre-war Eastern Air Lines card reads on the front: Eastern Air Lines' Silverliner at New Orleans. The back says: Enroute via Silverliner ... Fabulous New Orleans, one of America's most picturesque cities. Silverliners stop here six times daily: three flights destined for

## A Farewell and

It is with deep regret that we learned that Peter Black, Jon Proctor and George Hamlin are unable to continue contributing to the CAPTAIN'S LOG on a regular basis because of personal and other commitments.

Peter and Jon have brought us the Post Card Colum since the Spring issue of 1979 and between them they have put together 23 colums, keeping us informed of the latest airliner card issues by commercial publishers and airlines alike and illustrating their colums with literally hundreds of new - and quite a few historic - cards.

Together they also operated Aviation World, a major publisher of airline post cards. But that venture too, has come to an end, basically because Jon and Peter could not keep it up, providing service and quality second-to-none, and maintain their full-time jobs as well. (Although Jon told me he may in the future attempt to resurrect the subscription service.)

I, and I am sure all other readers of the CAPTAIN'S LOG are grateful for the effort both have put into their co-editorship of the post card colum and we thank them both. I hope they will continue to contribute photos, articles and other material to the CAPTAIN'S LOG as the occasion arises.

George Hamlin started his slide colum in the Fall issue of 1981 and has since then contributed 15 colums and hundreds of pictures, some of which he took himself and others which he had obtained from other slide collectors.

George wrote me he resigned from the slide colum principally because he has no longer enough time to do the quality job he wants to do.

I want to thank George, on behalf of everyone, for the great job he has done through the years and in his case too, I hope he will be able to contribute to the CAPTAIN'S LOG whenever the occasion arises. Thank you, George.

northern and three for southwestern cities, including Brownsville, Tex., on the International border where direct connection is made with Pan American Airways planes for Mexico, Central and Douth America.

The post of slide editor is now VACANT and I am inviting anyone who is willing to take over, to contact me as soon as possible. I am looking for a person who has contacts not only in the U.S., but around the world so he (or she) can bring us a great variety of slides. -JG

## a Welcome

With the publication of this issue of the Captain's Log, we welcome Mr. William Demarest to our ranks of contributing editors. He is taking over the position of post card editor from Jon Proctor and Peter Black who, alone or together, have presented the post card colum for nearly six years.

However, Mr. Demarest is no stranger to the Captain's Log and the post card colum. He has been a major contributor to the material presented by Messrs. Proctor and Black for years. His own collection of cards numbers 4,500 different issues, "give or take a few hundred," he says. He is therefore knowledgeable and well-qualified to discuss the subject thoroughly and with authority.

Mr. Demarest is an English graduate from Wittenberg University in Springfield, Ohio. It was during those years that he started his interest in airliner post cards, preferring cards of jet aircraft "since I am a child of the jet age."

After a stint in marketing and technical writing, Mr. Demarest is now Systems Manager for the Kenney Travel Corp. in Hartford, Connecticut. He co-ordinates and trains agents on the use of the United Air Lines Apollo System and on other computer operations.

This year will be a busy one for Mr. Demarest as he is the chairman of the 1986 Airliners International Convention in Hartford, Conn.

Members who have historic and current airliner postcards and would like to see them published in the Captain's Log, should contact Mr. Demarest. His address is on the inside front cover of this and every subsequent issue of the magazine.

# AROUND THE WORLD

## of Airline Schedules

Copyright, 1985  
George Walker Cearley, Jr.

With this issue of the Captain's Log I'll be continuing my survey of significant collectible timetables of U.S. trunk carriers. This article contains the beginning of a two-part series on Delta Air Lines.

Also featured in this issue are timetables depicting DC-3's operated by U.S. trunk and regional carriers in the 1950's and 1960's.

June 17, 1929 - Inaugural timetable; TravelAir flights between Dallas, Shreveport, Monroe, and Jackson.

August 1930 - Service extended from the new western terminus of Fort Worth eastward to Atlanta by this time, with new stops at Tyler, Meridian, Tuscaloosa, and Birmingham.

July 1934 - Inauguration of Stinson "T" trimotor flights over new Air Mail Route 24 between Dallas, Shreveport, Monroe, Jackson, Meridian, Birmingham, and Atlanta; and Atlanta, Augusta, Columbia and Charleston.

September 18, 1936 - Trans-southern schedules featuring Lockheed L-10B "Electra" service along Route 24.

December 1945/January 15, 1946 - New extension of service between Atlanta, Jacksonville, and Miami; and Cincinnati-Chicago, creating a new route between Chicago and Miami.

November 1, 1946 - New nonstop DC-4 service between Chicago and Miami.

June 1, 1948 - Delta-TWA interchange inaugurated between Detroit, Toledo, Columbus, and Dayton and Atlanta, Knoxville, and Charleston. First scheduled interchange service in U.S.A.

December 1, 1948 - Inauguration of DC-6 "300 Plus Deltaliner" service to Chicago, Atlanta, Cincinnati; Miami, Jacksonville, New Orleans and Dallas.

September 25, 1949 - Inauguration of Delta/American through service between the Southwest, South, Texas, Arizona, and California.

May 1, 1951 - Inauguration of Delta/American/National interchange service between Florida, New Orleans, Dallas/Fort Worth, and the West.

March 1, 1953 - Initial service with the twin-engine Convair 340.

May 1, 1953 - Delta Air Lines/Chicago & Southern Air Lines merger timetable.

April 1, 1954 - DC-7 inaugural; cover shows actress Piper Laurie christening DC-7 while C. E. Woolman looks on.

April 1, 1955 - Inauguration of world's first intercontinental DC-7 service, "The Royal Caribe", between Chicago, New Orleans, Havana, Montego Bay, and Caracas.

February 1, 1956 - New service from South and Southwest to Washington, D. C. and New York. Cover features skyline of Lower Manhattan, with nose of Delta DC-7 as part of skyline and slogan "Delta Enters New York".

October 1, 1958/October 26, 1958 - Introduction of luxurious "Royal Service" on DC-7 and DC-7B flights (actually begun on September 22, 1958).

December 1, 1958/January 1, 1959 - New service Great Lakes-Florida, Detroit-Atlanta, Memphis-Atlanta, Kansas City-Southeast.

September 1, 1959 - Inauguration of world's first DC-8 pure jet service, Idlewild-Atlanta; first use of widget (current company logo) - widget then used as service mark of new "Royal Jet Service"; first timetable to feature DC-8 on cover.

February 1, 1960 - Inauguration of DC-8 jet service over Delta/American interchange between Atlanta, Dallas/Fort Worth, and Los Angeles.

April 24, 1960 - Contains world's first 880 schedules (effective May 15th; however, cover shows DC-8-11).

June 1, 1960 - First timetable to feature Convair 880 on cover.

August 1, 1960 - First timetable to show new 707/720 pure jet service, Miami-New Orleans-Dallas/Fort Worth-Los Angeles, on National/Delta/American interchange (actually begun July 12th) - gave Delta distinction of operating all U.S. pure jets then built on regular scheduled flights over its own routes - AA's 707's and 720's and its own DC-8's and 880's.

April 30, 1961 - Last timetable with DL/AA, and DL/AA/NA interchange flights.

June 11, 1961 - Inauguration of new southern transcontinental service.

August 1, 1962 - Last timetable with "Flying D" logo.

September 1, 1962 - First timetable to include widget as part of company logo.

October 1, 1962 - First timetable to feature new DC-8-51 fanjet on cover.

June 1, 1964 - Delta/Pan American interchange to Europe.

December 1, 1965 - Inauguration of world's first DC-9 pure jet service.

April 30, 1967 - New service with both DC-8-61 and DC-9-32.

August 1, 1969 - New Chicago-Nashville service.

October 1, 1969 - New service as a result of awards in reopened Southern Tier cases.

June 1970 - New Chicago-North Carolina-Florida service.

October 25, 1970 - 747 service - Atlanta-Dallas-Los Angeles - first jumbo jet service for Atlanta and Dallas.

July 1, 1972 - Last Delta timetable issued before merger with Northeast.

August 1, 1972 - Delta/Northeast merger timetable.



## WESTERN AIRLINES EASTBOUND from SAN FRANCISCO • LOS ANGELES • SAN DIEGO to RENO

### LAS VEGAS • SALT LAKE • PHOENIX • DENVER • MINNEAPOLIS/ST. PAUL

Read Down

FLIGHT NUMBER	San Fran	Oakland	Reno	San Diego	Los Angeles	San Diego	Phoenix	Salt Lake	Denver	Minneapolis	St. Paul
SAN FRANCISCO (PST) Lv	12 05										
OAKLAND Lv		12 20									
RENO Lv			1 15								
SAN DIEGO Lv				9 15							
LONG BEACH Lv				8 15							
LOS ANGELES Lv					6 00						
SAN DIEGO Lv					7 10						
ONTARIO (PST) Lv					6 55						
PALM SPRINGS (PST) Lv					6 42						
LAS VEGAS (MST) Lv					9 20						
PHOENIX Lv					9 45						
SALT LAKE CITY Lv					11 15						
CASPER Lv					11 30						
DENVER Lv					12 16						
CHEYENNE Lv					11 17						
SCOTTSDUFF Lv					11 07						
ALLIANCE Lv					11 47						
CHADRON Lv					1 58						
HOT SPRINGS Lv					2 53						
RAPID CITY Lv					1 55						
SIOUX FALLS Lv					2 05						
BROOKINGS Lv					3 30						
MANKATO Lv					4 29						
MINNEAPOLIS/ST. PAUL Lv					6 00						

A PORTION OF WESTERN'S DECEMBER 1, 1958, TIMETABLE SHOWING DC-3 (DIAMOND SYMBOL) OPERATED AS FLT 82 FROM DENVER TO MINNEAPOLIS. NOTE FLAG STOPS (f).

## FLORIDA CAPITAL AIRLINES

### NORTHBOUND

	Connecting Times		180-89 AM	TC 702 AM	584 PM	588 PM	517 PM	419 PM	TC 704 PM	TC 700 PM	188 PM	84 PM	589 PM	258 AM
	On line	Inter-line												
MIAMI (EST) Lv	20	40												
WEST PALM BEACH (EST) Ar		20												
TAMPA (EST) Ar		30	9 30	10 00										
JACKSONVILLE (EST) Ar		30	10 25	10 25										
ATLANTA (EST) Ar		30	12 00	12 10										
ATLANTA Asheville/Mendonville (EST) Ar		20	L1235	L1240	S1255									
CHARLESTON, W. VA. (EST) Ar		20			2 12									
PITTSBURGH (EDT) Ar		30			4 10									
PITTSBURGH Erie (EDT) Ar		20			7 50									
WHEELING (EDT) Ar		20												
YOUNGSTOWN (EDT) Ar		20												
YOUNGSTOWN (EDT) Lv		30			5 20									
AKRON/CANTON (EDT) Ar		20			5 28									
CLEVELAND (EDT) Ar		30			5 55									

CAPITAL AIRLINES SCHEDULES AS OF JUNE 1, 1960, OVER ROUTE FROM MIAMI TO CLEVELAND. DC-3'S ARE FLIGHTS IN THE 500 SERIES.



# MOHAWK Airlines COMPLETE SYSTEM SCHEDULE

Light Print: A.M. Bold Print: P.M.

EASTERN STANDARD TIME

EFFECTIVE NOVEMBER 15, 1953

## SOUTH and EASTBOUND

FLIGHT NUMBER	2	50	702	720	62	4	16	6	68	12	22	622	14	614	8
	Except Sun.	Except Sun.	Sun. Only	Sun. Only	Daily	Daily	Fri-Sun. Only	Daily	Daily	Except Sat.	Except Sat.	Sat. Only	Except Sat.	Sat. Only	Daily
	A.M.	A.M.	A.M.	A.M.	A.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.	P.M.
BUFFALO/NIAG. FALLS	Lv				10:00	12:26		Originates at Elmira on Sun.	5:30						7:45
ROCHESTER	Lv				10:30	12:56			6:00						8:15
ITHACA	Lv	7:08	7:45	10:11	10:35	11:08	3:38		6:38	5:41	6:13	5:46	8:38	8:11	8:53
SYRACUSE	Lv														
BRADFORD	Lv	7:30		10:33					6:38	6:03		6:08			9:15
ELMIRA/CORNING	Lv	8:01	8:07	11:01	11:00	11:37	4:00	5:00	7:07	6:30	6:35	6:35	9:00	9:00	9:40
BINGHAMTON	Lv														
UTICA/ROME	Lv														
NEW YORK/NEWARK	Ar	8:57	8:46	11:57	11:55	12:17	2:57	4:57	7:47	7:27	7:30	7:30	9:57	9:57	
ALBANY	Lv		9:26												
PITTSFIELD	Lv		9:50												
WESTFIELD-SPRINGFIELD	Lv		10:14			1:05			8:21						
WORCESTER	Lv		10:40			1:31			8:47						
BOSTON	Ar		11:04			1:55			9:11						

Flight 16 will also operate Nov. 25, Dec. 24 and Dec. 31, 1953  
Flights 2 and 50 will not operate Jan. 1, 1954

Flights 702 and 720 will operate Jan. 1, 1954  
Flight 16 will not operate Nov. 27, Dec. 25, 1953 and Jan. 1, 1954

SOUTHBOUND AND EASTBOUND SCHEDULES OF MOHAWK AS OF NOVEMBER 15, 1953.

