

HMX-1: 'The Squadron of the President'

Editor's note:

The members of Marine Helicopter Squadron (HMX-1), who are responsible for the transportation needs of the commander in chief and his staff, are frequent visitors to Point Mugu. Their organization, known as "The Squadron of the President," provides an invaluable service to our nation's leaders. This feature was provided by the U.S. Marine Corps Division of Information.

On Dec. 1, 1947, Marine Helicopter Squadron One (HMX-1) was commissioned at Quantico, Va. Conceived by HQMC to pioneer an entirely new concept in airborne warfare, HMX-1 was to test and evaluate the concept of transporting Marines to the battle area by helicopter.

At its conception HMX-1 consisted of eight officers, one enlisted man and no aircraft. None of these original members had ever flown in a helicopter.

The shortage of aircraft was eased on Feb. 9, 1948 when two HO4S-1's arrived from VX-3, the Navy Helicopter Development Squadron at NAS, Lakehurst, New Jersey. Later that month three additional helicopters arrived from the Sikorsky Aircraft Plant. With these five aircraft, HMX-1 made aviation history in May 1948, during Operation ACKARD II, while conducting

aerial bomb delivery was also evaluated when the HRP-1 was used to drop externally carried ordnance from as high as 8,000 feet.

With the outbreak of hostilities in Korea, the first transport helicopter squadron, HMR-161 was formed at MCAS, El Toro, Calif. in January 1951. Eight HMX-1 officers were detached to proceed to California for duty in the Pacific. Among them was Captain, later Major General Victor A. Armstrong, who would return in 1959 as Commanding Officer of HMX-1 and become the Marine Corp's second Presidential Helicopter Pilot.

During the 1950's tactics as well as new equipment were continuously being reviewed and evaluated by the Marines of HMX-1. The acquisition of two new aircraft during this period marked the beginning of a new all-weather



An HMX-1 helicopter passes over the Jefferson Memorial.

Dwight D. Eisenhower, while vacationing in Newport, Rhode Island, had to return to the Capital. He made this return trip by means of the UH-34, marking the first time that a President of the United States had ever flown in a Marine helicopter.

President Eisenhower found the helicopter to be a timely, fast and safe means of transportation for

August of 1977, Marine Helicopter Squadron One also operated an additional helicopter to support the Presidential mission, the VH-1N.

In 1971 HMX-1 Marines participated in the evaluation of the LOH (Light Observation Helicopter). The OH-58A and OH-61 were subjected to more than 1,000 hours of flight.



A PASSENGER, awaiting his luggage at Los Angeles International Airport recently, heard this announcement: "Los Angeles Airways Flight 277 will depart from gate 77 at 7:15 p.m. for San Bernardino."

The words, routine and laconic, carried a threefold significance:

For the passenger, just off a jet flight from New York, they meant a fast helicopter flight to his home in the suburbs, compared to hours of battling freeway traffic.

For Los Angeles Airways (LAA), the words signified a coming of age as a passenger carrier after 15 years of major emphasis on mail, cargo and express. The transition, during 1962, from seven-passenger Sikorsky S-55s to 28-passenger twin-turbine Sikorsky S-61Ls had opened up new horizons for the world's first helicopter airline.

For the sprawling Greater Los Angeles area, fast becoming a true megapolis, or "super-city," the words meant that the helicopter airline had become an integral part of the area's complex transportation scene and was keeping pace with the travelling public's ever-growing demand for helicopter service.

To meet this demand, LAA last year placed in service four of the big S-61Ls, aptly named Megapolis I, II, III and IV. The results are adding new stature to LAA's pioneering president, Clarence M. Belinn, who has long preached the doctrine that the words heli-

copter and megapolis are as natural a combination as ham and eggs.

Last year, LAA's passenger total climbed to 82,294, a 93 per cent gain over the previous year's 42,617. The increases have barely started, however, for the first two S-61Ls did not enter service until March, the third in May and the fourth in August.

More significant, the new helicopters, with their greater speed and comfortable airline interiors, are winning wide passenger acceptance. "Sales are 'way up and for the first time we will soon have the seating capacity to go all-out on our advertising and promotion," says Robert P. Hubley, vice-president, sales.

