CLIPPER OF THE SKIES

THE BOEING STRATOCRUISER - PART I

By H. J. NASH

The years following World War Two have already produced the greatest advances in transportation yet seen in the history of the world, in terms of speed, weight, distance travelled, and, of course, complexity. Today's jetliners must be spoken of in superlative terms. Yet not far back in time, when the world's airlines were just embarking upon their great postwar expansion, there was a superlative in luxury and speed comparable to the famous sailing ships of a century earlier. It was the Boeing Stratocruiser.

In the mid-19th Century the Clipper Ships of the British and American merchant marine plied the trade routes with high-value cargo and with passengers amidst luxury unseen before. Each year brought new records for speed and distance across the globe, the great ships vying with one another for "least numbers of days from landfall to landfall." Romantic names, as SOVEREIGN OF THE SEAS, CONSTITUTION, HOTSPUR, NIGHTINGALE and MORNING STAR, became known throughout the world.

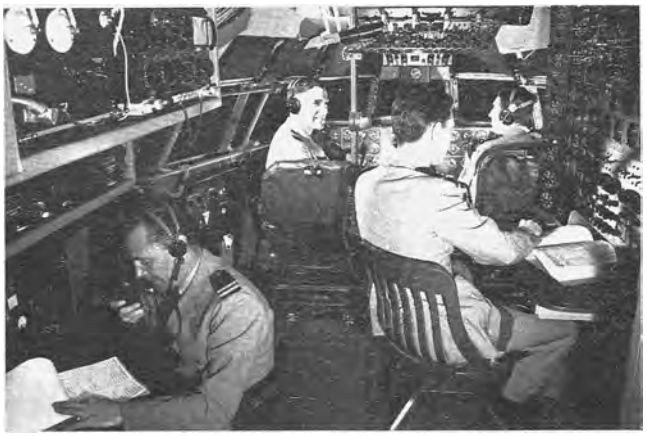
The Stratocruisers entered luxury airline service amid glamour, christenings, famous personalities, and with some famous names taken from the great sailing ships of the 1850's. And like their earlier counterparts some gave long and illustrious service and were retired, others were lost in disasters, and still others were traded, converted, cannibalized, and finally ended as deserted hulks, the victims of obsolescence.

This account records the "launchings," and the use and disposition of the fifty-five Model 377 Stratocruisers built for the airlines in the mid-20th Century. Typical of them was the prototype, NX70700, later N1022V, purchased by Pan American and named CLIPPER NIGHTINGALE, used for over 27,500 hours, stored awhile, traded, resold, converted to an all-cargo type, and eventually cut up for scrap.

Above, NX1039V in flight certification. (Photo - Boeing P8227)

Pan American Airways circulated its requirement for a long-range transport early in 1941, an airliner that was to have a payload of 17,500 pounds, a range of 5,000 miles, and a speed of 375 miles per hour. In June 1942 the preliminary engineering summary of the Stratofreighter prototype was prepared, later to become the XC-97, which itself was based on the B-29 Superfortress then entering the production phase. By June 1944 Boeing was offering its design for a land-based transport of 120,000 pounds gross weight and 280 mph speed, and as work progressed on the B-50 Pan American suggested the use of the 3,500 hp "Wasp Major" engine in prototype production by Pratt & Whitney. With a further fuel capacity increase the gross weight went to 135,000 pounds and still later, to 145,500 pounds.

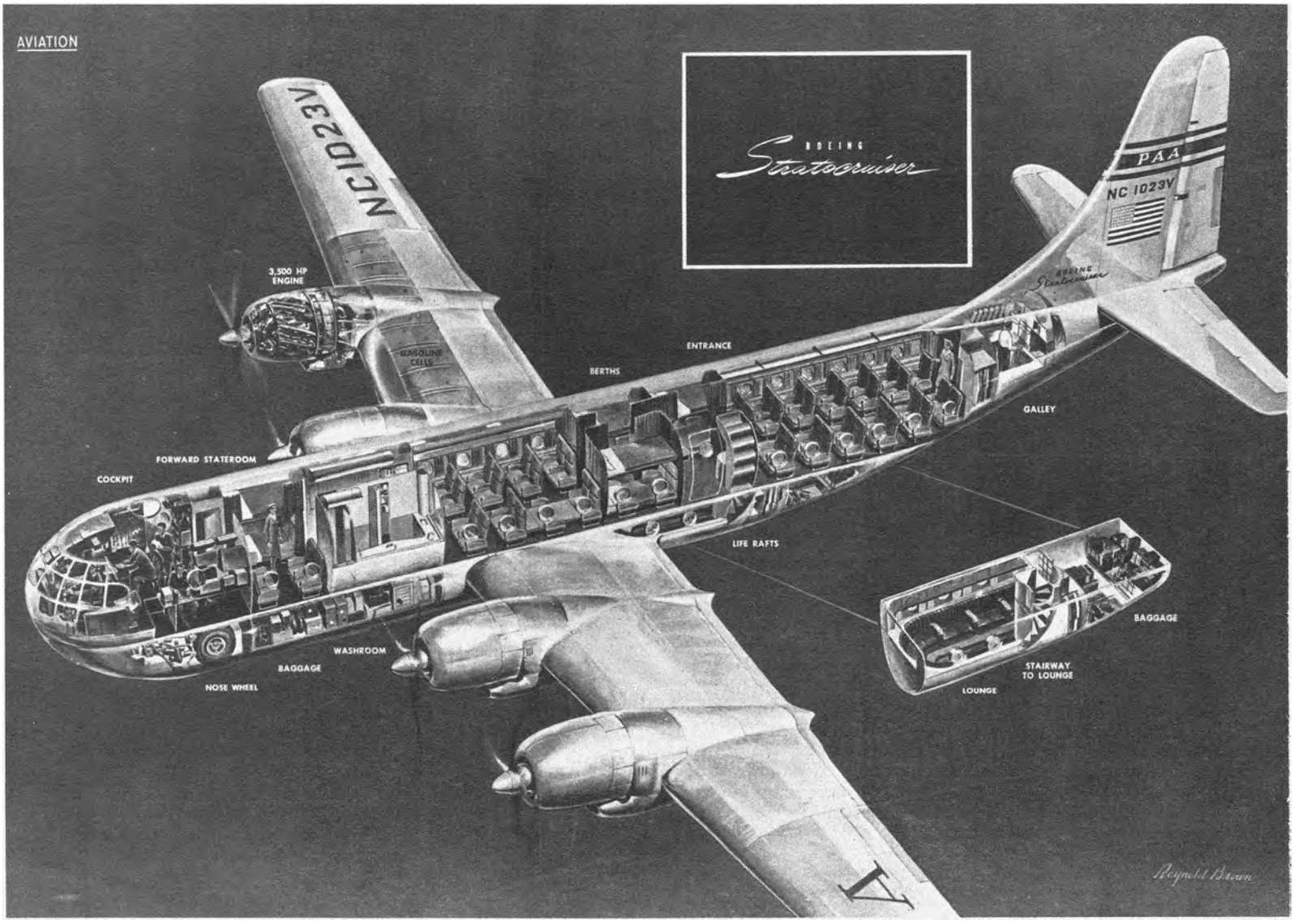
In early November 1944 the XC-97 made its first flight. At the same time Boeing announced specifications for the Model 377 Stratocruiser, the Company's first civil design since the Model 314 flying boat that had become famous as the Clipper Ship before the War. Model 377 was based on the proven C-97 airframe, with a double-deck air conditioned cabin carrying from 50 to 100 passengers depending upon seating arrangement, route and type of service. It had powerplants and systems similar to the B-50, and when production was begun for airline use, all airplanes were built side-by-side with the B-50s at the Seattle plant, following the tenth airplane of the YC-97 contract.. All



