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THE HISTORY OF LOS ANGELES AIRWAYS

The symbol "AM-84", which appears in the insignia of Los Angeles Airways, is a significant milestone marker in the history of air transportation. "AM-84" is an abbreviation for "Air Mail Route No. 84" and was the first airline route in the world to be certificated for the scheduled carriage of Air Mail by Helicopter.

Los Angeles Airways was incorporated on May 11, 1944. Mr. Clarence M. Belinn, President of Los Angeles Airways and a visionary with over 30 years of engineering and airline maintenance experience, had been convinced as far back as the early 'twenties that air transportation would play a major part in the development of Southern California in forging a sound community of interest with the east, north and south by the trunk airlines; and locally by the short-haul, or feeder, carriers. Twenty years later this prophecy was proven true insofar as trunk airline operations were concerned, and interest was already beginning to be shown all over the country in feeder services.

The Greater Los Angeles Metropolitan area has probably the lowest density of population per square mile in the world. It's boundaries take in an area of approximately 1,200 square miles for a population of some six million. This is an area about the size of the State of Rhode Island. Los Angeles was a focal point for transcontinental mail and express and the distributing center for nearby communities. Mr. Belinn was quick to see that

the problem of rapid distribution and collection of mail over such an extensively populated area as Metropolitan Los Angeles was ideally suited to the helicopter which, in the early 'forties, had begun to show its possibilities.

Los Angeles Airways was first organized with the intention of using helicopters. However, it was realized that helicopter development had a long way to go and, in any case, no helicopters were likely to become available until long after cessation of the war in which the United States had by then become involved. Therefore, in 1944, Los Angeles Airways filed with the Civil Aeronautics Board two applications for the establishment of feeder routes within the Los Angeles Metropolitan area. One application involved the integrated use of both airplanes and limousines to provide a single-carrier service over as wide an area as possible and was submitted as a stop-gap until suitable helicopter equipment became available. The other application was for a true helicopter service. The former application was denied, but, in May 1947, the C.A.B. granted a three-year "Certificate of Public Necessity and Convenience" for a scheduled helicopter service. On October 1, 1947, five months later, Los Angeles Airways formally inaugurated operations.

In the five months' there were many problems to solve. The Company realized that being first carried certain responsibilities which assuredly would have a profound effect on the future of the helicopter and probably the future of air transportation. Los Angeles Airways also recognized that as the pioneer in a new and truly "revolutionary" form of transportation, almost everything it did would be construed as a gauge by which the helicopter would be judged as a commercial transportation vehicle.

The personnel factor was the first problem. The small number of trained helicopter pilots and mechanics available, mainly former military personnel, were basically unfamiliar with the operational standards expected of a scheduled airline, not the least important of which is adherence to a strict time table day after day. On the other hand, if airline experience was to be the principal qualification, then there would be a risk that fixed-wing ideas would intrude to hamper the exploitation of those very characteristics of rotary-wing aircraft which particularly suited the requirements of this unique mail-carrying operation.

Problem number two was the fact that no one knew what the weather minimums or operating altitudes for helicopters should be over congested areas. All existing safety regulations had been drawn up before helicopter operations had been conceived and they were written by men who had probably never seen a helicopter, much less ridden in or flown one. In coping with this perplexity, however, Los Angeles Airways met with the most co-operative understanding during its essential contacts and work with the Civil Aeronautics authorities.

In the absence of any prior formula for guidance in overcoming the many technical and operational problems, the inauguration of service on Route AM-84, just five months after the Company was granted a "Certificate of Public Necessity and Convenience," represented an achievement of outstanding merit and historical significance. Led by Clarence Belinn, the small group of hard-working enthusiasts, which then comprised Los Angeles Airways, called their creative effort "Operation Whirlwind" and no other name could have more explicitly indicated the nature of their enterprise and the methods employed to put it into operation.