"Sell-outs are frequent during our peak periods," Hubley says. "These are the early morning inbound flights to the airport, the noon-to-2 p.m. period, and the outbound flights from about 4 to 6 p.m. The 9:15 outbound flight to San Bernardino which also serves the Riverside and Norton Air Force Base areas, is another usual sell-out. Even with less active periods in mid-morning and mid-afternoon the average seat factor is running over 55 per cent."

What a helicopter network can mean to a megapolis is clearly shown at LAA's new stop at Newport Beach where the heliport is adjacent to the Newporter Inn. Prior to S-61L service there were 12 bus trips a day from the inn to Los



LAA Sikorsky S-61L at Los Angeles International Airport.

Angeles Airport. Today only four bus trips remain as residents have transferred their loyalty to the big helicopters. Their trip now takes 22 minutes, including a stop at Anaheim-Disneyland. By bus it was 2 hours, 20 minutes. There is every sign that LAA will greatly increase its present four round trips a day to meet the growing demands of the mushrooming Newport Beach area.

A major problem besetting LAA, and one applicable to any helicopter service, is weather.

"Modern airmen fly with such low minimums that they can operate when we cannot," says Belinn. "So, we miss connections. We need to provide 100 per cent integrity with fixed-wing airline schedules. With the helicopter's maneuverability and ability to fly slowly we should have lower IFR minimums than the fixed-wing aircraft. Ultimately we will."

To speed that day, LAA has been using the S-61L to demonstrate its ability to climb through the overcast peculiar to the airport area, and to go on top. FAA certification for such operations would greatly reduce the number of flights now cancelled or delayed through inability to take off—even though the inland suburban destinations are clear.

Technically, the LAA instrument program is called the Los Angeles Basin Environmental Program. Pilot Boyd Kesselring, assistant operations manager, explains:

"The weather here, in some months, holds LAA on the ground 50 per cent of its early and late flights. It seldom involves frontal activity, turbulence or icing and is confined to the immediate area of about 10 miles. Therefore, a climb-out over this local stratus condition automatically results in an en route contact operation. Conventional navigational facilities and flight instruments are adequate."

The program has five phases, the first three of which are of immediate concern. These are certification of aircraft and qualification of airmen; climbouts and letdowns at Los Angeles and other established FAA facilities and basic on-top navigation (Los Angeles, San Bernardino, Burbank, Ontario, Orange County); and en route climbout procedures to on-top stratus conditions (Alhambra, El Monte, Anaheim).

The fourth phase, en route IFR navigation, is scheduled for next December, while phase five, complete indiscriminate navigational capabilities with letdowns and climbouts at selected LAA heliports, is not slated until the fall of 1965.

Over the years both military and LAA pilots have shown their ability to fly helicopters on instruments. Until recently they have been limited by the single-engine factor and a lack of precision instruments. LAA's original instrument flying goes back as far as 1948 with the S-51.

"During the past year," says Kesselring, "we have been training our pilots on instruments in the S-61 and have found absolutely no difficulty in flying precision maneuvers. Our pilots are used to the extra work of flying a helicopter (compared to fixed-wing) either contact or on instruments. We do not classify it as an undue workload."

On ferry flights from the Sikorsky plant in Connecticut to Los Angeles, we have flown the S-61 under the hood for almost six hours with time out only for refueling and final approaches."

LAA is the first helicopter carrier to apply for an IFR certificate. As a result, the line is confronted with many rules

"Admittedly," says Kesselring, "there are certain fixed-wing characteristics that the S-61 would not meet. However, it has many characteristics conducive to safety that in our view make it, as safe or safer than fixed-wing airplanes."

He quickly listed a few: no gear or flap problems during approach or emergency pull-up; no propeller feathering; no propeller and mixture adjustments; no trim tab adjustments; no loss of control at slower speeds; no stall problems; no runway problems of length, obstructions, ice and snow; no high-speed touchdowns; no directional control or braking problems; no weather extremes since LAA operates locally; no pressurization problems associated with high altitudes or emergency descents; no landing gear malfunctions or blown tires; much better visibility; ability to stop quickly and to hover; automatic fuel control (in case of engine failure the good engine will automatically double its power in three seconds).

"Add to these the fact that our pilots are the most experienced group of helicopter pilots in the world and you can understand why we are confident of our ability to fly IFR," he added.

