Lieutenant Colonel William J. Horvat



Above the Pacific

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ABOVE THE PACIFIC

By LT. COL. WILLIAM J. HORVAT

This is the first complete story of the flights "*Above the Pacific*" from the first Hawaiian balloon ascent in 1880 and the first Curtiss flights in1910 up to the prevent time (1966). Modern day coverage includes a discussion of the airlines that serve the area, as well as information on the satellite tracking facilities located on the island. This fascinating page of history includes the story of Hawaii's vital role in the development of World Aviation History. Hawaii can truthfully be called the "Springboard to Aerospace" in the Pacific. As a halfway spot across the ocean, it has been used by sea-faring navigators for thousands of years; and the island's strategic position in the midst of 5,000 miles of ocean has focused attention on this Garden Spot as an aid to aviation development.

This authentic book is truthfully a documentary of flights "*Above the Pacific*." Included are stories of the military interest, in addition to the civilian interest, in Hawaiian aviation. The succession of events is given in chronological order, with military as well as commercial activities being covered. An illustrated story of Pearl Harbor and World War II is also included.

Editor's Note: Above the Pacific was published by Aero Publishers, Inc. in 1966. The book is no longer in print. The publisher is no longer in business. The author Lt. Col. William J. Horvat died in 1969. To preserve Lt. Col. William J. Horvat's story of Hawaii's role in the development of aviation so historians and the generations to come can appreciate the daring and courage of these remarkable men and women, we reprint the book in its entirety in the following pages.

TABLE OF CONTENTS

Chapter		
	Preface	
	Introduction	
I	How it Began……	1
II	First Mokulele……..	9
III	More Flights…….	16
IV	Post-War Pioneering……	29
V	The Navy's Feat……..	42
VI	All the Way…….…….	59
VII	Enter the Civilians……..…….	70
VIII	Springing the Board…….	90
IX	Early 1930s……	103
X	Trans-Pacific……..…	128
XI	Hard Expansion…….	141
XII	December 7, 1941…….	155
XIII	The Pacific Air War……..….	168
XIV	The Airlines in Hawaii……..	173
XV	Post-War Military Aviation Progress……..…..	190
XVI	Military Aviation……	200

PREFACE

For countless centuries, the oceans of the world separated its major land masses. When ships were developed they permitted man to venture far out to sea. Islands discovered en route served as places to stop, facilitating even further travel. Eventually, sailors were able to cross oceans, thereby linking together continents and, thereupon, hastening the spread of civilization.

The largest ocean of them all, the Pacific, contains almost 69 million square miles. Its travelers, for many years, have found respite in the Hawaiian Islands situated somewhere in the middle. Arriving first by ship, travelers later moved by air. When airplanes were developed, the coral and volcanic lands became a goal for fliers. To reach them, man was obligated to improve his flight machines, navigational skills and instruments, and develop a supporting environment. Once the ability was perfected, fliers could go on from there to opposite continents. Hawaii, therefore, contributed to the development of flight, passively as well as actively. Through aerospace, Hawaii sustained its position of world importance, benefiting the state as well as mankind.

Related in this book are the efforts to inaugurate, pioneer, develop, and then advance the newest mode of transportation, over the vast Pacific by means of a stopping-off place, and between the islands too. Some of the flights were spectacular and of world aviation significance, others ordinary; but by making them, fliers contributed much. To fly over a large body of water was once as incredible to onlookers as today's astronauts appear, also using Hawaii to advantage, steadily nudging toward the skies' outer limits. Such flights require man's greatest efforts, a magnificent pioneering spirit.

This book's spectrum is from balloons to space vehicles, but with emphasis on aviation. Covered in detail are stories of the fascinating early days of flight, then the progressive development of aviation made possible by the mid-oceanic springboard. As in the Golden Age of Aviation in the 1920s and 1930s, Hawaii and the Pacific Ocean now make aerospace progress possible.

The men and women in this story have contributed a great deal to the world, which is a world of flight. So has Hawaii, acting as a mid-ocean landing field. The book tells of these people and their deeds, involved in one of the greatest pioneering efforts on earth.

Strong efforts were made by the author to produce an authentic work, its stories accurate, data correct, significant events covered as completely as needed. The complete story of Pacific flying by way of the Hawaiian Islands has never before been written. The task, therefore, was difficult and time consuming. By and large, these stories were available only in Hawaiian newspapers and periodicals. They were also in the minds of the men involved, and the records and scrapbooks they retained through the years. Fortunately, many of the pioneers were able to provide material; so were bystanders or witnesses. Organizations, too, have made important contributions. I rely a great deal on their accuracy, for validity of accounts beyond the written word. (Were all histories to be so validated!) As for completeness, I had to turn away numerous stories because they would not add appreciably to this history, and because the finished project would be prohibitive in size, costs and interest to the reader.

Histories written for the first time draw comments, corrections, and additions, from people who have direct knowledge of events covered. These I welcome. Were I to have this information available at this time, it would be included for publication. Only by writing the available story, however, can it be drawn out.

Lt. Col. William J. Horvat, USAF

INTRODUCTION

MID-PACIFIC SPRINGBOARD

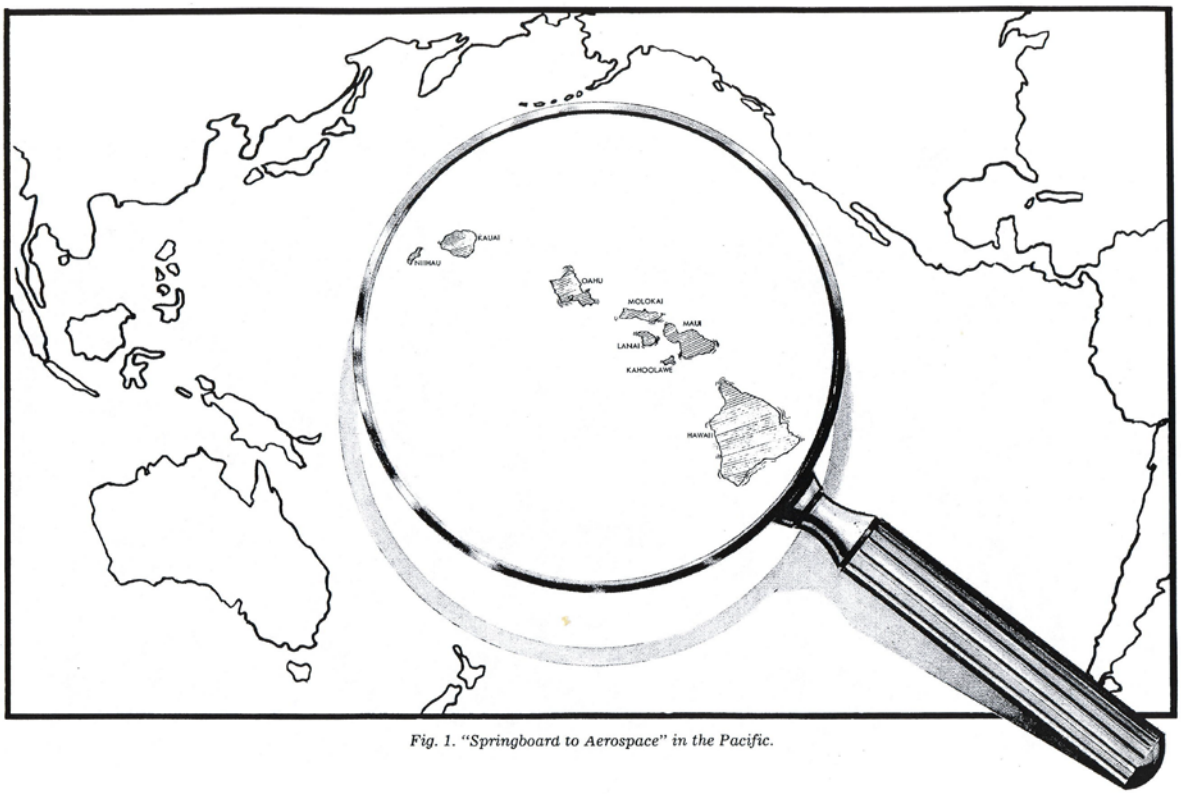


Fig. 1. "Springboard to Aerospace" in the Pacific.

A short description of the Hawaiian Islands will give the reader a better understanding of the Springboard to Aerospace:

THE ISLAND GROUP

Before the history of mankind, a great rift opened in the floor of the Pacific Ocean ranging for almost 2,000 miles. Out of this crack throughout the ensuing millions of years poured basalt lava to build up a volcanic mountain chain to the greatest height of 32,000 feet—14,000 feet above sea level, plus 18,000 feet down to the ocean floor. Around the edges of the islands countless tiny coral animals built up reefs extending into the ocean. During the ice age the islands were covered with great frozen sheets, and when the ice caps melted the mountains were again submerged by water. Parts of the island of Hawaii are still being formed, as periodic lava flows cascade down its slopes.

Although there are many reefs and shoals included in the Hawaiian chain to make it the longest in the world—1,5000 miles from the island of Hawaii northwest to Kure (Ocean) Island—Hawaii is known to the world for eight main islands that cover a radius of 300 miles. These islands are, in order of size, Hawaii, Maui, Oahu, Kauai, Molokai, Lanai, Niihau and Kahoolawe. The group totals 23 islands in all, although some are nothing more than coral reefs, sand shoals or jagged rocks. Total area of the eight major islands is 6,435 square miles. Total coastline is 971 miles.

Owing to the locale of the islands, the climate is equable, the mean monthly temperature at Honolulu varying from l70 degrees in February to 78 degrees in August. The northeast trade winds prevail throughout the year, but during the winder months they are apt to be interrupted by variable winds (kona), which occasionally occur between September and April and last from a few hours to two or three days and are attended by rain. Rainfall varies greatly in different localities and is influenced by location with respect to winds and mountains. The greatest rainfall is usually found on the windward sides of the islands. In general, winter is the rainy season, although there is no month without some rain. Fog does not occur around the islands. The mountains, however, are often obscured by clouds.

HAWAII

The largest island, Hawaii, is known to people from the Hawaiian Islands as the Big Island. It is also called Volcano Island, Orchid Island. Hawaii consists of 4,030 square miles and is situated at the southernmost end of the chain. Volcanic activity has never ceased in the Big Island. It is here that the Hawaii Island chief, Kamehameha, resided who went on to bring all the islands under his rule, a monarchy which lasted from 1795 to 1898 (when Hawaii became a territory of the United States). Captain James Cook discoverer of the island in 1778 (he called them Sandwich Islands), met a tragic death here. The first missionaries set foot on the Big Island, arriving by clipper sailing ship from New England in 1820. Of the five volcanoes on Hawaii, two are active. Mauna Loa (long mountain), the largest single mountain mass on earth, contains Mokuaweoweo, a crater about three miles by 1 ½ miles. Kilauea is also alive, its crater 2.95 miles long by 1.95 miles wide. Dormant is the volcanic Mauna Kea (white mountain), whose 13,784 peak is covered with snow during the winter months.

Hilo, the principal city, lies 216 air miles from Honolulu, 2,060 from San Francisco. It is second in population with about 61,000 people.

Presently, there are airports at Hilo, Upolu Point, Kailua-Kona and Kamuela.

MAUI

Second largest island of the archipelago, Maui is known as the Valley Isle. It consists of 729 square miles and is, in effect, a double island. Haleakala (house of the sun) is one of the largest dormant volcanoes in the world; its highest point is 10,025 feet, 21 miles around the rim.

Maui's population is about 36,000 people. It is about 70 air miles between Honolulu and Kahului, Maui. Prior to Kamehameha III's declaration (August 31, 1850) that Honolulu was to be a city and capital of his kingdom, the Hawaiian kingdom's capital was at Lahaina, Maui.

Mark Twain wrote a Hawaiian fantasy after seeing the Valley Isle.

Air ports are at Kahului, where a naval air station was located during World War II, and at Hana on the eastern point.

KAUAI

Fourth in order of size is the Garden Isle, Kauai. It consists of 555 square miles and is at the northernmost tip of the main Hawaiian archipelago, 95 miles west by northwest of Oahu. Circular in shape, the island's diameter is 32 miles. Highest peak is Mt. Waialeale—5,170 feet high and one of the wettest spots in the world. Population is about 30,000 people. The principal city is Lihue, adjacent to which is the main airport. On the western point is the main airport. On the western point is Bonham Airport, formerly called Barking Sands Airport—operated now only on a standby basis.

Captain Cook first landed in Kauai when he discovered the Islands. Because of its location, sailing to Kauai was difficult in past days, discouraging invasions. Kamehameha did not have to make the attempt; in 1810, Kaumualii, Kauai's last king, peacefully accepted the "Napoleon of the Pacific" as overlord.

MOLOKAI

Lying about 60 miles southeast of Honolulu is the island of Molokai, fifth in size in the Group. Once known as the Lonely Isle, the 260 square mile land mass, shaped like a wooden shoe, is now known as the Friendly Isle. Molokai came from three volcanoes. Population is about 5,000 people, including victims of Hansen's Disease in the isolated settlement made famous by the "Leper Priest," Belgian Roman Catholic missionary Father Damien. The island is beset with steep cliffs with many waterfalls. The one airport, Hoolehua, sees daily plane service for passengers and mail. Molokai lies 25 miles due east of Oahu and 7 ½ miles northwest of Maui. It is 37 miles by 10 miles.

LANAI

Lanai, sixth in order of size, is owned (since 1922) by the Dole Corporation for use as a pineapple plantation. Consisting of 141 square miles, the island is 13 miles wide by 18 miles long, and has a population of over 2,000 people. Lanai lies directly west of Maui, eight miles distant. Kaumalapau, the principal port, is 60 nautical miles from Honolulu. One airport sees daily service for mail, passengers and freight. Palawai, the ancient crater, is 3 ½ miles in diameter.

NIIHAU

Niihau is called the Island of Yesteryear, because a Hawaiian colony resides here in the true traditions of ancient Hawaii. Its population of about 250 is concerned principally with raising livestock. According to legend, the Volcano Goddess, Pele, resided here. Niihau is privately owned, lying southwest of Kauai and northwest of Oahu. Consisting of an area of 72 square miles, it is 18 miles long by six miles wide. Not accessible by air for the lack of an airport, the former dependency of the Kingdom of Kauai receives surface craft only upon special permission from the owners.

KAHOOLAWE

Kahoolawe has no population. It is called the Target Isle because that is its only function. During monarchial days, it was the home of a penal colony. In area, it is 45 square miles, lying southwest of Maui and southeast of Lanai. In size, it is about 10 miles long and six miles wide. Military planes and warships regularly use Kahoolawe for target practices.

OAHU

Third in size, Oahu is the capital island of the Hawaiian group. Consisting of 604 square miles, it is 44 miles long by 30 miles wide, lying southeast of Kauai and northwest of Molokai. Governmental, educational and financial center for the State of Hawaii, Oahu is the principal port of call for transoceanic planes and ships. It is also a large military base. About 500,000 people reside on Oahu.

There are two mountain ranges on this island. Koolau Range's highest peak is Konahuanui, 3,150 feet; Waianae Range's is Mount Kaala, 4,030 feet.

The capital, Honolulu, is located on Oahu. Honolulu covers an area 85 miles square, with a population of about 260,000.

Diamond Head, ancient volcano, is called the "Gibraltar of the Pacific." The crater (77 acres) is presently a National Guard reservation. Punchbowl, last active 5,000 years ago, is called the "birthplace of Honolulu." Before man, this volcano rose from the sea, erupting lava that flowed down the sides and filled in the southeastern area. The southeastern ledge is the site of Honolulu, with its excellent harbor. Punchbowl is, now Punchbowl National Cemetery, where in the days of the monarchy, guns sat mounted on the rim.

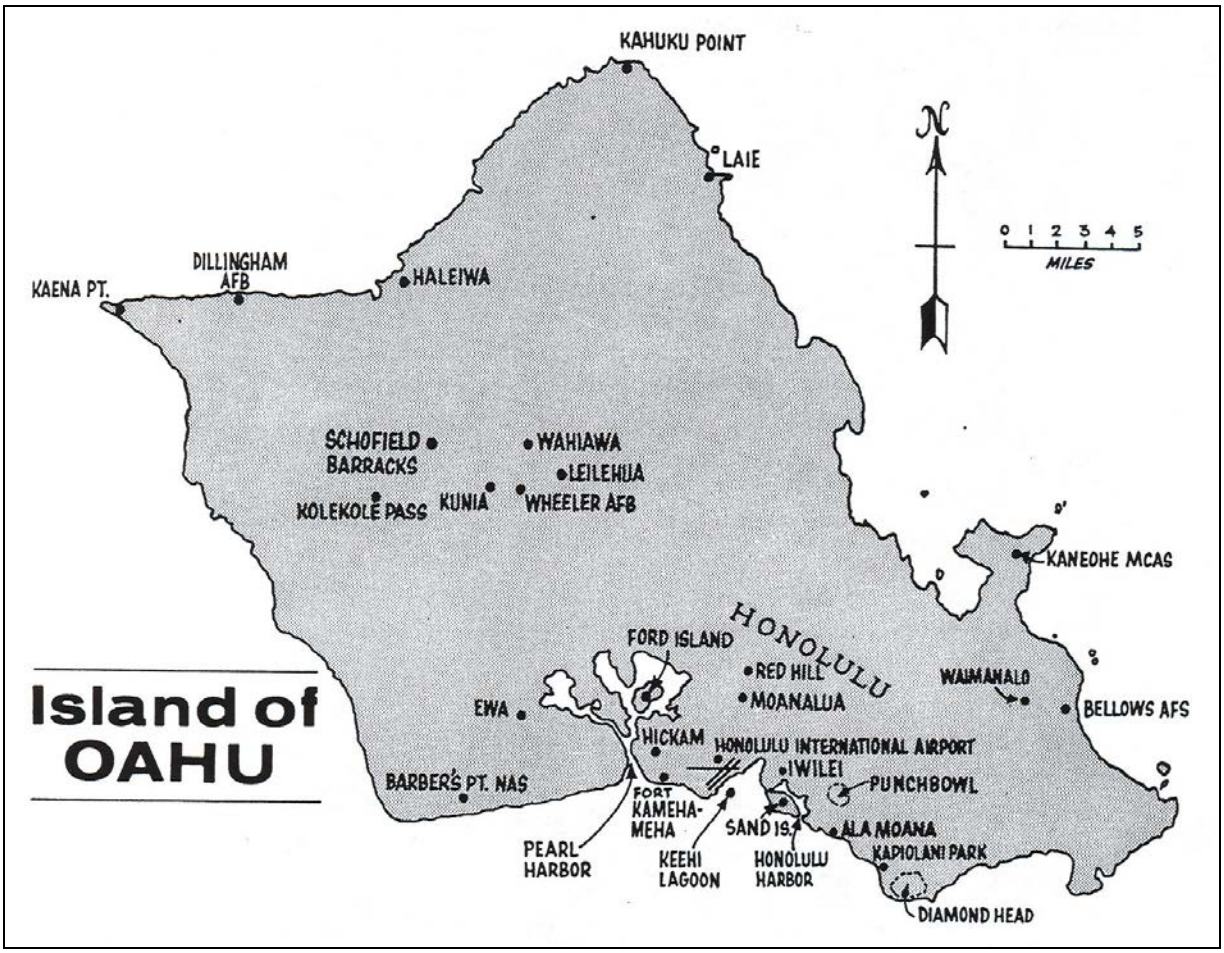


Fig. 2. Third largest of the Hawaiian Group, Oahu is the capital island.
It is also the principal base for aircraft, civilian and military, on Pacific flight.
It was on Oahu that most of the historic pioneering and development flights,
Discussed in this book, took place.
Shown here are the major points (cities, bases, sites) involved in the story.

Pearl Harbor is located on Oahu, five miles from Honolulu Harbor. It is a double estuary of the Pearl River. United States interest in this harbor stemmed from a geodetic survey in 1840 made by a U.S. Navy expedition commanded by Lieutenant Charles Wilkes. Wilkes recommended dredging in order to accommodate large ships. In 1860, a coaling station was established in Honolulu. In 1875, work was begun by blasting and dredging the 15-foot coral bar

entrance to the harbor. This effort was increased in 1902, providing a depth of 35 feet. Six years later, monetary help by the U.S. Congress assisted in shaping the harbor adequately and providing the first drydock (which gave way prior to completion, February 1913). Today, Pearl Harbor is the home of the greatest naval armada in United States history.

Honolulu International Airport is located on Oahu. Military airports on Oahu include Hickam Air Force Base, Wheeler Air Force Base, Bellows Air Force Station, Dillingham Air Force Station, Kaneohe Marine Corps Air Station, and Barber's Point Naval Air Station. The Army's aircraft operate out of Wheeler Air Force Base.

CHAPTER 1

HOW IT BEGAN

When man first inhabited earth, he wondered what lay over the ocean beyond his view. Instinctive was an insatiable desire to transport himself and his possessions about the world. With improved resourcefulness, man devised a means of riding atop the water, and then ventured across streams and ponds. His whetted appetite spurred the development of bigger and more accurate over-water conveyances, while wistfully glancing up at natural birds soaring gracefully over hills and water. Next he spanned rivers, lakes; and finally oceans, eventually managing to sail around the globe. Taking on a new air of importance were the islands enroute which served as places to stop. As surface craft were improved man traversed the seas in greater number. He was interested in exploration, business, pleasure, and too often in war. The earth was linked by a watery network of sea lanes over which man moved extensively.

One group of people sailed away from Asia, in about 500 A.D., in search of living space. Coming upon a chain of islands in the Pacific Ocean which stretched 1,600 miles in length, they settled in Tahiti, other islands in the Polynesian triangle, and New Zealand. Eventually, a few explorers from Tahiti got the urge to move once again, and so put out to sea. Discovering eight major islands in mid-Pacific, 2,500 miles from home, the sea farers were impressed with the new islands, their climate and physical beauty. Following were waves of "Vikings of the Sunrise" in original versions of today's catamarans. The big double canoes held nearly 100 people, animals and cargo. Migration from Tahiti then stopped as suddenly as it had started. The new residents were content with their beautiful islands. They grew taro (from which poi is made), yams, breadfruit and sugar cane. Too, they were excellent fishermen. Venturing out of their isolation only to visit the other islands, these people explored no more.

Centuries later, tribes found a visitor. English navigator and explorer, Captain James Cook, "discovered" the island group on January 18, 1778 while searching for the Northwest Passage between Europe and Asia. He called them the Sandwich Islands. Other British followed. In the early 19th century, people from other lands came to what was renamed as Hawaii. Returning visitors extolled the beauty of the islands. Authors included Mark Twain, Robert Louis Stevenson and Jack London. The romantic tales drew more travelers. Eventually, the Hawaiian Islands were to become the most desirable and frequented tourist center in the world.

Probably before inventing rafts and ships, man sought another means of conveyance. Watching birds in graceful flight, he dreamed of ways to propel himself through the air. He contrived various wings and attempted to sear and swoop over the earth like a bird, to no avail.

In the 18th century, man abandoned the idea of homemade wings with which to fly. He devised a more passive effort at buoyancy, balloons. Etienne and Joseph Montgolfier, from France, introduced the world to air travel. Sons of a paper manufacturer, the brothers experimented with balloons between November 1782 and September 1783. After successfully transporting a sheep, rooster, and a duck in a balloon (September 19, 1783), they enacted a plan to launch a manned balloon. On November 2, 1783, Jean-Francois Pilatre de Rozier and the Marquis Francois-Laurent d'Arlandes, an infantry major, rose 3,000 feet into the air and sailed over Paris in a Montgolfier balloon. This started a movement which was to have a great influence on mankind. During this time, Kamehameha the chieftain from the island of Hawaii began a series of wars for conquest of the Hawaiian Islands (the start of a monarchy which lasted almost 100 years).

When the improvements in balloon design and operation were made, aeronauts thought about crossing a large body of water. In June, 1783 de Rozier and a man named Roman

attempted to cross the English Channel. They became the first aerial crash victims in a disaster over the water. Six months later (December 7, 1785), aeronauts Blanchard and Jeffries succeeded in crossing the Channel, navigating their balloon from Dover, England, to Calais, France.

Seven years later, Blanchard ventured to Philadelphia to give America its first view of a manned balloon in flight. He flew from there to New Jersey in 45 minutes (January 9, 1793) as George Washington and other dignitaries watched. America's first aeronaut John Wise, in 1838, ascended in a balloon in the borough of Easton, Pennsylvania. As he was lifted above the earth, Wise visualized air routes across the country. He also pictured flying over the Atlantic Ocean by balloon. Wise's ambitious expressions caused comment and speculation. Famous poet Edgar Allan Poe wrote the "Air hoax of the century," a story of an Atlantic crossing by a flying machine in the time of 75 hours. It was published April 13, 1844, in the New York Sun. At the age of 71, following a 44-year career, Wise disappeared in Lake Michigan during an endurance attempt (1879). At that time, Hawaii was a small kingdom. The horse drawn carriage was a luxurious means of transportation. Unheard of in the Islands were the automobile, wireless radio and the ocean-spanning telephone cable.

A STRANGE PROPOSAL

A visiting balloonist named Rufus Gibbon Wells gave a lecture in Honolulu's Kawaiahao Church ("Westminster Abbey of the Kingdom") in December, 1879, on the subject of his ballooning experiences. These included flights in the United States and Europe, including participation in the late war between France and Germany. In the presence of the Heir Apparent, very popular Princess Liliuokalani, plus a large "respectable" native audience, Wells explained about air currents and the art of navigating a balloon in the atmosphere. Using an interpreter for the natives, he gave exciting accounts of his experiences, ascensions made, countries flown in, plus the many close calls.

Wells astounded his audience with stories about the feats that were possible with balloons. Not only could he fly one across the Pacific Ocean, he assured his wide-eyed listeners, but he could circle the globe in 25 days. To do this he needed a balloon capable of carrying an air-transportable steam engine which could manufacture its own gas for airborne inflation. The balloonist then "performed an experiment in electro-biology and suspended people against a glass plate by atmospheric compression, like a fly walking on a ceiling." Wells topped his show by administering laughing gas to some natives, much to the amusement of his audience, while the Royal Hawaiian Band played background music.

Next day, Wells published an offer to ascend in a balloon over Honolulu "if given sufficient encouragement." No such flight was made. Ballooning in Hawaii was not to make its bid for ten years.

VALIANT ATTEMPT

In March, 1889, another world-famous aeronaut visited Honolulu. Emil L. Melville put his experience to practice while Wells had merely talked about his. Just prior to this visit, he had made ascension for an audience of 63,000 people at San Francisco's Ocean Beach.

The aeronaut had learned ballooning from his father, whose efforts during the Siege of Paris were of great value to France. During four balloon ascensions the elder Melville delivered 16,000 letters and messages safety across enemy lines.

Young Melville made an excellent living as a balloon demonstrator. He didn't merely ascend, but was known for performing acrobatic stunts while airborne. Honolulu's advertisements stated that the dare-devil would hang from a trapeze in his brand new 86-foot

balloon. Daily announcements in Honolulu newspapers continued until the launch date, March 2, 1889. Hundreds of people paid 50 cents apiece and filled Kapiolani Park.

Named "America" by the aeronaut, the balloon and its associated equipment made a strange sight for Honolulu residents who had never seen a man-bearing balloon before. Positioned over the funnel of a furnace situated in the ground, the balloon's center pole reached 10-feet in the air. Around the pole were many wrapped folds of white boatsail. A parachute was fastened to the balloon cloth. Attached to the mouth of the balloon by twine only strong enough to hold a man's weight was the trapeze seat. To shield the balloon from Honolulu trade winds during inflation, a wooden wall was built windward of the furnace. Onlookers close to the contrivance gaped in wonder, first at the balloon and its awkward supporting apparatus, then at the man getting ready to ascend for them.

Melville and his helpers fired the furnace and with the hot gasses and smoke began inflating the balloon at 3:15 p.m. About 10-feet up, however, the balloon developed an aperture 15-feet long next to a seam. Smoke billowed out at a fast rate, so Melville pulled the balloon back to the ground, hastily sewing it up again. By the time inflation was resumed, it was five o'clock and the audience began to doubt the aeronaut's promise to give them their money's worth.

In spite of the sheltering wall, the now much stronger winds coming from the sea seriously hampered Melville's efforts at inflation. Time and again, trade winds forced hot gasses back into the furnace. Finally the balloon was sufficiently inflated but then burst once again, smoke pouring out of its rents more than before. The ball of smoke and fire listed threateningly back and forth in reaction to the winds. People became panic-stricken. First the balloonist's assistants scrambled out of the way. People in the grandstands scurried for the stairs, starting a small stampede. Carriage-drawing horses responded with terror in their eyes as they fought their harnesses. Desperately fighting the fire, Melville managed to extinguish it, but by then people had dispersed, including the King and Queen. The Royal Hawaiian Band played, but it didn't stop the hastily departing spectators.

Embarrassed and frustrated, Melville published a letter to Honolulu's public the following day, blaming his failure (the first he'd ever had) entirely on strong winds. He promised to give a free exhibition the following Saturday, to show his true abilities.

LIMITED SUCCESS

On March 11th, using Dowsett's paddock at Iwilei, Melville prepared for ascent. This time, there were thousands of spectators perched atop houses, on surface craft, on nearby hills, wherever they could see . . . they expected a disaster. Inflation was started at 4 p.m. and once again trade winds deprived the balloon of its motoring gases By 5 o'clock the contrivance began to move upward, climbing to the height of surrounding algarroba trees which, up to that stage, offered some protection from the wind. However, from the sea came strong winds. The balloon, when fully inflated was difficult to hold down. Melville stood by ready, his assistant feverishly preparing the inside. Seeing smoke rushing from two apertures in the balloon, the infuriated aeronaut grabbed hold of the trapeze with his hands and shouted, "Let go!" Beginning to drift to one side, Melville and his balloon knocked over several people who hadn't as yet gotten out of the way. He was dragged along by hands and feet, through a clump of algarroba trees. In the clearing, Melville sat himself atop the trapeze as the balloon drifted along almost at tree-top height. It being obvious there would be no more rise, some two or three thousand yards from the starting point the aeronaut leaped to the ground, a distance of 30 feet. Landing safely on his feet, he drew loud cheers from spectators. The balloon then rose rapidly to about 200 feet and headed peacefully, unburdened to Nuuanu Valley, where it was lost from view. When recovered, the

"America" was only slightly scorched, but the aeronaut bore deeper scars, not all of them physical. Apparently no other attempts at ballooning were made by Melville.

FIRST ASCENT

The first successful aeronautical incident in Hawaii took place eight months after Melville's failure. Professor Joseph Lawrence Van Tassell came to Honolulu from Fresno, California, where on October 3, 1889, he made an impressive balloon ascension. Hawaiians were pleased at the prospects of witnessing either the first successful conquest of the air in Hawaii, or another sideshow as Melville's display turned out to be. Promises of being so entertained in an otherwise placid tropical life drew no complaints at the admission charge of 50 cents for adults and 25 cents for children. As the launch date of November 2 drew nearer, interest and ticket sales mounted. Hawaiian Tramways Company offered their help to spectators by running cars to the site, Kapiolani Park, every half hour throughout the day.



ERCIAL ADVERTISER, OCTOBER 31, 1889.

ille I interpret it to those who may be able to see to read it:

A CENTENNIAL MEMORIAL OF
HIRAM BINGHAM
rn in Bennington, Vt., October 30th, 1789.
ed in New Haven, Ct., November 11th, 1869, aged 80 years.

This slab is placed here in grateful nembrance of a pioneer missionary decendants of Hawaiians (aided by children), among whom he preached rist for more than twenty years. He eached the first sermon ever delivered this city April 25th, 1820, from 'Fear t; for behold, I bring you glad tidings great joy.' Here he taught confiding igs, queens, and chiefs, faced dangers, d bore calumny from abroad; aided reducing the language to writing, nslated much of the Bible, composed oks, hymns and tunes; here he bap- ed a thousand converts, planted a urch, planned this edifice, and with loving people, on June 8th, 1839, d this adjoining corner stone, beneath ich was placed a Hawaiian Bible, st published May 10th, 1839. From re, amid loud wailings of hundreds of flock, he sailed on August 3d, 1840, revisit his native land; but never re- rning, was not with them, when, on ly 12th, 1842, with joyful acclamation, ey thus dedicated this church.
"To Jehovah our God forever and er."

This closed the literary exercises, and e audience in attendance, which must ave nuunbered 1500 or 2,000, were in- ted to partake of a bean feast, which ad been provided by friends for the casion. At least a thousand persons cepted the invitation, and showed eir appreciation of the good things set fore them, by a vigorous assault on e delicious luaued beef, pork, fish nd innumerable et ceteras, which rapid- disappeared, till 3 o'clock, when empty ishes and plates were all that could be und left of four large bullocks, several ogs, and innumerable fish and fowl.

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Admission 50cts.; Children 25cts.

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☛Tickets for sale at L. J. Levey's office.
102

F. FROST.
Manager.

PREPARING TO JUMP.

Fig. 3. Prospects of something new in Mid-Pacific.

About five hundred spectators showed up at the paid section of the park but there was a much larger crowd of people on nearby hills and fields. Many sat atop Diamond Head and immediately behind Kapiolani Park. All afternoon the Royal Hawaiian Band played spirited music; the weather was excellent, the wind unusually calm.

As Melville had done before him, Van Tassell constructed a wind breaking wall adjacent to the furnace. The lack of wind that day, however, made the wall unnecessary and part of it was taken down before the ascent.

Inflation proceeded without difficulty, using a compound of hot air and gas. At 4 o'clock the balloon rose into the air as Van Tassell made himself comfortable on his trapeze. The balloon continued upwards to a point one mile high. Excited crowds watched the aeronaut until he became a small speck in the sky. Using binoculars, some people observed him working to free several ropes preparatory to cutting loose so he could descend by parachute. His movements caused the balloon to descend somewhat, so Van Tassell quickly cut loose. Coming down gracefully, he landed well off his mark about 200 yards from his starting point, much to his chagrin.

TRAGEDY

This first assault on Hawaiian skies drew raves from newspapers and the thousands who had seen history being made. When Van Tassell promised a special show to honor their monarch, King Kalakaua, on his 53rd birthday, he had no trouble selling tickets. For this spectacle the 26-year-old aeronaut from Salem, Ohio, promised to ascend from the crater Punchbowl then parachute to a landing in the palace grounds. On the launch date, November 18, another first in transportation was unfolded in Honolulu. Industrialist Benjamin F. Dillingham officially opened a railroad and gave 4,000 residents free rides on "Dillingham's Folly" over a nine-mile course.

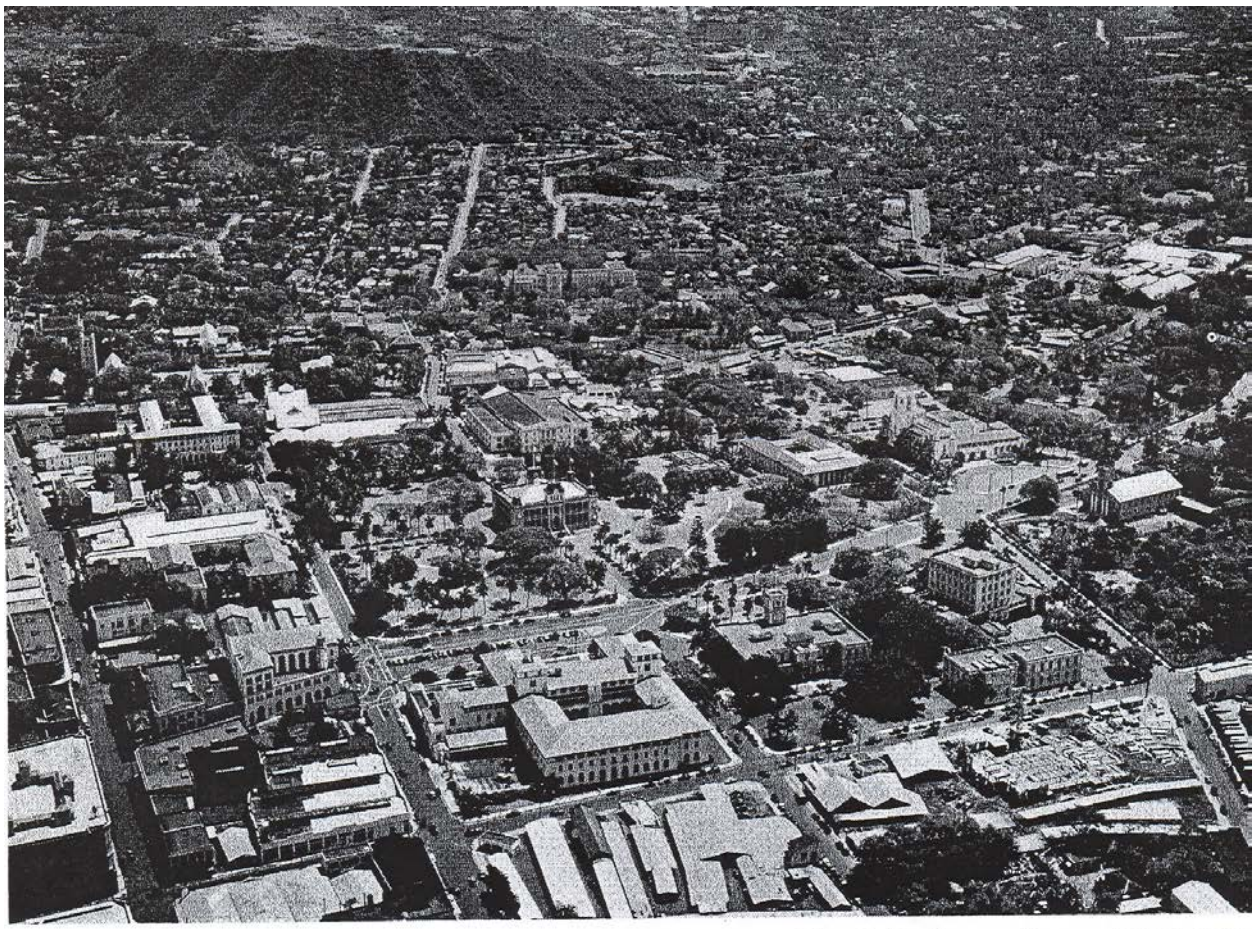


Fig. 4. Joseph Lawrence ascended from the extinct volcano, Punchbowl, (background) parachuted over Iolani Palace (center) intending to land in the royal ground. He was blown out to sea and perished. November 1889.

When Van Tassell and his partner, Joseph Lawrence, arrived on the scene they were disturbed to find strong winds about. Lawrence, younger of the two, elected to make the ascension. At the insistence of friends, the aeronaut donned a life jacket. Prior to ascent, however, it was removed. At 2:17 p.m., Lawrence gave the "let go" order then ascended rapidly to a height of several thousand feet. Perched on the trapeze, he waved to the cheering crowds. Drifting to a point above the intersection of Richard and King Streets, Lawrence cut loose and began to descend by parachute as promised. Suddenly, however, he was lifted higher in the air and began to be taken toward the sea. The helpless man was borne almost five miles from Punchbowl and fell into Keehi Lagoon about two miles off shore. Five minutes later, the balloon also settled into the lagoon.

Sitting idle nearby was the tug ELEU. For the lack of built-up steam, it was useless. Captain John Rice worked frantically but it took 30 minutes to reach the disaster area. Rice and his passengers (promoter Frank Frost, Van Tassell, and news people) searched for almost two hours. No trace of the aeronaut or his parachute was found. The balloon was later fished out of the water and taken to shore.

The populace, struck with the plucky aeronaut, was dismayed by his tragic death. One irate resident, in a letter to the local newspaper, deplored the lack of emergency ships on patrol and demanded an investigation. From an English newspaper it was learned that another aeronaut lost his life in the Baltic Sea and in a similar manner.

A STRANGE TALE

Aeronautical events had made their entrance in Hawaii then rapidly were dropped from discussion. Two years later, the subject was raised again but in a different manner. E. Ellsworth Carey wrote a story in the Pacific Commercial Advertiser, on August 26 and 27, 1891. Placed ahead in time by 11 years, the fictional account told of the destruction in a Hawaiian harbor of a United States Navy cruiser by bombs dropped from self-powered airships which had been flown across the Pacific Ocean. Excerpts from Carey's story show some interesting prophesies on the advent and uses of aviation in the Hawaiian Islands and the remaining world.

Regarding commercial service from the mainland:

"The reader will recall that our air navigation began to attract considerable attention about 1898. Several airships were constructed, and an attempt was made to establish regular air lines from the Untied States to other parts of the world. But all efforts to control the aerial vessels in a wind had proved unavailing. This rendered air navigation uncertain, and the air ship companies were not popular. Their lines were used to some extent for mail service and the transportation of light freight, but the public had no confidence in them. Sometimes a steamer would out-strip one across the Atlantic, the steamer time being four days, and occasionally an air craft would make the voyage in 24 hours."

The dangers of over flying an ocean were bluntly covered, together with the reluctance of some to accept aviation:

"Several air vessels after leaving a place had never been heard from and many prophesied that in a short time they would be relegated to the second-hand shops."

Aerial activities during war are depicted as effective offensively but vulnerable to ground fire:

"Of course their apparent usefulness in time of war had caused the whole matter of air navigation to be carefully considered by the leading powers. An attempt was made to use them in the great Inter European war which raged from 1894 to 1896, but the results were not satisfactory. In one instance an army division was destroyed in five minutes by terrorite shells pitched out of an air boat, but something happened to the machinery and it was soon dashed to pieces, having dropped within range of a Hotchkiss gun, specially mounted for sky practice."

The United States, in this story, refused to accept an aerial system of defense. Air proponents criticized the government for this action, starting a ships-versus-air vehicles controversy:

"In a short time an air ship would be produced that would answer all practical purposes. Such a machine could hover over the United States like an angel of death, and with, a few hundred shells of terrorite, what could all the iron clads of the world avail? An ordinary 100 pound shell filled with an improved explosive, dropped from a hostile air cruiser would destroy any vessel afloat. If one shell was not sufficient, another would finish the work. And, given an air ship it is just as easy to drop 1,000 shells as one; and just as easy to plunk a 500-pound bomb down a smokestack as a penny cracker."

The aerial bombardment incident resulted from a dispute between the Hawaiian government and the United States. To force its position upon the small government, the U.S. sent a fleet of cruisers to the Islands. Hawaii had previously made arrangements for the use of air craft if needed (which, it will be recalled, was refused by the U.S.), therefore was unafraid. The secret weapon was unknown to the invaders and the Island populace alike. At the strategic time, one of the three air ships moved into the fleet's view.

"But few saw the monster torpedo-shaped mass glide quickly from the vicinity of Punchbowl, and hover over the harbor. When the stately cruiser drew abreast of Diamond Head, the air-car hung just over the vessel, at an altitude of a mile, and then something flashed downward like a falling star. It struck about 200 feet ahead of the Milpitas and a white column of spray shot upward. The commander of the cruiser saw the column of water leap up ahead and, instinctively, he reversed the motion of his vessel. There through the openings in the conning tower he saw, what thousands also saw; the water seemed to rise up in front of the Milpitas as though a huge sugar loaf mountain was being quickly upheaved from the sea. In an instant, the mountain of water opened, and a cloud of spray and stem flew upward, accompanied by a dull roar. The prow of the Milpitas rose high in the air and the cruiser struggled on the slope of an avalanche of water like a frightened war steed. The massive wave pressed onward, and the other vessels rocked till the boats on the davitts dipped in the sea. The Milpitas was almost lost to sight in a storm of foam and spray; but the staunch ship bore the terrible ordeal, and floated unharmed."

"The Admiral at once ordered the advance movement to stop. As he was holding a hurried consultation with his officers, a launch bearing a white flag was soon again steaming toward the Sacramento (flag-ship).

"Eight or ten miles will be nothing for those fellows," answered a lieutenant gloomily, as he pointed to two air-cars about two miles above the Milpitas.

"The air-ships had not been seen before. The cruiser people had been looking at the bottom of the bay for torpedoes, but now they began to use their field glasses.

When the launch came alongside the admiral was told:

"The Hawaiian government is anxious to settle this matter quietly, and without the shedding of blood, if possible. With this end in view, the Milpitas will be blown to atoms in about 20 minutes. It is suggested that the crew be ordered to leave her at once; of course the Admiral can take any steps he may think proper to prevent the destruction of the cruiser."

The admiral ordered officers and men to leave the Milpitas, and then gave instructions to "have all the sky-batteries manned, and fire at anything in range." The fleet drew away from the Milpitas.

"When the 20 minutes had expired, a vast quantity of white vapor belched from the main-hatch of the Milpitas, and with a fearful grinding noise she parted amid ships, and quickly sank in 80 fathoms. The forward smoke-stack was blown 100 feet into the air."

