



Ship 1, N5601 takes off for the first time, January 24, 1961. (GD)

THE CONVAIR 990

By JONATHAN PROCTOR

Research Project 7018

A growth version of the 880, the 990 was specifically developed to meet the requirements of American Airlines, who placed the first order in July, 1958, for 25 ships, with an option on 25 more. Also known as the "Model 600" at the time, American later convinced General Dynamics (GD) to rename it "990," no doubt to denote an improvement of, or a ship superior to, the 880. Swissair preferred to retain the "Coronado" designation.

The 990 design incorporated improved landing and takeoff capabilities, through larger trailing edge flaps, including full Fowler-type (double-slotted) inboard flaps, and expanded leading edge devices. Also increased was the wing area, through chord changes, to 2250 square feet (vs. 2200 on the 880). But by keeping the wing torsion box size close to that of the 880 (and tooling costs down), and making changes in the leading and trailing edges, the 990 wound up with a wing thinner than that of the 880. Wing sweep and dihedral remained unchanged.

General Electric CJ-805-21 aft-fan engines were chosen for the 990. A derivative of the J-79, selected for the 880, the -21 engine was used on the Convair-built B-58 Hustler, at the time the world's fastest supersonic bomber. With increased power and a thinner wing, a top speed of mach 0.91 became possible. But with it came air flowing over the 990's wings at a supersonic rate, creating a shock wave which produced air separation above the trailing edge, and a resulting drag.

Working closely with research teams of the National Advisory Committee for Aeronautics, Convair's engineers came up with a design for incorporating two anti-shock bodies extending back from the trailing edge of each wing. The addition of these "speed pods," which resemble overturned canoes, actually diminished or delayed the shock wave at design speeds, reducing the drag.

Also possible was the storage of additional fuel, extending the range. Although not very noticeable, the inboard bodies are actually two feet shorter than the outboards. Fuel is stored in the space from the trailing edge of the wing forward; 320 gallons in each outboard body, and 300 in the inboards.

Although 10 feet, one inch longer than the 880, the 990's exterior features are essentially identical. Its tail is 3½ feet taller, but wingspan is the same (120 feet). Most noticeable, of course, are the anti-shock bodies, plus the fatter engine pods, designed in this manner to provide airflow for the aft compressors. Why Convair engineers chose this method, rather than a rear fan inlet configuration, is not known. Inflight testing of the engine and pod was accomplished with a leased Air Force RB-66A, used as a testbed.

The first 990, still known as the "600" at this point, began primary assembly in March, 1960, down the same production line with the 880. Special tooling was located in a separate building, where 990 parts were fabricated, then inserted into the main production line.

The prototype 990 rolled out of the factory on November 23, 1960, and made its first flight on January 24, 1961, after several postponements. Early in the flight testing it was discovered that wing vibrations were different from what had been predicted. When the outer anti-shock bodies were filled with fuel, the outer engines shuddered dangerously when the ship was flown at high speeds. Engine realignment was the only solution, and proved disastrous to the test program timetable. Modifications had scarcely been completed when new problems arose, in the form of increased drag.

By June 1961, it became obvious that the top cruise speed of 629 mph would not be obtainable without further research and testing, nor would the range which had been promised to Swissair, who planned to use the ship on its Dakar-Rio de Janeiro route. While engineers searched for the necessary fix, GD went back to the bargaining table with American Airlines, the company holding the lion's share of 990 orders.

In September of 1961, American and GD announced an agreement which called for the purchase of 15 ships, guaranteed to cruise at 584 mph, plus a buy of five additional ships, provided GD could, by modification, bring the maximum cruise speed up to 620 mph. American announced that it would begin 990 service in January 1962, operating the ships at the same cruise speed as their 707 and 720 equipment. Commensurate with the new contract, no doubt, was a lower purchase price. Without the speed, the 990 became a lower capacity, higher fuel-consuming version of the Boeing jets.

Swissair, badly in need of jet equipment, accepted two of GD's unsold 880M's on lease, in July of 1961, to help fill the gap created by the Coronado's delivery delays.

Research conducted at Cornell University's Aeronautical Laboratory produced changes in the engine pod design on the 990 which brought it up to the "990A" configuration.

The "A" design consisted of extensive nacelle modifications, including extension of the engine pod aft, covering the clam shell thrust reverser; installation of a leading edge "glove" over the mount, and a large terminal fairing extending aft of the nacelle on the inboard side. Some of the modifications varied between the American and Swissair ships.