## ALL AMERICAN AIRWAYS COMPLETE SCHEDULES

READ DOWN										READ UP																							
700	600	500	100	180	532	402	302	188	604	704	404	524	706	374	104	101	401	103	351	701	801	601	733	303	755	403	105	815	605	305	805	707	
AM	AM	AM	AM	AM	AM	AM	AM	PM	PM	PM	PM	PM	PM	PM	PM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM	AM
To Convert to Daylight Savings Time Add One Hour																																	
L. CINCINNATI L. PARKERSBURG/MARETTA L. WHEELING L. PITTSBURGH										L. PITTSBURGH L. FRANKLIN OIL CITY L. BRADFORD L. JAMESTOWN L. DUNKIRK/FREDONIA L. BUFFALO																							
L. JOHNSTOWN L. ALTOONA L. HARRISBURG L. LANCASTER L. WILMINGTON L. PHILADELPHIA L. PHILADELPHIA										L. CONNELLVILLE/UNIONTOWN L. CUMBERLAND L. HAGERSTOWN L. WASHINGTON																							
L. WASHINGTON L. BALTIMORE L. EASTON/CAMBRIDGE L. SALISBURY/OCEAN CITY										L. DOVER L. MILLVILLE/VINLAND/BRIDGETON L. ATLANTIC CITY L. ATLANTIC CITY L. ASBURY PARK/LONG BRANCH/RED BANK L. CLEARFIELD/PHILIPSBURG/DUBOIS L. LOCK HAVEN L. WILLIAMSPORT L. WILKES BARRE/SCRANTON L. NEW YORK/NEWARK																							
ALL FLIGHTS DC-3 EQUIPMENT																																	

## ALL FARES SUBJECT TO 15% GOVERNMENT TAX COMPLETE ONE-WAY FARES INFANTS FREE, CHILDREN UNDER 10—ONE-HALF FARE

AND	ALTOONA	ASBURY PARK	ADAMSVILLE	BALTIMORE	BRADFORD	BUFFALO	CAPE MAY	CINCINNATI	CLEARFIELD	CONNELLVILLE	CUMBERLAND	DOVER	DUNKIRK	EASTON	HARRISBURG	JAMESTOWN	JOHNSTOWN	LANCASTER	LOCK HAVEN	MILLVILLE	NEWARK	NEW YORK	PARKERSBURG	PHILADELPHIA	PITTSBURGH	REHOBOTH	SALISBURY	SCRANTON	WILKES BARRE	WASHINGTON	WHEELING	WILLIAMSPORT	WILMINGTON
BETWEEN	10.25	15.10	9.00	15.70	15.70	15.10	15.10	23.40	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10
BETWEEN	10.25	15.10	9.00	15.70	15.70	15.10	15.10	23.40	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10

ALL AMERICAN AIRWAYS ALL DC-3 SERVICE AS OF APRIL 27, 1952. ALL AMERICAN BECAME ALLEGHENY AIRLINES IN EARLY 1953.

# AIRLINE PLAYING CARDS

by THOMAS DRAGGES

Sorry for my long absence from this playing card column. After hosting AI'85 I guess that you can say I was a bit brnd out.

I hope everyone is getting set for AI'86 in Hartford. I know that they are working hard at this point so we will have a grand time.

With Pan Am being out featured airline in this issue, here are the various cards issued by this airline during the years.

The earliest card shown is from about 1955 to 57 (#1), showing a Boeing 377 Stratocruiser flying over the ocean with a sailing clipper ship below. One card has a white border, the other a dark blue one. There is a variation on this card in that the registration number of the aircraft is different. All printing is dark blue.

Pan Am's design using the globe with wing logo and showing the Stratocruiser was used from about 1957 to 61. One is turquoise background with white print and the other is dark blue with white print (#2).

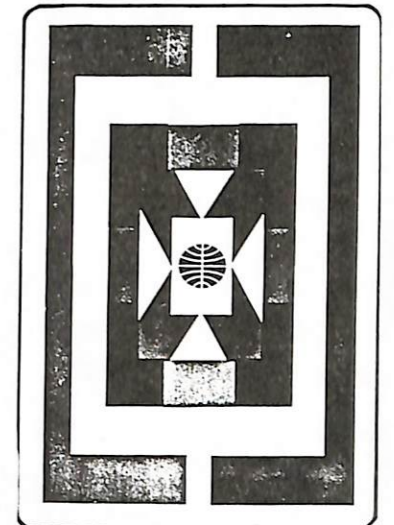
Moving into the jet age we have the Pan Am globe with Pan American printed through the center of the equator. A Boeing 707 is flying through the center from South to North (#3). At the bottom is printed "World's Most Experienced Airline". One card has a blue background with white border and white print. The other is reversed. Dr. David Kligman recently informed me that there is a variation on this issue, which shows a prop aircraft, which I am guessing is a DC-7 instead of the 707. The issue with the 707 was used from 1965 to 70.

The multi-color decks which represented the Pan Am International Flag Service theme, (#4), were used from 1970 to 72. Colors are white, blue, green, red and yellow. Again, there is a variation, with one set having a white globe on a light blue background and the other a light blue globe on a white background.

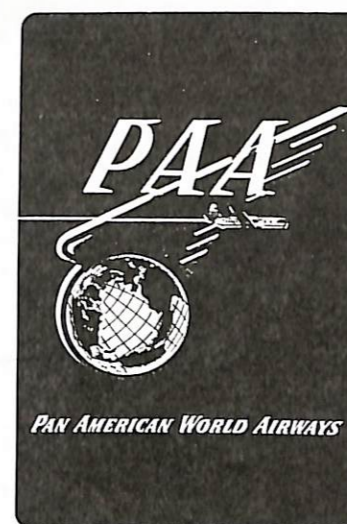
From 1972 to 76 the airline had six decks in use, representing six countries and/or continents:



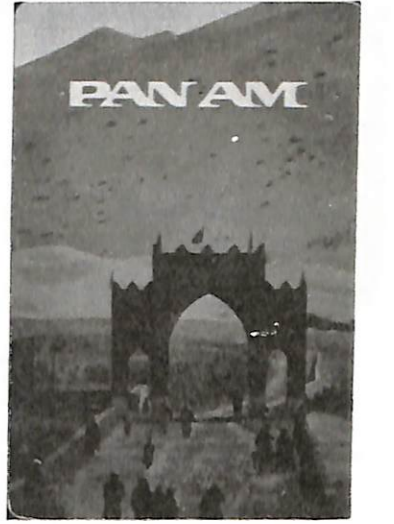
#1



#4



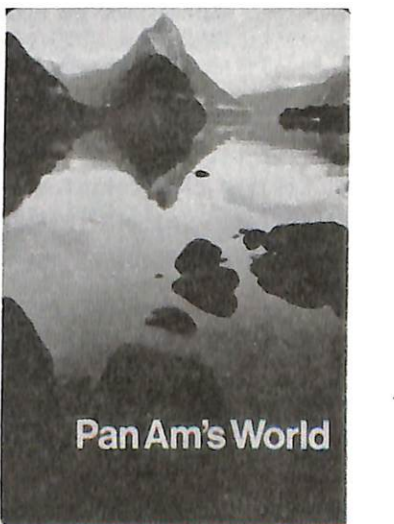
#2



#5



#3



#5



Africa, England, Hawaii, Morocco, New Zealand and the U.S.A. There are two variations on these decks. One says Pan Am on them and the other says Pan Am's World (#5).

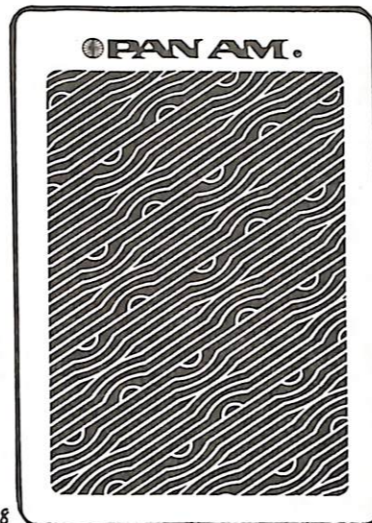
In 1976 Pan Am issued a commemorative deck celebrating 50 years of airline service. The card reads 50 Years of experience. It is a white card with gold border and print (#6).

Next, in 1977, the airline issued the Clipper Ship decks. There are two variations: blue background with light blue border, white Pan Am print and blue clipper ship against a white backdrop, and white background with blue border, blue Pan Am print and white clipper ship against a blue backdrop. (#7)

About 1983 Pan Am issued its present cards (#8). They have a blue background with white border and white grain pattern. The print Pan Am and the globe are also in blue. For a while the same deck appeared with an ad for Baileys Original Irish Cream at the bottom of the card (#9). The ad was in black on a white background the same shape as the ad.

Once again, I am asking you to keep me informed of any new decks being issued by the airlines.

Here's hoping your next hand is a winning hand. Happy Collecting.



#8



#9



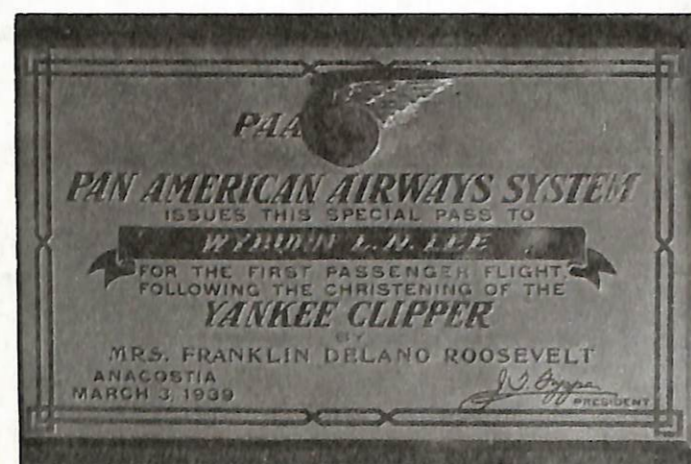
#7

## A weighty PAA pass

George Jenkins of Clarksburg, West Virginia, sent us a photograph of a Pan American Airways pass issued to Wyburn L.N. Lee.

The pass is in the form of a gold-plated bronze plaque and weighs about eight ounces (nearly 250 grams). It was issued on 3 MAR 39 on the occasion of the first passenger flight, following the Christening of the Yankee Clipper by Mrs. Franklin Delano Roosevelt (wife of the then-president of the U.S.A.) at Anacostia that date.

Mr. Jenkins writes that the pass is very ornate, but Pan Am has no authentication on it, according to Ann Whyte of the airline's public relations department, Mr. Jenkins says. However, he says the original, from which the photograph was taken, "is evidently genuine".



# RELIVING A ROMANTIC ERA

by CHARLES QUARLES

How many of us have dreamed of being able to travel by air in the more glamorous and romantic manner of the 1930s and 40s?

Well, that dream has been made possible by Don Elmore and his Sentimental Journeys of Bluefield, West Virginia.

Don, an ex-U.S. Army aviator and Vietnam helicopter pilot, own and operates Appalachian Flying Service at the Mercer County Airport. In 1983 he decided to make his love for the venerable DC-3 a workable proposition by utilizing such an airplane for a nostalgic charter service. Besides, there seemed to be a void in the market for an 18-20 passenger charter aircraft.

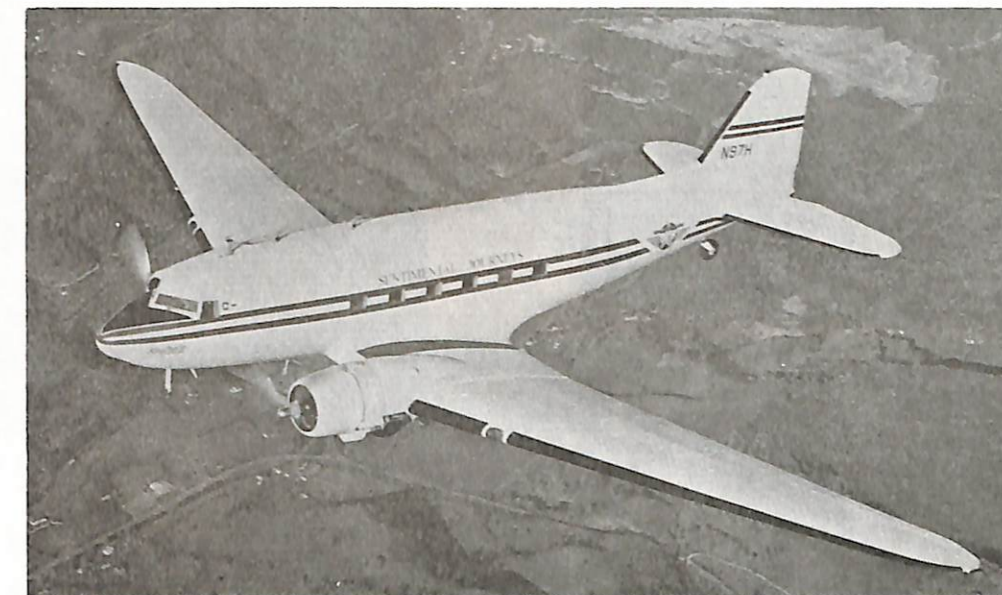
Together with Bill Davis, a DC-3 soulmate and retired chief of maintenance for Piedmont Airlines, he set off across the country to find the best DC-3 they could get their hands on. They found it at Forth Worth, Texas. It was airplane N97H, c/n 33613. The aircraft had only 8,600 hours total time on it since new, which made it one of the lowest-time Threes left in the world out of the more than 13,000 DC-3s/C-47s built.

Don Elmore and his Appalachian Flying Service Leasing company purchased the aircraft in Dec 83 with the intent of using it for their proposed Sentimental Journeys passenger charter service.

On 15 May 84 Sentimental Journeys made its inaugural flight from Bluefield. This coincided with the 30th anniversary of Piedmont's DC-3 service into Bluefield. For the first time in its almost 40 years of existence, N97H was in commercial service.

Since that time Sentimental Journeys has been providing a unique service and commitment not only to preserving a piece of history, but bringing it back to life so that it may stir fond memories with some, or create new ones with others.

The aircraft has been kept busy with NASCAR charters, ballgame charters, sightseeing trips, golfing and hunting expeditions, private and business charters. It has also made appearances at air shows and at historic aviation functions. At one of these the aircraft and crew were the guests



of honor at the Washington Aero Club's Wright Memorial Dinner Reception in a hangar at Dulles International Airport 6 Dec 85, where it shared the limelight with the Space Shuttle Enterprise. The Enterprise, of course, will become a permanent exhibit at the new National Aviation and Space Museum facility here.

By contrast, DC-3 N97H, 40 years old in July 1985, will keep on flying for a little while. In June of this year, 1986, it is to travel cross-country to participate in the Expo 86 DC-3 Airmade in Vancouver, Canada. It will help commemorate the 50th anniversary of the first commercial



service of the DC-3. Anyone interested in participating in this historic cross-country DC-3 flight may contact Don Elmore at Sentimental Journeys, Route 5, Box 202B, Bluefield, WV 24701, Ph 304-327-8430.

The favorable response to the operation of Sentimental Journeys is in great part due to the love for and dedication to the airplane and its customers by the crew and staff. Don Elmore is Captain and Chief of Operations; his wife Connie serves as

Flight Attendant (and all-round morale booster); Sheila Volk is Flight Director charged with marketing and sales and also serves as a Flight Attendant; John Huffman is First Officer and the writer of this article has been privileged to work part-time as a Flight Attendant.

We all take great pride in maintaining the airplane and its image and in making our passengers welcome, comfortable and safe. We all pitch in with lots of "spit and polish" and with a lot of elbow grease as well.