The original equipment of Los Angeles Airways consisted of five Sikorsky S-51 helicopters. Although one of the first commercial helicopters to be licensed, the S-51 was virtually untried in commercial service when L.A.A. chose it for its operation. Considerable time, thought and money had to be devoted to modifications and changes in equipment in order to fit the S-51 to its new and exacting task. In order to take care of its increased mail loads, and future passenger business, in October of 1950, L.A.A. ordered its first Sikorsky S-55 helicopter. While the Sikorsky S-55 is a 10-passenger helicopter, L.A.A. modified its S-55's to carry seven passengers, plus baggage, mail and express. L.A.A.'s present fleet now consists of four Sikorsky S-55 and three S-51 helicopters. The largest fleet of commercial helicopters in the world.

Los Angeles Airways has made great strides in the scientific and development field. For example, in launching the type and quality of passenger service to which it was committed, L.A.A. deemed it necessary to provide the most comprehensive and finest communications which have ever been applied in Air Transportation. This required a revision of the Federal Communications Commission's regulations so that, for the first time, it is possible to link every element of an airline system by instant radio communications to an aeronautical frequency. Consequently, the air traveler utilizing L.A.A.'s service can be advised of changes in operation plans due to weather or other contingencies, whether he be at home, at the heliport, in the helicopter, or at any of the ticket offices.

Many mechanical strides have been made in fleet maintenance operations. These, of course, are far too detailed to be mentioned. For example, L.A.A. enjoys the highest approved periods between overhaul of

major components in the industry. Similarly, and, of course, associated directly therewith, it has the lowest operating irregularities and mechanical interruptions, which reflects the tenacious spirit of perfectionism dedicated to safety of operations, as well as economy and performance.

Route AM-84 is operated in three main circular segments and one shuttle segment. Segment "A", opened on October 1, 1947, covers the San Fernando Valley with its large, congested cities and serves Alhambra, San Gabriel, Rosemead, El Monte, Temple City, South Pasadena, Pasadena, Glendale, Santa Monica, Van Nuys, San Fernando, North Hollywood, and Burbank.

In contrast, Segment "B" lies in fairly open territory. Service was started on October 15, 1947, and takes in the San Gabriel Valley, including most of the cities located between Los Angeles and San Bernardino. Service is rendered to Lynwood, South Gate, Huntington Park, Maywood, Bell, Compton, Gardena, Downey, Alhambra, Whittier, Monrovia, Arcadia, Azusa, Glendora, Pomona, Ontario, Upland, Fontana, Rialto, Bloomington, Corona, Riverside and San Bernardino.

Segment "C", opened on January 8, 1949, is a coastal route with its distinctive weather conditions. This serves Lynwood, South Gate, Huntington Park, Maywood, Bell, Bellflower, Compton, Gardena, Wilmington, Long Beach, Newport Beach, Whittier, Downey, Anaheim, Fullerton, Santa Ana and Orange.

The fourth Segment "S", is a shuttle service between the downtown Post Office Terminal Annex roof and the Los Angeles International Airport. This shuttle now makes 42 trips daily in each direction. The Segment "S" shuttle flights are timed to take 12 minutes each way.

The Air Mail service pattern of Los Angeles Airways, which covers about 356 route miles, is divided into three basic phases and is governed essentially by the mail flown into and out of the Los Angeles airport by the transcontinental air carriers. The schedules of the three circuitous helicopter segments, each beginning and ending at the airport, calls for three basic flights daily, i.e., early morning, mid-day, and evening.

The early morning trips of Los Angeles Airways carry the mail which left the east coast after the close of the preceding business day and has been brought in during the night by the many airlines converging at the Los Angeles Airport. L.A.A. distributes the mail in time to make the local early morning postal deliveries throughout the helicopter network. This is primarily a delivery service and comparatively little mail is picked up en route.

On the mid-day flights a considerable amount of mail is flown, in both directions, and mail picked up on these flights connects with the outbound air carriers in time to reach the extreme east coast in time for the early next morning delivery. At first, it was thought that these schedules would be light, but this is another illustration that when good service is rendered, people use it. So much so, that almost without exception, the mid-day flights are running full capacity.

The third - and most important of all - operating period is in the evening. The evening schedules more or less reverse the flow of the early morning schedules. Air mail is picked up all along the routes and carried to the Los Angeles International Airport for direct connections to eastbound and northbound air services for next day deliveries at destination.