The extraordinary roominess of the flight deck appealed particularly to the crew of the Stratocruiser. (Photo - Boeing P9517)

parts of the fuselage were to be pressurized except the nose wheel well, center wing area and tail cone.

The original engine selected, the Pratt & Whitney Wasp Major TSB3-G (R-4360), of 3,500 takeoff horsepower, required additional strength for commercial service. It was modified with a new crankcase, nose case, bearings,



The lower deck lounge was a favorite spot for the luxury trade. Styles: obviously circa "not this year." (Photo - Boeing P9579)

crankshaft and other improvements and redesignated by P & W as its B6 engine.

The Stratocruiser's competitive advantages were that it would fly faster, farther, and higher, with more comfort than any previous transport airliner. In wingspan and weight it was to remain the largest land-based commercial airplane in service until the advent of the jet liners. Only the Martin Mars, with 200 ft. wing span and 117 ft. length, exceeded it.*

Model 377 retained its passenger and crew appeal long after it had been replaced by faster and more economical transports. Some acknowledgement of this is to be found in a recent press release reading, "747 interior may contain luxuries of the Stratocruiser" and, "Pilots and passengers alike loved it. It was the first transport build in the U. S. which took cockpit visibility into consideration — a somewhat more vital factor, it must be admitted, than the famed cocktail lounge in the belly."[2] Also, "Remembering the dear old Boeing Stratocruiser and its space, one also remembers the calm atmosphere enough space engenders."[3]

The "cocktail bar in the belly" was a lounge, with space for 14 seats, but the major airlines did not assign passengers there, preferring to keep the atmosphere of the lounge. The flight deck had a major concession to visibility with its 2,864 square inches of glass, an unusually broad field of vision.

***The JRM Mars was originally intended as a patrol bomber but, modified as transports, four of these served from 1946 to 1956 in the west coast Naval Air Transport Service. One, the MARSHALL MARS, set a world record by carrying 308 persons from San Diego to Alameda on 19 May 1949.[1]**

Figure-8 fuselage and cockpit window area are apparent here on AOA's FLAGSHIP EUROPE. AOA used Curtiss Electric Propellers, other airlines used Hamilton Standards. (Photo F. Dominie)

Following is a summary of the original purchasers of Model 377, by model. Note that window shapes became important in the later identification of airplanes as ownership changes were made. Dates are in order of Month, Day, and Year (last two digits.)

MODELS, OPERATORS AND SIGNIFICANT EVENTS

MODEL	OPERATOR
377-10-19	BOEING AIRPLANE COMPANY. Windows round.
377-10-26	PAA-PAN AMERICAN WORLD AIRWAYS. Windows round
11-28-45	Order for twenty signed.
4-1-49	first operational service, San Francisco to Honolulu.
4-3-49	Proving flight, New York to London.
4-15-49	First service, New York to Bermuda.
9-23-49	First flight, San Francisco to Japan.
5-1-50	First service, Honolulu to Sydney.
7-1-56	First scheduled service to Alaska.
6-19-60	Last scheduled service to Alaska.
9-1-60	After this date, only twice weekly service Honolulu to Manila, Saigon and Singapore.
12-18-60	Last Stratocruiser revenue passenger flight, Honolulu to San Francisco.
337-10-27	Apparently intended for TWA (then Transcontinental & Western Air Lines). Boeing's Model & Unit Number List, dtd 11-29-46, shows TWA with c/n's 15984 through 15993.
377-10-28 SILA	Windows circular, six aft of wing on port side. Four ordered, luxuriously furnished with hand-woven fabrics, materials and equipment imported from Sweden.
Apr. 49	Sold to BOAC before delivery for approximately $9.6 million, including spares.
377-10-29	AOA - AMERICAN OVERSEAS AIRLINES. Windows circular above, rectangular below main deck.
4-1-46	Eight ordered.
8-5-49	Proving flight, New York to London.
8-17-49	First scheduled flight, New York to London.
Oct. 49	Service extended to Frankfurt.
9-26-50	AOA absorbed by PAA, further information incomplete.
377-10-30	NWA - NORTHWEST AIRLINES, later **NORTHWEST ORIENT AIRLINES.** Windows rectangular, ten ordered.
8-1-49	First scheduled service, Twin Cities to Chicago.
9-1-49	First service, Seattle to New York.
11-6-49	Service, Seattle to Hawaii.
Apr. 52	Service, Seattle to Anchorage and Tokyo.
4-28-53	Service, New York to Manila and Okinawa.
9-15-60	Last scheduled Stratocruiser flight, New York to Minneapolis.

377-10-32 BOAC - BRITISH OVERSEAS AIRWAYS CORP. Windows circular, 9 aft of wing, port side.

10-18-46 Six ordered, including 40 spare engines (bare) and 16 power plants. When the BOAC Comets were grounded in early 1954, BOAC purchased one from PAA and six from United Air Lines.

12-8-49 First flight, London to Prestwick and
4-23-50 New York.

11-8-5- First service, London to Montreal.

5-1-52 First service, New York to Nassau.

5-1-52 First "Mayflower" tourist service, London to New York.

1-23-54 Service, New York to Montego Bay, "The Jamaican."

9-4-54 Service, Cairo, London, New York linked.

5-4-55 Service, London to Chicago.

5-3-57 WAAC - WEST AFRICAN AIRWAYS CORP, (a BOAC affiliate) began operating Stratocruisers on charter.*

7-16-58 GHANA AIRWAYS began international service using BOAC affiliate airplanes.