Sentimental Journeys operates under an FAR 135 Certificate and the DC-3 is configured for 18 passengers with four rows of three first-class seats (one set of club seating with conference table) and two forward sofas seating three or four each.

There also is a galley, lavatory and a television/audio cassette system.

The airplane is available for charter and Sentimental Journeys gladly provide more information. Please write to: Sentimental Journeys, Rt. 5, Box 202B, Bluefield, WV 24701, or call (304) 327-8430.

# WINGS & THINGS

by RICHARD KORAN

The history of N97H is well-documented. It is recorded here:

06 JUL 45: delivered to U.S. Army Air Corps as a C-47B-40-DK, c/n 33613. The aircraft was almost immediately declared surplus and never left the USA.

24 FEB 46: handed over to the Reconstruction Finance Corporation for disposal on the civil market.

04 APR 46: sold by the War Assets Administration (which succeeded the RFC in March 46). Title passed in rapid succession to four different owners but it remained idle.

07 AUG 48: aircraft acquired by Humble Oil and Refining Company of Houston, Texas. Air Research Aviation Service Co. of Los Angeles, California, performed the conversion of military C-47B to civilian DC-3C-S1C3G configuration and outfitted the aircraft with an executive interior. At this time the aircraft carried the registration number NC63288. It was based in Houston, TX and served as a corporate transport for Humble for almost 20 years. In Dec. 50 the registration was changed to N97H (H for Humble). There was also a sister ship in Humble's fleet: DC-3 N98H, c/n 20061.

22 OCT 57: aircraft sold by Humble to J.W. Harrison of Tyler, Texas, who owned it until 1972

1975-77: ownership unknown

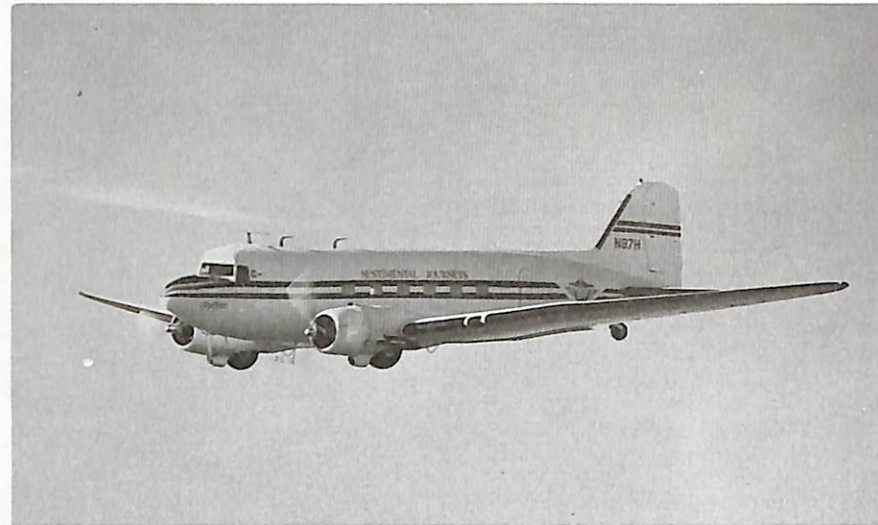
MAR 77: sold to William H. Wheeler, also of Tyler, Texas. The aircraft was based at Tyler and was used by Mr. Wheeler as a private and company aircraft.

03 APR 79: sold to Forth Worth, Texas, night club owner Billi Bob Barnett. Billy Bob's Texas is a night club which covers a whole city block near the old stock yards are of Ft. Worth. Billy Bob did not use the aircraft much, but when he did, it was mostly for entertainment.

SEP 79: registry transferred to B Inc., of Dallas, Texas. (Ed's comment: Is this a company owned by Billy Bob Bartlett?).

01 MAY 80: aircraft registered in the name of Fort Worth Apache Corporation of Euless, Texas.

04 DEC 83: N97H is purchased by AFS Leasing for the purpose of carrying passengers by Sentimental Journeys. The aircraft underwent modification and preparation for this purpose in Fort Worth, Texas.



(Postcard published by Aviation World)

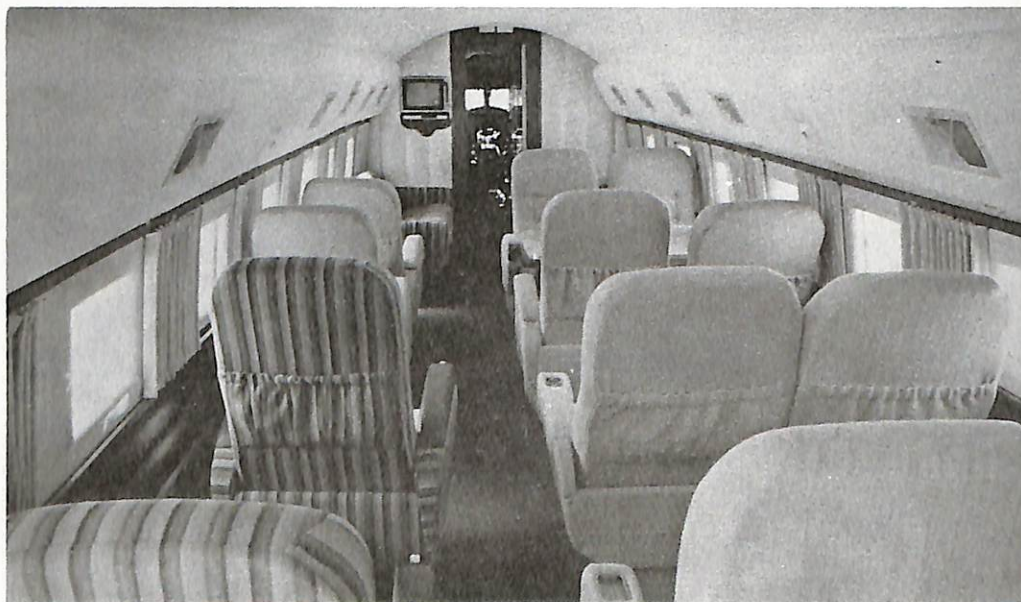
06 APR 84: After completion of modifications, N97H was flown to Bluefield, West Virginia, for its certification process which would place the aircraft on Appalachian Flying Service, Inc. ATCO certificate.

15 MAY 84: Sentimental Journeys holds its grand opening ceremony in conjunction with the 30th anniversary of the Mercer County Airport at Bluefield, West Virginia.

06 JUN 84: Sentimental Journey receives its FAA certification under FAR Part 135 and N97H becomes a commercially working aircraft for the first time in its 40 years of existence.

PRESENT: By Dec. 85, N97H had a mere 8,9000 hours logged on her airframe since new. This low time is attributed to the fact the aircraft was never really used by the military and was never a working airline aircraft. Until Sentimental Journeys bought it, N97H spent nearly all of its flying as a corporate aircraft.

(Historic information provided by the author and supplemented with details from the book "THE DOUGLAS DC-3 and its predecessors" by J.M.G. Gradidge and published by Air-Britain, Tonbridge, Kent, England)



"She was a lady. She has charm and looks and the style of a grande dame. Her slim, graceful lines and pert, upturned nose put her in a class all her own. And though she was a creature born of aluminum and steel, men were bedazzled by her.

"Boldly emblazoned on her bow was her name: China Clipper. She was the flagship of Pan American Airways, and for a moment in history she was the most famous airplane in the world."

With the wrap up of the Pan American history in this issue, there were a few more "things" which came across my desk - almost flying - which I would like to share with you. They are a part of those "wings" we collect - those graceful emblems that speak to us from the past, are a part of us today, and beckon us into the future!

The first two paragraphs above are the opening for an article in the November 1985 Pan American Clipper magazine by Captain Robert L. Gandt, a Pan Am pilot based in West Berlin.

There were a couple of other interesting PAA items, which have appeared in issues of the Airpost Journal, official monthly publication of the American Air Mail Society. I thought you would like to read them.

The April 85 AJ devoted a fair amount of space to "PAA's 1935 Pacific Survey Flight" - lots of history in addition to some photos of flight covers and cachets carried on those survey flights into the Pacific.

The 50th anniversary of the trans-Pacific air mail service by PAA is highlighted in the Nov 85 Airpost Journal. An article in that issue, "Captain Musick - Pacific Trail Blazer," was written by Michael McGovern - Capt. Edwin C. Musick was McGovern's great-uncle!

Interestingly, Capt. Musick, PAA's first ocean-flying captain and international air mail pioneer, carefully chose the members of his flight crew for that history-making trip, and his Navigation Officer was Fred J. Noonan. Noonan was navigator on a series of extensive ocean-going flight over both the Atlantic and Pacific Oceans.

Long-range over-ocean flying

PAN AMERICAN WORLD AIRWAYS ground mechanic's pocket pin. Finished in gold with blue enamel disc center. There are no hallmarks on this badge. However, it is numbered "28".



PAN AMERICAN WORLD AIRWAYS: This Senior Pilot wing has a gold finish with the blue enamel center and bar for stars. It is pinback for wear over the left breast pocket. There are no hallmarks on this badge, which was worn in the 1930-44 time period.



PENNSYLVANIA-CENTRAL AIRLINES (PCA): A growing network of routes through the eastern and central regions of the U.S. resulted in the acquisition of DC-3s to improve service. This gold wing is a fine example of airline insignia. No hallmarks and uses pinback for wear. There is a later PCA wing - which I do not have - which utilizes a more stylized shield and logo. PCA later became Capital Airlines, which in turn merged into United Air Lines.

and navigation became a matter of smooth routine for him. Amelia Earhart had implicit faith in the cool and unflappable aviator and navigator when she selected him to accompany her on her round-the-world flight from Miami, Florida, in 1937. Taking off into the early-morning stillness

on 1 June 37, they would vanish in the Pacific a month later.

The following is from the October/November 85 issue of American Heritage magazine and Carolyn Ide's column, The Time Machine:



"The November 22 (1935) inauguration of Pan American Airways' Pacific route - the first commercial air transport available to the Pacific Islands - was a public relations extravaganza. Patriotic speeches were made, a letter from President Roosevelt was read, and the fervent comments of the governor of Hawaii and the president of the Philippines were relayed over short-wave radio. Nearly 550,000 people lined the shores of San Francisco Bay to watch the takeoff of the China Clipper, Pan Am's flying boat, and the entire proceedings were broadcast around the world.

"Not all nations celebrated the occasion, however. Pan Am had been contracted to fly the route by the U.S. Post Office and was being generously subsidized by the government. That subsidization, among other things, convinced Japan that the United States' interest in the route went beyond getting mail to the residents of Guam: 'This project can be regarded as military preparations in the guise of civilian enterprise,' read a Japanese editorial. 'Commercially and industrially, there is no justification for extension of American airways to the Pacific islands ... future use of these airports for military purposes is contemplated.'

"The United States denied it, but Japan was not persuaded.

"On the morning of the inaugural, FBI agents surprised two Japanese nationals preparing to sabotage the radio direction finder in the China Clipper's chart room. No mention of the incident was made to the press, and the inauguration proceeded as though nothing were amiss."

Interesting, isn't it?

As a pilot, the following excerpt from Capt. Gandt's Clipper article mentioned before, drew my attention.

"As the China Clipper prepared for her first transpacific takeoff, the band played the "Star Spangled Banner", following which Juan Trippe 'called the roll' by radio of the island stations that would receive the China Clipper: Honolulu, Midway, Wake, Guam, Manila.

"Radio operators at each station boomed back in succession: 'Honolulu, ready!' 'Wake, ready!' 'Guam, ready!' 'Manilla, ready!'

"The Trippe turned to Musick and announced, 'You have your sailing orders. Proceed to Manilla!' The flag that adorned her bow was swept away, rockets blazed overhead, and a swarm of light airplanes buzzed downward to escort her as she departed.



PIONEER AIR LINES: This early feeder air line operated a fleet of 11 DC-3s. The wing is silver with red, white and blue enamel in the center device. Pin back for wear and there are no hallmarks.



SOUTHERN AIRWAYS: Based in Atlanta, Georgia, Southern operated DC-3s in the southeast of the U.S.A. The civilian contractor I trained with for the USAF in Bainbridge, Georgia, was Southern Airways School. The wing is gold with blue enamel and gold in the logo device.



SOUTHWEST AIRWAYS: An early second-level carrier, Southwest operated DC-3s in and around California. This wing has a gold finish with dark blue enamel in the center and uses a pin back for wear. No hallmarks.



WESTERN AIR LINES: A stewardess badge in Sterling and Hallmarked Tanner SLC. The badge is pin back for wear on either the cap or uniform jacket/blouse. A beautiful piece of jewelry!



THE FLYING TIGER LINE: Founded in 1945 by a former "Hump" flyer in China with Gen. Chennault's "Flying Tigers", the airline became a pioneer in the history of air freighting. It began operating in 1947 with DC-3s. This wing badge is LGB Sterling and has a pin back for wear. The shield uses red and blue enamel along with the silver finish.



AMERICAN AIRLINES: This Supervisory Captain's wing was awarded to Capt. Mel Burton in 1942. AA was a pioneer in the use of the DC-3 aircraft. The wing has a Balfour hallmark along with 1/20 10KGF and is pin back.



CHALLENGER AIRLINES: An early feeder airline which later became part of the Frontier system. A fine photo of a Challenger "Sunliner" DC-3 is on page 388 of R.E.G. Davies' book Airlines of the United States since 1914 (1972 edition). This wing has a gold finish with red, green and gold in the center. The wing is a re-strike by Jostens and uses clutch backs for wear.



EASTERN AIR LINES: DC-3s operated many hours for Eastern - one of them, N21728, flew 50,000 hours before being sold to North Central in 1972, according to author R.E.G. Davies. This EAL wing is gold wire on black cloth for wear. The center device uses red, light blue and dark blue enamel.

"The China Clipper surged through the water, her four Pratt and Whitney engines bellowing at full power. In her wake cascaded plumes of water.

"The engineers had already calculated how much take-off distance the Clipper would require, and during the past 11 days Musick and his crew had practised heavy-weight take-offs. The China Clipper had lifted her own great bulk into the air precisely on schedule. And she did that day, too.

"With a last tick on the water her hull broke free and she was airborne.

"Ahead loomed the San Francisco-Oakland Bay Bridge, still under construction. It was Musick's plan to take off to the west, soaring up and 'over' the bridge. From the cockpit he could see the unfinished pylons and the dangling cables and the girders still festooned with scaffolding.

"The Clipper was airborne, but barely. With her great burden of fuel, she gained no more than 50 feet of altitude. Despite Musick's best efforts, the China Clipper was climbing like a pregnant porpoise, roaring straight toward the Bay Bridge.