With the helicopter, L.A.A. found it possible to overcome the surface traffic congestion and the bottle necks in our large and expanding Metropolitan area, with the result that air mail was kept moving continuously, rather than piling up into peak loads.

The important feature of the helicopter mail service is that all the citizens of the points served on the Los Angeles Airways network get their mail at the same time that the businessmen in downtown Los Angeles receive theirs. They are, of course, entitled to this service because they pay the same for their air mail stamps, but it was not until the helicopter mail carrier gave real "door-to-door" service that these citizens got value for their money. As a matter of fact, a vast majority of the outlying suburban population of Los Angeles, who are now using air mail, previously did not because its effectiveness was curtailed by the time lost in getting the mail to the airport for its airborne journey.

Since commencement of its operation, L.A.A. has carried about 35 million pounds of air mail, and it is estimated by the Post Office Department that L.A.A. expedites the mail a minimum of 12 hours and, in some cases, as high as 48 hours. A very important point for everyone to recognize is that the helicopter does not achieve this merely by being faster than a truck nor overcoming a few local hurdles. The mail is greatly expedited by placing it on board the connecting air carrier on the ramp at the Los Angeles Airport. By cutting out and eliminating ground connections and other impediments, it is possible to keep the mail moving continuously and in vacillating connections which previously were missed many times by only an hour or two. Cases are known where the mail and cargo has arrived at its destination about the time it had previously left its point of origin.

The cost of all of this to the Government is phenomenally low. The entire cost of air mail is about 3 mills out of a regular air mail stamp of 6¢. All in all, from a performance standpoint, L.A.A. has not only done a tremendous job in the carrying of air mail but much additional business has been developed for the Post Office Department as well as the connecting airlines.

The mail loads on all segments are very heavy and are growing all the time. The increase in air mail loads is shown in the following figures which cover the first seven years' operation:

<u>Year</u>	<u>Air Mail - Pounds</u>
1947*	209,325
1948	2,573,608
1949	4,310,775
1950	4,424,052
1951	4,759,839
1952	4,633,977
1953	5,624,223
1954	6,126,440

* Air Mail service commenced on October 1, 1947

On December 17, 1953, Los Angeles Airways inaugurated Air Express service to the points being served for Air Mail. Air Express loads also have increased rapidly, as shown by the following figures:

<u>Year</u>	<u>Air Express - Pounds</u>
1953*	5,568
1954	679,262

* Air Express service commenced on December 17, 1953.

This element of L.A.A.'s business is growing because the service is vital to the expanding industrial economy in this area, and the expedition of Air Express by helicopter is, by all means, to the advantage of the shipper as well as the long-haul air carriers.

L.A.A. has always felt that air mail and air express are barometers of business activity. The business activity in the greater Los Angeles Metropolitan area (which is a pretty big place) has been so fantastic since L.A.A. commenced operation in 1947 that L.A.A. had never been able to keep abreast of its traffic. In reality, until a year ago, L.A.A. was never able to carry all the mail tendered it. An interesting figure bearing this out is that when L.A.A. started operation with five Model S-51 Sikorsky helicopters, the Post Office Department estimated an average per month, system-wise, of 135,000 pounds of mail. Five years later, LAA was still utilizing the same fleet, but the tonnage had increased 400%.

It was then that Los Angeles Airways decided the smart thing to do would be to buy some larger Model S-55 helicopters, which appeared to give plenty of load leeway. LAA even thought it would be a good idea to use up all the reserve space by going into the air express business. Then things really began to happen! The air mail has just kept climbing; and, believe it or not, the air express business has gone up approximately 8% per month so that in a year it has jumped from 48,000 to 112,000 pounds per month. And, it looks as if this climb will continue to no one knows where.

In the meantime, Los Angeles Airways was committed to going in- to the passenger business, with pressure coming at it from all quarters to get started. However, the problem was that no one gave LAA a solution as to where it should carry the volume of people, which was inseparably tied to the indices of the other two commodities of air mail and air express.

During this time, in studying the problem LAA arrived at some very interesting conclusions; one of these being that if it were to justify its existence with respect to the Post Office Department and the Air Express service, no compromises could be made with its primary service pattern. However, the equipment on all flights was running so near capacity most of the time that it would not be possible to guarantee passenger space.