377-10-34 UAL - UNITED AIR LINES. Windows circular above, rectangular below main deck. Seven ordered.

1-13-50 Service, San Francisco to Honolulu. Some domestic service on West Coast was added later, but not transcontinental.

No. 54 Last regularly scheduled service.

1-2-55 Last passenger revenue flight, extra section.

***Airplanes used by the associated companies of BOAC utilized transfer markings that could be applied or removed during turnaround.**

SILA = Svensk Interkontinental Lufttrafik, predecessor of SAS - Scandinavian Airlines System, on the North Atlantic.

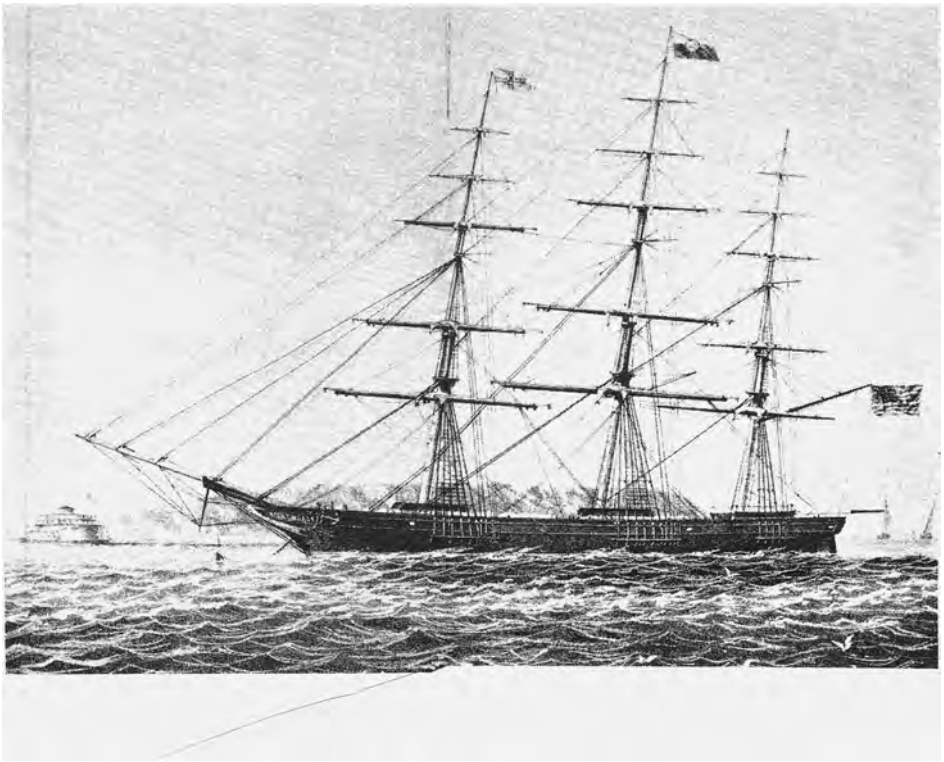
THE CLIPPER SHIP NIGHTINGALE

The clipper ships of the mid-nineteenth century had names of great beauty and of interest to the avid nautical researcher of today. Many were Anglicized versions of old Viking ship names and a carryover from early historic marinalia. Such a name was chosen for the ship that many naval architects considered to be an "extreme" clipper, the NIGHTINGALE.

The secret of the speed of the Clipper Ships over the trade routes overseas was primarily due to a revolution in hull design of that era. Sailing ships prior to this had had too much beam to effectively cut through the water at high speed. The Clipper Ship had narrow beam, plus a greater amount of deadrise than their former counterparts (Deadrise is defined as the amount which the straight portion of the bottom of the floor of the mid-ship section of the hull rises above the base line in the half-beam of the hull, and is expressed in inches). In addition to a very efficient hull form, the Clipper Ship carried high masts and a tremendous amount of sail area compared to conventional rigs.

Such a ship was the CLIPPER NIGHTINGALE. This ship was launched at the yard of Samuel Hanscom, Jr. a great naval architect of the era, constructed to his own designs. The year was 1851 in the month of June.

The NIGHTINGALE had a somewhat curious history. She was originally built to carry passengers to the World's Fair in London, and then to be exhibited in the Thames as a typical American Clipper Ship. She was therefore fitted



Without reservation, the NIGHTINGALE, like the modern Boeing Stratocruiser was one of the finest ships of the times and built with great luxury. She was considered to be the fastest ship in the Clipper tea trade and set many records for passages from one continent to another. Of 1316.8 long tons and 176'-10" length, she was the peer of the American Merchant Marine at the time.

Pan American's CLIPPER NIGHTINGALE, N1022V, at San Francisco Airport in 1952. This was the second of the color schemes applied by PAA to the Stratocruisers. (Photo —Chalmers A. Johnson)

LATER OWNERS OR OPERATORS

AERO SPACELINES. Aero Spacelines of Santa Barbara, California, bought 27 Stratocruisers, of which 12 had been broken up to date. Three are presently flying in the Pregnant Guppy, Mini-Guppy and Super-Guppy configurations. AS had their problems at first with the aerodynamic shape. During a maximum velocity dive test on 25 Sept. 1965, for certification, a large section of the forward upper fuselage, the "brow," collapsed, causing an emergency landing at Edwards AFB. An excellent photo of this appears in *LIFE* Magazine of October 8, 1965.

IAI - ISRAEL AIRCRAFT INDUSTRIES, bought five in February 1962. First used for crew training out of Lod Airport, Tel Aviv, under Capt. Paul T. Adams, winter 1962-63. Some were rebuilt using C-97 tail sections, with additional doors to facilitate paratroop operations. Cargo ramps and hoists were also added.[4] Later, one or more were converted to swing-tail freighters and photographs show 4X-FPW in this configuration. The five are reported still in Israel,[5] reported as 4X-FPU through 4X-FPZ. I.A.I. is known to have obtained at least one XC-97 and several C-97 and KC-97 aircraft. *FLIGHT* International, August 14, 1969 (page 248) reports "up to a dozen swingtail." Parts of several aircraft broken up at Miami have also been reported as salvaged for I.A.I.

LEE MANSDORF, Sun Valley, Calif., a dealer in used aircraft.