A 100 pound shell had been dropped into the fated vessel, and she was no more. A $3,000,000 cruiser was at the bottom of the sea, sent there by 90 cents worth of terrorite. No one saw the shell fall, and no one on the fleet knew where it came from. The sky-batteries were silent. The officers of the visiting cruisers were stuck dumb with astonishment, and not a sound came from the concourse of land. The waves caused by the sinking of the Milpitas, gradually subsided, and the sea was again calm as before."

Within a short time the U.S. cruisers put to sea.

"The next morning the London Times published editorially: 'When the Milpitas sank yesterday afternoon off Diamond Head, the navies of the world sank with her. A new era has dawned. The world expected it some time, but it is here now. Everything pertaining to warfare must now be reconstructed. The weapons of yesterday are but the bows and arrows of barbarous ages.'

"The New York Sun contained this: 'The blindness of our Administration has brought shame and humiliation to the American nation. But we need not mourn; it was not Hawaii that lowered the colors of the Sacramento. It was the great and awful teacher—Progress. The wooden navy perished with the Cumberland, and the steel navy has met its fate with the Milpitas.'"

Carey's imagination went too far on the disposition of land armies and navies, but his story ended with these words:

"The lesson is brief, but awful . . . War will make his kingdom in the clouds, and Mars will drive his chariot on the mountain tops. In a word, the huge structure of modern warfare has crumbled to dust."

CHAPTER II

FIRST MOKULELE

POWERED FLIGHT

Man returned to winged contrivances, in the 19th century, in his attempt to emulate birds. Experimenters in Germany, Great Britain and the United States built and flew gliders with considerable success. Then three men fastened engines to their gliders and attempted powered flight. The only American was Samuel P. Langley, who had started experimenting in aerodynamics in 1885. Langley, in 1896, was heartened with a marvelous achievement. His steam powered AERODROME flew three-fourths of a mile along the Potomac River.

Theodore Roosevelt, then Assistant Secretary of the Navy, heard of Langley's experimentation. He wrote this memorandum to his superior on March 25, 1898: "The machine has worked. It seems to me worthwhile for this government to try, whether it will not work on a large enough scale to be of use in the event of war." That year the Army entered into a contract with Langley to investigate and construct a test model airplane. The pioneer received a significant assist from Charles M. Manly in 1903. His helper Manly designed and built a five cylinder radial gasoline engine for use in providing power to the airplane. Weighing 125 pounds, it developed 52 horsepower (hp) at 950 propeller revolutions per minute (rpm).

When the airplane was ready for flight it was positioned on a catapult atop a houseboat on the Potomac. On August 8, 1903, the airplane was successfully launched. Manly was placed at the controls on December 8 and the crude craft catapulted once again from the houseboat. It crashed immediately and began to sink. Manly was pulled out of the wreckage unhurt. The craft was retrieved and place on the houseboat, and later delivered to Washington.

FIRST BIG-WATER FLIGHT

Significant advances in airplanes were made in the five years that followed. The air age was about to dawn. On October 31, 1908, Louis Bleriot of France achieved world fame as an aviator. He flew a monoplane (one wing instead of two), a revolutionary design of his own, from Chalons to Rheims. On July 25, 1909, he flew a monoplane from Les Calais, France, across the English Channel to Dover, England. That flight started the epoch of big-water spanning. Aviation-mindedness spread rapidly after this feat. Men learned to fly, then gave demonstrations at home and abroad to fascinated audiences.

The English Channel was crossed again in 1910, this time by John B. Moisant with a passenger in the first Paris to London flight. Early that year Glenn Curtiss "bombed" a simulated battleship from an airplane using lead pipe as weapons. He made some hits and thus began the earliest battleship-versus-aircraft controversy. While Curtiss was busily improving seaplanes for flight, the world's first seaplane success was by Frenchman H. Fabre, on March 28, 1910. (Curtiss' success wasn't until January 26, 1911, in San Diego.)

CARRIER PIONEERING

The Navy's most active aviation enthusiast was Lieutenant George C. Sweet, first Navy officer to fly in an airplane. He envisioned using aircraft to carry passengers, be stowable aboard ship, be launched from the deck of a vessel, land and take off from either water or land, carry a radio set, and detect submarines. To answer the many queries and proposals on airplanes reaching Washington, Captain Washington Irving Chambers, U.S. Navy, was assigned to keep abreast of aircraft developments. There were numerous contacts between Glenn Curtiss and Captain Chambers, some lively discussions ensued. At Curtiss' request, the cruiser

BIRMINGHAM was fitted with a specially built platform over its deck for a unique demonstration. (Also being prepared for a "carrier take-off" was the liner PENNSYLVANIA, with J. A. D. McCurdy striving for the title of first ship-to-shore pilot.) Curtiss' pilot, Eugene Ely, started his biplane on the BIRMINGHAM which was anchored at Hampton Roads, Virginia. The date was November 14, 1910. Speeding down the wooden platform, Ely took off and his airplane dipped so low its wheels touched the water. Ely recovered in time then continued toward a landing on shore. The flight achievement revolutionized naval tactics, while the Army was busy developing its own aircraft interests. Aviation seeds had been planted and were bearing their first multi-use fruits, the most far-reaching being over water flying.

A FICTIONAL HERITAGE

An extraordinary scene it was! The great Maui found himself indecisive, helpless! The "Quick One," he was called, and "Maui-of-a-thousand tricks" who performed magnificent deeds for fellow islanders, of every conceivable scope and complexity. Incredible that this most widely known of Polynesian demi-gods should now resort to begging his mother's advice.

"My pretty wife has been stolen from me. How can I get her back?" Maui asked.

(What manner of love did Maui have for his wife that her loss depleted his powers?)

Sage and understanding, the woman promptly dispatched her grieving son to his grandfather. Hearing his plight, the old one conceived a plan for Maui. Unquestioningly, he delivered `ie `ie rootlets, ti leaves and feathers to the revered elder. Returning three days later, as ordered, the younger man was overjoyed to behold a magnificent bird-craft for his use.

"Get inside," the grandfather directed. "Pull the cords. They will flap the bird's wings so you can fly through the air. Then go swiftly to the side of your wife."

This Maui did and soon was swooping above Pacific waters and islands toward the land of Pe'a pe'a--the-eight-eyed that held the young woman captive. Two days and two nights Maui flew, over mountains and ocean expanses, then lighted precariously near the adversary. Waiting until the eighth eye closed in slumber, Maui cut off the wicked chief's head. Quickly, he stowed his wife on board the bird-craft then flew back with her to their own island.

Told in ancient Hawaiian folklore, this was one of legendary Maui's many fascinating deeds. Several others also involved flight.

As a lad he transformed himself into a pigeon so he could better search for his parents. He built the first kite then made bigger ones until he had and flew the biggest one of all. Using his brute strength, Maui lifted the sky so many could walk erect, see the sun, and enjoy light and warmth. One day his mother complained that the sun sped too rapidly across the sky, making kapa drying much to time-consuming. Fashioning a rope of coconut fiber, the demi-god climbed the mountain of Haleakala, on the island now bearing his name, and lassoed all but one of the sun's rays. Breaking its "legs" thus, the sun was forced to move more slowly across the Hawaiian sky. Not only did this help kapa drying, it was a boon to workers in the field, to fishermen, and to people surfing and playing on beaches.

For hundreds of years such tales were related in Pacific islands. Maui was a pan-Polynesian hero, claimed by many islands. One was named for him. He was a sky hero, indeed! Reared by the sea gods, Maui was educated by his ancestor in the sky, Tamanui-k-te-rani.

In the Hawaiian Islands, none was more exciting for Hawaiian lads than the birdcraft's flight between islands. Being isolated from the world, fancies of adventuresome escape occupied their thoughts for a thousand years. Although they traveled atop ocean waters, the men dreamed of "surfing in the sky" but invented no ingenious gadgets to put such ideas to use. When Christianity spread, such tales were considered puerile and worthless works of heathens.

Early Hawaiian writers touched lightly on the deeds of Maui. Nevertheless, the flying tale serves as a fictional heritage in flight for Hawaii. From the 18th century on, the incident grew less incredible in basic concept as man progressed in inventive abilities.

FIRST FLIGHT IN HAWAII

On December 19, 1910, a "real birdman" arrived in Honolulu aboard the Manchuria. Whipple Hall, agent for the Curtiss Aircraft Company, debarked with an excitingly strange proposal. He announced that within a week two airplanes and men to fly them would arrive by ship. Hawaii was to be the first stop on the group's 30,000-mile demonstration tour which included Japan, China, the Philippines, Siam, Singapore, Java, Persia, Africa, the Holy Land, Egypt, Spain, France, England, and "anywhere else bird men had not been seen before."

The Curtiss agent proceeded with arrangements for the entourage's arrival and the exhibition flights. During an interview, Hall explained that his Curtiss flying machine was a speedster, requiring 35 miles per hour to stay off the ground, while the competitive Wright planes, with their greater lifting power, would go backwards and keep climbing in a strong wind.

Hall, the son of a California judge, was an excellent representative for aviation. He had flown in America and Europe. After more than a year as a pilot, an aircraft accident forced him to the sidelines. Hall was sought constantly by the press. In interviews he explained the "tricks" of flying, about having to first learn to get a plane off the ground and back again, getting it to balance in the air, controlling it in flight, learning how to make a circle, then going on from there for altitude or speed records, and "all kinds of fancy maneuvers."

Honolulu's imagination was stirred by Hall's words. Residents looked forward to the arrival of the men and flying machines. Announcements continued in daily newspapers, plus features on flying. One article was printed which was to have an ironic flavor to it over 30 years later. It related that a dummy battleship was placed at the Philadelphia Fair as a target for airplanes. During the demonstration, flyers dropped eggs and paper sacks filled with flour from their aircraft in attempts to "bomb" the ship from the air. The several Navy officers who watched were quoted as saying Naval craft need never fear the airplane.

On December 27, 1910, J. C. "Bud" Mars, pilot for the demonstrations, arrived on the Wilhelmina. Also, aboard the same ship were Captain Thomas Scott Baldwin, the veteran flyer, Tod Shriver, the plane's designer and also an aviator and two kite-like airplanes. Their strange looking metal birds were taken to Samuel Damon's Moanalua polo field for assemblage. Each was a pusher craft with propeller and engine behind the pilot; there was no cabin or compartment for the man. One was put in flying order. It was a cumbersome-looking contraption. Where the retinue went, particularly Mars, crowds of awe-stricken and curious people followed.

Prior to their arrival, Hall spoke highly of these three men. Captain Baldwin, America's first airship builder, had contacted airplane pioneer manufacturer Glenn Curtiss (1902) with the idea of installing an engine on his airship, CALIFORNIA ARROW, in the St. Louis Exposition (1904), the first successful controlled, motor-driven circular flight in America. He was a famous balloonist, and well-known for making the first parachute jump in America (1887).

Tod Shriver was an enterprising engineer whose ideas for design appealed to Curtiss. He was also qualified as an aviator.

Bud Mars had the reputation of being the most daring flyer in the United States. A case was cited to the press of him swooping under the bridges across the Mississippi River. Speaking of Mars' flying abilities, Hall said the "daredevil" might be willing to take a Honolulu lady in the air, if one dared volunteer. After an expected silence, two days later one not only volunteered

but demanded she be taken up by Mars. To prove her lack of fear, she climbed to the fourth floor of the Alexander Young Hotel and teetered on the edge of the parapet.

As for the lady passengers, Mars was strong in his denial of any such intention. "No aspiring young ladies or others will be taken up by me in flights over Honolulu. My price for carrying passengers is five hundred dollars a trip, but I would not take any here for that money. The field is too small and the hills rise too abruptly for safety." He stated that in New York, 32 people rode as his passengers in a two-day period, but they were on short hauls. He stated that another popular flyer, Claude Grahame-White, recently made $4,000 in three days carrying passengers in the East.

Hall left the others to the task of putting the plane together for its maiden flight (it was new and was never flown before). The Curtiss agent went to Hilo, Hawaii, to discuss flights on the Big Island. A dispute over guarantees, however, cancelled flight demonstrations there.

The services of Honolulu's Jack Scully and Edwin H. Lewis had been secured for promotion of the flights on Oahu. One of their first acts was to secure the demonstration site.

Tickets for Honolulu spectators went on sale at the Empire Theater, the M.A. Gunst cigar store and the Alexander Young Hotel, at one dollar each. One airplane was assembled by December 29th, two days later all was in flight readiness.



Fig. 5. Preparing for first flight in Hawaii, at Moanalua Polo Field, near Honolulu, December 31, 1910. The Curtiss P18 stands ready, with its pilot (bareheaded in front) J. C. "Bud" Mars and entourage holding pre-flight discussion.

People arrived on the scene by auto, bus, carriage, drawn by staid old hack horses, bicycles, and afoot. Most of the 3,000 fans that paid admission charges were in full attendance at Moanalua polo field. Hundreds more gathered on surrounding hilltops. Someone counted the vehicles and came up with "200 honk cars," one of which held deposed Queen Liliuokalani and her friends. The tent hangar was filled with curious people observing the plane's odd assemblage of spruce, ash, bamboo, steel tubing, and rubberized silk wing covering (an invention of Baldwin). Several feet wider than the ordinary Curtiss biplane, Shiver's design gave it about 30 feet of wing span, its wings five feet wide and the same distance apart.

Soon after 2 p.m., December 31, 1910, the mainland group finished preparations and the slight young man, Mars, climbed aboard the Curtiss P18 biplane. Whipple Hall and the promoters beamed to the large paying crowd, but were dismayed that hundreds more were about to see the same exhibition free of charge from excellent vantage points nearby. The designer, Tod Shriver, stood by patiently. Captain Baldwin was ready to time the event. Crowds held their breaths in suspenseful wonderment, then the engine sputtered and the propeller spun around. The new plane was successfully started.

At 2:10 p.m., the marines who guarded the plane moved to one side and the manned box-kite made its way bumpily down the grass "runway." By Captain Baldwin's watch, it took Mars nine seconds to get airborne. Thousands of people burst into a yell of approval to see their first airplane flight. They were watching history being made in a feat—unknown to them at the time—which would alter the destiny of Hawaii and, along with other places, the world.

Climbing to 500 feet, Mars flew to the hills then back over Moanalua field. Within minutes, he brought the airplane to a standstill on the ground and the crowds gathered in close to see the new hero dismount his iron bird. The test flight was a complete success. Mars met his admirers then lavishly began lauding the airplane and its designer, Shriver. The group then set up a christening ceremony, with the designer's wife doing the honors. There was no champagne available but someone went to get some by motorcycle. When it arrived, Mrs. Shriver christened the plane "Skylark," as Mrs. Mars stood by elated at her husband's performance.

Now more relaxed, the young pilot mounted his Skylark and proceeded to make another flight. This time he flew higher and farther. His route was to Red Hill, which commands a superb view of Pearl Harbor and the military plains of Leilehua beyond. A third time, he pleased his promoters by dropping paper souvenirs over Moanalua field.

Two lads watched with special interest. They were the Tuttle brothers, Malcolm and Elbert, who only a short time prior built and flew a glider over the Kaimuki Hills.

Also watching, but with a great deal more interest, was Lieutenant Winters who was in the throes of assembling an airplane for flight from Schofield Barracks. He made drawings and took measurements between flights.

In his fourth and final flight of the day, Mars climbed to 1,500 feet then proceeded to make turns, dips, glides, and a "terrific" speed run. After landing, a huge celebration was held in Honolulu.

The following day, Mars' statement appeared on the front page of the SUNDAY ADVERTISER: "I am proud to have been the first man to fly over the soil of these beautiful Islands," then added, "I am proud to hold the pioneer air record for Honolulu and I am glad, too, that the new Skylark has taken her maiden flight here. She is after this the Honolulu Skylark and I will call her that wherever we go on our trip towards the Far East. I find your Hawaiian air currents rather tough ones, but everything else was lovely."

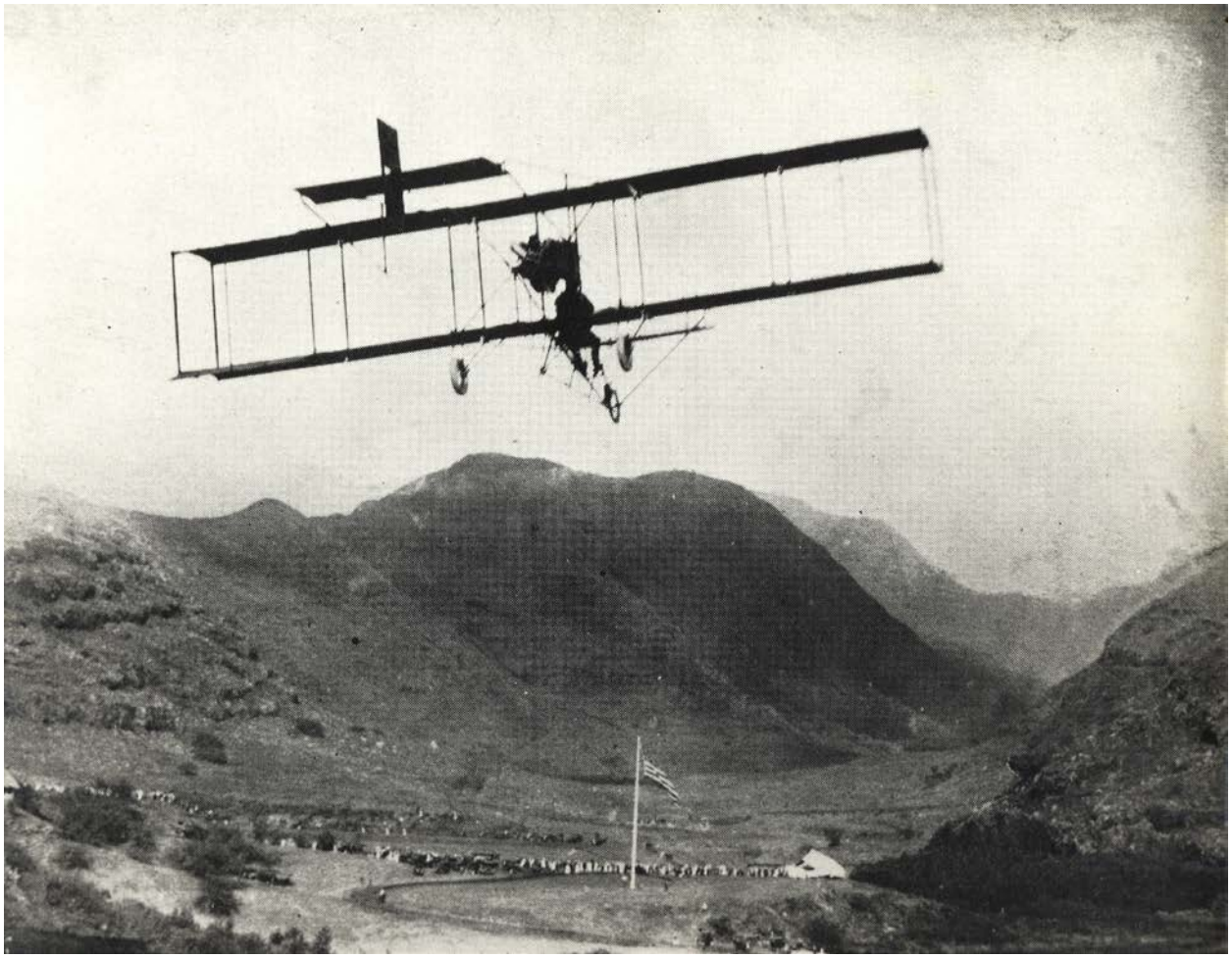


Fig 6. View of first powered flight in Hawaii.

On New Year's Day, Mars made more flights. This time there was 5,000 paying customers but about 10,000 had side-tracked ticket sellers to take positions on high places overlooking the flying area. The aviator flew a total of four flights, each time battling heavy gusts. At one point, winds forced his plane down to within a few feet of the ground. Later, winds almost caused him to hit the tent pole on the field.

Watching the flight activity, one local boy referred to Mars' airplane as "Pinao," Hawaiian for dragonfly. Another cried out, "Aloha, Mokulele!" (sky-boat, aircraft).

The next day, winds were even more treacherous but Mars made three more flights. Crowds were even larger but once again there were more people on surrounding hills than in the paying section. On his second flight that day, Mars encountered a broken rudder. After making temporary repairs, he took off a third time. But the rudder's condition and strong winds forced the flyer to cancel his attempt at an altitude record. Mars informed onlookers that had he flown for it he might have been killed.

The retinue was disgusted with demonstration profits in Hawaii. They decided to sail for Japan in search of accommodating winds and more paying customers. Although feted as a hero the first few days in Honolulu, Mars left the city a bitter man. He minced no words by calling the non-paying onlookers "pikers" and "deadheads." Scully, upon recapitulation of expense

versus profit, determined the group "just about split even," after once being $2,000 in arrears. Each exhibition had cost $5,000 but receipts averaged $1,350.

The first flight exhibition was over. Man had flown a powered airplane over Hawaii successfully almost 22 years after Joseph Lawrence and his balloon were lost in Keehi Lagoon (November, 1889). It was an unfortunate ending to the advent of airplane flying in Hawaii; one beset with profit motives and name-calling. But the mark had been set. Many more were to follow.

That same month a tantalizing article, "The Coming of Airship," appeared in the PARADISE OF THE PACIFIC magazine. Emphasizing that the flight demonstrations by Mars and troupe represented a serious effort after all, it stated: "Perhaps it will not be so long before realization is seen of the prediction of quick airship trips between Honolulu and other island ports."

CHAPTER III

MORE FLIGHTS



Fig. 5. Didier Masson posed on his bi-plane before taking off from Leilehua (Schofield Barracks Field) June 22, 1911. He later crashed.

During May, 1911, Dexter P. Dorgan of the Continental Aviation Company, San Francisco, arrived in Honolulu to arrange flight demonstrations by pilots Clarence H. Walker and Didier Masson. A young millionaire, Walker originally took up flying as a pastime. He built his own airplane at Salt Lake City but, unable to make it fly, decided to take bona fide flying lessons then buy an airplane of standard construction. Purchasing a Curtiss biplane (60 hp) for $6,500, Walker found it profitable to go into the flying business. He teamed up with Dorgan and French aviator Masson then proceeded to Hawaii, first stop of a tour to include several cities in Australia. Hilo's Hawaii Herald of June 8, 1911, reported: "First recognition came through his winning prize for amateurs at the big meeting given at the Tanforan race track, San Francisco, in January. After that he made flights throughout California and on May Day in Watsonville he covered 20 miles without a mishap of any kind."

Masson was an experienced pilot with a reputation for daring. Most noteworthy of his recent aerial feats was participation in the United States' first aero meet, in Los Angeles, the previous year. He had amazed onlookers there by climbing to a height of 6,000 feet and carrying 500 newspapers over a "sensational 79-mile route," then delivering the papers upon flight completion. Arizona and Mexico were the sites of his most recent demonstrations. His airplane was a Bleriot Antoinette with a Gnome seven cylinder engine developing 50 hp.

Walker and Masson arrived in Honolulu on June 3. The former's biplane was on board, so was the new Mrs. Walker. Four days later, Walker, his wife and Mr. N. C. Adossides, president of the Continental Aviation Company, were in Hilo, Hawaii. They met with the local promoter, Mr. Felix Brughelli, and made arrangements for flight demonstrations out of Honolulu Park, a horseracing facility in Hilo. Walter inspected the track to check for flight suitability. He found the enclosure too small for easy take-offs but indicated a willingness to make a flight from

the grounds if a purse of $500 was offered. Two days were agreed upon, Saturday, June 10 and the following day. The Hilo Railway set up a special schedule for the two days to handle the expected large crowds. Brughelli began selling subscriptions and found eager response from Hilo residents.

On Saturday, Walker and his group arrived at Honolulu. The flyer made several test flights prior to public demonstrations, thus giving Big Islanders their first view of an airplane in action. The paying crowd which had gathered was disappointingly small; most of the local people were planning on Sunday for the aerial show. The aviator got ready. Mrs. Walker stood by proudly as her husband started the engine and bumped along the grassy field to a quick take-off. The biplane rose rapidly amidst enthusiastic cheers. "From the beginning the eight cylinder engine was heard to misfire, the plane's wings tipping from side to side. He flew to the edge of the ocean about two miles from the field then decided that a quick landing was the next order of activity. Walker said later, "I thought of landing in the ocean and then on the beach, but the water looked too deep and the beach was too full of boulders." The flyer headed back to the field with his unsteady, coughing airplane. Then on the eave of a smooth landing, a gust of wind caught and dashed the airplane into a 25-foot high lauhala tree. Four or five of the boys perched atop the tall tree was knocked to the ground. The tall tree's outstretched branches served to soften the plane's fall and the craft impacted the ground in sections. The spunky pilot emerged from the wreckage and climbed onto the race track fence to show crowds, including his wife, that he was unhurt. This dramatic gesture was marred somewhat when fence boards gave way, sending Walker reeling unceremoniously to the ground. The atmosphere further lightened when Walker unleashed a verbal tirade about the airplane manufacturers and bemoaned his loss of $6,500. Repairs to his wrecked biplane were arranged with Hilo mechanics and the young couple boarded an inter-island ship for Honolulu to join Masson and the others. The Hawaii Herald's June 15 edition carried the aviation story on its front page. It stated that spectators got their money's worth, seeing the airplane fly "but also had a chance to realize the danger of the sport, when Aviator Walker's biplane came to a sudden stop in the branches of a lauhala tree." Walker received $1,250, the contracted fee, and the promoter lost approximately $1,000 due to one day's demonstrations having to be cancelled.

Walker found Dorgan departing for Australia to make arrangements for flight demonstrations in several major cities. E. J. Love was left in charge of local activities.

Masson's two monoplanes had arrived on the SIERRA, June 16. Kapiolani Park was suggested by Walker as the flying site in Honolulu. The Park had broad fields and numerous roads to admit large numbers of spectators and comparatively steady winds blew across it. The demonstrations were to be public events. Admission could not be charged, yet the flyers required a guaranteed fee of $1,500. For that amount, 10 flights would be made by the duo using both types of airplanes, biplane and monoplane. They promised "sensational stunts" and considered the price a bargain as compared to Bud Mars' offer. In addition, Masson promised to make a "20-mile flight in unknown airs from Leilehua to Kapiolani Park at 5,000 feet altitude," for the benefit of interested Army officers from Schofield Barracks. The date for both performances was set at June 18.

Crowds came early the morning of June 18 and camped at Kapiolani Park until demonstration time. Soon there were 10,000 people on site. At 6:11 a.m., the veteran French pilot took off from Leilehua, circled the Barracks, and then flew at the promised altitude toward Diamond Head. En route, he encountered a cloudbank which set his engine to misfiring. The worried Masson made a safe landing at Kapiolani Park 19 minutes later.

Approximately four hours later, Masson climbed into the Antoinette. The plane failed to move. Obviously stalling for time, he complained about the need for oil servicing. After receiving the oil, he decided to partake of an early lunch. At 1:30 p.m., when he returned, Masson got into the airplane once again and started the engine. This time the airplane moved on a take-off roll, but 400 feet away the engine was abruptly shut down. At this point, Walker left to go swimming. The hot, disappointed crowd suspected fakery and began to complain bitterly at not seeing a flying demonstration. Masson explained that his airplane was new, requiring three days of testing. Police and soldiers were needed to keep angry crowds from mobbing the young flyer. Someone snorted that "Bud Mars had gone up in a far stiffer wind and kept faith with the public." Masson managed to escape the area. On June 22, the French aviator almost lost his life. He took off from Leilehua and fell into a nose dive 100 feet in the air. The plane crashed. Honolulu reporters phrased the pair's activities "to fly or not to fly," and when it was announced they were leaving Hawaii the people declared "good riddance."

The ADVERTISER, some months later, announced that Masson became a mercenary flyer for Revolutionist Pancho Villa and dropped the first known bomb from an airplane in the Western Hemisphere (May 10, 1913). He had smuggled two biplanes across the Mexican border into the state of Sonora where he joined Revolutionists besieging the city and port of Guaymas. He flew regularly over the defenders' lines, averaging four flights a week. For this he reportedly received a salary of $800 per month.

The article stated that on one reconnaissance flight, Masson's plane became unmanageable and was forced to land, where upon the flyer was captured by Mexican Federals. It was stated that a rope was placed around his neck, his hands bound, and then Masson was led to the edge of a freshly-dug grave where a squad of soldiers shot him.

Didier Masson, however, remained very much alive and went on to military aviation fame during the Great War. Along with Raoul Lufbery and a number of other flyers, Masson joined the exciting Lafayette Escadrille (and remained with the French Air Service when the American Air Service absorbed this unit).

Aviation had been introduced in Hawaii, but it had a poor start. To instill air-mindedness in Hawaiians, it would require a flyer of excellent abilities and an outstanding personality.

Hawaii came up with another first in its aviation history in 1911, when Gus Schaefer of Honolulu built the first locally produced airplane. The designer-builder had originally intended to fly his airplane, but Mrs. Schaefer had other ideas. As a result, the experienced pilot Kenneth Gordon was hired to fly it. The former auto racer had been a pilot for three years. His experience included demonstration flights in Europe, the Orient, and the United States. After the Hawaiian venture, he intended to fly in Manila.

The airplane, named "Gig" by the pilot, was well tested in preparation for flying demonstrations. Gordon talked freely to the press about his flying prowess, explaining the "stunts" he intended to perform for Honolulu. Among other daring acts he promised a night flight over the city with Army and Navy searchlights following him through the air. Commenting on Masson's "long flight" from Leilehua, he was impressed but stated he would not have done it. Gordon distrusted monoplanes.

No record of the demonstration flight is known.

Gus Schaefer's plane came into the news again on January 1, 1912. Burton H. Dryer, chief machinist's mate on the USS West Virginia, explained his flying background to Schaefer and talked the builder into letting him fly the plane on a test run at Leilehua. Schaefer accepted the offer but warned the alleged pilot to follow Glenn Curtiss' advice for single-plane and unproved airplanes: initially, fly just above the grass tops.

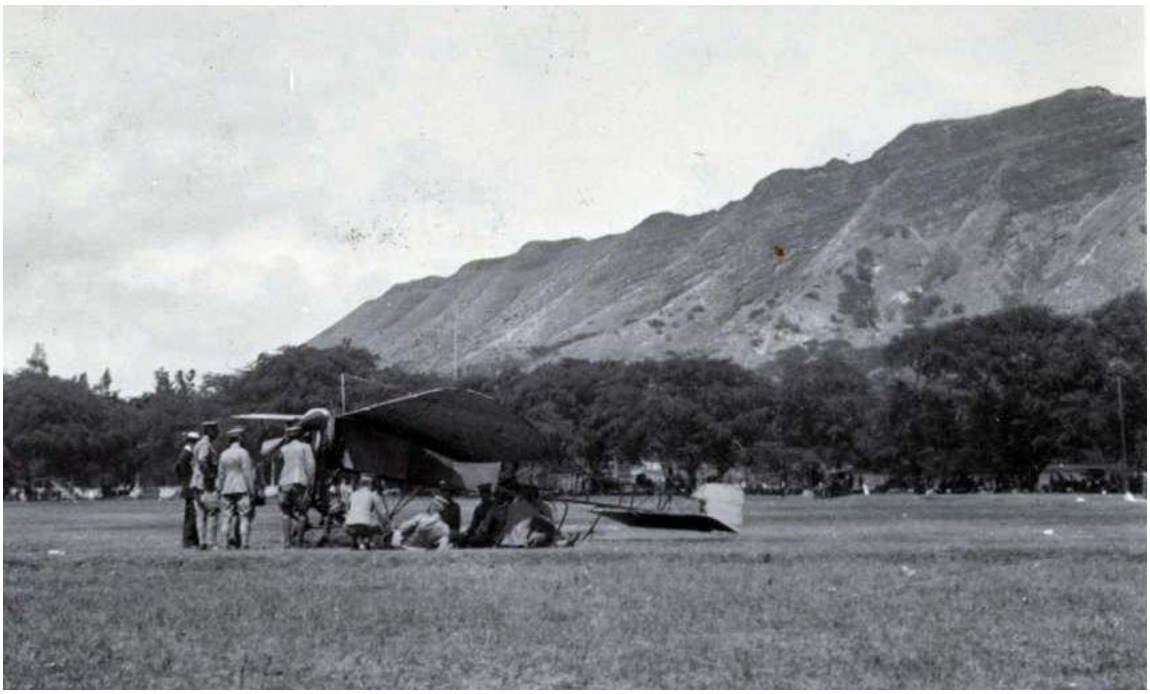


Fig. 6. A bi-plane readies for a demonstration flight at Kapiolani Park.

With the help of about 20 people, Dryer managed to get the airplane moving along the ground. At first, he followed instructions by staying low. Suddenly the plane was seen to lift abruptly upward. At about 40 feet elevation it went into a left turn, one wing dipped, and the plane hurtled to the ground. Dryer was removed from the wreckage and taken to Schofield Barracks' hospital. The crumpled plane was hauled away. The seaman, not badly injured, was released from the hospital four days later and reported for duty on board ship. That same day (January 5, 1912) Robert Fowler cancelled his intended crossing of the United States by plane, having been beaten in an aerial race. On January 5, Glenn Curtiss announced the development of a flying boat which could carry 12 men, propelled by a 20-hp engine. He expressed the hope his plane would be of use to the government for wartime and for rescue.

MARINES FLY

It appeared that aviation enthusiasts had impressed Government officials with usefulness of airplanes, beyond demonstrations and entertainment. The United States Marine Corps became interested in military aviation. In May, 1912, Lieutenants Alfred A. Cunningham and B. L. Smith reported to Naval Aviation Camp, Annapolis, Maryland, for flight training. Soon they were Naval Aviators 5 and 6. Cunningham soloed in August after 2 hours and 40 minutes of instructional flying. Not only was he Naval Aviator No. 5 but Marine Aviator No. 1. The following year he was made a member of the Chambers Board comprised of six naval officers plus himself, charged with drawing up "a comprehensive plan for the organization of a naval aeronautical service," and, of course, assuring the USMC of a rightful place in military aviation. On May 30, 1912, pioneer aviator Wilbur Wright died.

TOM GUNN

Tom Gunn's name was added to the list of aviation pioneers in Hawaii in 1913. Born and educated in San Francisco, Gunn had represented China in the 1910 International Aviation Meet held at Los Angeles, earning the name of the "Wright of China.": When the revolution broke out in 1911 in China, Tom Gunn was cabled by Dr. Sun Yat Sen for service in China " — with the idea that a few bombs distributed from airplanes would settle the Manchu dynasty forever." In the next two years, Tom Gunn had made over 800 flights and carried more than 300 passengers. Now in Honolulu, the aviator had three planes of his own design to use. Gunn prepared to give demonstrations such as Hawaii residents had never seen before.

On July 5, 1913, his airplane was readied for a demonstration at Schofield Barracks. Calling them vaudeville tricks, Gunn prepared a flying show consisting of volplaning, an aerial mail service demonstration, a "dip of death," and several speed runs. Gunn also intended to take a resident with him on a passenger-carrying stunt.

With the help of his brother, Tom Wing, the flyer put together his biplane for the most daring flying exhibition Hawaii had yet seen. A local tailor and a young lady ticket taker in the Empire Theater each volunteered to ride as passengers.

On July 8, Gunn made an impressive 25-minute flight while Army personnel, newsmen, and hundreds of bystanders watched at Schofield Barracks. He made a second flight that day and delighted Wahiawa residents by circling their city. He gave a public demonstration (no charge) at Schofield Barracks on July 13. Following a test flight in the morning, Gunn took up Hawaii's first airplane passengers after lunch. For safety and passenger concern, he merely skimmed the ground. During the last passenger flight the propeller became damaged and remaining flights had to be called off. Watching the unique display was a young lad from Wahiawa, H. F. Chun. Thirty-one years later, Chun recalled: "I wasn't really very impressed with what I saw. I guess it's because Tom Gunn had a great deal of trouble getting his airplane to fly. Like many others, I left early. It certainly didn't look like the transportation of tomorrow in the making. As it turned out, Gunn did his share for aviation in Hawaii."

Gunn next placed pontoons on his airplane and on October 2 took off from the waters of Honolulu harbor. This was the first such feat in Hawaii. Following the flight, Gunn announced a willingness to take up passengers at $25 apiece. Mrs. Newman, a Honolulu resident, volunteered. She became Hawaii's first paying airplane passenger during a 15-minute jaunt above the harbor.

Later, Gunn shipped his craft to the island of Maui where Valley Island residents were given their first view of an airplane in flight. Sponsored by Hawaiian/Japanese newspaper, Nippu Jiji, and the Chinese Athletic Union, the aviator demonstrated at Pearl Harbor in January, 1914. He maneuvered his seaplane both on the water and in the air, while Hedemann Brothers made speed runs (31 mph) in a motor boat.

Tom Gunn represented aviation well in Hawaii. He displayed an excellent attitude, flew with skill and versatility. He could be rated a pilot's pilot, before the complimentary phrase was created. Gunn helped make flying palatable, then exciting.

In late October, 1919, Gunn arrived in San Francisco on the SS ECUADOR from the Far East. He explained to reporters having left Hawaii then stopping off in the Philippines for aerial demonstrations and the inauguration of an air mail service. Then he made his way to China. Gunn claimed to be head of the Chinese Army Aviation Bureau, at the time in the United States to purchase 18 airplanes for the Chinese government. "North China is under Japanese domination," Gunn stated, "and the southern provinces are rebellious. The discontent will doubtless result in open rebellion soon."

At about this time the United States was becoming more conscious of aviation. Many looked on it as a sideshow. There were few thoughts by the population of the scientific, commercial, or military possibilities of aviation. For the active flyer, it was a paying business. The average pilot drew a reported $1,500 per day for flying demonstrations and more prominent flyer's received more.

ARMY AIRPLANES COME TO HAWAII

The first military airplanes and aviation personnel arrived in Honolulu on July 13, 1913. First Lieutenant Harold E. Geiger, U.S. Army, brought with him 12 enlisted men and a civilian engine technician named George Purington. They had been transferred from the Army's first permanent flying training center, Glenn Curtiss' San Diego flying school. The group was under orders to set up a flying school in Hawaii; another was set up in the Philippines. With them were two seaplanes, S.C. No. 87, a Curtiss E two-seater, dual control trainer; and S.C. No. 21, a Curtis G, fuselage tractor (propeller in front of the pilot). They also brought along a supply of spare parts, machinery, tents, and other equipment.



Fig. 7. Army Lieutenant Harold E. Geiger became the first military aviator in Hawaii, his unit the first to be stationed in the Islands in 1913.

Geiger and his men arrived at Schofield Barracks (the directed site) in time to watch Tom Gunn's performance. They flooded him with questions. The inland facility was unsuited for seaplane operation so Geiger set up operations at Fort Kamehameha, at the entrance to Pearl Harbor. The ancient fort is named after the Royal family of Hawaii and in honor of its first king. It came under U.S. control with Hawaii's annexation (1898) to guard Pearl Harbor.

Fort Kamehameha appeared to be an excellent location, but Geiger soon found a safety problem. He could only fly during high tides. To make matters worse, the strong winds ripped and toppled his tent hangars. The group settled in, nevertheless.

One day, Geiger made a flight from Pearl Harbor to Diamond Head at the "incredible" speed of 60 mph. The demonstration hinted that airplanes could become useful supplements to garrisons and ships, adding considerably to Hawaii's defense posture. But treacherous winds made long flights difficult. All regular flight activity was curtailed and the airplanes were

banned from participating in maneuvers by the Army commander in Hawaii. After only four months the unit was disbanded and returned to the mainland (November, 1913). Geiger transferred to lighter-than-air activities, subsequently becoming one of America's top dirigible experts of World War I. Geiger died in a crash during 1927. Standing in memory of this pioneer Army flyer is Geiger Air Force Base near Spokane, Washington.

FIRST ISLE FLYER

The first Hawaiian resident to graduate from a flying school, and first to hold sea and land plane ratings, was Sen Yet Young, Honolulu-born son of a wealthy Chinese. Young soloed at the Curtiss flying school in Buffalo, New York on October 2, 1916. His instructor was Phil Rader who claimed to have been in the first known aerial combat (in Mexico, late in 1913). Later, he remained to study airplane mechanics as well. Subsequently, a Buffalo newspaper reported the Hawaiian's intention to purchase a Curtiss plane "and take it to the land of the hula-hula."

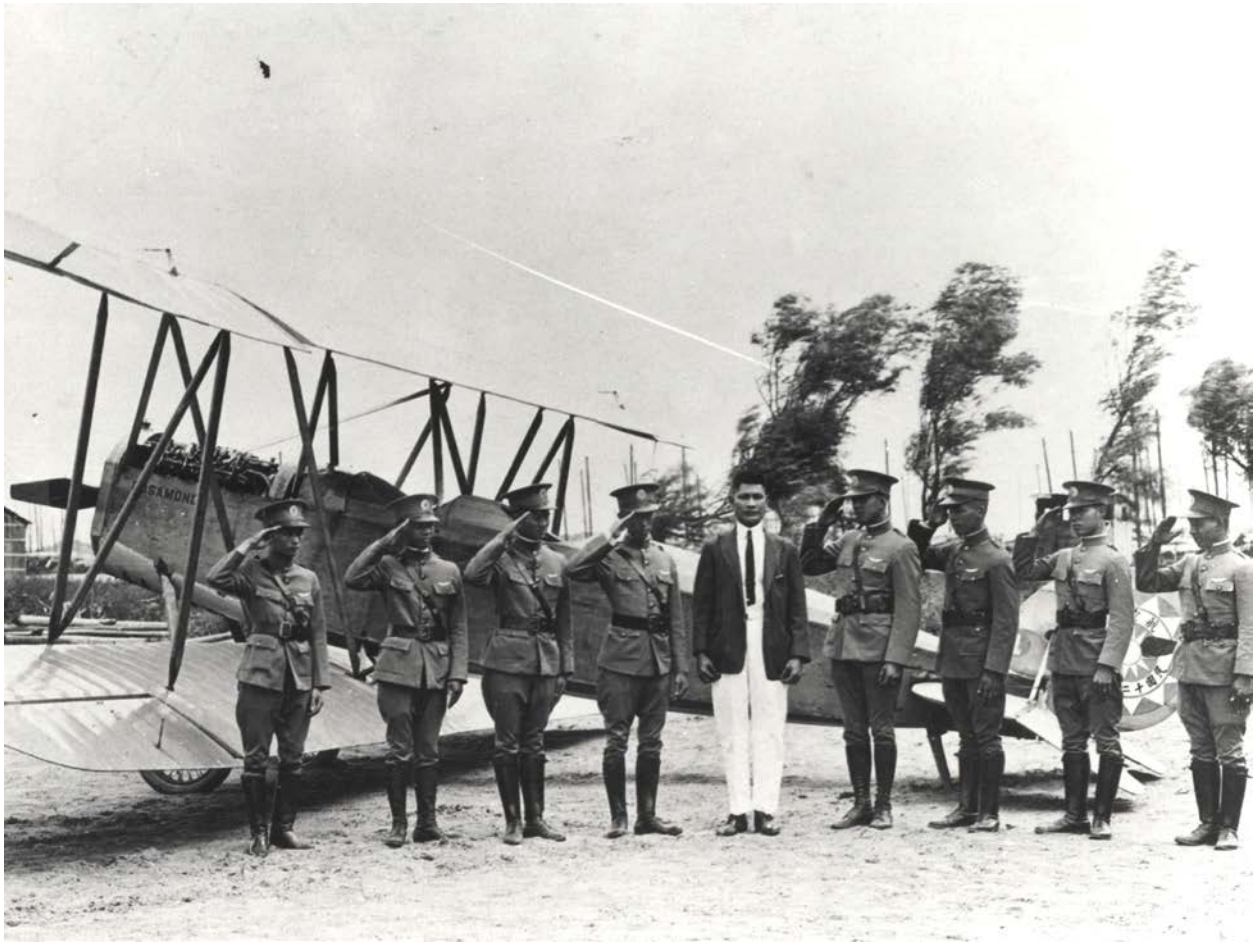


Fig. 8. First Hawaiian resident to earn a pilot's license. Sen Yet Young stands in midst of Chinese fliers. First airplane manufactured in China in background, (1923).

Few people knew why Young took flight training or how he intended using the rare skills. Y. Ahin, Young's father, was a chose friend of Dr. Sun Yat-Sen, a fellow immigrant also living in Honolulu. Feeling he was China's man of destiny, Sun founded a revolutionary

confederation (1894), the Save China League (later renamed the Kuomintang), and developed techniques to overthrow the Manchu leaders. These were to consolidate anti-Manchu secretary groups, link in the modernized overseas Chinese, and instigate incidents which inspire rebellious actions; then effect a revolutionary administration. In preparation for the final blow, Sun spent much of his time soliciting support overseas. Often he stayed at the home of Y. Ahin in Honolulu. When only 11 years old Sen Yet Young listened to the revered Dr. Sun's words and vowed to one day help his cause.