Further orders for the 990 did not materialize, and only 37 were built. Swissair took delivery of their first ships on January 12, 1962, eight months later, and inaugurated service on March 9th, between Zurich and Tokyo. Modifications to the "A" configuration were completed after acquisition of the ships.

SUMMARY OF ORIGINAL DELIVERIES

American	20
Swissair	8
Varig	3
Garuda	3
NASA	1
APSA	1
Garrett	1
Total	37 ships

DISPOSITION

AMERICAN AIRLINES

As stated, American ordered 25 ships originally, and wound up with a total of 20. The early option of 25 additional ships was never exercised, and the last five of the original order, although built, were sold to others.

American sold all but one ship, which was destroyed by fire. Interestingly, a few of the ships were leased out and reregistered, taken back by American, and subsequently resold to other carriers. In the process, some were reregistered by American upon return, under registrations originally assigned to other 990's, making it somewhat difficult to follow their chronology. An example is Ship 34, as can be seen in the C/N Disposition List.

SWISSAIR/SAS

Swissair contracted for five 880's on October 10, 1958, and in late 1959 changed the order to seven 990's. SAS signed up for two ships on September 1, 1959, but later canceled the order, and leased two of the Swissair ships for a period of four years each. Swissair later purchased an additional ship, for a total of eight.

Swissair operated their 990 fleet for the longest period of time, from 1962 through 1974, with a perfect safety record, except for the tragic loss of Ship 15, which was destroyed in flight by sabotage. Of the seven left, four were sold to Spantax, two sold for scrap, and Ship 12 was donated to the Swiss Transport Museum in Lucerne.

VARIG

The three aircraft operated by Varig were eventually sold to Modern Air Transport, one of them via Alaska Airlines.

GARUDA

Garuda Indonesian Airways picked up three ships originally allocated for American. One was lost in an accident, and two were sold to California Airmotive for refurbishment and resale. One of those was destroyed while being ferried from the Far East to the U.S.

NASA

The National Aeronautics and Space Administration purchased the prototype 990 for use as an airborne laboratory, and did a great deal of celestial research with the aircraft, named "Galileo." Special windows cut in its upper fuselage surface were used for observations and photography.

The ship was lost in a midair collision in 1973, and replaced with the last 990 built, Ship 37, purchased from California Airmotive, who acquired it from Garuda. Appropriately, it was christened "Galileo II."

APSA/GARRETT AIRESEARCH

APSA Peruvian Airlines (originally known as Aerolineas Peruanas) purchased one ship, and acquired a second from Garrett. A third ship was acquired from American, via F.B. Ayer. APSA subsequently went bankrupt, and the ships were repossessed.

SPANTAX

Spantax, a Spanish charter operator acquired a total of 13 ships, all second-hand. Two have had accidents. Ship 22 barely escaped extinction in 1973, when it collided in midair with an Iberia DC-9, during a French Air Traffic Controller's strike. The ship landed safely, minus 18 feet of one wing, while the DC-9 crashed, killing all aboard.

Spantax recently acquired four of Swissair's ships.

MODERN AIR TRANSPORT

Another charter operator, MAT acquired a total of 10 ships, one of which was lost in an accident. Two have been resold.

Among other innovations initiated, MAT installed auxiliary power units on their ships. Operating them in a 149 seat configuration, the carrier increased the normal range of the 990 by some 20%, through use of improved cruise techniques. A Modern ship once flew non-stop from Anchorage, Alaska to Miami on a ferry flight, over 4000 miles.

Recently beset with financial problems, Modern has ceased operations, and their ships remain parked, some of them at the location they were when operations came to a halt.

OTHER OPERATORS

In addition to the above, the 990 has seen service briefly with Air France, Iberia, THAI, Ghana, El Al, Air Ceylon, Balair, and Northeast, all while on lease. Middle East Airlines bought several from American, and then traded them back for Boeing jets. Alaska Airlines is the only carrier to have *owned* both the 880 and 990; one of each, and at different times. Northeast and Swissair operated the two types, but leased one or the other. Lebanese International's two ships (acquired from American) were both destroyed at Beirut Airport during a guerrilla attack by Israeli commandoes.