RANSA—Rutas Aereas Nacionales SA, Venezuela — bought ten, three of which were eventually used, after conversion to all-cargo configuration, in service from Miami to South America. The service began 5 Oct. 1961 and terminated when the airline went into bankruptcy on 6 Sept. 1966. All have now been broken up. RANSA Stockholders were stockholders of Miami Air Charters, Inc.[6]

TAL—Transocean Airlines, (not to be confused with Trans-Oceanic Airways of Australia) began service across the Pacific Ocean in 1958. The main operating bases were at Oakland International Airport and Bradley Field, Windsor

Courtesy of Willis L. Nye and Max O'Starr

out without regard to expense, with large saloons and the most luxurious cabin arrangements. In every other way she was a most expensively built vessel, her figurehead for instance being a most beautifully carved bust of the famous singer Jenny Lind, for who the vessel was named.

Unfortunately for the promoters of the scheme, they fell short of money before the ship was launched and the NIGHTINGALE was then bought by Sampson & Tappan for $75,000.

The NIGHTINGALE made many intercoastal voyages around the southern tip of South America as well as to the Orient and Australia, all at what would be considered fast passages at the time. After a very successful career in the tea trade, in which she was the last to distinguish herself, by a passage from Shanghai to London in 91 days, she was sold to the Brazilians who put her into the African slave trade. After two or three years in this traffic she was captured, about 1860, by an American gunboat and sent home as a prize. When the Civil War broke out she was fitted as an armed cruiser and after the War went back to California and the China Trade. Years later, she ended her days under the Norwegian flag. On a voyage over the Atlantic in 1893 she was caught in a furious storm, was dismasted, and abandoned to sink ignominiously at sea.

(The foregoing was from *The China Clippers* by Basil Lubbock.)

WHAT'S IN A NAME?

As any seagoing person will tell, sailing ships in particular have had their idiosyncrasies, many of them quite real, stemming from the design of the hull, the sail plan, weight distribution and other physical characteristics. The most peculiar resulted from the imperfections of shipbuilding, a bulge here, a stiff mast section there, place of the sail, and so on.

The most colorful idiosyncrasies of the past however, evolved from the characters of the men who sailed them. Great storms, long voyages, and even the creak of the planking, molded the sailor. The traditions and the stories behind them were built up during the lives of the ships which lasted, in many cases, for decades. Hence each vessel assumed an aura which ended when the ship was destroyed or sank.

Modern technology permits very little observance of the traditions of the past. Obsolescence of aircraft models, and even the simple changing of captain and crew for each flight, inhibit the creation of the colour such as surrounded the Clipper Ships of the 19th Century. Complexity, the perfection of the modern flying machine, and the need for concentration on flying duties, do not allow the emergence of what might be termed idiosyncrasies of the individual airliner.

Thus the name alone must carry the full weight of tradition, short lived as that is. Perhaps it's just as well, since only in nostalgic thinking do these things seem to make any difference.

A case in point is the use of the name CLIPPER AMERICA by Pan American World Airways. H. J. Nash's compendium on the Stratocruiser reveals five of them named C. AMERICA in turn, NX1023V, N1024V, N1025 V, N1030V, and N90941. It is understood that the latest to be so designated will be the Boeing 747, to be inaugurated at yearend.

Locks, Conn. At one time they had sub-contracts with United Airlines, operated the international service of Philippine Airlines and supplied aircraft and management services to Air Jordan and Japan Air Lines. Fourteen Stratocruisers were bought from BOAC, probably through Babb Corp., and twice weekly service was started between New York and Okinawa, via Chicago, San Francisco, Honolulu, Wake and Guam. Transcontinental domestic service was added later. Only eight of the Stratocruisers were ever used. Service was suspended in April 1960 and TAL went into bankruptcy 11 July 1960. Two airplanes had current certification, two more were serviceable, and the remaining ten had been partly cannibalized when all were sold at auction at Oakland, 1 Sept. 1960, at a total price of $105,000. The buyer was Airline Equipment, Inc. of Newark, N.J. (See JOURNAL of A.A.H.S., Volume 9, page 229 for reorganization plans of Transocean Airlines)

Neither space nor the competence of this writer will permit an evaluation here of the Stratocruiser safety record. Brooks states, "In terms of passengers killed per 100 million passenger miles it proved to be less than half as safe to fly as the DC-6/7 or Constellation."[6] There were six crashes involving loss of 108 passengers and 24 crew. Two of these and at least a half dozen non-fatal accidents may have due to propeller failure. Captain W. M. Masland of PAA gave this version of the weakness:

> "The propellers themselves. . . had an Achilles heel. They were hollow steel forgings filled with sponge rubber and later with nylon. These props had an amazing aero-dynamic efficiency, something of the order of 92%, but they were subject to fatigue cracks and failure. The engines also were not as reliable as had been hoped. Each was of 28 cylinders (56 spark plugs) arranged in four rows of seven cylinders to a row. Failure rate was high and was at first enhanced by a technique evolved for meeting another problem. It had been the practice to dilute the engine oil before shutting down in frigid weather so as to facilitate the next start, and it was assumed that the gasoline that had diluted the oil would subsequently evaporate . . . however, the fuel injected into the lines tended to clean out any sludge that had accumulated in the engine. The sludge so released clogged the oil lines and the effect was at times drastic. The engine stopped with such precipitation that it felt as though the aircraft had hit something solid . . . The sudden increase in drag imposed by such disruption of smooth aerodynamic flow at times called for immediate use of full power on the remaining engines just to stay in the air."[7]

All known serious accidents are listed for the individual aircraft in the following list.

In the following tables the boldset figures are, in order from left to right:

c/n = construction number

No. = sequence number in assembly line after ten C-97s

R = Rollout date from final assembly

FF = First flight

D = Date delivered to customer from Boeing. Date figures are in order of month, day, year. Registration numbers are at left of the text columns in each case.

USAGE AND DISPOSITION

c/n 15922, No. 11, R 7-02-47, FF 7-08-47, D 10-24-50 as N1022V.

NX90700 377-10-19. The prototype Model 377 used for development, flight test, and ATC certification. First flight 1 hr. 24 mins, on 8 July 1947 by test pilot J.B. Fornasero. Painted BOEING STRATOCRUISER.
(See Cover photograph)

N1022V PAA. Purchased by Pan American and rebuilt to Model 377-19-26. Total time at delivery unknown. Named CLIPPER NIGHTINGALE.
TT (total time) 27,538 hrs. Stored at Miami in 1960. Traded to Boeing 2-7-61.[8] Sold to Mansdorf, then RANSA.