After a successful coup in 1911, Sun was sworn in as the first president of the Republic of China (January 1, 1912). But the statesman was deposed by imperial general Yuan Shik-k'ai. Dr. Sun attempted to overthrow the new government but failed and was forced to leave the mainland of China.

Sun began pre-revolutionary tactics once again. Young was now in a position to help. A certificate issued in China commemorating Sen Yet Young's death reveals his activities:

"Following the death of Yuan Shih-K'ai, the Kuomintang had established itself as the controlling party of China with Dr. Sun Yat-Sen as its president. With the nationalist government under democratic principles, the party's new push was for national unity which could only be brought about by the abolishment of warlordism. This, however, was a slow and enduring process since the Kuomintang had only light and limited armaments with which to fight the warlords as they had previously done against Yuan Shih-K'ai. Seeing the lack of effective weapons, one of the Kuomintang members stood out as a national patriot by devoting his life to the establishment of larger, more effective and more powerful military armaments, Young Sen Yet."

"In the seventh year of the Republic of China and at the age of 27, Young designed and flew the first Chinese built airplane. Then in the eighth and ninth year, Young Sen Yet, with Chinese-built and foreign-built airplanes, helped the Nationalist government beat the warlords in the Kwantung province. Following that, he went abroard to do more studying on the rapidly advancing science of aviation. He went back to Hawaii, then Massachusetts, New York, Mexico, and Japan to study the different techniques of airplane building. During that entire trip, he campaigned for the Kuomintang and collected money from overseas Chinese to support the education of Chinese boys in aviation school. His own father, Y. Ahin, had contributed enough money to purchase four airplanes for China. Following that campaign, more than 10 Chinese pilots were successfully trained for aviation. Each of these men at a later date became a general of the air force in different provinces of China."

The memorial to the flying Islander stands in the Chinese counterpart of Arlington National Cemetery, in Canton. His widow, Shing Du Shung, was on the Communist "most wanted list" and barely escaped with her life into Macao. She presently resides with their only son, Tim Oy Young, in the United States. The young man also learned to fly at a Curtiss School then flew with the Chinese against Japanese warplanes. In later years, he worked in Pearl Harbor. Sen Yet's twin daughters reside in the freedom of Hawaii, as mainland China remains in torment. One, Mrs. Florence Wai-Kyiu Doo, managed to rescue the other, Canton-raised Mrs. Wai-See Young Lowe from behind the Bamboo Curtain in 1956.

ARMY PLANES RETURN TO HAWAII

Brigadier General M. M. Macomb, commanding the Hawaiian Department, U.S. Army in early 1914, stated that airplanes were not practical for observation purposes in Oahu, that captive balloons should be used instead. After the outbreak of World War I, aviation began to be viewed as a real potential military tool. In 1916, the War Department directed the Army to organize and

place into operation seven aero squadrons of 12 airplanes each. Four were to be stationed in the mainland and three overseas. In spite of Lieutenant Geiger's adverse experiences at Fort Kamehameha, the 6th Aero Squadron, Aviation Section, Army Signal Corps, was scheduled to be stationed in Hawaii for "aerial coast defense" of Oahu. The Hawaiian Air Office was activated in the Alexander Young Hotel, Honolulu, on November 20, 1916. A special staff section of the Hawaiian department, it was placed under the leadership of an infantry lieutenant until a qualified air officer arrived.

Captain John F. Curry was selected to command the 6th. At the time, he was a pilot with the 1st Aero Squadron which was part of the Pershing Expedition into Mexico. He commanded the aviation detachment at General Pershing's headquarters at Colonia Dublan about 115 miles below the border. Now a retired major general, Curry recalled: "As I had no idea of the plans contemplated for coast defense in the Hawaiian Islands, I wrote to the Office, Chief Signal Officer, requesting that I be ordered to Washington for conference and instructions. In reply, I received a wire disapproving this request due to lack of mileage funds and giving me no instructions as to what was desired and ending as follows: 'This office relies on your initiative, energy and discretion to carry out its plans. You will proceed at once.'"

The young flyer arrived in Honolulu on February 13, 1917.

"On arrival I found that there were no plans, nor any instructions awaiting me, nor was there anyone in Hawaii who had any idea of what the War Department wanted. I felt free, therefore, to make all necessary arrangements and plans for the establishment of an aerial coast defense base."



Figure 9. Captain John Curry commanded the 6th Aero Squadron, Army Air Service, which became permanently stationed in Hawaii in 1917.

Curry reasoned that "the air force will act similarly to a long range coast artillery weapon" and that "defense of the Hawaiian Islands will be primarily from the air and will be based on the bombing and restriction of enemy fleet and transports before a landing on Oahu can be effected."

Within a few days of his arrival, Curry learned that he would receive Curtiss N-9 seaplanes, single engine biplanes which carried a two-man crew, could attain a top speed of 70 miles per hour with engines rated at 100 horsepower. The N-9 weighed 2,400 pounds. He proceeded to scan Oahu for suitable facilities, while selecting Fort Kamehameha as a temporary site for his operation. Final decision was Ford Island in Pearl Harbor, for several reasons: "It had excellent approaches and plenty of water for landings and take-offs. It faced into the prevailing wind and a land airdrome could be easily made. It was within the Red Hill line. It was the cheapest and most available land (really the only available land) that fulfilled all the requirements that we needed."

(Ford Island consists of 335 acres of land situated in the east lock of Pearl Harbor. In early Hawaii, natives referred to it as Mokuumeume, meaning Island of Strife. Obtained in 1866 by Honolulu physician Doctor Seth Porter Ford, upon his death it was sold to John Ii who developed it into a thriving sugar cane plantation. In 1873, a military commission comprised of the Army's Major General John M. Schofield and Lieutenant Colonel Burton S. Alexander made a survey of the island of Oahu for defensive possibilities. Their report to Secretary of War Belknap recommended the United States obtain cession of Pearl Harbor, together with its shore for four or five miles back, deeded free of cost to the U.S. in return for allowing Hawaiian sugar to enter the mainland duty free. Ford Island, they stated, would be excellent to accommodate a depot of naval stores and equipment. Proclamation by King Kalakaua on November 9, 1887 granted the United States "exclusive rights to enter the harbor of Pearl River . . . and to establish . . . a coaling and repair station for the use of vessels of the United States, and to that end the United States may improve the entrance to said harbor and to all other things needful to the purpose aforesaid.")

Curry's recommendations were approved locally then, also, in Washington. He stated, "I then made the necessary arrangements with the owners, the John Ii Estate, for the purchase of the land and drew up plans for the establishment of a base that would accommodate several squadrons. Estimates amounting to about $1,300,000 were submitted for the establishment of the base and an additional sum of about $325,000 for the purchase of the Island."

Later that month, 50 men from Rockwell Field, California, were transferred to the 6th Aero Squadron. One enlisted man deserted but Captain John B. Brooks arrived with the remaining retinue aboard the SHERIDAN on March 18. That day Captain Curry enacted his organization and assumed control and command of the 6th. However, there was no action on Ford's purchase. When Curry returned to the mainland for reassignment (August 1917), he followed up on his recommendation and managed to obtain final approval for Ford Island's purchase. On September 25, the 6th Aero Squadron abandoned Fort Kamehameha and moved to the new site, under Brooks' command.



Fig. 10. Captain John B. Brooks, Army Air Service, brought6th Aero Squadron personnel to Hawaii (1917).



Fig. 11. Major Harold M. Clark made the first Interisland flight in the Hawaiian Islands. Shown standing before his airplane in San Diego, 1916.

Following Brooks as Department Aviation Officer was Major Harold M. Clark Jr. (November, 1917). A Herculean construction effort was initiated at the new Army air base. Before long, Ford Island had two double seaplane hangars with concrete ramps, two wooden land plane hangars, one small motor repair and machine shop, and a supply warehouse. In the center to the south end a narrow strip of land was cleared for land plane operation. Married officers continued to live at Fort Kamehameha while bachelor officers, like the enlisted men, were under canvas on the island. By this time, the 6th's strength increased to 10 officers.

Six months after his arrival (May 9, 1918), Clark took off with Sergeant Robert P. Gay on the first inter-island flight in the Hawaiian Islands. They flew from Fort Kamehameha to the island of Maui where a huge reception awaited the pair. From Maui, Clark made for the island of Hawaii flying at an altitude of 8,000 feet. Nearing Hawaii's coastline, Clark encountered thick cloud formations and promptly lost his bearings. Darkness added to his worries, so the Army flyer decided to land quickly. His airplane crashed on the slope of Mauna Kea, the highest point in the Hawaiian chain. Upon impact the seaplane crumpled and gasoline spewed onto him from the broken tank. Clark became completely drenched in fuel. Unhurt, pilot and mechanic found themselves in a jungle-like brush with no civilization in sight. Hoping to draw attention to their location, the pair set a fire some distance away from the wreckage, using the Very flare pistol for ignition. No rescuers came, so they started to walk out. After two days and two nights, entirely without food, the Army flyers reached safety.

The feat by Major Clark was covered in bold headlines in Honolulu newspapers, hailed as the beginning of advanced aviation in the islands despite the disastrous results. A short period later, three Army flyers followed the pioneer venture with an inter-island flight which incited the interest of local businessmen. Lieutenants Ralph H. Wooten, J. T. Lanfall and Lester J. Maitland flew HS-2s to Hawaii, Maui, Molokai and Kauai.



Fig. 12 Presumed to be the wreckage of Major Clark's plane (May 1918)

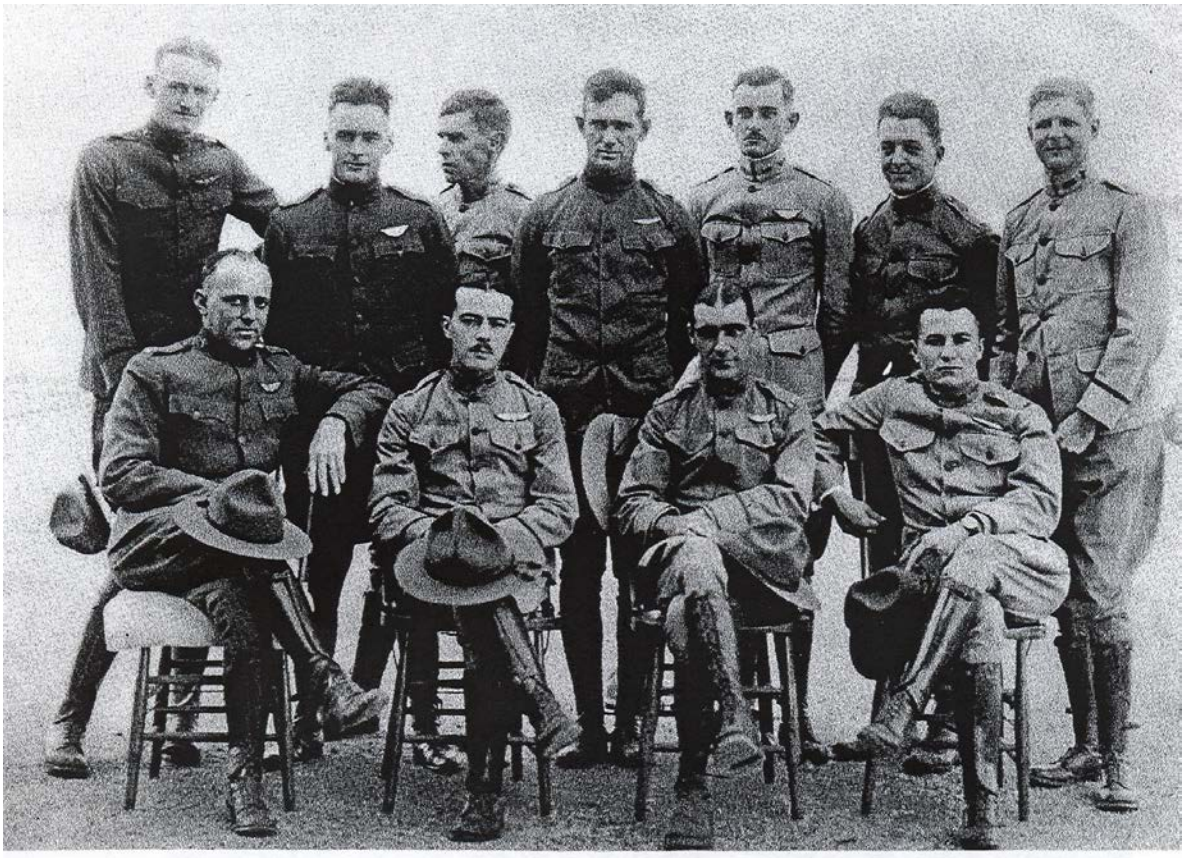


Fig 13. Flying officers of the Sixth Aero Squadron December 1918.

LUKE FIELD

The War Department purchased the remainder of Ford Island "to be used jointly by the combined aerial forces of Army and Navy." Luke Field was established there on April 29, 1919, in honor of one of America's outstanding air aces of World War I and the first to win the coveted Congressional Medal of Honor. To the man on the street the name of Luke wasn't particularly significant, but in the hangars and aviators' barracks, wherever the men who chose the "blue yonder" as their hall of destiny came together, the name of Lieutenant Luke was mentioned with pride.

"Had Luke lived," said Captain Eddie Rickenbacker, America's first air ace of World War I, "he long ago would have put me out of business as leading ace. I wouldn't have had a show against Luke. His life was one of the brightest glories of our Air Service."

Lieutenant Luke startled the world with his 18 aerial victories in 17 days. In 10 minutes over German-occupied France, Luke shot down three enemy planes and two recon-fighter balloons. He was shot and killed in Maurvaux, France, September 29, 1918, after having been forced down. On the deactivation of Luke Field and activation of Hickam Field between Fort Kamehameha and Pearl Harbor, the name Luke was transferred to an air base near Phoenix, Arizona.

One of the first significant pioneer aviation ventures from the newly named field, in July of 1919 official air mail went from Honolulu to Hilo in Army planes, although not by direct flight. The 6th Aero Squadron's name was changed to the 6th Observation Squadron and the unit began working with the Coast Artillery, on numerous occasions directing the firing of coastal batteries.

Luke Field was enlarged and resurfaced and three Bessaneau hangars were constructed for temporary storage of materials. Simultaneously, emergency landing strips, furnished with gasoline and water, were established on the other major islands. A base was built on Molokai and military planes exhibited for the first time at the Maui County Fair. By the end of 1919, Luke had 150 planes and the expanding base was under command of Army Major Sheldon H. Wheeler.

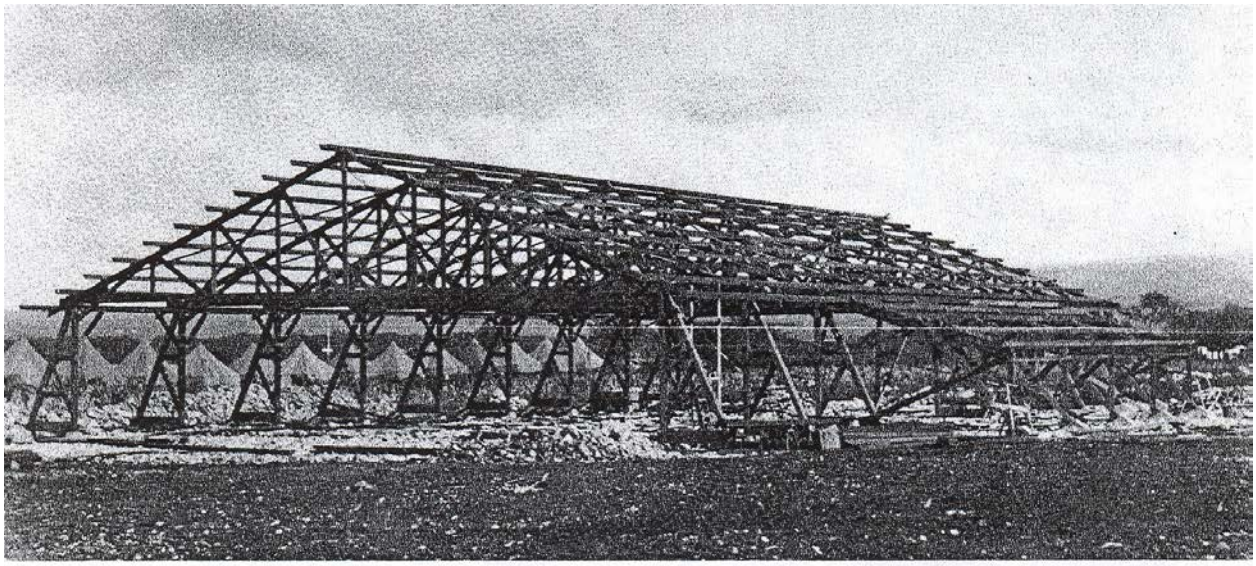


Fig. 14. A temporary hangar under construction at the Army facility at Ford Island, February 1919. Iron sheets were used to cover the building and coral paved the floors. Note the tents in the background and a portion of the cleared flying field in the foreground.

CHAPTER IV

POST-WAR PIONEERING

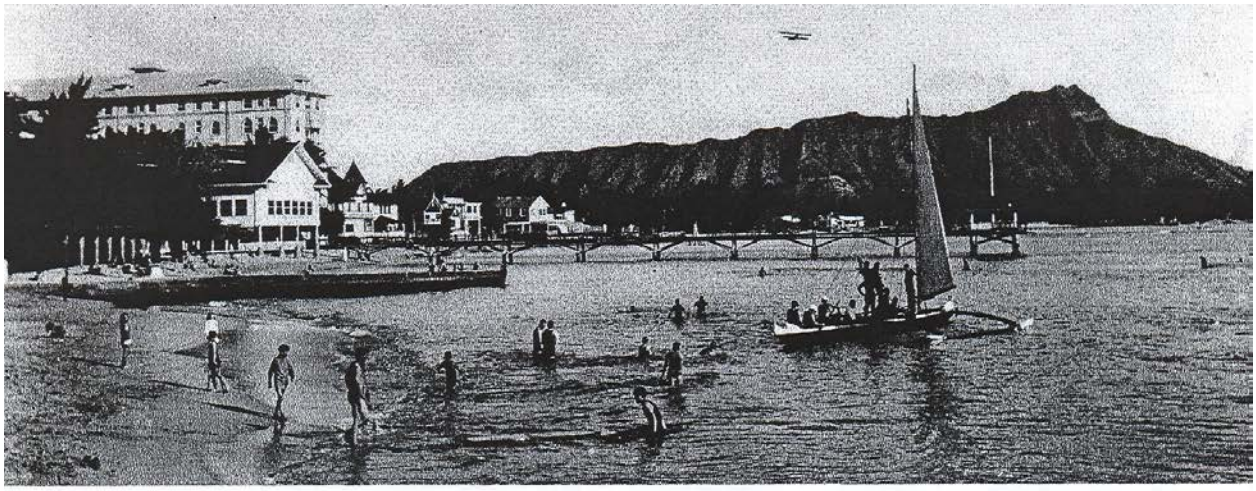


Fig. 15. Waikiki Beach in 1920. Biplane gives hint of a new future for mankind and an ocean-overflying capability.

The Navy's Captain Henry C. Mustin, in 1915, was launched by a catapult on the USS NORTH CAROLINA, flying a Curtiss F-boat; Glenn Curtiss continued development of flying boats, planning one capable of pioneering a trans-Atlantic flight. Then four NC (Navy Curtiss) craft were constructed for antisubmarine patrol duty in the Atlantic Ocean. Each had three 400 hp Liberty engines and a fourth behind the center engine to turn a pusher propeller. They were equipped with machine guns and could fly at a top speed of 90 mph. In May, 1919 the NC-4 became the first plane to fly across the Atlantic.

That year the first trans-Atlantic crossing by dirigible was made. The R-34, with its British Royal Air Force crew, arrived at its destination in 75 hours (the amount of flying time started in Poe's 1844 hoax). Aboard was United States Navy Lieutenant Commander Zachary Lansdowne who later was killed in the Shenandoah disaster.

Aviation had conquered an ocean. Flyers next looked yearningly to the largest of them all, the Pacific with its 69 million square miles of water. But it was only a momentary glance. Aircraft were not yet capable of performing such a task. One thing was clear, however. If the Hawaiian Islands could be reached, the first speck of land 2,200 miles west of mainland U.S., man could eventually cross the entire Pacific. This became the goal. Capitalizing on the Navy flight, Army and Navy scientists began to develop accurate navigational techniques and aids which would carry planes through clouds and fog.

AVIATION PROGRESS

It remained for military air leaders of World War I to advance the cause of aviation, drawing on their flying experiences and visualizations during the conflict. They took a firm stand on behalf of airpower but the path was difficult. When peace was declared, the United States cancelled orders for 13,000 airplanes and demobilized most of the 200,000 men in the Army's Air Service. Thousands of aircraft industry workers were suddenly out of a job. For the Army and Navy to make aviation advances, it would have to be done with wartime planes and the limited equipment and spares produced for war. Budgets would be tight. For civil aviation, however, this was to be a boon. Surplus military planes and equipment were placed on sale at very reasonable prices, pilots and technicians—desperately in need of work—were available for hire.

The military had their troubles. During the period July 1, 1920 and June 30, 1921, the Army suffered 330 crashes with far too many lives lost and bodies maimed. Efforts for improvements in planes and techniques were seriously hampered; in 1923, research and development work was completely stopped for lack of funds.

Great credit is due to the professional dedication of military flyers those days. In spite of these limitations, they were able to advance the frontiers of aviation considerably. The first major feat was a 4,000-mile air journey across the continent by four JN-4H planes, made while on aerial survey of air routes and direly needed landing fields. This was followed by a 9,823-mile flight. Long range over water flying was being made possible with each achievement. Important advances were made in pioneering airways, day and night photography, airborne radios, movement of men and equipment in units, aerial border patrol, forestry service, plus others.

Hawaii's majestic skies were to become an important arena in the pageant of world aviation. Civilian pilots in Hawaii were to make their contributions. For a city the size of Honolulu, aviation activity at that time was greater than most communities of similar size. Flyers in Hawaii had laid a foundation for aviation upon which much would be built.

CHARLES FERN

Three men were about to play an important part in Hawaii's civilian aviation efforts. W. "Ben" Stoddard and Charles J. Fern had been fraternity brothers in college; Fern and Charles T. Stoffer were Army flying instructors who, discharged after World War I, decided to fly for a living. Stoddard, in July of 1919, took a few flying lessons from Stoffer in Woodland, California, but didn't finish the course. When his interest in flying cropped up again, Stoddard purchased a JN4D and asked Fern for flying lessons. After talking it over, the two elected to go barnstorming in California's northern communities. But everywhere they went in the San Francisco Bay area, some flyer was already in place.

They decided "to go some place where nobody had been, and ended up in Honolulu," according to Fern, who continued, "We brought the plane down on a ship and arrived December 19; I was test flying within a week. The commanding general of the Army stipulated that I had to pass some tests so Army flyers flew me a couple of times to give me an okay."

"A pilot's license was not needed to fly," Fern states: "The Army brass that okayed civilian flying in those days did require that anyone who flew in Hawaii at that time should have had a pilot's rating from the military services."

Fern started barnstorming from Kapiolani Park in Honolulu on December 30, 1919, nine years after Mars' first flight, carrying the first paying passenger in Hawaii since Ton Gunn. The cost was $10 a hop with $25 for stunt flying." His Jenny had an OX5 engine which developed 90 horsepower and carried enough fuel for 2 ½ hours cruising or about 150 miles.

Intrigued Honolulu businessmen began thinking about flights between the islands and even dared to dream of ventures between Hawaii and the major land masses of the world. Locally, a larger mode of transportation meant a great deal to business establishments. In fact, it was an economic necessity. The Territory consisting of six major islands, it was difficult to transport people and goods because ships were slow and traveled too infrequently. Major companies were forced to maintain offices on the other islands, thus spending far more days away from the home plants than were needed. Air travel would save time and money and would actually enhance business. Tourist and resident travel among the islands was not so important yet, because planes carried too few passengers. Flights to and from the mainland appeared far in the future, although they bore some consideration.

NAVAL AVIATION COMES TO HAWAII

"Monster Aeroplanes Destined For Use By Flyers on Oahu," read the article on page 1, Pacific Commercial Advertiser, dated February 2, 1917. "Sixteen gigantic seaplanes are to form the major portion of the equipment of the flying squadron which the War Department has decided shall be established immediately at Honolulu" the article went on. That was the first positive news Honolulu received that naval aviation was to be placed in Hawaii, and it was released 11 days before Curry's arrival. Two months later, the Navy's recruiting officer in Honolulu, Lieutenant H. W. Engel, stated that with the imminence of war an aviation corps was planned for Hawaii and solicited "birdmen" for the planned unit. However, no such unit came into being.

In October, 1919, a Navy board of inspectors recommended that a "first class naval base, capable of taking care of the entire U.S. Fleet in time of war, should be immediately developed at Pearl Harbor as a strategic necessity," One of the recommendations was to "build an aviation base on Ford Island, and when Army agrees, take over the whole island for naval aviation." The Secretary of War arranged for Ford Island to be used jointly for aviation purposes by the Army and Navy.



Fig. 16. The first Naval Aviation Unit in the Pacific was designated "The Pacific Air Detachment" and was established in the Navy Yard at Pearl Harbor in December, 1919. Commanded by LCDR. R. D. Kirkpatric, USN, (pictured above: note his wings below the ribbons?) the unit consisted of a few World War I seaplanes and some sixty-four officers and men.

The Advertiser announced, on December 3, 1919, that the North Island Naval Air Station (San Diego) received rush orders to send 10 officers and 60 mechanics, together with four seaplanes, to Luke Field for permanent duty. On December 19, the USS CHICAGO arrived in Honolulu. On board, among other passengers and cargo, were nine naval aviation officers, 40 mechanics, two HS2-Ls and two N-9 seaplanes. The press, the following day, heralded the unit as the vanguard of a big force for Pearl Harbor. Its location was to be the Navy Yard southeast of the torpedo piers. The force, under command of Lieutenant Commander R. D. Kirkpatric, was named the Pacific Air Detachment, its mission one of defense and artillery control. Other officers included: Lieutenant Oliver P. Kilmer, Lieutenant E. B. Brix, Ensign A. S. Billings, Warrant Officer Samuel Butrick, Lieutenant W. R. Cobb, Lieutenant H. J. McNulty, Lieutenant R. R. Auerswald, Ensign C. H. Soper and Ensign J. B. Brady.

Immediately after arrival at Quarry Point, land was cleared of cactus and algarroba trees by the enlisted men, for the erection of temporary buildings built of demobilized material (no appropriation was available). The base force lived ashore in tents provided by the BEAVER. Preparations were made for the first flight by naval aircraft in Hawaii.

On January 3, 1920, Sir Arthur Whitten Brown spoke of the possibilities of making a flight from San Francisco to Honolulu. He, along with Sir John Alcock, made the first non-stop trans-Atlantic flight the previous year. The pioneer stated "there are no airplanes of sufficient flying radius" to make such a flight.

On January 17, the first Navy airplane to fly in the Hawaiian Islands took off from Hawaiian water and flew through the majestic skies above Honolulu.

Curry returned to Hawaii on January 24, 1920. The ADVERTISER reported: "Wireless impulses from high up in the tropic blue skies cracked out a hearty 'Aloha' to Colonel J. F. Curry, Air Service, and the officers and men of the 4th Aero Squadron arriving on the MADAWASKA yesterday and from the ships, ploughing the blue sea underneath went back an answering "Thank you.'" The aerial greeters consisted of two flying boats, two DH and one Curtiss JN-4 land planes. The flying boats were piloted by Lieutenant Donald Duke and Lieutenant L. J. Maitland; the Curtiss was flown by Lieutenant T. J. Lanfall, with Captain Furrow and Lieutenant Walter Miller handling the DHs. This was the beginning of a three year tour for the energetic aviator. On March 16, he sent a memorandum to his commanding general containing recommendations for the strength of the Air Force in the Hawaiian Department. These included the stationing in Hawaii of pursuit, bombing, and observation planes; an air depot; and balloons for observation purposes. The paper carried this important statement: "It is readily apparent that any successful attack would have as one of its component parts a large amount of aerial activity, and it is thought that the most effective way to combat same would be by the use of a strong, aggressive air force."

During the year 1920 the Congress authorized the collier JUPITER to be converted into an aircraft carrier (to be commissioned on March 20 1922, and given the name of LANGLEY), an ocean-moving airplane facility which was to be of inestimable value to the United States.

On February 1, 1920, Delegate Kalanianaole introduced a bill in the United States Congress asking for Hawaii's statehood. Meanwhile, back in his home territory, the delegate's compatriots were making bids for progress and achievement in another field, aviation. Stoddard had formed his own company with Fern as pilot. On February 1, commercial aviation took on a new aspect as man was flown to another island for pay. Fern's words bring out the hazards of flying in those early days, equipment inadequacy, and lack of flying facilities, high cost of flying, and the rugged tenacity of American man in the cockpit of an airplane:

"Olaf Thomason was my first inter-island passenger. He was a Norwegian who had made a lot of money ship-building during World War I and was in the Islands at that time and did not want to take the time for an inter-island steamer trip. I had previously flown him around the island of Oahu sightseeing for $100."

"I flew him to Maui some time in February or March, 1920 (it was February 1). The fare was $150 round trip. We flew from Kapiolani Park and were to fly direct to Polo Field at Makawao, Maui. However, in the middle of the channel between Molokai and Maui, the float in my gas gauge evidently punctured and sank, indicating an empty tank. I thought my gas tank had sprung a big leak so I turned back to Molokai and landed in a pasture near the Cooke Ranch office. There, I found out what had happened, gassed up and went on."

"I failed to locate the Polo Field for the reason that it had been marked on my map about 10 miles west of where it actually was. I returned to Kahului and landed in the fair grounds there. We had lunch, Mr. Thomason visited his friend, which was the purpose of the trip and we returned that afternoon."

"There were no unusual incidents. I flew over Molokai to and from Maui; there was no special reception and not much excitement about the trip."

"The reaction to flying, particularly inter-island flights was good even in those days. Of course, it was purely a spectacle but it was apparent even then that the answer to passenger transportation between the islands would be planes. I think the biggest point of it all was made over the fact that I flew back from Maui to Oahu in something around 90 minutes and this compared with the 12 hour overnight steamer trip, indicated what was coming."

DIVERSITY IN HAWAII

On May 6, 1920, the Army's aero strength in Hawaii was further increased by the addition of three balloon companies on Oahu, the 3rd and 21st Balloon Companies from Ross Field, California. On June 30, the first night flight was made over Oahu by Army Captain Robert Olds (then spelled "Oldys"). Not long after, the first air-to-ground photographs were taken by Army pilots of the crater Haleakala on the island of Maui (where Hawaiian folklore's demi-god, Maui, lassoed the sun's rays and, thus slowed down the sun for a longer day).

Luke-based planes began to take part in humanitarian activities. The first air-sea and air-mountain searches took place. Planes were fashioned into air ambulances to transport the sick from other islands to Oahu. In those days, the only medical attention available outside of Oahu was by a few over-worked missionary doctors.

Also during 1920, two HS 2-L Navy planes flew to Hilo, Hawaii, via Lahaina, Maui, in four hours and 10 minutes. Later, they conducted a survey of each island in the Hawaiian group for emergency anchorages. Pearl Harbor's Pacific Air Detachment surveyed and took photographs of Molokai, Hawaii, Niihau, Oahu, Maui, Lanai, Kauai and Kahoolawe. The trip involved 1,966 miles in 25 hours and 55 minutes, the most extensive inter-island flight to date.

In his annual report of 1920, the Secretary of War recommended that a bureau be established for the direct control of aviation. He also stated that there was a Naval Air Station at Pearl Harbor (so designated officially on September 17, 1920), the first official mention of the new naval air facility. Later in December, the first anniversary of the naval air service in Hawaii was followed by the announcement that $1.5 million was to be spent for construction of NAS Pearl Harbor, including hangars, shops, barracks, and other facilities. The local Navy aircraft strength was increased by several large Liberty twin-engine flying boats with sufficient cruising radius to cover all the islands while carrying the navy's heaviest bombs and torpedoes. A large hangar was also to be constructed on Ford Island to house dirigibles.

CHARLES STOFFER

Stoddard wrote to his ex-flying instructor in Woodland, California, informing Stoffer that Fern left the business to take up another position in Kauai. He asked Stoffer to bring his seaplane to the islands to fly for the company. Stoddard felt it would be very profitable in Hilo where the military had installed, but rarely used, a fine seaplane ramp equipped with tow gear. Stoffer arrived in December and the aircraft was freighted to Hilo the following month. There, Stoffer began barnstorming. On August 13, 1921, Stoffer made the first flight of a proposed commercial service between the islands of Hawaii and Oahu. It took him one hour and 35 minutes to arrive at Lahaina, Maui. Reaching next the island of Molokai, the winds were so strong that he and his remaining passenger (one got off at Maui) were forced to remain there overnight The plane took off the following morning..

"Hilo operating was conducted with a Curtiss N9 seaplane, which was originally a Navy primary trainer equipped with a Curtiss OXX6 engine. We removed the 100 HP (OXX6) and installed a Hispara Suiza rated at 220 HP. It was a reduction gear job which powered the SPAD 13 in WWI. The forward Deperdussin type controls were moved in order to 'jam' two passengers in the forward cockpit."

"It was very difficult to swing the geared propeller fast enough to start the engine as the rounded pontoon was the only footing. Self-starters had not yet been introduced. On one passenger flight, the engine stopped after a landing off Hilo Bay."

"I dropped the sea anchor, stripped to my shorts and swim around and climbed on the flat tip to swing the 'prop.' When the motor started, I hopped overboard and the pilotless plane, with its frantic passengers, commenced taxiing in circles at a fairly rapid rate, pivoted by the anchor.

I was submerged several times, trying to grasp a strut, before I was able to climb on board and take control."

"To improve starting, a line was run from a pressure Presto tank, which allowed dry gas to enter the carburetor while the pilot churned on a hand magneto to ignite a starting charge."

"Starting troubles were not so bad in California because we operated from sand beaches. The plane was quite performable and had made a 120-mile flight over the Sierras to Lake Tahoe which was considered a record flight over land by a seaplane and was recorded as such in the NAA year book."

"Mr. Stoddard failed to meet his commitment and a Ralph King (non-flyer) purchased ½ interest and we decided to fly to Honolulu and convert the plane to a land plane."

"The N9's wind and landing gear fitting were interchangeable with the Jn4's and we planned to replace the 220 Hisso with a 150 HP direct drive job We installed an automobile gas tank on the center section to augment our 20 gal. fuel tank in order to reach Honolulu."

"The Aug. 13/21 flight carried Ed Searle of Hilo (brother of Pump, Honolulu Stadium director) and Van Dyke Johns, a noted Stanford tennis player who temporarily resided in Hilo. When the plane was launched, a strong side-wind caused it to drift onto a lava ledge but I didn't think that hull damage occurred and took off. The flight progressed to approximately Midway between Hawaii and Maui when the auxiliary fuel tank ran dry and when I attempted to turn on the main supply the bronze handle on the main line sheared and we commenced a glide from 5,000 feet, while Ed Searle, who luckily had a pair of pliers in his pocket, climbed out of the cockpit and opened a small inspection door adjacent to the valve and attempted to twist the small remaining portion of the valve handle. At about 75 feet above the waves, he had it opened enough so that I could power-glide and at approx. 25 ft it was open sufficiently to ascend again."



Fig. 17. First military man to parachute from a balloon in Hawaii Army Lt. Ben Cassiday (l) with Captain R. Hoyt (October 22, 1921).

"We alighted at Kewalo Basin (approximately where Magic Island is located and taxied to an area approximately 4 feet deep and anchored. We went to a nearby restaurant for coffee when a youngster came rushing in to report that the plane was sinking. There was plenty of help available to move it to safety before the vital parts were submerged."

"Examination revealed several large holes in the pontoon, which had occurred following the Hilo launching. It wasn't pleasant to reflect what would have transpired if it were not for Ed Searles' presence of mind and his ability to twist the small remaining fuel value shank into an 'On' position."

"The seaplane was converted as planned and operated from both Kapiolani Park and later the Territorial Fair Grounds. Several flights were made to Kahului, Maui, and also to Molokai. Schedules were usually set up to coincide with paydays at the plantations.

MILITARY EXPANSION

In the year 1921, Congress announced the establishment of a Bureau of Aeronautics within the Navy, with Rear Admiral William A. Moffett as its first chief. When Pearl Harbor's rebuilt drydocks were formally opened, airplanes dropped lei over the harbor during the dedication ceremonies. Luke Field's contributions in 1921 included the first radio transmission from a truck on the ground to a plane flying overhead. The unit practiced "day and night liaison with (an) anti-aircraft regiment." Some additional quarters, barracks, a photographic laboratory, several hangars and warehouses were constructed, further enhancing the capabilities of aviation in Hawaii. An intensive effort followed to train and prepare for defense of the Islands, a prime mission for the 6th Aero Squadron during the next two decades, first at Luke then Wheeler Field.

In 1921, too, to complete the organization of the Hawaii Air Division, several army aviation units were assigned to Schofield Barracks, comprising the Divisional Air Service: the 4th Observation Squadron, 11th Photo Section and Branch Intelligence. The Air Service Supply Depot, under supervision of the Department Air Officer (Colonel Curry), was established at Schofield, occupying three warehouses. To make use of this new capability, a nearby landing strip had to be provided. Luke Field on Ford Island was too limited in space, so the old 17th Cavalry drill grounds at the south end of Schofield were chosen for the site. Thus, the newly recognized value of land-based military aircraft resulted in a new operating facility. In the meantime, construction at Luke continued, adding vitally needed resources for the newly reassigned 23rd Bombardment Squadron. Pilots practiced attack, bombing, coastal patrol, and communications missions. Each week they took part in war games and were becoming well trained in air tactics.

The Hawaiian Air Depot was established in Honolulu, in July, 1921, under the guidance of Major John B. Brooks (who had brought the 6th to Hawaii in 1917 and assumed command after Curry left for Washington). One enlisted man comprised his personnel strength for the first few months. He was succeeded by Army Captain Douglas Johnston, rated as airplane observer, balloon observer and airship pilot. Now retired in Honolulu, Johnston stated, "Flying was risky business those days; our biggest worry was motor failure over water. Actually over land, too; we didn't wear parachutes." Johnston's close friend, Colonel Ben Cassiday, retired in Honolulu, served in Hawaii during the same period as a member of the 3rd Balloon Company. Married on October 18, 1921, ". . . three days later I made the first military parachute jump from a balloon in Hawaii, as part of a military review," Cassiday reported.

In 1922, Pearl Harbor's aircraft strength was increased considerably following an inspection by Secretary of the Navy Edwin Denby. During that year, also, a very capable Navy pilot made his first flight in Hawaii's skies. His name was Lieutenant Commander John Rodgers, Naval Aviator No. 2. Rodgers later became commander of the new Navy base at Fort Island, Naval Air Station Pearl Harbor, to which Navy planes had to be moved for lack of space

to Torpedo Pier 3. The new commander commissioned the facility on January 17, 1923. Learning that a tropical storm was approaching, he ordered the planes moved from the Navy Yard over to the newly constructed hangars at Ford Island. He finished his commissioning speech, the planes barely missing the full fury of the storm which completely demolished the canvas hangars in the Navy Yard. An ideal location for seaplane operations, Rodgers guided the base's steady development until relieved in 1925 for a special project which would mark him as one of aviation's most daring pioneers.

WHEELER FIELD

The airstrip on Schofield soon proved insufficient; therefore an intensive construction effort was initiated to increase the facility to that of a full-fledged airfield. Land planes were being put to even greater use, necessitating greater demands for facilities. Captain George E. Stratemeyer was named commander of the new field on February 6, 1922, and on the same day 20 enlisted men under 1st Lieutenant William T. Agee were sent from Luke Field to clear the fields of wood, guava and algarroba trees. Quarters were obtained in the 35th Infantry area, but they were two miles from the flying field so, transportation being limited, work progress was retarded.

In the spring of 1922, visions of airplane passenger service involving Hawaii sprung closer. Experts began a chant in that direction on the heels of greater flying activities in the Islands, and knowledge of improvements in airplane design, equipment and operating techniques. Newspaper reporters wrote of Honolulu as "a possible call station in round-the-world airplane passenger service, with the likelihood looming closer of a resident being able to circle the globe by air in a three week period." In July, a world news feature appeared in the Sunday Honolulu Advertiser under the title, "Do you know what aviation is doing for Hawaii?" It went into detail about local flying activities, personality stories about local military flyers, and announcing the American Legion's flying circus to be conducted on August 5 at Ford Island's Luke Field. Thousands beheld the flying demonstrations and open house display of military flying might in Hawaii, the first close look at modern flying facilities for many Honolulu citizens. Aerial performance included acrobatic flying, parachute jumping, bomb dropping, towing swimmers on surfboards though the water at 80 mph, and mass flyovers. Aviation had grown significantly in just a few years.

Although Luke would continue to function as an important Army base and depot until the activation of Hickam Field near Fort Kamehameha in 1938, it would never again dominate aviation history in Hawaii. The scepter was about to pass to the old cavalry parade grounds at Schofield Barracks. The new field was dedicated on July 3, 1922, to the memory of Major Sheldon H. Wheeler, former commander of Luke Field who died as the result of an airplane crash at Luke on July 13, 1921 while participating in an aerial exhibition honoring the International Press Congress. The new field's construction progressed well. By June 30, 1923, it was actively being used by the 17th Composite Group. Completed were three shop hangars, three airplane hangars, four Bessaneau storage hangars, two 5,000 gallon oil tanks, and two 50,000 gallon gasoline tanks.

Sitting in the geographical center of Oahu, Wheeler was bounded on the north by Schofield Barracks, on the east by the town of Wahiawa, and in all other directions by pineapple plantations. Situated on a 1,200 foot plateau between the island's two mountain ranges, it is subject to breezes, light showers and cool nights. Thus was introduced to world aviation the one airfield which, tied in with Oakland Airport in California, was to be the locale of several important aviation "firsts." Its first commander, Stratemeyer, went on to command the China-Burma-India Theater of Operations during World War II and the Far East Air Forces and the Air Defense Command in the post-war era.

In downtown Honolulu, the local chapter of the National Aeronautic Association was formed in 1923. Charter members were: W. R. Farrington, president; W. F. Dillingham, vice president; G. F. Bush, W. H. Hindle, Charles T. Stoffer, R. M. Schofield, Walter Beall, A. W. Valkenburg, O. L. Sorenson and Ernest B. Clark. A membership increase to 200 was soon realized taking in some of the most progressive and prominent men and women of the Territory. The first significant project of the local chapter was the selection of airports, landing fields and acquisition of titles thereto.

FLIGHT TO HAWAII

Back on the mainland, in May of 1923, the first non-stop flight from New York to San Diego was made in which Army Lieutenants Oakley G. Kelly and John A. Macready flew their Fokker T-2 transport 2,520 miles in 26 hours and 50 minutes. Shortly after, the press carried an announcement that the flying pair were ready to attempt a journey in their monoplane to Hawaii, part of War Department plans which had already resulted in the breaking of half a dozen records for long distance, endurance, speed and altitude. Kelly, friend of Stoffer, stated:

"I fly for my country and, besides, it is fun. When the Army Air Service gives the word, Mack and I shall be glad to attempt any sort of a flight. A hop to the Hawaiian Islands probably would start from San Diego or perhaps Los Angeles. The airline distance being 2,280 miles, the New York-San Diego flight was some 300 miles farther than this ocean flight would measure."

The transcontinental feat was followed in one month's time by the first air-to-air refueling operation, made by Army Captain Lowell H. Smith and Lieutenant J. P. Richter. Then on August 27-28, the pair set a new world refueled duration record of 37 hours 15 minutes and 14.8 seconds, and a distance record of 3,393.26 miles in a DH4B-Liberty 400 at Rockwell Field, San Diego.



Fig. 18. More than 100 persons fathered at Sprecklesville Maui to witness the arrival of Aviator Stoffer (4trh adfult from left) and Edward Doney (right) with 50 copies of Honolulu's Sunday Advertiser (October 1923).

MITCHELL

The Army's biggest proponent for a separate air force and the effective application of airpower, Brigadier General Billy Mitchell, got into the Hawaiian picture. On October 23, 1923, one year after setting a world speed record, Mitchell and his bride sailed for Hawaii. Mitchell was on assignment to conduct a Pacific-wide survey of the United States; military capabilities, both offensive and defensive in nature. His task was simply to look over the United States' ability to destroy the enemy's armed forces over land, water and air; the ability to destroy his war making capabilities, including material production and supply; and the ability to destroy his morale.

While Mitchell was surveying Hawaii, the Philippines, China, India and Japan, a job which lasted nine months, more flights were being made in Hawaii which had an impact on aviation's development there.



