

CAPTAIN'S LOG



The 1980 Club membership roster is included with this issue of the LOG. Only those members that have paid their 1980 Club dues are listed. A revised roster will be included with the next issue with the addition of those that pay their dues prior to the printing of the Spring 1980 issue of the LOG. Please get your dues in as soon as possible. The budget for 1980 can not be worked out until enough renewals are received. As of 15 December there have been only 120 renewals. I need your help on this--please get your renewals in!

As noted in the last issue of the LOG the dates for the 1980 convention in Detroit have been changed to July 25, 26 and 27. The convention site will be the Ramada Inn, 8270 Wickham Road, Romulus, Michigan. You should have received a mailing from the convention committee by now, so get you money in early and reserve your tables and motel rooms now so you won't be disappointed come July. Over 200 collectors are expected at this year's get together.

There are a number of projects in the fire for future issues of the LOG. One is a feature on the Herky-Bird, another on charter and freight haulers. Sometime in the future we will devote a full issue to United Airlines as well as TWA and Pan Am. Anyone wishing to work on a project for future printing is asked to contact the Editor. This is YOUR Club and magazine--get involved!

Club member Bill Richards of England has volunteered to become our "agent" for Club members in England and Europe. I am in the process of making final arrangements with Bill on handling Club affairs overseas. I hope to have more on this in the next issue of the LOG.

TWA 50th YEAR - 1976 BICENTENNIAL COMMEMORATIVE PLATE

Club member R. Chad LeBeau, 14645 F Country Lane, St. Ann, Missouri 63074 has in his possession a number of these china plates commemorating the 200th birthday of our country. Issued by TWA Navigation Club in 1976, the plate is a very limited edition, complete with one of the three coins afixed. The plate is being offered to Club members for \$10 and at that price is a real bargain. This plate would make a very nice addition to any airline buff's collection. Actually this item must be seen to appreciate. Send money order to above address when ordering.

CONTRIBUTIONS WANTED

Anyone who wishes to contribute articles, pictures, or other items of interest to the membership are invited to do so. The CAPTAIN' LOG will publish members wants, trades and material concerning the history of airlines and airliners. Interesting experiences related to airlines will also be accepted for publication. Photographs and drawings will be published if of good quality and if accompanied by a full description.

Any articles or material on timetables, post cards, modeling, insignia and the international scene should be sent directly to the appropriate editor listed below. All dues and other material for publication should be sent to the Publication Editor.

PUBLICATION DATES

The CAPTAIN'S LOG is mailed quarterly to members on the 15th of March, June, September and December. Deadline for material is the 20th of the month prior to mailing date.

The CAPTAIN'S LOG is send 3rd Class mail, so please allow ample time for delivery.

The CAPTAIN'S LOG is the official publication of the WORLD AIRLINE HOBBY CLUB. Current membership fee is \$10.00 per year for US and Canadian members and \$12.00 for all others. Please add \$5.00 additional if you wish air mail delivery(foreign members only). Make checks and money orders payable to "World Airline Hobby Club". Send dues to Publication Editor.

CHANGE OF ADDRESS

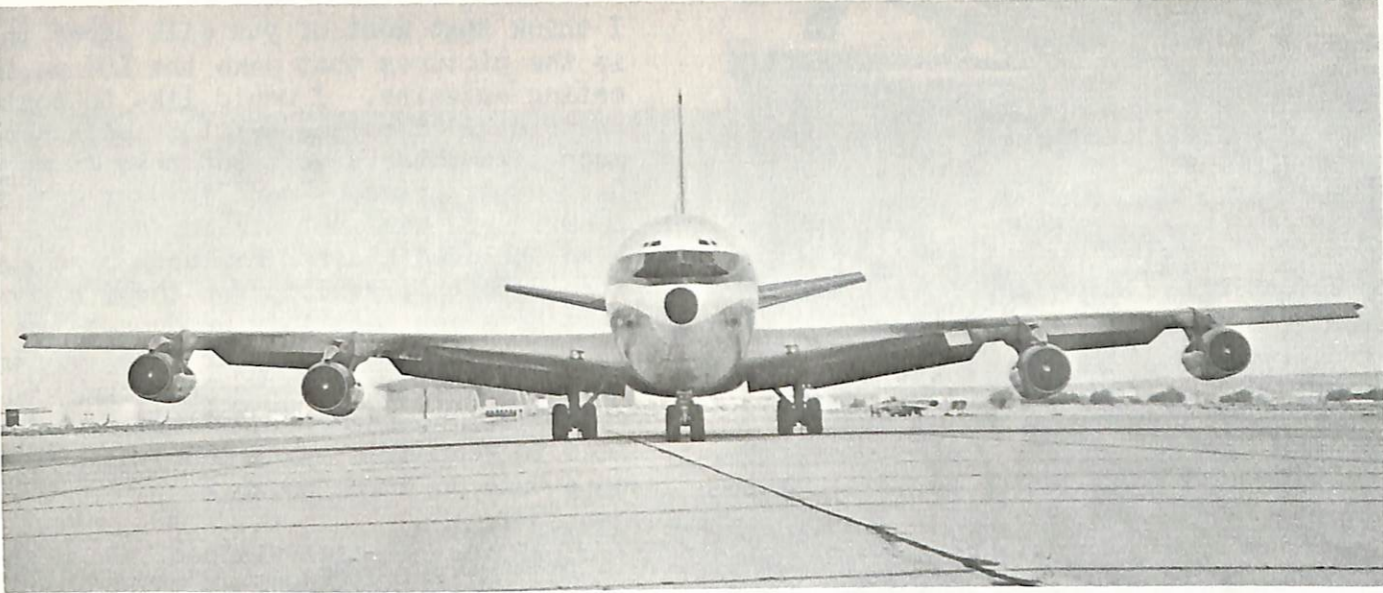
Please report any change of address promptly to the Publication Editor. Improper address will result in member not receiving his copy of the CAPTAIN'S LOG since the 3rd class postage rate does not allow for forwarding. If it is necessary to send another copy of the LOG to someone that has not reported a change of address, the member will have to pay the postage.

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Please send material that you wished published to any of the people listed above, paying attention to what department they handle. Any material you have doubts as to what category it belongs in, please forward to the editor.

Thank you



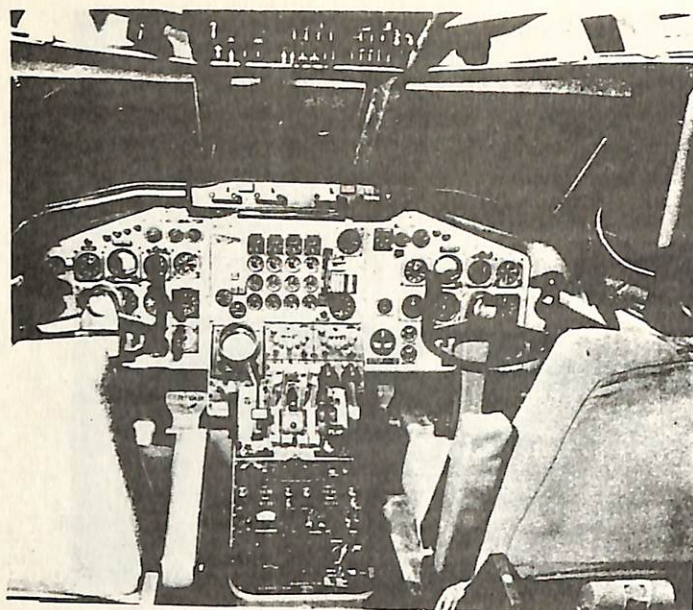
CAPTAIN'S LOG

VOLUME V Number 2/3
Fall/Winter 1979

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...from the left hand seat...

The year 1979 was a very good one for the World Airline Hobby Club. We now have 350 active members and we were able to participate in a very successful convention in July where over 170 collectors met for a week end of fellowship and fun. The way things are going in Detroit, 1980 should be even bigger and better!

We now have two Club members in Great Britain that will be acting in behalf of the Club, handling our European affairs. The work they will be doing can only have positive results. As most of you realize Europe is the "hot bed" of airline activities. I will be reporting on their progress in future issues of the LOG.

This issue of the LOG is a combination Fall and Winter issue, as mentioned in the last issue. I am doing this to get everything caught up for the start of the "80's." All Editors have come through with material for this issue. The airliner featured this time is the 707 backed up with a really informative article by "guest editor" Joe Scala on General Electric and commercial aviation.

The campaign to get you fellows to pay your 1980 Club dues was only slightly successful. Over 125 members have paid their dues as of this writing. To work up a budget for 1980, I need the support of ALL members that are planning on renewing their membership. The text part of the articles that appear in the LOG is not the most expensive item--it is the PICTURES.

I think that most of you will agree that it is the pictures that make the LOG an interesting magazine. I would like to continue to print LOGS having a lot of pictures, much like this issue. But this takes yr Club dues. Please--send in your dues for 1980 if you have not already done so. I have included another membership renewal form with this mailing for those of you that have not sent in your dues. For those of you that have paid your dues, you will be receiving a new membership card. I would like to thank all of you that have send in your dues, your money will give us a base on which to work.

If things go as planned, the next issue of the LOG will be devoted mainly to the Airbus and its development and current operations. The bulk of this work will be done by Pete Black. Of course our usual articles will be included, but slanted towards information on the Airbus. From what Pete tells me, it should be a very good issue!

The 1980 convention committee seems to be quite active. The first mailing that they have sent out seems to indicate that they now have their act together after a little bit of a shaky start. Be sure to your motel and table reservations in as soon as possible. We are expecting a large turnout for the Detroit affair and the number of tables available for trade and display are limited. The sooner you get your order in the better your chances of getting what you want. Don't delay!

This year I am hoping on getting the name of the World Airline Hobby Club in a number of nationally distributed magazines, promoting both the Club and the convention. With membership growing as it has been, we can take one of two directions. One, promote the Club by word of mouth, like we have been doing and keeping the membership low. Two, we can go all out and let the sky be the limit. I sort of like this second direction. There are a lot of folks out there that collect that we have not reached. I WANT TO REACH THESE PEOPLE. With your help and additional publicity, we will be able to do this. REMEMBER--SIGN UP ONE NEW MEMBER AND OUR MEMBERSHIP DOUBLES.

That's about it until next issue. Until then--happy collecting.



This is the first 707-120B equipped with the Pratt-Whitney turbofan engines. The improvements in performance over the 707-120 were dramatic. Boeing photograph, via Bob Woodling.

Meet the Boeing seven-o-seven

by

PAUL COLLINS

Trying to write a story about the Boeing 707 for other airline enthusiasts is like trying to tell your wife how your children were born. Everyone knows where kids come from and everyone knows the story about the development of the first operational U.S. jet airliner. From the development of the prototype, Model 367-80, the Boeing Company has seen copies of its four-engined jet in just about every country in the free world and in some countries that aren't so free.

This will not be a technical article on the Boeing 707. Mainly it will be a "picture" history of the aircraft and its development. Club member Dean Slaybaugh has been kind enough to supply me with a number of photographs of the 707, many are of carriers that I had never heard of before. There will be some written material thrown in between photographs, just to keep your interest.

The prototype of the 707 was Boeing Model 367-80 (or Dash 80) and was officially rolled out of the assembly hangar at Boeing's Renton plant on May 15, 1954. The first actual production Model 707 based on what was learned from the -80 was the Boeing 707-120. The -120 was slightly larger than the prototype and was the basic domestic version of the airliner. I guess

now would be as good as time as any to list the various "dash" numbers and give the basic differences between the aircraft they represent. As we go, I will try to present photos of the various main dash numbers. Since there are variations within each main group, it would be impossible to have all the variations, so please bear with me if I leave out your favorite 707!

The basic production model of the 707 is the -120 series. The power for this aircraft is from four Pratt and Whitney JT3C's of 12,500 lb. thrust each. This version is slightly larger and heavier than the -80 prototype. The -120 series type was first flown on December 20, 1957. Pan Am first flew international service with the -120 on October 26, 1958.

A special version of the -120 was constructed for Qantas Airlines of Australia which was 10 feet shorter than the basic model and was designated the -138. The "38" in this case being the Boeing number for Qantas. More on this numbering system later.

Next in the series was the -220, built for Braniff International Airways. Other than having more powerful turbojet engines (JT4A's) the -220 is identical to the -120.



ABOVE: The Boeing 367-80, the prototype of the 707 shown here at JFK. Colors on this bird were yellow and brown (?) and silver.

Following the -220 series we have the -320. This is the largest of the 707 models and is referred to as the Intercontinental version. The -320 has a 8-foot longer fuselage than the -120 and the wingspan is about 12 feet larger. The Intercontinental is powered by the P & W JT4A engine, the same as the -220 series. The fuel capacity on this type was also increased.

Rolls-Royce of Great Britain got into the 707 act when a number of carriers requested that the Rolls Conway by pass engines be installed on the aircraft they were purchasing. This up-graded the 707-320 Intercontinental to a 707-420. All very simple so far--right? Well things are about to change because we're going back to the start and add some letters to the various dash numbers!

The early models of the 707 were powered with turbine engines. As stated at the beginning of this article, it was not going to be a technical one. So briefly, the problem with the turbine engines was that they were noisy, wasted power and fuel and in general, not very efficient, at least until the aircraft was at a cruising altitude.



BELOW: Air Manila International, PIC 7071, series 707-131 (X-TWA) caught here at Kansas City. A lot of pretty blue coloring on this aircraft.

The main complaint, in most cases, was the NOISE that the new type of aircraft made. A number of solutions were tried with the final answer being the "organ pipes" or "daisy ring" placed at the rear of the jet engine as a sound suppressor. It did not eliminate the sound, but changed the pitch to a more acceptable level.

The great minds of the aircraft industry decided that a new engine was needed that was quiet and more fuel efficient than the ones presently in use. The answer they eventually came up with was the turbofan engine. All 707 models that were equipped with this new type engine had the letter "B" added to their series number. Some of the first or early models of the 707 were later up-graded to the "B" classification. Thus we could have an American 707-120 and a 707-120B. The same was true for aircraft of the 707-320 series. So far so good. Now, on to another letter addition.

Someone, not identified, came up with idea of making a 707 that would be used mainly for hauling cargo. As it has turned out, whoever it was, was a genius. A freight today is BIG BUSINESS. Flying Tiger, Airline Seaboard World, Federal Express are just a few of the many carriers that make their money moving FREIGHT.

Letter assigned to this series "C" for cargo. The cargo jet made from the -320 and the main difference between it and the regular -320 is a large 7 feet by 11 feet door on the left front of the fuselage. Internally there are a number of differences. The landing gear has been "beefed" up to handle strains and stress of heavy cargos. The floor has had additional strengthening as well. While a roller type cargo floor has been installed, a -320C can also be converted to a regular type passenger jet with the use of portable seats. This option is what makes the 707-320C such a versatile aircraft. A passenger charter can be handled in the afternoon and with a little as two hours work, can be converted back to a freighter for a night time freight run.

Let's see, what types and series of 707's have we covered so far. We have the -120, -220, -320 and 420. We added the letter "B" and got a -120B and -320B. After adding the letter "C" we got the -320C cargo aircraft. That should about cover the basic 707 with exception of the Boeing 720. It happened to the Boeing 717 your mind. Well that's another story and will be covered in a latter

B.W.I.A., (9Y-TCS) is a 707-048 series. Nice blue and white paint scheme on this aircraft.



ABOVE: Boeing 707-138B of Montana Austria. Colors: white fuselage with red over black cheat line. Tail from top down is red, white, red and black.

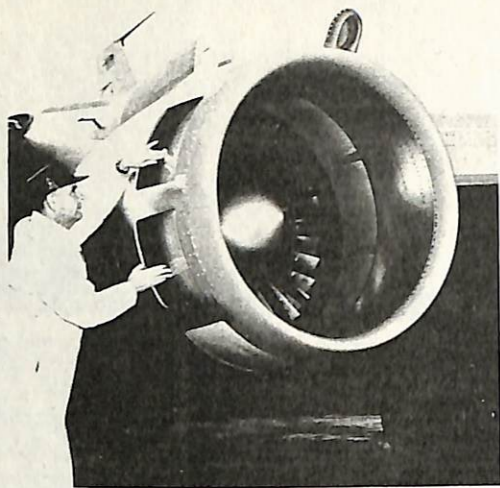
issue of the LOG when we cover the military versions of the 707, and there are quite a few of them, including Presidential aircraft.

The Boeing 707-020 or 720, whichever suits you, is basically a shortened version of the -120 and is referred to as an intermediate-range model. While the

720 resembles the 707 series outwardly, in terms of structure and weight, it is virtually a new design. The aircraft is powered by P&W JT3C engines. Latter up-grading with JT3D engines made the 720 into a "B" series. American Airlines was the first to place this type aircraft in operation on March 12, 1961.

That just about covers the various series that will be presented in this issue. Other series will be featured in a future issue when we cover the military versions and the types used as Presidential aircraft.

Over the years, as the airlines that originally purchased the 707's have up-graded their fleets with newer versions and altogether different type aircraft, the older or first generation 707's have become the property of many small carriers and used by them as freighters, charters and just about every-



Advanced versions of the turbofan engines are equipped with large air inlet doors providing a smoother and greater flow of air to enter the engine during take-off. During cruise flight, the spring loaded doors are closed to reduce drag.



ABOVE: A MEA 720-23B (OD-AFL) on the ramp somewhere in the Middle East. This is ex-American N7548A.

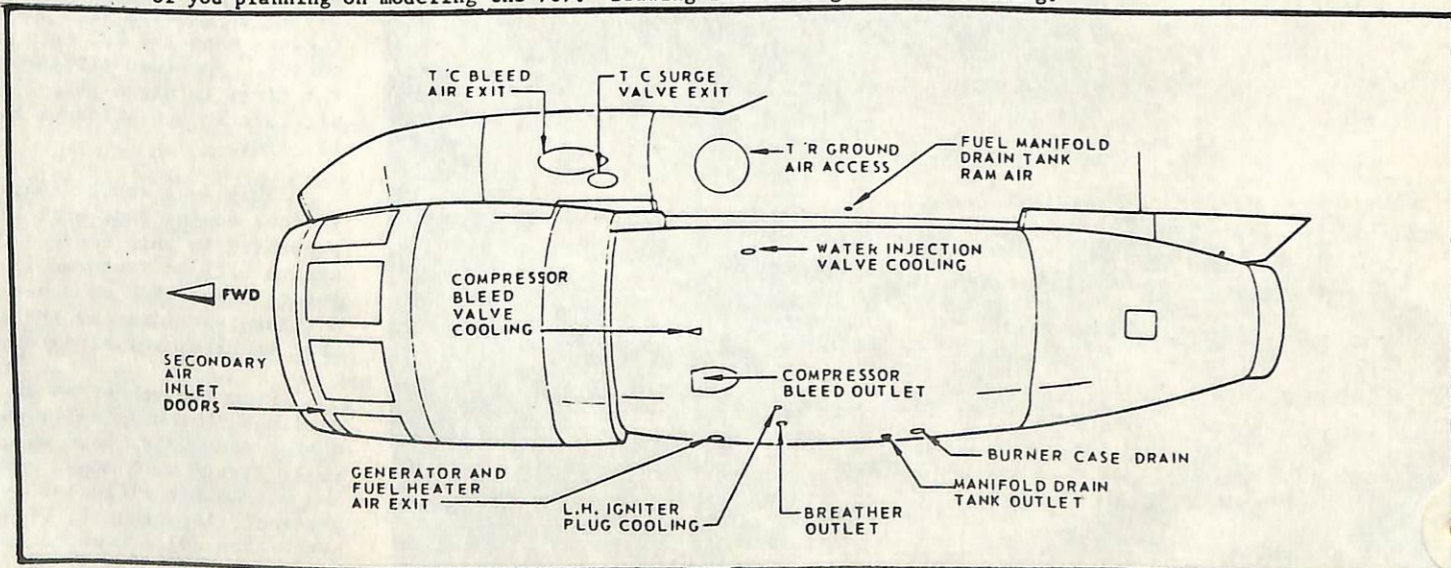
As mentioned at the start of this article, I will try to explain the numbering system used by Boeing. It's not really very difficult once you get the hang of it.

As you noticed, Boeing has assigned numbers to the various series of aircraft. We have gone through the -120, -220, etc. Boeing has also assigned numbers to the various carriers that have purchased aircraft from them. For instance Pan Am is 21, United 22, Braniff 27, BOAC 36 and so on. The list is really too long to reproduce here, but I think you get the idea. Now, when a particular carrier purchased a particular aircraft, the series number was matched up with the customer number, thus we have a Boeing 707-121B which would be the basic 707 indicated by the -1 and the 21 indicating Pan Am and the letter B indicating a turbofan equipped aircraft. Simple--right? Samples: 707-138 (Qantas), 707-328 (Air France), 707-436 (BOAC), 720-030 (Lufthansa). The customer number assigned by Boeing applies to all the various type aircraft built by Boeing for that particular carrier, i.e., Pan Am's Boeing 727s are 727-121s, 737-247 belongs to Western. I will be glad to answer any questions you might have on this system.

thing else that a airplane can be used for. Why it was even the "star" of the movie "Airport"! With new up-grading on the powerplants, these older 707's will remain in service for a number of years to come. When the last one does go to the scrap heap, it will end the story on a very historical chapter in the annuals of air travel.

At the top of this page and at the bottom we see a photo of a close-up of the front end of a turbofan engine and a drawing showing the various points of interest to be found on the inboard engine. I am sure you all know that the pylon on the outboard engine is slightly different than that of the inboard engine, on most 707's. The difference is the intake for the turbo-compressor for the control of cabin pressure. On some 707's this compressor will be found on the 2, 3 and 4 engine, but not the number one unit. For additional explanation, please write the Boeing Company. Thank you.

BELOW: A simple drawing of the various parts of the turbofan engine. This drawing may be of some help to those of you planning on modeling the 707. Drawing from Boeing via Bob Woodling.