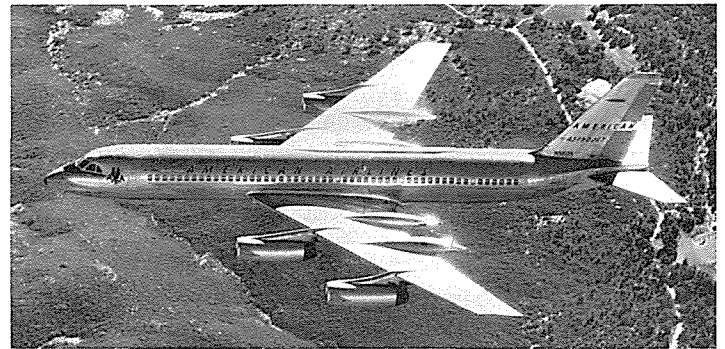
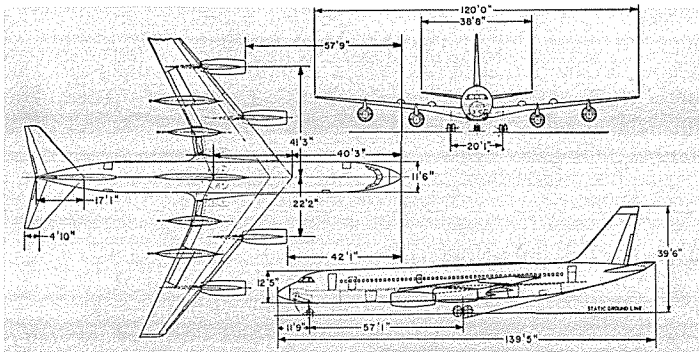
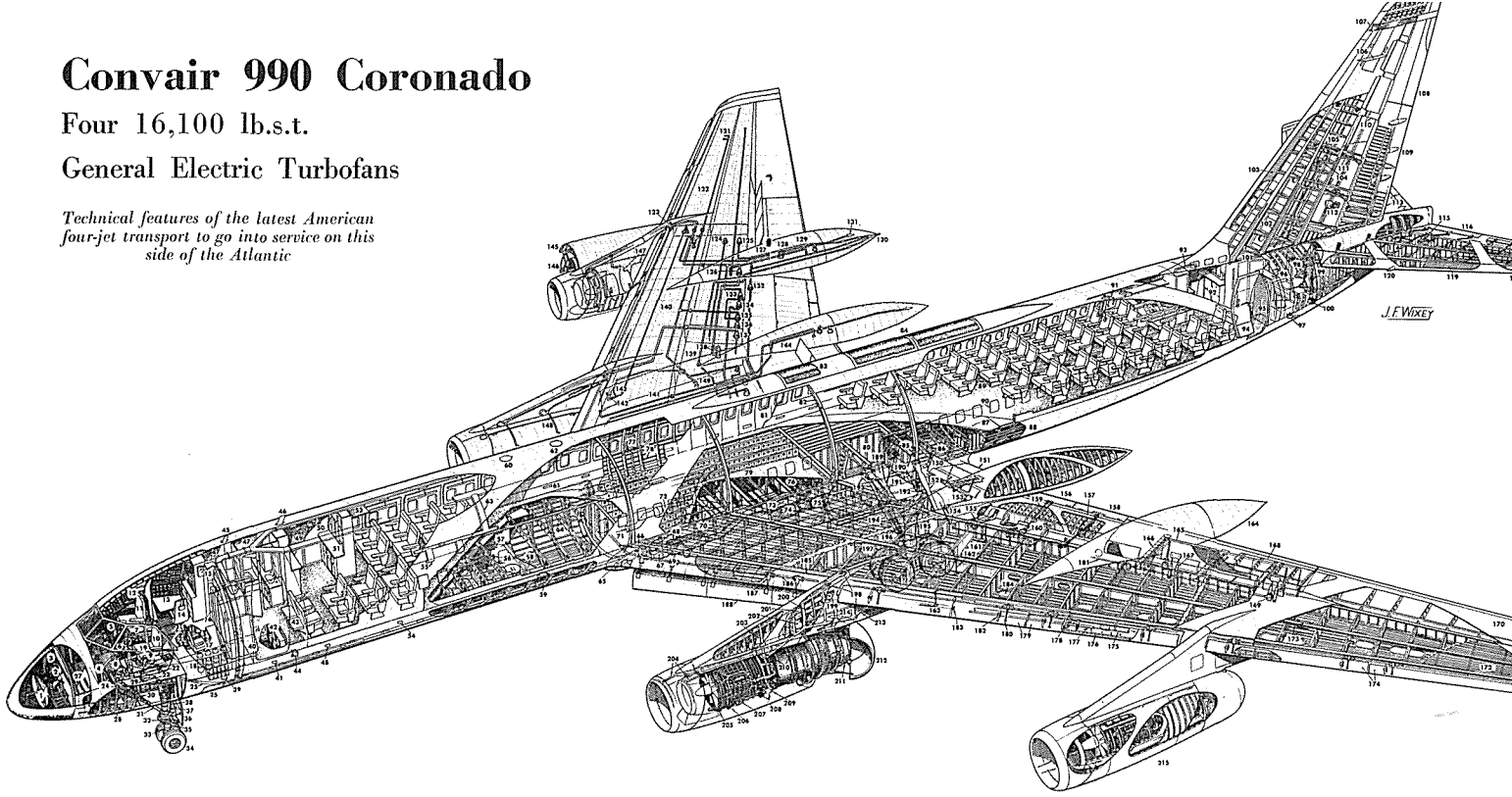
Twelve ships were ordered by Hughes Tool Company, and remained on the delivery schedules as late as May 1961. The order never materialized, because of the same financial problem which tied up the Hughes 880 orders. The 990 contract was finally canceled, and the ships were not built. Records also indicate five delivery positions for KLM, on a speculative basis. This order didn't come either. The delivery schedule for 55 ships slipped back to 38 when these two orders failed. The SAS cancellations took it to 36, and back up to 37, its final figure, when Swissair bought one additional Coronado.