Fig. 19. Aviator Stoffer in Molokai, 1925.

"CHARLEY'S CRATE"

Stoffer became well known in Hawaii. Using what affectionately got to be known as "Charley's Crate," he flew to such an extent that he can be credited with encouraging air-mindedness in Hawaii, along with the military efforts of Army and Navy units. He laid the foundation for civilian flying in the Islands with eight years of aerial demonstrations (he left for two periods totaling 18 months for Los Angeles where he flew in motion pictures). Anything that could be done in Hawaiian skies, Stoffer did.

Starting the first flying school in Hawaii (1921), many residents made their first flight with the aviator. When the Territory established new rules for civilian pilots (only citizens, those honorably discharged from the Army or Navy air services, the Signal Corps, the Reserve Corps, or those who held unrevoked pilot's licenses from other states), Governor Farrington issued the first to Stoffer.

His airborne passengers included all age groups, from children to a man of 80; movie stars, royalty, businessmen, people from various walks of life. All were pleased with the experience and sensation of flying with Stoffer at the controls.

Continuing interisland commercial flying, Stoffer showed an airplane to spectators at the famed Maui County Fair, in October of 1923, and stayed on to give passenger hops at a rate charged according to length of time in the air. En route, he delivered the Sunday morning Advertiser to Molokai, then landed at Camp One near Spreckelsville, Maui, in 95 minutes where Mauians, too, were given "the novel sensation of reading Sunday's paper on the morning of issue. (The supply lasted only 20 minutes.) It was a significant accomplishment for islands residing so far from the center of industry and commerce, another island also bounded by ocean waters. The achievement excited the people, and for newspapermen hinted of an expanded customer area. One reader summed up Maui's reactions with a prophesy, "I bet anything that within a year we will have mail twice a day from Honolulu. We will read the Honolulu dailies a couple of hours after they are printed, morning and evening." The project was pursued by the Honolulu chapter of the NAA. Mail, as with newspapers and other cargo, ordinarily took at least six hours in transit by ship, an easy mark to beat by airplane. NAA considered utilizing a more modern plane than that flown by Stoffer, the Loening Air Yacht amphibian such as was received recently by the Army at Luke Field, with a 400 hp Liberty engine and capable of speeds up to 120 mph.

Stoffer continued to go to Molokai and Maui via the air route. On occasion the Navy helped by covering the watery course with an emergency ship, the USS TANAGER, and a plane. The accommodating naval officer was a soon-to-be famous over-water spanner involving Hawaii, Commander John Rodgers. Stoffer flew to Molokai to make an aerial survey for a proposed harbor and dock site contemplated by a concern which had large pineapple interests on that island, another service of commercial interest.

Intra-island flying, however, occupied most of the enterprising pilot's time. He set an altitude record for civilians by climbing to 12,600 feet in Honolulu, after loading up with 25 gallons of gasoline. Then he pursued a variety of missions with his airplane.

Incoming ships, including the CALIFORNIA, FRANCONIA, MATSONIA, HALEAKALA, EMPRESS OF FRANCE, with their hundreds of people on board – including dignitaries and luminaries – were greeted by "Charley's Crate." The plane would circle the great ships, swoop and soar in an aloha display, to the pleasure of travelers craning their necks and following the biplane maneuvering all about them. The darling pilot thrilled the people on occasion by dropping newspapers on the deck, sometimes one-by-one. (One hundred ADVERTISERS were dropped on the CALIFORNIA, with less than 10 missing the ship.) He dropped lei from the aircraft, as well.

For the opening of the Oahu baseball league season, Stoffer delivered Miss Ada Wilson to Atkinson Park where the young woman handed Mayor Wilson a Wilson baseball.

The aviator joined in an island-wide search for kidnapped 10-year-old Gill Jamieson, swooping over foothills and valleys for sight of the lad. Bootleggers and their stills became targets for searching authorities in Stoffer's aircraft, prohibition officers armed with a rifle and binoculars scanning Oahu's inner corners for the illicit operations.

Handbills were dropped by him from the air. One day his coat was lost in the process of releasing printed American Legion Carnival announcements over Honolulu (it was found and returned).

One day Stoffer took into the air with him a local resident, Charles N. Marques, suddenly dropped 7,000 feet in altitude with the hope that this would cure him of deafness. The procedure had been followed in the mainland "with some success," but for Hawaii this was the first attempt. The deafness was not cured.

Salesmen on route taking orders from plantations were flown by Stoffer, from one side of the island to the other.

Entering next the "Wing-walking' stunting field, so infamous in American in the 1920s, Stoffer took into the air noted American acrobat F. E. "Daredevil" Martish under sponsorship of the von Hamm-Young Company. Martish performed headstands in the air, hanging by one hand, among other hair–raising feats.

Always available for emergency flights, in January of 1923 Stoffer's plane became the communications link between Waimanalo and Honolulu when storms made roads impassible to use on the windward side of Oahu. Hired by the Waimanalo Sugar Company, Stoffer made three round trip ferry flights with company dignitaries and business proceeded as usual—if not quicker. H.S. Gray and Company also partook of this service. Businessmen saw first hand the possibilities of aviation for business purposes, as well as emergencies and pleasure.

In 1924, Stoffer went to California to crash airplanes for motion picture productions. But he returned to the lovely islands of Hawaii. While he was gone, aviation had grown locally. Other civilian flyers took his number one position by fine achievements of their own. Relegated to transportation flying in a modernizing community, Stoffer went to the United States to participate in air mail flying and the risks of stunt flying for the movies. In association with eight others, the first flying squadron for Hollywood motion pictures was formed, called "THE BUZZARDS." Within too short a time, only the Chief Buzzard, Dick Grace, and Stoffer were still alive. The latter returned once more to Hawaii but only for a short time. On the mainland, Stoffer flew the mail route and helped pioneer airlines in a flying capacity. Most notable was his position as Chief Pilot for Eastern Air Express.

Stoffer remained active in aviation. In response to the brewing world situation, prior to the start of World War II, he returned to military flying with the Army Air Corps. He retired as a colonel, now residing in California. Those who followed in Hawaii owe their footing to this flyer, a legend in his time—a real Mokulele bird-man!

ARMY SHOWS THE WAY

January 1924 saw the first flyers land on the island of Lanai. Flying in a De Havilland 4-B were Lieutenants W. C. Goldsborough and E. S. Davis and Sergeant Harold Fisher, with Army General C. T. Menoher as passenger, interested in a hunting expedition. Taking off from Wheeler Field, the group landed within 55 minutes. This flight was hailed by citizens as another step toward establishing interisland flying on a commercial basis.

In March, four Martin bombers made an unusual flight. The Army plans carried six Honolulu businessmen from Luke Field to Kahului, Maui, on a business trip arranged in cooperation with the Honolulu Chapter of the National Aeronautic Association. The military intended once again to show what commercial use could be made of aviation, and how safe it was to make the short over-water flights. Their plane took the passengers over the dead crater of Haleakala, some 16,500 feet. Newspapers, referring to that flight, cited Hawaii as the center of world military aviation. That same week, Army forces of Oahu had been sent to Molokai and Maui to repair, in record-breaking time, some disabled bombers. It was a convincing display of military flying's mobility and capability. The press wrote of the need for further development of

interisland flying, stressing the necessity for good landing fields at all sites. Considered adequate on Oahu, Maui's airport was under construction, but Hilo's improved field was still in the promotion stage. Only one military plane had been brought to Kauai, and that was by steamer.

On June 23, 1924, Lieutenant Russell L. Maughan made his famous dawn-to-dusk flight from New York to San Francisco. He covered 2,670 miles in 21 hours and 18 minutes, though he made five brief stops en route, in PW8-D12 Curtiss 375.

Mitchell's return to Washington in July, 1924, marked the completion of a comprehensive world-wide survey of air capability. Two of the nine months were spent in Hawaii. That portion of his report alone took over 100 pages to cover. Mitchell wrote of Hawaiian air defense inadequacy, deploring the lack of coordination between Army and Navy personnel in the Islands. At the time, Mitchell was Assistant Chief of the Air Service, a post he held during the years 1920-1925.

On September 22, 1924, a most fantastic aerial mark was established by Army flyers—the pioneer flight around the world. Lieutenants Lowell H. Smith, Leslie P Arnold, Leigh Wade, Erik Nelson and John Harding covered the globe in 153 days. They flew from Seattle to Boston in 298 hours and 37 minutes of flying time, with an average speed of 74 mph. Big water spanning had reached a new apex. The Pacific now looked more inviting to flyers, particularly the stopping off place Hawaii.

CHAPTER V

THE NAVY'S FEAT

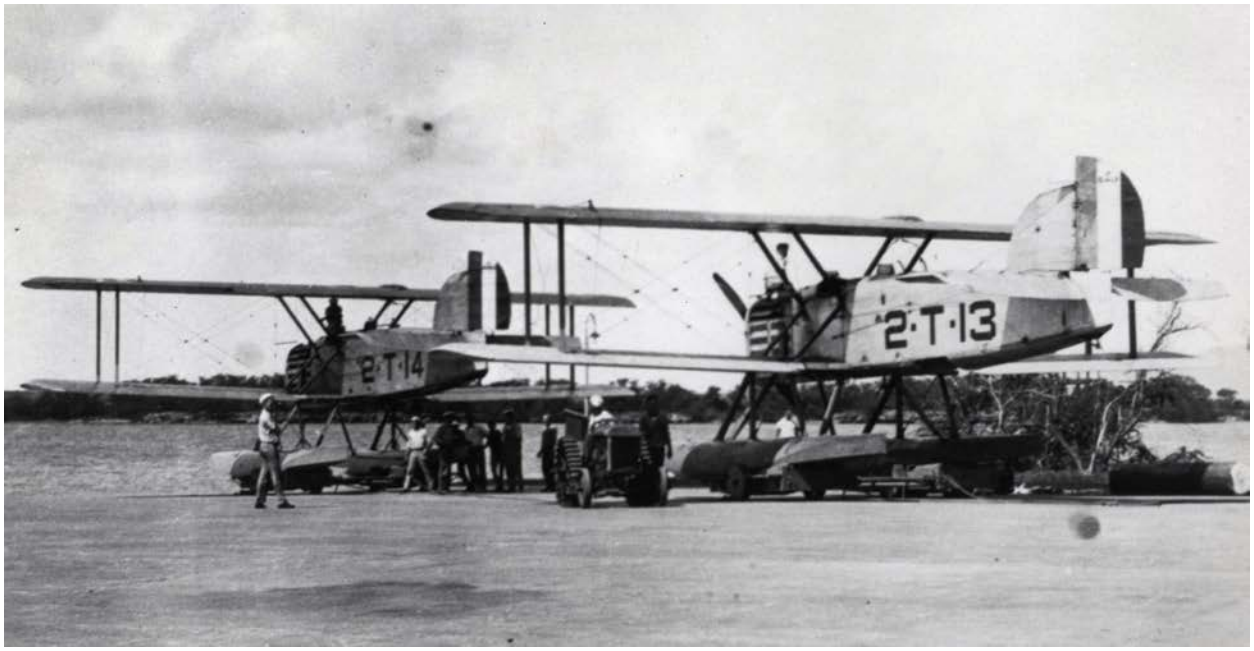


Fig. 20. Two Douglas torpedo planes being towed to the water's edge. Pearl Harbor May 15, 1924.

AVIATION PROSPECTS

The years 1924 and 1925 were occupied by routine flying and buildup of aircraft strength in Hawaii. However, Hawaii's role in aviation was established in the minds of its citizens as well as the military units located there. An article appeared in the Honolulu Advertiser on August 15, 1925, which points up this feeling:

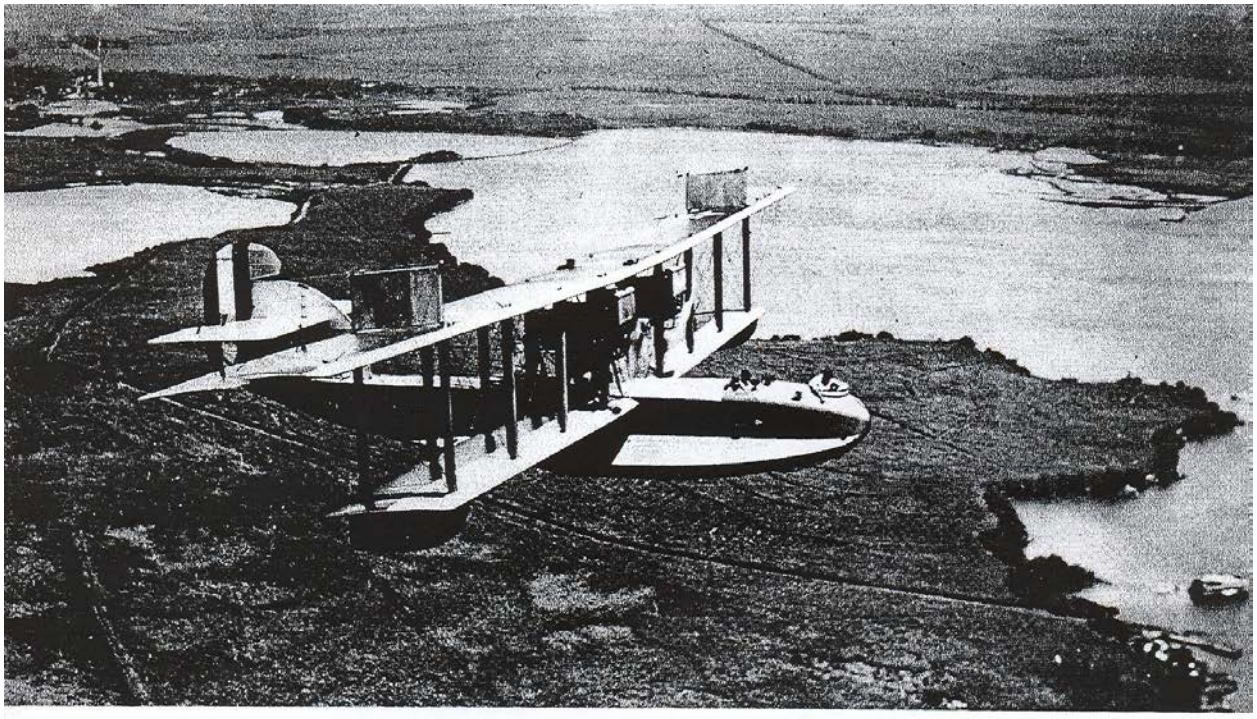


Fig. 21. Navy plane in flight over Hawaii. in 1920s (F5L).

"Admiral Mahan, General Schofield and other naval and military experts had no visualization of warfare being lifted from the ground and sea into the air. They all had declared and truthfully, that Pearl Harbor was the Key to the Pacific. The weight of their expert opinions was cause, in a large measure for the eventual decision of the Untied States to consider a new treaty of annexation in 1897. The Spanish War suddenly projected the Hawaiian Islands as a strategic outpost into the diplomatic arena, and within a few weeks—on July 6, 1898—the Senate completed the lawmaking necessary for bringing Hawaii into the Union.

"But even then, warfare was something that would be waged upon land and sea—on the surface. The submarine was being given consideration but even then it was a Jules Verne echo, and not yet considered a possibility for carrying warfare beneath the surface.

"The airplane upset all the old patriotic theories, the pet phrases applied to Hawaii and Pearl Harbor in particular. For the first few years after, the military and naval experts began to transform Oahu into a modern type of Malta. The moment that the War Department included the airplane as a part of its offensive and defensive plans, a change in the future potentiality of Pearl Harbor, and of Oahu, was apparent. Undoubtedly, naval and military authorities at Washington realized the change, but diplomatically failed to voice their thoughts in public. They remained a secret. Pearl Harbor, instead of being able to hold off an enemy naval force at arms length, theoretically found itself fighting a swarm of airplanes overhead, nullifying the old barriers of the Koolau and Waianae ranges, now easily scaled by the air fleets.

"Luke was established by the army as a major air base; too small to be used jointly by the army and navy. Luke may be set aside as a naval air base and the army enlarge Wheeler Field at Schofield Barracks, and possibly another base elsewhere."

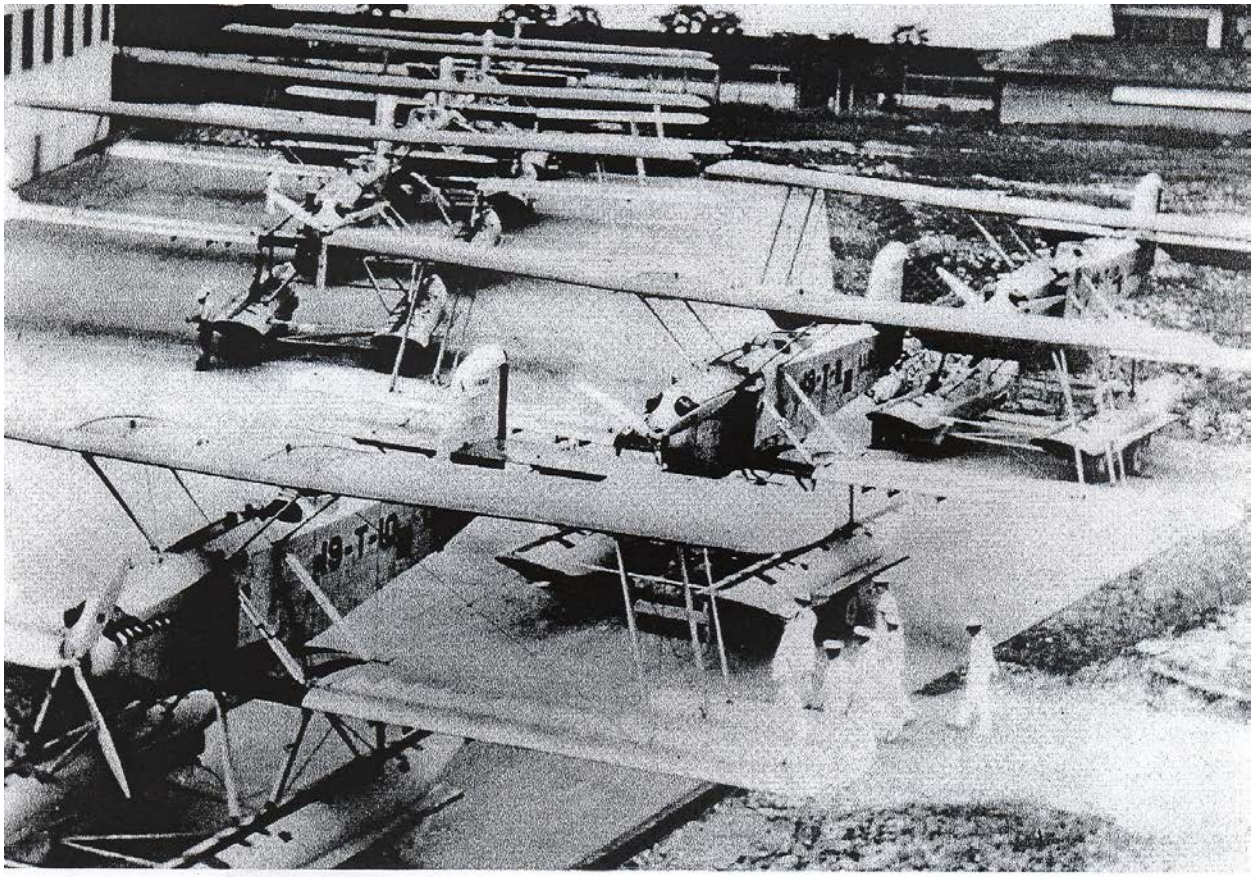


Fig. 22 NAS Pearl Harbor Inspection 1924.

Six days later, a prediction was made that regular air passenger and mail service from the mainland to Hawaii was assured for the near future. The previous evening, Rear Admiral William A. Moffett, chief of the Bureau of Aeronautics, U.S. Navy, made a farewell address to the people of Honolulu before sailing for San Francisco aboard the PRESIDENT TAFT. In it he spoke of an upcoming Navy flight from California to Hawaii, to be followed soon after by a similar flight of a Navy dirigible. Moffett considered these flights of greater importance than the Army's round-the-world flight, indicators of definite Navy ideas for air service. Hawaii was amazed.

U.S. Navy personnel had their eyes on the Pacific Ocean. There was much to work with. In addition to an intense desire, and engineering skills, there were 1,172 Navy flying boats left over from WW I. Experimentation continued through the years for newer, better flying craft The Naval Aircraft Factory in Philadelphia, Pennsylvania—established by the Secretary of the Navy in July, 1917—designed a monstrous "Giant Boat" for the Pacific flight; the Army pursued the multi-engine Barling bomber with little success (a 63,000 pound, 164-foot triplane with nine Liberty engines). Both services realized that great numbers of engines was not the answer to long-distance flying. The Navy went back to twin-engine flying boats; the Air Corps reverted to improved craft design, also with less engines. The first new Navy flying boat was completed at the Naval Aircraft Factory in January, 1924, the PN-7.

Hawaii for the first time saw a new type of naval aviation in April-May, 1925. The converted collier USS LANAGLEY made its initial appearance in Hawaiian waters as a participant in joint maneuvers.

Commissioned March 20, 1922, the LANGLEY was a manifestation of Lieutenant Sweet's early ideas about extending the range therefore tactical usefulness of naval aircraft. (The British were first to introduce floating flying mats for aircraft in 1917-1918, to accompany the fleet for protection against German air attacks and to act as scouts. Japan was next; her battle-cruiser hulls accommodated removable flight decks.) The LANGLEY was used for experimental purposes. Much of her early aircraft carrier testing work took place in the vicinity of Yorktown and Hampton Roads, Virginia. Now, she operated far in the Pacific for practical operational testing.

The LANGLEY'S use during these maneuvers stimulated serious discussions about aircraft and carriers in future warfare. The Honolulu Star Bulletin, on May 2, 1925, reported:

"The subject of aircraft, which at present is being discussed throughout America, and especially in Hawaii, as a result of the joint maneuvers, is pertinent to the recent 'battle' between the Blues and Blacks in view of the fact that the 128 ships comprising the Blue fleet steamed toward the attack of Oahu fully prepared and expecting to encounter an admittedly strong and active aircraft strength possessed by the Black defenders of the island—possessed not only by the 14th Naval District, but by the army forces in Oahu. The question of how well the Black aircraft aided in the defense of Oahu, and how well the Blue forces met and opposed this formidable opponent will, it is expected, be threshed out in considerable detail at the critique."

"While a considerable number of airplanes used during the attack on Oahu were 'constructive,' there was nothing constructive about the airplane activity off the north coast of Oahu last Monday morning, when the Blue fleet launched its main attack along that shore. For hours the sky was literally specked with aircraft of many types, including tiny scouts and giant bombers. At one time, 29 Black planes were counted as they flew over the vessels of the Blue fleet."

"It was decided by umpires that the airplane carrier LANGLEY, belonging to the Blues, was damaged by the Blacks to the extent where it was unable to land any further aircraft, this decision was not reached until after the ship had, theoretically, sent 30 planes ashore to be put

into condition to fly to the aid of the Blue fleet in its attacks on Oahu along the north and southwest coasts."

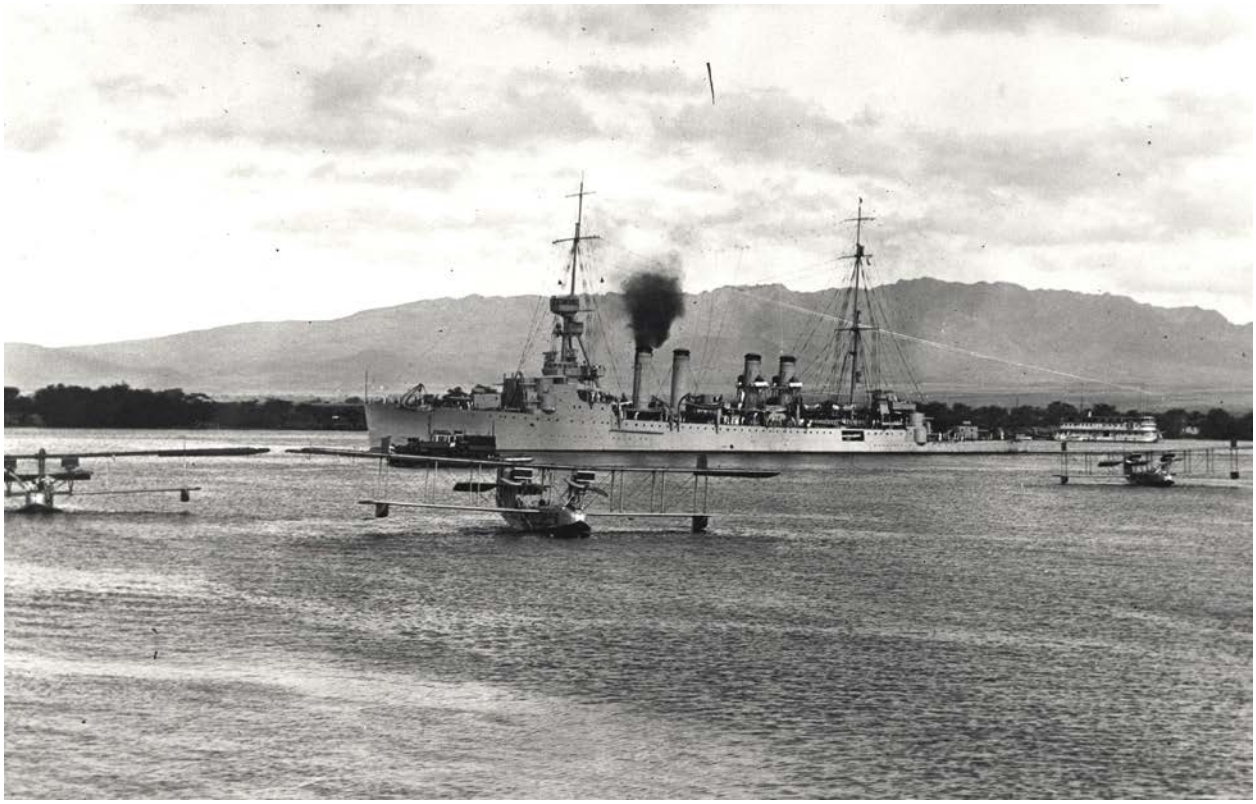


Fig. 23. Three F5Ls riding at anchor bow view with USS OMAHA and testing torpedo barge in background. Pearl Harbor July 1, 1925.

One comment significantly ended this presentation: "Langley's work important."

The following list of aircraft employed in Problem Three of the Fleet maneuvers the last week in April ("The Battle of Hawaii") is taken from the weekly news letter from the Aircraft Squadrons Battle Fleet for the week of May 9th This force, the report states, constituted the largest number of aircraft employed in any Naval maneuver since the war.

The following units were based on vessels:

VO-1, 12 UO-1/ Based on vessels of Battleship Divisions
VO-2, 12 UO-1 /
1 MO-1/
VF-1, 12 TS-1/

VO-4,	2 UO-1	Based on OMAHA
VF-2,	12 VE-7	Based on LANGLEY
VO-6,	2 UO-1	Based on Wyoming
VO-3,	8 UO-1	Based on Light Cruisers
	1	Spares carried on LANGELY
	87	Total based afloat

The following aircraft operated from shore bases:

VT-1, 12 DT-2 / Attached to WRIGHT, Comairons Scouting Fleet
VS-1, 10 F-5-L/
2 PN-7 / Fleet
12 miscellaneous planes, Naval Air Station, Pearl Harbor
35 Air Corps planes actually engaged
71 Total based ashore
87 Total based afloat

158 Grand Total

On May 5, the STAR BULLETIN made this report:

"Secretary Curtis D. Wilbur of the Navy in an address here (Youngstown, Ohio), today said that coordination of the navy's aircraft with battleships was one of the most important problems confronting the navy department. "Navy planes were put to an unusual test in the recent demonstrations in Hawaiian waters,' the secretary said. The navy succeeded in catapulting 40 planes from the decks of ships, a feat that never before has been accomplished. Our 20 year program,' the secretary said, 'is designed to place the United States on a parity with Great Britain.'"

The Aircraft Squadrons Battle Fleet report (for the week of May 9th) stated that due to lack of hangar space at Pearl Harbor, the planes of VF-2, during their stay there following the conclusion of Problem Three, were protected by tent hangars. Six planes of VF-2 were taken aboard the USS LANGLEY and took part in the sortie of the Fleet from Honolulu on May 7th. All heads of departments and squadron commanders attended a critique on Problem Three which was held during the first week in May.

Then on May 22 Hawaii readers of the STAR BULLETIN were surprised with this intriguing coverage:

"Breakfast in Honolulu—dinner in San Francisco, 10 hours later! That's an accomplishment which the airplane is going to make possible in the next year or two, perhaps sooner, in the opinion of Major Gerald C. Grant, member of the general staff of the air service of the U.S. Army, who is a Honolulu visitor in connection with the present military maneuvers in Hawaii. 'Honolulu need not be surprised to see General (Billy) Mitchell come sailing into Oahu in an army plane next month or in July for the probabilities are,' he declared, 'that a plane will be sent to Hawaii from the coast in June or the following month.'"

During the last week in May, extensive operations with the fleet were reported by the Aircraft Squadrons Battle Fleet. The USS LANGLEY, with Fighting Plane Squadron Two on board, took part in Advanced Battle Torpedo Practice with the Fleet on May 22nd. Planes of VF-2 were launched by divisions, the first division to protect friendly scouting planes and to destroy enemy scouting planes, and the second to protect battleship observation planes and to protect battleships against enemy air attack. On May 25th, 26th and 27th, the LANGLEY took part in Fleet exercises, planes of VF-2 being launched to simulate protection of scouting and observation planes.

During these maneuvers, Hawaii functioned as a prime proving ground for an important phase of world aviation development. The role was to become a familiar one.

FIRST ATTEMPT TO FLY TO HAWAII

When Commander John Rodgers relinquished command of Ford Island's naval air station to Lieutenant Commander M. B. McComb (May 5, 1925), he was set upon a flying venture which would draw the awe and admiration of the entire world, and for Hawaii open up a new future. After a number of years in preparation, the Navy was ready to put into action its plan to

span the Pacific Ocean between the mainland and Hawaii. Naval planes had been stationed in Hawaii, but as for the Army, they had been brought there by surface craft. Now, technological advancements made it possible to undertake a direct flight (up to then, no Navy craft had flown beyond 1,200 miles non-stop).

Specifications for the three flying boats to be used included an ability to carry five people and one ton of freight each. The Navy's second man to earn pilot's wings, Rodgers was selected to command the air venture. Nominally in command of the entire project was Captain Stanford E. Moses who was Commander, Aircraft Squadrons Battle Fleet.

The flight route was established from San Francisco on a Mercator course for Maui, thence to Pearl Harbor on Oahu. The plan was for all three planes to make the journey into history.

The Naval Aircraft Factory went ahead with construction of two airplanes, the PN-9 No. 1 and PN-9 No. 3, expanding on the twin-engine PN-7 and PN-8 models with a larger center hull and an engine on either side of the biplane's center line. The Seaplane's specifications were as follows: wing span, upper wing 72'10"; weight empty, 9,400 lbs. weight at take-off for Hawaii flight 19,500 lbs. useful load 10,100 lbs.--51.8 per cent of total weight; power plant, two Packard engines of 500 hp; propellers, two-blade wood, diameter 13 ft. A useful load of 52% is an exceptional performance. Even today, there are few planes which can carry a useful load equal or greater than their own weight. Admiral Moffett wanted to experiment with a novel arrangement by placing the engines in tandem along the center line, back to back, so an order was placed with Boeing Airplane Company of Seattle, Washington, for the PB-1's manufacture. Moffett and the Navy, therefore, would have two versions of flying boats competing for the first crossing title, it remaining to be seen which was the better design.

The Philadelphia facility had access to a new type of engine using the reduction gearing principle, the Packard 1A-4500 of 500 hp. Also available was the product duralumin. An alloy of aluminum, copper, manganese and magnesium, it compared to mild steel in tensile strength but weighed much less. These major innovations, plus other aids, combined to produce a machine which could provide a large fuel capacity, greater weight-carrying capability, a wider cruising radius, increased dependability and improved safety. Engineers in Philadelphia felt the PN-9s could fly the entire distance with favorable tail winds. If short of destination, plans were made to land and refuel from one of the station ships along the flight route Construction and testing continued throughout the waning weeks of 1924 and early 1925.

Rodgers determined his time in the air would be devoted to the most important task of the trip, navigation. Commander Rodgers was one of the pioneers in the development of the science of navigation as applied to seaplanes. Rodgers, since no satisfactory bubble sextant had been developed, combined parts of several sextants to make one which proved to be very satisfactory.

Boeing gave to the PB-1 the name of FLYING DREADNAUGHT. The description was "five-place flying boat biplane, open cockpit, patrol (5POFbB)," officially recorded as BAC Model 50 and BAC Serial Number 80 Only the best people were assigned to work with project chief L. Egtvedt—at this writing Boeing Company's Chairman of the Board. Its engines were also Packard products. The 2A-2500s developed 800 hp at 2,000 rpm. They were positioned between the hull and upper wing, turning one tractor and one pusher propeller. Of birch with metal tips, the four-bladed propellers were manufactured by Hamilton. Five cockpits were in the PB-1. An all-metal airplane, only the upper section of the hull was wooden. Wings were dural and steel, covered with fabric. This design provided an internal passageway between cockpits for in-flight communication. It was capable of carrying 1,700 gallons of fuel, a maximum 25,000 lbs. in weight (a record carrier). Top speed was 112 mph, cruising at 94.

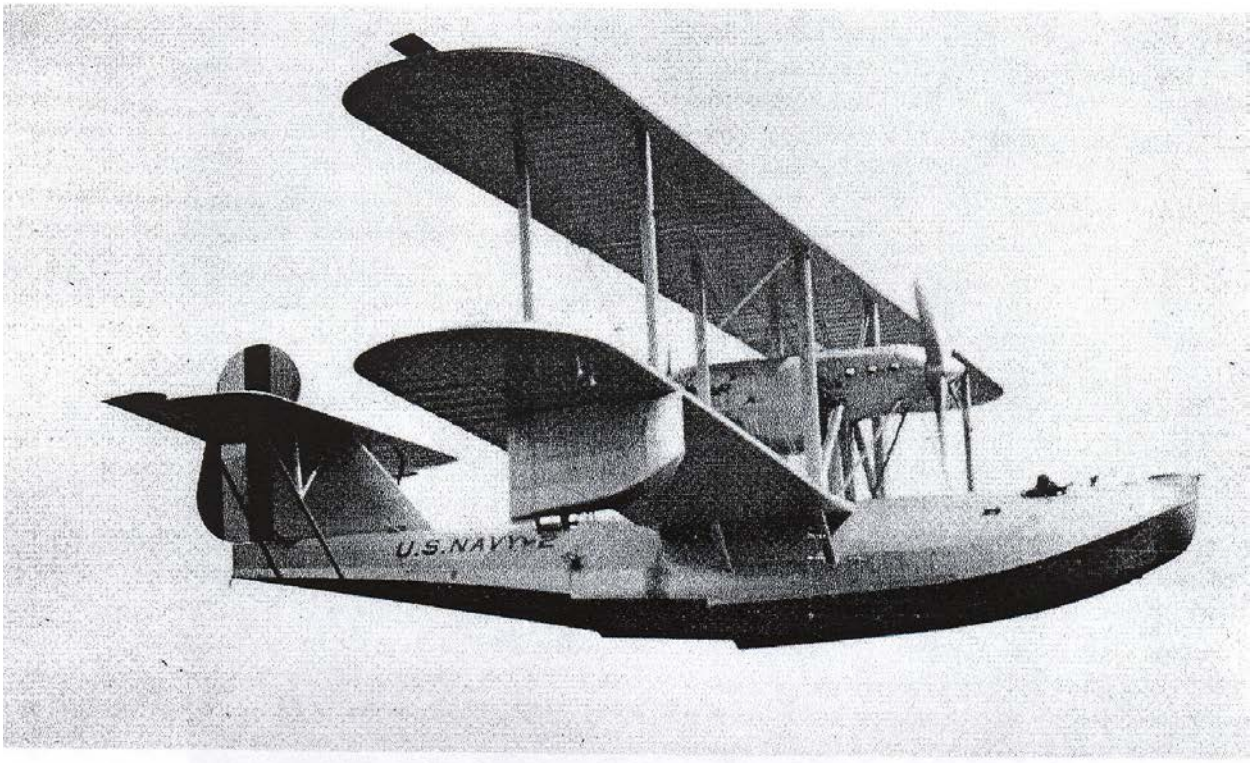


Fig 24. Boeing's PB-1, manufactured for the Navy's mainland to Hawaii flight, failed to get airborne in time. Note tandem engines.

On May 1, 1925, while five balloonists were drifting across the United States in a national elimination race, the first PH-9 was making a world's non-stop endurance record for seaplanes at Philadelphia. Tests continued under close scrutiny of Rodgers and his crew of experts at the Naval Air Station, San Diego, California. On August 26, the PN-9s were flown to San Francisco. San Pablo Bay, a quiet body of water forming the northern portion of San Francisco Bay was chosen by Rodgers for the take-off point. The PB-1 was delayed at the Strait of San de Fuca, when one of its engines developed trouble in its oil system and could not start. Flying on one good engine later, it joined the others at Crissy Field where a seaplane ramp was available for pulling the planes out of the water.

After waiting several days for a forecast of favorable winds, finally on August 31 both PN-9s were ready for flight, but the PB-1 was further delayed. The flag-plane, PN-9 No. 1, carried for its crew Commander John Rodgers, Flight Unit Commander and Navigator; Lieutenant B. J. Connell, Pilot; W. H. Bowlin, 1st Class Aviation Mechanic's Mate; Flight Engineer S. R. Pope. Second Pilot; and O. G. Stantz, Radio Operator (Bowlin was also a pilot). For the PN-9 No. 3, there were Lieutenants A. P. Snody and A. Gavin, N. H. Craven, C. J. Sutter and C. W. Allen. Lieutenant Commander J. H. Strong was placed in charge of the PB-1, assisted by Lieutenant R. W. Davison and Lieutenant R. Botta. Rodgers came to the assignment as flight Commander from a short tour as Commander of the USS WRIGHT, aircraft tender with the Aircraft Squadrons Scouting Fleet.

The eyes of the world turned towards California and Hawaii, the body of water lying ominously between, and to the men who were about to attempt to fly the distance for the first time. People were awe-struck at the test of man and equipment which was about to take place.

Probably primary in consideration was the difficult job of navigation which had to be done, for the Hawaiian Islands were to aviators a mere few rocks jutting out of the Pacific; it was a task for planes to manage landing on fields on continents without error. Because the Navy was experienced in navigation, there was some measure of confidence in the project's success, yet it appeared incredibly difficult and dangerous.

The Navy's role came in handy for another function, the placing of ships along the flight route. Strategically positioned along the course at 200 mile intervals were 10 Navy craft to act as checkpoints, for emergency use, and to give the planes radio bearings as shore stations would do. During the day, their smoke clouds would mark the proper path and at night searchlights would do the same. In order of position from California were: WILLIAM JONES, MCCAWLEY, CORRY, MEYER, DOYEN, LANGLEY, RENO, FARRAGUT, AROOSTOOK and TANAGER. The TANAGER was to be positioned 80 miles from Maui. In addition, merchant vessels enroute would be asked to keep a sharp lookout; also, to use their radios as little as possible so as not to interfere with vital radio communications between planes and ships. Each plane was equipped with a radio transmitter and receiver working only on 550 kilocycles. The planes were not equipped with radio compasses but the guard ships were (except for mine sweepers), giving them a capability of taking radio bearings of the planes on 550KC.

Commander Rodgers and his men got into their airplanes. Rodgers took along a sealed thermos of poi, a favorite native food given to him by Honolulu friends. Admiral Moffett, Captain Moses, along with the Army's pioneer aviator, Colonel Lahm—who delivered a sealed barograph in case any records were established—chugged up in a motor boat to wish the flyers good journey. Army planes from nearby Crissy Field dipped and circled, as if to entice the seaplanes on their way. The official weather report was rushed up to the PN-9s at the last moment, advising the use of 1,000 to 2,000 feet for flying altitudes. Eagle boats, submarine chasers and Coast Guard cutters had done a good job patrolling the Bay to keep craft away so the flying boats could make the long straight-away take-off run unhampered.

Rodgers' plane carried 1,278 gallons of fuel in tanks and 50 additional in five gallon tins. The weight of the fuel kept the plane from getting "on the step," when the long awaited take-off was attempted by PN-9 No. 1. Lieutenant Connell was at the controls, helped by Pope. They made one run across the Bay but were unable to get the seaplane into the air, turned around for another try.

To decrease weight, previous to their takeoff, the crew had gone through the ship with a fine tooth comb and tossed out things like parachutes and equipment," Connell recalled.

In the meantime, Snody moved into position and knifed heavily through the Bay in PN-9 No. 3. The huge flying boat became airborne at the official time of 2.41:2 ½ p.m.

In position once again, Connell moved his throttles forward. The Navy craft skimmed at least four miles atop the shallow water before finally lurching into the air. It was 2:55:8 4/5 p.m. Missing from view were the thousands of well-wishers urging the aviators on their way.

Local weather conditions were excellent as the flying boats made their way across the San Francisco Bay and the Golden Gate. Passing through the Golden Gate, at 150 feet altitude their speed was about 80 mph. "We were so heavy," Connell recalls, "we had to go 40 miles before we could climb to 300 feet." After having established radio communication with shore stations, the crew relaxed and were comfortably on their way. Commander Strong remained fretfully behind, as work continued on his PB-1 so it, too, could get airborne.

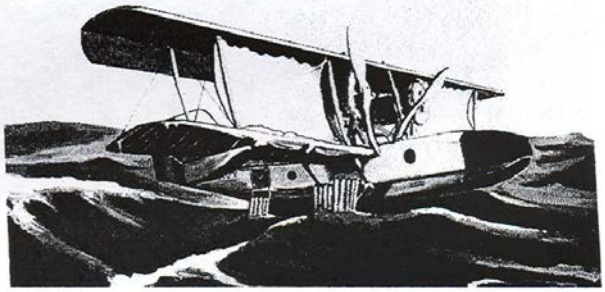
Intent on an aerial journey the likes of which the world had never known, the Navy craft proceeded westward with its crew fully aware of the importance of their flight. Weeks of practice, test, and re-test were behind them, as were the wishes of hundreds of people from Philadelphia, Seattle, and the sub-contractors who had molded together their efforts to produce

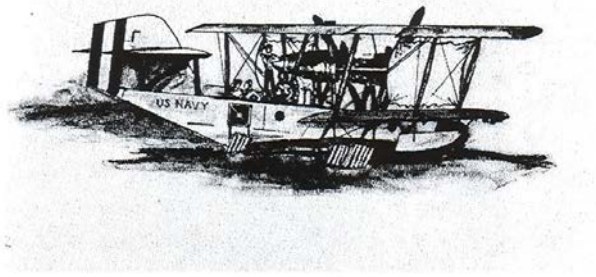
the aircraft The entire Navy, as well as the spirit of every aviator who had ever flown, was behind the two flying boats and their crews.

For awhile, it looked like two seaplanes would complete the trip, for Strong was to be left behind. The entire group had hoped to celebrate together in beautiful Honolulu. At 5 p.m., both seaplanes made radio contact with the WILLIAM JONES and their bearings were checked, 200 nautical miles from San Francisco. After passing the WILLIAM JONES, Lieutenant Snody's plane suffered a broken oil pressure line and was forced to light on the sea, only 300 miles from the starting point. The placing of ships along the route paid dividends, as the WILLIAM JONES headed for the reported position, as did the McCAWLEY. The helpless seaplane bobbed and listed like a heavy cork for several hours and was finally found at 2 a.m. The disheartened crew was picked up by the first ship and the seaplane towed back to California. (On September 2, while being towed from Crissy Field to Mare Island, the plane capsized and sank.) Rodgers and his crew doggedly flew on in PN-9 No. 1, keeping in communication with flight headquarters and the ships on station.

During the night the flight was uneventful. An altitude below the cloud ceiling was maintained so that Rodgers could obtain the angle of drift. This was determined by using a drift meter and sighting an aircraft flare which was thrown out of the plane and ignited when striking the water. These flares or float lights burned about 5 minutes. Position checks revealed the plane to be on course and all station ships were sighted.