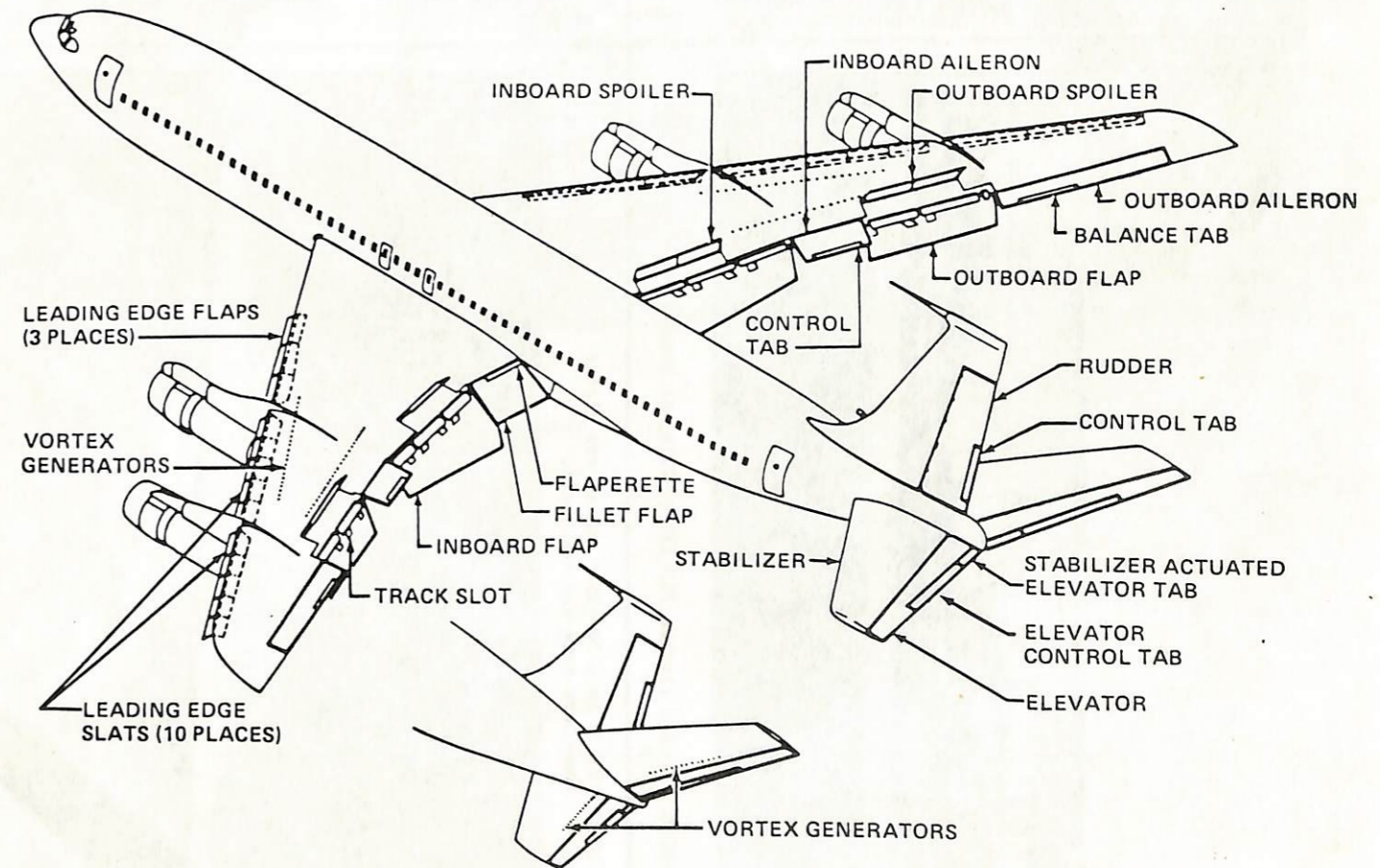


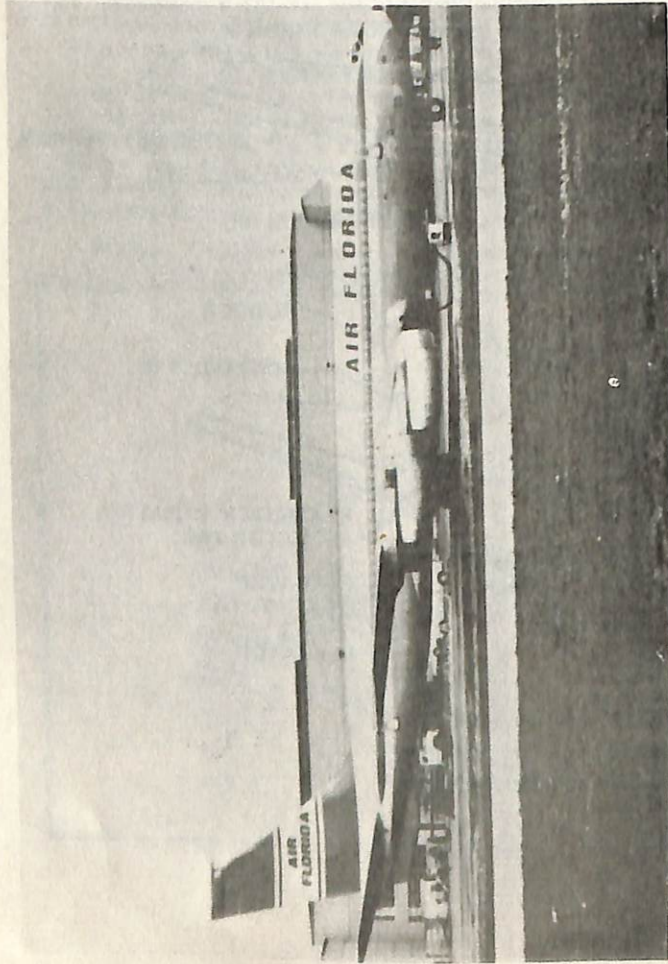
Below you will find a simple drawing of the various control surfaces to be found on the 707. All the devices shown are used at sometime during a flight to either slow the aircraft or to assist in gaining additional speed. It is quite an experience to be seated in a area behind the wing and watch the various flap be extended during landing. The flaps on a 727 are even more interesting to watch, if that is your thing!

Oh, by the way, for you first time fliers. Don't get too excited when you are flying in a 707 (or DC-8 for that matter) if your looking at the wing and the tips seem to be moving UP and DOWN! The wings are designed to act that way under certain conditions to add stability to the flight. Just keep your cool and everything will be O.K.!



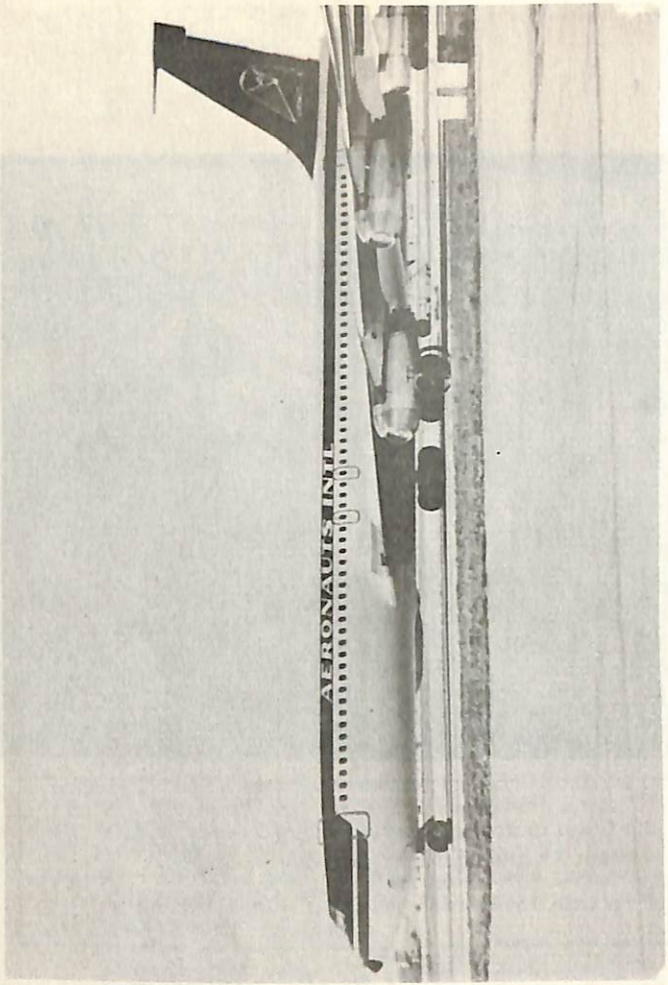
Control Surfaces





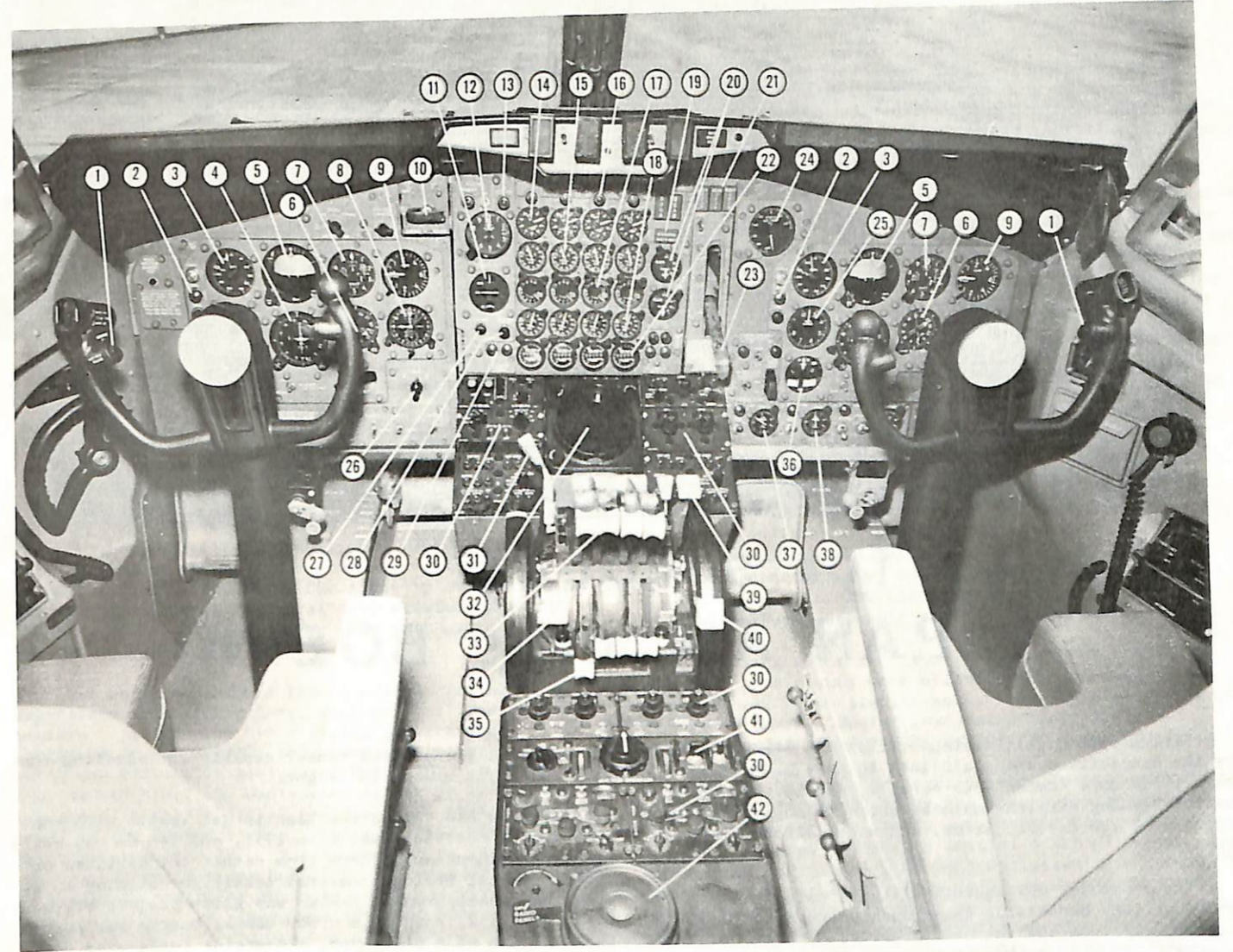
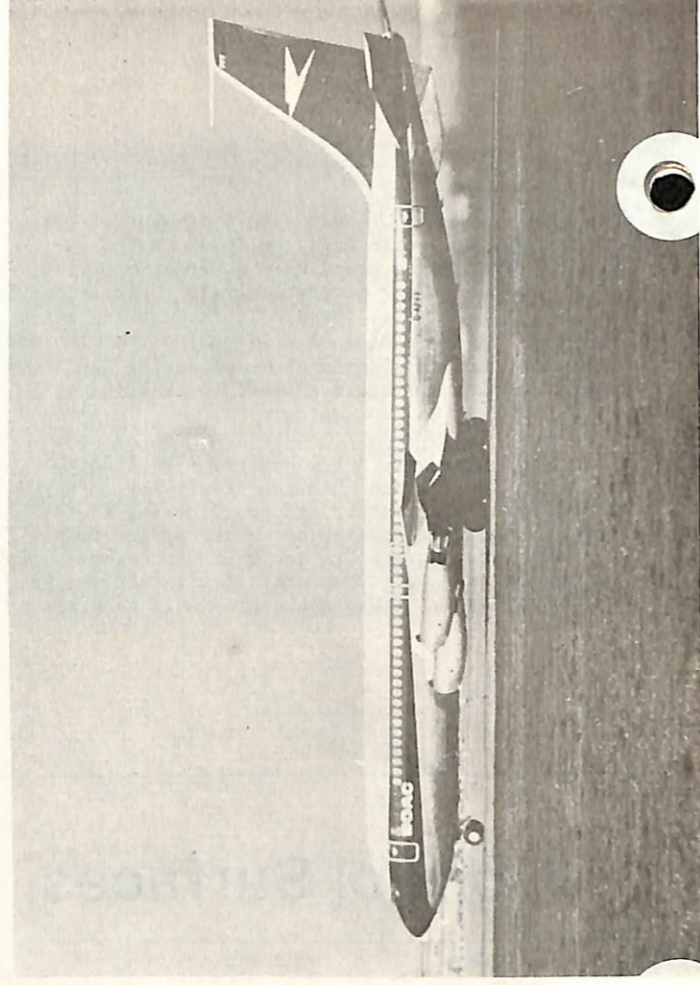
ABOVE: An Air Florida 707-331 (N705PA) at Miami.

BELOW: N351US is a 707-351B shown here flying somewhere over the northwest.



ABOVE: N720PA is a 707-123 belonging to Aeronauts Intl. Travel Club. This is a b&w photo so I can't give you the colors.

BELOW: Here we see a BOAC 707-436, a -420 series using the Rolls-Royce Conway engines.



- | | |
|---------------------------------------|-----------------------------------|
| 1 -- Autopilot disengage | 22 -- Fuel flow |
| 2 -- Navigation marker lights | 23 -- Landing gear control handle |
| 3 -- Air speed indicator | 24 -- Static air temperature |
| 4 -- Pilot directional indicator | 25 -- Mach meter |
| 5 -- Gyro horizon | 26 -- Navigation radio selection |
| 6 -- Compass card | 27 -- Glide slope light |
| 7 -- Altimeter | 28 -- Autopilot disengage light |
| 8 -- Clock | 29 -- Oil pressure warning lights |
| 9 -- Rate of climb | 30 -- Radio and radar controls |
| 10 -- Emergency pneumatic brake | 31 -- Air brake handle |
| 11 -- Auto pilot axis indicator | 32 -- Weather radar scope |
| 12 -- Altimeter | 33 -- Thrust levers |
| 13 -- Ice detector lights | 34 -- Parking brake latch |
| 14 -- Engine pressure ratio | 35 -- Engine start levers |
| 15 -- Low spool engine RPM | 36 -- Turn and bank indicator |
| 16 -- Thrust reverser operating light | 37 -- Hydraulic system pressure |
| 17 -- Tail pipe temperature | 38 -- Brake system pressure |
| 18 -- High spool engine RPM | 39 -- Flap control handle |
| 19 -- Master warning light | 40 -- Stabilizer trim wheel |
| 20 -- Flap position indicators | 41 -- Autopilot controls |
| 21 -- Gear down, locked lights | 42 -- Rudder trim |



formula for success: PAN AM plus BOEING

by

JOE SCALA

The growth of air transportation has been spurred by the competition among airlines to provide faster, safer, and more comfortable service, and by the competition among airplane manufacturers to supply airlines with the faster, safer, and more comfortable aircraft.

As a natural consequence of these competitive efforts, many successful relationships have developed between airlines and the manufacturers of their planes. Perhaps the most successful and most important of these has been the relationship of Pan American, one of the world's largest international airlines, with Boeing, the world's largest commercial airplane manufacturer.

The cooperative ventures between these two giants of the aviation industry have led to some of the most important and famous advances in air transportation. In particular, one Boeing airliner, supported from its inception by Pan Am, deserves special consideration. It is the Boeing 707.

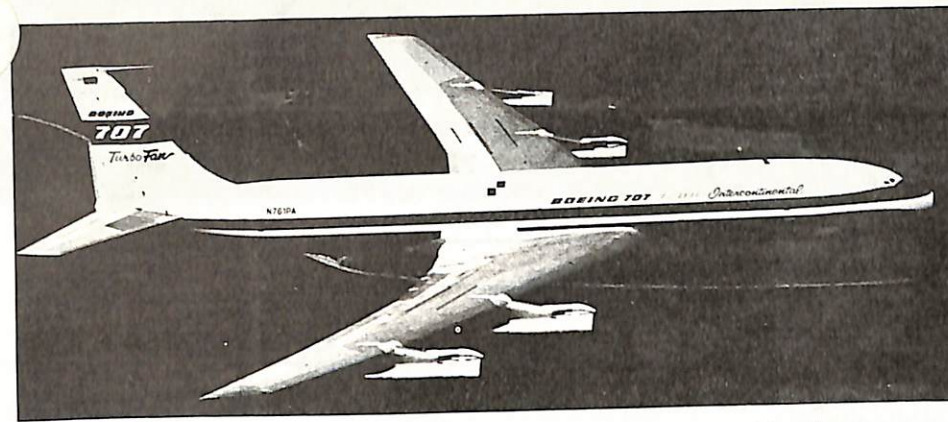
Boeing first considered a jet transport during World War II. In 1950, it approached some of the large airlines with the idea, but they were not receptive, except for Pan Am. Original thinking centered on a jet-powered version of the Model 377 Stratocruiser, but this idea was superseded by a totally new design. Like the Stratocruiser, Boeing was planning a plane which could be used by both the airlines and the military; in this case, Boeing

considered a jet-powered tanker capable of refueling the giant B-52 jet bomber in flight.

Britain had gained the lead in jet travel with the introduction of the Comet 1 in 1951, and Pan Am was ready to buy. Without any orders from either the airlines or the Air Force, Boeing committed itself to building a jet when the tanker/transport plan was given project status on 20 May 1952, and \$15,000,000 was allocated for the construction of a prototype, a 4-engine (underwing mounted), swept-wing design. This plane, Model 367-80, was rolled out on 14 May 1954, and made its maiden flight on 15 July. There were still no orders at this time, but interest was growing.

Douglas, which had likewise approached the airlines and found little interest in jets, had devoted itself to developing the DC-7 turbocharged piston airliner, and was designing a turboprop airliner next. But with the Boeing prototype under construction, Douglas decided not to fall too far behind the competition. It announced the Model DC-8, similar to the Boeing design, but with a wider cabin, higher weight, and longer range.

Finally, the United States Air Force placed an order for the Boeing tanker, designated the KC-135, in March of 1955. But from the commercial market came no orders. Most of the airlines, burdened with debt from buying the latest piston-powered equipment, had no real desire to commit themselves to the radical and expensive jets. The Comet, after a successful start, was grounded due to a structural fatigue problem which caused several fatal



Destined for delivery to Pan American Airways, this is the first Intercontinental 707 to have been equipped with fan-jet engines.

crashes. But one airline was considering the jet from a different point of view.

Pan Am realized how the jet could revolutionize air travel. Dramatic improvement in speed, greater capacity, and simpler maintenance for the turbojet engines were compelling advantages. Such a plane would make even the latest turbocharged piston aircraft obsolete. If it were the first to order, Pan Am would also be the first into service, forcing the competition into catching up by purchasing their own jet equipment.

But which jet should Pan Am order? Boeing had experience in building jets, with the B-47 and B-52 bombers. Boeing also had a flying jet transport prototype in the 367-80, the commercial version of which was officially designated Model 707. Douglas was, at the time, the undisputed leader in the commercial aircraft field, and the DC-8, although still in the design stages, promised to be bigger and wider than the 707. Pan Am decided to take no chances; it would order both! On 13 October 1955, it placed an order for 20 Boeing 707s and 25 DC-8s. Total value for the planes was \$269,000,000.

With the Pan Am order, the jet race began as other airlines scrambled to place orders. Douglas was offering two series of the DC-8: a domestic version for U.S. airlines; and an international version with more powerful engines. Both series had the same body length and wingspan. In order to stay competitive, Boeing decided to increase the cabin width of the 707 to match the DC-8, and it also announced two different versions: a domestic version which was smaller than the DC-8; and an international version with the increased fuselage length, longer wingspan, and more powerful engines, which would make it larger than the DC-8. The domestic series was called the 707-120, and the international series the 707-320 "Intercontinental". Pan Am revised its order for the Boeings: 6 707-120s were ordered, and the remaining 14 were to be -320s.

Of the world's major airlines, American, TWA, BOAC, Lufthansa, and Air France ordered the 707, while United, Eastern, Delta, KLM, JAL and Alitalia chose the DC-8. In terms of numbers, Boeing had the lead in these initial orders. It was a lead it would never relinquish as air transportation moved into the jet era.

The first production 707, a series -120 for Pan Am, flew on 20 December 1957, and was delivered to the airline on 15 August 1958. Before regular passenger service began, Pan Am flew a revenue 707 cargo flight from New York to San Juan on 22 August, and also a number of test flights across the Atlantic. The first passenger 707 service began on 26 October 1958, when a Pan Am 707-120 carried 111

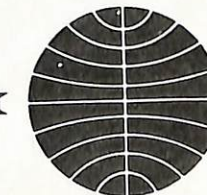
passengers from New York to Paris, with a refueling stop at Gander, Newfoundland. This flight occurred only three weeks after a BOAC Comet 4 jet claimed honors for the first trans-Atlantic passenger flight. The 707-120 was not intended for transoceanic duty, and was reassigned to Caribbean service when the larger 707-320 became available. The first Boeing "Intercontinental" flew on 11 January 1959, and Pan Am put the series -320 into service on 26 August 1959, and on the North Atlantic route on 10 October.

Not long after the first 707s and DC-8s entered service, both planes were offered with improved turbofan engines, which significantly improved payload, range and performance. Boeing designated their Pratt & Whitney fanjet powered 707s as 707-120Bs and 707-320Cs.

Pan Am had acquired considerable operating experience with both 707s and DC-8s by the time turbofan-powered airliners became available, and favored the Boeing plane as its flagship. After its initial batch of DC-8s, orders for additional jets went exclusively to Boeing. The 707-320B was first flown on 31 January 1962, and Pan Am was the first airline to use the fanjet airliner when it introduced it into regular service later in the year. With the 707-320Bs greatly increased range, Pan Am was able to commence nonstop services which were never possible before, such as New York to Buenos Aires and San Francisco to Tokyo.

Boeing's gamble of 1952 to build a jet transport prototype paid off handsomely. Air Force purchases of the KC-135 and other derivatives number over 800, and by 1979, commercial orders for the 707 and sister-ship 720 were 930. Pan American was responsible for 128 of these orders: 6 707-121s; 2 707-139s (from Western); 26 707-321s; 60 707-321Bs; and 34 707-320Cs. Seven of the 707-120s were converted to series -120Bs. Also, 9 Boeing 720Bs were purchased second-hand from American and Lufthansa.

PAN AM



PAN AMERICAN AIRWAYS
WORLD'S MOST EXPERIENCED AIRLINE

FIRST JET CLIPPER TO BE DELIVERED THIS SUMMER

Delivery of Pan American's first Jet Clipper, a Boeing 707, is expected early this summer. It will be assigned immediately to a program of indoctrination for both flight and ground crews in preparation for inauguration of scheduled service on PAA's world routes.

The accompanying picture shows the Boeing 707, photographed recently at Seattle, Washington, displaying the new Pan American markings. The Clipper fleet to be assembled during coming months will include others of this type, additional 707's in the larger Intercontinental version and Douglas DC-8's—forty-four aircraft in all.

In various passenger cabin configurations, the new Clippers will accommodate First Class, Tourist and Economy Class passengers. The one-hundred foot long cabin has space for 96 First Class passengers. Set up for Tourist Class, it has room for 143, for Economy Class, 174.

Four powerful J-57 Pratt and Whitney engines, much less complicated than piston-driven engines, power these giant Clippers. The thirty-eight foot tail, high as a four-story building, dwarfs the passengers. Wing span is one hundred and thirty-one feet, longer than the entire length of the Wright Brothers' historic flight at Kitty Hawk!

Requiring no engine warm-up, the Jet Clipper proceeds to the runway. During take-off, the engines use fifty-three hundred pounds of purified water for two minutes of

thrust boosting. (Water left over is automatically dumped.)

The jet, climbing at more than three hundred miles an hour, takes passengers above the weather to an altitude of 35 thousand feet in half an hour.

Fuel Is Kerosene

The plane's four engines use eighteen to twenty-five hundred gallons of kerosene each hour, fed from wing tanks which hold more than seventeen thousand gallons.

Even though it cruises seven or eight miles above the earth, cabin pressure stays at about five thousand feet.