"At the last instant, with the steel mass of the Bay Bridge filling the Clipper's windscreen, Musick decided to change the script. He nosed the Clipper down toward the water. The plane roared 'beneath' the Bay Bridge, between the massive girders and under the hanging cables. Directly on her tail came the swarm of escorting airplanes, their pilots all thinking this was part of the show. Somehow, to the astonishment of those on the shore who knew better, they all made it.

"The China Clipper became a speck on the horizon, then vanished."

Having some "flying boat" experience myself, at the controls of the USAF's Air Rescue Service Grumman HU-16 Albatross, I have had some pretty interesting flying on and off water, but nothing to equal the Musick-Bay Bridge "fly-under"!

In the second of the LOG in 1985 (Vol. XI, No. 2, page 27) I asked for information on, and identification of, a small "Clipper" wing with a flying boat superimposed over the central Pacific in the center. Well, Bill Sohmer came forth with, "these (wings) were Hollywood giveaways at the showing of the movie 'China Clipper,' starring Humphrey

Bogart." It seems an old issue of Antique Trader had an article on these wings and several other collectibles that could be obtained in those days. Thanks, Bill!

I have also indicated an article about the TWA Ford Tri-motor seaplane NC410H, would be forthcoming. Records are vague or incomplete, but they do show that NC410H was first flown in 1929 and was used a while by the Ford Company for tests with pontoons, skis and wheels. TWA records show the plane was acquired by them in 1933. This story will make an article all its own in a future edition of the LOG when I can get all of the details together.

Charlie Dolan, WAHS member and wing collector from the Montreal area, has provided me with a shoulder board from QANTAS that has an interesting story all its own. Pictured herewith, the shoulder insignia has a very dark blue background with three gold stripes. In this case, two maroon stripes separate the three gold ones and this is where the story lies.

According to British Airways Flight Engineer Brian Dunlop, in conversation with Mr. Dolan in Montreal, the maroon or purple background to the gold stripes is worn by Commonwealth country aircrews in tribute to those engineers who stayed at their posts during the sinking of the RMS Titanic in 1912! The three stripes, with star, in this case indicate Supervisory Flight Engineer or Senior Training Flight Engineer for QANTAS. Thanks, too, Charlie!

#### COMMENTARY

Let's face it, wing and badge collecting is a fascinating hobby! Lately, though, it seems the airlines have been more than a little slow in answering letters - or even not answering them at all. What with the challenges of deregulation these days, and the turbulence of the world situation, I can't really blame them. The air carriers have obviously run into enormous economic considerations as well as expensive and elaborate security measures to contend with - and wing collectors, I am sure, are about the last on their list of "things to do"! Reading the newspapers in general, and the financial pages in particular, one doesn't have to scan too far to discover the comings and goings of many commuters, regionals and major carriers. And I don't mean takeoffs and landings!

We must recognize the increase in numbers of wing and badge collectors these days and be aware that the days of abundant material and



**NORTH CENTRAL AIRLINES:** Almost synonymous with DC-3s in the U.S., a great photo of a North Central -3 appears on the back cover of the Spring 1984 LOG. One of these famous planes is now at the Ford Museum, Greenfield Village, Dearborn, Michigan. This wing is silver with red, white and blue enamel. Pin back for wear.

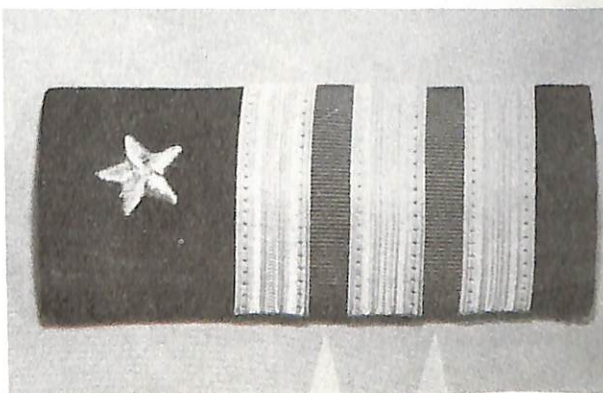


**AIR NORTH of Darwin, Northern Territory, Australia:** Two prized DC-3s, or "Gooney Birds", are part of this carrier's fleet. It is quite common for sporting and social clubs to charter the "Grand Old Ladies" for nostalgic flights to Kakadu, Bathurst and Melville Islands, the home of the TIWI Aborigines. This pilot wing is silver-finished with silver "Air North" on green background.



**CHINA NATIONAL AVIATION CORPORATION:** A Pan American subsidiary, CNAC began operations over the Burma - China "Hump" in co-operation with the 10th Air Force. CNAC was a pioneer on these routes, which started during the Sino-Japanese War, long before Pearl Harbor. This badge is marked "Phelps & Co." and "Silver". The letters of CHINA are blue enamel and the shield has blue and red enamel. Large pin for wear.

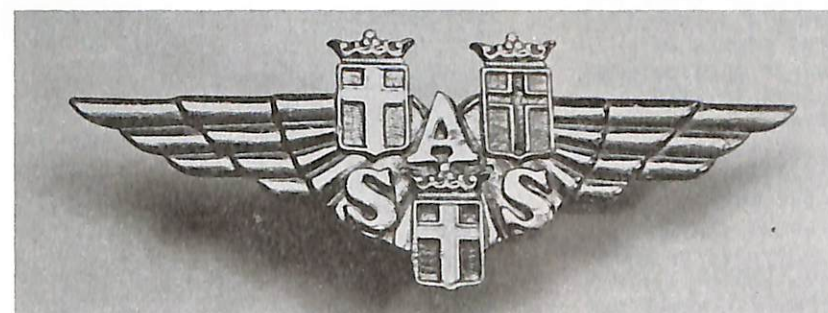
**QANTAS shoulder boards:** Three gold stripes on a very dark blue background. The boards are worn by Supervisory Flight Engineers and by Senior Training Flight Engineers. However, the boards for the FE the gold stripes are separated by two maroon bands, as indicated by the two arrows. The maroon bands are worn by all Commonwealth air crews in tribute to the engineers who stayed at their posts during the sinking of the RMS Titanic in 1912.



**KLM - ROYAL DUTCH AIR LINES:** KLM's success with the DC-2 in the 1934 England-Australia Air Race (which will be subject of an article in the LOG later this year - Ed.) demonstrated the reliability of the modern American airplane and KLM would buy a total of 20 DC-3 before WW2. This early badge, with chipped parts, uses blue enamel overall with orange enamel for the letters KLM in the center. It is hallmarked Johnson National NY and was found in Southeast Asia during WW2 by a former neighbor of mine.



**FINNISH AIR LINES (AERO O/Y):** Finnish operated both the DC-2 (former Czech CLS aircraft) and DC-3s. John Wegg's book, "FINNAIR", along with Mike Machat's art work, illustrate some great views of these Douglas airplanes. The wing is in gold wire with blue enamel and silver trim in the center device. Dark blue cloth for wear as a sew-on.



**SAS - SCANDINAVIAN AIRLINES SYSTEM:** Ground personnel badge, discovered at a military show. This badge is from the late 1940s and early 1950s and matches exactly the design used on the SAS flight chachet for the Copenhagen - Madrid inaugural service on 7 Apr 50. Denmark Luftpost stamps are on the cover in the collection of Joe Wolf, a WAHS member. The badge has dark gold finish and the flags of Denmark, Norway and Sweden in their colors have been painted on.

cheap acquisition are over. As for the "freebies" from the airlines, I have heard of some carriers which received 100 or more requests for their wings and hat badges.

Prices are escalating, there are a growing number of restrikes and reproductions on the market, in addition to a small stream of fakes. All this would indicate airline wing and badge collecting is a popular activity.

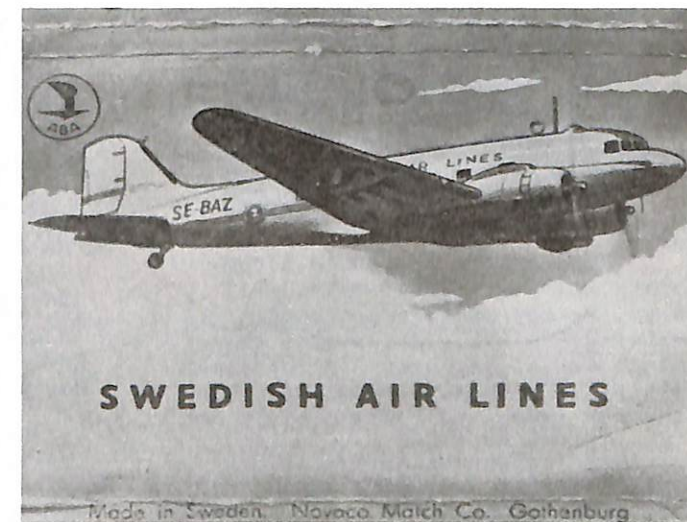
However, when reviewing a recent article on toy soldier collecting in the Jan 86 Connoisseur magazine, I came across a comment that perhaps is related to our hobby as well and to which we must give resious consideration.

The article pointed out the economics of collecting toy soldiers has reached such highs that a once playful hobby has become a serious enterprise. As prices for the toy soldiers rise, the field is entered by collectors who care less for the figures as military tokens than as metal objects of considerable value.

Among WAHS members there are no doubt people who can add to the thoughts presented here, and I urge you to do so, so that we might learn more about our fascinating hobby.



**BRITISH EUROPEAN AIRWAYS:** Founded in 1946, BEA flew services to most of Europe, to North Africa and to Eastern Mediterranean points. DC-3s, called Pionairs, formed part of the post-WW2 fleet. This badge is hallmarked J.R. Gaunt London. It has a gold finish with red enamel in the logo device. I believe this to be a stewardess item. It was found at a London flea market.



**SWEDISH AIR LINES (ABA):** A nice collectible illustrating a DC-3 in flight. The other part of the cover shows an ABA DC-4 in flight. The cover is printed in varying shades of blue and was sent to me by a friend in Malaga, Spain.

# AIRLINE DINNERWARE

by KEITH ARMES

The recent articles on Pan Am's history have been great and fortunately a few dining service items from the "Flying Boat" era have been preserved.

First are a cup and saucer (#1) from the collection of Jerry Soltis of Buffalo, N.Y. The pieces are light blue with the lettering and log in dark blue. The cup has the inscription "Lune Ware Buffalo China" on the bottom. The saucer is 5½ in. in diameter and marked "Buffalo China".

The other cup pictured (#2) is white with blue trim and logo.

As mentioned in a previous article, Delta Air Lines has introduced its "Signature" china of which the butter dish is pictured (#3). All pieces have gold lettering and trim and are inscribed "Made expressly for Delta Air Lines ABBCO Tableware". The accompanying silverware and linen are also inscribed with the signature, so in all they make a really nice place setting.

A couple of other interesting items have recently surfaced. First is a Southern frosted drink glass which appears to be of the promotional issue type. The lettering is in royal blue with the small inscription along the base reading "Southern Airways serving the South since 1949"

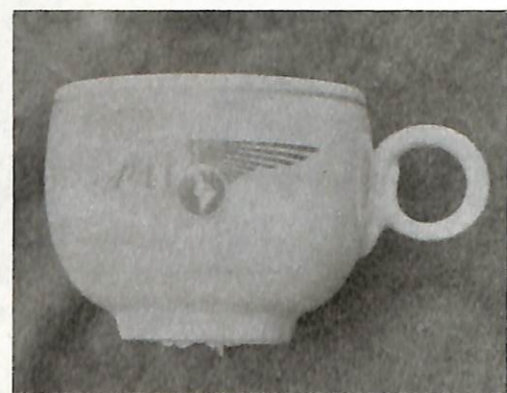
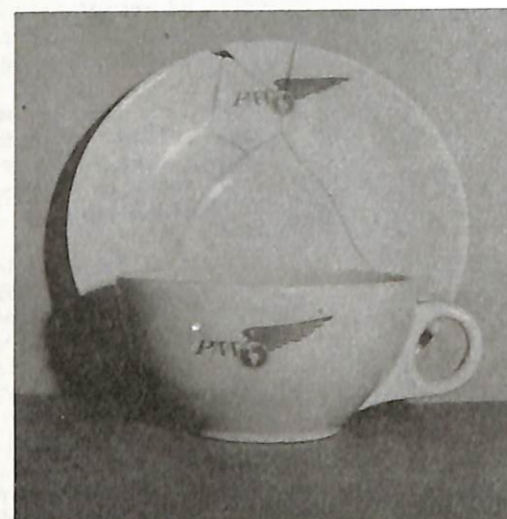
The second "new" old item is a 27th anniversary Eastern Air Lines glass (#4). The black-and-white photo doesn't do justice to this glass, which is a colorful blue and red. I have also seen a 25th anniversary Eastern glass, so one wonders during how many years these glasses were produced.

## WHAT'S NEW AND COMING UP

Pan Am will introduce a complete new place setting in April. Also, decent photographs permitting, we will feature the complete set of Southern Airlines shot glasses (30 in all) from 1949 through 1979.

As always, thank you all who help with this column by contributing photographs and information from their collection.

From JERRY SOLTIS of Buffalo, N.Y. we received the following copy



#2

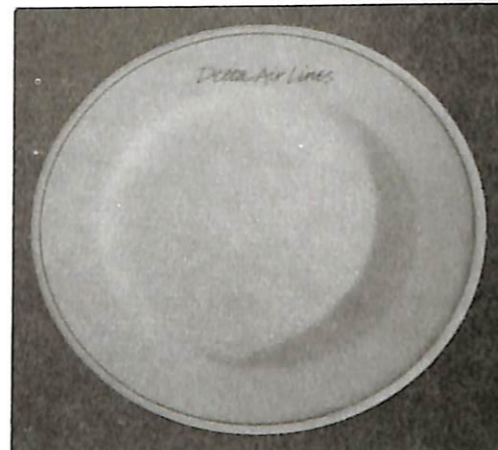
and photographs:

The Pan Am cup and saucer (#1) were among the first pieces of china I acquired as an airline enthusiast. That was back in 1970, when I purchased them from an antique dealer in New Jersey. Ironically, they were made only a few miles from my house, by the Buffalo China Company.

The cup is 2in high and 37/8in in diameter. The saucer is 5½in in diameter and is marked "Buffalo China". Both are light blue with an early stule PAA logo in dark blue.

Buffalo China also produced a similar type of china for restaurants, but these pieces are much thicker and heavier. Already at that time, weight reduction on board was a definite consideration.