Convair 990 Coronado

Four 16,100 lb.s.t.

General Electric Turbofans

Technical features of the latest American four-jet transport to go into service on this side of the Atlantic



Ship 9, N5605 in AA's original colors. (American Airlines)



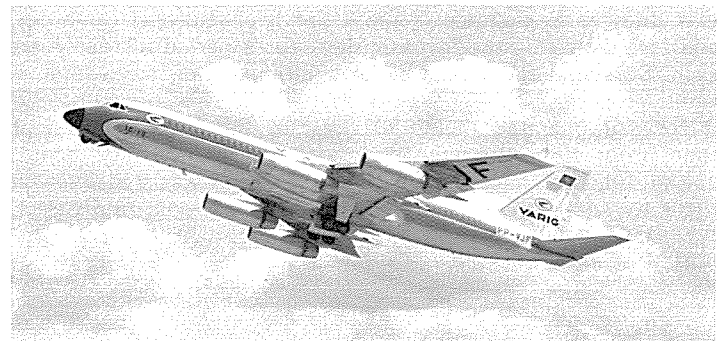
(Above) Ship 7, during pre-delivery flight testing. Note the U.S. registry N8497H on the fuselage, and Swiss registry HB-ICA on the wings. (GD)

(Below) First of two ships leased to SAS by Swissair, Ship 8, SE-DAY lifts off from San Diego, prior to delivery. Aircraft had not been converted to "A" configuration at this point. (GD photo)



(Above) Ship 3, PK-GJA, operated by Garuda, photographed 12/24/66 at Amsterdam. (J.W. Bossenbroek)

(Below) Ship 19, PP-VJF, taking off from San Diego, still carrying construction number on fuselage. (GD)



CONVAIR 990 CONSTRUCTION NUMBER DISPOSITION

Abbreviations:

C/N — Manufacturer's serial number (construction number)
P/N — Production number
V/N — Customer version code
FF — First flight
D — Delivery date
S — Sold
L — Leased
RFS — Removed from service
TFT — Total flying time
RR — Re-registered