LAA emphasizes its desire to enter IFR operation "step by step," with every consideration for safety. Development of aircraft, radio gear and proper pilot background are being tackled in that order. At first, the helicopters will use the airport ILS approach facilities, with minimums of 300-foot ceiling and a half-mile visibility. Later, they will use a helicopter approach, utilizing LAA's VOR radio station, completely separate from fixed-wing traffic. The minimums then will be 400 feet and one mile.

Since both bad weather and helicopter peak load times usually occur when fixed-wing traffic is relatively low, LAA sees no problem in integrating with the ILS—"not indefinitely, but as a means of getting into the IFR program." Takeoffs will be separate from fixed-wing patterns, up to as much as 45 degrees away.

At the outset, on-top operation will be limited to 1,500 feet. "As we pick up more background we should be able to go on top at 2,500 or 3,000 feet," Kesselring says.

To further insure safety at the outset, IFR flights will be conducted only when there is a heliport or airport open for contact operation.

Belinn sums up the vital nature of IFR. "From the economic viewpoint," he says, "it will cost us much less money because the cost of operation continues whether you fly or not. In this type of intermittent IFR weather, with its sudden changes, you cannot cancel a flight immediately; you just keep hoping. As a result, we must have a standby fleet of autos—company-owned as well as limousines and cabs. Add to this an almost incredible problem of notifying passengers and making new connections, and you have more operational costs. Finally, and worst of all, when people find they cannot rely on you, you lose more revenue. The only answer is IFR and full integrity of service. No doubt about it; we're going on the gauges."

As sales chief, Hubley finds the flight cancellation problem far more complicated today than a year ago. "Then, with the S-555, we had only a few passengers to worry about. Now we may have 300 on our hands in one morning," he mentioned.

A promising market for the immediate future is the hotel-motel complex growing

according to the Los Angeles International Airport Hotel-Motel Association, there are 74 hotels or motels in the airport area for a total of 5,000 rooms. In addition, no less than 26 more motels are either under construction or in the process of planning.

Increasingly, travelers arriving by jet stay overnight near the airport, then commute to the points on LAA's helicopter route nearest the businesses and industries they wish to visit in the distant suburbs. Most of them return to Los Angeles Airport the same day for continuing or returning jet flights. For them, LAA's present and planned routes will mean tremendous savings in time—trips measured in minutes rather than hours, business completed in a day instead of two or three.

Such use of the helicopter will help balance out LAA's load factors by raising the mid-morning and mid-afternoon low points.

"This will be a completely new economy, tailored to a megapolis . . ." says Belinn.

The helicopter airline now serves 20 communities directly and 200 indirectly throughout the Greater Los Angeles area. In January, the line filed an application with the CAB to expand its routes northwest to Santa Barbara, north to Mojave and Edwards AFB, northeast to Barstow, south to Santa Catalina Island and southeast to San Diego, with a number of intermediate stops at major communities and military bases.

The new routes will embrace all of the megapolis-to-be—one great city stretching from Santa Barbara to the Mexican border and as far inland as San Bernardino and Riverside. Its population, now almost 10 million, will rise to 18 million by 1980 and will reach saturation, or 30 million, by 2020.

To serve the proposed new routes, Belinn will need a minimum fleet of ten S-61s, including his present four. The new machines, he hopes, would be "updated" versions with rear loading for baggage and express, a wider fuselage (for four-abreast seating instead of three), and with a simplified, more rugged power train. He sees this equipment as "part of a ten-year program."

Belinn also sees the need for a single-turbine, 14-place economical helicopter of 12,000 pounds gross weight for short-haul operations.

"A T-58 engine, upgraded to 1,400 hp, should be sufficient," he says. "There is a definite need for this type of helicopter in other parts of the country. Only a limited number of cities need the S-61, but many areas could use a 14-place helicopter."

Belinn is inclined to discount the 28-60-passenger helicopter in favor of the 28-passenger machine, even for longer haul, city-center-to-city-center routes. "With the big helicopter," he says, "you spend too much time loading and unloading, and so would sacrifice frequency of service."

As sales chief, in frequent touch with airlines and travel agencies all over the country, Hubley has seen the national impact of such seemingly local services as the helicopter airlines.