Several years ago I had these sitting on a curio shelf that broke loose from its hanger one day and



#3

fell about five feet to the floor. Miraculously the cup survived intact without even a chip, but the plate broke in several pieces and I have been looking for a replacement ever since. Does anyone have one? I did contact Buffalo China, but they could not even provide any background information on it, much less have saved a plate.

The leather cup (#5) is a relatively new addition to my collection. I obtained it in 1984. It

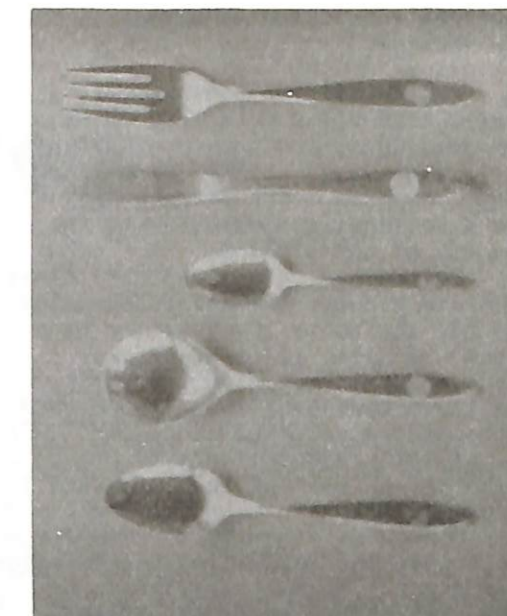
#4



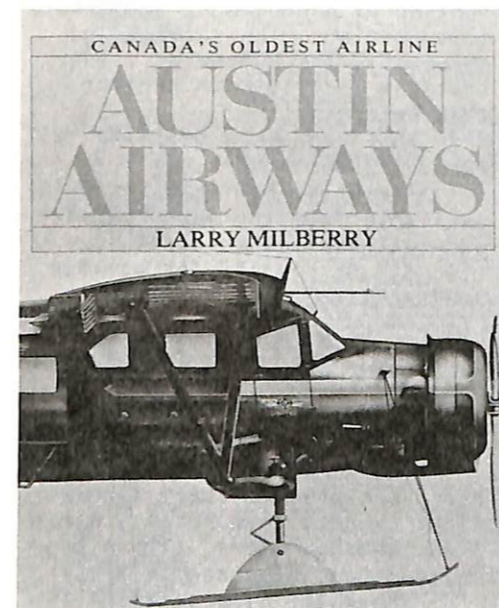
is four inches high and measures 2¾in in diameter at the top. The dark brown leather is embossed with the name PAN AMERICAN AIRWAYS SYSTEM and has two PAA logos on the front: one at the top and one at the bottom. A third logo is stamped on the cup's bottom. I guess the airline wanted you to continue advertising even as you were drinking.

Based on the design of the logo, which is similar on all three pieces, I would date these from the 1930s or early 1940s. Can anyone add any information to this somewhat sketchy profile?

Photo #6 shows a set of Pan Am silver plated silverware in use during the 1970s. The backs of each piece, except the knife, is marked "International Silver Co., PAA EXCLUSIVE". I have a few extras of some of these if anyone is interested in trading. Contact me at 31 Vern Lane, Buffalo, N.Y. 14227.



# BOOKCASE



Larry Milberry:  
AUSTIN AIRWAYS,  
Canada's oldest airline  
Publ. by: CANAV Books, 51 Balsam Avenue, Toronto, Ont. Canada M4E 3B6

In 1934, the midst of the Great Depression, brothers Chuck and Jack Austin took a bold step and started flying operations from the Toronto waterfront with a pair of deHavilland biplanes.

In spite of the bad economic times, the small operation began to grow and soon services extended into

Sudbury and the rest of the northern Ontario mining country and later into the forbidden James Bay and Hudson Bay areas.

Those early services were operated for miners, hunters, trappers and prospectors.

Today, Austin Airways is a major Canadian regional air carrier with extensive scheduled operations in central and northern Ontario, flying BAe 748s, Twin Otters and Beech 99s.

In between these extremes lie the exploits of pilots, ground crews and their DC-3s, Catalinas (Cansos in Canada), AVRO Ansons and many single-engined Fairchild, Wacos, deHavillands, Noorduy, Norseman and many other bush aircraft types.

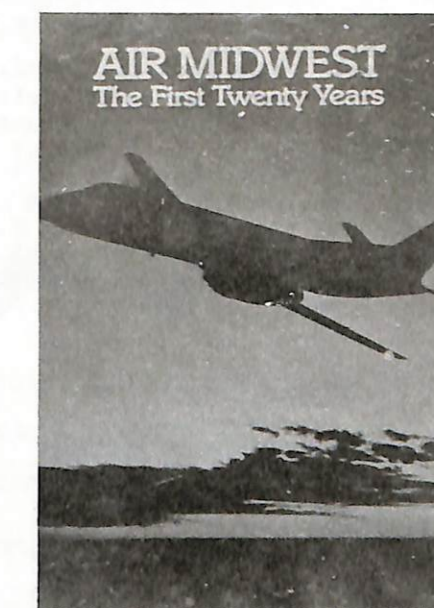
"AUSTIN AIRWAYS, Canada's oldest airline" is a fabulous book that describes the triumphs and setbacks, the good times and the bad.

Author Larry Milberry, Canada's foremost aviation writer and book publisher, has gathered a splendid collection of hundreds of photographs and quality color profiles of aircraft used by the company during its 50 years of existence.

The book is printed on high-quality paper stock and one cannot wish better reproduction of all these illustrations.

This book is an absolute must for anyone with an interest in airlines, bush flying and aircraft.

"AUSTIN AIRWAYS" is available from Larry Milberry, CANAV BOOKS, 51 Balsam Ave., Toronto, Ont., Canada M4E 3B6. Price is \$24.95. -JG



I.E. Quastler:  
AIR MIDWEST, The First Twenty Years  
Publ. by: Airline Press of California, 5128 Manhasset Drive, San Diego, CA 92115

As I read this book, it was easy to fall into the family of Air Midwest. The book begins by describing the area that would be served in "Western Kansas" and goes on to tell you why Aviation Services was born. A history of Aviation Services (the early name of Air Midwest) explains the problems of a fledgling airline. You are led out of Aviation

Services into the name change to Air Midwest.

The story of Air Midwest is a family story. You meet Gary Adamson, the president, and then most of the early employees as they join the company. You then learn of each employee's personal contribution to the success of the airline.

The author covers the hard times when Air Midwest was near bankruptcy and the accidents (fortunately none fatal). He also tells about the good times such as when subsidy finally became available. There were consequent fleet expansions and new aircraft acquisitions to be proud of, as well as terminal facility expansions.

Growth of Air Midwest led to a listing by the Securities and Exchange Commission, permitting stock to be sold throughout the United States. Previously, stock sales had been limited to the State of Kansas.

You are taken through merger talks with Air Illinois and finally to the merger with Scheduled Skyways. A short history of Scheduled Skyways is appended in the back of the book, as is the saga of the "African Queen". The latter is interesting mainly to airplane buffs, but it will hold the attention of anyone who buys this book.

Overall, this book is a good history of a small but proud airline. Mr. Quastler has done an excellent job of chronicling the history of Air Midwest. Being also a photo purist, I couldn't help noticing the reversed picture of a S.C.A.T. Cessna T-50. The rest of the book is excellently arranged and I recommend it. - Marion Pyles.

The book can be ordered from the author (address see above) at U.S. \$12 postpaid. Overseas \$1 extra for surface mail, \$4 for air mail. CA residents, add 72¢ for taxes.



George W. Cearley, Jr.  
THE DELTA FAMILY HISTORY  
Publ. by George W. Cearley, Jr.  
P.O. Box 12312, Dallas, TX 75225

WAHS member and well-known author George Cearley, Jr. has just published another title in his now famous series of histories of major U.S. airlines.

"The DELTA Family History" sets new standards of quality and excellence. This book features numerous never-before published rare photographs from the vast Delta Air Lines files.

John W.R. Taylor, assisted by Kenneth Munson.  
JANE'S ALL THE WORLD'S AIRCRAFT, 1985-86  
Publ. by Jane's Publishing Comp. Ltd., 238 City Road, London, England EC1V 2PU.

This 1,051 page book is the reference book's reference book. Published annually since 1909, the "Jane's" is unique in the world of aviation book publishing. Its editors do almost nothing all year but to search out the latest information on aircraft currently in production anywhere in the world and they bring this information in such detail, there is no book like it anywhere in the world.

For each aircraft type listed, the editors give details on its development, construction and sales figures, service life and many

Of special interest to WAHS members are the many photographs of historic and current Delta aircraft, flight schedule covers, labels, stickers, logos and other material.

Also included are photographs of personalities which made Delta the great airline it is today. Fans of the DC-8 and Convair 880 jets will find ample information on these two types and how they worked for Delta. But propliner fans are not forgotten. Legion are the photographs of DC-3s, -4s, -6s, -7s and CV-Liners, as well as of pre-WW2 Lockheeds, Stinsons and all the rest.

Substantial sections of the book are devoted to the histories of Chicago and Southern Air Lines and Northeast Airlines, which merged into Delta in 1953 and 1972 respectively.

A complete fleet list is also included with comprehensive data on acquisition and disposal of all aircraft in the fleets of the three companies.

There is no doubt: this fifth book by Mr. Cearley is the best yet. The paper stock is far superior to that used in previous titles and this does wonders for the reproduction of photographs and other illustrations. The variety and above all, the number of illustrations is also much greater than before.

This book is a definite MUST for all WAHS members.

The Delta Family History is available from the author at the address given above. Cost is U.S. \$19.95 plus \$2 for postage and handling. -JG

technical and performance details. Included are not only airliners, but also military aircraft, light planes, home built, ultralights, hanggliders, air ships, balloons and unmanned drones. There are also sections for missiles and aircraft engines.

The enormous amount of text is illustrated by several thousands of photographs and three-views.

For aviation professionals, the Jane's is an indispensable reference work. For the hobbyist who can afford the price (64 British pounds - I don't know the U.S. price), the book is a collectible which not only provides him or her with valuable information, but which appreciates in value over the years. Previous editions fetched high prices on the second-hand book market, while most of the pre-1920 editions could not be bought for any money. -JG

# Safety Card Nostalgia

©1986 CARL REESE

Although I've attempted to stay within the perimeters of subject with each issue of *The Captain's Log*, this is often easier said than done. Due to unavailability of materials for the feature airline or aircraft, I've opted to cover several rare safety cards at the insistence of other collectors of this special field. A great addition to any collec-

tion is the LUFTHANSA SUPER-G and SUPER-STAR CONSTELLATION card. This folding paper card, sealed in soft plastic, is accented with light blue, red and black print. Illustrated below (FIG 1) is form 322 003 832/560/BTL. 560 indicates the issue date. Typical of

FIGURE 1

**Anteigen der Schwimmweste**  
Stützen Sie die Schwimmweste vor über dem Kopf, daß die kleine Lampe nach vorn und die große Lampe nach hinten leuchtet. (1) Befestigen Sie die Ringe an den Vorder- und Hinterrücken. (2) und ziehen Sie sie leicht an, bis die Gurte straffen sind. (3) Die Weste bildet sich selbsttätig auf, wenn Sie sich von den Boden- oder Stuhlverankerungen lösen. (4) Wenn Sie sich abheben, ziehen Sie die Weste an sich. (5) Die Weste bildet sich selbsttätig auf, wenn Sie die beiden äußeren Hebel ziehen und die Batterie ins Wasser fallen lassen.

**Ausgang mit Notrutsche**  
Exit with Evacuation Chute  
Sortie par le plan incliné  
Salida con deslizador de emergencia  
Saída com o deslizador

**Notruf**  
Emergency Exit  
Sortie de secours  
Salida de emergencia  
Saída por cima  
Stachlampen  
Flashlight  
Torch électrique  
Lanterne de emergência  
Lanterna de bóia

**Notfall**  
Emergency Axe  
Hache de secours  
Hacha de emergencia  
Machadinha

**Feuerlöscher**  
Fire Extinguisher  
Extincteur  
Estinguidor de incendio  
Extintor de incêndio

**Notleiter**  
Emergency Ladder  
Échelle de secours  
Escalier de emergência  
Escala de emergência

**Schluchboot**  
Life-Raft  
Canot pneumatique  
Bote neumático  
Bote de borracha

**Sanitätshkasten**  
First-Aid Kit  
Boîte à pharmacie  
Botiquin  
Caixa de primeiros socorros

**Notruf**  
Emergency Rope  
Corde de secours  
Corda de emergência  
Corda de emergência

**Sende- und Empfangsgerät**  
Transmitter/Receiver  
Émetteur-récepteur  
Aparato emisor y receptor  
Aparato emissor e receptor

**Leuchtpistole mit Munition**  
Very Pistol with Ammunition  
Pistolet à fusées éclairantes  
Pistola para señales con munición  
Pistola de foguetos e munição

**Benutzen des Notrufes**  
Wenn die Rutsche ausgebracht ist und von 2 Mann am Boden gehalten wird, springen Sie hinein und rutschen Sie hinunter. (A) Ältere Personen nehmen vor dem Rutschen Sitzstellung ein. (B) Wichtig: Nicht festhalten und nicht die Beine ausstrecken!

**Using the chute**  
After the chute has been placed in position and is held on the ground by two people, enter the chute and slide to the ground. (A) Elderly persons should sit down in a sitting position. (B) Important: Do not hold on to the chute or raise or draw up your legs.

**Utilisation de plan incliné**  
Quand celui-ci est sorti et solidement maintenu à terre par deux hommes, montez dessus et laissez vous glisser jusqu'en bas. (A) Les personnes âgées doivent s'asseoir sur le plan incliné avant de commencer à descendre. (B) Recommandation importante: Ne pas se cramponner et ne pas relever les jambes.

**Forma de usar el deslizador**  
Una vez colocado el deslizador hacia el exterior y mantenido junto al suelo por dos hombres, dé un salto y ubiquese en el mismo, deslizándose hacia el suelo. (A) Trámonos de personas de alguna edad, convenga que se sienten, antes de deslizarse. (B) Importante: No se cramponen ni levanten las piernas.

**Como servir-se do deslizador**  
Colocando o deslizador, que é seguro por dois homens no chão, entre nele e deixe-se escorregar. (A) Pessoas idosas, antes de deslizarem, devem ficar em posição de sentadas. (B) Importante: Não se agarrar, e não encolher as pernas!