C/N: 1	P/N: 30-10-1	V/N: 30-5-1
N5601	Prototype CV-990. FF 1/24/61 in GD colors. Registered for FF only.	
N5601G	RR for balance of flight testing.	
NASA 711	Converted to 990A and D to NASA 11/27/64.	
N711NA	RR. Named "Galileo." Destroyed in midair collision with U.S. Navy P-3 Orion near Moffett Field, California 4/12/73.	
C/N: 2	P/N: 30-10-2	V/N: 30-5-2
N5602	Second prototype CV-990. FF 3/30/61 in GD colors. Registered for FF only.	
N5602G	RR for balance of flight testing.	
N5602G	S to Garrett Airesearch. D 7/8/64.	
OB-R-765	L to Aerolineas Peruanas 2/1/65.	
OB-R-765	S to APSA (successor to Aerolineas Peruanas).	
N900AB	Repossessed from APSA and RR, summer/73. Stored at Tucson, Arizona.	
C/N: 3	P/N: 30-10-3	V/N: 30-5-3
N5603	Registered for FF only.	
N5603G	RR for balance of flight testing.	
PK-GJA	D 1/24/64 to Garuda. Destroyed in accident at Nalla Sopora, near Bombay, India, 5/28/68.	
C/N: 4	P/N: 30-10-4	V/N: 30-5-4
N5604	Registered for FF only.	
N5604G	RR for balance of flight testing.	
PK-GJB	D 10/21/63 to Garuda.	
N7876	S to California Airmotive 6/73, after lengthy period of time in storage at Djakarta. Ferried to Hong Kong for refurbishment. Destroyed at Guam while on delivery flight to U.S., September 10, 1973.	
C/N: 5	P/N: 30-10-5	V/N: 30-6-1
N8484H	Under US registration for flight tests. Originally for Swissair; allocated HB-ICE, but canceled.	
OB-OAG	L to Aerolineas Peruanas 11/15/63.	
OB-R-728	RR and S to APSA (successor to Aerolineas)	
N990AC	Repossessed from APSA and RR, summer/73. Stored at Marana, Arizona.	
C/N: 6	P/N: 30-10-6	V/N: 30-6-2
N8485H	Under US registration for flight tests. Originally for SAS; allocated LN-LMA. Canceled.	
HB-ICF	D 2/6/64 to Swissair. RFS 10/8/74 and stored at Zurich. Ferried to Hamburg 4/24/75 and scrapped. TFT 29,349 hrs.	
C/N: 7	P/N: 30-10-7	V/N: 30-6-3
N8497H	Under U.S. registration for flight testing.	
HB-ICA	D 1/12/62 to Swissair. RFS 1/5/75 and stored at Zurich. TFT 35,724 hrs. EC-CNG S to Spantax	
EC-CNG	S to Spantax 4/17/75. RR.	
C/N: 8	P/N: 30-10-8	V/N: 30-6-4
SE-DAY	L to SAS, D 2/23/62. Sub-L to THAI during 1962.	
HB-ICG	D to Swissair by SAS 2/1/66, and RR. RFS 1/75 and stored at Zurich. TFT 32,759 hrs.	
EC-CNF	S to Spantax 4/5/75. RR.	
C/N: 9	P/N: 30-10-9	V/N: 30-5-5
N5605	D 7/1/62 to American.	
N5605	S to Modern, D 3/13/67. Leased to Air France 4/10/67.	
C/N: 10	P/N: 30-10-10	V/N: 30-5-6
N5606	D 1/12/62 to American.	
OD-AEX	S to Lebanese International, D 10/21/60. Destroyed on the ground at Beirut 12/28/68.	



Ships 17 and 8, both leased by THAI, show similar color schemes. Ship 17, reregistered HS-TGE, was more extensively changed from the basic SAS livery, while Ship 8 retained the SAS registration, SE-DAY, with only a reference to THAI on the fuselage, above the windows. (THAI)



(Above) The single 990 operated by Alaska Airlines, Ship 13, N987AS. (Jay L. Sherlock)

(Below) Ship 24 at Miami International Airport in Northeast's "Yellow-bird" paint scheme, while on lease from F.B. Ayer. (Clay Jansson)





(Above) Left side view of Ship 31, OD-AEW, shows the colors of Lebanese International Airways, with English titles. (LIA)

(Below) Photographed at Amsterdam in 1967, this shot of Ship 31 reflects Arabic titles on Lebanese International's aircraft. (J.W. Bossenbroek)



(Above) Ship 32, EC-BNM, acquired from American by Spantax. Photographed at Amsterdam 7/25/68; later lost in an accident. (J.W. Bossenbroek)

(Below) Ship 36, EC-BQA, leased from Spantax, in full Iberia colors. (H. Huizing)



(Above) Ship 18, OD-AFF, purchased from American by Middle East Airlines, is shown at Frankfurt International Airport. (H. Huizing)

(Below) Ship 9, N5605, pictured while in service with Air France, on lease. The ship was operated between London and Paris. (Peter Black)