"We serve not only Greater Los Angeles, but the nation," he says. "Ninety-four per cent of our business is interline—people going to and from other points in the country. This service is for all the people who want the speed and convenience of going all the way by air. As the megapolis is a growing part of the national scene, so are we an integral part of our national trans-

Passengers leave a Sikorsky S-61 at the Orange Show Heliport in San Bernardino

PHOTOGRAPH BY THE AUTHOR



Los Angeles Airways makes a mail call on the roof of the Terminal Annex Post Office in Los Angeles



Helicopter Pilots Keep 'Em Flying

Last minute negotiations averted the scheduled strike midnight Friday by the Los Angeles Airways Incorporated helicopter pilots, according to the Air Line Pilots Association, 6218 West Manchester Avenue. The pilots received a hike in pay and a reduction in hours of work.

THE INDEPENDENT—Page 15
Long Beach, Calif., Thurs., April 5, 1954

'Copter Pilots Preparing to Strike Friday

The Air Lines Pilots Assn. Wednesday turned thumbs down on a National Mediation Board request to postpone a strike scheduled for Friday against Los Angeles Airways, Inc.

The helicopter line serves Long Beach and other nearby communities as well as International Airport and the Terminal Annex post office. It operates 98 flights daily, and employs 11 pilots.

The union decided against postponing the strike until the board names a mediator to assist in the dispute and arranges further meetings with the Los Angeles Airways management, said Howard Jones, union international representative.

Helicopter Pilots Announce Strike

Pilots of Los Angeles Airways, pioneer helicopter company connecting Southern California communities with Los Angeles International Airport, will strike at midnight next Friday because of failure to obtain a contract, officials of the Air Lines Pilots Association announced.

More than 15 months of negotiations have failed to produce a contract to improve wages and working conditions for 13 pilots, said Howard Jones, ALPA western regional representative.

Pact Averts Pilot Strike

33 Pct. Hike in Wages Agreed Upon

In an 11th hour agreement the Air Line Pilots Association ended its wage dispute with Los Angeles Airways, Inc., late last night thereby averting a strike which had been set for midnight.

Howard Jones, regional representative for the union, said the tentative agreement calls for a 33 per cent hike in wages and a similar reduction in hours worked without any loss in pay.

He said that the parties will meet next week to draft the agreement.

Helicopter Pilot Contract OK'd

Los Angeles Airways, Inc. operator of helicopter service between International Airport and Los Angeles and suburban areas, and the Air Line Pilots Association signed an initial contract yesterday covering 13 helicopter pilots.

Signing of the contract climaxed 16 months of negotiations and averted a strike threat, an ALPA spokesman said. It will be retroactive for pay purposes to July 1, 1954, and for all other purposes to last April 1. It will expire Sept. 1, 1957.

Southern California DESTINATION GUIDE

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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 transport. "AM 84" stands for Air Mail Route No. 84 and this route was the first in the world to be certified for the scheduled carriage of air mail by helicopter.

Los Angeles Airways was incorporated on May 11, 1944, by Mr. Clarence Belinn. A visionary with over 20 years of engineering and airline maintenance experience, Clarence Belinn 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 trunk airlines, and locally by short-haul, or feeder, carriers. Twenty years later this prophecy was true in so far as trunk airline operations were concerned and interest was beginning to be shown all over the country in feeder services.

The Los Angeles metropolitan area has probably the lowest density of population per square mile in the world, its boundaries taking in an area of approximately 1,200 square miles for a population of some six million. Los Angeles is a focal point for transcontinental mail and the distributing centre for the east, north, and south and 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 solution by the helicopter which, in the early 'forties, had begun to show its possibilities.



On April 16, 1941, Igor Sikorsky in one of his early helicopters had set up an endurance record of one hour five minutes and this achievement had set imaginative minds to work. Predictions that in no time helicopters would be perching on rooftops or dropping into backyards and tennis courts were bandied about in the popular Press, but the more far-seeing took a more realistic view of the possibilities of this new air vehicle.

Los Angeles Airways was organized with the intention of using helicopters. However, it was realised that helicopter development had a long way to go and that, in any case, no craft 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 aeroplanes and limousines to provide a single-carrier service over as wide an area as possible and was submitted as a stop-gap until suitable helicopters were available. The other application was for an absolute helicopter service. The former application was denied but in May, 1947, the C.A.B. granted a three-year Certificate of Necessity and Convenience for the latter case. On October 1, five months later, Los Angeles Airways formally inaugurated operations.

In that five months there were many problems to solve



A Sikorsky S-51 helicopter of Los Angeles Airways on the Los Angeles International Airport.