YV-C-ERI RANSA. RANSA had converted to all-cargo type with 76" x 80" door at forward starboard side. Named CARLOS for chief pilot, Carlos Nurse. Repossessed on bankruptcy and cut up at Miami July 1969.

c/n 15923, No. 13, R 3-15-48, FF 4-17-48, D 3-19-49 as N1023V

NX1023V Ordered by PAA and used for flight and certification tests in PAA colors. Named CLIPPER AMERICA, it was used for publicity but upon delivery it was changed to GOLDEN GATE.[9]

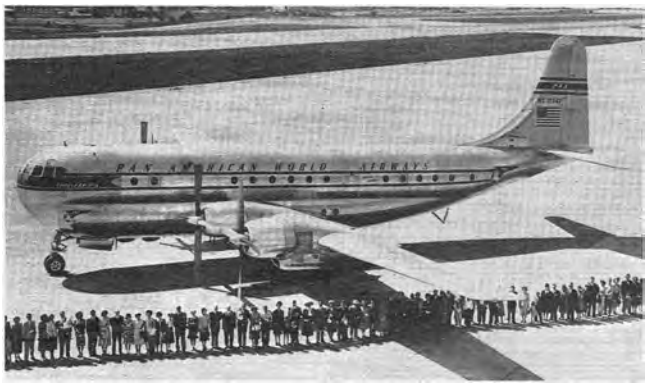
N1023V PAA. CLIPPER GOLDEN GATE. Total time 28,630 hrs. Crashed 6-2-58 in wheels up landing at Manila, 1 passenger killed, 1 injured, when blade of No. 3 propeller injected cabin. Dismantled.

c/n 15924, No. 14, R 4-8-48, FF 10-7-48, D 6-12-49 as N1024V.

NX 1024V Used by Boeing for tests, in PAA colors, named CLIPPER AMERICA.

N1024V PAA. CLIPPER BALD EAGLE, later CLIPPER CATHAY when used on the Pacific routes. TT (total time) 33,154 hrs. at Sept. 59. Stored at Miami 1960, traded to Boeing 1-25-61, sold to Mansdorf, then Aero Spacelines.

N1024V Aero Spacelines. Designated 377PG for "Pregnant Guppy." Parts of c/n 15976 used. PREGNANT GUPPY first flew 9-19-62 at Van Nuys. Damaged 9-10-63 by taxiing Boeing 707 at LAX, repaired.



NX1024V, second of the Stratocruiser CLIPPER AMERICAS, posed for publicity. (Photo — Courtesy of PAA)

c/n 15925, No. 15, R 10-8-48, FF 12-4-48, D 1-31-49 as N1025V

N1025V PAA. CLIPPER AMERICA. Christened by Miss Margaret Truman at Washington National Airport on 5 March 1949. First Stratocruiser delivered for operational use. Later CLIPPER RAINBOW, later CLIPPER CELESTIAL TT at Sept. 59 - 33,782 hrs. Used in service to Fiji until late 1960, stored at San Francisco 1961, sold to IAl 2-2-62.

4XFOF I Al. Seen at Oakland 4-8-62, later used at Lod Int'l Airport, Israel for crew training, 1962-63.

N1025V, CLIPPER CELESTIAL, at San Francisco Airport, 1961. QUEEN OF THE SKIES at rear. (Photo — Douglas D. Olson)

N1025V again, still CLIPPER CELESTIAL, with Israel registration 4XFOF and remains of PAA livery, at Oakland, April 1962. (Olson)

c/n 15926, No. 17, R 12-3-48, FF 2-1-49, D 2-17-49 as N1026V.

N1026V PAA. CLIPPER TRADE WIND, later CLIPPER MALAY. TT at Sept. 59 - 32,760 hrs. Traded to Boeing 2-7-61. Sold to Mansdorf, then RANSA.

N1026V RANSA/Miami Air Charters. No action, repossessed on bankruptcy, broken up at Miami Feb. 1969, salvage to IAl.

c/n 15927, No. 18, R 12-17-48, FF 2-12-49, D 3-2-49 as N1027V.

N1027V PAA. CLIPPER FRIENDSHIP. Christened by Eva Peron at Buenos Aires 7-4-50 to begin direct service to New York. Sold to BOAC 8-26-54, TT - 11,72 hrs.

G-ANUM BOAC. Overhauled for 81 passenger all-tourist for Coronet Service on North Atlantic. Named R M A CLYDE 9-3-54.* Mace 404 Atlantic crossings, 7,525 hrs with BOAC. Sold 7-7-58 to TAL.

N1027V TAL. Converted to deluxe 40 passenger configuration at Oakland.

***R M A means Royal Mail Aircraft. When BOAC purchased the Stratocruisers, each was assigned a name that had been used by pre-WWII - flying boats, "C" Class.**

N401Q of Transocean Air Lines at Prestwick. (Photo - Wilf G. White)

N401Q TAL. Reregistered June 1958. TT — 20,119 hrs. Sold at bankrupt auction 9-1-60 to Airline Equipment Co., then Ransdorf, then Aero Spacelines. Cut up for parts.

c/n15928, No. 19, R 1-14-49, FF 2-18-49, D 3-14-49 as N1028V.

N1028V PAA. CLIPPER FLYING CLOUD. TT at Sept. 59 — 30,954 hrs. Traded to Boeing 2-7-61, sold to Mansdorf, then RANSA.

YV-C-ERJ RANSA. Converted to all-cargo type with 72" x 142" door port side rear. Renamed ANDREI NA MARIA for granddaughter of Capt. Chavez, Senior Pilot. Repossessed on bankruptcy. Broken up at Miami 6-30-69.

c/n 15929, No. 22, R 3-22-49, FF 4-2-49, D 4-22-49 as N1029V.

N1029V PAA. CLIPPER GOLDEN EAGLE. Damaged 4-30-52 when left landing gear retracted on landing due to total electric failure on approach. Passengers and crew uninjured. Retrofitted to "SuperStratocruiser.[11] TT at Sept. 59 — 25,932 hrs. Stored at San Francisco 1960, traded to Boeing 2-7-61, sold to Mansdorf, then RANSA.

N1029V RANSA/Miami Air Charters. Registered Miami A.C. from July 1966. Repossessed on bankruptcy, cut up at Miami, April 1968, salvage to I Al.

c/n 15930, No. 23, R 2-11-49, FF 3-11-49, D 3-30-49 as N1030V.

N1030V PAA. CLIPPER SOUTHERN CROSS, later CLIPPER REINDEER, later CLIPPER

Distinctive fin marking applied to those with additional fuel tanks for non-stop flight from New York to London or Paris, shown here on N1031V, one of ten so modified by PAA.(Photo-PAA)

AMERICA when chartered to U. S. Navy for "Operation Deepfreeze III." TT at Sept. 59 - 31,520 hrs. Stored at San Francisco 1961, sold 2-2-62 to IAl.