(Above) Ship 2 after sale to APSA, carrying the OB-R-765 registration. (Clay Jansson)

(Below) Ship 19 with slightly modified color scheme. Tail insignia was changed, and flag moved to forward fuselage, along with "CONVAIR 990A" inscription. (Jon Proctor)



C/N: 11 HB-ICB	P/N: 30-10-11 D 1/18/62 to Swissair. RFS 12/1/74, and stored at Zurich. Ferried to Hamburg 4/25/75 and scrapped. TFT 35,895 hrs.	V/N: 30-6-5
C/N: 12 N94280 HB-ICC	P/N: 30-10-12 Under U.S. registration for flight testing. D 1/25/62 to Swissair. RFS 10/28/74, and stored at Zurich. Donated to Swiss Transport Museum at Lucerne 6/2/75. TFT 35,693 hrs. NOTE: Original C/N 12 fuselage and wing roots used as development aircraft, for stress testing. Original C/N 38 renumbered C/N 12.	V/N: 30-6-6
C/N: 13 PP-VJE N987AS N5603	P/N: 30-10-13 D 3/1/63 to Varig. S to Alaska Airlines 5/67, and RR. S to Modern, D 10/69, and RR. Destroyed in accident at Acapulco, Mexico, 8/8/70.	V/N: 30-8-1
C/N: 14 HB-ICE HB-ICE HB-ICE EC-CNJ	P/N: 30-10-14 D 8/3/62, to Swissair. Originally for SAS; allocated SE-DAZ. Canceled. L to Ghana Airways, 1964-65. R to Swissair 1965. RFS 1/75, and stored at Zurich. TFT 33,894 hrs. S to Spantax 6/75, and RR.	V/N: 30-6-7
C/N: 15 HB-ICD	P/N: 30-10-15 D 2/3/62 to Swissair. Destroyed by sabotage, near Zurich 2/21/70.	V/N: 30-6-8
C/N: 16 N5607 N5607 N990E	P/N: 30-10-16 D 2/9/62 to American. S to Modern, D 1/4/67. L to Nordair during 1968. S to NOMADS, Inc. Aug. '75. RR.	V/N: 30-5-7
C/N: 17 OY-KVA SE-DAZ HS-TGE SE-DAZ HB-ICH	P/N: 30-10-17 FE only, in SAS colors. L to SAS, D 4/10/62. L to THAI International during 1962. RR. Returned to SAS 1963 and RR. D to Swissair by SAS 2/1/66. L during 1968 to Balair, El Al, and Air Ceylon. Leased again to Air Ceylon 8/12-9/22/74. RFS 11/1/74, and stored at Zurich. TFT 33,188 hrs. S to Spantax 6/75. RR.	V/N: 30-6-9
EC-CNH		
C/N: 18 N5608 OD-AFF N6844 EC-BZP	P/N: 30-10-18 D 3/5/62 to American. S to MEA, D 6/14/69. RR. Traded back to AA for 720B aircraft. 2/72. RR. S to Spantax, D 4/10/72.	V/N: 30-5-8
C/N: 19 PP-VJF N5625 N5625	P/N: 30-10-19 D 3/1/63 to Varig. S to Modern 2/71. RR. S to Denver Ports of Call 7/75. RR.	V/N: 30-8-2
C/N: 20 PP-VJG N5623	P/N: 30-10-20 D 3/1/63 to Varig. S to Modern 2/71. RR.	V/N: 30-8-3
C/N: 21 N5609 N5609 EC-BTE	P/N: 30-10-21 D 3/20/62 to American. S to Modern 2/3/67. L. to Nordair during 1968. S to Spantax 1969. RR.	V/N: 30-5-9
C/N: 22 N5610 EC-BJC	P/N: 20-10-22 D 4/4/62 to American. S to Spantax 2/19/67. Leased to Iberia during the summer of 1967. Heavily damaged in midair collision with Iberia DC-9-32 EC-BII 3/5/73. Landed safely at Cognac, France. Repaired.	V/N: 30-5-10
C/N: 23 N5611 EC-BJD	P/N: 30-10-23 D 4/4/62 to American. S to Spantax 5/5/67. RR.	V/N: 30-5-11



Ship 9 is shown in Modern Air's original colors. Ship 29, N5617 reflects Modern's newer livery. Many liked the original scheme better, for its unique appearance. (Clay Jansson)