Interior design is gay and modern. Walls, of plastic-on-metal panels, are easily removed for repairs or cleaning. Indirect fluorescent lighting can change from bright day light to the pink of dawn or sunset, or to the restful dark blue of midnight. Two luxurious sky-lounges offer a club-room atmosphere of luxury and relaxation.

A typical flight crew consists of the Captain, First Officer, Flight Engineer and Navigator who is also a pilot.

The four galley units are capable of providing up to one hundred and ninety-two Tourist meals to be served by four cabin attendants in thirty-six minutes.

Fresh foods will be cooked to perfection in three minutes by new type ovens, using quartz glass with infra-red elements. Menus will carry a wider variety of the world's

foods, due to mechanical refrigeration of an entirely new type.

Seating will be two or three abreast on each side. Above every seat, each passenger has his own reading light, public address speaker, air outlet and an emergency drop-down oxygen mask.

Large double-paned windows provide excellent visibility from every seat. Outside light is controlled by plastic shades, one completely opaque, the other smoke-tinted.

The cruising speed of five hundred and seventy-five miles an hour makes possible a flight from New York to Paris in six and a half hours, Tokyo to Los Angeles in nine hours, New York to Buenos Aires in less than eleven hours.

The Flying Clippers

The Boeing 797 and the Douglas DC-8 are the latest in a series of Pan American aircraft which began with the tri-motored Fokker which began service between Key West, Florida and Havana, Cuba, in 1927.

First Pan American craft to be called Flying Clippers were the Sikorsky S-42's which operated in the Caribbean area, and in which the survey flights were flown for both trans-Pacific and trans-Atlantic service.

Capable of flying the oceans, but not suitable for commercial service over those long routes, the Sikorsky S-42's gave way to the Martins of the China Clipper type, and these were joined later by the Boeings of the California Clipper type.

Because the original Flying Clippers were flying boats, a misconception developed that Flying Clippers were flying boats. But this limitation of terminology never was intended. When the further development of the aeronautical sciences brought multi-engined land planes to the fore as the aircraft for over ocean service, Pan American assigned Clipper names to the Douglas and Boeing four engine airplanes which went into service on the ocean routes and around the world.

It was at this time that the practice of naming the Flying Clippers for famous sailing clippers of another day was adopted. Hence, there now are such Flying Clippers as Clipper Flying Cloud, Clipper Golden Fleece, etc.

Introduced to the flying public during the past decade, these Boeing and Douglas Flying Clippers made history in terms of speed and comfort. But progress is rapid in aviation, and now they in turn will yield to the Flying Clippers of the Jet Age.



A Pan American Jet Clipper—Boeing 707—in flight.

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Editors Note: I would like to thank Club member Joe Scala for his article on Pan Am plus the additional article appearing later in this issue on General Electric jet engines. Also a big thanks goes to Dean Slaybaugh and Bob Woodling.



G.E. GOES COMMERCIAL

by
JOE SCALA

In 1902, a year before the Wright Brother's first powered aircraft flight, a graduate engineering student named Sanford Moss was conducting research at Cornell University in the area of combustion in a pressurized chamber. Development of the pressurized combustion chamber was a key to the creation of the gas turbine engine.

Upon completion of his Ph.D., Dr. Moss joined the General Electric Company. His research efforts at G.E. led to the invention of the turbo-supercharger, one of the most significant advances in the pre-jet aviation era. Piston engines were altitude-limited. The density of air in the atmosphere decreases with height until the air is too "thin" to support combustion in a piston engine. To overcome this handicap, air needs to be compressed before being fed to the engine. This goal was achieved by the turbo-supercharger.

Dr. Moss's invention was successfully ground-tested on Pike's Peak, Colorado in June of 1918. The powerplant was a Liberty engine. Test flights in an aircraft followed a year later. Although proved in theory, the turbo-supercharger was not reliable enough to be widely marketed until higher-temperature metals were developed. When better metals became available in the 1930s, the G.E. turbo-supercharger was bought by all the major engine manufacturers in order to "turbocharge" their powerplants.

The turbo-supercharger was General Electric's initial contribution to aviation technology. However, G.E. was not in the business of manufacturing aircraft engines in the years before World War II. This situation changed quite dramatically during the War when the government assigned G.E. the responsibility of building the first jet engine in the United States. This engine was based on the British design of Sir Frank Whittle, a famous jet engine pioneer.

America's first gas turbine engine, designated IA, flew aboard a Bell XP-59 Aircomet in 1942. General Electric was in the jet engine business!

Following World War II, General Electric established itself as a world leader in jet engine technology. Engineering, manufacturing, and testing were established at two sites: Lynn, Massachusetts (near Boston), a G.E. plant before the jet age; and Evendale, Ohio (near Cincinnati), purchased by G.E. in 1948 from Curtiss-Wright.

Throughout the 1940s and 1950s, G.E. was almost totally involved in military work. Perhaps the two most notable engines of these decades were the J47

and the J79. The J47 powered a number of fighter designs and the Boeing B-47 jet bomber. It was also America's first commercially certified engine, although never applied to a commercial design. The J79 is perhaps G.E.'s most famous engine: over 17,000 were built in 25 years of continuous production. Most J79s were made for use on the F-4 Phantom fighter.

The J79 was significant for another reason: it was the basis for G.E.'s first airline engine. Designated CJ805, this engine was the powerplant for the four-engine Convair CV-880 (see below). First flown in 1959, the CV-880 entered service in 1960. Although the plane (and its engines) gave good account of itself in scheduled use, the Boeing 707 and Douglas DC-8 outperformed it in size and range. Only 65 were built. None are in scheduled passenger service today, but about 15 CV-880s have been converted to freighter use and should be in service in 1980. Also a number are owned and operated by a number of travel clubs.

When Convair stretched the CV-880 airframe to develop the CV-990, G.E. added an aft fan to the CJ805, making it one of the few aft-fanjets ever built. Known as the CJ805-23, this engine made the CV-990 perhaps the fastest subsonic airliner in the world. It entered passenger service in 1962. Like the 880, the plane was not successful in the marketplace, with only 37 being delivered. The 880 and 990 brought to a close Convair's involvement in airliner design. For G.E., however, this was only the first step in the commercial business.



ABOVE: From 1961 to 1974 TWA operated the world's largest Convair 880 fleet, on routes within the U.S. Post card by Aviation World, Inc.



ABOVE: Swissair "Coronado" powered by G.E. CJ805-23 engines.

During the 1960s, Pratt & Whitney dominated airline engine sales, powering most 707s and DC-8s, all 727s, 737s, and DC-9s, and some Caravelles. Rolls-Royce of Britain made a success with the BAC 1-11 and Caravelle, and also found applications on the VC10, and some 707s and DC-8s.

Where was General Electric? Although out of sight of the public eye after the 880 and 990, G.E. development work in the 1960s laid a firm groundwork which is dramatically evident today. The key in this time period was an Air Force contract to build a high-bypass turbofan engine to power the Lockheed C-5A large-capacity transport. The TF39 which G.E. built was the most powerful subsonic engine in the world when it flew for the first time in 1968. G.E. used the TF39 as the basis for the CF6-6 commercial engine. In 1968, G.E. sold the CF6-6 to American and United as the powerplant for their newly-ordered DC-10s. Concentrating on the "jumbo-jet" market, G.E. developed a "family" of CF6 engines in order to apply its powerplants to as many new designs as possible.

The first member of the CF6 family, as mentioned already, was the CF6-6, which powers the DC-10-10. This aircraft entered service in 1971. (See right.)

When the need for a more powerful CF6 became apparent, the CF6-50 was brought into production. With 20% more thrust than the CF6-6, the "Dash" 50 is presently G.E.'s most widely used commercial engine. It powers the long-range DC-10-30, which entered service in 1972, the Airbus A300B (1974), the long-range Boeing 747-200 (1975), and short-range 747SR (1978), and the medium-range DC-10-15, due to fly passengers in 1981.

The year 1977 marked a significant milestone for General Electric's commercial engine program: of all wide-bodied aircraft ordered that year, 75% of these planes were ordered with G.E. CF6 powerplants. Most notable of the orders that year were Lufthansa's 747s, which would replace their P&W powered 747s, and All Nippon's order for the Boeing 747SR.

The stage was thus set for one of the most dramatic years in the history of the airlines. In 1978, many major carriers undertook fleet modernization programs. Competition for the aircraft sales were intense among Boeing, Douglas, Lockheed, and Airbus; and no less stiff were the engine sales battles among General Electric, Pratt & Whitney, and Rolls-Royce. A review of the important orders of 1978 clearly illustrates this story.

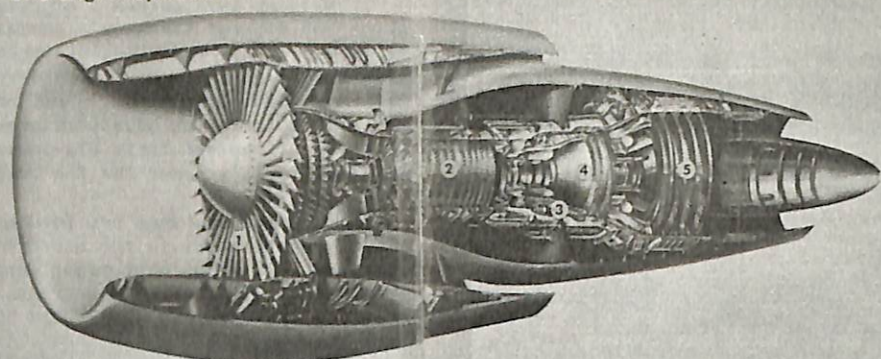
A large sale was scored by General Electric when Eastern Airlines placed orders for 23 Airbus A300Bs, to be powered by DF6-50 engines. In late 1977, Eastern leased 4 A300s on a 6-month trial. If the planes and engines could perform well on Eastern's short and medium-range routes, a large order was promised. The sale in spring 1978 was a vote of confidence for the aircraft and its CF6 powerplants.

Meanwhile, Pratt & Whitney and Singapore Airlines joined in a large order for Boeing 747s. General Electric was offering the CF6-50 for the 747s, the same engine as on that airline's new DC-10-30s, but Singapore opted to have two different high-bypass engine types in its fleet. A third major sale of that spring involved Pan American. The airline ordered 12 Lockheed L-1011-500 long-range airliners, to be fitted with Rolls-Royce RB.211 engines.

BELOW: United Airlines DC-10-10 Friend Ship, powered by G.E. CF6-6 powerplants.



How the CF6 engine operates:



- (1) **HIGH BYPASS FAN**
Pumps air into the core engine Compressor (2); also pushes large quantities of bypass air around and past the core engine to provide thrust.
- (2) **HIGH PRESSURE COMPRESSOR**
Squeezes intake air to more than 28 times atmospheric pressure, readying it for combustion.
- (3) **ANNULAR COMBUSTOR**
Jet fuel is sprayed into the compressed air and ignited.
- (4) **HIGH PRESSURE TURBINE**
Burning gases expand rapidly and spin the turbine which provides the power to drive the High Pressure Compressor (2).
- (5) **LOW PRESSURE TURBINE**
Driven by remaining exhaust energy from the High Pressure Turbine (4); also turns a shaft to power the High Bypass Fan (1).

By the end of the spring of 1978, each engine manufacturer posted an impressive sale. The next major aircraft sale was expected to be United Airlines. United had been evaluating the need for a new aircraft of about 200 seats for medium-range routes. The competing aircraft were two all-new designs: Boeing's 767 and Airbus's A310. Both were twin-engine, wide-bodied aircraft of a size slightly smaller than Airbus's A300B. The 767 seemed to be the favored aircraft, and G.E. offered a higher-thrust version of the CF6-6 to United, who operates the largest fleet of CF6-6 powered DC-10-10s in the world.

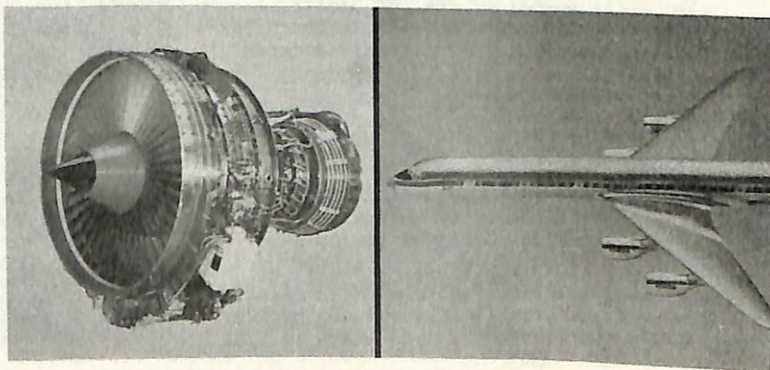
United's order that summer was for 30 767s, but the engine selected was Pratt & Whitney's JT9D-7R, a derivative of P&W's 747 powerplant. Not long after the United sale was announced, Eastern and British Airways announced their intentions to order another new Boeing plane, the 757. The 757 is a narrow-bodied, 175 seat aircraft with two powerplants. Both airlines specified a new lower-thrust version of the Rolls-Royce RB.211. G.E. had an engine design also, a CF6-6 with a smaller fan, designated CF6-32. By the end of summer, G.E. found itself without orders on the new airliner designs. Although orders for DC-10s, A300s, and 747s kept the G.E. order book well-filled, it was very important to get "on board" these new designs.

After the United 767 order went to P&W, General Electric made an important marketing change. The CF6-6 offering was withdrawn, and in its place was announced a new CF6 engine called CF6-80. The "Dash" 80 is an improved version of the CF6-50, with lower weight and improvement in fuel consumption.

General Electric's commitment to the CF6-80 was rewarded in November 1978 when American and Delta announced 767 orders with G.E.'s engines.

totaling 50 planes. As 1978 drew to a close, G.E. found itself on firm footing with its rivals, as well as recording powerplant orders for 189 aircraft, more than twice as many as its previous best year, 1977, when 75 airliner sales were made.

The historic pace of engine sales continued unabated in 1979. Early in the year, United Airlines announced its decision to retrofit 30 DC-8-61s with the new fuel-efficient CFM56 engines. A joint project of General Electric and the French engine manufacturer SNECMA, the CFM56 is a 24,000 lb-thrust turbofan designed for aircraft too small to carry the CF6. Pratt & Whitney's offering for the DC-8 re-engine program was the JT8D-209, the engine applied to the new DC-9 Super 80. Following the initial CFM56 order, P&W withdrew from the competition. Since then, Delta, Flying Tigers, Cargolux, Spantax, and Capitol have decided to refit their DC-8-61s and -63s with CFM56s. Upon receiving their new engines, these aircraft will be designated DC-8-71s and -73s, respectively. In addition to the stretched DC-8s, the CFM56 can be used to re-engine military and commercial 707s, and is being considered for a number of brand-new aircraft designs under consideration in the U.S. and Europe.



General Electric's CFM56 engine and how it will look as powerplants for the DC-8 series of aircraft.



Pride of the Air Gabon fleet is the GE-powered Boeing 747 combi which arrived at the airline's Libreville base in October 1978.

Elsewhere, success continued for the CF6-80 in 1979, as Lufthansa and KLM ordered the new A310 with GE's powerplant. The prototype "Dash" 80 engine moved quickly through the manufacturing and assembly phase, entering the Evendale, Ohio test facilities on Schedule in October of 1979.

GENERAL ELECTRIC'S COMMERCIAL ENGINES

MODEL	TYPE	THRUST	YEAR ENTERED	
			COMMERCIAL SERVICE	AIRLINER
CJ805	Turbojet	11,500	1960	CV-880
CJ805-23	Aft-Turbofan	16,000	1962	CV-990
CF6-6	High Bypass Turbofan	39,000	1971	DC-10-10
DF6-50	High Bypass Turbofan	46,000 to 53,000	1972	DC-10-30 (1972) A300B (1974) B7470200 (1975) B747SR (1978) DC-10-15 (1980) B767-200 (1982) A310 (1983)
CF6-80	High Bypass Turbofan	44,000 to 48,000	1982	DC-8-71 (1983) DC-8-73 (1983)
CFM56	High Bypass Turbofan	20,000 to 24,000	1983	
CF6-32	High Bypass Turbofan	35,000 to 39,000	--	No order as of 15 November 1979



GENERAL ELECTRIC POWERED AIRLINERS

YEAR ENTERED SERVICE	AIRLINER	ENGINE MODEL	AS OF 1 OCT. 1979	
			TOTAL ORDERS	DELIVERIES
1960	CV-880	4 CJ805s	65	65
1962	CV-990	4 CJ805-23s	37	37
1971	DC-10-10	3 CF6-6s	131	112
1972	DC-10-30	3 CF6-50s	182	141
1974	A300B	2 CF6-50s	167	70
1975	B747-200	4 CF6-50s	69	33
1978	B747SR	4 CF6-50s	7	4
1981	DC-10-15	3 CF6-50s	4	0
1982	B767-200	2 CF6-80s	50	0
1983	A310	2 CF6-80s	35	0
	DC-8-71	4 CFM56s	73	0
	DC-8-73			
TOTAL			820	462

GENERAL ELECTRIC'S LIST of AIRLINE CUSTOMERS (as of 23 OCT. 1979)

AIRLINE	COUNTRY	G.E. POWERED AIRCRAFT
Aeromexico	Mexico	DC-10-30 (2) DC-10-15 on order for 1981
Air Afrique	Ivory Coast	DC-10-30 (3)
Air France	France	A300B (14) B747-200 (8)
Air Gabon	Gabon	B747-200 (1)
Air Inter	France	A300B (5)
Air New Zealand	New Zealand	DC-10-30 (8)
Air Zaire	Zaire	DC-10-30 (2)
Alia	Jordan	B747-200 (2)
Alitalia	Italy	DC-10-30 (8) A300B on order B747-200 on order
All Nippon	Japan	B747SR (4)
American	U.S.A.	DC-10-10 (30) B767-200 on order for 1982
Ariana	Afghanistan	DC-10-30 (1)
Balair	Switzerland	DC-10-30 (1)
British Calendonian	United Kingdom	DC-10-30 (4)
Capitol	U.S.A.	DC-8-73 on order
Cargolux	LUXEMBURG	DC-8-73 on order
Condor	West Germany	DC-10-30 on order for 1979
Continental	U.S.A.	DC-10-10 (15) DC-10-30 on order for 1980
CP Air	Canada	DC-10-30 (2) B767-200 on order for 1983

Cruzerio	Brazil	A300B on order for 1980
Delta	U.S.A.	B767-200 on order for 1982 DC-8-71 on order
Eastern	U.S.A.	A300B (7)
Egyptair	Egypt	A300B (2) DC-10-30 on order for 1980
Finnair	Finland	DC-10-30 (2)
Flying Tiger	U.S.A.	DC-8-71 on order DC-8-73 on order
Garuda	Indonesia	DC-10-30 (6)
Hapag-Lloyd	West Germany	A300B (4)
Iberia	Spain	DC-10-30 (7)
Icelandic (Loftleidir)	Iceland	DC-10-30 (1)
Indian	India	A300B (5)
Iran Air	Iran	A300B on order
JAT	Yugoslavia	DC-10-30 (2)
KLM	Netherlands	DC-10-30 (6) B747-200 (7) A310 on order for 1983
Korean	South Korea	DC-10-30 (5) A300B (8)
Laker	United Kingdom	DC-10-10 (6) DC-10-30 on order A300B on order
Libyan Arab	Libya	B747-200 on order for 1980
Lufthansa	West Germany	DC-10-30 (11) A300B (10) B747-200 (10) A310 on order for 1983
Malaysian	Malaysia	DC-10-30 (2) A300B on order for 1979
Martinair	Netherlands	DC-10-30 (4)
Mexicana	Mexico	DC-10-15 on order for 1981
National	U.S.A.	DC-10-30 (4) DC-10-10 (11)
Nigeria	Nigeria	DC-10-30 (2) A300B on order for 1980
Olympic	Greece	A300B (2)
Pakistan	Pakistan	DC-10-30 (4) B747-200 (1) A300B on order for 1980
Phillippine	Phillippines	DC-10-30 (3) A300B on order for 1979 B747-200 on order for 1979
Sabena	Belgium	DC-10-30 (3)
Scandinavian	Sweden-Denmark-Norway	DC-10-30 (5)
Seaboard World	U.S.A.	DC-10-30
Singapore	Singapore	DC-10-30 (5) A300B on order for 1980
South African	South Africa	A300B (4)
Spantax	Spain	CV-990A DC-10-30 (1) DC-8-71 on order

Swissair	Switzerland	DC-10-30 (9)
Tao Domestic	Japan	A300B on order for 1980
Thai International	Thailand	DC-10-30 (2) A300B (8) B747-200 on order for 1979
THY	Turkey	DC-10-10 (2)
Trans European	Belgium	A300B (1)
Transamerica	U.S.A.	DC-10-10 (3) B747-200 on order for 1979
United	U.S.A.	DC-10-10 (37) DC-8-71 on order
U.T.A.	France	DC-10-30 (6) B747-200 (2)
Varig	Brazil	DC-10-30 (4)
Viasa	Venezuela	DC-10-30 (5)
Wardair	Canada	DC-10-30 (2) B747-200 (2)
Western	U.S.A.	DC-10-10 (11)
World	U.S.A.	DC-10-30 (6)



THE PRESENT



THE FUTURE



The long thin routes of world air travel could possibly be served by a new version of the 707, carrying more passengers longer distances.



Another candidate for the airline fleets of the 80's is the DC-9 powered by two CFM56 engines.

AIR TRANSPORT IN EUROPE

PART 6

by
Joop Gerritsma

This is the sixth part of a continuing series in which our International Editor takes a look at the history and present status of the airline industry in Europe. The most difficult part in writing this series is not what to use, but what to leave out, since we can only offer limited space for this material. Therefore we will not publish long lists of fleet registrations. They are covered extensively elsewhere, in particular in the annual JP and AIR BRITAIN fleet list publications. Only the major airlines will be mentioned, mainly for space reasons. Within these limitations, North American readers will get an insight in the past activities in Europe otherwise not easily available on this side of the Atlantic and therefore less well known.

CENTRAL EUROPE

The three countries presented in this part of our travels through the air transport history of Europe, Czechoslovakia, Hungary and Poland, are all located in the central part of the continent. Before the Second World War they all had mainly agrarian economies, with little need for travel beyond the next town. Only Poland had an industrial heart worth speaking of, and a major seaport on the Baltic Sea. It is therefore not surprising that Polish airlines, although far less important than their West European counterparts, were by far the most advanced and largest of the ones in the three countries. Since the war all three nations have been under communist rule and as a result, the average man is still not as free to travel as his counterparts in the western world.

Of course the political alignment of the three has been the major factor in the choice of aircraft for the national airlines. Only Polish LOT has for a few years operated western aircraft to serve its London route at a time when comparable Russian aircraft were not available.

CZECHOSLOVAKIA

The first Czech airline, Ceskoslovenske Statni Aerolinie (CSA, Czech National Airlines), started operations in 1924 on a domestic route linking the capital of Prague to Bratislava, Kosice and Ushorod, all to the east. Brno was linked to Prague later that year. All services were flown with First World War Farman and DeHavilland aircraft, and Czech-built Aero A-10 cabin biplanes for 3-5 passengers.

Next was the Aero company, builders of military and civil aircraft, which opened a Prague-Marienbad service in 1925 with A-22 single-engined, three-seat aircraft, but this service, mainly for tourists to the health spa of Marienbad, lasted only two seasons.

1927 saw the formation of Ceskoslovenska Letcka Spolecnost (CLS), which started services to foreign destinations, including Amsterdam, and Basle, via intermediate points in Germany and Switzerland. Close co-operation was maintained with the German Lufthansa and the Austrian airline OELAG. The three operated a joint Berlin-Prague-Vienna service in the late twenties.