4X-A0H I Al. Seen at Oakland March 1962 as 4X-A0H, later as 4X-FOH, still showing clipper name and N1030V registration. Modified at Lod, Israel with C-97 tail section, later to swing-tail configuration.

c/n 15931, No. 26, R 4-1-49, FF 4-17-49, D 428-49 as N1031V.

N1031 V PAA. CLIPPER MAYFLOWER, made inaugural flight New York to Shannon and London 6-10-49. Later CLIPPER DONALD McKAY. On 2-11-50 door opened over Long Island, stewardess lost, minor damage to interior. Retrofitted (see Ref. 11). TT at Sept. 59 — 21,041 hrs. Stored at San Francisco 1960. Traded to Boeing 2-7-61, sold to Ransdorf, then RANSA.

YV-C-ERH RANSA. Converted to all-cargo type, 76" x 80" door forward starboard side. First flight with RANSA 10-5-61. Named PRINCESS EVERETTA MARIA II Repossessed on bankruptcy. Cut up at Miami July 1969.

N1031V, PRINCESS EVERETTA MARIA II, in Minneapolis for an engine change, August 1962. (Photo — Gary Kuhn)

Now YC-C-ERH, the PRINCESS, Miami, 1966. (Photo-Jim Fretwell)

c/n 15932, No. 27, R 4-19-49, FF 4-30-49, D 5-22-49 as N1032V.

N1032V PAA. CLIPPER UNITED STATES. Damage was sustained 3-29-51 on approach to New York Int'l (IDL) when No. 1 engine drooped in nacelle due to propeller losing 12" of one blade. Ditched in Pacific Ocean 42 minutes out of Seattle on 3-26-55. TT — approx. 13,655 hrs. (ICAO Accident Digest No. 7).

c/n 15933, No. 31, R 5-13-49, FF 5-22-49, D 6-22-49 as N1033V.

N1033V PAA. CLIPPER SEVEN SEAS, later CLIPPER MIDNIGHT SUN when used in Alaska service. Retrofitted (see Ref. 11.) Pilot undershot landing at Juneau, hit embankment and burned. Passengers and crew safe. TT — 24,088 hrs.

c/n 15934, No. 32, R 5-20-49, FF 6-3-49, D 7-3-49 as N1034V.

N1034V PAA. CLIPPER WESTWARD HO. TT at Sept. 59 — 26,104 hrs. Stored at Miami in 1960. Sold 10-25-61 to Alfred Equipment Co., possibly to Mansdorf, then RANSA.' [2]

(YV-C-ERK) RANSA/Miami Air Charters. Reported to be YV-C-ERK but this did not appear on airplane. Modification with 76" x 142" cargo door on aft port side in process when repossessed. Cut up at Miami, May 1969.

c/n 15935, No. 33, R 5-26,49, FF 6-9-49, D 7-23- 49 as N1035V.

N1035V PAA. CLIPPER FLYING EAGLE. Retrofitted (see Ref. 11). TT at Sept. 59 - 26,417 hrs. Stored at San Francisco 1960, traded to Boeing 2-7-61, sold to Mansdorf, then RANSA.

N1035V RANSA/Miami Air Charters. Repossessed on bankruptcy. Cut up at Miami, April 1968.

c/n 15936, No. 38, R 6-30-49, FF 7-20-49, D 8-12-49 as N1036V.

N1036V PAA. CLIPPER WASHINGTON. On a ferry flight from Hern to London the pilot inadvertently raised the landing gear instead of flaps, possibly an error in selection of proper control. Major damage was sustained by wing and nacelles of No. 3 and 4 engines. Crew safe. Retrofitted (see Ref. 11). Sold 10-25-61 to Alfred Eq. Co., possibly to Mansdorf, then RANSA.

N1036V RANSA. No action. Repossessed on bankruptcy. Cut up at Miami, Feb. 1968, salvage to I Al.

c/n 15937, No. 39, R 7-13-49, FF 8-11-49, D 9-8-49 as N1037V.

N1037V PAA. CLIPPER FLEETWINGS. TT at Sept. 59 — 26,238 hrs. Stored at New York 1960. Traded to Boeing 8-4-60. Sold to Mansdorf, then Aero Spacelines in 1963.

N1037V Aero Spacelines. Flown to Santa Barbara and converted to "Mini-Guppy" using parts from c/n 15967. First flight of Mini-Guppy 5-24-67, to Paris Air Show. Named SPIRIT OF SANTA BARBARA, still in service, August 1969.

N1037V, the "Mini-Guppy" SPIRIT OF SANTA BARBARA, at Paris Air Show, June 1967. (Photo — Ken Measures)

c/n 15938, No. 41, R 7-22-49, FF 8-20-49, D 9-29-49 as N1038V.

N1038V PAA. CLIPPER CONSTITUTION, later CLIPPER HOTSPUR. Retrofitted (see Ref. 11). TT at Sept. 59 — 26,956 hrs. Stored at New York, traded to Boeing 8-4-60. Sold to Mansdorf, then Aero Spacelines.

N1038V Aero Spacelines. Converted to "Super-Guppy" using parts of c/n 15944, 15945 and YC-97J 42-2693, designated 377SG and named (and advertised as) WORLD'S LARGEST AIRPLANE.

N401Q Aero Spacelines. N401Q reported to be latest registration number.

N1038V, WORLD'S LARGEST AIRPLANE, at takeoff on first flight, 31 August 1965 at Van Nuys. (Photo — Aero Spacelines)

c/n 15939, No. 12, R 9-17-47, FF 9-28-47, D 8-27-49 as N1039V.

NX1039V Boeing Airplane Company. Used for flight certification tests. Painted BOEING STRATO-CRUISER. (See Page 217)

N1039V PAA. CLIPPER GOOD HOPE. Lost in Brazil jungle 4-29-52 with 41 passengers and 9 crew. TT — 6,944 hrs. Probable cause, "Separation of No. 2 engine and prop in flight." (Ref. ICAO Accident Digest No. 4). Two expeditions of CAB technical experts were made to the site to determine cause.[13]

c/n 15940, No. 47, R 9-1-49, FF 9-23-49, D 10-31-49 as N1040V.

N1040V PAA. CLIPPER INVINCIBLE. Retrofitted (see Ref. 11). TT at Sept. 59 — 25,558 hrs. Stored at New York 1960, traded to Boeing 8-4-60. Sold to Mansdorf, then LIA.