The wind leaving San Francisco was from the west, gradually changing to north when 200 miles out. The weather report had indicated that the plane would hit the northeast trade tail winds about 450 miles from San Francisco. The trade winds did not materialize and during the night the winds were "abeam" and very light, averaging one to three mph from the McCawley, 400 miles from San Francisco for the next 800 miles. NE trade winds 7 to 10 mph were not encountered until the RENO was reached 1,400 miles from San Francisco. When the plane passed the USS LANGLEY, 1,200 miles from San Francisco, at 7:40 in the morning, the wind was reported by the ship to be less than 3 mph. Rodgers had expected strong tail winds of 15 to 20 mph beginning 500 miles from his starting point. The flight commander later stated that he knew when he reached the LANGLEY that he would





Figs. 25 & 26. Two tempera sketches of the PN-9 "under sail." The purpose of the sketches was documentary – the artist tried to show the manner in which the fabric from the plane's wings was used to make the sails and the way the flooring was employed to help govern the direction in which the craft moved through the water. Mrs. Mary Laune Aitken, Information Specialist for the Hawaii State Department of Transportation, was the artist. The PN-9's pilot, B. J. Connell, collaborated with pictures and details.

have to land and refuel from one of the station ships. He later sent a radio message that he would have to land and refuel from either the AROOSTOOK, a seaplane tender, or the TANAGER, both equipped with aviation personnel and fuel for just such an eventuality.

In Honolulu, excitement mounted as radio messages from the approaching seaplane were made in public. Then these were heard:

"Plane very low on gasoline and doubt ability to reach destination. Keep careful lookout." To the TANAGER, "Please keep good watch. Gas is about all gone. Think it impossible to get in."

After passing the destroyer RENO, 1,400 miles from San Francisco, Commander Rodgers decided to land at the aircraft tender AROOSTOOK, refuel and make another take-off for Honolulu. By radio he informed the ship of his intention to land and take on fuel. When the plane got within 200 miles of the AROOSTOOK, radio compass bearings were requested of the ship. The bearing, which later proved to be in error, indicated to Commander Rodgers that he was south of the ship. Rodgers change course to the north and "ran down" the bearings. He continued to search for the ship until the fuel was exhausted. There were a number of small local rain squalls in the area which also, probably, contributed to the difficulty of locating the ship.

Honolulu sobered, so did the rest of the listening world. Rodgers had been forced to land about 300 miles from Maui and approximately 365 miles from Honolulu.

Pope, during the last minutes of flight, under power, discovered gasoline in the bilges. Grabbing a sponge and bucket, he scurried to all ten tanks in the fuselage and desperately managed to soak up about two precious gallons.

The final message was, "We will crack up if we have to land in this rough sea without motive power." Both engines then cut out and the plane began to glide down from 800 feet. Connell brought the plane down at 4:15 p.m., September 1st, to a perfect landing without power in heavy swells, after 25 hours and 23 minutes. The plane had flown a distance of 1,870 nautical (2,155 land) miles and had established a world seaplane record for distance. The average airspeed was 70 knots, average ground speed 73 knots. Guard ships FARRAGUT and AROOSTOOK headed for the second downed seaplane. The LANGLEY headed toward the area and later dispatched its planes on search missions.

The discouraged crew members said nothing to one another, as their seaplane bobbed noiselessly on the heavy seas. Three months of almost night and day preparations showed its toll in crew exhaustion. Connell, who had been in the cockpit over 25 hours, fell into a deep sleep. Sure of being found by the tender, the men fully expected to refuel and continue on their way to Honolulu. A four-hour watch was established and all of the crew not on watch got some needed sleep. Tired eyes searched for the AROOSTOOK in vain.

At Ford Island, thousands of anxious greeters waited with wilting lei for the aviators arrival, finally drifting away in the afternoon when there was no further word from Rodgers. The United States mid-Pacific military might was corralled. Patrol planes, ships and submarines joined together in the biggest sea-combing expedition to date. They covered the territory between the 21st and 23rd parallel of latitude and 153rd and 155th meridian of longitude. In too short a time, it was night and searchers had to wait until morning to resume rescue efforts. Next morning saw more vessels in the search group, now a total of 23, helped by several scouting planes. Days and nights went by without word or sight of the plane. The WHIPPOORWILL reported seeing night flares, raising hopes of would-be rescuers, but the source could not be located. More ships and planes were added to the search fleet, including some on their return trip from Australia (they, however, searched the area west of the Island group). Still no sign of the plane.

When the plane lighted, the crew knew they could not transmit messages on the radio. Power for sending depended on a wind-driven generator mounted on the wing which operated

only when the plane was in flight. The receiving set functioned well on battery power. Regularly, they were frustrated hearing exchanges of conversation between guard ships. One message from the AROOSTOOK addressed to Commander Rodgers said, "Cheer up, John, we'll get you yet." A message was intercepted telling of the loss of the airship SHENANDOAH. Positions of the searching ships and search plans were intercepted and plotted. One day the searching ships reached a position within 30 miles of the plane. After plotting the search for several days, it was evident that the vessels were getting further away each day. Stantz, the radio operator, worked continually trying to improvise a sending set. An attempt was made to drive the radio generator by means of a hand-driven starter removed from an engine but without success.

The second day out the men ran out of cigarettes and took turns puffing one lone cigar. When not being smoked, it was carefully harnessed by safety wire to a motor support. Having consumed most of his poi, Rodgers sensed what remained was turning rancid and threw the thermos in the bilges. Mr. Connell laughingly recalls, "It must have been pretty potent. One day the thermos just blew up."

The third day the weakened flyers saw smoke from a steamer heading for the Islands. Flares were shot off by Rodgers' crewmen and smoke signals were sent. Someone even waved some fabric to draw attention. The ship passed serenely by, about five miles away.

When it was apparent the plane would not be found, Rodgers and his men decided that they would have to sail the plane to land if they were to be saved. They improvised sails from fabric cut from the lower wing and fastened the fabric between the upper and lower wings. Facing the wind, the plane caught the ocean breeze and moved along at about two knots an hour. One of the crew, at all times, manned the controls and steered a compass course, controlling the direction with the rudder. The course, however, was limited to a few degrees from the direction of the wind. Another member of the crew stood a lookout watch.

"The sails worked well except when high winds and rough seas were experienced. At times, we had to take the sails down to prevent damage to the plane," Connell recalls

After three days, the food supply was exhausted. The water was carefully rationed to a few swallows each day. At one point a slight rain fell. Some water was caught in the fabric stretched out on the hull, but very little. The men licked the moist fabric and the hull to obtain moisture. Rodgers distilled some seawater with the still given to him before leaving California. Gasoline was required to operate it. This being their scarcest commodity, the men burned wooden ribs taken from the wing's trailing edge for fuel and managed to eke out a mere quart. The supply of water ran out entirely the sixth day, eliminating the need for further rationing. However, the eighth day it poured heavily and the crew got their fill of water. Connell said, "The rainwater caught on the fabric sail picked up aluminum paint but it was the drink of a lifetime. It saved our lives. We didn't miss the food; after the third day or so without it you get over being hungry. But water is different." Before the rain, the physical condition of the crew had reached a point where walking was difficult. Most of the men had to crawl on hands and knees in changing stations.

The unique sailing rig moved the plane an average of 50 miles each day. The eighth night the crew saw searchlights, calculated to be coming from Schofield Barracks, about 100 miles away. The following morning, Oahu could be seen sitting majestically in the distance. Then the efficient receiver revealed another conversation. It was the LANGLEY transmitting to rescue headquarters: "Twenty-one aviators on the LANGLEY concur the plane had sunk and the search should be discontinued." This confirmed Rogers' opinion that they would have to sail all the way.

The course they were now making good would pass through Kauai channel and not touch land at all. Needing more underwater surface for steering control, Connell decided to rig an

artificial keel. The men pulled up some of the metal floor boards and three pieces were lashed to the hull with control cable, giving about 20 square feet of underwater surface. The reaction was immediate. Unwieldy and requiring continual adjustment, the make-shift keel, or lee boards, responded nonetheless; they enabled the plane to steer a course 15 degrees on either side of the wind direction. Without them, Rodgers stated upon arrival in Honolulu, it would not have been possible to make Kauai. When it became certain that their course would take them through Kauai channel and miss Oahu, the course was changed to Kauai.

The run across Kauai channel was critical, for if that island were missed, the crew felt this to be their last chance. Rodgers took star sights all though the night, at frequent intervals. A course was set to reach Kauai off Ahukini Harbor.

"The next morning, all eyes anxiously looked toward Kauai which should be in view, but there was no island," Connell reflected. "About 9 o' clock, the mist and rain squalls cleared and there was Kauai sitting majestically in plain view. It was a wonderful sight. The crew felt all danger was past and the problem was discussed of sailing the plane into Ahukini Harbor with a small entrance opening in the direction of the northeast trade winds."

A point about 10 miles off shore was reached by 2 p.m., and it was decided not to try entering the harbor at night. The sails were taken down and a sea anchor was made from one of the large gasoline tanks. Control cable was used for a line. The problem now was to keep the plane from hitting shore until daylight. In the meantime, the crew attempted to attract attention of someone on shore. A fire was made in a bucket by burning bits of fabric, and star shells were fired. One man waved a piece of fabric. After about 15 minutes, the R-4 submarine came full speed toward them, signaled by semaphore:

"What plane is that?"

The tired radio operator came to life and signaled back, "PN-9 No. 1 from San Francisco."

The submariners found it hard to believe that these were the PN-9's crew, after so many days at sea without food or water. One said, ""Until we got close, we thought surely it was one of the Pearl Harbor planes forced down."

Commanded by Lieutenant Donald Roderick Osborn, the submarine's pleased crew pulled up closer, threw a heaving line and passed five gallons of fresh water and some canned fruit to the grateful pioneer flyers. Osborn offered to take Rodgers and his men on board. In the best tradition of the Navy, Commander Rodgers refused to leave his craft until she arrived at her destination. They had flown and sailed the plane to Kauai and since all danger of missing land was past, Rodgers and the crew throught they could sail the plane into Ahukini Harbor, and so informed Osborn. Osborn hesitated, as his crewmen look quizzically at one another, then stated he thought the PN-9 should take a tow.

"No! Stand by in case we miss the harbor," Rodgers called back. He consulted his men while the submariners now looked more suspiciously upon Rodgers. (Discussing it later in Honolulu, Osborn told Connell, "We were about to come on board to take you people off physically. We thought you were out of your heads!) "They could hardly be blamed," Connell states, "because we had 10 days beards, were dirty and our clothing was torn."

Rodgers discussed the risk of trying to sail into Ahukini Harbor, "If we miss the entrance, the plane would be smashed against the rocks. It's still in good shape." He discussed other aspects, principally aware that if they missed the harbor the men would have to swim. They were far too weak for that. "Rogers wanted no accidental loss of life," Connell states. "He pointed out that we had reached Kauai, then told me 'Any ship takes a pilot going into the harbor. Let them tow us in.'"

Lieutenant Osborn was informed of the decision and promptly latched onto the fuel-less seaplane. The strange sea-train made for Nawiliwili on the opposite side of the island. Ahukini was too shallow for a submarine.

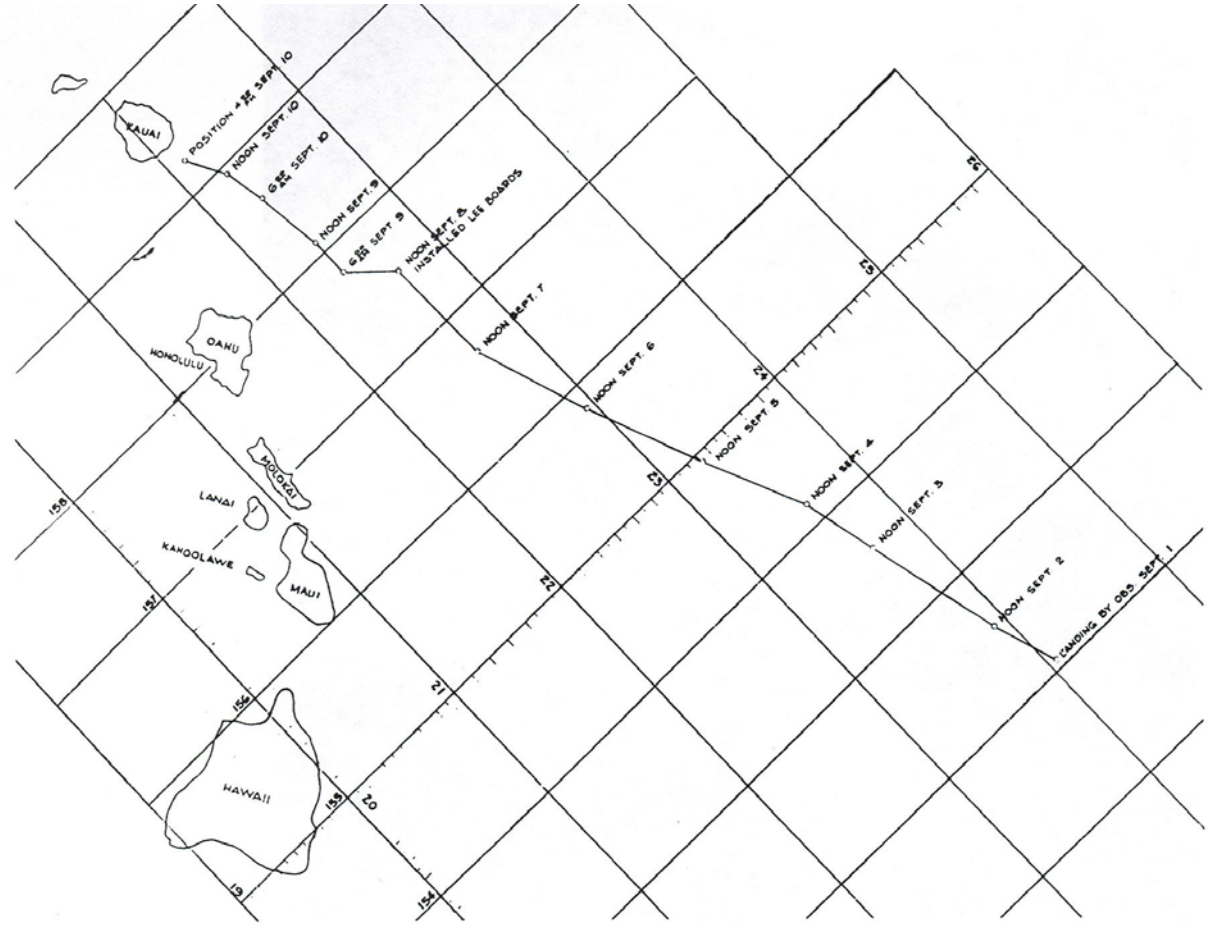


Fig. 27. Tracing of Original Chart, showing NOON positions, Sept. 1 to Sept. 10 during 450 mile sail from point of forced landing to the island of Kauai. First flight attempted from West Coast to Hawaii.

The submarine towed the plane just inside the breakwater. Here, on account of shallow water, they were forced to cast the plane adrift. By this time it was dark. The PN-9 floated alone in the outer harbor. Finally, a small rowboat arrived with Mr. Rice who attempted without success to tow the plane closer to shore. Later, a larger boat came up with four oarsmen and brought an anchor. This boat towed them to sheltered water.

The pioneer flyers anchored their seaplane themselves and delayed going ashore until everything was shipshape and well secured. Then they climbed into the boat and made for shore. At Nawiliwili they emerged to find the small population of Lihue out to greet, garland and fete them. It was 9 o'clock in the evening.

Thus Commander John Rodgers and his crew, in the PN-9 No. 1, succeeded in reaching Hawaii from the mainland, though not as planned. They covered a distance of 1,870 miles in the air, an official world's record, followed by an incredible sail of about 450 miles, in nine days to Kauai. Naval Headquarters in Washington had reacted to first news of Rodgers' sighting by announcing his elevation to Assistant Chief of the Bureau of Aeronautics. At the same time, A.

W. Van Valkenburg, in Honolulu, stated to the press that Rodgers had done more to advance commercial aviation in the Islands than any other flyer. Unhesitatingly, a movement was inaugurated to name Honolulu's airport after him. (Two years later, Hawaii's first and greatest commercial flying field was so named. In 1947, it took on the title of Honolulu International Airport and in 1962 the airport terminal building took on the name of John Rodgers.) After a night's rest and medical observation at Nawiliwili, they boarded the destroyer MacDonough for transportation to Honolulu.

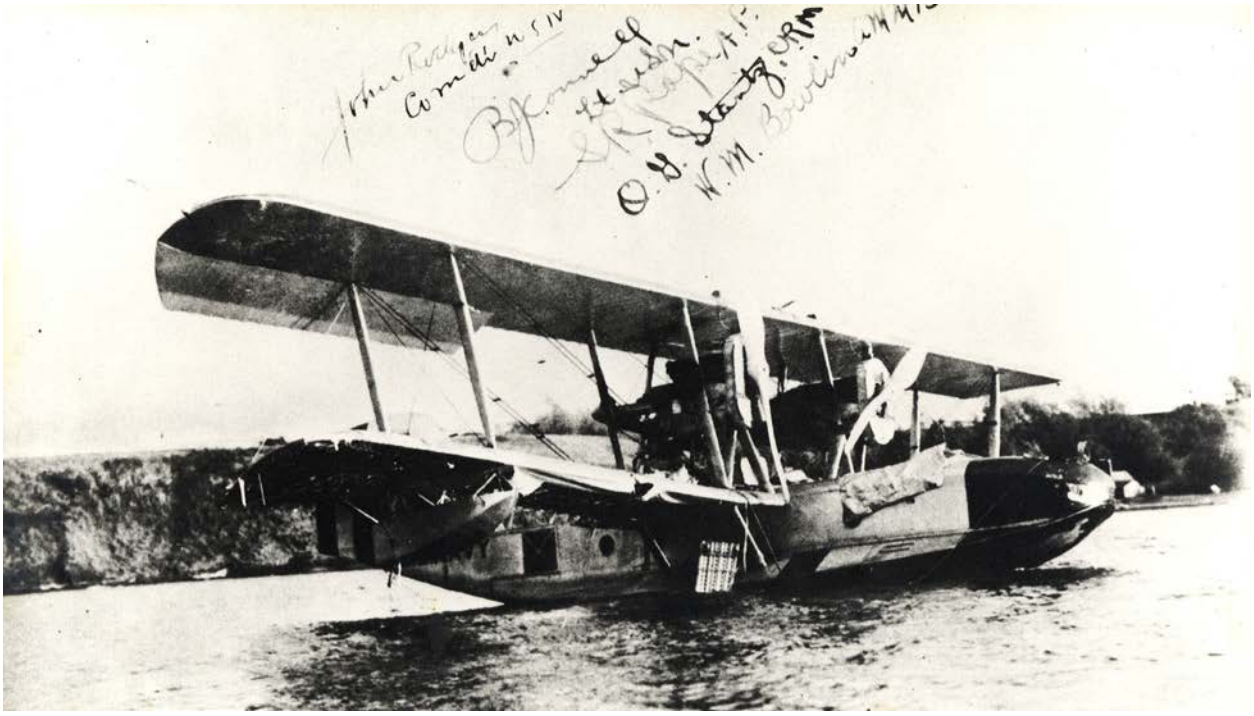


Fig. 28. Navy PN-9 No. 1, resting in Nawiliwili's waters, Kauai, after first attempted flight from the mainland to Hawaii (1925).

Upon arrival, the crew was promptly hospitalized for medical examination and rest. The Navy medical officers seemed surprised that they could find nothing wrong with any of the crew except about 20 pounds loss of weight, considering the fact that they had gone without food for a week and had a very limited supply of water.

After release from the hospital, Honolulu gave the aviators many receptions and honors. On the steps of the Capitol, at a tremendous gathering, Cmdr. Rodgers spoke of his flight. Disturbed at the erroneous impression that they had been drifting helplessly at sea, he stated proudly, "We were sailing. We had taken fabric from the wings which we made into sails, whereby we were making two knots an hour; so knew that sooner or later we would make port. We were about to reach Kauai when the R4 submarine came along and found us."

John Rodgers handed the first letter to arrive in Hawaii from the mainland by seaplane to Governor Farrington. The barograph to substantiate the official distance record was also delivered to the Governor. Rodgers carried another letter addressed to Admiral McDonald, Commandant of the Naval District.

The PN-9 No. 1 followed its crew to the Naval Air Station, Pearl Harbor ferried on the stern of the USS Pelican. On Sept. 19th, the repaired plane soared majestically over Honolulu, circling Diamond Head and Koko Head.

The USS Idaho was assigned to transport the five aviators to San Francisco for a reception planned by the city. Californians were disappointed because they had requested that the USS California be designated. Nevertheless, on the 17th of September, the flying heroes reverting to-sailors bid a fond Aloha to beautiful Hawaii and sailed quite comfortably for San Francisco. Seaplanes bade an impressive flying farewell by dropping 50 paper lei on the ship and adjacent waters.

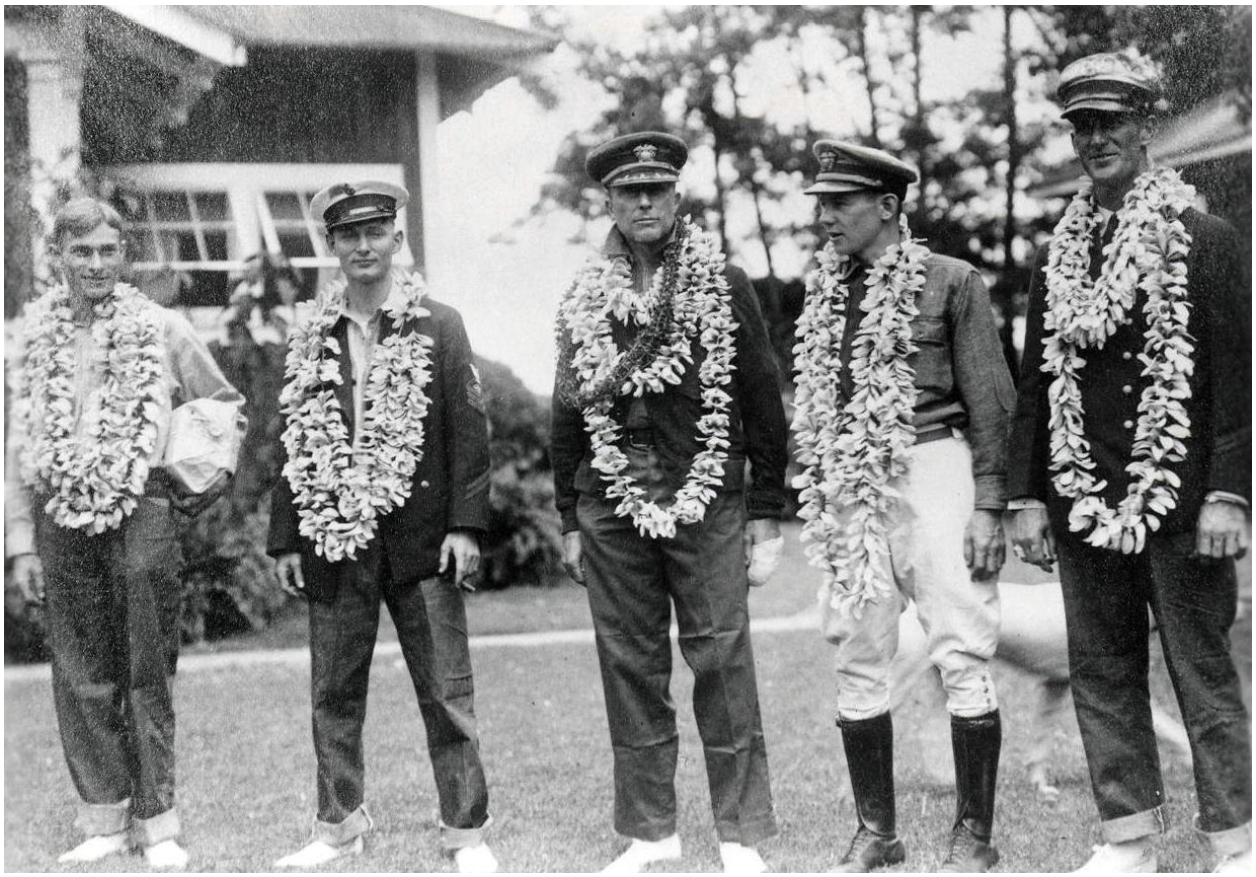


Fig 29. Commander John Rodgers and crew of PN-9 No. 1, taken on Kauai after their arrival, ten days after departing California.

Cmdr. Rodgers, Naval Aviator No. 2, lived only one year after the Hawaiian flight. While serving as the Assistant Chief of the Bureau of Aeronautics, he was killed in a single engine plane crash in the Delaware River near the Naval Aircraft Factory, Philadelphia on August 27, 1926. He was making this trip to the Naval Aircraft Factory to inspect two PN-10 model seaplanes with Packard engines of greater horsepower than the PN-9.

Cmdr. Rodgers hoped that he would be permitted to make another flight to Hawaii when the PN-10s were completed.

The mechanic with Cmdr. Rodgers survived. Lieut. Connell was waiting at the field for Cmdr. Rodgers to land and helped to pull him from the wrecked plane which had spun into the Delaware River close to shore.

The significance of this historic flight is recognized when one recalls it took place while Charles A. Lindbergh, who flew solo across the Atlantic two years later, was still a barnstorming pilot. The feat will remain an epic adventure in pioneering history.

A great stimulation to development of aviation appeared to hinge on the success of the Hawaii flight. Like race horses at the starting gate, aviation industry and its enthusiasts waited impatiently for the flight's anticipated completion before unleashing its improved technological might for the surge forward to bigger accomplishments. It took only a few hours of flying time to hint at the venture's success.

The flight proved that the Navy had developed a seaplane which could carry a 50% useful load, an unheard of performance in 1925. Weight savings resulted from the use of an aluminum alloy hull.

The plane had flown a distance of 1,870 nautical miles (2,152 statute miles) and had established a new world distance record. Its seaworthiness had been proven beyond a doubt.

All of these facts proved that commercial flights over oceans by seaplane were practicable. As a result, seaplanes were adopted by Pan American in 1935 when the first commercial flights to Honolulu from California were originated. Sikorsky amphibian planes were also used first for inter-island flights.

As a result of the Rodgers flight, aviation people became greatly interested in the possibilities of commercial over-water travel. A flurry of activity emanated within aviation circles. Forces were put to play which were to improve airplanes and supporting facilities. Commercial aviation interest surged. Man wanted to fly great distances and was bound and determined to do it. Preparations were made for the day.

The PB-1 did not attempt the flight to Hawaii as it was found necessary to replace the Packard liquid cooled engines with Pratt and Whitney R-1690 Hornets. The plane was later assigned to the Naval Reserve Unit at Seattle.

Lieutenant Connell continued to make aviation history. He went on to establish seven world and 14 United States records in 1927 for Class 2 seaplanes for distance, speed, altitude and duration in a PN 10 model airplane before retiring from the Navy as a Commander in 1947. Commander Connell now resides in Lanikai, Hawaii.

Hawaii made the most of its important position in mid-Pacific by intensive efforts to receive the first airplane from the mainland, knowing full well that before long Hawaii would become a key platform for airplanes flying the Pacific. The National Aeronautic Association chapters in Oahu and Maui combined for an intensive drive for airport improvements. Probably of equal importance to the Islands was interisland commercial flying on a large scale. If mainland aircraft manufacturers could build planes to fly 1,870 nautical miles, then this operation would be only a question of time. Needed would be public acceptance of flying and, of necessity, financial support. The Rodgers flight seemed to be the spark to ignite a desire for air travel in Hawaii. Interisland operation of any magnitude, however, was not to be established for four years and commercial flights to the mainland for 10 years.

The Army, too, was interested in flying between the mainland and Hawaii. They had already circled the globe by air in a land plane; but no such flight to the Islands would be made for two years.

Americans everywhere were interested in the Rodgers epic, including Congress. Hawaii's "Special Senator," Hiram Bingham from Connecticut, called for a new air policy. Bingham stressed the need for better meteorological service, improved methods of air navigation and regulatory control of commercial aviation by the government. Bingham spoke with pride of American aviation efforts in the past: development of the first airplane capable of sustained flight and the first people to learn to fly machines heavier than air, holding more important world records than any other country, the Navy's plane crossing the Atlantic first, the first to circumnavigate the globe (US Army), and the extensive use of airplanes for mail carriers. However, he sternly pointed out that both England and France had safer commercial aviation. This he attributed to the fact that they spent more money on it and had government regulations in

effect. The enterprising senator favored the formation of a Bureau of Air Navigation in the U.S. Department of Commerce which, followed on the heels of the Army Air Service's Major General Mason M. Patrick's extensive study, would extend investigations and efforts on the possibilities of commercial aviation.

Aviation progress in this period saw, on July 31, 1925, the Ford Motor Company purchase the Stout Metal Airplane Company. Ford intended to produce metal planes on a larger scale than possible before, operating in the Dearborn, Michigan plant.

America's oldest aeronautical magazine, Aviation, in its August 17, 1925, issue editorialized on the condition of aviation in the United States for the past two years. It revealed the French government's method for producing record breaking aviation events. " . . . But instead of building pseudo military machines to break records, it put up substantial prizes which would go to the manufacturer who would bring a record back to France. Within a year practically every important record had returned to France, or rather to firms which constitute the French aeronautical industry." The article did not uphold the value of speed and altitude records, but stressed marks of endurance. It was to serve as guidance for American aviation people. "To break an endurance and distance record, a plane must be strong enough to carry the great overload of fuel; it must be easy to fly or else the pilots would become exhausted; it must have a remarkably reliable power plant; it must have cabin capacity to carry the great quantity of fuel necessary and finally it must carry a large load per horsepower which indicates economy in commercial operation. In short, although it may not be maneuverable, a plane which establishes a new distance record must with little conversion be a practical machine for transport uses, whereas the planes which hold speed and altitude records must usually be changed before they became service types."

CHAPTER VI

ALL THE WAY

After the Rodgers flight in 1925, the world's eyes moved from Hawaii back to the mainland. The spark for Hawaii as aviation's mid-Pacific platform died. Local enthusiasts, however, continued to seek better aviation facilities. But flying activities were only in military circles, with nothing coming from the mainland.

For the next two years the only aviation "firsts" were local ones. The hardships suffered by the Navy crew discouraged further attempts at crossing the 2,400 miles of Pacific Ocean. When Rodgers was killed in 1926, the reluctance increased. But the Army pressed forward quietly, developing navigational instruments while awaiting the right airplane. On Maui, leading citizens formed another branch of the NAA. Working closely with other Hawaiian chapters, legislative action was introduced for land and money with which to build airports in Honolulu and Hilo. Hilo Airport was started with a plot of 100 acres of land and $10,000. Citizen donations provided $20,000 and $45,000 was appropriated for the acquisition and development of 119.3 acres of land and 766 acres of inundated land in Honolulu, which resulted in the airport later named for John Rodgers (March 21, 1927). Maui, too, received an appropriation for airport facilities, in 1927.

Not content to sit back and wait for the next flight from the mainland, Hawaii continued to make aviation progress. On March 4, 1926, Army aviators from Luke Field made a complete inter-island flight, a new epoch in modern aviation. Two Loening Amphibian planes (B.O.A-1) were used. Observation planes with inverted Liberty engines; they were capable of a speed of 100 mph with full service loads and carried two passengers. Received only three months prior, as part of the Army's modernization, the planes were popular with crews because of their ability to land and take off from either land or sea.

The Army's purpose for this flying feat was to test this adaptability feature, and at the same time demonstrate to citizens of Hawaii the practicability of inter-island flying. The four men scheduled as crews were headed by the current Department Air Officer, Major R. W. M. Goolrick, and Captain Clyde V. Finter on the lead plane; with First Lieutenant Everett S. Davis and Sergeant B. Dorsey on the second plane. The aircraft flew from Oahu to Kauai, landing in the new harbor under development, then back again for refueling. From Oahu, the duo flew to Hilo, Hawaii, in a record two hours and four minutes. The feat was locally hailed as a magnificent performance which succeeded in linking up the islands.

Six weeks later, Army Lieutenant Harold R. Rivers amazed the populace with a perilous, hair-raising aerial feat. He flew directly over dreaded, fire-spouting Mauna Loa, the active volcano on the Big Island. Flying in a DH, Rivers' passenger, Sergeant Benson, took aerial photographs of the bubbling lava. Dressed for high altitude, the two men became unbearably uncomfortable in the air. The volcano's intense heat caused the airplane to buffet viciously in flight, nevertheless the DH made a total of four flights that day of two hours duration each.

The on-again, off-again subject of commercial inter-island flying service was brought to the public in November, 1926 by G. M. Lord, son of a prominent local contractor. Lord announced the organization of Honolulu Airways, Ltd., stating an intention to make commercial flights within Oahu and from Honolulu to the other islands carrying passengers, mail and express. Young Lord was a lieutenant in the National Guard who completed a course in aeronautics at Wheeler Field during an encampment. He had visions of establishing such a service since Clark's pioneer inter-island flight. The venture failed to materialize.

Back in the mainland, steps were being taken to hasten flights to Hawaii. The brightest development in the Army Air Corps plane occurred late in 1926 when a new type of transport

plane was purchased from the Atlantic Aircraft Corporation, the Fokker C-2. The C-2 was similar to tri-motored aircraft used in passenger service between Philadelphia and Washington. The monoplane's wing spread was 72 feet, its three engines Wright Whirlwinds which developed 200 hp at 1,600 rpm. Wright Field personnel began a series of intensive tests, including the adaptability of navigational equipment developed since 1919 under the Air Corps' leading expert, Lieutenant Albert F. Hegenberger. The venture, however, was kept secret.

Passenger flights on Oahu became more popular with the passage of time. Residents enjoyed the thrill of being lifted in the air and shown a view of their island. Edwin H. Lewis, co-sponsor of Bud Mars in 1910, established a flying tours company in Honolulu. He purchased a new Ryan airplane and with it came a pilot named Martin Jensen. Jensen, a World War I Navy veteran, had experience in student training, passenger flying, rebuilding airplanes and engines, and had recently crossed the continent twice.

"I chose to go to Hawaii to fly the Ryan plane," Jensen recalled, "partially due to my desire to fly from the Mainland to Hawaii. This desire first came to me when the Rodgers Flight was undertaken. The plane was converted from a Hisso Standard three-place open to a five-place cabin plane with a water cooled engine. On January 1, 1927, I was on board ship, headed for my new job which was later to change my entire life. Upon arrival at Honolulu I started to assemble the plane and was soon flying over Hawaii."

The new aero sightseeing service was inaugurated on January 30, 1927, at Ala Moana Park. Long lines of people waited all day for 15-20 minute hops at $5 apiece. To handle the overflow, Frank Long was brought in with his JN4 which had been flying in Haleiwa. Special police were called to the scene to control traffic.

"After that, I made round-island trips then inter-island flights whenever passengers wished to go," Jensen recalled.

MAINLAND TO HAWAII

On May 21, 1927, Charles A. Lindbergh flew solo from New York to Paris in the SPIRIT OF ST. LOUIS. He covered 3,600 miles in 33 ½ hours in his single-engine Bryan monoplane. The feat aroused the entire world to a new era. Like the radio, airplanes would quicken the pace of living and bring about impressive changes. Within four days, people's attention was drawn to the Pacific. James D. Dole, president and general manager of the Hawaiian Pineapple Company, sent a cable from San Francisco to Honolulu newspapers. Learning that Lindbergh had received $25,000 from a New York City hotel owner in reward for his flight, the industrialist offered that amount to the first flyer to fly non-stop from California to Hawaii. As a further race incentive, Dole offered another $10,000 to the second plane's crew.

In newspapers, Dole referenced the help given to Hawaii's progress by the cable, radio, auto and truck, stating that continued advances in aviation might mean within a few years a number of things to Hawaiians: a 24 hour delivery of mail in Hawaii from the mainland, business trips within a day from California, and in other respects the linking of Hawaii and the United States continent.

Such talk was well received in Honolulu, drawing excited interest also in the mainland. Now sure of commercial inter-island flights, the mainland-to-Hawaii air service appeared in the offing, even by land planes.

Hawaii's aviation proponents, now released from the bonds of appearing ridiculous by the magnificent feat of Lindbergh, moved decisively to help the cause, this time backed by public acceptance. Dole led the way, with other businessmen behind him. Lindbergh's venture

was a surge in aeronautics. Dole felt a flight from the mainland to Hawaii should be the next step. Hawaii's particular role in aviation only needed a spurt to solidify its part.

News of the race spread throughout the world and entries were received from many places. The Army continued preparing for such a flight, but announcement was not made for another month. Two movie stunt flyers separately became interested in making the flight, race or no; so did an airmail pilot. In Honolulu, Lewis Air Tours' pilot joined the group. When word got out about the lucrative rewards for the winners, the pack got larger. Altogether, these efforts represented a fantastic clamor for conquest of the Pacific, starting with the mainland-Hawaii route of John Rodgers. Hawaii's role as the ocean's mid-position flying platform was suddenly thrown into focus once again.

DICK GRACE

One of the first fliers to make the attempt was a famous movie stunt pilot, Dick Grace. Grace has performed incredible tricks with his airplane for films, was well regarded and respected. For years he had the desire to make a crossing form Honolulu to the mainland. No attempts were made, however, because the aircraft up to that time were incapable. Now, planes were more efficient, had better speed and could handle a greater fuel load. Grace felt he could do it, and particularly wanted to be successful in the same stretch of water the Navy had been trying to conquer for years, in fulfillment of his dreams.

His search for the right airplane brought him to one designed by a friend, Bill Waterhouse. Lindbergh had had it redesigned for his flight and the original was available. A beautiful parasol-type monoplane, the Cruizair was a two-seater. To accommodate the fuel load he needed, Grace had to have it modified considerably. With the generous backing of Grant E. Dodge, the front compartment was modified to carry between 422 to 435 gallons of gasoline. The engine was a nine cylinder Wright Whirlwind.

The expensive modification completed, Grace had the airplane put on board a freighter for shipment to Honolulu. When it arrived (June 24, 1927), Grace uncrated the Cruizair to find his first setback. Someone had sawed one propelled blade in two. Local military supplies were combed, but no propeller of the same size could be found. His Army friend, Captain Lowell Smith, offered the use of his but it didn't fit. There was no other choice so he sent for one from the mainland. This was an expensive undertaking, costing his backers $600 in airmail stamps across the continent. In addition, this would take time, and he knew other pilots were vying for the first crossing.

Because Wheeler Field's runway was too short for the weight of his plane, Grace decided to move his take-off point to the island of Kauai, 75 miles away. There, he chose "Barking Sands" for an assured long run. When the propeller arrived, Grace made tests then, under escort of Navy planes, flew to Kauai without incident.

Making final preparations for the long flight, Grace eagerly awaited good weather. His first scheduled take-off was aborted by 20-30 knot winds. The following morning, the heavy Cruizair found the sandy runway a further detriment to take-off, but eventually managed to roll along at 50 miles per hour. Almost simultaneously, Grace found no rudder control and his tires burst, sending him into a severe ground loop. Experienced in close calls, the stunt flyer saved the plane and himself by careful maneuvering.

The relentless pilot tried twice to get off the next morning, but each time his tires gave out. Feeling certain the heat of the day was a factor in his tire failures, Grace decided on a pre-dawn take-off when the air was cool. This time, the flight had to be successful; no more spare tires were available.

He made it into the air without difficulty. Breathing a sigh of relief, Grace flew easterly when his forward progress was hampered by a tropical rain. The bumpy air currents continued and, at a point perhaps over 200 miles from the take-off point, Kauai, the Cruizair was thrown into violent vibration. Then, suddenly the plane was sent into a steep nose dive. Once again calling on all of his skills, Grace managed to level off at about 50 feet above the water and he headed back for the Garden Island.

The return flight was a series of precarious stalls and dives, but he managed to find his land and bring the airplane in. He crash landed on Kauai. Not equipped with a safety belt, Grace was hurtled out of the cockpit upon impact and traveled a distance of 35 feet. He landed in soft sands, suffering two broken hands only.

Seeing his broken airplane miserably in no condition to carry him to fame as the Pacific's Lindbergh, Grace's next thoughts were of "Kauai Lelani," his three-week old wire-haired terrier who was nearby. He saw an incredible sight. The dog was asleep in his little wicker basket, quite unconcerned. That day the terrier earned a new name, "Dizzy."

Grace lost all of his assets in that crash, but shrugged his shoulders and went by ship to Wheeler Field on Oahu to greet whoever would be the first in from California.

ARMY PREPARATIONS

Still unknown to the world was the fact that the Army was about to make the flight, a tantalizing project since the Navy's conquest in 1919 of the Atlantic, and the near victory over the Pacific in 1925. Not only had the navigation equipment under development proved out, the Army Air Corps successfully tested the new Fokker C-2-3 Wright 220 airplane (A.S. 22-206) and had assembled men to handle the chore. Directly involved were the best in the Army. As the Navy had done for its world record over-water flights, painstaking efforts were made to choose exactly the right people to handle airborne chores. The final choices were Lieutenant Lester J. Maitland, pilot, and Lieutenant Albert F. Hegenberger, navigator.

Airmanship was of prime importance in selection, but so also was familiarity with the Hawaiian Islands. Both had previously been stationed in Hawaii as active flyers, Maitland from 1918 to 1921 and Hegenberger, 1923 to 1926. The former was famous in the Islands as one of the trio of Army pilots who, in 1918, made the first multi-island flight. Subsequently, he served as aide to Generals Mason M. Patrick and Billy Mitchell. A famed cross-country pilot, in 1922, Maitland took second place in the Pulitzer Trophy Race at Detroit, in spite of having to pump fuel manually throughout the flight. In March, 1923, he broke the world's speed record in a 1,000 kilometer course at Dayton, with a speed of 244.97 mph in an Army Curtiss racer.

Hegenberger was Chief of the Instrument & Navigation Unit, Materiel Division, Wright Field which, for the most part under his leadership, had been studying problems of such a flight—and of trans-oceanic flying in general—since the summer of 1919. A program for such a flight had been laid out in this unit in February, 1920. Since 1919, Hegenberger tested every known navigation instrument and method, including regular "blind" flying tests and engineering of the equipment's development. He completed a course of instruction in navigation at the Navy's school at Pensacola in February, 1920. Commander John Rodgers told Hegenberger of his 1925 experiences over (and atop) the Pacific, as did fellow officer on the PN-9 No. 1, B. J. Connell (by then holder of world and U.S. performance records).

An able and zealous group of select civilian employees from the Army rounded out the team, consisting of the following:

L. D. Hendricks, Laboratory Assistant

Fred Herman, Aeronautical Engineer

Bradley Jones, Navigation Engineer
James Rivers, Foreman, Airplane Mechanic
Clayton C. Shangraw, Radio Engineer
Victor E. Showalter, Navigation Engineer
Ford Studebaker, Radio Engineer

The Army's Materiel Division, in pursuing a California to Hawaii flight during the eight-year effort in collaboration with other agencies, played a principal role in the development of various instruments such as bank and turn indicators, flight indicators, air sextants, compasses, ground speed and drift indicators, computers, and other equipment, as well as special navigation methods. These developments involved hundreds of test flights, including many through clouds, fog, and darkness. During tests, the ultimate flight from California to Hawaii was simulated numerous times. At last, it was felt that satisfactory instruments and methods had been developed for oceanic flying.

Lieutenant Hegenberger was given responsibility to prepare the plane, including installation of special equipment, final arrangements of fuel system, engines, pumps, and airborne facilities, among other requirements. Because the navigator had to function as radio operator and pilot as well, a special passageway was provided between the front cockpit and the navigator's cabin in the rear, necessitating the removal of one fuel tank. Then came further tests.

Hawaii was in frenzy about flights to its airports, as had been the case two years prior with John Rodgers' reach for the Islands. Full coverage was given of even the smallest development. To add to the excitement, a Hawaii resident put in his bid for the honor and prize money in the Dole Air Derby. Though beset by money shortages to cover expenses, including the purchase of a suitable airplane, Lewis Air Tours' Martin Jensen elected to compete. In the period before the scheduled takeoff date, August 12, Jensen had some business flying to do. His employer had serious designs on winning the inter-island contract when it came, so flight activity by his company in that direction was pursued.

On June 11, 1927, flying the company Ryan four-passenger plane, Jensen winged his way from Oahu to the neighbor island of Kauai, carrying his employer and several other people as passengers. The MALOLO had company in the air, a small stunt plane flown by a local pilot named Holbrook Goodale. Jensen's flying student, Goodale had soloed early that week. This marked the first time a commercial plane attempted the hop to the Garden Isle, and the two planes with their six passengers made it in a speedy 100 minutes.

On June15, still shrouded in military security limitations, the Army Fokker took off from Wright Field for its Oakland destination preparatory for the big flight. In one plane with Maitland and Hegenberger were Messers Herman (to check fuel consumption), and Rivers (for airplane and engine maintenance). Airborne at 10:50 a.m., the C-2 landed at Scott Field, Illinois, then went on to Hat-Box Field, Muskogee, Oklahoma, where the quintet remained overnight. Two stops were made the following day, at Dallas and Kelly Field, Texas. It was at Kelly that the Wright Field crew found a large crowd, cameramen and reporters waiting for them. Headquarters in Washington had officially announced the flight to Hawaii; they were told about it upon landing. A B-5 compass was repaired, as was the radio and a defective inductor compass. The next day they flew to El Paso, Tucson, and then to Rockwell Field in San Diego, at 5:25 p.m., June 20th. Here, minor adjustments were made. At Mr. Herman's recommendation, a 70-gallon fuel tank was installed, bringing the total fuel capacity to 1,120 gallons, ample now for the flight to the mid-Pacific.