Both CSA and CLS were slow in adding to their networks. CSA served mainly domestic and central European destinations, and CLS flew to western and northern Europe. By the end of the thirties, CLS linked Prague to Holland, Switzerland, France, and England and Belgium, and CSA had taken the Czech flag to the Balkans and Moscow (the latter from Oct., 1935).

But while route development was slow, CSA and CLS both showed remarkable leadership in aircraft purchases. Both were operating fleets of modern Fokkers in the early part of the thirties, and CSA also flew several nationally-built Aero models. During the mid-thirties CLS went shopping at Douglas for five DC-2 and four DC-3, and CSA looked to Italy (six Savoia Marchetti SM-73), and England (four Airspeed Envoys) for fleet modernization.

When Germany invaded the country in 1939, both CSA and CLS ceased operations, with the German Lufthansa taking over. After the Second World War had ended, Only CSA re-emerged. It started operations again on March 1, 1946 with a fleet of Douglas C-47 for international services and some captured German Junkers JU-52/3M on domestic lines. By 1948 most European capitals were served again, but plans to open a transatlantic service with DC-4 aircraft never materialized.

CSA was once more forced to halt all operations following the Communist takeover of the country in 1948 and it got back into service only slowly, using its DC-3/C-47 fleet and a number of Russian Ilyushin IL-12 aircraft, of which it would acquire 20 over the years. Later the IL-14, both in its Russian-built and Czech-built (AVIA 14) versions, replaced the older aircraft in the fifties. But it was not until the delivery of six TU-104 jets (in 1957), three smaller

CSA

CZECHOSLOVAK AIRLINES

FLY CSA TO PRAGUE—THE GATEWAY TO EASTERN EUROPE



TU-14 jets (in 1964) and eight IL-18 propjets (in 1960) that major expansion took place all over western Europe, Africa and the Middle East.

The long-hoped for transatlantic service was finally started on February 3, 1962 with a Bristol Britannia leased from Cubana Airlines. Initially the service went via Prestwick in Scotland and New York (a technical stop only) to Havana. But later the service was routed through Shannon (Ireland) and Gander in Newfoundland, Canada.

Today, CSA flies its IL-62 jets (called OK-jets, after the Czech national markings of OK) to all continents, including Montreal, New York and Havana in North America, and it also maintains an extensive European network, extending to the Middle East and North Africa. Many domestic services are flown with smaller aircraft.

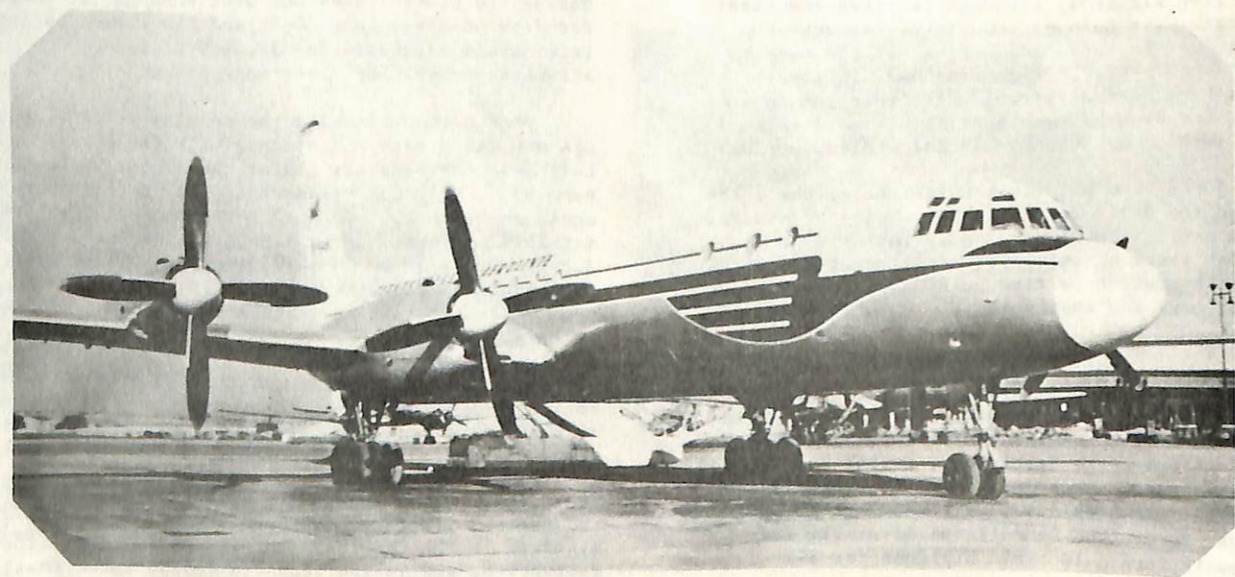
The present fleet consist of seven IL-62, eight IL-18, 13 TU-134, 17 YAK-40 (all these are Russian types) and 12 LET-410, a small Czech-designed and build feederliner for domestic services where the YAK-40 is too big.

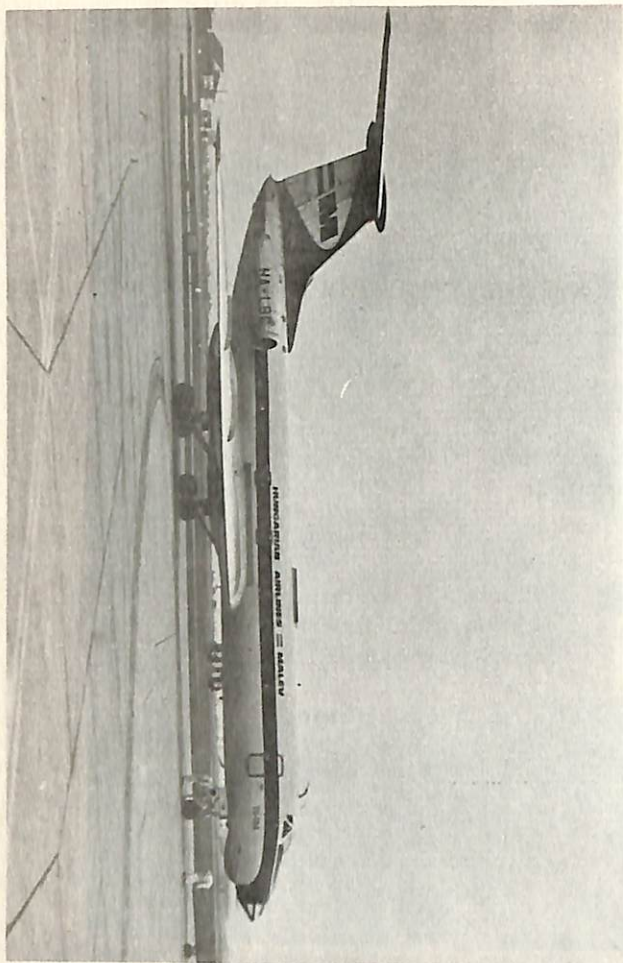
BELOW: The IL-18 propjet entered CSA service in 1960, flying mainly on longer European services. CSA photo.



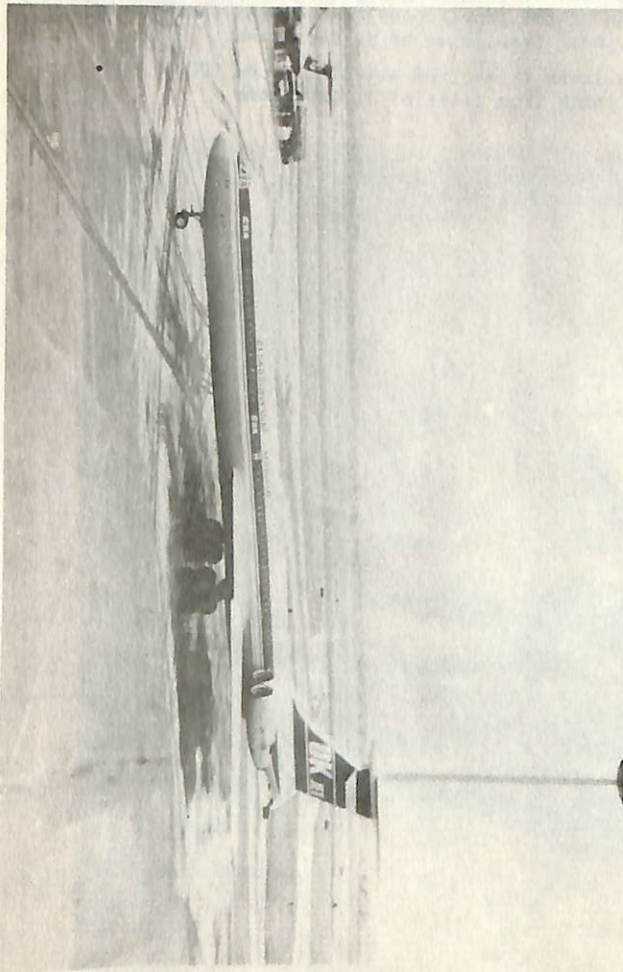
ABOVE: TU-104 twinjets opened many of CSA's longer African routes from 1957 on, and also served on European services. Note the two slightly different color schemes on OK-LDB (foreground) and OK-LDA (background). CSA photo from files of J. Gerritsma

BELOW: Used on domestic services now, the AN-24 replaced LI-2 and IL-14 types from mid-sixties on LOT. LOT photo from files of J. Gerritsma

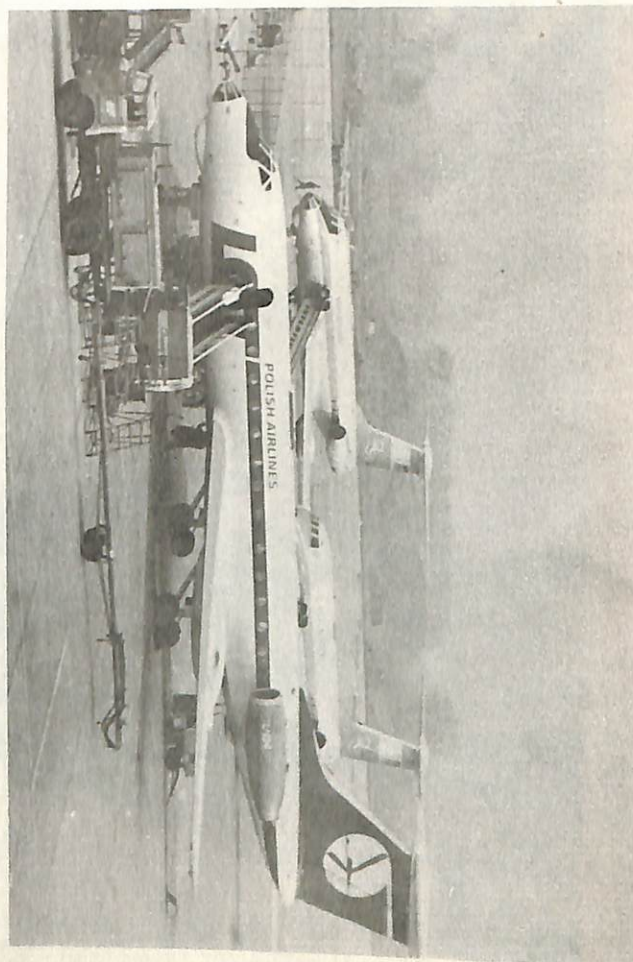
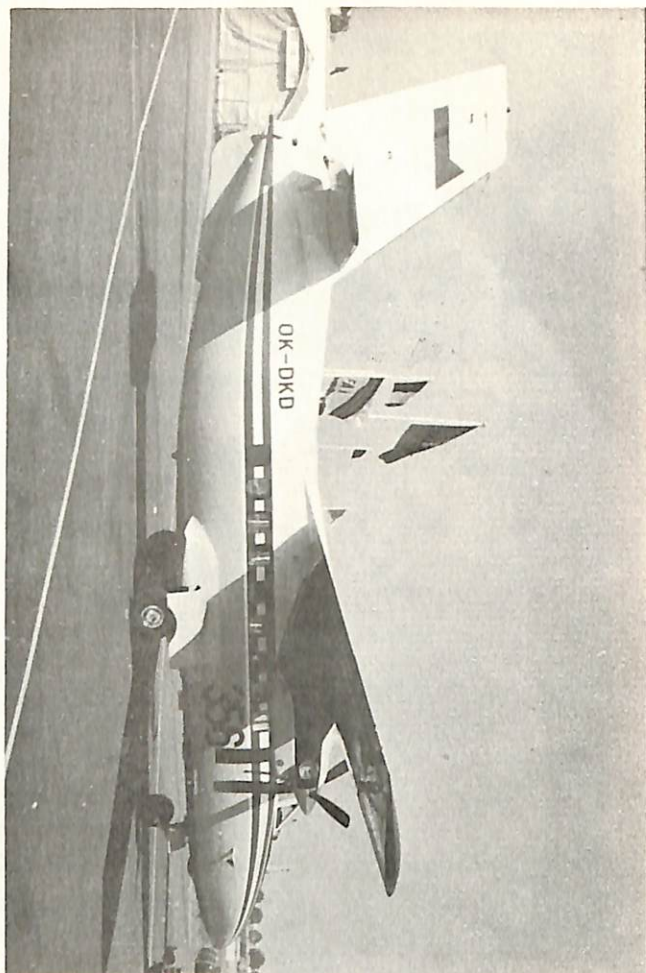




ABOVE: In service on domestic feeder and commuter services is a fleet of LET-410 propjets.
 BELOW: Today MALEV's medium range services are flown with a fleet of TU-134 twinjets.



ABOVE: Present long-range equipment of CSA is a fleet of IL-62 jets, which also serve North America.
 BELOW: The TU-134 has taken over most of LOT's medium-range services in Western Europe. SP-LGC, shown here, is in the latest color scheme. All photos Joop Gerritsma



HUNGARY

Hungary entered the age of air travel on New Year's Day of 1923 with the formation of Aero Express, sponsored by the German Junkers Company, as so many of the early European airline companies were. A Budapest-Vienna service was started, flown on alternate days, with the Austrian airline OELAG flying on the other days. This new air service made air travel possible on a Geneva-Budapest route served by three interconnecting airlines: (Geneva-Munich by Ad Astra, Munich-Vienna by OELAG and Vienna-Budapest by OELAG and Aero Express). This service became known as the Transeuropa Union.

A second airline, Magyar Legiforgalmi (MALERT) was formed on November 19, 1922 and also began a Vienna-Budapest service with Fokker F-3 aircraft the following July. So strong was the competition put up by MALERT that by about 1930 Aero Express had ceased operations and MALERT was the only Hungarian airline. It operated mainly on domestic services, with two or three foreign services (including Budapest-Vienna). The fleet was three Fokker F-3 and two Fokker F-7a. It was not until 1936 that MALERT acquired new aircraft in the form of four Junkers JU-52/3m to expand its international services to Salzburg (Austria), Munich (Germany) and Zurich (Switzerland). About the same time MALERT also bought five Italian Savoia Marchetti SM-75 aircraft, and by 1939, just before Hungary was overrun by Germany, there were three JU-52/3m and two SM-75 in service. Services had been added to Prague, Warsaw and Bucharest during the last year before the war, but these were short-lived as MALERT was absorbed into Lufthansa.

In 1946 the Hungarian and Russian governments jointly formed a new airline, as the Soviets had done in all other East European countries after the war. The new airline, Maszovlet, started domestic operations and international services to Belgrade (Yugoslavia). But the latter service was halted again within the year, when Yugoslavia broke with the Soviet Union.

BELOW: The IL-14 flew most of MALEV's international European services during the 50's and 60's.
 --Gerritsma photo.



During the next six years Maszovlet's progress was slow. Russian LI-2 aircraft (license-built DC-3) were used on internal services and routes to neighboring communist countries. By 1954 the Soviets withdrew their interest in the airline and it was renamed MALEV, its current title.

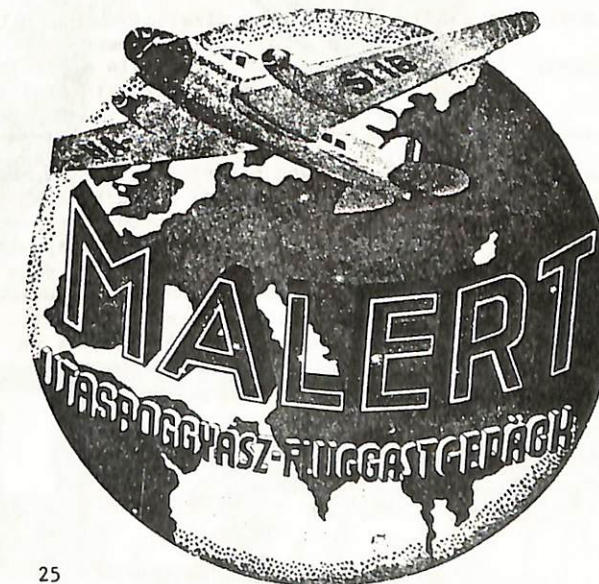
Services to Western Europe, including Amsterdam and London, were started in the early fifties, after the addition of about 10 IL-14 aircraft. A few years later the introduction of IL-18 propjets still made further expansion possible. Points in the Middle East were added and Africa followed soon. In the mid and late sixties TU-134 jets were added, followed by TU-154s in the seventies. The present fleet consists of six TU-154 trijets, six TU-134 twin-jets and five IL-18 propjets.

POLAND

In 1922 the German Junkers company sponsored the formation of Aero Lloyd Warszawski and the new airline opened services from the Polish capital of Warsaw (Warsaw) to the Baltic Sea port of Danzig (now Gdansk) and the industrial cities of Krakow and Lvov (the latter is now in the Soviet Union), thus linking the nation's capital with its biggest seaport and its major industrial centre. Junkers F-13 aircraft were used on these initial services. In 1925 the airline became free of German interests and was renamed Aerolot. It opened its first international service, to Vienna, that same year with F-13 aircraft.

Meanwhile another private company, Aero T.Z., had started a service from Warsaw to Lodz and Posen, and on to Brno in Czechoslovakia, also with F-13s.

In 1929 the Polish government took over both companies and merged them into Polskie Linie Lotnicze (LOT). A number of domestic and international destinations were added and the fleet of 13 Junkers F-13 was supplemented by six Fokker F-7a and four Fokker F-7b/3m. Twelve or more F-7b/3m were added in the next few years, most of these having been license-built in Poland.



LOT POLISH AIRLINES

Gradual expansion took place all through the thirties with services being opened to the Middle East via the capitals of Eastern Europe. London and Scandinavia cities were also added. Fleet expansion and modernization kept pace and by 1939 LOT had a fleet as modern as any of the competition. There were three DC-2, 10 Lockheed L-10 Electra, four L-14 Super Electra (with four more on order), three Junkers JU-52/3M and two Fokker F-7b/3m. But all activities ceased with the invasion of Poland by Germany in 1939.

Rebuilding after the Second World War went quickly and before the end of 1945 domestic services and a service to London had been resumed with a fleet of 20 LI-2. More European destinations were added as the fleet was enlarged with IL-12 and later



ABOVE: In 1939 LOT operated a fleet of Lockheed L-10 Electras on its longer European services.

RIGHT: In the mid-fifties LOT flew IL-14 aircraft on most of its domestic and international services. Gerritsma photo.

 the IL-14. In 1957 LOT even bought four second hand Convair 240s (three from Sabena and one from KLM) to upgrade its Warsaw-Berlin-Amsterdam-London service. These were followed in 1957 by two Vickers Viscounts from Britain (for photo see LOG, winter 1979, page 8). The Russian IL-18 propjet was ordered for expansion to other West European destinations and to other countries as well. At home the IL-14 made way on domestic services for the Antonov AN-24 propjet.

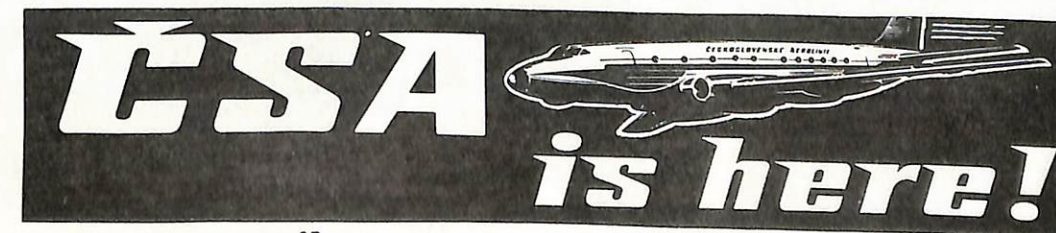


A modest beginning was made with transatlantic services in 1967 when LOT opened a service to Shannon, Ireland, where passengers interlined on Irish International for the flight to New York. But in 1973 LOT started its own service after the IL-62 jet had been added to the fleet. Montreal was added in 1976 and about the same time LOT was operating into the Middle East and North Africa. The present fleet consists of seven IL-62, nine IL-18, five TU-154, five TU-134 and 18 AN-24 plus one AN-12 freighter.

In our next part of the history of European air transport, we take a look at Switzerland and Austria, two countries high in the Alpine mountain range.

I would like to thank Don Thomas, our Editor, for supplying the various baggage labels appearing in this article. Mr. Thomas has promised the use of additional labels for future articles.

LOT POLISH AIRLINES





by
BRIAN GUSTAFSON

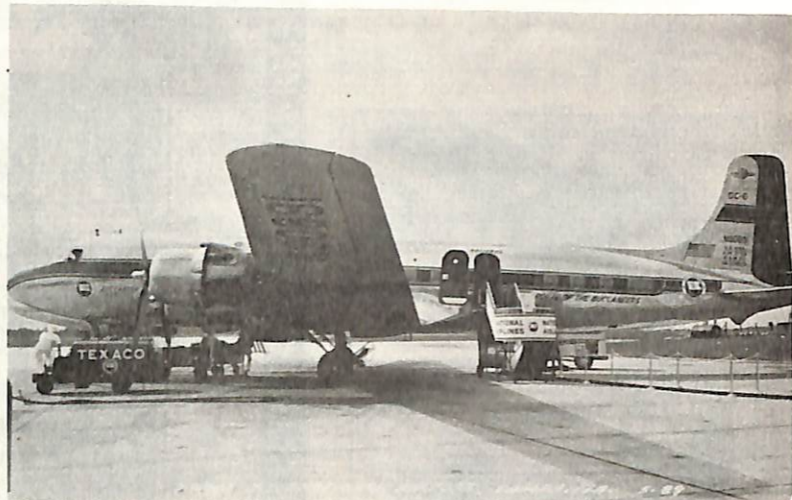
(Editors Note: This issue we were going to feature National Airlines. Due to problems beyond our control, it was necessary to shelf this airline for a while. It was to late to advise our Post Card Editor of this so we will still feature National cards in his column, along with some nice 707 items. Thank you.)

As I take command of the Post Card section of the *Captain's Log* I will try to uphold the fine tradition established by the prior Editor, John Moore and "guest" Editor, Pete Black. This issue we are featuring National Airlines and the Boeing 707/720.

Over the years, National has published many interesting cards and going through my collection the oldest National card I have is that depicting three Lockheed Lodestars on the ramp at Miami International Airport (see below). This card is a National issue, black and white and postmarked from Jacksonville, Florida on November 25, 1941. Tampa International Airport published a very nice card of a DC-6, N90891, on the ramp and giving a very good side view of the bare metal "paint" scheme used by National at the time. The aircraft pictured crashed November 2, 1952 at Elizabeth City, New Jersey after take off from Newark.