HC-AGA LIA. At one time assigned, and had painted on, two registrations, HC-AGA and HC-AFS, the first was removed by 12-11-60. Named PRINCESS EVERETTA MARIA (see also c/n 15931). "HC-AGA issued for ferry flight only, import details not completed, no bill of sale. Seized by government of Ecuador. Mansdorf claims ownership."[14] It was reported seen at Quito in March 1965. A Boeing report dtd. 3-5-65, "Lost over Pacific, 1961" seems doubtful. No record exists in CAB nor ICAO.

HC-AGA, or is it HC-AFS? PRINCESS EVERETTA MARIA of Linea Internacional Aero at Oakland, 1960. (Photo - Larry Smalley)

c/n 15941, No. 48, R 9-9-49, FF 10-5-49, D 11-8-49 as N1041V.

N1041V PAA. CLIPPER YANKEE, later CLIPPER NORTHERN LIGHT when in Alaska service. TT at Sept. 59 — 24,593 hrs. Stored at New York 1960. Sold to Alfred Eq. Co. 10-25-61, registered to Aero Central, Inc. 7-1-64. Registered to Peninsular Aircraft Radio, Inc. 7-1-64. Dismantled in May 1966 by RANSA, salvage to lAI.

c/n 15942, No. 57, R 11-11-49, FF 12-5-49, D 12-30-49 as N1042V.

N1042V PAA. CLIPPER MORNING STAR, later CLIPPER POLYNESIA. Made last scheduled Stratocruiser flight from Buenos Aires. TT at Sept. 59 — 29,701 hrs. Stored at Miami 1960. Traded to Boeing 1-25-61, sold to Mansdorf, then Aero Spacelines, presently at Mojave, California.

N1024V, CLIPPER MORNING STAR on taxiway at New York Int'l (Idlewild), March 1951. (Photo-Copyright 1951 Nat'l Georgr. Soc.)

c/n 15943, No. 28, R 7-1-49, FF 7-6-49, D 10-12-49 as G-ALSA.

SE-BDP SILA. Sold to BOAC April 1949.

G-ALSA BOAC. R M A CATHAY. First used for training and development, its first inaugural London, Prestwick — New York flight came on 12-6-49. Damaged in landing at Keflavik on 2-27-54, rebuilt on site by 15 men flown there by Lockheed, returned to service 7-24-54.[15] Crashed on GCA approach to Prestwick on 12-25-54, 24 passengers and 4 crew lost. "Approach too steep, flare out too late and too severe." (ICAO Accident Digest Number 6).

c/n 15944, No. 37, R 8-18-49, FF 9-16-49, D 10-24-49 as G-ALSB

OY-DFY SILA. Sold to BOAC, April 1949.

G-ALSB BOAC. R M A CHAMPION. TT - 19,303 hrs., 1154 Atlantic crossings. Sold to TAL.

N103Q TAL. Registry not painted on airplane.

N408Q TAL. Re-registered but not painted on airplane. TAL bankrupt 7-11-60. Auctioned to Mansdorf in BOAC colors. Sold to Aero Spacelines, cut up to use for N1038V SuperGuppy.

c/n 15945, No. 45, R 9-20-49, FF 10-28-49, D 12-2-49 as G-ALSC

LN-LAF SILA. Sold to BOAC April 1949.

G-ALSC BOAC. RMA CENTAURUS. Last Stratocruiser scheduled flight from London to New York on 11-13-58, then used in NY-Carribean route to 1-5-59. TT - 19,242 hrs., 1,158 Atlantic crossings.
Sold to TAL.

N101Q TAL. Converted to 40-passenger deluxe type, used on Pacific routes.

N406Q TAL. Re-registered 10-14-59. TT — 20,853 hrs. Sold at auction to Airline Eq. Co., then Mansdorf, then Aero Spacelines. Cut up and parts used for N1038V Super-Guppy.

c/n 15946, No. 49, R 10-19-49, FF 11-9-49, D 12-16-49 as G-ALSD

SE-BDR SI LA. Sold to BOAC April 1949.

G-ALSD BOAC. RMA CASSIOPEIA. TT - 18,669 hrs., 1,161 Atlantic crossings. Sold to TAL 9-7-58.

N85Q TAL. Converted to 40-passenger deluxe type at Bradley Field base of TAL.

N403Q TAL. Re-registered 10-14-59. TT - 21,428 hrs. Sold at auction to Mansdorf, then Aero Spacelines. Stored at Van Nuys, now Mojave, still in TAL livery, reported to be scheduled as Super-Guppy No. 2.

c/n 15947, No. 16, R 2-18-49, FF 3-18-49, D 7-29-49 as N74601

N74601 NWA No. 701. STRATOCRUISER MANILA. Substantial damage sustained in overshoot landing at Midway Airport, Chicago on 8-5-55. No injuries to passengers and crew. TT then 16,861 hrs. Probable cause, improper positioning of reversing circuit breakers. TT — 30,734 hrs. Traded to Lockheed on L-188 Electra.[16] Sold to Mansdorf, then Aero Spacelines.

N74601 Aero Spacelines. Stored at Mojave, flown to Santa Barbara, mid-1967, and dismantled, "tub" being used for N402Q Mini-Guppy.

c/n 15948, No. 21, R 3-4-49, FF 3-28-49, D 6-22-49 as N74602

N74602 NWA. No. 702. Christened STRATOCRUISER MINNEAPOLIS-ST. PAUL, later SEATTLE-TACOMA. TT at Dec. 59 - 30,860 hrs. Traded to Lockheed for L-188. Sold to Mansdorf, the Aero Spacelines. Stored at Mojave in NWA colors, no lettering.

c/n 15949, No. 24, R 3-18-49, FF 4-9-49, D 7-10-49 as N74603

N74603 NWA. No. 703. STRATOCRUISER CHICAGO, later S. NEW YORK, later S. SEATTLE-TACOMA. Hit building at Cleveland while taxiing, damaged wing, 1-14-58. TT — 24,884 hrs. Traded to Lockheed 10-17-59. Sold to Mansdorf, then Aero Spacelines, late 1963.

N74603 Aero Spacelines. Painted in AS colors and used for public relations in Guppy program. Now at Mojave.

c/n 15950, No. 25, R 4-20-49, FF 7-20-49, D 8-11-49 as N74604

N74604 NWA. No. 704. Christened STRATOCRUISER NEW YORK on opening of coast to coast service. Later S. DETROIT. TT at Oct. 59 — 29,763 hrs. Traded to Lockheed, then Aero Spacelines, late 1963. Intact at Mojave, NWA colors, no lettering.

c/n 15951, No. 29, R 5-6-49, FF 8-10-49, D 8-28-49, as N74605

N74605 NWA. No. 705. STRATOCRUISER CHICAGO, later S. NEWARK. Traded to Lockheed 12-29-59, TT — 30,841 hrs. Sold to Mansdorf, then Aero spacelines, late 1963. Intact at Mojave, NWA colors, no lettering.

c/n 15952, No. 35, R 6-15-49, FF 8-22-49, D 9-13-49 as N74606.