Moreover, no helicopter equipment existed that provided for 100% flexibility between mail, cargo, and passengers at intermediate or terminal points. Finally, no criteria existed as to what pattern of service would work, taking into account our changing industrial economy. Part of LAA's dilemma involved the airport problem at Los Angeles, the en route situation with respect to helicopters, competition with other forms of transportation, and public acceptance of the helicopter - - to mention only a few.

In the final analysis, it appeared that LAA's real job was the role of a supplemental and feeder service to the prime air movers. This job seemingly can best be done by offering two classes of service. The first is called a combination service: This provides passenger space in combination with mail and air express on regular flights. An interesting

element of LAA's air mail service pattern, which is also of great importance, is that after carrying air mail out from the L. A. Airport to the outlying cities, the helicopter carries passengers back in sufficient time to make connections with the outgoing eastbound airliners departing from the L. A. Airport between 7:00 A.M. and 10:00 A.M. In short, on the morning flights, the mail and express travel in reverse to the passenger loads.

The second type of service is set up primarily for passengers only. This is of a very short-haul nature and is called "shuttle service" Specifically flights are set up to pick up passengers from communities about half way between the airport and LAA's terminal points. This means such cities as Long Beach, Anaheim, Pomona, Pasadena, and many other very heavy users of airline service, who are blocked out as far as combination service is concerned, will still receive the shuttle service. This, also, has some very interesting aspects.

First of all, of course, in filling in the blank spots throughout the day, and making direct field transfers with specific airline trips, LAA is able to attain higher utilization from their equipment and personnel. Prior to the inauguration of this type of service, LAA's equipment would be "in the barn" during a great portion of the day. Secondly, and of equal importance, when such service as six or eight shuttle trips a day is offered to these cities, the travel habits of the public will be appreciably changed. LAA also feeds into the mid-day weaker schedules of the major carriers, which is a bonanza for them; because, as we well know, many of those schedules are unavoidable due to equipment distribution, as well as to

bleed off from ordinary peak periods of the day or night.

LAA is now offering both types of service and is very happy with the results so far!

On November 22, 1954, scheduled passenger helicopter service was inaugurated with six round trips - shuttle flights - daily between Long Beach and the Los Angeles International Airport. The flight time is only 12 minutes.

Subsequently, passenger service was extended to Santa Ana/Orange on March 18, 1955 (flight time 25 minutes) and to San Bernardino on May 27, 1955 (flight time 50 minutes). Approval has been given by the Civil Aeronautics Board for extension of service to the following points, which will be placed into effect some time in 1955: Anaheim/Fullerton, Corona, Fontana, North Hollywood, Ontario, Pomona, Riverside, and Santa Monica.

The importance of this new helicopter service is not only in the convenience to the passenger but also in the hours of en route-to-airport time saved. For the first time, these outlying cities are now on the airline map of the world and are literally (time-wise) closer to the Los Angeles International Airport than are people living in downtown Los Angeles. Passengers are now ticketed and checked right through to their final destination - any place in the world - from "their own front yard".

A passenger from San Bernardino, for example, can now board a helicopter in downtown San Bernardino, and in a few minutes he arrives at the L. A. Airport, after being carried smoothly and safely by helicopter OVER the congested and slow roadways. Upon arriving at the L. A. Airport the passenger is taken by "Autoette" directly to the connecting airline's plane and the passenger thus avoids the congestion in the Airport terminal

building as well as avoiding the time-consuming problems of enroute driving, parking, checking-in, etc.

The launching of this new helicopter passenger service involved a great amount of ingenuity and effort on the part of everyone in the Company. In effect, the transition of Los Angeles Airways from one of the world's largest carriers of mail and express into the field of passengers, without dislocation of any kind, involved the confidence, the know-how, and the cooperation of many of the world's leading authorities in the field of aircraft design, electronics, communications, as well as the development of unknown operating, maintenance and policy procedures.

The future of transportation lies not in 300-horsepower automobiles, nor in super buses nor 600-mile-per-hour jet aircraft. The only way out is to rise OVER the earthbound traffic and the only craft capable of this - from a quantity standpoint - is the ubiquitous helicopter.