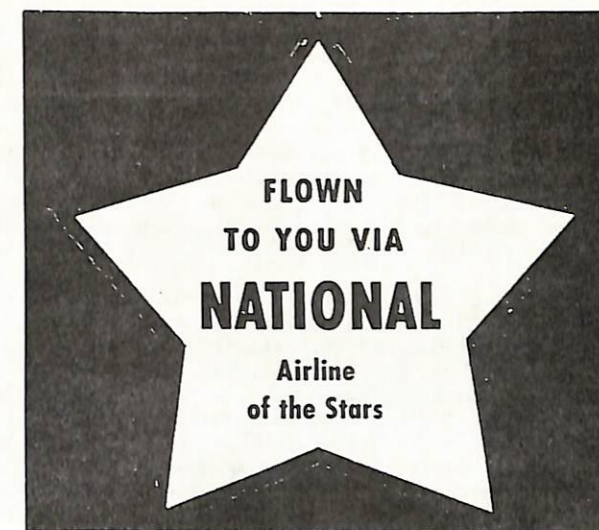
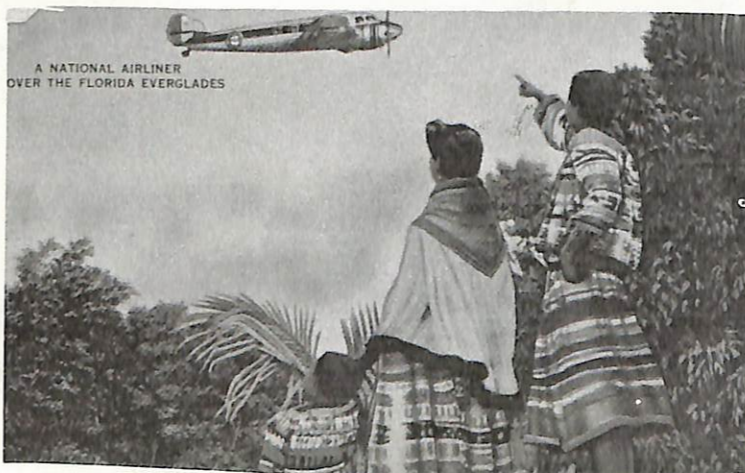
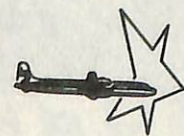
Several other cards printed by National include a Convair 340 in flight, a DC-6 over New York City, a DC-7 over Miami Beach and a Lodestar passing over the Everglades. I also have a National DC-8 card with the Star on the tail but have seen the same card with the old "N" logo on the tail, same cheat line and view, over San Francisco.

One day after work I walked over to a fruit stand across the street from Hollywood-Ft. Lauderdale Airport. The stand had several racks of post cards, but no airplane cards, at least I could not see any. As I left I picked up a card of a sport fishing boat and hit the jackpot. Behind this card was 20 cards of a National DC-8 on the ramp at West Palm Beach Int'l in front of the terminal with a Delta DC-7 behind. You can hardly make out the DC-7, but it is a great side view of the DC-8 with the Star on the tail.

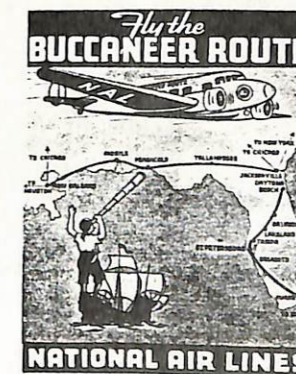
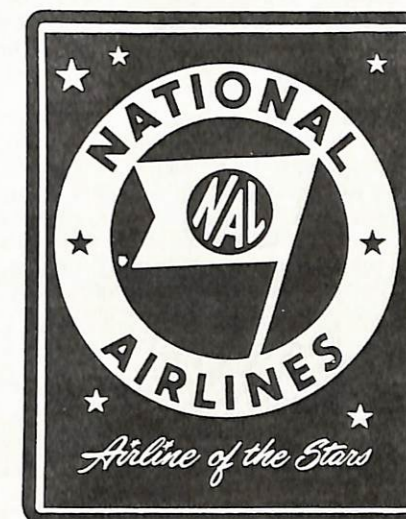


ABOVE: National DC-6 on the ramp at Tampa International Airport. The aircraft has the all metal "paint" scheme and looks like a flying billboard.

BELOW: Three National Lodestars on the ramp at Miami International. The postmark on this card is November 25, 1941. Super card.



EVERY National flight carries cargo



So much for the National cards. There are more 707 cards than I can count, but I'll try to discuss some of the older ones. Braniff made a very nice card of their 707-227, N7071. The only problem is that this aircraft crashed on the acceptance flight on October 19, 1959 and never saw service with the carrier. One of my favorite cards is that of a Continental 720B, N57203, in the old color livery from the early 60s. Continental also has a nice card of their 707-324C in their latest color scheme.

Other cards receiving honorable mention are the Eastern 720 with the Golden Falcon paint scheme, Northwest 720B, N721US, Pacific Northerns 720 over the coast, Pan Am 707PA that has a silver tint to the all metal surface. Olympic has a beautiful card of the 707 and can be obtained from the carrier. Another of my favorites is the Ethiopian 707 in front of the terminal at Addis Ababa. Their inflight card showing their 707 is very nice also. You can easily see that there are a lot of cards to collect if the 707 is your kind of airplane!

The only new card I've recently seen is the Rocky Mountain Dash-7 which is a super card. You can get a copy by writing the carrier. Royale Airlines have a very nice card of their B-99 shown flying over the country side. This card has been out about a year.

If you come across any new issues by the airlines, please send me a copy so we can let all Club members know about them. Also, if you have time, drop me a line and let me know your 10 favorite cards and we will make up a list of the all-time favorite cards. I list my cards in two groups, the rarest and my favorites, for my rarest are not always my favorites. Here is my list of 10 rare cards and my 10 favorite. Please send in your list.

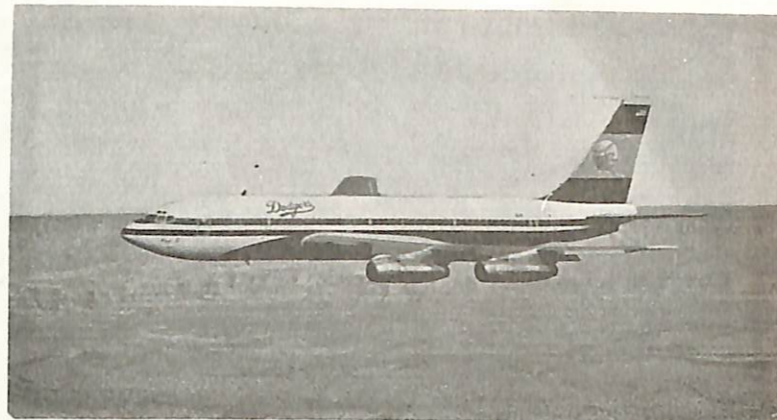
10 Rarest

1. Slick Airways CL-44 in front of hangar
2. National Lockheed Lodestars at MIA
3. Pan Am S-40 at Dinner Key
4. Pan Am S-42 in flight
5. Pan Am B-314 over San Francisco
6. C & S Constellation
7. Seaboard & Western Connie
8. Southern DC-3
9. Northeast FH-227 in flight
10. Lake Central Nord 262 in flight

10 Favorites

1. American Flyers Airline 727
2. Capital Viscount at Cleveland
3. California Central DC-4
4. Continental 720B
5. Delta DC-7 in Clouds
6. Delta L-100 (C-130)
7. Eastern Connie at Tampa
8. Lake Central DC-3
9. Northeast 727-100 over Miami Beach
10. Pan Am DC-8-33 over coast.

The next column and the following page contain some of my favorite 707 cards and some cards from the collection of Editor Paul Collins.



Boeing 720-030B of SAM Colombia. Beautiful green and white paint scheme. Movifoto card from South America.



Luxair 707-344, LX-LGW. This card published by Paul Kraus of Luxembourg G. D.



American 707-323C at Auckland Int'l Airport. Card printed by Fotocentre Ltd., Oamaru, North Otago, New Zealand.



Belize Airways, Ltd. 720-022, serial VP-HCO at Miami Int'l. Beautiful color scheme. Card by Coincat.



Trans World 707-231B on approach, somewhere. New color scheme. Rumor has it the Trans World on forward fuselage will be filled in. Card by Foto und Verlag Werner Friedl.



Condor 707-330B issued by the carrier and printed by Druck F. W. Rohden. Nice card.

STICKER CHATTER

by
DON THOMAS

McDonnell-Douglas is still coming out with revisions to their DC-9 and DC-10 adhesive labels. The original set of DC-10 labels was 36. Advertisements all over the country said "send for a free label of the airline of your choice". Now the latest set is 46 labels, or maybe 48 or more by now. Twenty-four of these are the same old ones. Nine of them have entirely new pictures, logo, or wording. Three were removed from the old set--Varig's English version, Air Siam, which is now defunct, and Delta, who gave up its DC-10s. Additionally there were 13 new ones. Newest, received from England, and not Douglas, is British Airways, red and blue on white. An oddity, also received from England, is the regular DC-10 label "Happiness is a Flight on a Garuda DC-10", but this one says DC-9 instead of DC-10. Maybe Garuda likes that diecut style rather than the regular DC-9 format; their third Douglas label is the regular DC-9 diecut.

In the DC-9 series, Douglas has 38 different so far, of 37 airlines. The extra one is Ghana Airways, which started out with a label featuring cocoa, and then switched to their regular wing logo.

The "Jet Delta to Germany" label pictured in the last "LOG" is one of the best-looking Delta labels yet. It is in black, yellow, red and white, and comes in rolls, like several other of the Delta propaganda labels issued in the last year or two. The little sticker illustrated is the latest of Delta's small yellow, white or orange stickers advertising various flights. They are often used on letters. (See right.)

National has two new labels advertising its Amsterdam service. The USD-90 is available in Miami, and the USD-91 only in the New York office. These new catalog numbers are from the Addenda #5, now being printed. It consists of about 13 pages, illustrating and describing around 250 new U.S., Canadian, and Caribbean labels issued in the past year and a half. Available for \$1 from Catalog, Box 269, Brookfield, Illinois 60513 or from the author, Don Thomas, 837 Majorca, Coral Gables, Fl. 33134. It will be included in the Sept-Dec 1979 issue of the Jack Knight Air Log/AFA News.

Overseas National has a nice label in dark blue and white in the regular Douglas DC-10 format, with wheel and globe logo, but at bottom only the airline name.

Transavia of Holland comes up with new ones every so often. The latest is a round green label showing a black and white Boeing 737 in full flight, grinning like the usual Boeing funny-faces. Received direct from Holland.

KLM's "Thuis in de Lucht" (Foremost in the Sky??) labels showing a 747, a label in several shades of blue, has been replaced with one of many colors, a real scenic label (see next page).

KLM continues as one of the most prolific of label producers. Their "Wings for Football Development" FIFA label, and the "KLM Gives Wings to Sports" are two modern efforts to match the big blue rectangular KLM label of 1976 advertising the Olympic Games held in Montreal.

The other KLM label illustrated comes in several shades of blue, fading to gray. (See next page.)

Jet Delta
to
GERMANY

USD-189

National Airlines
Daily DC-10's
Amsterdam
to New York
or Miami

USN-90

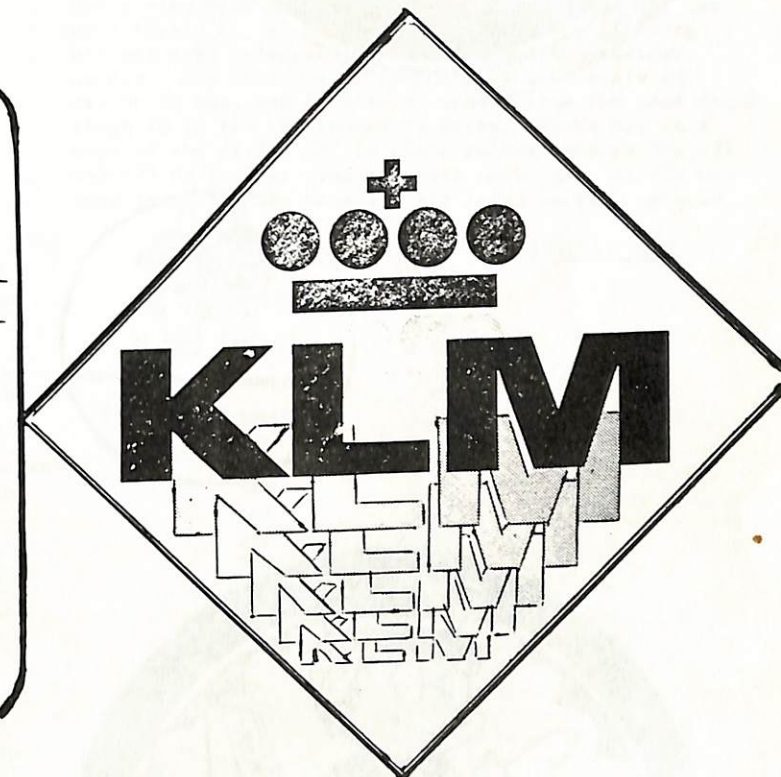


USN-91

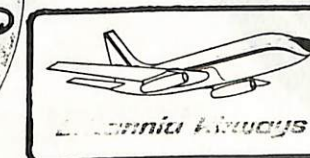
NLM is a subsidiary of KLM, flying the shorter routes. We remember the three types of NLM round labels available at the Toronto Airlines convention last year, two of them "CityHopper", NLM's specialty. One Club member (Dave Prins) came all the way from Holland to bring us some of his European aviation material. Hope to see you in Detroit next July Dave, and bring some of those super labels and post cards with you! (See next page for some NLM material.)

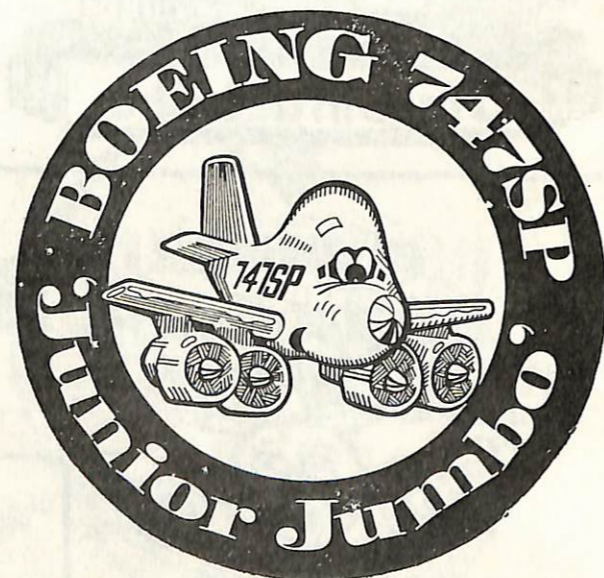
A Boeing note--most of Boeing's round labels are red--707, 727, 737, 747 and 747SP. However, now we have a blue one. It's a "Jetfoil", an ocean-going hovercraft. Although not an air label, Boeing is an aerospace manufacturer, and because some collectors have this label, it will be listed in the next Addenda #5, now being printed, as USB-56.

That's all for this issue. Please remember to send in those new issues so we can add them to all future catalogs.



Braniff gets you there
with Flying Colors





HAWK AIRFIX MPC ENTEX
 MONOGRAM REVELL
MODEL SHOP
 AURORA by
 DAVE MINTON
 FROG

After spending some considerable time and effort developing this issues topic, I am of the opinion there is no good way to write an article on modeling the Boeing 707 in less than several years! On could in fact write a book. With this in mind, I will develop reviews along fairly similar lines and focus particular attention on the Nitto/Entex, Revell, and Airfix kits, with some notes on conversion of the Airfix kit to a 320 series and some notes on conversion of the Revell kit to the later 707 series and the 720 series. First a listing of those kits of the 707 with prices, decals, scales, kit numbers, and availability, where known by me.

Some general comments about all these kits: The Kadar and Lincoln kits are probably the same kit and were very likely issued also by International Models, in Nevada, at about the same time as the rest of the old Kadar kits were market by them. The Kleeware kit was very likely a copy of the Aurora kit. The Lindberg kit has been reissued in Mexico, hence the Mexicana decals. The Nitto kit also contains the decals for Air Force One, and I believe more or less the same decal sheet is in the kit issued by Entex. There may be a copy of the Airfix 707 in CPAir colors because the 737 and 727 do in fact come in these markings. Airfix may have felt that the Canadian Air Force version covered

	MANUFACTURER	SCALE	DECALS	KIT NO.	PRICE	AVAILABILITY
Aeros		1/330	???????????	??????	10.00	-
Airfix -420		1/144	Air Force One	5-129	8.00	-
Airfix -420		1/144	RCAF		9.00	-
Airfix -420		1/144	BOAC		6.00	-
Airfix -420		1/144	British Airways		4.00	+
Air Tec -320		1/72	Pan American		35.00	+
Aurora KC-135		1/125	USAF	143	5.00	-
Aurora KC-135A		1/300	USAF	296	3.00	-
Aurora -120		1/104	American Airlines	380	8.00	-
Aurora -120		1/104	Pan American	381	8.00	-
Aurora -120		1/104	TWA	382	8.00	-
Aurora -120		1/104	Continental	395	20.00	-
Aurora -020		1/104	Western o/c	396	20.00	-
Aurora -020		1/104	Western n/c		5.00	-
Coma -???		1/211	Pan American	4002	10.00	-
Comet -80		1/300	Prototype	16	4.00	-
Comet -80		1/300	Prototype	26	4.00	-
Comet KC-135		1/125	USAF	80	8.00	-
Comet -80		1/125	Prototype	800	12.00	-
Dubena -320		?????	JAT		5.00	+
Entex -320		1/100	Air Force One		11.00	+
Frog -420		1/144	MATS	W.32	8.00	-
Frog -420		1/144	Aer Lingus	141	18.00	-
Frog -420		1/144	BOAC	349	12.00	-
Frog -420		1/144	Qantas	368	18.00	-
Heller -320		1/125	Air France		8.00	+
Kadar -420		1/190	BOAC	399	4.00	-
Kleeware -120		1/125	?????????		5.00	-
Lincoln -420		1/190	BOAC	109	6.00	-
Lindberg -120		1/210	Lufthansa	408	4.00	-
Lindberg -120		1/210	Lufthansa/Mexicana		4.00	+
Nitto -320		1/100	Lufthansa		14.00	+
Park -120		1/180	RCA		35.00	-
Revell KC-135		1/144	Luftwaffe	108	8.00	-
" non-fan		"	BOAC	193	18.00	-
" -320		"	American Airlines	243	10.00	*
" -320		"	Sabena	243	6.00	*
" -320		"	Lufthansa	243	10.00	-
" -320		"	Varig	246	6.00	#

* = available from Revell Mexico

= Revell Brazil

Revell	non-fan	1/144	American Airlines	246	18.00	-
"	-320	"	Aer Lingus	249	18.00	-
"	C-135B	"	USAF	254		-
"	KC-135A	"	USAF	275		-
"	KC-135	"	USAF	287		-
"	non-fan	"	Pan American	715	18.00	-
"	non-fan	"	United Airlines	716	18.00	-
Sanwa		1/236	Pan American		15.00	-
Solido	-320	1/189	Air France		8.00	-
Starfix	-420		El Al		8.00	-
YMC		?????	????????		10.00	-

this base however and not issued a civil version. The Revell kits are truly a mess to figure out as so many of them have been issued in various places in the world. Sometimes the values of the foreign reissue is less, for example, the American Airlines version. Other times it is not. Generally speaking, the 700 series, PAA and UAL, came from Japan and I do not think anywhere else. The Aer Lingus and BOAC version from the UK only. The Varig and Avianca version from South America. The others, particularly the AA and Sabena, came from both the U.S. and U.K. and other places, particularly Mexico. The Luftwaffe and Lufthansa probably came at least from Germany and perhaps U.K. Some of the U.K. versions may have also been made in Canada, particularly the Aer Lingus.

The military versions were probably all made in the U.S., with exception to the German one mentioned above. I do happen to have a copy of a KC-135 which claims to have been made in Italy, but most of the box writing is in English. Anyhow, all of this type of stuff is pretty important to the Revell freaks in our midsts and if one of them wants to sort it out, let me know. It all holds little more interest to me than watching a tire leak! There are some interesting aspects of all of this and how it effects modeling the airliner, and I will comment on it when I get to the review of the Revell Kits.

The Air Tec kit is a true injection molded model and is quite large and heavy. Fit is not exceptional, but there is plenty of room to work and the finished model is truly impressive. Decals are by Micro Scale and quite good. The model is molded in a light brownish relatively hard plastic and is more along the lines of a ticket counter display type of model than a "scale" model. But very nice if you like large scale 707's. While I am talking about it, the Novo kit of the KC-135 is also to 1/72 and about the same size as the Air Tec kit. This model is vacuum formed in white styrene, comes with a very nice SAC decal, also by Micro Scale, and goes together very well. Probably not the first vacu-form model for the average modeler to try, but can be done by most modelers if they are willing to take the time.

The Aurora kits, except for the KC-135, are representative of no real 707 and are not at all good besides. They are particularly inaccurate and if you are at all into 707's, you would do best to avoid even looking at one. They are at about 1/100 scale however and do look somewhat more like 707's than DC-3's. If you are really

in need of 1/100 scale the Nitto/Entex kit is still available and is really very nice. The Nitto/Entex kit is molded in white, clear, and black plastic in about 160 pieces, including some interchangeable pieces for clear engine halves and half of the front of the fuselage and little self-propelled boarding step. For the most part, the fit is quite good, but the wing to fuselage joint will take some work and filler. Outline and surface detail are very convincing, even the little vortex generators on the wing look nice, although they are somewhat large and incorrectly positioned.

The Heller kit offers a fit that is less than spectacular and is molded in both gray and white plastic. The engines appear a little off size and the fuselage a bit narrow in cross section. One of the more interesting aspects of the kit is that the entire crown, in white plastic, is one piece. There is no seam down the middle, it is down the sides instead. The Air France decals are of the old style and are barely useable and the scale, 1/125, is becoming more and more acceptable since Heller keeps cranking them out.

The Comet kit is in gray plastic, with clear parts, in about 45 pieces total. Details are recessed, including all of the markings, which will have to be filled to enhance the appearance of the final model. The model itself is really very good looking, although the fit leaves somewhat to be desired, particularly around the engine nacelles. The Aurora kit which claims to be a KC-135 is also pretty nice and most likely a copy of this (Comet?) model without the engraved markings. The outline of the model is really pretty nice, although old "Dash 80" came with a lot of different outlines, the model represents the original prototype. The decals look useful, but be careful, they are old.

The Lindberg kit is about 25 pieces of white plastic. The surface detail is raised, arbitrary, and pretty evenly distributed. Otherwise, this is a pretty terrible representation of the 707.

The Frog kit is molded entirely in gray plastic with no windows, these must come from the decal sheet (or you could drill them out). It comes in 40 pieces, including four for the stand and one clear front wind-screen piece. The engines, which are supposed to represent the 420 series, are too fat and there are no sound suppressors. The rear of the pylons is also pretty badly shaped. Also the aircraft represents a later version of the 707, with the higher tail, so the wings are generally incorrectly shaped, they are much too square at the end. The vertical tail also appears somewhat wide. The fit is not particularly good either, although it is not as bad as some of the other models. The Aer Lingus decals are fairly nice and complete, but the MATS decals are strange, to say the least!

Generally speaking, the Airfix kit represents the later, intercontinental version of the 707 and the Revell kit the early, domestic version. What this means in appearance is that the Revell has the lower tail and the Airfix the higher one, the Revell kit has a somewhat shorter, less pointed fuselage than the Airfix kit, and the shape of the Revell wings are according to the earlier shape of the 707 whereas the shape of the Airfix wings are according to the later versions of the aircraft. This is particularly noticeable in the wing fillet area. Thus, in a nut shell, the Revell kit builds into a pretty good non-fan version or a military version, straight from the box, while the Airfix kit builds into a pretty good intercontinental version, straight from the box. Now, because the Airfix kit comes with the 420 engines (Rolls), it can obviously be built only as that version, but with the addition of some engines either from a Revell kit, from the Air Tec conversion, or from Griffin vacu-form conversion, it can easily made into a 320 series. The dimensions of the Airfix kit scale to about a length of 5 feet (1.5m) too short and a span about 2 feet (0.61m) too short. The Revell kit tries to represent so many aircraft it is pretty hard to say about the dimensions for it, but briefly it fairly accurately represents the early type of 707-120. The Airfix kit is molded in gray plastic with clear parts and the Revell kit in either gray or white plastic, without clear parts. Here is one of the places where the different countries in which the kit is manufactured will make some difference in the end result of the model. The Revell U.S. non-fan AA kit is about the best, with very good and crisp detail and the plastic pretty hard (good for metal finishes). The Revell Mexico, in white plastic, is good for the detail and the fit, while not as good as the original Revell U.S., is still satisfactory, but the plastic is quite soft and it is much harder to get a good metal finish in the model. The Revell of Japan versions are the best for putting on the metal finish, for the plastic is quite hard, but the fit and the detail are very bad, particularly along the window line, where a raised ridge runs the entire length of the windows, both top and bottom.