**Benutzung des Notrufes**  
Messen Sie das Flugzeug durch ein als Notausgang gekennzeichnetes Tragflächenfenster verlassen und mit einem Besatzungsmitglied geöffneter werden, dann ist folgende Reihenfolge wichtig: ein Bein, Kopf, Oberkörper, andere Bein.

**Using the emergency exit**  
Should the need arise to leave the aircraft through one of the emergency exit wing windows (which has been opened by a crew member), we suggest the following sequence: first one leg, then the head, upper part of the body, and then the other leg.

**Forma de usar las salidas de emergencia**  
En el caso que debiera abandonar el avión a través de una ventana del plano sustentador, caracterizada como salida de emergencia (que fuera abierta por un miembro de la tripulación), debe Ud. sacar primero una pierna, luego la cabeza, el torso y finalmente la otra pierna.

**Como servir-se das saídas de emergência**  
Caso V. S. tenha que abandonar o avião através de uma janela (assinalada como saída de emergência) junto às asas o previamente aberta por um tripulante, observe atentamente a seguinte ordem: uma perna, a cabeça, o tronco e a outra perna.

**Salidas de secours**  
Si vous devez sortir par une des fenêtres de secours se trouvant au dessus des ailes, tandis que vous ouvrez un membre de l'équipage, il faut passer d'abord une jambe, ensuite la tête, puis le reste du corps et enfin l'autre jambe.

Made in Germany (West)  
Mag. Nr. 322 003 832 560 BTL

**JANE'S ALL THE WORLD'S AIRCRAFT 1985-86**

Seventy-sixth year of issue

The annual record of aviation development and progress

Edited by John W.R. Taylor  
FRAS, FR Hist S, FSLAET, AFAIAA



**PASSENGER EMERGENCY CARD** **VISCOUNT 806**

**BEA**

**EMERGENCY EXITS**

A seatbelt is provided for each passenger and passengers should note the method of quick release. The main line of emergency exit is through the main doors, two at the rear and one at the front. There are two emergency windows on each side of the aircraft, as indicated on the diagram, which can be opened either from inside or outside. When using window from inside the seat backs can be folded flat on to the cushion to give easier access.

(a) Operation of Doors

1. Push thumb safety catch clear of handle.
2. Pull handle to open.
3. Push door outwards and back.

(b) Operation of Emergency Windows.

1. Pull down hinged flap marked "Emergency Exit"
2. Pull RED handle towards you as far as it will go AND SIMULTANEOUSLY pull window inwards using large white handle at top.

**EMERGENCY EQUIPMENT**

**FIRST AID KITS:** There are two first aid kits for emergency use. One is positioned at the rear of the aircraft in the curtained coat space in the passage leading to the toilet. The other is fitted on the outside of the aircraft just forward of the tail on the port side.

**ESCAPE ROPES:** There are three escape ropes which are situated in the roof above each entrance door.

**ESCAPE CHUTES:** An escape chute is fitted at the rear of the aircraft. Normally the operation of the chute will be supervised by the crew and the method of use is as follows:

(a) Position of chute

The chute is positioned in the floor by the main passenger door on the starboard side of the aircraft.

(b) Operation of Chute

1. Take out chute and insert the clips into the two attachments which are positioned each side of the door about 3'6" above the floor.
2. Throw out the chute and close chute door in the floor.
3. Two persons should descend to the ground, this can be done by sitting on the floor and climbing down the side of the chute.
4. The handling method is then described in the diagram.
5. The remaining passengers should then all on the floor at the door entrance, and slide down the chute with their hands in their laps.

SEE OVER

F.312

←  
FIGURE 2

types that are peculiar in that BEA generally used a "Flight Souvenir" booklet with only general safety information. All of the BEA cards discussed here would predate the later folding type or plastic color-coded types that are more easily found

FIG.2 shows the oldest Viscount 806 card I've encountered (Form F.312). Note the photo of deployment of a hand-held slide. Further, note the remarks concerning access to the First Aid Kits from outside the aircraft. A very unusual fact is that most 800 Series aircraft had 6 overwing exits and an additional window exit on the starboard, forward

of the propeller plane.

Modified logos for BEA indicate a late 1960s version (although dates are never used on BEA publications generally) of specialized cards used on the HERON and for OXYGEN SYSTEM (Trident). The first is F.316 (1st) while the latter is F.343 as shown in FIG.3.

It might be interesting to note that the original PRINAIR HERON safety card was identical to that shown for BEA but lacked any identification such as name or logo.

An unusual leaflet from years past is CATHAY PACIFIC fleet card used on the DC-6, DC-6B and Electra. Printed on rough light yellow paper, this tri-fold leaflet is accented in black and dark green. (FIG.4)

German perfection, this early card shows the proper posture for use of escape slides and egress through overwing exits. Interaction Research claims this as a novel idea...but Lufthansa beat them to it a decade earlier. Note the escape ladder and also the location of life rafts in the wings of the Super-G. The reverse of this card is text.

Additionally, I am aware of the following Lufthansa cards in this, or very similar, format: Metropolitan/Viscount 814 (Form 600 028/159/DEFSP-BL), Boeing 707 (Form 322 001 190/160/HL), and Boeing 720B (Form 322/009/819/3/61/BTL-DEFSP).

BRITISH EUROPEAN AIRWAYS (BEA) provided several unique older cards for individual aircraft

**PASSENGER EMERGENCY CARD** **HERON**

**BEA**

**EMERGENCY EXITS**

A seatbelt is provided for each passenger and passengers should note the method of quick release. The main line of emergency exit is through the main door at the rear. There are three emergency escape hatches in the roof of the passenger cabin, as indicated in the diagram, which can be opened from inside or outside.

(a) Operation of Door.

1. Press button at end of handle.
2. Turn handle downwards and push door outwards.

(b) Operation of Emergency Escape Hatches.

1. Turn latch handle anti-clockwise to release hatch.
2. Push outward and upwards.

**EMERGENCY EQUIPMENT**

**FIRST AID KITS:** There are two first aid kits for emergency use which are clearly marked with a RED cross and which are positioned as follows:

1. On face of rear bulkhead (right hand when entering by main door).
2. Outside under the tail cone at the extreme rear of the aircraft, accessible by removing a quick-release panel.

F.316(1st)

FIGURE 3 ↗

FIG.5 shows the face of the CONSTELLATION (L-749) cardboard card used by PACIFIC NORTHERN. Highlighted with red and blue ink, Form 555214-P offers little specific information. Note the vague remarks: "Door or Window" and "One or more window exits". These cards would never be permitted today under FAR121. Also note the solid hinged cabin dividers.

The reverse side of this card showed brace positions, life vests and discussed use of portable electronic devices.

Air Canada's predecessor, TRANS-CANADA AIR LINES used a folding cardboard card with light green print aboard the VISCOUNT 724. (FIG.6)

**Oxygen Equipment**

In the event of it becoming necessary to reduce the Cabin Pressure in this aircraft, an oxygen supply will become available to each passenger.

Simple cup shaped masks will drop out of overhead stowages. These must be pulled down fully in order to make the supply of oxygen available. The masks must then be held firmly over the nose and mouth and breathing continued normally.

Cigarettes, pipes and cigars must be extinguished immediately under these circumstances.

F.343

**DC 6**  
**YOUR LIFE JACKETS**  
The life jackets are kept in the seat pocket in front of you. **Important:** Do not inflate the jacket while you are inside the Aircraft.

**VOTRE GILET DE SAUVETAGE**  
Les gilets de sauvetage sont rangés dans la poche à face de votre siège. **Important:** Ne jamais Gonfler Les Gilets à L'intérieur De L'avion.

**備用的救生衣**  
救生衣是放在閣下座位的衣袋內其穿著方法請參看右圖：注意：切勿在機內將救生衣膨脹。

**Emergency Exits** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10  
**Escape Ropes** 3, 4, 5, 6, 7, 8, 9, 10  
**Escape Chute** 8  
**Hand Axe** 15  
**First Aid Kit** 14  
**Life Rafts** 11, 12  
**Gibson Girl Radio** 13  
**Machete** 16  
**Emergency Lights** 17, 18, 19

**Sorite de secours** 1, 2, 3, 4, 5, 6, 7, 8, 9, 10  
**Cordes d'évacuation** 3, 4, 5, 6, 7, 8, 9, 10  
**Chute d'évacuation** 8  
**Axe à main** 15  
**Équipement de secours** 14  
**Canots de sauvetage** 11, 12  
**Radio de secours** 13  
**Machette** 16  
**Eclairage de secours** 17, 18, 19

**緊急出口處：**一、二、三、四、五、六、七、八、九、十  
**救生繩：**三、四、五、六、七、八、九、十  
**救生滑梯：**八  
**手斧：**十五  
**急救箱：**十四  
**浮標及救生用品：**十一、十二  
**無線電：**十三  
**機內燈：**十七、十八、十九

**1. Remove Jacket from package**  
一、先由包內將救生衣取出

**2. Pass over head**  
二、再將救生衣由頭頂套下

**3. Tie tapes round waist**  
三、將此穿帶圍腰綁牢

**4. Inflate by pulling red toggle**  
四、用力拉此鑿，使救生衣膨脹

**5. To Re-inflate or top-up using mouthpiece, turn valve clockwise and push down while blowing**  
五、如要再次充氣或加緊，可吹小管，但必須先將管頭向右旋轉，再向下按，然後吹氣

**6. To put on light, pull tab until cord is completely detached.**  
六、須將小繩完全拉離，方能使燈光發亮

**CATHAY PACIFIC AIRWAYS**  
A Butterfield & Swire Associated Company

**SAFETY INSTRUCTIONS**  
**INSTRUCTIONS DE SÉCURITÉ**

**安全手冊**

**STANDARD CONFIGURATION**

**CONFIGURATION FOR FLIGHTS CX 011 & CX 012**

**緊急出口處：**一、二、三、四、五、六、七、八、九、十  
**救生繩：**一、二、三  
**手斧：**八  
**浮標及救生用品：**九  
**無線電：**十  
**救生滑梯：**十一、十二  
**急救箱：**十三  
**機內燈：**十四、十五、十六、十七  
**機內燈：**三、四、五、六、七、十八

**Sorite de secours** 1, 2, 3, 4, 5, 6, 7, 19.  
**Cordes d'évacuation** 1, 2, 3.  
**Hache à main** 8.  
**Canots de sauvetage** 9.  
**Radio de secours** 10.  
**Rampe d'évacuation** 11, 12.  
**Équipement de secours** 13.  
**Extincteur** 14, 15, 16, 17.  
**Eclairage de secours** 3, 4, 5, 6, 7, 18.

**Emergency Exits** 1, 2, 3, 4, 5, 6, 7, 19.  
**Escape Ropes** 1, 2, 3.  
**Hand Axe** 8.  
**Life Rafts & Emergency Packs** 9.  
**Gibson Girl Radios** 10.  
**Escape Chutes** 11, 12.  
**First Aid Kit** 13.  
**Fire Extinguishers** 14, 15, 16, 17.  
**Emergency Lights** 3, 4, 5, 6, 7, 18.

**緊急出口處：**一、二、三、四、五、六、七、八、九、十、十一、十二、十三  
**救生繩：**一、二、三、四、五、六、七、八、九、十、十一、十二、十三  
**救生滑梯：**十一  
**手斧：**十四  
**無線電：**十六  
**手斧：**十五

FIGURE 4 ↑  
(Electra Floorplans shown bottom left, with DC-6B on bottom right)

**PACIFIC NORTHERN AIRLINES**  
THE ALASKA FLAG LINE

**CONSTELLATION IMPORTANT INFORMATION**

**Means of Emergency Evacuation**

**EXITS** — PASSENGER DOOR - AFT  
EMERGENCY DOOR OR WINDOW - FORWARD COMPARTMENT  
WINDOW EXITS - ONE OR MORE OVER EACH WING

**CONSTELLATION FLOOR PLAN**

**EMERGENCY EXITS ARE PLAINLY MARKED ALONG BOTH SIDES OF THE CABIN. INSTRUCTIONS FOR OPENING THEM ARE PRINTED IN BOLD LETTERS ON THE EXITS. DO NOT OPEN AN EMERGENCY EXIT UNLESS REQUESTED BY A CREW MEMBER.**

**AN EVACUATION SLIDE IS LOCATED IN THE AFT CABIN AT THE PASSENGER DOOR.**

**THE ESCAPE SLIDE PROVIDES A MEANS OF RAPID EVACUATION OF PERSONNEL REMOVE HANDS TO OUT HESIT HIGH LAND LOWER BAL BOTTOM M**

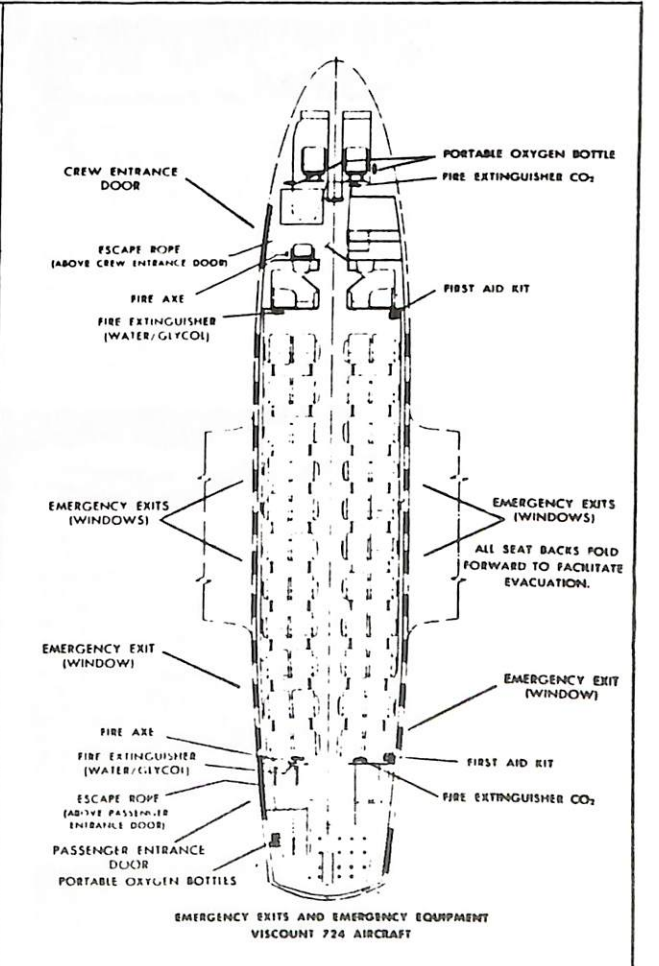
PLEASE SEE OTHER SIDE

FIGURE 5 ↑

**SAFETY IS OUR FIRST CONSIDERATION**

- maintenance** This aircraft has been thoroughly checked and tested before being approved for flight. I.C.A. aircraft maintenance standards are rigidly high and I.C.A. enjoys an international reputation for dependability and reliability.
- emergency equipment** This aircraft is fully equipped with emergency exits and equipment as shown in the diagram. Emergency exits should not be opened under any circumstances in flight.
- seat belts** Each seat is equipped with a belt to be fastened around you during take-off and landing and during turbulent air. When illuminated sign at front of cabin indicates "FASTEN SEAT BELT" please do so as this is for your safety and comfort.
- oxygen** This is a pressurized aircraft and oxygen deficiency is replaced at high altitude.