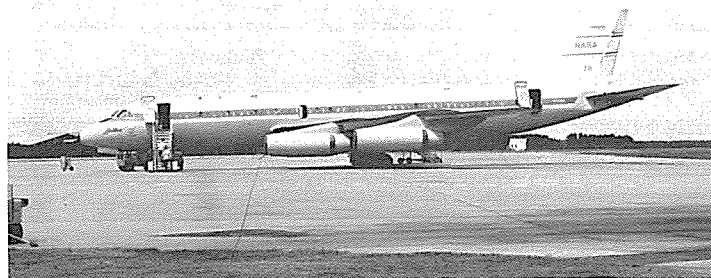
(Above) Ship 27 approaches for landing, carrying American's updated color scheme. Some of AA's ships were sold prior to the changeover, and never wore this livery. (Peter Black)

(Below) Wearing the colors of Nordair while on lease from Modern, Ship 27, N5615 is pictured at Amsterdam on 7/29/68. (J.W. Bossenbroek)



C/N: 24	P/N: 30-10-24	V/N: 30-5-12
N5612	D 4/9/62 to American.	
N5612	S to F.B. Ayer and L to Northeast 1/20/67.	
OB-R-925	Returned from lease and S to APSA. RR.	
N6846	Reposessed from APSA and stored. RR.	
N8357C	S to Denver Ports of Call 10/73. RR.	
C/N: 25	P/N: 30-10-25	V/N: 30-5-13
N5613	D 5/8/62 to American.	
OY-ANI	S to Internord 6/23/67. RR.	
N5616	Reposessed by American and RR.	
OD-AFH	S to MEA 6/16/69. RR.	
N6845	Traded back to AA for 720B aircraft 3/72. RR.	
EC-BZR	S to Spantax 5/8/72. Destroyed in accident at Tenerife, Canary Islands 12/3/72.	
C/N: 26	P/N: 30-10-26	V/N: 30-5-14
N5614	D 4/21/62 to American.	
OD-AFK	S to MEA 12/30/69. RR.	
N5614	Traded back to AA for 720B aircraft and RR.	
N5614	S to Modern and RR.	
C/N: 27	P/N: 30-10-27	V/N: 30-5-15
N5615	D 5/11/62 to American.	
N5615	S to Modern 5/20/68. Leased to Nordair during 68.	
C/N: 28	P/N: 30-10-28	V/N: 30-5-16
N5616	D 6/29/62 to American. Destroyed in ground fire at Newark 5/30/63.	
C/N: 29	P/N: 30-10-29	V/N: 30-5-17
N5617	D 5/11/62 to American.	
N5617	S to Modern 2/2/68.	
C/N: 30	P/N: 30-10-30	V/N: 30-5-18
N5618	D 6/5/62 to American.	
OD-AFG	S to MEA 6/20/69.	
N6843	Traded back to AA for 720B aircraft 10/19/71. RR.	
EC-BZO	S to Spantax 1/24/72. RR.	
C/N: 31	P/N: 30-10-31	V/N: 30-5-19
N5619	D 6/23/62 to American.	
OD-AEW	S to Lebanese International 10/19/65. Destroyed on the ground at Beirut 12/28/68.	
C/N: 32	P/N: 30-10-32	V/N: 30-5-20
N5620	D 7/21/62 to American.	
EC-BNM	S to Spantax 2/1/68. Destroyed at Stockholm 1/5/70.	
C/N: 33	P/N: 30-10-33	V/N: 30-5-21
N5601	D 1/18/63 to American.	
OD-AFJ	S to MEA 9/19/69.	
N5601	Traded back to AA for 720B aircraft. RR.	
N5601	S to Modern 1970.	
C/N: 34	P/N: 30-10-34	V/N: 30-5-22
N5602	D 1/31/63 to American.	
SE-DDK	S to Internord 12/2/67. RR.	
N5606	Reposessed by American and RR.	
EC-BQQ	S to Spantax 4/18/69.	
C/N: 35	P/N: 30-10-35	V/N: 30-5-23
N5603	D 2/8/63 to American.	
OD-AFI	S to MEA 7/11/69. RR.	
N5603	Traded back to American for 720B aircraft. RR.	
EC-BXI	S to Spantax 3/71. Leased for a time to Iberia.	
C/N: 36	P/N: 30-10-36	V/N: 30-5-24
N5604	D 3/21/63 to American.	
OY-ANL	S to Internord 3/16/68. RR.	
N5612	Reposessed by American and RR.	
EC-BOA	S to Spantax 1/14/69. L to Iberia during 1969.	
C/N: 37	P/N: 30-10-37	V/N: 30-5-25
PK-GJC	D 9/3/63 to Garuda.	
N7878	S to California Airmotive 6/73, after lengthy period of time in storage at Djakarta. Ferried to Hong Kong for refurbishment and modifications.	
N712NA	S to NASA and RR. Named "Galileo II."	
C/N: 38	— See C/N: 12	