On June 25, the C-2 left Rockwell for Crissy Field, picking up the new radio beacon 125 miles south of San Francisco. A smooth landing was made there at 3:18 p.m., ending 2,815 miles

of flight in 33 hours and 9 minutes. Monday morning, June 27, the plane settled onto Oakland's 7,200 foot runway. The plane was topped with fuel plus almost 40 gallons of oil. Taken on board was the inflatable raft and food for the trip. Preparations continued for the arduous trip.

A RIVAL?

At Oakland the Army group met an exuberant ex-military pilot named Ernest Smith, an airmail flyer of late Smith wanted the distinction of being the first to fly to Hawaii and made no attempt to dispel that impression. His drive was strong and incessant. With his navigator Captain C. H. Carter, Smith expected to go airborne momentarily and head for Hawaii in his single engine Travelair monoplane. The watching public—and Smith—began talking about a race, one between the Army and the civilians.

Maitland and Hegenberger denied any interest in racing, for prizes or "first" distinction. They felt the desirability to link up Hawaii and the mainland by air was purely for the advancement of aviation, stating this flight would be a test of the navigation equipment Hegenberger and his Army unit had been developing for years. Another stated objective of the long-range flight was to test the performance of the new radio beacon installed by the Army Signal Corps on the island of Maui and reaching to San Francisco. Finally, it was felt certain that much valuable data could be obtained for use in the establishment of regular commercial airline service over the route. Encouraging commercial aviation by the establishment of airways was the job of the military, they said; this flight fell in the Army's peacetime mission.

Smith was not a competitor in the Dole Air Derby, set to start two months hence. His interest was in becoming the Pacific's Lindbergh, therefore the Army duo to him were "rivals". There was no comparison between the two planes and crews. Years and months had gone into the Army's flight preparations. The Fokker was equipped with the finest navigation equipment available, developed by its chief engineer now on the flight crew. Smith's plane carried one simple compass and no significant modifications were made for safety. Leaping off first was his objective. The Army would not compromise safety for that questionable distinction, intent only on making the flight a success and gathering in-flight data on instruments and crew reaction.

Ernest Smith's airplane was not quite ready to take off when the weather improved, much to his chagrin. At the last moments, the Army's flyers' thoughts turned to the final aspect of their flight, one that depended at least 50 per cent on the human element of navigation. The components had tested out well; the navigator, Hegenberger, was the best in the business. Yet, when they thought of the over-water distance to be covered in a land plane, they were a bit concerned. How well they knew from previous assignment that the Hawaiian Islands in the broad Pacific were like a mere handful of rocks. It would take masterful navigation to not miss the mark by a few degrees.

TAKE-OFF

Shortly after 7 a.m., the Army pair shook hands with their crews who had worked so hard and climbed into positions in the airplane. Left behind were their parachutes, mandatory in the Army since 1922; they would be of little use in open seas. Major General Patrick, Chief of the Air Corps, after inspecting the airplane, wished the young flyers good luck. Then the BIRD OF PARADISE started up, its three Whirlwinds humming noisily. The plane made its way along the runway, as Smith yelled the final tidings to his friendly rivals, good naturedly warning that he would be right behind them in a much faster airplane. It was 7:09 a.m., June 28, 1927. At the 4,600 foot mark, and a speed of 93 mph, the huge plane lifted off the ground. Other Army planes joined the rising Fokker in escort, as it edged higher in the sky. The plane dipped its wing

in salute to the men and equipment left behind. At the 2,000 foot altitude, Maitland and Hegenberger passed over the Golden Gate then headed on the first course of the Great Circle to Maui, where the radio beacon was to tie in with the station in San Francisco.

Smith almost made good his promise, taking off two hours later. A cracked windshield forced him to return to Oakland, at which point the navigator decided to abandon the venture and departed the premises.

THE FLIGHT

For the first 500 miles they encountered strong crosswinds and after that a very strong tailwind which increased their airspeed to 108 mph. They flew close to the sea during daylight hours at an altitude of 300 feet. The flyers were pleased at the sight of their first checkpoint, the Army transport Chateau Thierry steaming for San Francisco. Then the right engine sputtered due to an overflow of oil being drawn into the carburetor intake, but improved in 10 minutes. In the first hour, the induction compass failed, making it necessary to rely on the B-5 compasses. At 7:45 a.m., the radio beacon was first tuned in. An hour later, however, its reception suddenly cut out. One tube was changed, then two batteries; reception came in again, this time lasting only 30 minutes. Failing to revive the set, Hegenberger reset his course to the steamship SONOMA, later sighted at 2:34 p.m. Navigation was by dead reckoning and solar observations.

At 7:45 p.m. the PRESIDENT CLERVELAND and the BIRD OF PARADISE were in radio communication, the ship reporting having received a weak signal. Maitland flew to 10,200 feet to get over the clouds for celestial observations. At about 1 a.m., Hegenberger heard the beacon's signals and made course corrections while he could. Forty minutes later the reception again cut out, this time for the remainder of the trip. This was a great official disappointment.

They flew without incident until about half-way, at this point relaxing sufficiently to discover hunger pangs. Searching for food which was supposed to have been stowed aboard for them, none could be found by either flyer. They settled back for a hungry trip. Suddenly, however, the center engine sputtered, causing them to lose altitude down to 4,000 feet. For one hour and 40 minutes, two good engines carried the crew through clouds and total darkness. Hegenberger used a pocket flashlight to read instruments and charts throughout the night. The engine trouble was determined to be carburetor icing when frost appeared on the outboard engine instruments. No preparations had been made for applying exhaust heat to the carburetor because the high altitude was not expected and heaters were left behind. At the 4,000 foot mark the warmer air temperature gradually cleared the carburetor and allowed Maitland to climb to a safer altitude, 7,000 feet, where he stayed for the rest of the flight.

At 3:20 a.m., tired eyes beheld a wonderful sight, the lighthouse on Kauai five degrees to the left of the plane's nose. When the shore line was approached, the island's contour became familiar—one they knew so well from past inter-island flights. Oahu was 75 miles from Kauai; daybreak would not occur for about another hour. Maitland and Hegenberger chose not to jeopardize a successful completion to their flight by approaching mountainous Oahu in heavy clouds, rain and total darkness. They decided to circle Kauai until daybreak, slowing down to 65 mph. They passed over Barking Sands where Dick Grace was having his troubles, recognizing a camp light.



Fig. 30. Crowds at Wheeler Field awaiting arrival of Mainland to Hawaii fliers, 1927.
Crowds at Wheeler Field welcomed the arrival of Mainland to Hawaii fliers, 1927.

SUCCESS!

Crossing the channel to Oahu at 750 feet just below an unbroken cloud layer, they saw a Very pistol fired from Pearl Harbor (later learned as coming from Commander M. H. McComb). Their speed was boosted to 115 mph and soon they found themselves 500 feet over Schofield Barracks. Below them at Wheeler Field were thousands of people and many cars, then the white smoke of a welcoming 75-millimeter field gun's salute. Maitland circled the field once for the anxious spectators then came to a fine landing at 6:29 a.m., June 29, 1927, 2,425 miles having been flown from California to Kauai in 23 hours. It was a total of 25 hours and 49 minutes when the three-engine plane touched Wheeler's famous runway. Maitland reflected on his 1918 flight between the islands, in contrast. The future Episcopal minister thanked God silently.

When the huge Fokker came into view from the northwest of Wheeler Field, the many thousands of people previously on hand had dwindled to a few thousand. Many had gone home. Some thought of Rodgers plight, others of the impracticability of a land plane making the crossing at all. Many, however, waited for the moment of success. They were elated to see the plane but surprised to see it flying alone. A welcoming squadron of 12 planes from Luke and Wheeler had been circling in the air near Diamond Head for about 30 minutes, waiting to act as proud aerial escorts.

It was a joyous occasion, as dignitaries, friends and well-wishers welcomed the flyers. Maitland and Hegenberger later laughed only half-heartedly with their friend, Lieutenant John



Fig 31. Coming in for a landing, Lts. L J. Maitland and A. F. Hegenberger waggle the wings of their Fokker C2-3 Wright 220 in response to the excited waves of their Army compatriots at Wheeler Field.

Griffith, who had found the missing food while checking the plane's interior. It sat quite undisturbed and ready to consume under Hegenberger's plotting board.

A young Hawaiian resident, originally from the Philippines, Jose Galura watched the historic landing. His comments 37 years later were, "It was a great thing those Army flyers did. I knew Hawaii would now be more famous because these were just the first to fly to the Islands. Soon there would be civilians coming by airplanes just like on ships."

The flight was an unprecedented success. This time the eyes of the aviation world—and the public—would not again turn away from Hawaii, as a new phase of aviation dramatically made its entrance.

The feat was hailed by the War Department and the press. The Honorable F. Trubee Davison, Assistant Secretary of War, stated "—a new vista of communication between America and its overseas positions" had been opened by the Army, underscoring the progress made in aerial navigation. He went on, "The flight is unquestioningly one of the greatest of aerial accomplishments ever made." Davison was "particularly pleased that two Army Air Corps officers, operating an Army plane built for no other purpose than Regular Army use, were the first to negotiate the flight to Hawaii." He amplified further, "The thought behind the Army's project was not to have an Army plane be the first to cross the Pacific but to gather data which

would be of value in promoting air traffic between California and Hawaii. The flight was contemplated in the interest of aviation and not as a quest for a unique record."



Fig. 32. Traditionally reserved for and worn by ancient royalty of Hawaii, feather capes were presented to Lt. A. F. Hegenberger (left) and Lt. L. J. Maitland by thrilled Islanders in recognition of their historic flight from the Mainland to Hawaii in 1927.

The New York Tribune was prophetically accurate in commenting, "—the cheering crowds at Honolulu see themselves emerging from the lonely isolation of the mid-Pacific and many already are envisioning a future in which their islands will be a junction point for fast passenger and freight services to Oceania, Australia and the Far East."

The Chicago Tribune stated: "This country has the genius requisite to deal with the scientific problems of aviation that still await solution. It has the enterprise, the courage, the skill and the material assets necessary to maintain the supremacy it has won and to use it beneficially for defense and for progressive peace-time objectives. Aviation needed a dramatic challenge to the popular and business mind, and now the challenge has been furnished in a series of remarkable flights."

The Minneapolis Journal stated that the achievement, "—opened an aerial avenue over the eastern reaches of the Pacific, even as Lindbergh opened an aerial avenue over the Atlantic."

For Hawaii's internal needs, inter-island flying was now only a matter of negotiation and selection of a company.

Maitland and Hegenberger soon boarded the MAUI for a long but comfortable ride to the mainland. Three PW-9s took part in an aloha flight. Island hospitality became marred by tragedy when the pilot of one, attempting to execute a roll, plunged to a watery death. During memorial services that followed, Martin Bombers dropped flowers on the spot in the ocean where their aerial comrade had fallen.

Lieutenant Colonel Maitland was in command at Clark Field in the Philippines at the outbreak of World War II. He escaped to Australia and returned to the United States to organize and train the 386th Bombardment Group. In 1943, he was promoted to colonel and saw combat in the European Theater of Operations. Colonel Maitland retired from the Air Force in 1945. He was appointed Director of Aeronautics for the State of Michigan in 1949. In 1951 he became the Michigan Civil Defense Director with the rank of brigadier general in the Michigan National Guard. In 1956, he was ordained in the Episcopal ministry. One of his "tours of duty" with the church was in Honolulu. Hegenberger went on to become a major general, and commanded the 10th Air Force in Italy during World War II. He is now retired and living in Maitland (no relation to this famed aerial partner), Florida.

CHAPTER VII

ENTER THE CIVILIANS

A NEW TEAM

Back in Oakland, Ernie Smith scurried about in search of a navigator to take Carter's place. Not expecting miracles, nonetheless the frustrated flyer hoped to find one in a matter of minutes. One of his backers, Edmund J. Moffett, assured Smith time was no longer important, and that he and his new navigator could become the first civilians to make the flight. Smith knew, that if something happened to the BIRD OF PARADISE, he could still be the first human to make the flight.

A suitable navigator was not found that day. The following morning, Smith got news of the success of Maitland and Hegenberger. Not slowing down because the "race" was over, Smith intensified his search lest some last minute entry beat him to the first civilian claim.

A young man telephoned Bill Royal (managing Smith's affairs) asking for the job. An appointment was arranged for the next day at the airport, for interview by Smith. His name was Emory B. Bronte. The eager applicant had taken pilot training in 1923, and was also rated a master mariner. Intrigued with the idea of flying across the ocean after Lindbergh's conquest of the Atlantic, he had watched from a rooftop as Maitland and Hegenberger flew out the Golden Gate. "I had read about Carter bowing out of the picture," Bronte said, "and decided to apply for the job. I wanted to make such a flight, and this was my chance."

Pleased with the attitude and enthusiasm of the young man (Smith was 12 years older than the moustached, handsome Bronte), the pilot eagerly signed Emory Bronte as navigator for the trip.

"But only on my terms" Bronte insists. "I had looked the plane over and was shocked to find it didn't even have a radio and very little else in the way of navigational equipment. To make the trip, we needed charts, compasses, a sextant and many other items. I could see why Carter bowed out. The windshield just cinched it for him. Smith was fortunate, because had they gone out with such a lack of equipment they'd have ended up in the water. Two weeks later, we not only had a radio but it was a first class piece of apparatus. As for the compass, we had three of them installed, with the master compass calibrated so finely that a deviation was eliminated on the westerly headings (the only important headings because that's the direction we were going to fly). The short wave radio transmitter and receiver were especially built for us by the Army Air Corps Lieutenant Mariner, Crissy Field's communications officer.

Bronte's insistence on perfection brought out a Wright engine specialist to make last minute modifications on the power plant. Kenneth Boedecker made a number of changes which, if not corrected, would have slimmed their chances of a successful flight. Riding to the airport on the morning of the flight Bronte was asked how he expected to stay awake during the long flight. The navigator foresaw no difficulty, but his concerned companion reached into the car's first aid kit ("all automobiles carried one those days") and handed Bronte some smelling salts, advising him to use them if he did get drowsy.

Finally, the plane was ready for flight. Smith christened it, "CITY OF OAKLAND." On July 14th, the day of take-off Maitland and Hegenberger, who had just returned from Hawaii by ship, came to the airport to wish the flyers good luck and to pass on their experiences. Smith and Maitland discussed flying techniques, Bronte and Hegenberger the intricacies of navigating the unknown route.

Smith decided to take along four carrier pigeons to fly position messages back to California and to act as backup in the event the radio failed. Stowed securely in the cockpit, the two cages made a peculiar sight to onlookers. Bronte brought his charts, parallel rulers, dividers

and other navigation aids. A rubber life boat, deflated and folded was placed between two fuel tanks. Sandwiches, coffee and milk were placed atop one gasoline tank.

Bronte had set his course for the island of Maui, rather than his Wheeler Field destination on Oahu, for two reasons. First and foremost, he intended to use the Army's beacon connecting the stations at the Presidio of San Francisco and Paia, a village on the island of Maui, as Maitland and Hegenberger had done; also, as a safety factor for navigation, giving him the very large island of Hawaii to the left (of Maui) and Molokai and Kauai to the right, on either side of Oahu.

ON TO HAWAII

Finally all set, the flyers climbed aboard their plane. Smith started the lone engine and attempted to taxi away, but found that the overloaded Travelair refused to budge (370 gallons of fuel). Exasperated spectators were drafted to push, and the CITY OF OAKLAND responded in movement. The intrepid flyers, bumping along the dirt runway, were pleased to finally be on the way. Noisily offering good wishes were some 10,000 spectators. But then the crowd gasped. The monoplane suddenly dipped, wavered and careened into a ground loop to the right. A depression in the runway had caught one wheel on the take-off roll, much to the disgust of Smith. No damage was done and at 10:40 a.m. the airplane was forced into another attempt. This time all went well and the single-engine plane strained into the air, to the relief of the harried audience at Oakland Airport, as well as Smith and Bronte.

Oakland Airport (then known as Bay Farm Island), as with many other flying fields those days, contained a dirt runway with ruts and other surface depressions, making such take-offs common. The incident bothered the worried navigator only "because a gallon of gasoline was wasted." Bronte unreeled the radio antenna, held beneath the plane for about 150 feet by a leaden weight attached to the end. The radio beacon was turned in and a strong signal showed they were on course.

Except for flying into a thick fog bank which obscured their view of the ocean, the flight went well for the first four hours. Then the duo joined the ranks of Maitland and Hegenberger and John Rodgers before them on this stretch of ocean route, by encountering radio trouble. Thinking the receiving set was out of order at first, the old earphones became suspect. Happily, they could still transmit messages and did so regularly on the hour throughout the flight. Damning their oversight at not including a spare headset, Bronte prepared to make use of the compass and sextant.

Two pigeons were released 200 miles out, the remaining two the following morning. (They never returned to their home lofts.) At 3:45 p.m. they transmitted an "all's-well" message. The SS MAUNALOA received a message from the CITY OF OAKLAND at about 6:00 p.m., by which time the flyers were about 500 miles out and doing well.

Smith increased altitude to 6,000 feet that night so that Bronte could get a good view of the stars above the fog layer, for navigational purposes. At this point they were 800 miles from Oakland, flying at 120 miles per hour. Smith knew this was faster than the BIRD OF PARADISE had flown and became excited at the prospect of beating its time.

At 3:00 a.m. one of Bronte's transmissions was picked up by the SS WILHELMINA and the Army transport KENOWIS. The signals were quite weak. However, the SS WANIWA later heard from Bronte's transmitter with a stronger signal. Smith recalled this was as far as John Rodgers got in 1925, and then passed a note back to Bronte stating he was getting sleepy. "Reading that, I knew I was sure to stay awake," Bronte grinned.

SOS

Now quite close to the Hawaiian Islands and a place to land, the flyers' spirits soared only to be momentarily dampened by the cruel sounds of their only engine sputtering and coughing. The experienced pilot knew this meant only one thing—running out of fuel on the gasoline tank feeding the engine. Smith switched to another tank and hand-pumped fuel to it. Within seconds, the engine roared back to life. Smith checked his supply and calculated that only about one hour's fuel remained. This was miserable news, because their calculations indicated that they were four hours of flying time from the island of Maui. Bronte sent SOS messages to all listeners, marking the plane's latitude and longitude where they expected to ditch. Smith smiled grimly, shrugged his shoulders and kept on flying.

The SOS message was picked up by several craft, including the steamers WILHELMINA and PRESIDENT PIERCE. Plotting the position, the ships altered course for the distress area.

Methodical Bronte made a close check of the navigational problem about 500 miles from Hawaii and learned that Maui, much closer than their Oahu destination, could be reached if their fuel wasn't depleted beforehand. Smith took measures to conserve what fuel remained by retarding his throttle, showing down to 100 miles per hour. On they flew, eyes straining for a sight of land jutting out of the broad Pacific, quite worried about the fuel supply. Bronte swept the horizon with his binoculars until his eyes ached. Then for the first time, the fog disappeared. Quickly, the plane was lowered to 100 feet above the water so they could sight surface craft. Here, the trailing antenna wire was snagged by a wave and snapped off at the fuselage end.

At about 100 miles from Maui, Bronte prepared the life raft, feeling sure it would be needed. They climbed on a southerly course to 8,000 feet and at that altitude sighted Mauna Kea and moments later Haleakala. Tired but pleased, Bronte sent out a message reporting the sighting. However, the signal was too weak to be received due to the loss of the antenna. Gas gauges read empty as the plane came over and circled the town of Kahului, Maui, searching for suitable landing space. Knowing the cane fields below would cause the Travelair to be wrecked, Smith and Bronte decided to cross Pailolo Channel the 18 miles to Molokai, then make for Wheeler Field, since somehow gasoline continued to feed their thirsty engine.

LANDING IN MOLOKAI

Reaching Molokai's southern coast, the engine continued to turn. Smith flew on, parallel to the east coast, eyes straining for flat terrain. As the airplane moved forward, the ominous mountain Kamakou rose sheerly in front of them. Passing next to the 4,970 foot peak, they could see the southwestern side of the island to be heavily wooded and uneven. Smith headed for the softest looking clump of trees he could find, as his gasping engine quit running entirely. With skill only an experienced pilot could exhibit, Smith volplaned ("pancaked") his plane into a landing in a wooded area next to a dirt road. The CITY OF OAKLAND, much the worse for wear, was resting in a cluster of keawe trees next to Norman Maguire's ranch at Kamalo.

The wings sheared off at their root, the fuselage broke in two back of Bronte's position. One blade of the propeller stuck in the ground, holding the engine clear of the ground. It was a fine wooded-area landing. Pilot and navigator were shaken but unhurt except for scratches from the tree thorns. It was 8:47 a.m., Hawaiian Standard Time, July 15, 1927. The pair had flown 25 hours and 2 minutes.



Fig. 33. Wreckage of Travelair flown by Smith and Bronte, who became first civilians to make the flight from the Mainland to Hawaii July 15, 1927.

At the end of their long and historic journey, no fuel left and a broken airplane, "We took our time climbing out; there was no use hurrying and we were tired," Bronte said. Several field hands came up to the wreckage. Smith and Bronte, under the erroneous impression all of Molokai was a leper settlement, were wary of getting too close to the curious natives. But the desire for a cigarette was stronger than Bronte's warnings; Smith asked one of the men for a cigarette. Handing one to the grateful pilot, the man assured Bronte they had nothing to fear; the settlement was miles away on the northern coast One man offered to drive the pair to the radio station they'd spotted from the air, so Smith and Bronte climbed gratefully into the ancient and dilapidated farm flatbed truck. The pair glanced wistfully back to the CITY OF OAKLAND as they pulled away, then bumped along the dirt road—firm ground beneath them. Bronte recalls, "As we bounced toward Kaunakakai over one of the roughest roads in the world, Smith remarked, "Boy, doesn't that dust feel good in your eyes!"

When they approached the building, a wireless operator named Jack Chung met them. The excited Hawaiian proceeded to take down Smith's message to the senior Army officer in Honolulu, Major General Lewis, about their plight and position. A local judge named E. McCorriston sighted the plane when it came in. Learning from farmhands who its occupants were, he got into his Buick touring car and sped to Kaunakakai to offer his services. The pair gratefully accepted his offer and was soon having a hearty breakfast in the judge's home (which happened to be close to their landing site).



Fig. 34. Close up view of THE CITY OF OAKLAND.

General Lewis' response to the radio flash indicated he was dispatching to Molokai a number of Army airplanes from Luke and Wheeler Fields to escort the record makers to their original destination. The excitement around Honolulu ran high, since it had been over four hours since anyone had any word from the flyers. Also, rescue ships were still combing a portion of the sea where it had been presumed they were down.

The airplanes arrived at Homestead Field, a pasture in those days, and Ernie Smith and Emory Bronte climbed aboard (DHs). They headed for Wheeler Field amidst a proud military aerial escort. The 60-mile flight from Molokai went quickly for the pair. They felt little consolation in learning they had bettered the time of Maitland and Hegenberger, having made it to Molokai in 25 hours and 2 minutes; but they did became the first civilians to make the flight!

Greetings at Wheeler were tumultuous. Globe-circling air veteran Captain Lowell Smith (no relation to Ernie) posed for pictures with the garlanded new air heroes.

There were some who expressed the opinion that they had crash-landed the plane deliberately for publicity. "Not so! We were out of gas, otherwise we'd have turned around after a little sleep and flown back to Oakland," Bronte exclaimed 37 years later.

Feeling somewhat like the venturesome first ship travelers to reach Hawaii, Smith and Bronte knew that now aviation would advance to the point that civilian crews would soon carry passengers across the same route---then later, further—as regularly and comfortably as trains and buses on dry land. Although the plane was a total wreck, they had been the first; more frugal fuel utilization would have made a safe landing possible, advancing the advent of trans-ocean commercial service considerably (it was to be eight years in the future).

There was no prize money to be collected, the plane was unusable. But the pair was later honored, along with Lindbergh, Maitland and Hegenberger, Chamberlin, and other famous flyers, by the President of the United States for their feat and contribution to the development of aviation.

Smith became an executive of the globe-circling Trans World Airways. Bronte was given a Navy reserve lieutenant's commission. Ten years later, he returned with Mrs. Bronte to the Islands aboard Pan America's CHINA CLIPPER. During World War II, Bronte went through the Navy's flight training program as a commander. The pioneer flyer went on to command three naval air stations and an island in the Admiralty group off New Guinea. Bronte has long been an executive with C. Brewer and Company in Honolulu. His office is adorned with old flight certificates and, in the place of honor, the chart of his 1927 flight with Smith. Visible from his 14th story office window in the modernistic Ala Moana Building is Honolulu's skyline with the airspace trespassed by clock-like landings and take-offs at Honolulu International Airport of civilian airplanes on oceanic flight. Each owes much of its basic start to Smith and Bronte. But now only Bronte enjoys the nostalgic view and the feeling of contribution to aviation, Hawaii's progress. Smith died in 1963.

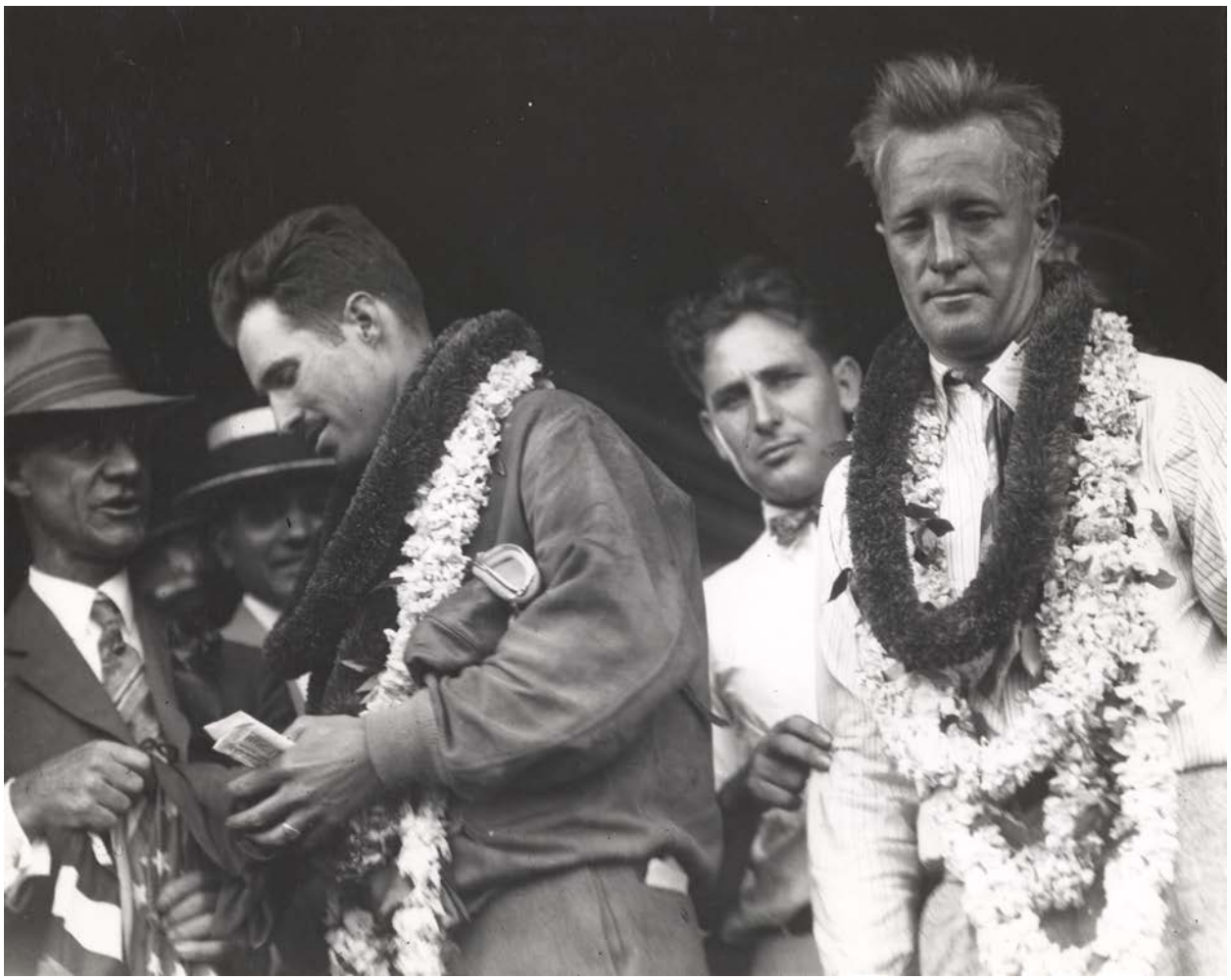


Fig. 35. Emory Bronte (l) and Ernest Smith (r) are besieged by newsmen after arriving in Honolulu.

AIR RACES

Man responds with his greatest energies, performing normally unimaginable deeds when tantalized by lucrative awards. The offering of large sums of money in racing events is as old as time itself. With the emergence of aerial flight by plane, as with balloons and dirigibles before them, this activity was bound to find its way to aviation. Stretching forth to make long and fast journeys in order to achieve the reward, competing man, backed by engineering and production support, is a contributor to greater development of his racing vehicle and the "roads" over which he travels. So is the race's sponsor. This combination of factors resulted in a hastening of progress otherwise not to be.

The first enticement for airplane flyers was the LONDON DAILY MAIL's offer of $5,000 for the first flight across the English Channel. A new world hero was born when on July 25, 1909. Louis Bleriot of France flew 25 miles over water from Calais to Dover. One hundred and twenty thousand Britons gathered in London to view the amazing flyer and his Type XI monoplane. Prizes valued at $37,000 were offered at Rheims, France, site of the first international air meet in August, 1909, drawing numerous contestants including America's air pioneer, Glenn Curtiss (one of the winners). Five months later, America's first air meet was held near Los Angeles drawing flyers in quest of the $10,000 grand prize (one entrant was Didier Masson, who flew in Hawaii the following year). In April, 1910, the LONDON DAILY MAIL came forth with an offer of $50,000 for the winner of an overland race from London to Manchester; it was won by France's Louis Paulhan. In November, the Baltimore Sun awarded Hubert Latham $5,000 for a direct flight over the city in his ANTOINETTE monoplane. Unrelenting LONDON DAILY MAIL stunned the world in December, 1918, with an offer of £10,000 to the first flyer to cross the Atlantic Ocean by air.

Fearless man responded, as he would to any challenge regardless of obstacle, as the flight arena expanded to an ocean.

Lieutenant Commander A. C. Read, on May 31, 1919, landed his Navy Curtiss NC-4 in Plymouth, England, after covering 3,936 nautical miles in 52 hours and 31 minutes. Britain's Captain John Alcock and Lieutenant Whitten-Brown (of American parentage) made the first non-stop flight over the Atlantic, winning the £10,000 prize. They flew from St. Johns Newfoundland, to Ireland on June 15, 1919, in a Vickers-Vimy plane.

In May, 1919, Raymond Orteig of New York City promoted a non-stop flight from New York to Paris, with a $25,000 offer. Several attempts by French and American pilots failed. The feat was not to be accomplished for eight years, when Charles A. Lindbergh came on the scene.

DOLE AIR DERBY

Then came the Dole Derby's challenge to conquer part of the Pacific Ocean in 1927. Dole's intention was to encourage the first crossing by air from California to Hawaii. He envisioned a mass flight of many planes along the route, speeding for the far-off territory. However, the Army's successful pioneer action, followed by an incredible single engine performance by civilian flyers, pre-empted Dole's worthy purpose. Not discouraged, his race was still on.

A National Aeronautic Association member, Dole asked the Honolulu chapter to establish rules and other flight details, to ensure that "—it may cost no brave man either his life or limb." The committee was chaired by the chapter president, Clarence H. Cooke. He was assisted by Frank O. Boyer, Commander H. B. McComb of Pearl Harbor, Captain Lowell H. Smith of Wheeler Field, John H. Kangeter and Kenneth Barnes.

The committee was kept busy, as 33 entries came in from many places. The starting date was established as August 12, 1927. Not included among them was Lindbergh's application, to the disappointment of many race enthusiasts, but leaving the door open to a new name in aviation.

News accounts of preparations and stories on contestants continued daily in Hawaii, until the race was completed and for days afterwards. Honolulu was afire with interest. Contestants included two from Hawaii, popular Martin Jensen and Harvey Lemeke (who bowed out later). With his wife's active campaigning, the ALOHA came under Jensen's control. A Breese monoplane, it was christened with a bottle of Waikiki water in a splendidly Hawaiian manner, complete with Hawaiian singers and hula dancers. Miss Ruby Smith, an Oakland beauty queen, broke the bottle amidst Hawaiian strains and dances. Jensen was particular proud of the painted Hawaiian flower lei which draped comfortably around the plane's nose.

As "Dole Air Derby" preparations intensified, aviation progress continued to be made. Honolulu newspapers carried an announcement that the new Matson Navigation Company's liner MALOLO would attempt to demonstrate the feasibility of carrying mail from ship to shore by airplane. Successfully tested by Clarence Chamberlin from atop the SS LEVIATHAN, prospects appeared good. Chamberlin took off from the ship's deck 100 miles at sea and landed safely 76 minutes later. MALOLO was to be equipped to carry planes from a runway on its deck. The Hilo postmaster, J. F. Daly, personally studied the mainland's new air mail service in preparation for establishment of a daily service between Oahu and Hawaii, as well as other islands in the group. Daly stated that for the Big Island air mail would be one of its greatest advances since interisland boat service was advanced to two boats per week. Movements were urged to complete airport facilities within a few months.

On the mainland end of the Derby route, a government overseer was assigned to the race activity. Navy Lieutenant (later Commodore) Ben H. Wyatt, a 33-year-old meteorological expert who, in 1926, conducted the successful Alaska expedition with two Loening Amphibians, was sent by the Navy Department to Oakland. He reported to Admiral T. Washington, Commandant of the 12th Naval District in the locale, then proceeded to lay on stringent requirements for participating planes and crews to weed out the unsafe. Wyatt was concerned principally with qualification of navigators for the trip. He set up rigid examinations.

Captain C. W. Saunders was made chairman of the starting committee. Ernie Smith was designated official starter. The Department of Commerce sent inspector Walter Parkin.

On August 11, 1927, the race committee announced specifications for contestants to date. They are shown below by pilot, plane, load capacity per square foot of wing area, type of engine and cubic inch displacement, and the number of gallons of gasoline carried:

MAJOR LIVINGSTON J. IRVING, Breese monoplane of the land type, 260 sq. ft. , 17.9 pounds, Wright J5C engine, 350 gallons.

FRANK L. CLARKE, biplane, 370 sq. ft., 12 pounds, Wright J5CA engine, 400 gallons.

BENNETT H. GRIFFIN, Travelair monoplane, 312 sq. ft., 18.5 pounds, Wright J5CA engine, 788 cu. ft. displacement, 420 gallons.

ARTHUR V. ROGERS, Bryan full cantilever monoplane, 340 sq. ft., 15 pounds, two Bristol-Lucifer engines set tandem with one pusher and one tractor, 467 cu. in. displacement each, 408 gallons.

LIEUTENANT NORMAN A. GODDARD, Goddard Monoplane, 283 ½ sq. ft. 17.3 pounds, Wright J5C engine, 360 gallons.

CAPTAIN WM. P. ERWIN, Swallow monoplane, 330 sq. ft., 15 pounds, Wright J5CA engine, 788 cu. in. displacement, 460 gallons.

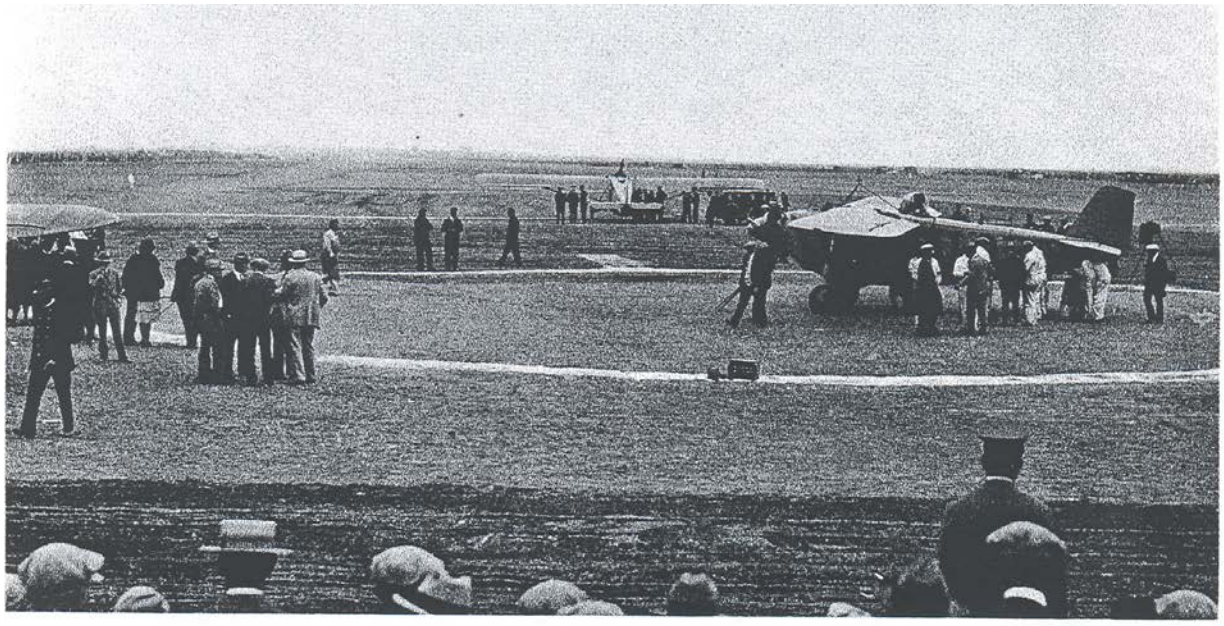


Fig. 36. Dole Air Derby entrant ALOHA, a Breese monoplane flown by Honolulu's Martin Jensen, getting last minute compass correction.

FREDERICK A. GILES, Hess Bluebird biplane, single seater, 295 sq. ft., 16.23 pounds, Wright J5C engine, 788 cu. in., 500 gallons.

CHARLES W. PARKHURST, Airking biplane, 342 sq. ft., 12.8 pounds, Wright J5CA engine, 788 cu. in. 372 gallons.

JOHN AUGIE PEDDLAR, Buhl air sedan biplane, 350 sq. ft., 15 pounds, Wright J5C engine, 788 cu. in., 400 gallons.

ARTHUR C. GOEBEL, Travelair monoplane, 310 sq. ft., 16 pounds, Wright J5C engine, 788 cu. in., 425 gallons.

MARTIN JENSEN, Breese monoplane. No specifications on hand at the time.

Once again, ships would be lined up at sea for marking and emergency purposes. Along the route would be the WILHELMINA, 1,400 miles from Honolulu; LOS ANGELES, 800 miles from Los Angeles; SS MANUKAI, 950 miles from San Francisco; SS PRESIDENT HARRISON, 800 miles from San Francisco; SS MANULANI, 1,160 miles from Maui; SS INORA, 800 miles from Honolulu; SS MANOA, 1,820 miles from San Francisco The entire Pacific fleet was to be placed in readiness. The aircraft carrier LANGLEY, two destroyers, two mine sweepers and an aircraft tender were to be in position in San Diego.

On August 11th, Henry Ford was taken to Lindbergh for his first airplane ride, over his Detroit industrial site. The famous American automobile manufacturer was interested in aviation prospects. In Hawaii, Honolulu newspapers took on a new look as aviation sales were advertised, including free toy airplanes with purchases. Also on that day came tragic news which stunned the busy people on and about Oakland airport, and bound to have a marked effect on attitudes about the race and its possible outcome. Taking off from San Diego, Navy Lieutenants George D. Covell and Richard S. Waggener crashed their Tremaine monoplane into the Point Loma bluffs and were killed on their way to compete in the race. They were in the air eight minutes when their low-winged monoplane crashed. Both men were burned beyond recognition.

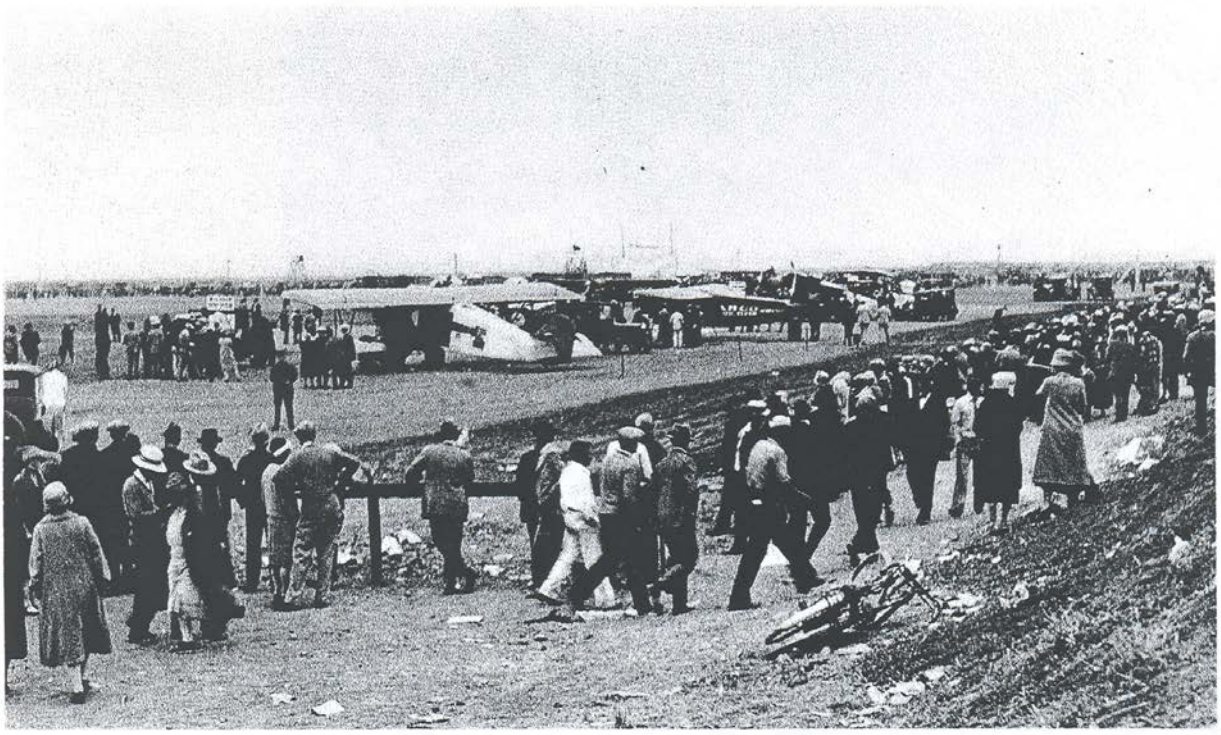


Fig. 37. Final Dole Air Derby contestants lined up at Oakland Airport, August 16 1927.

One famous race entrant was cowboy movie star Hoot Gibson, with the tri-plane PRIDE OF LOS ANGELES, flown by Captain James L. Griffin and Ted Lundgren. To the crowd's consternation, on August 12 the plane missed Oakland airport's runway on the approach and crashed into San Francisco Bay, en route from Long Beach, California. No one was injured but the occupants were compelled to swim for their lives.

Six airplanes and crews were disqualified one day before the race. In the interest of safety, and to give disqualified flyers the opportunity to get back into competition, Lieutenant Wyatt saw to it that the race was postponed four days. This drew Dole's objections but the ruling held. On the 13th, Britain's Arthur V. Rogers took off on a local flight. His forward-looking airplane's twin tails and tandem engines drew comments from onlookers. At 500 feet, the plane suddenly fell into an uncontrolled nose dive. Rogers leaped free but his parachute failed to open and he fell to his death.

Eight finalists were ready for the crucial test on August 16. That day it was learned that entrant Frederick Giles departed Detroit, Michigan, for San Francisco, but that he intended to fly on to New Zealand in the Hess Bluebird. Congressman W. Frank James of Michigan, member of the House Military Affairs Committee, arrived to inspect the airport. This was part of his tour of airfields preliminary to consideration of a bill appropriating funds for improvement in Army air facilities. Lieutenant George Noville, who had accompanied Commander Richard E. Byrd to France on the monoplane AMERICA, arrived to inspect the planes and facilities.

Thousands of bystanders lined the field. There were more atop buildings; and some watched from surface craft at sea. At noon, Ernie Smith fired the starter's pistol and the race was on.