**TRANS-CANADA AIR LINES**  
VOIR AU VERSO S.V.P.



Printed in both English and Quebecois (French Canadian), Form TCA-834-F shown here is dated 10-56. Text is on the outside of the card while the floorplans in each language face each other on the inside. For reference purposes, only the English portions are shown.

Another rather unique find was **EAST AFRICAN AIRWAYS (EAA)** "For Your Safety's Sake" leaflet used on both the **COMET 4** and the modified DC-4 called **CANADAIR**.

FIG.7 shows both sides of this tri-fold leaflet printed by Aerad in East Africa. The leaflet is accented in blue and black, which unfortunately, does not reproduce clearly. For those of you with BOAC Safety Leaflets from the 1950s, note the similarity of the floorplans, text, and other items.

Another early **COMET 4C** leaflet is shown in FIG.8, this from

**EMERGENCY SEA LANDING**

A life jacket is stored under each seat. The correct way to put it on is shown in the accompanying illustrations. There are also instructions on the jacket itself. It is important for your safety that these are followed implicitly. Except in the case of children do not inflate the life jacket inside the aircraft. An inflated life jacket is also illustrated and shows main features which you may need to use such as mouth-piece, light and whistle.

Une ceinture de sauvetage est placée sous chaque siège. La manière de l'enfiler est montrée sur les illustrations ci-contre. Quelques instructions sont aussi sur la ceinture elle-même. Vous devez suivre sans réserve les instructions données. Ne pas gonfler la ceinture à l'intérieur de l'appareil excepté pour les enfants. Une ceinture gonflable est illustrée ci-contre et montre les principaux éléments dont vous pouvez avoir besoin tel que l'ouverture de gonflage, signal lumineux et sifflet.

**HOW TO PUT ON LIFE JACKET**

**COMMENT ATTACHER LA CEINTURE DE SAUVETAGE**



Pull life jacket over head.  
Enfiler la ceinture par la tête.

Cross tapes at back and bring them to the front.  
Croiser les bandes dans le dos et les ramener vers le devant.

Tie tapes securely in double knot under jacket.  
Attacher soigneusement les bandes avec un double nœud en dessous de la ceinture.

Inflate by pulling red knob at bottom of jacket smartly downwards. Mouth-piece on left side can be used if required but always use the automatic device first.  
Gonfler en tirant sur le bouton rouge qui se trouve dans le bas de la ceinture. Sur votre gauche se trouve l'ouverture de gonflage qui peut être utilisée aussi, mais le gonflage automatique doit toujours être utilisé en premier.



- 1 Mouth inflation tube for use in case of failure of automatic device or for "topping up".
- 2 Tapes.
- 3 Automatic inflation knob.
- 4 Whistle for attracting attention.
- 5 Signal luminous for spotting in the dark.
- 6 Pull white cord to put on the light.



**FOR CHILDREN**

**3-5 year-olds.** It is advisable to inflate the life jacket before putting it on. To fit, cross the tapes around the back above the hips, then return them to the front so that they cross over the top of the inflated buoyancy chamber, before finally tying them at the back.

**5-10 year-olds.** Place jacket over the head and inflate by pulling the automatic inflation knob. The tapes should then be tied as shown in the illustration.

**3-5 ans:** Il est préférable de gonfler la ceinture avant de l'enfiler. Pour l'ajuster: Croiser les bandes autour du dos au-dessus des hanches puis ramener les vers le devant. Elles doivent se croiser au dessus de la chambre à air gonflée, avant de, finalement les attacher dans le dos.

**5-10 ans:** Placer la ceinture au-dessus de la tête et la gonfler en tirant le bouton automatique. Les bandes doivent être attachées comme montré ci-contre.

**FOR YOUR SAFETY'S SAKE**

Please read this carefully



**EAA EAST AFRICAN AIRWAYS**

**YOUR SAFETY / VOTRE SURETE**

An emergency landing is a most unlikely event but since your safety is our first consideration, we would like you, for your own and your family's sake, to acquaint yourself with the safety precautions and facilities on board this aircraft.

Firstly, we would like to assure you that in the maintenance and operation of our aircraft, we conform to the very highest standards. You can trust the ability of our flying crew implicitly, and the aircraft themselves are subjected to a rigorous system of checks and counter checks on the ground before each flight. Our crews have all received special training on the subject of the aircraft and its passengers' safety.

Please read this leaflet carefully so that you know what to do and, should the need arise, please obey the instructions of the crew implicitly.



Un atterrissage forcé est un événement peu probable mais comme votre sûreté est notre première préoccupation nous aimerions que pour vous et votre famille vous soyez au courant des précautions de sûreté et facilités à bord de cet appareil.

Premièrement, nous voudrions vous assurer que nous nous conformons, en ce qui concerne l'entretien et le fonctionnement de nos appareils aux plus hauts niveaux. Vous pouvez faire confiance à l'aptitude de nos équipages et les appareils eux mêmes sont sujets à de sévères révisions avant chaque vol. Tous nos équipages ont reçu un entraînement spécial au sujet du manœuvre de l'appareil et pour la sécurité des passagers.

Lisez cet imprimé très soigneusement afin de savoir ce que vous devez faire et si le cas se présente veuillez obéir aux instructions de l'équipage.



**SEAT BELTS / CEINTURE DE SECURITE**

Your seat is fitted with a safety belt which you should fasten when the aircraft is taxiing, taking off, landing or at any other time when the captain decides this is necessary. On such occasions your seat should be adjusted in an upright position and you should sit back firmly against it. A child not occupying a seat itself should be held in your arms, but don't fasten your seat belt around the child as well as yourself. If you have any difficulty, please ask a member of the flight crew to help you to fix or adjust your seat belt.

Votre siège est muni d'une ceinture de sécurité que vous devez fermer lorsque l'appareil roule au sol, s'envole ou atterrit ou à n'importe quel autre moment si le commandant décide que cela est nécessaire. A ce moment votre siège doit être droit et vous devez vous appuyer fortement contre lui. Un enfant qui n'occupe pas un siège devra être tenu dans vos bras, mais la ceinture ne doit pas être fermée autour de lui. Si vous avez quelques difficultés, veuillez demander à un membre de l'équipage de vous aider à attacher votre ceinture.



**EMERGENCY EXITS**

All our aircraft have emergency exits in addition to the main entry door above the main entry door. These are clearly marked and will be opened by the cabin staff should it ever be necessary.

Tous nos avions ont des sorties de secours (sauf sur le devant) en plus de l'entrée/sortie principale. Elles sont très bien indiquées et seront ouvertes par un membre de l'équipage en un atterrissage forcé et/ou nécessaire.

In the event of an emergency landing, remember to follow these instructions carefully.

- 1 When seated to upright position.
- 2 Fasten buckles, and collar, remove spectacles and take both hands across back of head, lower and depress all any sharp or breakable objects. Extinguish cigarettes.
- 3 Put on life jacket, if necessary, when told.
- 4 Fasten it as instructed.
- 5 Adopt the position shown. This will minimize the effects of any jolt on landing. Remain braced until the aircraft stops.
- 6 Use the proper exits as instructed.

In all events, try to keep calm and follow instructions.

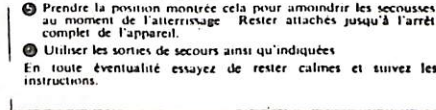


**EMERGENCY GROUND AND SEA LANDING DRILL**  
INSTRUCTIONS POUR ATERRISSAGE A TERRE

Dans le cas d'un atterrissage forcé se souvenir des instructions suivantes:

- 1 Mettre votre siège dans une position droite.
- 2 Couvrir cravates et cols, ôter lunettes et fausses dents (pour les dames quitter les chaussures à talons hauts) se débarrasser de tous objets pointus ou cassables, éteindre les cigarettes.
- 3 Mettre la ceinture de sauvetage si l'on vous le dit.
- 4 Attacher les ceintures de sûreté très fermement.
- 5 Prendre la position montrée cela pour amoindrir les secousses au moment de l'atterrissage. Rester attachés jusqu'à l'arrêt complet de l'appareil.
- 6 Utiliser les sorties de secours ainsi qu'indiquées.

En toute éventualité essayez de rester calmes et suivez les instructions.



**GROUND LANDING**  
ATERRISSAGE SUR TERRE

When it is possible, the main aircraft door is used as the exit. As it may be some height above the ground, a chute is provided down which passengers can slide. The correct way to use the chute is to sit on the sill of the door and push off feet first. The arms should be folded. Don't hold on to the side of the chute and do not attempt to jump into it.

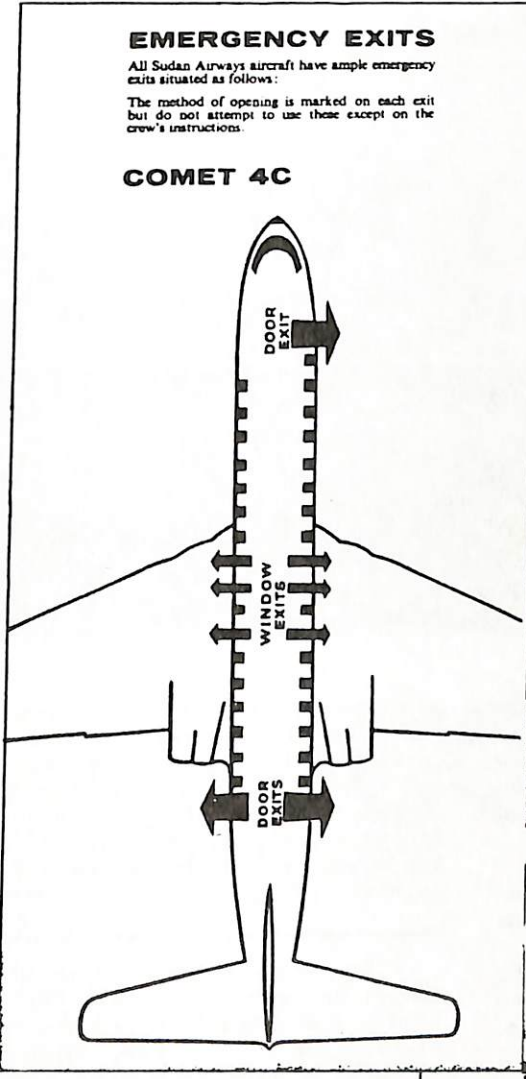
Lorsque cela est possible la porte principale est utilisée comme sortie. La différence de niveau entre la terre et l'appareil étant quelquefois haute, une glissière est prévue pour la descente des passagers. La façon correcte de l'utiliser est de s'asseoir sur l'appui de la porte et partir les pieds les premiers, les bras pliés. Ne pas se tenir sur les bords et ne pas sauter dans la glissière.

**SUDAN AIRWAYS.** Little Hassan introduces safety information on this gloss, folding paper leaflet accented with black, blue and bright yellow.

The large heavy cardboard "Flight Souvenir" also contained Comet safety information as well as very nice technical information about

the aircraft presented in attractive photos and drawings.

In closing, I would like to pay a special thanks to the following individuals who generously donated or traded the displayed cards for my collection: Brian Carver, Brian Barron, Dave Rowe, Charles Quarles and Rick Aranha...thank you Gentlemen! Safe flying and Properous Collecting!



**EMERGENCY EXITS**  
All Sudan Airways aircraft have ample emergency exits situated as follows.

The method of opening is marked on each exit but do not attempt to use these except on the crew's instructions.

**COMET 4C**

introducing Little Hassan... with some essential information which you are asked to study



**How to put your Life Jacket on**

- 1 Pull the life-jacket over your head, cross the tapes around your body, and tie them in a double knot under the life-jacket.
- 2 After leaving the aircraft, inflate the life-jacket by pulling the red knob at the bottom of the jacket sharply downwards. The mouthpiece on the left can be used for further inflation if necessary.

**FIGURE 8**

**INSTRUCTIONS FOR CHILDREN 3-7 YEARS**

Put the life jacket over the child's head.

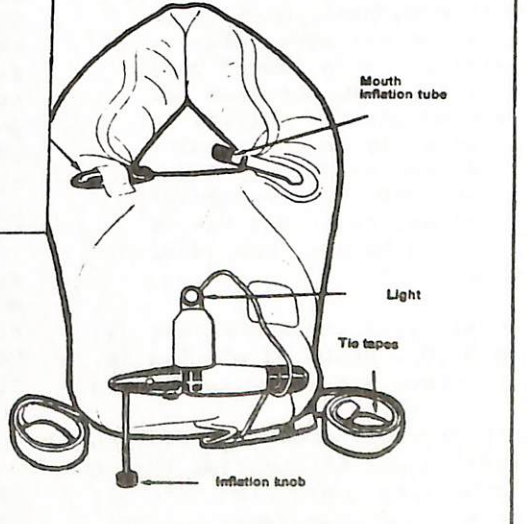
Fasten tapes—before trying tapes—pulling red knob or by blowing through mouthpiece.

Cross the tapes behind the body, bring them up under the armpits and then over the front of the life jacket (as shown) and tie in a double knot.



**INSTRUCTIONS FOR BABIES**

Our Hostess will give you a baby which you inflate by pulling the red knob. A mouthpiece for topping up is also attached. Place the baby in the dinghy, tie it down with tapes provided, and fasten down very securely. Float the dinghy in water and keep hold of the lifeline.



**ADULTS: IT IS IMPORTANT NOT TO INFLATE JACKET UNTIL CLEAR**

# 728 IN HONORABLE RETIREMENT

by JOOP GERRITSMAN

When DC-3-201E, c/n 2144, was delivered to Eastern Air Lines on 19 August 1939, there were no indications it would become one of the most-famous DC-3s ever.

Yet, among the more than 100 civil and military DC-3s and C-47s preserved around the world, this one is special because it was the world's highest-time DC-3 when it finally made its last landing.