The fit of the Airfix kit is probably the best, both because the fit itself is better and because the type of raised detail does not stand out as much as on the Revell kit, so it is easier to replace. There is also less flash on the Airfix kit than on most of the Revell kits (save the early one), but the Airfix kit suffers from a much worse heat sink problem than the Revell kit. The Airfix kit is molded in about 60 parts and the Revell kit in about 65 parts. The gear on the Revell kit has more part (gear doors that is) and the tail assembly on the Revell kit is also a bit more complicated. The Airfix kit includes a clear plastic stand while some of the Revell kits do not, particularly the later issues.

To convert the Airfix kit to the 320 series, you could use the Air Tec engines, which is what I tried, but for the price, it is almost as cheap to use a Revell of Mexico version, and that way you get some extra gear. As I mentioned some issues back, the detail of the Air Tec engines



ABOVE: Revell of Japan kit with decals from Revell SST kit.

leave a lot to be desired and the fit is a complete joke, for they do not come even close to fitting the Airfix kit. In addition, they were very heavy and hard to glue to the model. I used epoxy, but even so it took quite a bit of work. Surely it would not be much harder to use the Revell kit engines on the Airfix kit. Also, for the later versions of the 707, the horizontal tailplanes of the Revell kit should, strictly speaking, be somewhat increased in size, by about 5% or so along the outer dimensions. Again, the Airfix tailplanes are pretty much correct.

To make the Revell kit into a earlier 720 series, or for that matter the Airfix kit as well, the major change will be in the addition of a glove or vane along the leading edge of the wing between the inboard engine and the fuselage. On the Airfix kit, the trailing edges would have to be changed to the more curved shape of the earlier versions as well. Also, for the Airfix kit, the tailplanes would have to be cut down, both the vertical and horizontal ones. Basically, the only thing left to do after this is to decrease the length of the fuselage, done by cutting out three windows from both in front of and behind the wings of the Revell kit. For the Airfix kit, probably the same would work, although perhaps a wee bit more should be taken off the front. I have not tried this particular conversion. That about covers the basics.

References for the 707 are plenty. I would like to recommend the following: Gate 66 and LOG Vol. 2 #3, both have pretty complete articles on converting the Revell kit to a 720. IPMS magazine from U.K. several years back also did a very nice article with a good set of drawings which show most of the important difference in the dimensions for the various versions of the 707, although curiously they left out the vertical tail. Of course, the Profile (No. 192) series featuring the 707 is good, as well as the book by Barry Schiff, published by Aero, The Boeing 707, although most of these focus on the early 707's. Ian Allan recently published a 25th anniversary issue for the Boeing 707 of Air Extra, No. 25. The GATE 66 article, mentioned above, shows a line drawing of how to deploy the flaps, which is not particularly hard on the 707. A final reference is a back issue of SCALE MODELER which featured a conversion of a 707 to the C configuration by one of our Club members, Pete Hodgdon of American Airlines--a super job by Pete.

New stuff: The J&L DC-2 is again available and is as reviewed before, with the deletion of the white metal props. The Execuform Sikorsky S-42 is out and is not any real improvement over the earlier efforts by this firm. I assume they have the basic philosophy that once something is done, it cannot be improved upon. However, if you really like the plane, and I do, it can be made into a nice model with some considerable effort. Basically vacuum-formed in white styrene, two sheets, it has no decals, small parts, or any detail. Also, because of the fact that it is male molded instead of female molded it is even more difficult to make into a true scale model. Pretty similar, actually, to the earlier Sutcliff efforts, with a bit better

fit. The Airfix Caravelle and BAC 1-11 are again available, and Clinton Groves has wated no time in getting available the AA decals for the BAC and UAL for the Caravelle. He also has done a very nice Saudi set for the Airfix 737. Newest from Rareliners is a Eastern Provincial set for the Boeing 737, again, very beautiful (hm, but what about Trans Canada Bob?). The USAirfix kits are also now all available, including the DC-9 mentioned in the last issue (Delta), the 727 AA n/c, the 737 UAL n/c and the A-300 Airbus EAL. Rumors are aplenty about new decals from Runway 30 and even perhaps a re-issue of the Flight 501 BI decal sheet. And finally, there is some chance we might see a 1/144 Stratocruiser in NWO from Griffin and a 1/144 Electra as well. Next from Revell Mexico should be a 727 Aero Peru and perhaps a DC-8 Flying Tiger. Until next issue HAPPY MODELING.

photo equipment selection

by
BILL MANNING

In the last issue I promised to show you how to select a bag full of equipment without making your wallet go flat. A flat wallet is getting to be a constant companion with those of us that have to work for a living. The cost of living index thins out the old billfold each month, until it get to the point that you can hardly see it!

Photographic equipment remains one of the better buys available in our inflated economy. Cameras, lenses, etc., have not kept pace with the upward spiral, as have other items that are a matter of life and death. Now we all know that camera equipment isn't really a matter of life and death; but if it is one of your major interests, as it si for many of us, the fact that photo equipment is still a decent buy will come as good news to most of us.

Putting together a reasonable camera outfit is not as difficult or as expensive as it might appear. What is it that makes up a reasonable camera outfit? That's a question that has been ask before. It is difficult to give an answer that will please everyone but I can stick my neck out--but please don't hurt it--and give you MY opinion.

A reasonable camera outfit is one that will allow you to take the kind of photographs that you desire at a price you can afford. In order to assemble an adequate outfit, it will be necessary to mention specific types of equipment.

A 35mm single lens reflex is really the only type of camera to consider for aircraft photos. A 35mm SLR is portable and fast to use. It has the capability of using interchangeable lenses



ABOVE: This is all you need for superb aircraft photos. A camera body, a wide angle and a telephoto lens will do the job. This is a 400 mm telephoto, a bit long for a beginner to hand-hold. A 200 mm would be easier to use, at the start.

and that makes it very versatile. You focus and compose directly through the lens, so you see almost exactly what will register on your film.

Nearly all stores sell the camera, lens and case as a combination. Therefore you may feel trapped into buying a standard lens with your new camera. Is a standard lens really necessary? Most of the time you will be too far away from the aircraft that you wish to photograph for the standard lens to do the job. You will be wishing for a telephoto lens in order to get you closer to the subject. If not that, you will likely be too close to the subject and will require a wide angle lens for your



ABOVE: A complete outfit is nice but takes most of us years to assemble. Pay attention to compatability between lenses and camera bodies.

work. As you can see, the requirement exists for a telephoto and a wide angle lens but it is not mandatory for a standard lens to be in your bag at all; unless of course you just like to carry around extra ballast. Most camera stores will sell the camera body only. The money you save by not purchasing the standard lens can be applied to a more useful lens.

All right, you say; a 35mm SLR is the one for you. Now, how many of your hard earned dollars are you going to have to spend for this dream camera? Ah yes, the magic question. Well folks, the sky is the limit when it comes to purchasing camera equipment, but you don't have to be all that extravagant to have a really nice, capable outfit.

A check through the mail order section of any of the popular photography magazines will reveal a Pentax K 1000 camera body for about one hundred dollars. A 35mm wide angle lens goes for around eighty bucks and a 200mm telephoto lens for about another hundred. So, for \$280 you can have the start of a really nice 35mm SLR camera outfit. Add a small gadget bag and a small flash unit and you will be able to take just about any kind of photograph you want, any time you'd like to take it.

If you don't particularly care for Pentax cameras, it doesn't matter. There are many other name brands you can substitute for the same money, or not much more. Maybe three hundred dollars still sounds a little steep. If so, you can purchase used equipment, in most areas, for a really attractive price. I once bought a Kodak Retina Reflex complete

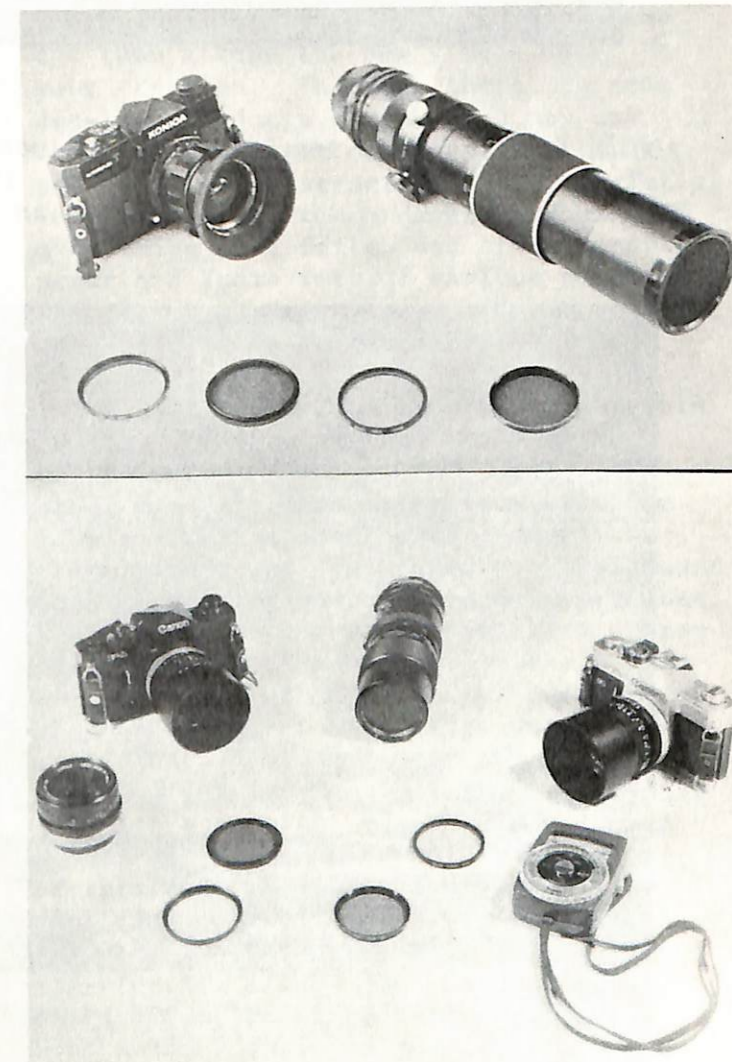
RIGHT: Purchasing a second camera body adds some versatility to your outfit. A good light meter also extends capability but adds to the cost.

with 35mm and 135mm lenses for a grand total of one hundred and thirty five dollars and that included a small gadget bag. I took many photos with this nifty little camera until some crummy thief wanted it more than I did. Alas, I miss it greatly. I have since graduated to more sophisticated, "professional", equipment and to tell you the truth, the difference in photograph quality can not be seen.

If your interested in photographing your favorite airplanes, get out to the stores and do some shopping around. Find a camera out-fit in your price range, but it and learn to use it. When you get your first batch of slides back from the processor, you'll wish you had invested your dough sooner!

Next issue we'll discuss some of the pros and cons of zoom lenses and power winders. Until then, happy snapping!

BELOW: Used equipment can provide an excellent start. You should be able to find gear like this for less than \$200. Caution--be a careful shopper. You might consider taking a experienced camera-bug with you.





ABOVE: Boeing 707 of Aerolinas Argentinas as described in Figure 1 of article.
Photos by Dean Slaybaugh.

BELOW: Boeing 720 of Airmalta Airlines as described in Figure 2 of article.



DECAL CAPERS

by

STEVE KENYON

I must apologize to our membership and other readers for the omission of "Decal Capers" in the summer, 1979 issue. Unfortunately, there were unseen problems which precluded the article. Needless to say, everything came to a stand still regarding extra-curricular activities.

Being positive, perhaps the absence of the article was a good omen. But--then who am I to say?

Before we get into the fascinating subject for this issue, let me answer some questions about decaling which appear to be subjects of consternation to some of the readers.

First question: A reader would like to know how to remove old, unwanted decals from a model without a lot of hard labor.
Answer: Use a piece of scotch tape, press it onto the unwanted decal or section of decal. Press the tape down very tightly and then remove the tape. The decal will come off with the tape. If all the unwanted decal is not removed the first time, repeat the process until all of the decal has been removed.

Second question: Is there anyway to make certain a long piece of thin decal will be perfectly straight on the side of a fuselage?
Answer: Take a piece of thread and attach it to the fuselage with a piece of scotch tape at each end. Make certain your thread is long enough to slide the wet decal under it if necessary. Now align your strip of decal to the edge of the thread and you will have a nice straight line. Once your alignment is straight, remove the thread and tape.

Third question: Where may I find various styles of letters to use for producing airline names and numbers?

Answer: This question is a hard one to answer since there are many interesting lettering patterns used by various airlines. First you might try looking into railroad decal lettering since there are a number of manufacturers who specialize in railroad letters of various types and sizes. Secondly, you could try to find your pattern in the dry "press-on" types of letters produced. If you find your style and size you may either press them directly to the model or you may use clear decal paper and make up your name and then attach the new'y made decal to your creation. Thirdly, there are some decalogue products whereby you may use ordinary newspaper or magazine print and following instructions very carefully, you can make your own decals. Fourth, if everything else fails, use clear decal paper and India inks of various colors and free-hand draw your own (or have a good printer do it for you).

Fourth question: How is it possible to shade or show shadow lines for the outlines of the control surfaces and other visible lines which represent the true external appearances?
Answer: For those lines that you desire to be shadowed or outlines for visual external reference, sharpen a number two (2) pencil to a very fine point (use sandpaper to make a fine point). Then very carefully follow the outlines of the markings which you want shadowed or outlines. If there are no lines for you to follow, draw your own with a straight edge and #11 Exacto blade. Do all of this before you paint or spray on the final coat of gloss or flat finish coat. Note: after tracing the lines with your #2 pencil, be sure and blow off all of the residue pencil carbon from the lines before you paint over them. Otherwise you will have streaks along the areas you are interested in outlining.

Our subject for this issue--the Boeing 707/720 is a fascinating one. In-so-far as kits are concerned, there is a variety of them along with a goodly number of various scales. My good friend, Dave Minton, has mentioned these in his "Model Shop" column.

As in so many examples, the 707 came to be because the military example preceded it. That model was the KC-135, a refueling tanker designed under specs listed by the U.S. Department of Defense, specifically the U.S.A.F. The advent of the jet aircraft required greater speed than was possible with the first line of refueling tankers of the late "50's" and early "60's" such as the KC-97. Thus, it became necessary to re-design our requirements and produce an item which could keep pace with the rapidly advancing horde of jet aircraft used for our military.

And so it was. Specifications poured forth from the pentagon and the various aircraft manufacturers went to work. On the other hand, commercial air travelers were also making known their desires for swifter cross-country movements. With experience and know-how, Boeing leaped out in front.

The expertise of Boeing needs no introduction for they have produced many winners. Perhaps I should say combinations of winners both military and commercial: The KC-97 and the Stratacruiser; the B-17 and the Stratoliner; and many other fine examples. It was a natural, then, to join the jet age with the KC-135 and the 707--all from the same set of drawings and blueprints. I am certain we are all familiar with the history Pan Am (see earlier story in this issue) made when the first 707 crossed the Atlantic on her maiden flight to introduce the "Jet set" to lunch in Brussels and dinner in New York City.

The story of the Boeing 707 successes is unsurpassed for the era it introduced. Only one other event has ever introduced such a change in commercial aviation and that was the DC-3. Together both of these giants will remain epic history "makers" but only in their own right and environment.

As was the case with the DC-3, so it is today with the 707. The sky is filled with them. Every country, large and small,

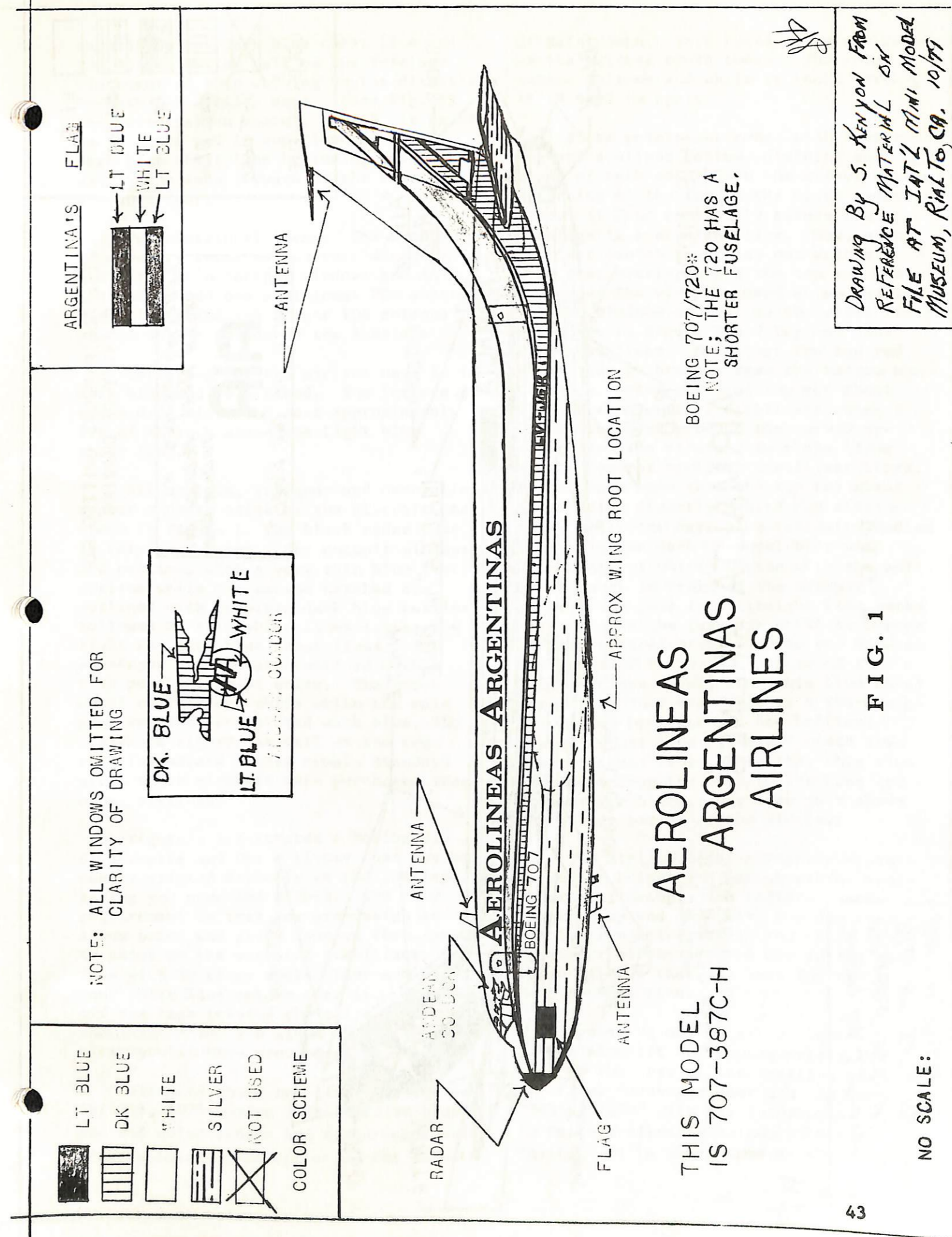
utilizes the services of the 707, as they transport passengers and freight around the world. Accordingly, I have selected a number of smaller airlines to represent the use of the 707/720 aircraft.

Figure 1 illustrates a 707 of Aerolineas Argentinas Airlines. This carrier has several Boeing 707's in service with the the livery shown. The model here represents 707-387C-H. This aircraft has a full by-pass engine and interior designs which were made to AA's specs. This design was introduced in 1974 when AA changed the complete livery for both the 707's and 737's.

The top of the aircraft is white. Beneath the white top follows a light blue cheat line that begins with a sweeping curve at the nose of the aircraft (the point begins at the black radar nose) and continues aft towards the vertical stabilizer and then sweeps upward to end in a stylized letter "A". This blue cheat line exists above and below the window line for a very small distance (approx. 1/16th of an inch above and below windows). Immediately following this light blue cheat line is a very thin separation line separating the complete cheat lines from front to rear. Next, there is a curved dark blue (again beginning at the nose) cheat line of lesser dimensions than the light blue line that continues to the vertical stabilizer and then ends in another stylized "A" beneath the light blue one. The dark blue cheat line is followed by a somewhat broader white cheatline than that one separating the light blue and dark blue. The bottom of the fuselage is silver as is the wings. The bottom of each engine pod and the facing (rim) of each engine pod are dark silver.

An Argentina flag (lt. blue, white, and lt. blue) is painted on the fuselage directly beneath the cockpit windows. A dark blue stylized Andean Condor is superimposed on the top of the white fuselage halfway between the leading edge of the front entrance door and the trailing edge of the last cockpit window.

The words "Boeing 707" are imprinted in dark blue on the white cheat line



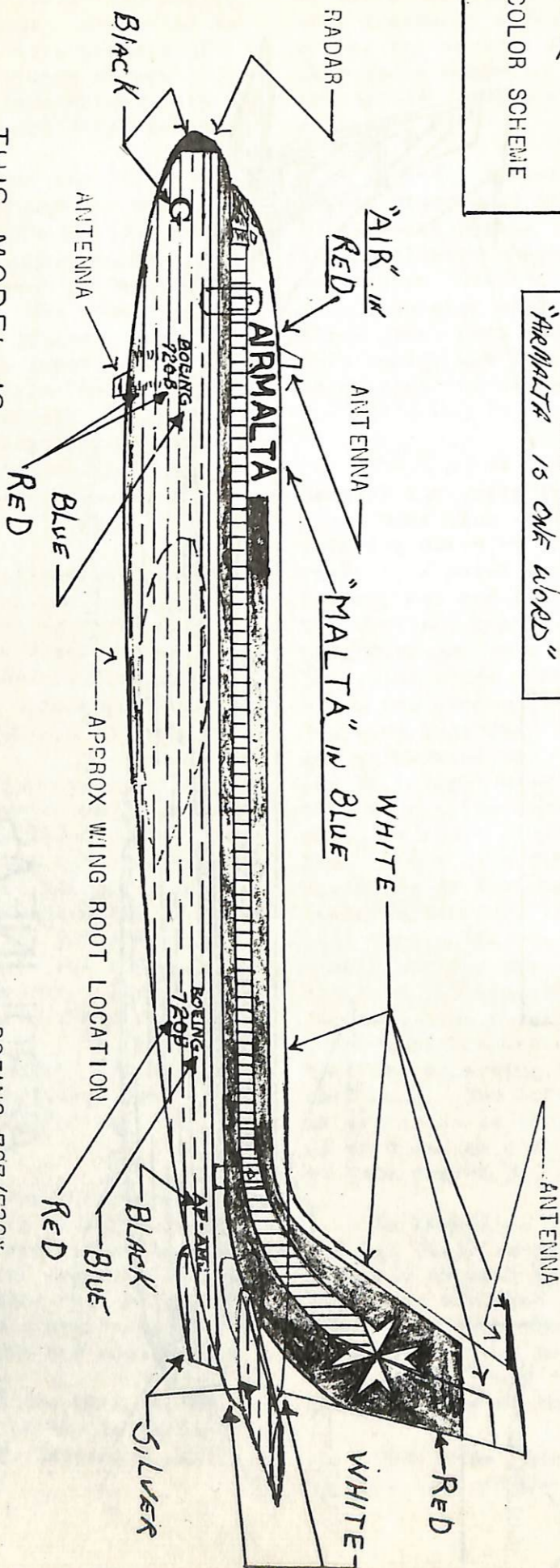
NO SCALE:

THIS MODEL IS
720-040B

AIRMALTA AIRLINES

BOEING 707/720*

NOTE: THE 720 HAS A
SHORTER FUSELAGE



COLOR SCHEME	
	White
	SILVER
	RED
	MED. BLUE
	NOT USED

LETTERING SHAPES ARE
SKEWED HERE. MEDIUM AND
MEDIUM BROAD
AIR
"AIRMALTA" IS ONE WORD

NOTE: ALL WINDOWS OMITTED FOR
CLARITY OF DRAWING

FIG. 2

Drawing by S. Kenyon from
REFERENCE MATERIAL ON
FILE AT INT'L MODEL
MUSEUM, RIALTO, CA. 10/79

3

separating the dark blue cheat line and the silver bottom half of the fuselage. Placement of this working begins directly beneath the airline name. (See Fig. 1) The registration number, LV-JGR, is painted in white and is superimposed on the dark blue cheat line beginning approximately one inch forward of the rear entrance door.