At 12:01, the first airplane became airborne. It was the OKLAHOMA, a blue and yellow monoplane with Bennett Griffen and Al. L. Henley. The OKLAHOMA passed the Golden Gate but then returned with mechanical difficulties.

Navy Lieutenants Norman A. Goddard and K. C. Hawkins moved their silver monoplane EL ENCANTO down the runway at 12:03. Goddard was with the U.S. Naval Reserve at San Diego and his navigator, Hawkins, was an active duty naval officer from the San Diego Naval Air Station, on special leave to participate in the race. Thrown off course by a side wind, Goddard managed to get about four feet into the air but then crashed to the ground at the 7,000 foot mark, completely demolishing the left wing. The rudder had failed to react properly. It was damaged sufficiently to be out of competition.

In third position, at 12:11, was war ace Major Livingston J. Irving in his orange monoplane PABCO PACIFIC FLYER. He rose as high as 10 feet into the air then plummeted suddenly back to the ground, ending up in the marsh and water. Tail wheel shattered, Irving pulled off for repairs and another start at the end of the line, intent not to let down fellow employees of the San Francisco firm who were his backers.

The GOLDEN EAGLE took off without incident at 12:31 and headed west with its crew of John W. Frost and Gordon Scott. The Lockheed plane was a Vega cantilever type monoplane, cigar shaped, with a 200 hp radial engine, put in the race by George Hearst, publisher of the San Francisco Examiner. The plane was equipped with extra heavy wheels, in addition to regular landing gear, which were droppable after takeoff. Apart from engine and landing gear, including fuselage and wings, the plane was made entirely of strong light wood. All parts of the plane were joined by nails, screws and waterproof glue. Manufacturers felt the plane would remain intact in conflict with violent wind-resistance or sea buffeting. The landing gear was releasable, and the contents of gas tanks could be dumped. Flotation bags were placed in the fuselage and at the tip of each wing which could be inflated with compressed air by the navigator, giving increased buoyancy. Additional safety items on board were a five-passenger rubber air raft (furnished with a large white sail, mast and mast-step, and two oars), a compass, two brightly colored kits and streamers of Japanese silk, intended to be hoisted as day signals, and Very pistols and flares for night duty. In the navigator's cabin was an air bottle with shafts leading to the tips of the wings. In case of a forced landing, it was planned to send air throughout the inside of the plane to keep the plane from bobbing around or overturning on the surface of the water The wing extremities were made of three-ply wood on which sandbags could be placed. The pilot-house doors were water-proofed with rubber cork.

John Augie Peddlar took off in his Buhl Airsedan biplane, MISS DORAN, at 12:33. His navigator was Lieutenant Vilas R. Knopie, U.S. Navy, and a 22-year-old school teacher passenger named Miss Mildred Doran—inspiree for the first woman passenger title. Peddlar, wearing knickerbockers and the traditional straw hat for which he was known, got up to 800 feet then wheeled the red, white and blue plane back for a look at his malfunctioning engine. Lieutenant Wyatt came up to discuss the plane's condition. Built by the Standard Airplane Works of Lincoln, Nebraska, the aircraft was backed by William Malloska, head of the Lincoln Petroleum Company of Flint, Michigan.

Movie stunt flyer Arthur C. Goebel guided his yellow and blue Travelair monoplane down the runway with Navy Lieutenant William V. Davis as his navigator. Davis was an active duty Navy pilot on 30 days leave from his North Island, San Diego station. He was formerly an Annapolis swimming star.

Taking off next was Honolulu's Martin Jensen in the ALOHA, with Paul Schluter as navigator.

Charles W. Parkhurst's biplane AIRKING was disqualified for insufficient fuel capacity, after much controversy. Had he gone on, experts estimated he would have run out of fuel about 300 miles short of Oahu. DALLAS SPIRIT took off at 12:37, flown by Captain William P. Erwin with A. H. Eichwaldt as navigator. Erwin returned because of torn wing fabric.

The PABCO PACIFIC FLYER's tail wheel was repaired and Irving attempted another takeoff. The overloaded plane crashed, smashing one wing. Pilot and navigator came out unhurt.

Ernie Smith, first civilian to make the flight, rushed up to the MISS DORAN and wished the young passenger good luck. Then the biplane made its way down the grass runway a second time. It drew great applause as it became airborne and headed for the open sea.

Four airplanes were in the race, winging across the pacific: GOLDEN EAGLE, ALOHA, WOOLAROC and MISS DORAN. Only the WOOLAROC was equipped with a radio capable of sending and receiving messages (obtained from Ernie Smith, after four other models were turned down). The GOLDEN EAGLE had a receiving set and, therefore, could take advantage of the radio beam, but the ALOHA and MISS DORAN were forced to rely on compasses and sextants.

Arthur Goebel and Lieutenant Davis made good progress, reporting their position to passing ships along the route. The WOOLAROC had four compasses and a bubble sextant for sun and star observations. Davis, a capable navigator, had been briefed by B. J. Connell (from the John Rodgers crew) about his experience over the route in 1925. He laid out the great circle route from San Francisco to Maui, as had been done by Smith and Bronte and Maitland and Hegenberger, allowing the maximum latitude of error on either side of the course. To insure that Bronte's radio headset experience was not repeated on this flight, Davis brought along a spare plus a supply of tubes, batteries and antenna.

Receiving the messages were US Destroyer HAZELWOOD, SS WILHELMINA, SS MANUKAI, among others, with a great deal of clarity. The plane's radio worked well most of the journey. Davis was sending on 600 meters with the call sign KGGI. The radio beam was an invaluable aid to navigation, but Davis worked his navigation as though it didn't exist—using it mostly as a check.

In Honolulu, the following day, the Star Bulletin carried James Dole's statement:

"Hawaii is on the lips of the world today, in the minds of countless millions of people."

"Aviation during this year 1927 has definitely brought our own Hawaiian territory closer than ever before into the consciousness of the whole American people. Time and distance between Hawaii and the Pacific Coast are magically shortened."

"I feel that this has great practical as well as sentimental value to the people of Hawaii. Business and commerce, social and civic relations, national and international contacts, are the better served, the more greatly inspired and stimulated."

"There is, I feel, immediate and substantial advertising value to Hawaii, to Hawaii's business, and to Hawaii's resources and products, in giving to many millions of people the picture of the modern American community which can be reached from the Pacific Coast in 24 hours."

"There is also, I feel, a definite stimulus to commercial aviation on the Pacific in the 'Dole Derby.' It is my hope and belief that the achievements of the trans-Pacific flyers today point to the early establishment of commercial aviation in Hawaii with regular and ample facilities for business and pleasure transportation. In this spirit of building for Greater Hawaii, I join with my fellow citizens everywhere over the territory in welcoming contestants in this great competition of skill, science and experience, in the conquest of the air."

Reaching across the route to within 450 miles of Oahu, the approximate lighting point of John Rodgers, the Travelair was reported on beam by SS CITY OF LOS ANGELES. Goebel's average altitude was 6,000 feet, well above the persistent clouds which hid their view of the ocean. Two hundred miles from the oncoming plane, Wahiawa Radio Station—located adjacent to Wheeler Field—received from Davis an estimated arrival time two and half hours hence. The exciting news was passed on to the thousands amassed at Wheeler and preparations were made to receive the prize winners. Governor Farrington, race sponsor James Dole, and other prominent officials gathered to do the honors. Crowds were estimated as between 25,000 and 30,000 people, with almost 10,000 cars on site and two miles along the highway waiting to get in. Military police were busy handling traffic. Army planes thrilled the audience with aerial stunts. Bands played cheerful music. Hawaiian girls were on hand in native costumes, singing and dancing. Weather conditions were excellent.

The WOOLAROC's radio transmitter suddenly ceased to operate. Then the receiver went silent. Davis worked feverishly and, by adding a flashlight battery, was once again able to send out a position report. Checking over the receiving set, Davis found a broken connection and repaired it.

Soon, Davis sighted a faint outline of the island of Maui. They had been right on course. Goebel changed course for Oahu as it and Molokai came into view about 70 miles away. Goebel recalled that his navigator "started shooting off the Very pistol and dropping smoke bombs all the way across the channel and even after we had passed Diamond Head."

At one point the engine sputtered as if the fuel supply was running out, but it continued to power the Travelair to its destination. Approaching Wheeler Field, Goebel and Davis were greeted in the air by the pilot of a small pursuit plane. The grinning pilot signaled that they were first to arrive. Then additional planes from the Army and Navy joined in a magnificent escort.



Fig. 38. Winning plane of the Dole Air Derby, the WOOLAROC, taxiing to reception stand at Wheeler Field.

When Wheeler appeared underneath, Goebel circled the huge Army base once. A great cheer came from the crowds when the WOOLAROC was sighted. Landing after a flight of 26 hours, 17 minutes and 33 seconds, Goebel and Davis were promptly surrounded by officials and spectators. Hawaiian girls garlanded the pair with floral lei in traditional island greeting. Mrs. Jensen, wife of the ALOHA's pilot, rushed up to inquire of her husband's whereabouts. But they had no knowledge of the other planes' position. Mr. Dole announced to all listeners that these were the winners of his first prize. August 17, 1927 was a momentous day for Hawaii and for the ex-movie flyer and his Navy navigator.

Recalling the event in 1965, Goebel recounted his flying experiences.

"My flying centered mostly in motion picture work and newsreel stunt flying . . . military flying. . . at that time testing the Douglas 02H medium bomber in tail spin recovery."

Goebel referred to Lindbergh's 1927 flight as the "most historical flight of all time and the forerunner of today's commercial aviation."

Enticed into the Dole Air Race, Goebel said: "I arrived at the Travel Air Factory in Wichita, Kansas, and placed an $11,000 deposit on a Travel Air Transport." On the way to the West Coast with the new plane, Goebel stopped at the home of his backer. "At that time I gained the greatest friend I ever had in life and it continued until death separated us," he recalled. "Mr. Phillips developed the greatest lodge and wild game preserve in the nation, consisting of thousands of acres of wood, lakes and rocks. . . the travel Air Transport took the name WOOLAROC for its great adventure at the christening event in Bartlesville just before take-off for the West Coast."

Arriving at Oakland Airport (the dirt take-off strip on Bay Farm Island), Goebel was joined by Davis. "Most of our time was taken up with the installation and testing of two-way radio equipment; in fact, the work went into the night hours," Goebel stated. "We had every means of navigation equipment necessary (for the) undertaking of a flight of that nature, contending against the hazards of sea, sky, distance, and darkness; and the ability to fly by instruments for . . . hours. There are but two goals, the Hawaiian Islands or the bottom of the Pacific Ocean. With proper equipment, preparation and practical seasoned skill, the Islands were but 26 hours away." Goebel continued in aviation, civilian and military, retiring from the Air Force in 1953 as a colonel.

Davis had won the navigator's berth of this flight over Navy Lieutenant W. J. Slattery "by about an hour," three days prior to the originally scheduled take-off date (August 12). Confident in his own navigation abilities, and respectful for Goebel's skills and nerve as a pilot, Davis was sure of a successful flight. This was almost cut short, however. His leave approval arrived too late to permit a flight to Oakland with Covell and Waggener in their plane, which crashed 15 minutes after take-off. Davis went to San Francisco by train. Upon arrival at the airport, he saw the PRIDE OF LOS ANGELES crash.

When the WOOLAROC became airborne on the flight, amidst cheers from about 200,000 people, Goebel flew over San Francisco's Market Street at 1,500 feet altitude. Accompanying photographic and newspaper planes (including one flown by Charles Stoffer) left when they swung into course for Wheeler Field on the island of Hawaii.

"The great help that Lt. Ben H. Wyatt gave all the Dole Race contestants should never be forgotten," Goebel stated. "In fact, he saved some from loss at sea, if they will just remember as they journey through life." Davis agreed, adding that qualified navigators had no difficulty passing the examination. "It was a fool-proof test which the unqualified found impossible to pass."

Crowds remained at Wheeler after Goebel's triumphant arrival, heartened by the sight of the WOOLAROC and hoping for the ALOHA to come into view also.

Jensen and his German-born navigator did not fare as well in the air as the first-prize winners. Jensen was not assured of an airplane to fly until five days before taking off because he could find no financial backers. Then mechanics had insufficient time to install adequate fuel and oil feeding systems. A hastily installed rig was made in order to get airborne in time, but neither airplane nor crew was disqualified.

Jensen's plane had only a 130 gallon fuel capacity originally, insufficient for such a flight. For additional fuel, Jensen intended to store 49 five-gallon containers of gasoline within his plane. The in-flight plan was for Schulter to pour gasoline into a central tank and, by use of the hand pump, transfer it to the 50 gallon tank in use when the supply got low. Messages were to be transferred between the men by means of a pulley and line system. Jensen was forced to make other arrangements, managing to obtain a 405-gallon total fuel capacity.

Much of the journey was made 10 to 50 feet above the water. This assured fuel economy but the constant view of the ocean directly underneath, and the fog above, made the flight boring and occasionally frightening for the flyers. When it came time for the navigator to get bearings from the stars, no sights were made because of dense fog.



Fig. 39. Dole Air Derby winner, Arthur C. Goebel, accepts the applause of thousands at Wheeler Field, Hawaii (12:40:33 p.m., August 17, 1927).



Fig. 40. Winners of the Dole Air Derby and $25,000 – Art Goebel (center), shaking hands with his navigator, Navy Lieutenant W. V. Davis. Governor Farrington and Major General Lewis are to Goebel's left.



Fig. 41. Jubilant Martin Jensen (right) with his wife and navigator Paul Schluter.

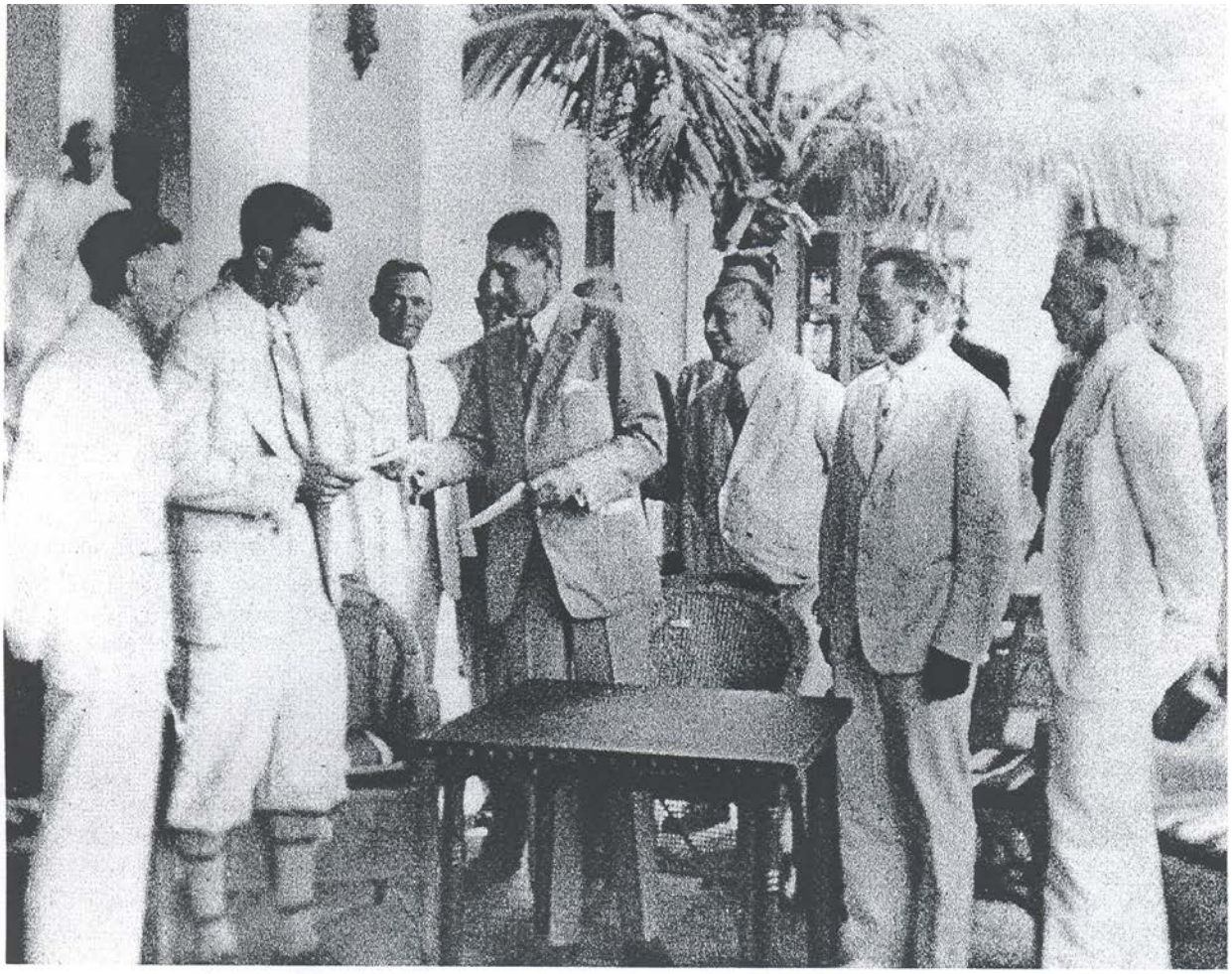


Fig. 42. Race sponsor James Dole presents $25,000 check to Arthur Goebel and Lt. W. V Davis (left), while Martin Jensen and Paul Schluter await theirs for $10.500 (right)

Recalling the experience 38 years later, Jensen said:

"I was able to climb to about 4,000 feet. It was still a dense fog. Here I experienced vertigo when I was unable to get above the fog."

Three times Jensen tried to get through and ended up in a tailspin each time. His stunting experience came in handy, for he was able to recognize tailspins and knew how to emerge safely.

The fuel feed system required special attention. For fear of inadvertently stopping the flow of fuel, Jensen set his engine revolutions at a moderate rate. The usable tank was kept filled by use of the hand wobble pump. Each time used, excess fuel was pumped overboard. This caused not only a waste of valuable fuel, but constituted a frightening fire hazard. Schluter's chain-smoking didn't help.

The ALOHA was almost swallowed by the sea when Jensen inadvertently pushed against the control stick with his body while flying 10 feet above the water. Fortunately, the sea was calm and the wheels barely struck the water, giving Jensen an opportunity to recover in time.

Jensen recalled, "Flying in the darkness and fog, I was unable to see the water. I was flying by instruments and depending upon them. The altimeter registered 100 feet above sea level, which was held for hours. Perhaps the density in mid-Pacific was different. No doubt, I was five or 10 feet above the water for an hour or more. I hit the top of a wave and the spray

from this ripped a long slit in the stabilizer fabric. The fact that I never took my hands from the throttle or stick gave me instant control, after which I raised to about 500 feet to continue the long flight."

Five hundred miles from Oahu, then 200, Jensen had to rely on the wobble pump. The plane was not equipped with a fuel gauge therefore the only way to be assured of fuel in the gravity feed tanks was to fill them to overflowing. Each time this caused a profuse spillage of fuel. Once the pair prepared the life raft for a water landing but was surprised to hear the engine continue to purr.

Insofar as wining the race was concerned, Jensen was certain he would have come in first but for the lack of a radio. Weather conditions were such that he had to circle two and a half hours of valuable time before the navigator could "shoot the sun and get his position." When they came in to land, one hour and 58 minutes after the WOOLAROC, they had five gallons of gasoline left, enough for about 30 minutes of flying time.

Jensen received a tumultuous greeting when he was sighted, along with the Army aerial escort, proudly coming into Wheeler. Mrs. Jensen collapsed then recovered to become almost hysterical with joy. Jensen emerged smiling from his plane, holding a bag of mail for all to see.

When it became obvious the other two contestants were lost, Dole put up a $10,000 reward for anyone finding each of the missing planes. Sponsors of the GOLDEN EAGLE put up an equal amount for their plane, so did Mr. Malloska for the MISS DORAN.

A huge search party was set up, soon swelling to 42 ships and planes. The amazing Jensen took off in the ALOHA for a five-hour search over Oahu, Molokai and Maui. One of the Army planes on search crashed into the sea, killing its two occupants. The search was to no avail.

The Dole prizes being won, Erwin elected to compete for another $25,000 prize, the first to fly from Dallas, Texas to Hong Kong. The offer had tempted the flyer for a number of days, concurrent with the Dole effort. Conferring previously with Hawaii's Martin Jensen, Erwin was impressed with the fact that Hawaii's airfields were insufficient for the next leg of the journey.
The excitement and challenge in Oakland with many flyers in competition, over the quieter effort from Texas, had won out. Considered eligible for both races, Erwin was now free to pursue the other purse. First, he had to make it safely to Hawaii in order to go further. While en route, he decided to conduct a search of the flight path to the islands for the missing airplanes. He announced his intentions and took off on August 19 when the plane was repaired. About 600 miles from California, his radio barked out distress calls and the information that he was in a tailspin. Then there was silence.

Search efforts for the three airplanes continued but they were never found. Two planes out of five made it safely to Hawaii. Eleven lives were lost. The long-awaited passenger and freight service between Hawaii and the mainland appeared farther away than ever. Inter-island service appeared likely, however, if numbers of passengers and cargo capacity could be increased and made economically favorable.

The Honolulu Advertiser carried this item on August 28, 1927:

"LESSONS OF THE DOLE FLIGHT"

"The Dole flight from San Francisco to Hawaii is now a matter of history. Part of the record is brilliant with achievement and honors won, part of it is dulled and saddened with tragedy.

"Once upon a time the automobile was in the experimental stage. Pioneering on the race track and pioneering over country roads, where tragedy constantly stalked the experiments, ultimately brought the motor car to a thing of safety, of dependability or absolute necessity.

"It was not so long ago, as time is reckoned, when the first heavier-than-air craft got into the air. And since that time until the very present, aviation has been in a stage of experiment. Every flight, whether duration, altitude, long distance, over land or over sea, brings forth new discoveries, teaches new lessons, and adds more to the general knowledge of the world's most thrilling diversion.

"It is extremely interesting to hear Art Goebel, Martin Jensen, Lieutenant Davis and Captain Schluter tell of their experiences in negotiating the air from the mainland to Hawaii. Their combined story becomes a lesson and a warning. One is impressed with the lesson that preparation for such a flight is a thing of utmost importance. Also, that it is a serious undertaking, and not a lark as some flyers have heretofore regarded it.

"These aviators learned a lot about fog, air currents, and other conditions along the way that steamships would never be able to record. They found that the radio beacon is a marvelous and accurate guide for aerial voyagers—but to follow the radio beacon an airplane must be adequately equipped with radio apparatus. Their experiences tell them that somebody, before over water long distance aviation can be made safe, must invent fool-proof radio sending and receiving instruments.

"Quite naturally it remains for the pioneer to make the discoveries. He has done it since time immemorial. Aviation has had its pioneers and it must produce more of them before flying will be perfect in every detail.

"The Dole flight has contributed inestimable information to aviation. No flyer or would-be-flyer, especially those who will travel across the Pacific, can read the stories of the successful contestant and not learn something valuable there from.

"The lessons taught by the tragedies attending the flight will have their moral effect on those who would now follow the others across the Pacific. Preparation, navigation, radio connection, a 100-percent expedition, will be the result. Successful accomplishment of a new undertaking brings to light unheard of difficulties, and a way is pointed to the solving of such problems. Tragedy in pioneering breeds caution, and too much caution in hazardous undertaking is never possible.

"And in this connection one cannot say too much in praise of Lieutenant Wyatt, who insisted on rigid examinations for navigators entered in the flight, and of the thorough requirements specified by the Department of Commerce before any flyer could qualify."

There were those who said that had a monetary prize been offered sooner the route would have been conquered much earlier. Others said it might have been even more disastrous, for races are often indulged in by ill-prepared equipment and people blinded in judgment by the lure of money and quest for fame. Over 2,000 miles of pure ocean, with no solid landing point along the way, presents an incredible challenge to the best of men, techniques and equipment.

It is fitting, with aircraft's state of the art in the mid-1920s that the military services accomplished the feat first, in their usual methodical manner probing and evaluating until people, machines and things were in controlled readiness. No large monetary returns come to a winning Army or Navy flyer for an historic accomplishment; the achievement of a national effort in behalf of one's country is reward enough. Yet, in free society marks cannot be made by government sponsored projects alone. Civilians want and are entitled to their share of national accomplishments, and a chance at pioneering, to develop, contribute.

In November 1927, William P. MacCracken, Assistant Secretary of Commerce, presented Lindbergh with the Hubbard Gold Medal of the National Geographic Society. In a speech then, Mr. MacCracken enumerated the exploits of the flyers who reached Hawaii, Admiral Byrd, and others, and went on to say: "There are the daring deeds of heroism which some have seen fit to call 'stunts' in aviation—but I declare that it is to such flyers as these and to such 'stunts' that aviation owes its progress."

Dole joined the ranks of other race sponsors who by the very fact of holding them contributed to aviation, just as had been done for the Bleriot and Lindbergh flights. The result was a more serious attempt to improve airplanes, equipment, facilities and techniques, so that flights of this duration over the ocean could be made with safety.

CHAPTER VIII

SPRINGING THE BOARD

SURGE IN AVIATION

Following Lindbergh's Atlantic crossings, then the flights to Hawaii, aviation stocks outsold others as demands for air travel were voiced throughout the world. Aviation activity intensified. Aircraft industry felt assured of public and governmental backing, thereby enabling greater development of products, facilities and techniques. Experiences behind the experts, programs were instituted to develop the air-ground aviation environment into a network of usable lanes and facilities for the movement of vehicles, as had been done with ships when they could traverse to other lands. The first regularly scheduled commercial airline in the United States flew in 1927, aided by the Daniel Guggenheim Fund. The military were to take full advantage of their pioneering efforts in aviation by showing the way, and expanding their units in preparation for any eventuality in behalf of national interests. The world's basic aviation pioneering period ended in 1927.

Within Hawaii, as with the rest of the world, a new phase of development, improvement and achievement was started. Man had proved he could make the California to Hawaii flight; several had done it. The next task was to make it safer, carry many passengers, and then go further from there. In 1928, Hawaii was to come into prominence again in the first successful test of the springboard to hurtle aircraft from Hawaii to other lands and back again.

A serious attempt at a commercial inter-island flying service was made by the newly formed Hawaiian Air Transportation Company of Honolulu. Its president was Holbrook Goodale who had been taught flying in June, 1927, by Lewis Air Tours' Martin Jensen (and later became one of his Dole Air Derby financial backers). The first island resident to receive a pilot's license in Hawaii under rules and regulations of the U.S. Department of Commerce, Goodale had dreamed of commercial aviation in the Islands since 1925. Flying Lewis' biplane MALOLO, Goodale, a photographer and two passengers were killed on October 16, 1927, when the plane crashed and burst into flames at Laie, north of Honolulu. The company was dissolved.

On February 11, 1928, the Secretary of Aeronautics, U.S. Department of Commerce, was flown to Hilo, Hawaii, in the BIRD OF PARADISE. There he dedicated the new airport.

In March, 1928, Charles Stoffer was enticed back to Hawaii by Lewis to fly Jensen's ALOHA (purchased for $7,000), and renamed the AIR EXPRESS. The Honolulu to Hilo run was inaugurated, emanating from Ala Moana. The fare was $30 one way, $50 round trip. When Stoffer insisted on extensive overhaul of the airplanes, a court suit with Lewis followed. Subsequently, Stoffer departed to fly the mail run from Los Angeles to Salt Lake City in Fokker F-10s.

The aircraft carrier LANGLEY made a cruise to Hawaii on a fleet problem, during 1928. Her flight deck then carried 42 Boeing fighters and Vought observation planes. Once again, she helped carry out an "attack" against Hawaii, which was to closely resemble an actual incident some 14 years later. By this time, two battle cruisers had been converted into aircraft carriers as well, SARATOGA and LEXINGTON (commissioned November 16 and December 14, 1927, respectively). Their "flight decks brought about the greatest advance in the art of sea fighting since the addition of armor and steam to warships," stated Stanley Johnston in his 1942 book, Queen of the Flat-Tops. The LEXINGTON made her first long sea run to Hawaii. The journey started from San Pedro, California on June 9, 1928, and ended in Honolulu three days later. It took her 74 hours and 34 minutes to cover the 2,228 nautical miles. She joined the fleet as flagship for the return to California, with the SARATOGA joining them later.

Our attention is brought back to Oakland Airport. The day was May 31, 1928. The airplane was a Fokker with three new Wright Whirlwind J-5 engines. The flight was to be to Hawaii and on from there to Fuji and Australia. The event was the first trans-Pacific flight. Hawaii was about to function for the first time as the crossroads of the Pacific in the air, as it was by sea.

Australian Squadron leader Charles Kingsford Smith climbed aboard his second-hand airplane (built of two Fokkers and previously flown on an arctic exploration). Also entering the plane were Charles P. T. Olm, co-pilot and another Australian; Harry W. Lyons, navigator from Honolulu; and James W. Warner, radio operator from the United States.

The mother of ill-fated DALLAS SPIRIT navigator, Albert Eichwaldt, who lost his life with Captain Erwin while searching for the lost Dole Air Derby planes, presented her missing son's ring to the pilot, kissed and wished Kingsford-Smith good luck. The SOUTHERN CROSS was provided with 1,350 gallons of gasoline and then 4,000 spectators bid the tri-motored monoplane a noisy farewell as it lumbered heavily down the runway on an ambitious journey. Preparations for the flight had been in the making for about a year, and the crew was glad to be on the way. The flyers were to be delayed five minutes, however, when 500 feet down the runway one engine faulted. At 8:53 a.m., another take-off was attempted, this time successfully.

Not only did the radio work well on the long flight, so did everything else--including the weather. This was a flawless flight, the first to function perfectly in all respects on this route. Flying at between 70 and 90 mph, the large Fokker consumed 27 hours and 27 minutes of flying time to Wheeler Field. A number of Army planes in the air at the time took on the role of aerial



Fig. 43. Pausing at Wheeler Field on his 1928 first flight from the mainland to Australia, Charles Kingsford-Smith gets an Army Air Corps hand as he

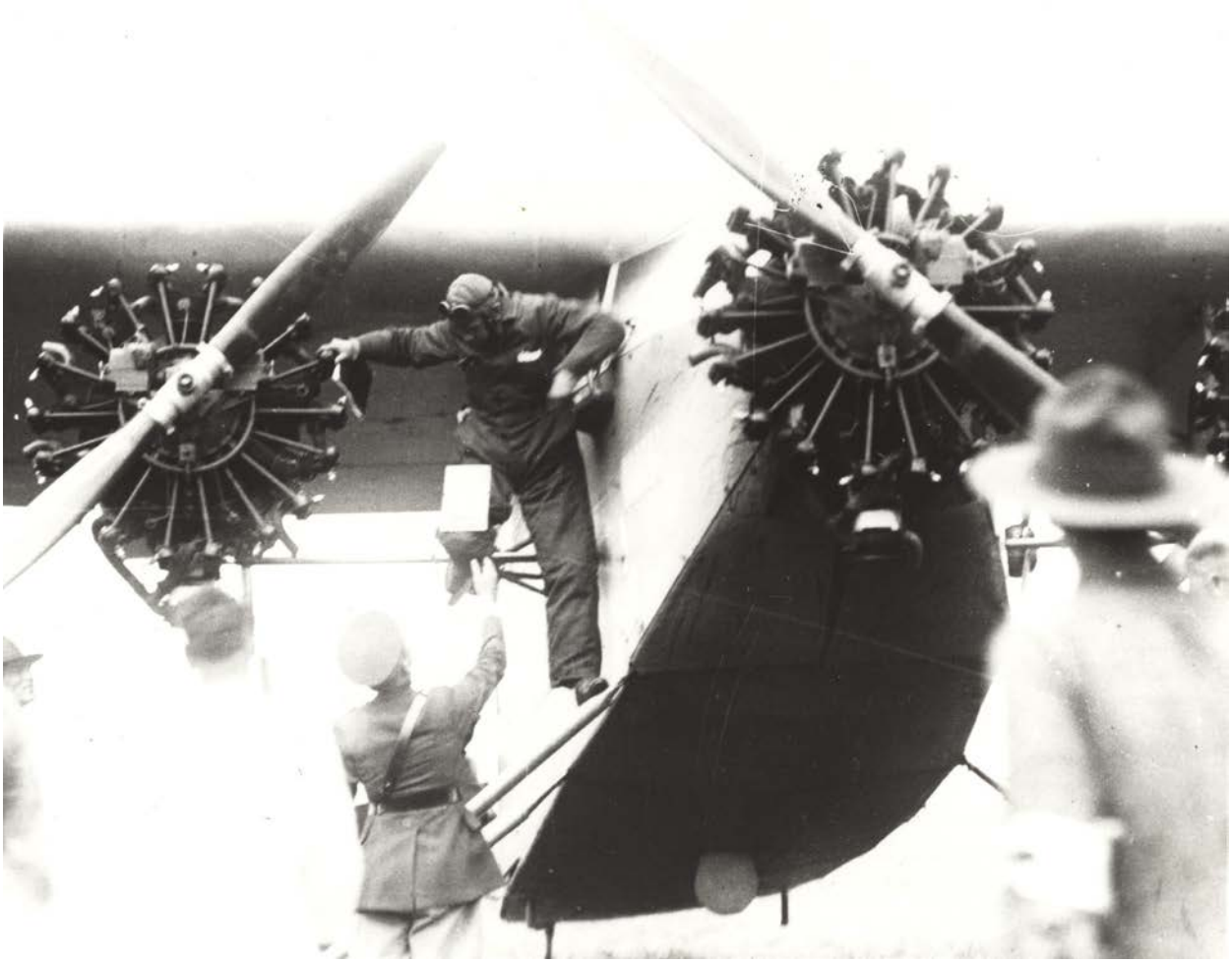


Fig. 44. Kingsford-Smith dismounting the famous SOUTHERN CROSS at Wheeler Field.

escorts from Diamond Head past Pearl City to Wheeler. Landing at 9:50 a.m., the first foreigner-flown plane to land in Hawaii was witnessed by thousands of people, including Governor Farrington, Dole Air Derby winners Goebel and Jensen, globe-circling Army Captain Lowell H. Smith, and Hawaii air pioneer Charles Stoffer.

The happy quartet was taken to the Royal Hawaiian Hotel for celebrations then rest, while a repair crew went to work on the starboard engine in preparation for the next leg of the lengthy journey. Jensen and Stoffer flew the Star Bulletin's films of the event to the publishing house in Honolulu. Others were delivered by automobile and by motorcycle.

During a Honolulu reception in his honor, the new air hero praised the pilots who made the flight before him. Kingsford-Smith was impressed with America's interest in Pacific flying, stating it was his hope that his own flight would help establish air travel across the route he was taking.

At 4:30 p.m., June 2nd, the heavily loaded SOUTHERN CROSS left Wheeler for Barking Sands on Mana, Kauai, where a special runway had been constructed for its take-off for Suva, Fuji. Accompanying it was the BIRD OF PARADISE with Captain Lowell H. Smith at the controls. Both planes landed on Kauai at 5:57 p.m. and mechanics wasted no time in beginning the arduous task of tuning the plane for its 3,180 mile flight leg to Suva.



Fig. 45. Spectators surround the Fokker Tri-motor.



At 5:20 a.m., June 3rd, Kingsford-Smith took off from the sandy runway. Fighting heavy winds, rain and bumpy air, he landed in the Albert Cricket Grounds in Suva, 34 hours later. It was the longest flight ever made over continuous seas and another perfect flight. Now only 1,762 miles remained to be covered. But like Wheeler, the cricket grounds were too short for safe take-off. A suitable facility, Naselai Beach, was found which could handle a long run with full fuel loads, so the airplane was flown there and gasoline brought to it. On June 9, the dauntless crew made for the pilot's homeland.

The last leg went well, except for two hours of severe storms. At one point, the plane was thrown 140 miles off its course and the crew became extremely cold. Coming close to Brisbane, the SOUTHERN

CROSS picked up its aerial escort and proudly came in to land. A total of 7,230 miles had been flown in 83 hours and 72 minutes, an incredible performance.

The crew was given $25,000 by the Australian government in recognition of this achievement. Plans to raise a fund of $100,000 in addition, were announced. The flight's financial backer, Captain Allan Hancock, presented to the intrepid airmen the airplane which conveyed them to international prominence and a well-deserved place in history.

Kingsford-Smith had proved a great deal. Probably most important was the dependability of aircraft—of the land type--at that—to make extensive over-water flights of great distances. Next, and of direct interest to Hawaii and the millions who were to travel by air to and through the Islands for years to come, was revelation of the fact that the mid-Pacific springboard worked well, making flights to other lands feasible. This accomplishment in the air was to be the last assault on John Rodgers' route (and beyond) for almost six years, as the springboard was removed from service for a period of test and improvement, change and modification. It was being made ready to function on a grand and lasting scale to truly qualify Hawaii as the air port-of-call for the world.



Fig. 46. Forced landing of Keystone Bomber (LB-5A) Haleiwa, Oahu, 1928.

INTER-ISLAND SERVICE IS BORN

Ten years had passed since Major Clark made the first over water flight in the Hawaiian Islands, followed shortly by a trio of Hs-2s going by the air route also to Molokai, Maui and Kauai. Thereafter, military craft flew in greater numbers between the islands on missions for the government and to display interisland flying capabilities to businessmen. Fern's commercial

passenger flight by civilian plane to Maui and return in February, 1920, heralded a limited capability; so did Stoffer's in August, 1921 between Hawaii and Oahu by way of Maui and Molokai. People were interested in the possibilities of a paying service between the major islands, but still only mildly. Sea-going craft made the trip regularly and, although it took a great deal of travel time and the sea was rough, hauled more passengers and goods than many airplanes were then capable of doing. Besides, it was done safely.

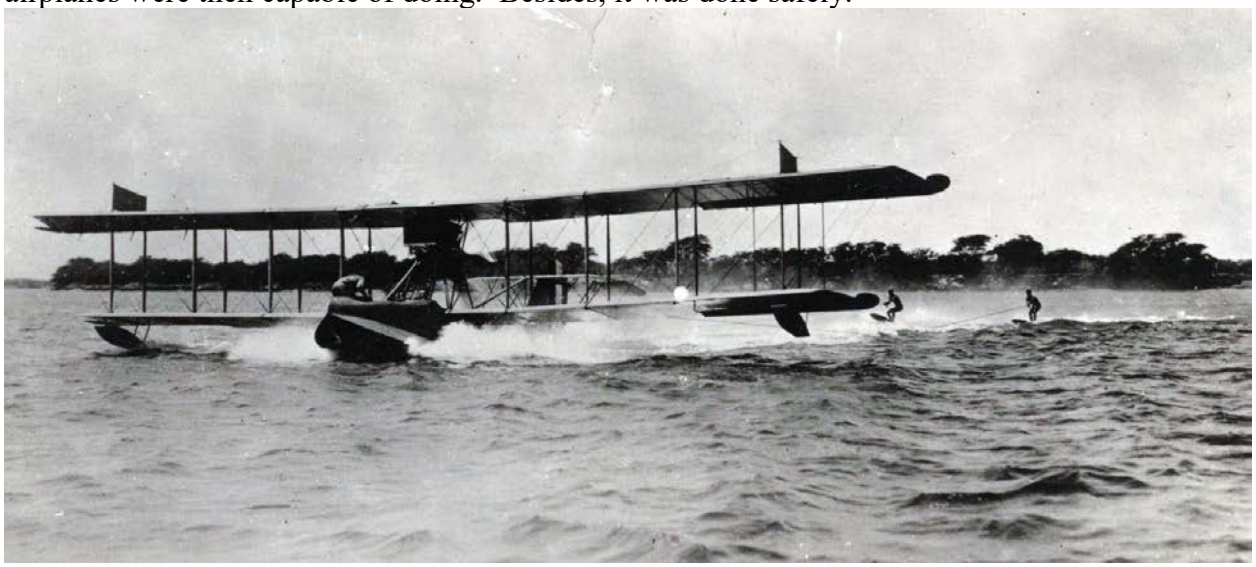


Fig. 47. Flying was not all work in Hawaii.

Insofar, as public reception was concerned, successful flights across great expanses of water still only hinted of useful between-island flying possibilities. Rodgers put down at sea and was lost nine days, Smith and Bronte crashed on Molokai, and a number of lives were lost in the Dole Derby. Although Maitland and Hegenberger, Art Goebel and Martin Jensen successfully landed in Hawaii, theirs and the other aircraft carried only two people. Kingsford Smith's Fokker could haul four people without mishap from California to Australia; therefore it had a positive capability. The time was right.

Back on the mainland, a young woman destined for aviation stardom in Hawaii and the world became the first woman passenger to fly across the Atlantic Ocean: Amelia Earhart, on June 17, 1928. John Henry Mears and Captain Charles Collyer made an around-the-world flight on June 29-30, 1928, covering 19,276 miles in 23 days, 15 hours and 21 minutes, in their Fairchild monoplane.

On June 8, 1928, a territorial aeronautical commission met with Charles Fern to select an appropriate site for Kauai's main airport in preparation for interisland flying. Hilo airport was opened in 1928. It appeared that commercial service was finally to become a reality.

A flying school was opened at Lewis' field on Oahu. Talk was heard about inaugurating a Honolulu to Hilo service with the receipt of a 10-passenger tri-motored cabin plane. When Art Goebel came to Honolulu at the completion of his 46 day goodwill aviation tour of Japan, Stoffer was up to his old tricks, circling over the McKINLEY in aerial salute to his flying friend.

Ed Lewis with his chief pilot, Martin Jensen, made overtures for the service. On July 1st, a steamship line moved decisively to provide inter-island flying. The Inter-Island Steam Navigation Company, Ltd., of Honolulu, announced that Charles H. Dolan II was hired to investigate possibilities of commercial flying between the major islands of the group. Dolan, a resident of Honolulu in recent years, was an excellent consultant. The outbreak of World War I

in 1914, he was attached to the French army as aviation engineer officer When the United States entered the conflict, Dolan served in the same capacity with the first U.S. aviation squadron in France. Later, he was attached to the Department of Aviation in Washington, D.C. from which position he was sent to China as advisor of aviation for that government.

Two visiting airline representatives soon returned to the mainland and it looked like "competition" would be local, Ed Lewis and the steamship company. Charles Stoffer was not in



Fig. 48. Keystone Bomber in flight over Koolau Range, Oahu, 1929.



Fig. 50. The "father of commercial aviation in Hawaii", Stanley C. Kennedy, as a Naval officer at Killingholme, England, in 1918.

contention. "I believe I had two strikes against me due to my former participation in stunt flying and purposely crashing planes for motion pictures, which was certainly a reasonable objection as I review my efforts in that period," Stoffer said in 1965.

In January, 1929, Lewis gave way to his powerful competitor, saying, "There's no room for two such companies." Under the leadership of World War I Navy pilot, Stanley C. Kennedy, president and manager of the steamship company, Inter-Island Airways, Ltd., was formed.

Young Kennedy had visions of flying for many years. The native of Oahu was mildly interested when Bud Mars first penetrated Hawaiian skies in the SKYLARK in 1910. A few months later, he was enticed from his breakfast table by the strange beating sounds of Didier Masson's monoplane clumsily flying overhead from Leilehua to Kapiolani Park. Daredevil antics by Tom Gunn and his flying boat kept alive within the young man a desire to

eventually take to the air. But it was not until the Great War that Stanley Kennedy was to pilot an airplane. Dissatisfied with a Washington desk job, the naval officer talked his way into flight training in Pensacola, Florida. In short order, Ensign Kennedy sported wings as Naval Aviator No. 302.



Fig. 49. NAS Ford Island on the right (East) and Luke Field on the left (west) March 25, 1929.

Clamoring for battle, he pounded desktops with success. In January, 1918 he went overseas where he was glad to fly a plane other than the N-9 (Jenny) trainer, the H-16 flying boat. He made patrol missions from Killingholme, on the east coast of England near the mouth of the Humber. (It was one of the most powerful air stations in Europe, with 50 planes and some 2,000 men.)

At war's end, Kennedy returned to Honolulu where his father was president of Inter-Island Steam Navigation Company, Ltd. Enthusiastic utterances about aviation became Kennedy's trademark. Visions of the possibilities of commercial flying between the islands, while patrolling North Sea waters, returned to mind and one day the aviation enthusiast decided to advance his idea.

"Dad, you're going to have to look into aviation and get into it," he told the elder Kennedy. "Our business is transportation. Aviation is transportation just as much as steamers. It's the coming thing."

"My father would have none of that kind of talk," Kennedy said. 'I knew aircraft were limited, of course. Engines were unreliable, planes were expensive to buy and maintain, and the payload to be carried was limited. But it was only a matter of time before aircraft would go into service, and I thought the company should be the first."