NOTE

**MR. PARRISH is the publisher of
AMERICAN AVIATION PUBLICATIONS, INC.**

**He is recognized as a leading
world authority on Air Transportation.**

Wayne W. Parrish

personal view



The birthplace of the powered airplane is giving mighty shabby treatment to its heritage.

It is defaulting initiative and creative design to other countries.

This is America's shame. It has comptrollers and policemen and regulators and auditors and investigators. But it has no leader and no broad program and no direction to push this country's aviation into the promised land. America's aviation at the top level is stagnant.

TOO MUCH STATIC

There is no coordination anywhere. Aviation problems are tackled in bits and pieces. There is no top development policy. America's aviation industry has vast talents and resources but these are being neglected. America is capable of being first in SST, first in jets of all kinds, first in business aircraft, first in power plants. We are capable, in short, of developing the airplane to its ultimate potential. But we're a long, long way from moving forward. In fact, we're static in areas where we should be active and on the go.

Take the helicopter as just one of the many examples.

Congress, CAB and FAA have done nothing but badger the rotary-wing carriers in the past few years. Lacking strong grass roots Congressional support enjoyed by the local airlines, the helicopter operators have been shoved onto the defensive. They are fighting for their very lives at a time when they should be supported strongly.

These carriers are the test beds, the proving grounds, the developers, the flying laboratories; for a vital segment of aviation. Before space became predominant, the military services and the NACA (now NASA) performed the primary development jobs in the national interest. Little cost was then borne by the civil operators. But today it is the civil operator who is carrying a large part of the development burden.

SOME FUZZY THINKING

Congress does not have this picture in proper focus. Neither does CAB which acts more as a comptroller than as a promoter. And FAA has gone to ridiculous and costly lengths to hamstring an operator such as Los Angeles

Airways which is trying sensibly and courageously against difficulties to improve its operations.

Congress looks at the subsidy bill for the operators in Los Angeles, Chicago and New York, and cries out in anguish that the bill is too high and asks when it is going to stop. It doesn't catch the big picture that today's civil operators are doing a job which the military and NACA used to handle.

The truth is that the helicopter operators are nearing the "flip-over" point in subsidy. Within five years, the experts say, subsidy should either be eliminated or very sharply reduced. The progress in reducing maintenance costs (a very big item for helicopters) has been very great.

So here we are near a breakthrough, and the politicians and the auditors and the comptrollers and regulators are trying to push an important aviation development down the drain. Where is the champion, the leader, for aviation in the United States?

FROM HERE—TO WHERE?

Look ten years ahead. Will America have a short-haul VTOL, or will operators have to buy from abroad? At the rate we're going, the latter will be true.

Nobody knows what the ultimate VTOL will look like but all agree that the market is vast. Maybe the vehicle will be jet lift or maybe it will be rotary-wing, but there is no concerted effort by this country to explore all areas and to get cracking.

Sikorsky could build a 40-55 passenger short-haul transport within five years if it had the means. It believes the helicopter is the only practical VTOL now and for the near future, and it is probably right. But where is the incentive for such a vehicle? American, TWA, Eastern and Continental, and the local airlines, have expressed interest in the Sikorsky concept. But such a big machine is not like opening a corner store or manufacturing plastic drinking cups. It is a national item, a national project. It is part of the broad spectrum of all types of airplanes, commercial and military, that should be examined and reviewed on high.

Say a little prayer tonight for the helicopter operators, for they are guinea pigs struggling for survival in America's shame. ■

AMERICAN AVIATION
SEPTEMBER, 1963

'Copter Traffic Growing Heavier

This view shows passengers inside a helicopter as the craft prepares to leave International Airport to a helistop. Los Angeles Airways has 18 helistops in a three-county area, and more are in the planning stage.



Los Angeles Airways began operating in 1947. In 1953, the line started carrying express items. Now, the airline carries 1,000,000 pounds of mail and express per year. Here, baggage is loaded on a craft.



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Note: Listen to audio of Clarence Belinn, Igor Sikorsky or the full program on Media Page. (Scroll down to photo of Clarence and Igor)



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Igor Sikorsky
Engineering Manager, Sikorsky Aircraft Division

The Honorable Louis J. Hector
Member, Civil Aeronautics Board

Clarence M. Belinn
President, Los Angeles Airways, Inc.

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