Today the aircraft is on permanent display at the Henry Ford Museum in Dearborn, Michigan. This aircraft spent nearly 85,000 hours in the air in a flying career spanning 36 years and is displayed in the colors of its last--and only second--airline owner, North Central Airlines.

When the aircraft was delivered to Eastern before World War II, it carried the civil registration NC21728 and it would carry it for its entire life (minus the C, which was abandoned by the FAA in 1949) and that too is a rarity among currently still active DC-3s.

Eastern sold the aircraft in early 1952 to Wisconsin Central Airlines of Madison, Wisconsin, and turned it over to that carrier on March 4 of that year. Wisconsin Central was renamed North Central in December 1952 and N21728 acquired the new titles and colors and was given fleet number 18.

For more than 12 years, "728" operated over North Central's local services in Wisconsin, Michigan, Minnesota and other upper mid-western states. This lasted until April 26, 1965, when she made her last scheduled flight. Flying out of Milwaukee early in the morning, she touched down at Chicago O'Hare, Madison, LaCrosse, Minneapolis/St. Paul, Brookings, Huron and Pierre before arriving back at MSP later that night.

At that final touchdown, ole 728 completed 83,032 hours 52 minutes in airline service, with only two owners.

North Central's company magazine, "Northliner" wrote at the time that the total flight time translated into almost nine and one-half years of non-stop flying. During her service life, the aircraft flew 12,039,785 miles or

19,263,656 km, equal to 480 trips around the world at the equator, and to 25 round trips to the moon. To put it in an earthly dimension, 728 flew the equivalent of 1,667 round trips between Boston on the Atlanta coast, to Honolulu in Hawaii, via San Francisco. She produced more than 260 million passenger miles for her owners.

Both North Central Airlines and the Henry Ford Museum are to be congratulated for the foresight they showed when they decided to save this particular DC-3 from the wrecker's torch so that future generations will be able to continue to enjoy her and the rich era of commercial aviation development she was part of.



When "728" finally retired from airline service, she had received seven major overhauls at recommended intervals, and had worn out 550 main gear tires, 25,000 spark plugs and 136 engines. Pilots joked that everything about "728" had changed but the serial number and its shadow. In fact, 90 per cent of the aircraft was still original, "Northliner" said, and due to improvements made over the years, it was a better and safer aircraft now than when she had left the Douglas plant.

Before being permanently retired to the Ford Museum, 728 accumulated another 1,843 hours of flight time on promotional work for North Central, thus bringing its total flight time to an incredible 84,875 hours!

Today, N21728, is preserved in the Henry Ford Museum after it had been donated to the museum by North Central Airlines (now part of Republic Airlines).

For those of you that have never visited the Ford Museum, it is located in Dearborn, Michigan and is one of the more interesting museums that you will ever visit. If you go, plan on spending at least two days, one in the museum and one at Ford Village. Highly recommended.

North Central's DC-3 is no longer the world's highest time DC-3. That honor now belongs to N136PB, c/n 1997 of PBA, which has accumulated more than 87,000 hours of lying time and is still in service with the airline that operates in Massachusetts in the summer and in Florida in the winter.

A photo of N136PB appears on pg. 21

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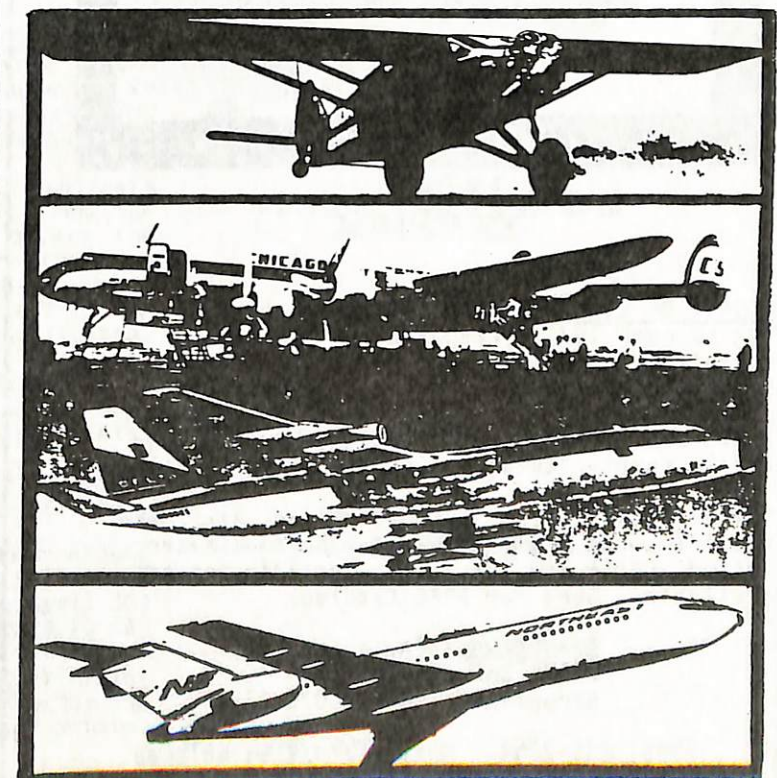
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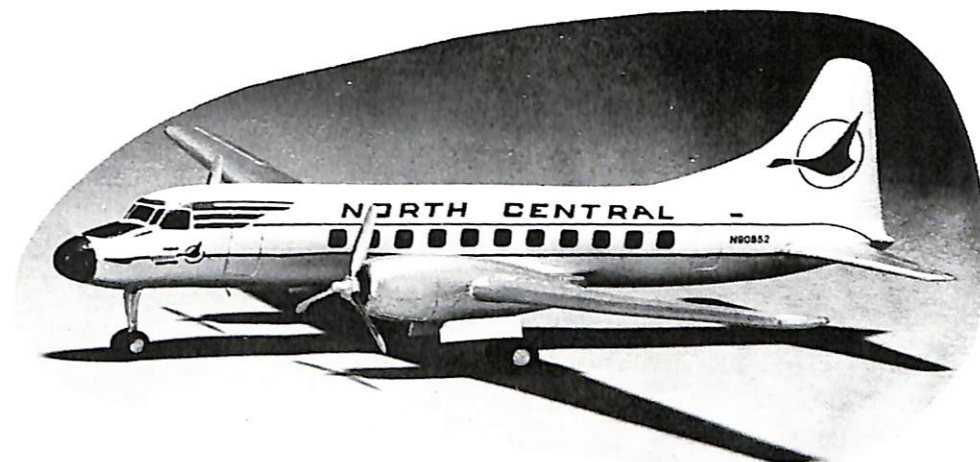
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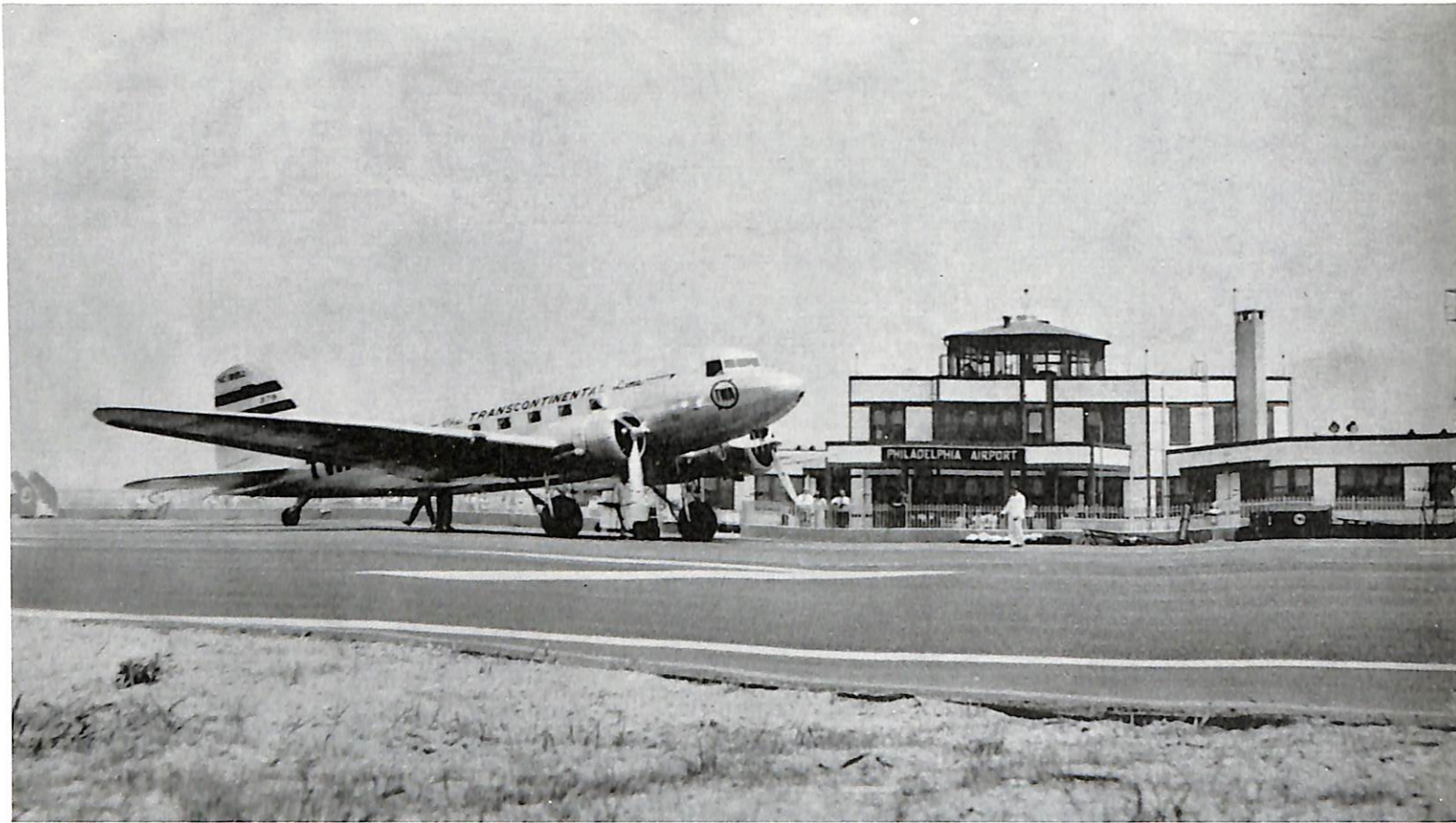
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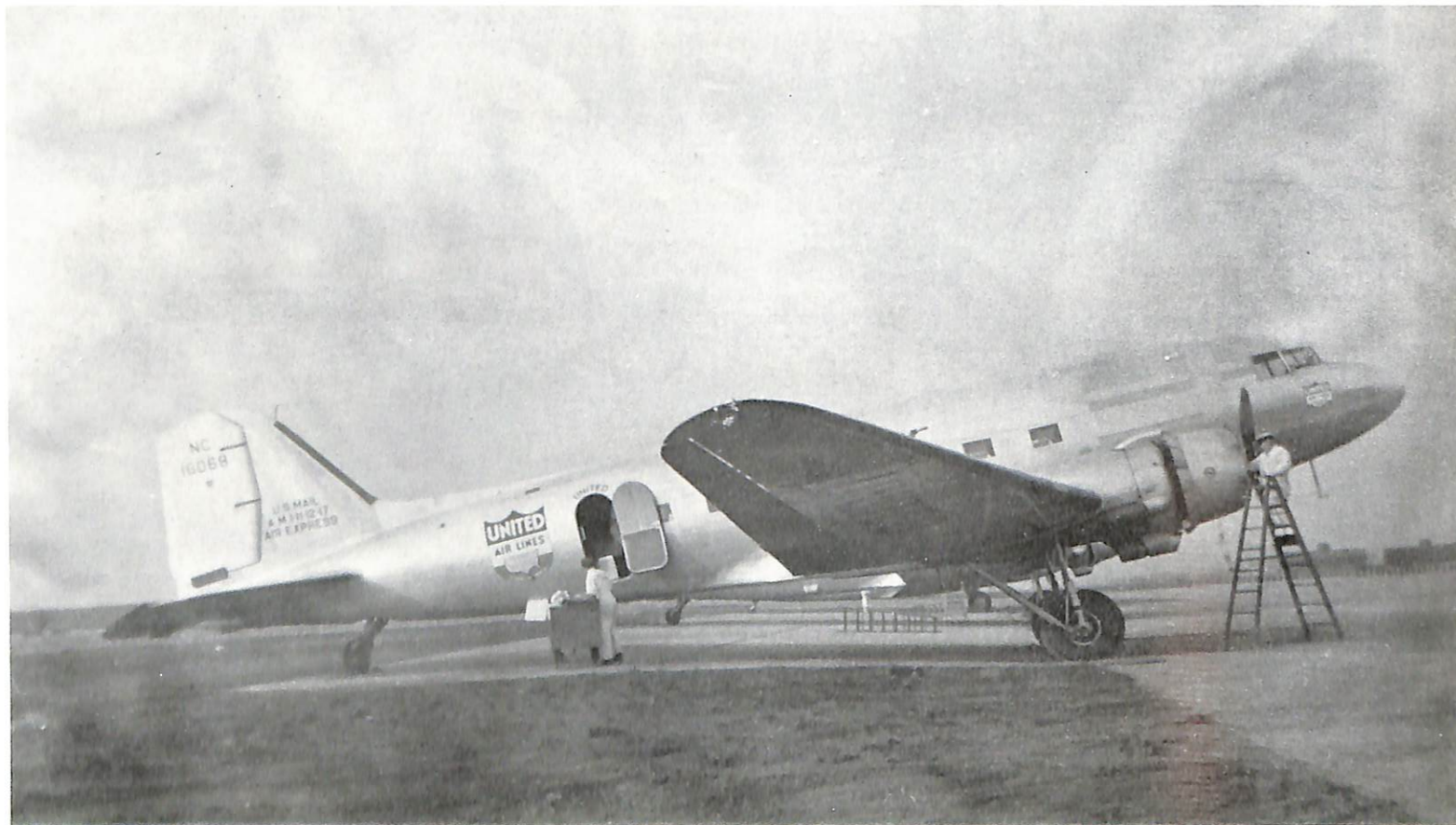
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ABOVE: Here we see one of two photos from the files of the Society. The photo above is that of a TWA DC-3 waiting to depart Philadelphia Airport sometime during the late 1930's. Karl Lutz photo.

BELOW: A United Airline DC-3 being serviced prior to departure from Chicago's Municipal Airport. Photo taken during March of 1938. Photo by Sid Davies



*In Memory of Joe Skiba*