Two additional items: The eyebrow windows are retained and rest directly above the main cockpit windows and AA decided to add one additional VOR antenna directly behind the larger VOR antenna placed on the bottom of the fuselage.

Lettering for the airline name is in dark blue and is slanted. The letters are medium width and rest approximately 1/8 of an inch above the light blue cheat line.

All symbols, insignas and decorations appear on both sides of the aircraft. As shown in Figure 1, the black radar nose is very pronounced. The cockpit windows are outlined with a very thin blue (dark) outline while the escape hatches are outlined with complete dark blue outlines followed by thin white lines across the light and dark blue cheat lines. The passenger windows are outlined with a thin pencil line of white. The nose wheel centers are white while the main gear centers are painted dark blue. The clearance lights, as well as the red rotating hazard lights remain standard since these aircraft were purchased from other airlines.

Figure 2 illustrates a Boeing 720 of Airmalta and has a livery that may be easily painted directly to the fuselage, saving you time and effort. The only requirement is that you pre-design an arrow point and place four of them, point to point on the vertical stabilizer. Do this with 3M clear scotch tape and paint your cheat line colors over it. Then pull off the tape leaving the white primer coat showing. After you gloss over with glossy clear you'll have your complete colors.

Airmalta chose her livery scheme on April 1, 1974, using an attractive blue and red color scheme and featuring a white eight-pointed cross depicting the Knights

of Saint John. This cross is better known as the Maltese cross today. The color scheme follows and while it looks tricky, it is easy to apply.

First paint your model with a white top and a silver bottom, dividing the lines of each color with the silver bottom beginning at the top of the black radar nose. It runs completely across the fuselage in a straight line. Now, using 3M clear scotch tape, lay out a cheat line that barely covers the top and the bottom of the windows (used as an outline for the windows as well as the cheat line). Refer now to Figure 2 and lay out your red cheat lines. Note that the top red cheat line is broader than the bottom one. Continue laying out your top red cheat line up the vertical stabilizer using a French curve to produce the curved up-sweep from the straight fuselage lines to the upswept vertical stabilizer lines. Please note here that the top red cheat line begins directly behind the airline name, while the dark blue (actually medium blue--lighten dark or royal blue with four drops of white) begins with the anti-glare panel in front of the cockpit windows and goes in a straight line backwards across the fuselage until it sweeps up the vertical stabilizer to end between the point of two of the points of the Maltese cross. Following this blue cheat line is another red (this is a red-orange color--not brilliant red nor brilliant orange) cheat line of lesser width than the top cheat line. Note that this line continues from the tail to the nose and ends at the black radar nose just above the silver bottom of the aircraft.

The airline name--Airmalta--appears in medium height and medium width, semi-modern lettering. The letters square straight up and down with rounded tops. The letters A-i-r are in red while the remainder of the letters are in the same shade of blue that you used for the center cheat line.

Appearing on the silver bottom half of the aircraft and approximately one inch to the rear of the trailing edge of the front passenger door are the words, "Boeing 720B" with the inscription written in Maltese directly below. The word "Boeing" is in blue, same as the cheat

line; the figures and letter "720B" and the Maltese inscription are in red. The same names and figures appear on the bottom half of the fuselage approximately one inch in front of the leading edge of the rear passenger door and the top level of the wording "Boeing" is in a straight line with the bottom horizontal door outline. No Maltese inscription appears with this design. Immediately following the trailing edge of the rear passenger door and again with the top line of the letters level with the bottom horizontal line of the door appears the registration letters, AP-AMG or AP-AMJ (both are correct). These letters are in the same shade of blue as the cheat line.

There have been no additional antennas added. There is a medium sized letter "G" (on AP-AMJ it is a "J") superimposed on the bottom half of the fuselage directly beneath the center cockpit window. It is black and located towards the lower section of the fuselage. Some sort of fleet identification.

The front entrance door is outlined with blue-white-blue while the rear door is completely outlined with blue. The center escape hatch is outlined with white (on the red cheat line) and blue throughout the remainder of the escape hatch as it passes through the blue and red cheat lines (center thru bottom).

The lips of the engine pods are painted a darker silver than the remainder of the pods. Directly behind the lips there is a white band, approximately 1/2 an inch behind this band there is another white band approximately 1/8 of an inch wide. Also painted white is the trailing edge of the wing root fairing which begins about 1 and 1/8th inches from the apex (point of the fairing as it is attached to the fuselage at its most aft point, forward).

Figure 3 depicts the livery for that of Malaysian Airline System and is another relatively easy livery to directly paint onto your model. Start by painting your model entirely white. Use flat or glossy, whichever you prefer. Mask off the top white portion so that your lower half of the fuselage may be painted silver as depicted by the drawing. As soon as the paint is dry, you are ready to mask off your two red cheat lines and paint them.

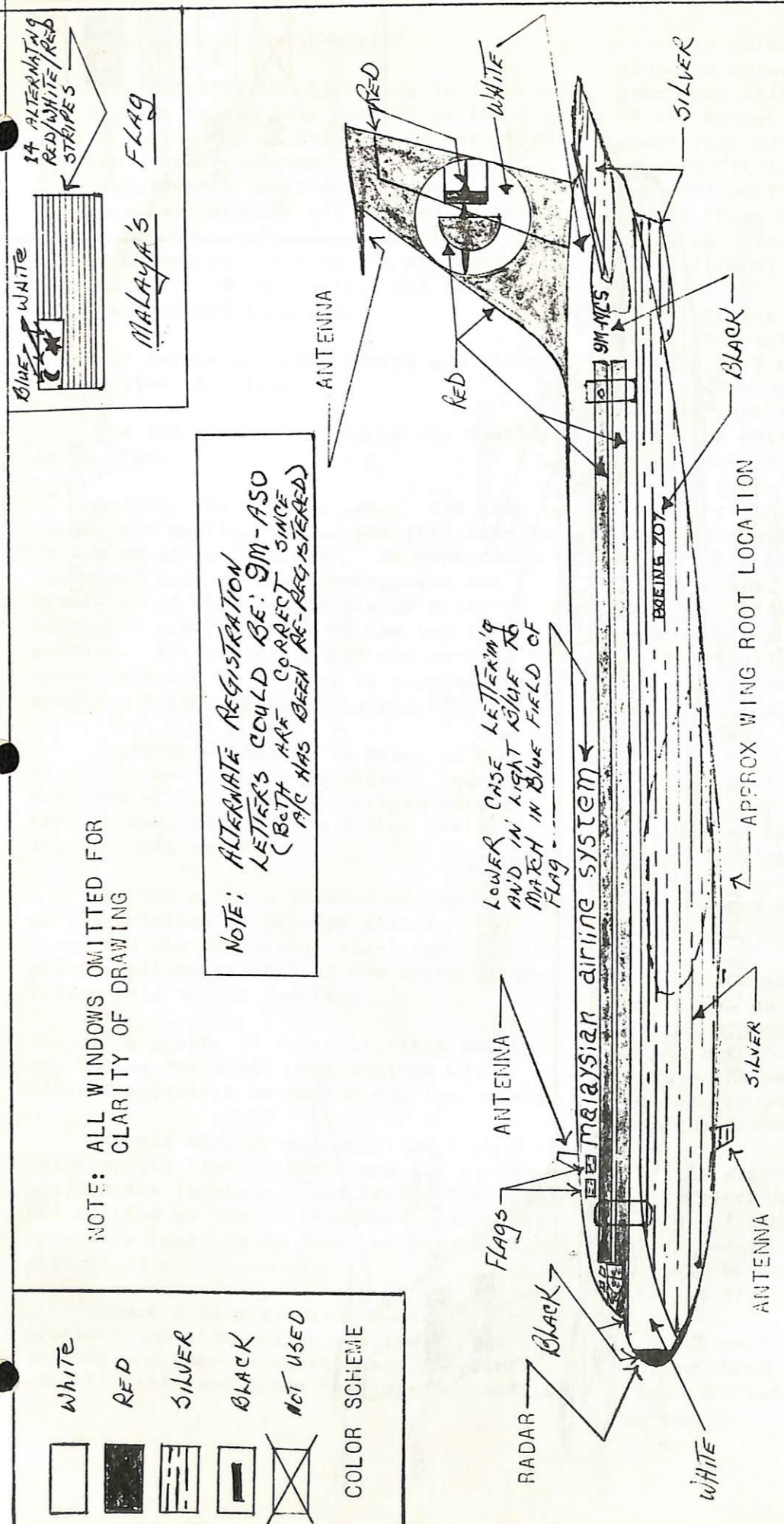
The upper red cheat line begins at the trailing edge of the last cockpit window and sweeps rearward in a straight line until it ends 1/2 inch past the trailing edge of the rear passenger door. The top of this red cheat line is 3/32 of an inch above the top edge of the window line and is painted through the window line to cover 1/3 of the window height. Following this red cheat line is a white line covering the second 1/3 of the window height. Directly below this white line is another red line of the same dimensions as the top red line. Note, however, that it continues forward beneath the cockpit windows and ends at a point on the black radar nose. Also, note that the anti-glare panel is painted black. Make allowances accordingly for the black anti-glare color and the cheat line color to blend into a nicely shaped semi-arrowhead which touches, but does not proceed beyond the black radar nose. Rearward, the bottom red cheat line ends exactly as the top one.

If you have painted your model all white as I previously suggested, you are now ready for the vertical stabilizer. Here your activities become a little more precision because you must mask off the "Kelantan Kite" within a circular frame. First scribe in your large white circle in which the Kelantan Kite rests. Next, using 3M clear masking tape, cover the white circle with tape. Now draw your Kite pattern on the tape and then carefully cut out your Kite design with a nice sharp #11 Exacto knife. When you are certain that your Kite design is what you desire, peel off all of the tape that covers the Kite. Leave the remainder of the tape in place, however, make certain that the outer outline of your white circle is or has been cut and all loose ends of tape removed from around the outer edge of the circle. Now mask the portion of the fuselage (below the vertical stabilizer and in front of it across the top of the fuselage) and paint the entire vertical stabilizer red, the same color as your red cheat lines. Wait approximately 20 minutes and then peel off the tape remaining on the vertical stabilizer. Presto! Your fin design is complete.

Color	Not Used	Color Scheme
White		White
Red		Red
Silver		Silver
Black		Black
Not Used		Not Used

NOTE: ALL WINDOWS OMITTED FOR CLARITY OF DRAWING

NOTE: ALTERNATE REGISTRATION LETTERS COULD BE: 9M-ASO (BOTH ARE CORRECT SINCE A/C HAS BEEN RE-REGISTERED)



THIS MODEL IS 707-338C
MALAYSIAN AIRLINE SYSTEM

BOEING 707/720*
NOTE: THE 720 HAS SHORTER FUSelage

DRAWING BY J. KENYON FROST
REFERENCE MATERIAL ON FILE AT INTL NIMH MODEL MUSEUM, RIAR TO, CA. 10/79

FIG. 3

NO SCALE:

NO SCALE:

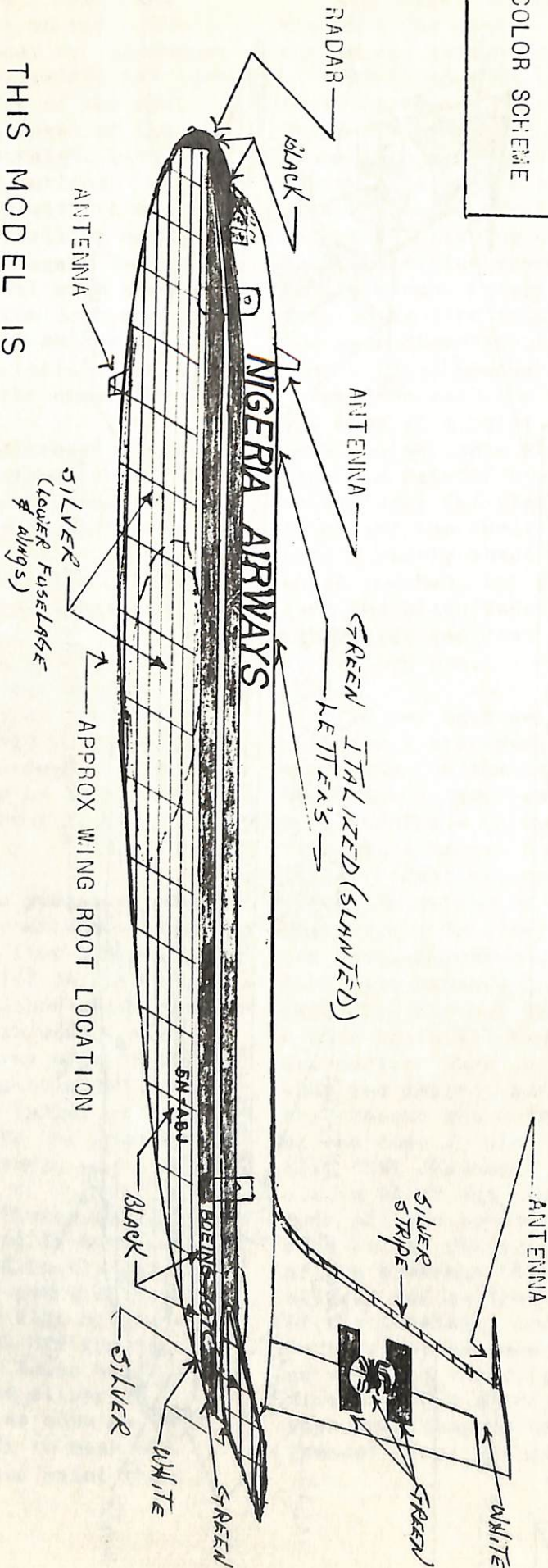
THIS MODEL IS
707 3F9C

NIGERIA
AIRWAYS

FIG. 4

BOEING 707/720*
NOTE: THE 720 HAS A
SHORTER FUSELAGE

Drawing by S. Kenyon from
REFERENCE MATERIAL ON
FILE AT INT'L MUSEUM MODEL
MUSEUM, RIALTO, CA. 10/79



COLOR SCHEME	Symbol	Label
White	White square	WHITE
Green	Green square	GREEN
Silver	Silver square	SILVER
Black	Black square	BLACK
Not Used	Diagonal lines	NOT USED

NOTE: ALL WINDOWS OMITTED FOR
CLARITY OF DRAWING

Now for the finish work.

The registration lettering is in black and appears on the rear portion of the fuselage with the top of the letters even with the top of the uppermost red cheat line. The registration is 9M-ASO. Directly below the four last windows and dropped just a 32nd of an inch below the beginning of the silver bottom of the fuselage are the words "Boeing 707". These letters and numbers are italicized and in black.

All escape openings (doors and windows) are outlined in black.

The VOR antenna on top of the fuselage is in black.

Now for the airline name. The name is completely spelled out as per this example: "MALAYSIAN AIRLINE SYSTEM". It appears on the upper half of the fuselage and the first "M" of the name is placed directly below the trailing edge of the top VOR antenna. All lettering for the name is in lower case and is typical of rounded present day lettering (ref. to fig. 3.).

Appearing directly in front of the airline's name is the Malaysian flag which consists of 14 red/white stripes with a crescent moon and star on a blue field in the top left corner.

The VOR antenna located on the bottom of the fuselage is painted silver. The wings and the horizontal stabilizer are painted silver exactly as the color of the bottom half of the fuselage.

As a matter of interest, this model, the Boeing 707-338C, uses engines with noise suppressors as on the earlier models.

Cockpit windows are outlined with a thick pencil line of black and the eyebrow windows are in place. The navigation lights are located as per the standard model, but check the location of your red hazard lights against your references.

Figure 4 is a colorful design which is pleasant and pleasing to the eye. This is another one that is fairly easy to paint and will interest those viewing your models.

The colors of this livery are derived from the colors of the Nigerian flag, green and white. Of particular interest is the symbol appearing on the vertical stabilizer of the aircraft. It represents a "flying elephant" and it is not too difficult to design and paint. One unique thing about this design is the coloring. You only need three colors: green (light), white, and silver.

Starting as with previous examples, paint your entire model white. Mask off the top half and paint the lower half with silver using the center line of the model's fuselage as the dividing line. After the white and silver paint has dried, mask off the two green cheat lines. The two green lines begin with sweeping curves originating at the black radar nose and continue rearward in straight lines until they end at the rear of the fuselage. In the center between the two green lines is a white line. Note that these three lines--green, white, green--equally divide the window height and also extend 1/8th inch above and below the window top line and window bottom line.

The stylized green/white/green Nigerian flag on the vertical stabilizer is centered between the top and bottom of the vertical stabilizer. The "flying elephant" appears in a white circle superimposed on the flag (refer to figure 4 for example of the elephant).

This example is easily painted onto your model as has been recommended for several others. All that is required is to lay out your maskings as required to produce the patterns you want. Always remember to paint light colors first and then the darker colors.

The aircraft registration letters are in black and appear on the rear section of the fuselage, in front of the leading edge of the rear passenger door and just below the beginning of the silver bottom half of the fuselage.

The wording "Boeing 707" appears on the top cheat line (green) and begins 1/8th inch behind the trailing edge of the door.

NO SCALE:

BONUS
no. 1

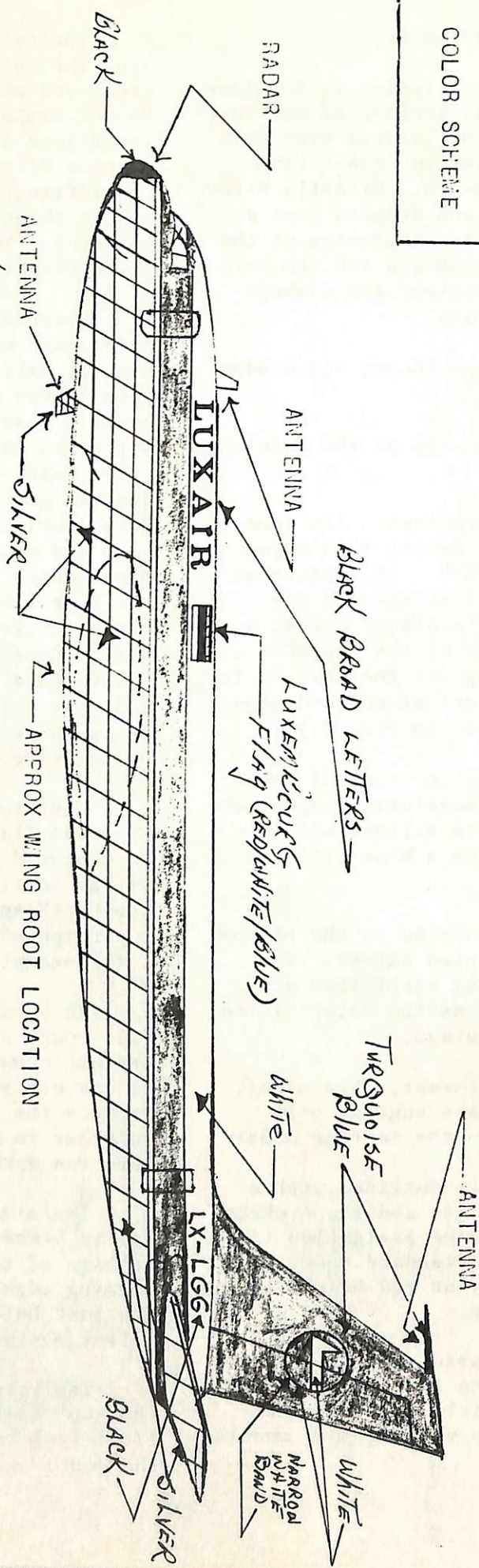
LUXAIR

FIG. 5

NOTE: ENDS OF WINGS ARE PAINTED RED

BOEING 707/720*
NOTE: THE 720 HAS A SHORTER FUSELAGE

Drawing By S. Keenan From Reference Material on File at IIT's Almi Model Museum, Pitts, Ca. 10/79



COLOR SCHEME

White	WHITE
Turquoise Blue	TURQUOISE BLUE
Silver	SILVER
Black	BLACK
Not Used	NOT USED

NOTE: ALL WINDOWS OMITTED FOR CLARITY OF DRAWING

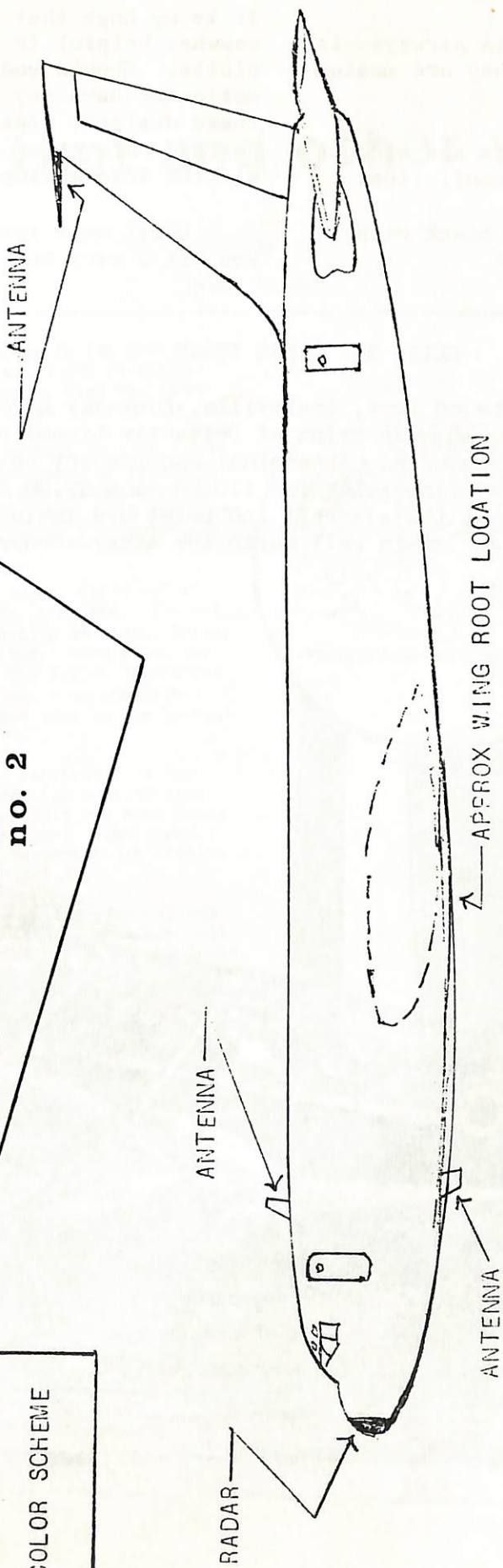
Red
White
Blue

LUXEMBOURG
FLAGS

NOTE: ALL WINDOWS OMITTED FOR CLARITY OF DRAWING

BONUS
no. 2

COLOR SCHEME



BOEING 707/720*
NOTE: THE 720 HAS A SHORTER FUSELAGE

use this copy & pattern
design your own

FIG. 6

NO SCALE:

Drawing By S. Keenan From Reference Material on File at IIT's Almi Model Museum, Pitts, Ca. 10/79

All registration letters are in black.