END OF CV-990 PRODUCTION



(Above) Ship 1, "Galileo," registered N711NA and operated by NASA. Note the special modifications for airborne photography. Valued at over \$9 million, the ship was lost in a midair collision. (J.L. Sherlock)

(Below) Ship 36, OY-ANL, photographed while with Internord. It was later reposessed by American and sold to Spantax. (Jay L. Sherlock)



(Above) Ship 24, N8357C, operated by Denver Ports of Call. (R.J. Hurley)

(Below) Ship 16, N990E, purchased from Modern by the Nomads Travel Club. (Nomads)



Good-bye Coronado. Hello DC-9-51.



Dawn of June 2, 1975, over the Lake of Lucerne revealed an unusual scene. Fifty-six Swiss Army reservists hauled the Swissair Coronado HB-ICC aboard a high-powered ferryboat near Alpnachstad to begin a spectacular voyage. En route the great silver bird was welcomed by soaring rockets, howling ship's sirens, and a horn concert from a motorboat flotilla.

This festive reception greeted a 22-ton gift from Swissair, which for topographical reasons could be brought to the Swiss Transport Museum only by water.

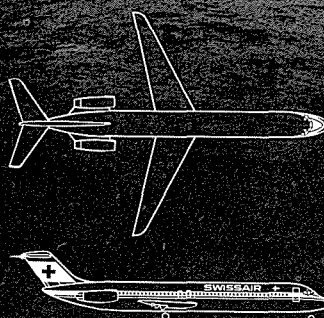
And thus what was until now the world's fastest passenger aircraft went into well-earned but not forced retirement. After all, an airline like Swissair (with over 20,000 shareholders expecting an accounting and 5% million passengers a year expecting

comfort) has to weigh economic considerations and hence to keep seeking out the most efficient planes.

Since summer of 1975, therefore, a new aircraft has gone into service on European flights; both economically and ecologically it represents an important advance. This is the DC-9-51.

You can see its economical efficiency at a glance. With the same wingspan, it is some 4 metres longer than the familiar DC-9-32, affording room for 120 passengers. As against the four-engine Coronado the DC-9-51 needs only two engines to reach a cruising speed of some 800 kmph. This means it is quieter, needs less fuel, and is kinder to the environment.

So good-bye Coronado. And thank you for flying Swissair.



Engineering data for the DC-9-51.

Wingspan	28.47 m
Length	40.72 m
Height	8.53 m
Maximum takeoff weight	54,885 kg
Cruising speed	730-800 kmph
Maximum range	2750 km
Fuel tank capacity	19,073 litres
Engines	2 Pratt & Whitney JT 8D-17
Maximum thrust	7260 kg
Passenger seating capacity	120
First class	12
Economy class	108



Swissair's way of honoring its retiring 990 fleet was to donate one of the ships to the Swiss Transport Museum, at Lucerne. This advertisement appeared in newspapers and magazines throughout the world when Ship 12, HB-ICC, was moved across Lake Lucerne en route to her final resting place. (Swissair)

990 CONFIGURATIONS

Listed below are significant differences in configurations caused by different carrier specifications in the original contracts. The model numbers shown can be identified in the Construction Number Disposition list through the version code.

Model #	30-5*	30-6*	30-8
Ramp Weight	240,000 lbs.	245,000 lbs.	245,000 lbs.
Engines	CJ805-23	CJ805-23B	CJ805-23B
Thrust	15,850	16,050	16,050
Cargo Comp.			
Aft (cu ft)	497	440	440
Fwd (cu ft)	475	488	488
Fuel Cap. (gallons)	15,173	15,635	15,708

*30-5 ships for Garuda, APSA, and NASA (C/N 1 only) subsequently received some modifications which upgraded various specifications.

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