N74606 NWA. No. 706. STRATOCRUISER WASHINGTON. Traded to Lockheed 12-29-59, TT —

30,497 hrs. Sold to Aero Spacelines 1963. Modified with large cargo door, forward port side. Intact at Mojave.

c/n 15953, No. 43, R 8-9-49, FF 9-11-49, D 9-21-49 as N74607.

N74607 NWA. No. 707. STRATOCRUISER HONOLULU. Bendix X-Band weather radar installed April 1955, renamed STRATO-CRUISER RUDOLPH WITH THE RADAR NOSE. An oxygen bottle exploded during preflight check at Minneapolis on 8-14-59. Passengers evacuated by slides. TT — 28,527 hrs. Derelict at Minneapolis, name removed. Sold by insurance carrier to Alex Rozawek, Newark, N.J., then RANSA for parts. Re-possessed on bankruptcy, cut up at Miami Feb. 1968, salvage to I Al.

c/n 15954, No. 50, R 9-28-49, FF 10-10-49, D 10-21-49 as N74608.

N74608 NWA. No. 708. STRATOCRUISER TOKYO. Lost engine from wing 1-25-50, landed safely at Midway Airport, Chicago. Lost control from severe buffeting on takeoff from Seattle on 4-2-56, ditched in Pacific Ocean. (ICAO Accident Digest No. 8). TT - 18,489 hrs.

c/n 15955, No. 51, R 10-10-49, FF 11-05-49, D 11-18-49 as N74609

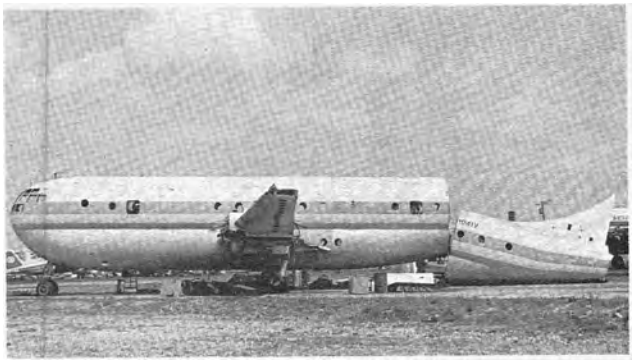
N74609 NWA. No. 709. STRATOCRUISER ALASKA, later S. PORTLAND. Used on Twin Cities to Chicago and New York routes. Had Lowry Heritage organ installed Oct. 59. Traded to Lockheed 12-29-59, TT — 31,005 hrs. Sold to Mansdorf, the Aero Spacelines. Intact at Mojave, NWA colors, no lettering.

c/n 15956, No. 58, R 11-18-49, FF 12-8-49, D 12-21-49 as N74610

N74610 NWA. No. 710. Christened STRATOCRUISER ORIENT EXPRESS, later S. FORMOSA, some-time S. SHANGHAI. Traded to Lockheed 12-29-59, TT — 30,866 hrs. Sold to Mansdorf, then Aero Spacelines, 1963. Intact at Mojave, NWA colors, no lettering.

Miss Loretta Young christening STRATOCRUISER THE ORIENT EXPRESS, publicizing addition of Orient to the company name. Her motion picture, "Keys to the City" was being released at the time. (Photo-William Eccles, courtesy of Northwest Orient Airlines.)

Entrance to forward cargo hatch also led to cockpit. (Photo - NWA)



The end of a great airliner. The CLIPPER MALAY being broken apart in February 1968. MALAY'S useful life was among the longest, 32,000 flying hours from 1949 to 1959. Salvaged parts went to IAI, balance to scrap. (Photo — David Tilton)

"The Stratocruisers Carry On." ***FLIGHT,*** **June 14, 1959.**
"Collecting a Stratocruiser." ***FLIGHT & Aircraft Engineer,*** **December 1,8, 15, 1949.**
FLIGHT International, **April 10, 1959.**
"Popular, But Too Costly, Stratocruiser Bows Out." ***United Press International,*** **September 12, 1960.**

Because of space limitations, and the many fine photographs and wealth of data compiled, we will present the balance of H.J. Nash's "Clipper of the Skies — The Boeing Stratocruisers" in the Spring 1970 issue of the *JOURNAL*.

Part 2 will include the use and disposition of the great airliners of American Overseas Airlines, British Overseas Airways Corporation and United Air Lines, and of the extraordinary conversion of several Stratocruisers to the "Pregnant Guppy," "Mini-Guppy" and "Super Guppy" configurations for transport of Saturn space vehicle sections.

Additional information is welcomed by the Author.

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5. **Letter, Director Public Relations, Israel Defense Forces, General Staff, to author, dated 29 Dec. 1966.**
6. **Letter, Capt. Everett E, Jones to author, dated 8 Feb. 1967.**
7. **Brooks, Peter W.** ***The World's Airliners.*** **London: Putnam, 1962.**
8. **Masland, W.M. "Twenty Years of Achievement on the North Atlantic,"** ***Interavia*** **Magazine, 20th Anniversary Edition, 4/1966, page 466. Copyrighted, reprinted by permission. The author is Captain for Pan American Airways.**
9. **Stratocruisers returned to Boeing Airplane Co. by PAA were in trade for new Boeing 707s.**
10. **Pan American Airways had traditionally used CLIPPER AMERICA for publicity purposes on the first of new equipment and for inaugural flights. This resulted in a series of Stratocruisers being named AMERICA in this period.**
11. **In the winter 1954-55 PAA had rebuilt ten of the Stratocruisers with addition of five fuel cells and more efficient turbine wheels in attempt to enable Trans-Atlantic crossings in 85% of previous time. These were identified by "SuperStratocruiser" on vertical fin. Included were N1029V, N1031V, N1033V, N1035V, N1036V, N1038V and N1040V, balance unknown.**
12. **Alfred Equipment Co. was possibly a "paper" company.**
13. **Mallan, Lloyd.** ***Great Air Disasters.*** **New York: Fawcett Publications, 1962. No. 517.**
14. **Letter, Captain E.E, Jones to author, dtd, Oct. 25, 1966.**
15. ***American Aviation*** **Magazine, December 19, 1955.**
16. **Ibid.**

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