The airline name--Nigeria Airways--is in green and is italicized. They are medium broad letters and modern.

All escape hatches (doors and windows) are outlined in thin black pencil lines.

The anti-glare panel is black with the registration being 5N-ABJ.

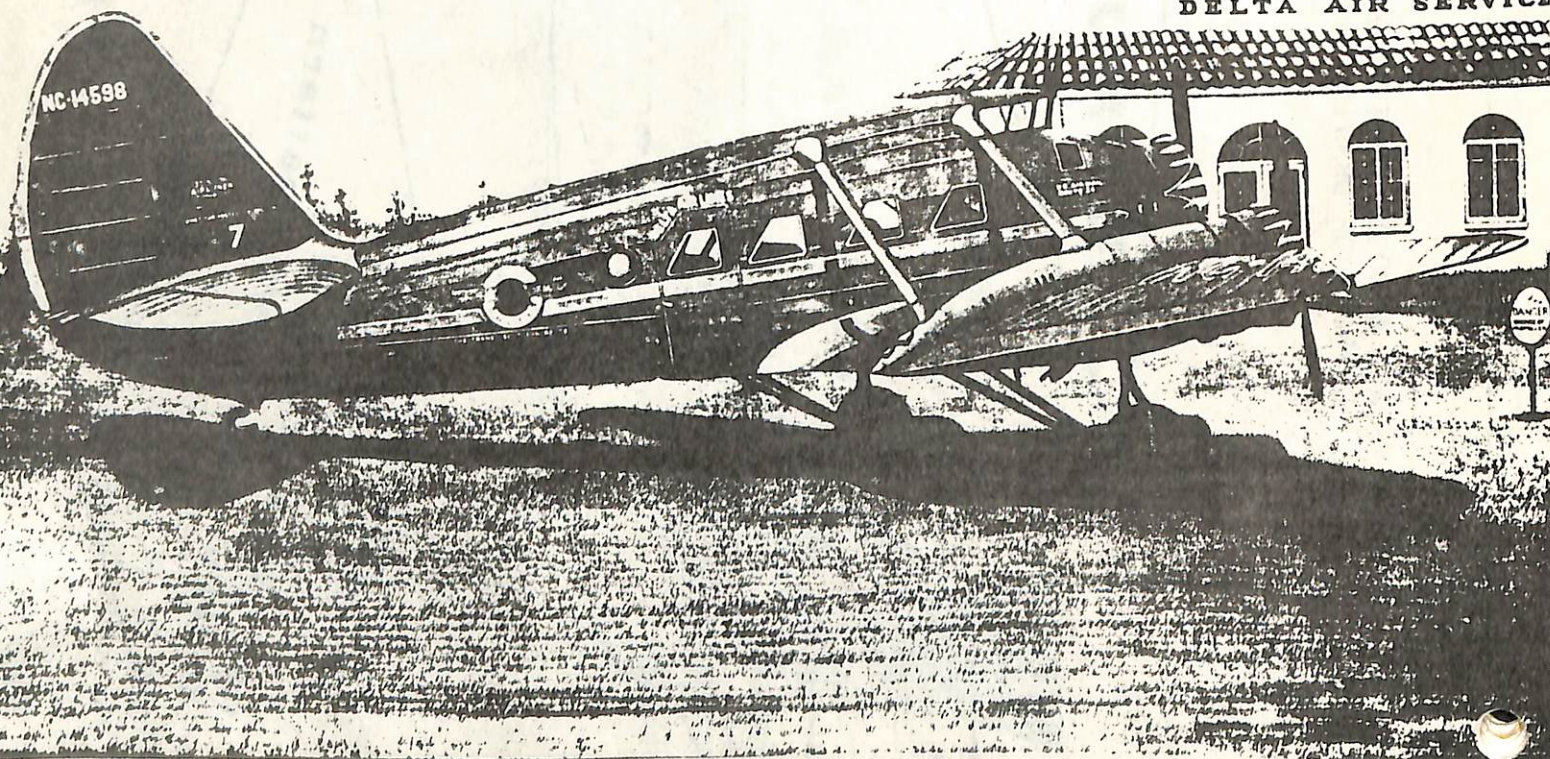
This concludes this presentation. It is my hope that these articles are somewhat helpful in enlarging your exhibits. Should you need further information or have any questions regarding these designs, please feel free to correspond with me and I will provide all the information I have available.

Until next issue, then, I wish you all a very happy holiday season.

DELTA AIR LINES PRINT

Robert L. Conely, 7912 Brynwood Lane, Louisville, Kentucky 40291, offers a full color, signed and numbered, 18 x 24 print of Delta Air Lines' Stinson A Trimotor, on the ground in front of the original terminal and company headquarters Monroe, Louisiana, year 1935. This print sells for \$10.00 plus \$2.00 for postage and handling. A fact sheet about the aircraft and print are included. (Ed. note-- I have copy of this print and it is well worth the money--order one NOW!)

DELTA AIR SERVICE



this, that and other stuff

by
PAUL COLLINS

I enjoyed doing this column in the last issue of the LOG that I thought I would add it again. The following material arrived at Club Hq. since the last issue of the LOG. Again I would like to request that you send in any "extra" material that you might have lying around collecting dust. I am working on a Club display consisting of ticket envelopes, bag tags, BIL's, advertising buttons, plus other miscellaneous items that don't fall into any other classification. Please, I do need your support--be generous!

One new item, at least to me, was a set of Hi-ball glasses that was made in France. The set consists of six glasses depicting American, Delta, Eastern, Pan Am, TWA and United. Each glass has a logo and airline slogan. The fellow I received the set from says he can obtain some additional sets. If he does, I will have some at the Detroit convention. Really nice set.

Several new badges were received from Ray Mattox. One is a new American (of course) item promoting AA Freight System. This one even comes with a red, white and blue ribbon! (See right.) Also from Ray comes a small Eastern badge stating "We (Heart=Love) NY". (See right.)

Another badge appearing at the right is one that was given away at the Dallas convention. It is a United item promoting their Hawaiian business. I am told that the lettering on the badge represents United's "Your the Boss" slogan. Another United item is a plastic item given to United's 100,000 Mile Club members. This item came from member Ron Severence of Lexington, Ky. I think Ron said he has a few left for trade. Also I have a few of the United Hawaiian badges left if anyone would like to have one. How about sending something in trade?

Another item pictured at the right is still available in small quantities. The Hughes badge was plentiful in the past, but should be hard to find shortly. I have several dozen of these items so if you need one, drop me a line. For those interested, our good friend Howard Grant (Mr. Airwest) is no longer with that carrier. Howard was cut after the recent strike at Hughes. We will miss those nice displays that Howard set up for Airwest at the convention--and those GREAT movies! Good luck Howard in whatever you get into. See you in Detroit in July.



Before we get off badges/pins, pictured at the right is a Douglas item promoting the DC-10. I have a small amount of these pins as well as a few of the iron-ons that were sent out with the last issue of the LOG. Also still available are the DC-10 stickers mailed out with the last LOG. If you wish any of these items, drop me a line. Please send something in trade.



Larry Potoski has been traveling, again, and has sent in several new items. At right is a BIL of AIR VIRGINIA. Also Larry has provided me with a new Pan Am BIL, US Air 727 post card and a super Olympic A300 post card. Larry, your efforts are greatly appreciated.

AIR VIRGINIA	
NAME _____	
ADDRESS _____	
CITY _____	STATE _____
TELEPHONE _____	ZIP CODE _____

Several members have done some traveling on foreign carriers (to the U.S.) and have sent me some of the inflight free-bees. One item is a package of condiments from Alia Royal Jordanian Airlines along with emergency cards for 727 and 747. NICE, especially the 747 card. Also received was a pack of condiments from Alitalia. While these items may not mean much to most of you, someday you will be kicking yourself in the butt for not sticking some of this type material away. How many of you that traveled on TWA saved the tray napkin with the history of one of TWA's aircraft on it? How many of you flying Delta saved the napkins depicting the various aircraft they have flown over the years? How many of you saved your ticket envelope? ticket stub? cocktail glass? playing cards???? If you don't want it--send it to me. Air sick bags--I really haven't made up my mind on this item as yet!

Mrs. J. Odell of Burlingame, California has sent me several samples of ticket envelopes used by United Airlines during the 50's. To the right you see a sample promoting United's "red carpet service." This envelope also contained the passenger coupon and was dated August 17, 1959 and was in almost mint condition. Other samples contained ticket coupons from 1953 and 1955. The oldest item that I have in the Club collection of ticket envelopes is a American Airlines item from the very late 1930's. Anyone having any extra envelopes from ANY airline is requested to send in a copy for the Club's files and display.

Member John Whitehead, of Federal Express fame, has been very kind in sending in material on Federal every chance he gets. While I have not always written John and thanked him for his efforts, I would like to do so now. In a future issue of the LOG I hope to feature Federal and the material John has provided will certainly play a big part in the presentation.

The series on Jr. Wings will be continued in the next issue of the LOG. At that time I hope to be able to start a series on actual insignia worn by airline employees. Ray Mattox has offered the use of his extensive collection of insignia. As time goes by, however, we will need the assistance of other Club members. We still need YOUR help with Jr. wings. A large number of older wings have not been cataloged as yet. We need samples of such carriers as Capital, Mohawk, Northeast, a lot of foreign (to the U.S.) carriers and a lot of the older U.S. airlines. Please send in samples or Xerox copies of what you have. Until next issue, happy collecting.

Ticket for: *Mrs. Odell*

red carpet service

VIA **UNITED AIR LINES**

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FLIGHT NO.	FROM	
<i>747</i>	TO	<i>NY</i>
	TO	

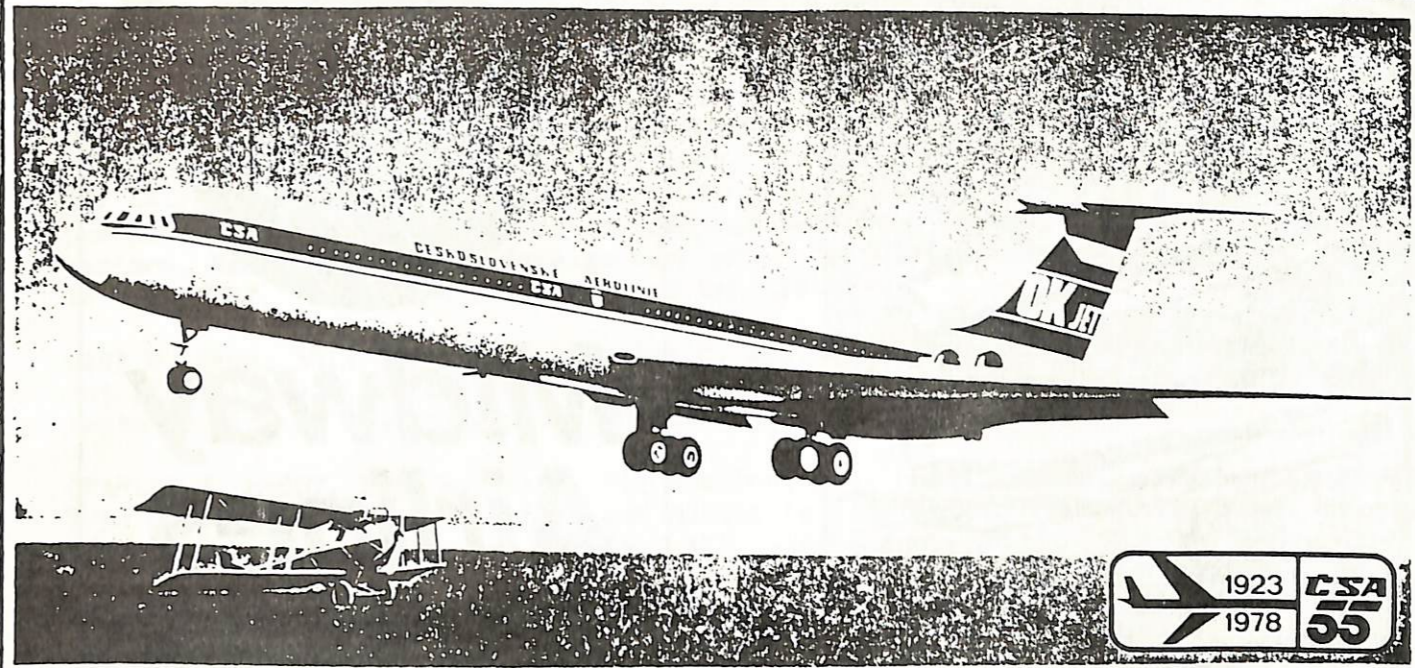
*A service mark used and owned by United Air Lines, Inc.

OK LETOVÝ RÁD 2

OK TIMETABLE 2

1. 6. - 31. 10. 1978

1 JUNE TO 31 OCTOBER 1978



CESKOSLOVENSKE AEROLINIE



CESKOSLOVENSKE AEROLINIE

Here is the cover of a schedule from one of our airlines featured in our Air Transportation in Europe article. This schedule is in celebration of the airlines 55th birthday. Inside the cover you will find the usual timetable information as well as a number of real nice color pictures of airliners and scenes to be found in the country. This is one of the nicer foreign, or domestic, schedules you will find.

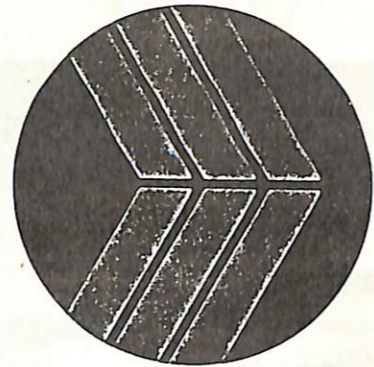
MOHAWK

SYSTEM TIMETABLE EFFECTIVE APRIL 1, 1972



Above is reproduced the cover of the last schedule issued by MOHAWK before its merger with Allegheny. One feature of this schedule is in the center is a route map showing all Mohawk and Allegheny stations. Member Fred Erdman has a number of these schedules for trade.

Flight schedules and fares
Effective October 31, 1979



Midway Airlines



CHICAGO
To/From: Midway Airport

CLEVELAND
To/From: Burke Lakefront Airport

DETROIT

KANSAS CITY

"We go for you."

Daily DC-9 Jet Service

Here is a copy of the new midwest carrier MIDWAY AIRLINES schedule. This carrier started service October 31, 1979 with DC-9's (3 leased from Douglas). Airline will operated from Chicago's Midway Airport and serve Detroit, Kansas City and Cleveland initially. Really nice color scheme on their aircraft. Blue and orange main colors.

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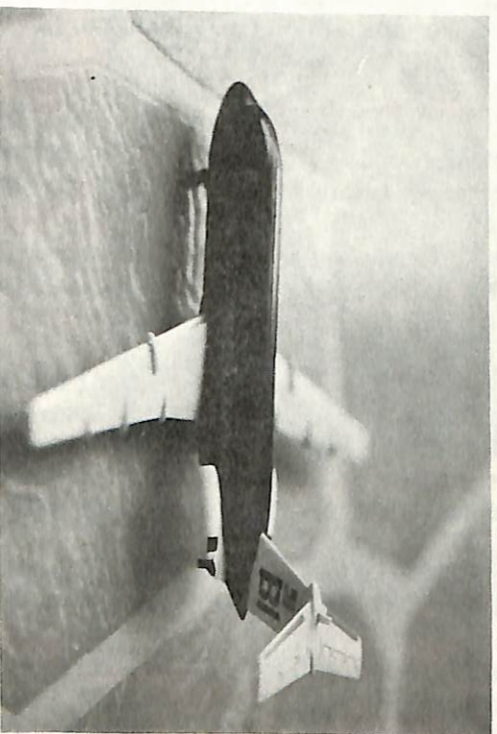
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MODEL SHOWCASE

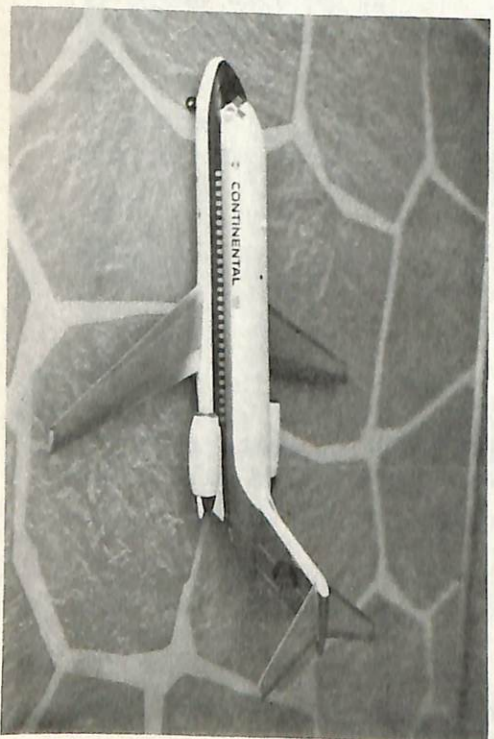
The models depicted below are from the collection of Steve Robinson of Indiana. Steve does a really fine job on these samples. If you have photos of your models and wish to see them in print, please send them to the Editor. Next issue Airbus A300.



ABOVE: Airtec Martin L04 in 1/72 scale
using kit decals.
BELOW: Airfix BAC-111 in 1/144 scale
using Fowler decals.



ABOVE: Airfix BAC-111 in 1/144 scale
using Scale Master decals.
BELOW: Aurora DC-9 in 1/72 scale using
decals from Aurora 747 (fuselage
and titles) Micro 727 tail logo.



The following letter is in response to comments made in the Summer 1979 issue of the CAPTAIN'S LOG regarding the banquet at the 1979 Airliners International convention. The letter was signed by six members of the convention committee, headed by George Cearley.

We, as members of the Airlines International Dallas '79 Convention Committee, feel compelled to comment upon the remarks appearing on page twenty of the Summer 1979 Captain's Log regarding the banquet meal at the 1979 convention.

Before choosing the banquet meal we were faced with two alternatives:

- (1) Serve an entree, as prime rib or top sirloin, and have no money available to pay expenses required for the tours of D/FW and the American Airlines Flight Academy.
- (2) Serve a somewhat less expensive entree and have the necessary funds available for both tours.

We concluded that the tours of DFW and the flight Academy would be of greater interest and importance to those attending the convention than the meat entree--since we're all airline enthusiasts and that, of course, was the primary purpose of the convention.

We chose the second alternative with the less expensive entree and thus were able to provide the two tours. The choices for a less expensive entree consisted of: Polynesian ham, roast beef, chopped steak, and barbecued chicken. We chose barbecued chicken since barbecue is certainly associated with Texas and we felt a theme dish would be good for the banquet. The chicken was more expensive than the other three entrees, but was within our budget and would still allow for us to have the two tours. In addition, the chopped steak had been served at the 1977 banquet in Cincinnati; so we did not wish to repeat a previous banquet selection. Finally, we had been advised that the Toronto Committee had gone in debt with the 1978 convention. Paul Collins told us that a major factor in their losing money had been the choice of the more expensive prime rib for the 1978 banquet. (Editors note: I, Paul Collins, did not tell the Dallas committee anything of the kind, either to any individual or the committee as a whole.)

It would have been nicer to meet at a luxury hotel and have a gourmet meal, but unfortunately our budget did not permit such a choice. For this to have been done would have required financial subsidy or the collection of the higher registration and banquet fees which we felt would not have been fair to the membership.

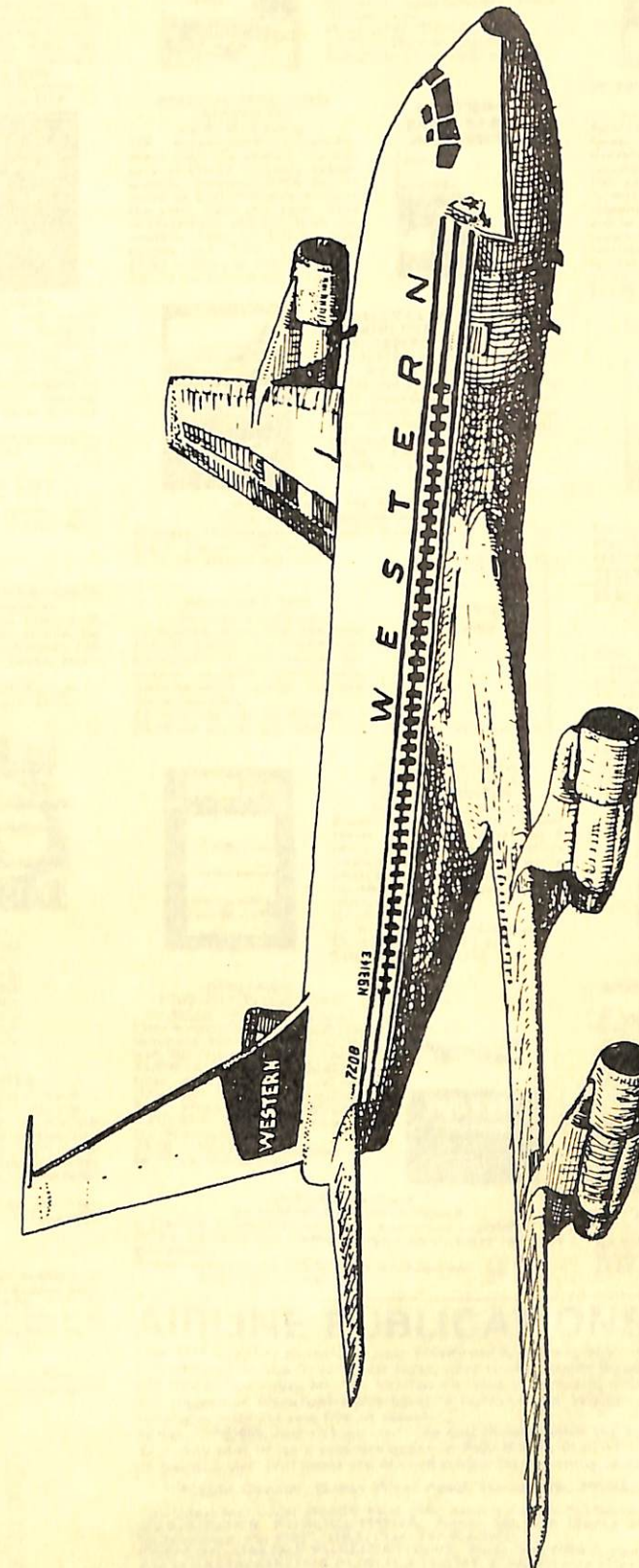
Finally, as committee members we believe that the implication is made, although unwritten, that we gave persons attending the banquet less than their money's worth. This was certainly not our intention nor do we feel we did this.

We made a commitment in our speech at the 1978 banquet and also in the convention flyer for the two tours of the Airport and Flight Academy which would not have been provided unless we had chosen the entree we did. Again, we believe that the airline-related tours were of far greater importance to the enthusiasts at the convention than the meal chosen.

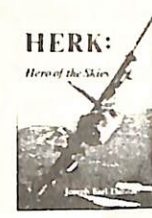
In conclusion, we note that these other factors were not mentioned in Paul's comments. He was aware of these and we feel they should have been included to put the banquet in the proper perspective.

AIRLINES INTERNATIONAL DALLAS '79
CONVENTION COMMITTEE

Al Canales	George Cearley
Alan Folz	Vern Peckham
Kenn Lafargue	Robert Kepitzke



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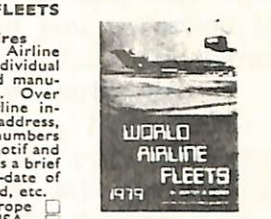


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