Kennedy continued, "It was little use with Dad, even though the Army made inter-island flights regularly. He told me to get my feet on the ground. 'You were up in the air too much,



Fig. 51. Inter-Island Airways S-38 in flight over Koko Crater, Oahu.

and you're still there,' he said, then predicted, 'I'll never see such a thing in my lifetime, nor will you.' Dad died in 1926, three years too soon to see it come about, spearheaded by our company, as we had done with steamer travel between the islands."

Kennedy continued the chant for a flying service. A few years later, becoming manager of the parent company, he found more listeners because of his position. Lindbergh's dramatic flight in 1927, followed by that of Maitland and Hegenberger, did much to convince officers and directors of this company of the possibilities of air travel. Further encouragement was provided by the Hawaii legislature which, with the hope of fostering interest in aviation, passed a resolution exempting any potential inter-island airline from taxation for five years. Kennedy and company moved fast to become the first and biggest inter-island commercial flying enterprise. Kennedy's aviation knowledge and experience proved invaluable, as the company exploded with activity to compete for and inaugurate the service.

Remembering the difficulties and tragedies involving the California to Hawaii pioneers, Kennedy was primarily concerned with flight safety. He squirmed at the thought of one of his airplanes having to land in the water, as Rodgers had done; barely make landfall, as with Smith and Bronte; get lost in the sea, as the MISS DORAN and other races had experienced. It was hard for him to visualize a land plane of any type flying his routes, as recommended by Dolan. Concentrating on safety, speed, and comfort of passengers, Kennedy worked hard to get what he

felt was the right type of airplane, pilots and equipment to start the new company. Kennedy personally visited factories under consideration, and flew and closely inspected a number of craft. Finally one pleased him, the Sikorsky Amphibian S-38. It passed all tests so an order was placed. The S-38s had the capability of operating from either land or water. Each of the two engines developed 420 horsepower. The plane climbed well. Top speed was 125 mph, cruising at 110. Pan American Airways used similar planes for flights in Central America, therefore providing worthy examples.

Kennedy knew that flying between the islands would present another difficulty not found on the continent, where navigational aids were abundant, and fields plenty. Airlines there were helped by having an airmail subsidy with the United States government (for which Hawaii was to wait five years). Hawaii lacked many assets for successful airline operations; there was much to be done.

Some company people were dubious to the end, but not so much as the public who were to comprise the passengers. Flying over water was a dim prospect for Islanders. "We had to give people the feel of flying, first" Kennedy says, "so they could see it was safe as well as fun; give them an aerial view of the Island, and just generally get them used to flying in a plane. The company bought a Ballanca and put it to use for this purpose. Of course, the people liked it. Word spread, soon flying lost its taboo feature and the public became ready for the service."

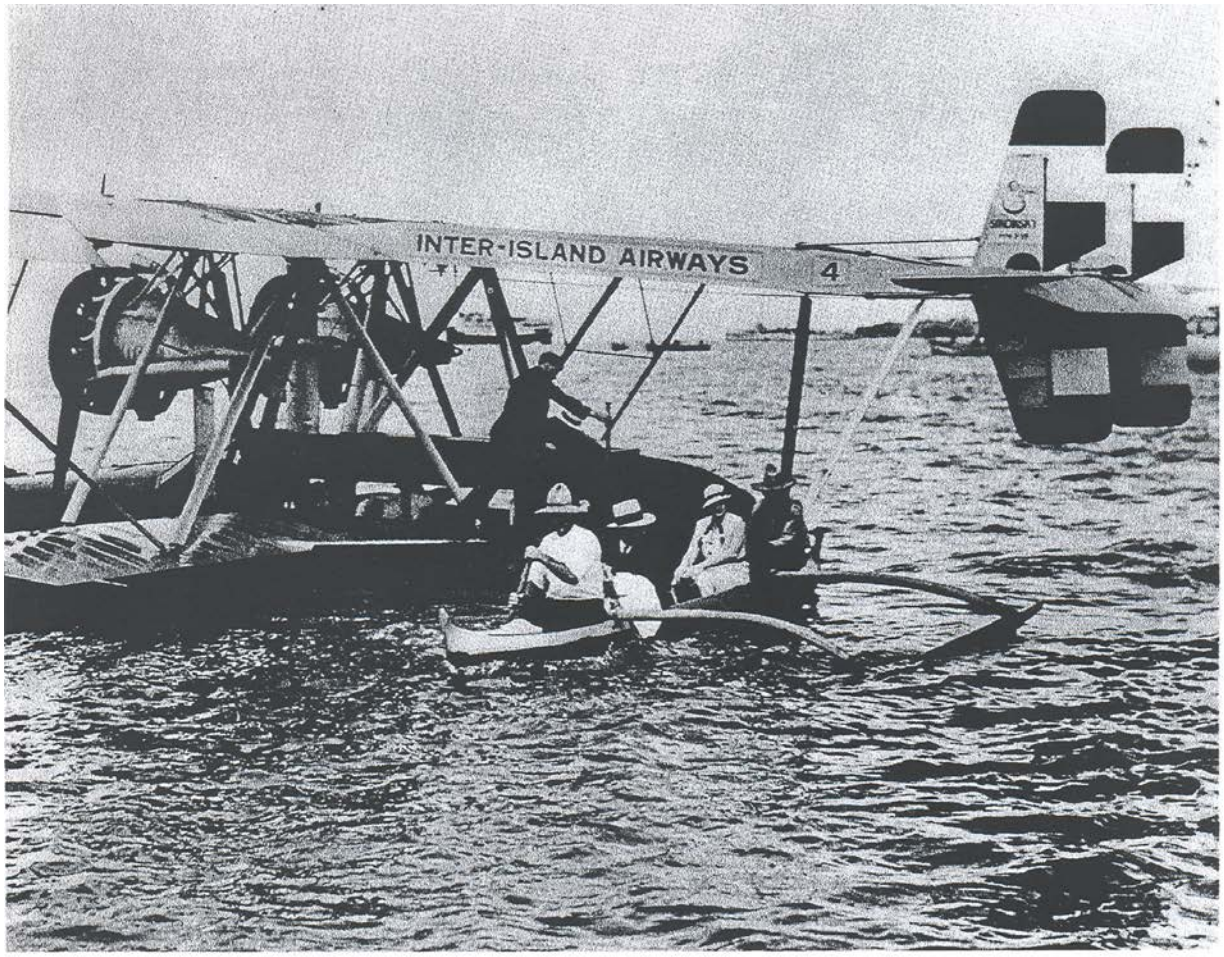


Fig. 52 The first and the newest forms of transportation in Hawaii are shown in this photograph, after a S-38 landing near one of the islands.

February, 1929 saw Lindbergh inaugurate a new airmail route between the U.S. and Panama, using Pan American Airways aircraft. Heavy mails required the use of a second plane, one piloted by Lyman K. Merritt. By then, Luke Field boasted 700 officers and men. An aviation boom was predicted for Hawaii, as a movement was started for Los Angeles-to-Hawaii dirigible service. Expecting to pay $1 million for the GRAF ZEPPELIN, backers hoped to initiate the service in July, following its round-the-world tour. Under good weather conditions, the flight was expected to be made in a day and half.

In May, from the mainland came an announcement that the Hawaiian Airways Company, Ltd. was incorporated under the laws of Nevada for a proposed interisland service. Officials planned to inaugurate the service within a month (five months earlier than Kennedy's firm), if they received early delivery of two Fokker land planes. An improved version of the BIRD OF PARADISE and SOUTHERN CROSS, the new company's Fokker F-10 Super-Tri-motors would carry two pilots, 12 passengers, baggage and freight. The wing span was 79 feet 3 inches, length 50 feet, top speed of 145 miles per hour, cruising at 125. The firm's plans for construction of hangars and other facilities were not complete but the planes were expected to fly from Oahu to Hanapepe Field on Kauai (courtesy of the Army), then the Waiakea Airport at Hilo.

Kennedy continued preparations and on November 11, 1929, Inter-Island Airways' first two Sikorsky amphibians took to the air, inaugurating the new service. Just two years previously, the airport had been given its new name, John Rodgers, after the pioneer flyer. The inaugural ceremony was attended by Honolulu's officialdom, with the Governor's daughter

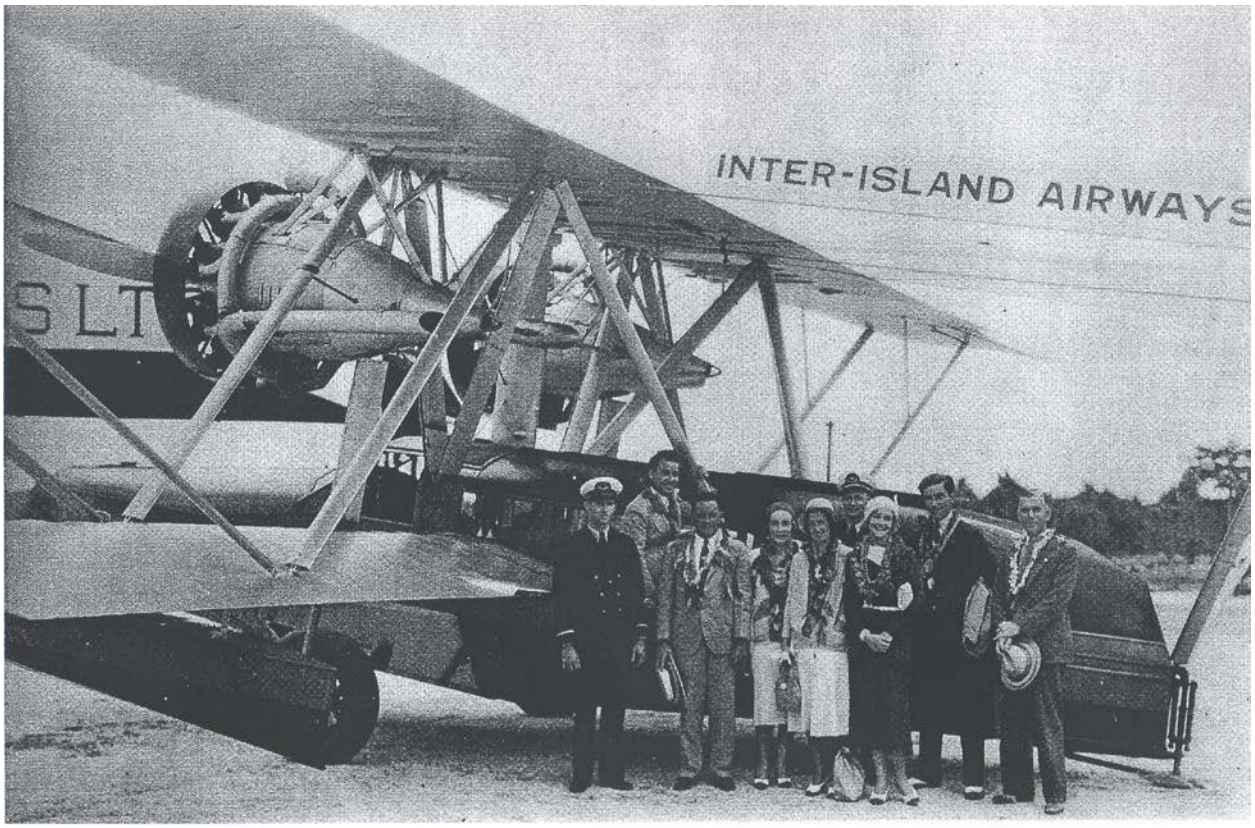


Fig. 53. Distinguished golfing troup getting ready for an inter-island hop to Maui for competitive play.

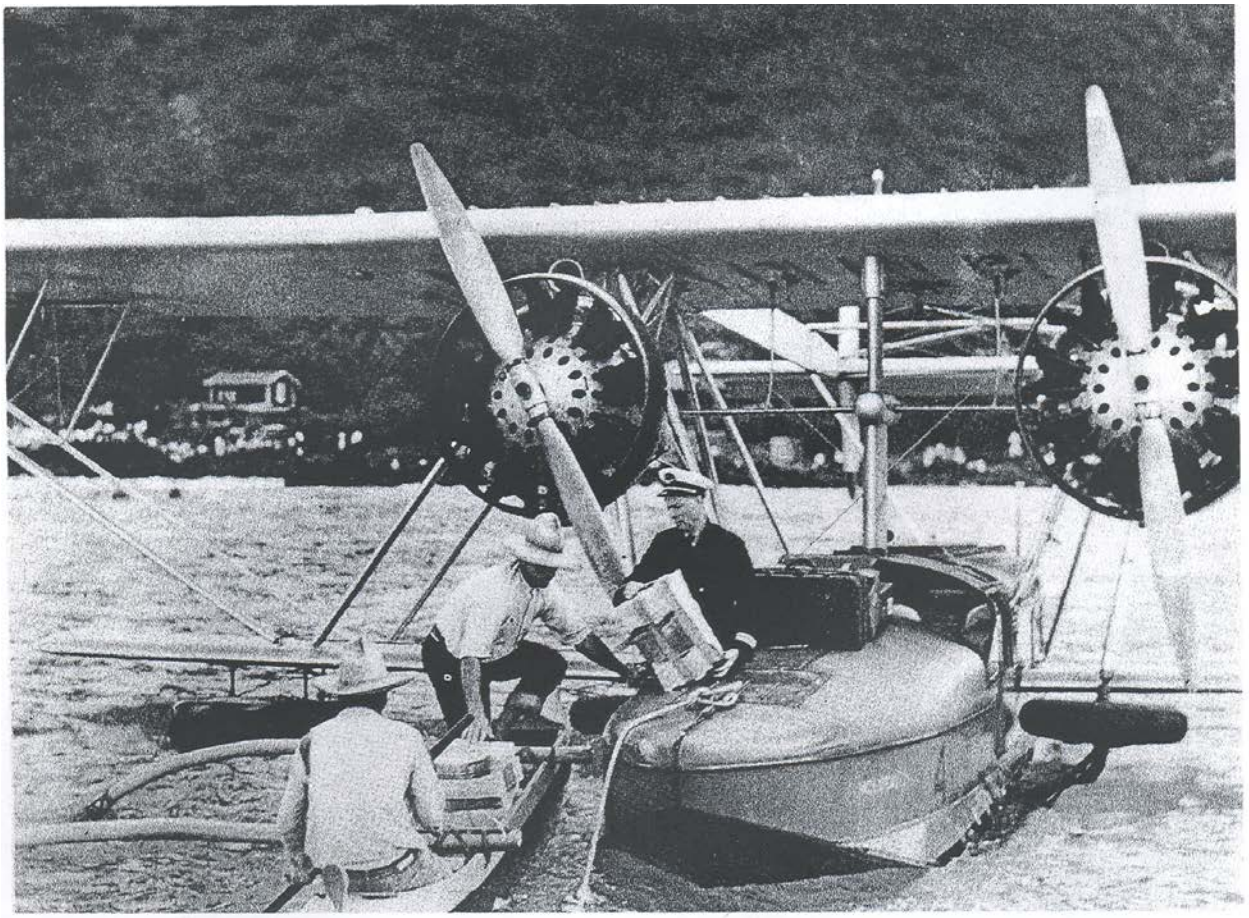


Fig. 54. Chief Pilot Captain Charles I. Elliott shown unloading cargo and baggage after an inter-island stop.

assisting in christening the airplanes, HAWAII and MAUI. Governor Judd addressed the assemblage.

The two planes took off at 9:30 a.m. for Hilo, Hawaii, to touch Maalaea Field, Maui, on the way. Once airborne, they were joined by 22 Army and 27 Navy aircraft from Wheeler and Luke Fields. When they reached Diamond Head, all but six flying escorts left the S-38s and returned to their bases. Three hours later, a large assemblage of people greeted the landing planes at Hilo. The pilots, Carl Cover and Charles I. "Sam" Elliott, carried 13 passengers on the first trip. Then at 3:10 p.m., they took off from Hilo with more passengers and touched Maui en route, returning to John Rodgers Airport at 5 p.m. Thus the service was finally placed into operation after many years of talk and attempts, spanning the connecting island waters by aircraft. The Hawaiian Islands were now molded into one massive territory by a faster mode of transportation, as had been done by surface craft many years previously.

The route flown by Inter-Island had originally been established for airmail flying. Operating without an airmail contract, however, proved financially burdensome. The company lost money each year and at the height of the Depression only 6,600 passengers were carried. "Being a subsidiary of the Inter-Island Steam Navigation Company, which was solvent, we could absorb the loss until the airmail contract came through," Kennedy stated. Strong emphasis was placed by Hawaii on obtaining the subsidy, and on October 8, 1934 the first official U.S. airmail flight in Hawaii was made from John Rodgers Airport. As a result, flight schedules were speeded up; two Sikorsky S-43 16-passenger planes were purchased (and flown for the first time in

December, 1935). The "Baby Clippers" were powerful enough to take off from the water on one engine; their top speed was 200 mph at 7,000 feet altitude, cruising at about 185 mph. Improved passenger comfort and safety features were provided, such as shatter-proof and sound-proof glass, indirect controlled ventilation, and a large lavatory. The service continued its pattern of growth through the years.

"Hawaiian Airways went into operation shortly after we did," Kennedy recalled, "but didn't last too long. One day their Kreutzer plane made a forced landing in Kohala, Hawaii, with a Hawaii legislator aboard. People wouldn't fly with them after that. Even the pilot resigned, coming to work for us."

CHAPTER IX

EARLY 1930'S

Aircraft manufacturers, by 1929, had obtained a solid footing in American business and were producing bigger and better commercial aircraft. Aviation had nudged its way into big business. Aviatrix Amelia Earhart christened a Ford Trimotor airplane in New York (July 7, 1929), launching the first coast-to-coast airline. Another woman came into the air scene (July 28) when Britain's Lady Mary Heath, co-pilot for the Dutch airline KLM, became the first woman pilot in passenger service (on the London to Amsterdam route). The world's first airline hostesses were introduced. Navy Lieutenant Ralph S. Barnaby set a soaring record of 15 minutes and six seconds in a German Pruefling glider (Cape Cod on August 18). Later, he was launched from the underside of Navy Dirigible LOS ANGELES, 3,000 feet above Lakehurst, New Jersey. Richard E. Byrd had flown over both Poles. Precision aerobatic flying replaced the previous decade's wing walkers.

In 1929, German war ace J. K. von Althaus shipped his Stinson cabin monoplane to Hawaii for an attempt to reach California by air from the Islands. However, the flight was not made. Olen V. Andrew, a Honolulu linotype operator, purchased the plane at a sheriff's sale (Andrew took his first plane ride with Martin Jensen, later receiving flying instructions from Charles Stoffer. "I cracked up on my solo flight," Andre recalled, "completely demolishing Charley's Jenny. When I bought an open cockpit Travelair, later, a student cracked up on me.") With the Stinson, Andrew founded the Andrew Flying Service and started barnstorming. He carried sightseers for one cent a pound and half cent more for inter-island flights. With barnstorming earnings, Andrew bought more airplanes and started a flying school.



FUTURE MILITARY AIR GREATS

Word spread about the pleasant duty in the Hawaiian Islands. Military aviators clamored for the assignment. One such officer was Second Lieutenant Oliver S. Picher who arrived at Wheeler in March, 1930, for a two year tour. Now a retired lieutenant general living in Honolulu, Picher recalled: "We had three squadrons at Wheeler—two pursuit squadrons, the 6th and 19th; and one attack squadron, the 26th. The C.O. of the 6th Squadron was Lieutenant Vanderberg, who later became Chief of Staff of the Air Force. The C.O. of the 26th Squadron was Lieutenant Twining, who later became Chief of Staff and then Chairman of the Joint Chiefs. By that time flight activity had become routine in the islands. We flew every day, formation and gunnery or bombing, and once a year went to gunnery camp at Waimanalo, which is now Bellows Field. Our flights to Maui, Molokai and Hawaii were timid and infrequent. Pioneering had been effective, although the waters were still dangerous."

An impressive mass inter-island flight was made by the Army on May 14, 1930. Flying from Luke to Hilo were nine DeHavilland planes, four Keystone LB-5A bombers and three Loening amphibians. (OA-1s with inverted Liberty engines). One of the flyers that day was Second Lieutenant Tallmidge Boyd. Between the islands of Maui and Lanai, Boyd's plane suddenly rolled over. The pilot and co-pilot bailed out but the crew chief didn't jump clear. (The sergeant once said he'd never bail out and he didn't in this instance. It cost him his life.) Two Navy PBYs joined us on the Big Island. They and our Loenings were battered by the rough sea. The ship sent to the scene by the Navy started to tow the planes to safe water, but they sunk very rapidly."



Fig. 55. Lt. Nathan F. Twining stands beside his Curtiss A3 Falcon in 1929 at Wheeler AFB where Lt. Twining was Commander of the 26th Attack Squadron. Twining achieved the rank of full General during his Air Force career. He retired in 1960, then Chairman Joint Chiefs of Staff.



Fig. 56. Seven Keystone LB-5 Bombers of the 72nd Bombardment Squadron are shown In this 1932 photo flying seaward of the Aloha Tower in Honolulu.

Stanley had the distinction of being the last man to fly the BIRD OF PARDISE. Assigned to Ford Island as Chief Test Pilot for the Hawaiian Air Depot (1931, the pilot was surprised to find the famous Fokker being readied for dismantling. "Before mechanics could do their jobs, the plane had to be defueled," he recalled, "and I chose to fly the fuel out." One of 14 graduates from the same flying school who went to Hawaii, Stanley remained at Ford Island 19 months. When he departed, six had been killed. "The mortality rate was high, those days," Stanley remarked. "Interisland flying took its toll. The rule became formation flying only over the water. When a man got killed, we called it getting a 'wooden overcoat' and his best friend would get to accompany him back to the mainland." (Stanley came back to Hawaii to command Hickam in 1956-57.)

Army aviators at Luke and Wheeler were given instructions to develop an ability to swim at least 200 yards. That year (1931) Air Corps pilots began to fly "blind," their aircraft fitted with light-proof canvas covers for the first time. An Army flyer from Wheeler broke a world glide record, remaining in the air 16 hours and 38 minutes. A splendid manifestation of close cooperation between military aviators and the Territory of Hawaii was the reforesting by air of normally inaccessible areas. Army planes, including the BIRD OF PARADISE sporadically dropped tree seeds on Oahu, Kauai and Maui. This resulted in forests of thriving trees of value to the islands.

Hawaii was a breeding ground for future air greats. One example is Nathan F. Twining who served at Wheeler between December 1928 and April 1932. Twining advanced to the rank of general, becoming Chief of Staff of the United States Air Force then Chairman of the Joint Chiefs of Staff. Now retired, General Twining recalled some highlights from his Hawaiian tour of duty.



Fig. 57. Lt. Henry R. Spicer swam away from the scene of a watery crash during maneuvers over Hawaii.

"I was assigned to the 18th Pursuit Group at Wheeler Field which at the time consisted of two pursuit squadrons, the 6th and the 19th, respectively. They were then equipped with Curtiss F-W-9 fighters, which were later replaced with the Boeing P-12. Major Carlisle H. Wash commanded the 19th Squadron."

"One of the missions of the 18th Pursuit Group was to work in support of the Hawaiian Division, which was a full strength Infantry Division at that time."

"Because of the close work with the Hawaiian Division, a new squadron, the 26th Attack Squadron was assigned to the Group. I was put in command of this squadron which was equipped with the Curtiss A-3 Falcon, a single engine, two-seater attack type aircraft. This airplane was also used by the 3d Attack Group in the U.S. at that time. The airplane had four forward firing machine guns and twin machine guns mounted in the rear cockpit, and, of course, was used in low level bombing."

"The group was most active as we flew every day and established a very excellent operating record. The highlight of our flying training, of course, was flying to the various islands in the group, and we all looked forward to these occasions as they were most interesting from the flying angle as well as meeting the fine people in the island chain. Maneuvers were frequently conducted with the Hawaiian Infantry Division and together with the bombers from Luke Field

in Hawaii we had quite a variety of operations. However, the most interesting maneuvers were those held with the U.S. Fleet which occurred each year. The U.S. Fleet would approach Oahu from the U.S. with the general mission of attacking the Island and, of course, our mission was to defend against the attack. The ground rules were somewhat varied each year and made the maneuvers very interesting. We went to great length to disperse our airplanes all over the island of Oahu and camouflaged them very excellently making it difficult for the attacking forces to locate them.

"Umpires were assigned for the exercise and they came from the U.S. In this way the maneuvers were made quite realistic as we had to operate in accordance with the rules. I recall that one fighter squadron removed the machine guns from their P-12's to lighten the load so they could perform better in the take-off and climb and the Umpire on learning of this ruled them out of the battle completely until the machine guns were installed. This required the squadron to return to Wheeler Field in the middle of night to get the machine guns installed."

"On one of our flights to the Island of Hawaii we had quite a serious operational accident. In the middle of the channel between Maui and Hawaii, one of the bombers, AB-6, lost its tail over the channel and went down. We had float planes accompanying the formations to meet such emergencies but the water was so rough that the float planes on landing were also lost. I recall we lost several airplanes that day in an attempt to save the people who went down with the



Fig. 58. Patrol bombers skirting Molokai's rugged coastline.



Fig. 59. By the mid-1930s, Naval Air Station, Pearl Harbor (Ford Island) was a large operation



Fig. 60. U.S. Navy PK-1 seaplanes from Ford Island, 1933, such as made first mass airplane flight from Hawaii to French Frigate Shoals.

bomber. At least this indicates there have been a great many improvements in aviation since those days." On February 1, 1943, Major General Twining, in command of the 13th Air Force and 14 other men were rescued by PBYs near New Hebrides Islands, after having ditched on a flight from Guadalcanal to Espiritu Santo, and after having spent six days in life rafts.

WOMAN CONQUERS THE ATLANTIC

Having accomplished a notable feat by winning third place in the 1929 Woman's Air Derby, two years later Amelia Earhart climbed to 18,412 feet in an autogiro to set a new record. Later in 1931 she crossed the United States by autogiro. On the evening of May 20, 1932, she set off in a single engine land plane from Newfoundland on a non-stop flight (solo) to Paris. Encountering weather troubles and a malfunctioning engine, Miss Earhart landed her Lockheed monoplane in Ireland, instead. Making the flight in 13 ½ hours she became the first woman to fly solo across an ocean; she also broke the woman's distance record. The amazing aviatrix then flew non-stop from the Atlantic to the Pacific in 19 hours and 15 minutes, making the return trip (August 21) in even faster time.

MILITARY AVIATION ROLES DEFIED

In an agreement between the Army and Navy (January, 1931), the Army was given responsibility for land-based air defense of the United States coasts and overseas possessions. In January, 1933, the Army's role in the air was altered to include long range reconnaissance and operations "to the limit of the radius of action of the airplanes." This heralded high level acceptance of long range bombers. Acquisition started. Massive experimental models were programmed. Stipulated was the requirement for a bomber to have the ability "to reinforce Hawaii, Panama, and Alaska without the use of intermediate servicing facilities."

MASS FLIGHT TO HAWAII

Once again, the U.S. Navy was to step boldly into the Pacific's air space. The first mass seaplane flight from Hawaii to French Frigate Shoals, 759 miles distance, was made by 12 PK-1 seaplanes from Patrol Squadron One stationed at Ford Island, on April 19, 1933. One of the pilots was Alexander A. Sproule. Commenting on it many years later, he said: "We returned to Pearl on April 29, 1933, and my log shows we came back by way of Gardiner Pinnacle and required eight hours and 10 minutes to get back home. I remember the operation vividly. First, we anchored in the lagoon at French Frigate and were serviced by the old USS OGALALA which at last report was rusting in West Loch. Secondly, it was the first and last time I ever rode a turtle! We would find a big turtle on one of the beaches, chase him into the water and jump aboard as he started to swim away. Strangely, they would frequently swim straight out and at a depth of only two or three feet so we would cruise along with our heads sticking up like a periscope until he decided to sound." Sproule's sister, Jean, is presently Hickam's historian.

Another of the pilots that day was Lieutenant Junior Grade Harry E. Day, of plane #1P9. Now retired in the grade of captain, residing in Honolulu, Day recalls: "One of the planes (Keystone Patrol Bombers) went to Johnston Island, making the first landing on that island. On the way back to Pearl Harbor one plane's hull was ripped when it touched a coral head and, landing at Pearl, began to fill up with water. It took fast work to keep it from sinking."

Also in 1933, Patrol Squadron Ten made a non-stop formation flight from Norfolk, Virginia to San Diego via Colo Solo, Panama. Encouraged by this achievement, the Navy put into effect a plan to send the same six P2Y-1 flying boats to Pearl Harbor from Paradise Cove, San Francisco. Confident in its aircraft and personnel, the Navy defied tradition by selecting six

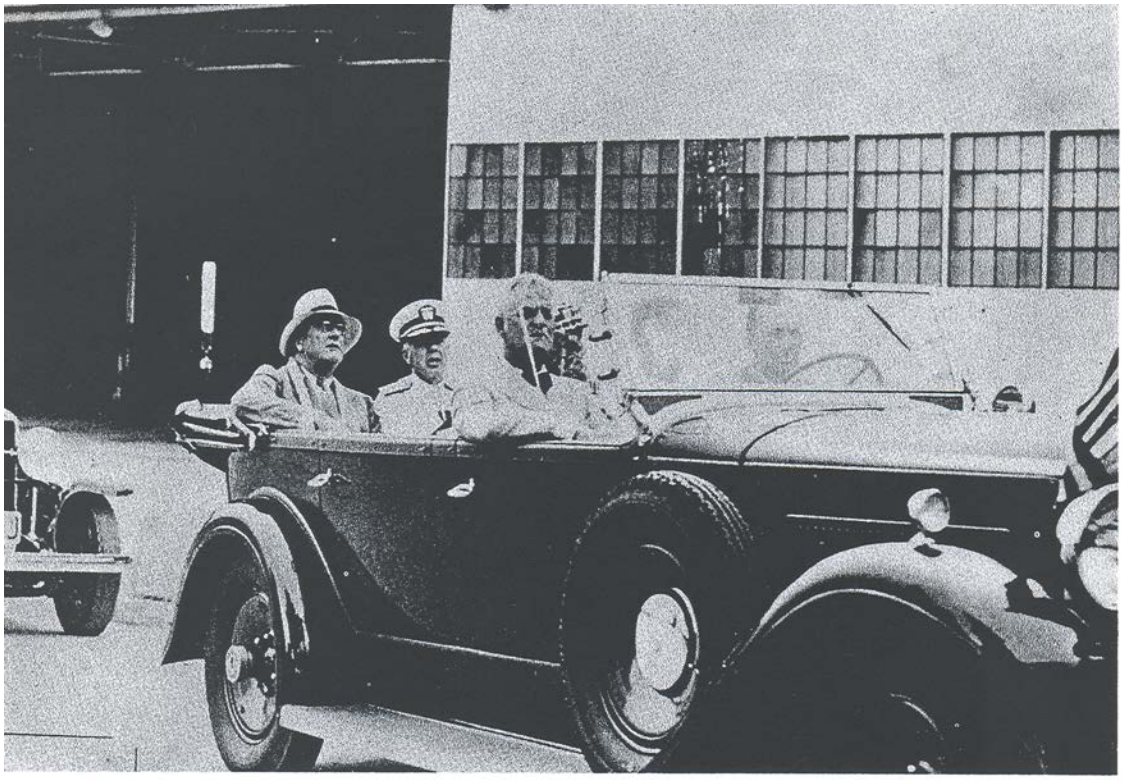


Fig. 61. President Franklin D. Roosevelt visited Ford Island, among other installations in Hawaii. during 1933.

regular crews who were not especially prepared for such a trip. Revving up their engines, the six gray seaplanes reacted to Commander Knefler McGinnis' order and were soon airborne along the route of Rodgers and Snody. As in 1925, emergency facilities were available in the form of guard ships below. Flying between 500 and 5,000 feet altitude, the seaplanes soared over the steaming ships in steady succession. Time droned by almost monotonously, as the recognized genius of American aviation produced an uneventful flight. One-by-one, the triumphant seaplanes settled in the placid waters of Pearl Harbor 24 hours and 26 minutes after the over water flight's beginning, 12:30 p.m., January 11, 1934. The first mass flight to Hawaii was a splendid feat. Averaging 98 mph, their fuel load allowed them an additional 1,200 miles of flight. One year later, the Navy dispatched a squadron of planes from Pearl Harbor to Midway on maneuvers.

VERSATILE AIRPLANES

Aviators in Hawaii went out of their way finding uses for airplanes. Mosquitoes, introduced by a whaling vessel during a visit to Lahaina, Maui, in 1826, had become both a nuisance and health problem throughout the Islands a century later. An Air Corps flight surgeon, Lieutenant Colonel Robert C. Murphy, observed during his flying hours that areas surrounding both Wheeler Field where he was stationed, and adjacent Schofield Barracks, were dotted with ponds and marshes which served as ideal breeding grounds for the flying pests. He arranged for a flight to take his senior medical and sanitation officers up in 1933 for an aerial view of the source of the mosquito hordes annoying Schofield-Wheeler personnel. As a result of this aerial surveillance one of the earliest campaigns was launched to spray the stagnant pools nearby with larva-killing chemicals.



Fig. 62. Keystone Patrol Bombers, 1933.

MORE AIRFIELDS

Construction of Hawaiian airfields continued in the early 1930s. World War I flying hero R. Alexander Anderson, Chairman of the Hawaii Aeronautics Commission (1930-34) pressed for increased airfield facilities. He recalled, "We were successful in this pioneering effort, but it was a slow process. Prison labor was used to bring in coral, for the setting up and extension of so-called runways, at John Rodgers Airport, Kauai and Maui." In 1933, five flying fields were named: Bellows, on Oahu; Buros Suiter and Morse, on the Big Island; and Putnam, on Oahu—all after Army lieutenants.

AIRMAIL

On February 9, 1934, President Franklin D. Roosevelt cancelled all domestic airmail contracts and called upon Major General Foulois, Chief of the Army Air Corps, to perform the function. The Army's first week of airmail flying was marred with disaster. Five pilots had crashed to their deaths, six more were seriously injured and eight airplanes were wrecked. In April, the service was returned to contractors. After 10 months of operation the Commerce Department studied a proposal to raise fees because most routes were operated at a loss. In Hawaii, Inter-Island Airways was excluded from this monetary change because three months prior they had been awarded an airmail contract (October 8, 1934).



Fig. 63. Lt. R. Alexander Anderson Royal Flying Corps, in France 1918. He served as Chairman. Hawaii Aeronautics Commission during 1930-34. Later, he became one of the world's foremost writers of Hawaiian songs, including "Lovely Hula Hands" and 100 other published works.



Fig. 64. John Rodgers Airport, 1930 (Now Honolulu International Airport)

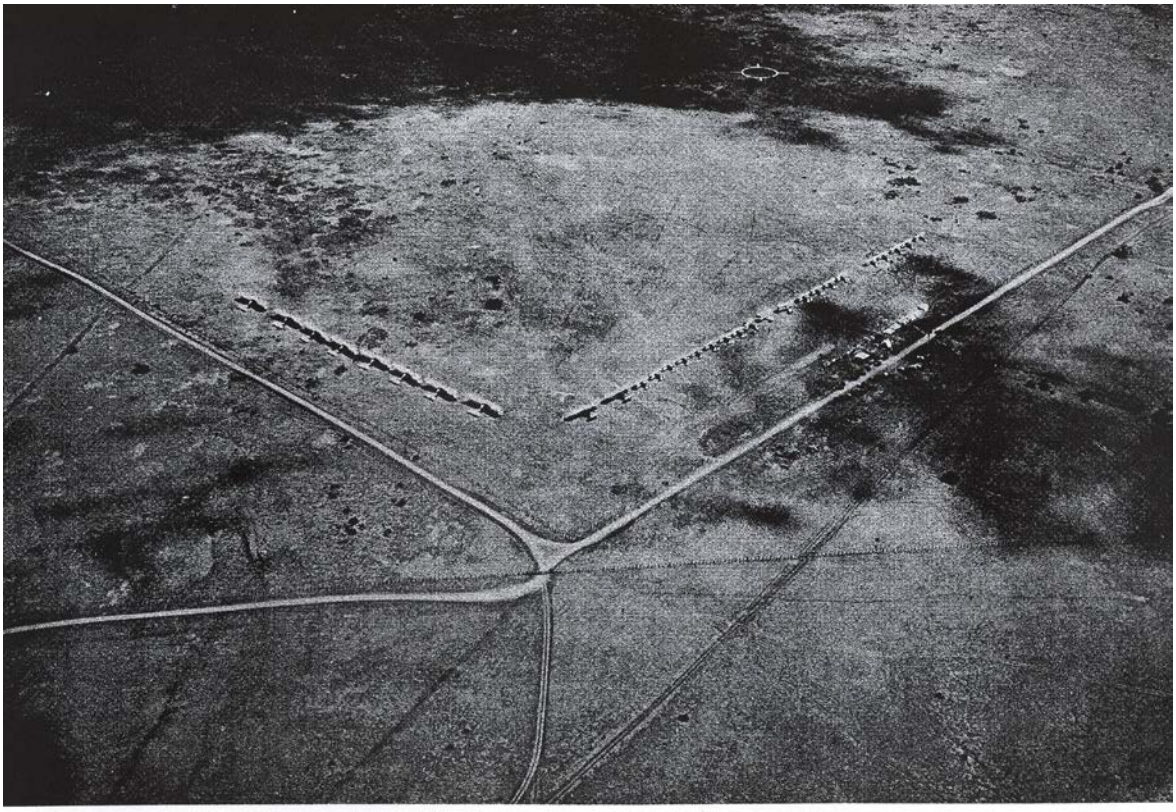


Fig. 65. Homestead Field, Molokai (1931).



Fig. 66. Hilo Landing Field, 1932.



Fig. 67. Haleiwa Landing Field, Oahu, 1933.



Fig. 68. Upolu Point Landing Field, Big Island, May 1933.

A KNIGHT AND HIS LADY

The illustrious aviation name of Kingsford-Smith was to appear again to the world, in 1934. Following their 1928 flight across the Pacific, Sir Kingsford-Smith (now knighted) and Charles P. T. Ulm had formed and operated the original Australian National Airways. Their aircraft were the SOUTHERN CROSS and replicas of the Fokker, built by A. V. Roe, called Avro 10. Among pilots hired to fly with ANA was Patrick Gordon Taylor, World War I combat flyer, also an Australian. Following the tragic disappearance of an ANA airplane (1931), the pioneer airline folded due to heavy financial losses. Sir Kingsford-Smith and Taylor pioneered flights across the Tasman Sea, from Australia to New Zealand, in the SOUTHERN CROSS (during 1933 and 1934). Four flights in all were made and then the pair embarked on a great adventure: making a flight from Australia to North America, via enroute islands. By it, they hoped to create interest in the establishment of a regular trans-Pacific air service between the two continents. A single-engine landplane was selected for two reasons. With only one engine, there was half the risk of a forced landing at sea, in case of engine failure; it would inspire confidence in regular passenger and mail service by the four-engine flying boats projected for the route.

The selected airplane was a Lockheed Altair, named LADY SOUTHERN CROSS. During an exploratory flight they discovered excessive fuel consumption at recommended power settings, ruling out safe flight from the first stop—Fiji to Hawaii. Performing tests of different settings, one was selected which would give them an extra two hours' flying time against a 20-knot headwind.

Mid-October, 1934, the flyers were ready for their 7,000-mile journey. From out of the crowd of well-wishers at the Brisbane airport rushed a woman with a white rose in her hand. She gave it to Taylor and he promptly placed it in a buttonhole of his coat. Then Sir Kingsford-Smith powered his airplane to a fine take-off on a track for Fiji. Except for rainy weather east of New



Fig. 69. Australia's Sir Charles Kingsford-Smith and P. G. Taylor arrived in the LADY SOUTHERN CROSS at Wheeler Field (October 29, 1934), en route to California on the world's first west-east trans-Pacific flight.

Caledonia, during which the wing became damaged, the flight went smoothly. The Altair was brought to a landing in Albert Park, Suva, where the Cricket Field allowed only a 300-yard run. They then flew to Naselai Beach, 20 miles away, for a safer take-off of their heavily loaded airplane. Strong cross winds persisted for a week. Not until October 29 did they get off.

During the night they encountered heavy rains and turbulence. To better see if the rains were easing up, the pilot turned on his landing light. After switching off, both men were appalled to note a decrease on the airspeed indicator from a normal cruise of 125 knots to 90. Within seconds, the plane fell into a stall then began to spin. Sir Kingsford-Smith worked feverishly but was unable to right the airplane. Turning to his navigator, he said, "I'm sorry, but I can't get her out." Taylor asked, "Do you mind if I have a go at her?" Permission granted, Taylor called on all his skills and experience but was not able to stop the persistent spinning.

Returning the controls to his pilot, Taylor noted they had dropped in altitude from 15,000 feet to 6,000. Suddenly, the Altair was smoothed out to normal flight attitude. Sir Kingsford-Smith then revealed that the flaps had been inadvertently switched to the down position when the landing lights were turned on, which brought on stalling conditions.

Now relaxed, the pair managed the remaining flight to Hawaii without incident. There being no radio aids between Fiji and Hawaii, Taylor relied completely on his astronomical navigation abilities. They proved to be excellent. At dawn, the Hawaiian Islands came into view. Taylor recalled, 'I just sat there, filled with a curious sense of gratitude that we had been given the conditions to find these islands, that the engine had never shown a sign of failure in the 25 hours of flight, and the most wonderful sense of anticipation for arrival at Honolulu."

When Pearl Harbor was reached, a formation of United States aircraft joined the LADY SOUTHERN CROSS on its final Hawaiian run. The landing on Wheeler Field's green grass was executed perfectly. On hand to greet the pioneers were excited crowds of friendly and happy people. Among them was John Stannage, their radio operator from Tasman Sea flights made earlier. Stannage feigned disgust at Taylor's dilapidated World War I flying helmet. But the latter refused to surrender his "heirloom." Being the first international aircraft ever to land in Hawaii, Altair VH-USB was processed by United States Customs and was cleared. Then the heroes were whisked off to Waikiki Beach and the Royal Hawaiian Hotel.

The pair had not slept for 30 hours; they underwent a harrowing experience and were feeling the effects of strain. Nevertheless, Sir Kingsford-Smith invited Honolulu's mayor for a flight over the city. Back to Wheeler went the trio. Taylor stood by as the sleek airplane was lifted into the air by the skillful pilot. Not three minutes had passed when at 2,000 foot altitude the engine suddenly became silent and the propeller began to windmill uselessly. LADY SOUTHERN CROSS was quickly nosed down and banked for a downwind landing on the field. Pilot and passenger dismounted. Investigation revealed that the airplane was completely out of fuel. Army Air Corps technicians dismantled the fuel system and removed the fuselage tanks. A large crack was found in one tank, though which the extra fuel had leaked out.

The Australians remained in Honolulu four days and nights while the Altair was made ready for flight. On November 3 the final leg of the first west-east flight across the Pacific began. Fifteen hours later, the Altair was at Oakland Airport being swarmed upon by admirers and newsmen. The beautiful white rose came to Taylor's mind and he was pleased to find it still in his buttonhole. Out of the happy crowed he picked a small boy and presented the flower to him for good luck.



Fig. 70. Aerial view of the welcoming scene.

This was Sir Kingsford-Smith's second Trans-Pacific flight. For Taylor, however, it was the first of many transoceanic flights to follow during a brilliant 35-year flying career. On this occasion thoughts brought him back to a day in 1917. He was heading for home base in France after shooting down (his Royal Flying Corps unit's first to fall on the Allied side of the lines) a German plane. This is Taylor's reflection:



Fig. 71. P. G. Taylor (left) and Sir Charles Kingsford-Smith (right).



Fig. 72. Repairs to LADY SOUTHERN CROSS in Wheeler Field hangar November 2, 1934.

"Flying westward in the stillness, I fancied myself going on with the rhythm of the LeRhone spinning a way of life around the world, a way of peace and understanding instead of a way of war and destruction. Three hour endurance. Three hundred mile range. Not long ago it was a feat for Bleriot to cross 20 miles of the English Channel from Calais to Dover. If my airplane could fly 300 miles it must be possible some day to fly 3,000 miles to join the continents across the oceans."



Fig. 73. Navigator P. G. Taylor l) with Sir Charles Kingsford Smith in front of LADY SOUTHERN CROSS, November 1934.



Fig. 74. Aviation Day formation over Hawaii's waters, December 17, 1934.

ULM IS LOST

Intent upon making the second United States to Australia flight, Captain Charles P. T. Ulm and two companions name Littlejohn and Skilling took off from Oakland at 3:43 p.m. (Pacific Standard Time), December 3, 1934. Their aircraft was the small, twin-engine Airspeed Envoy STELLA AUSTRALIS. Heading for the first stop the plane, having missed the Hawaiian Islands, ran out of fuel in bad weather. A message was received from the stricken crew, "We are now landing in the sea. Please come and pick us up." A massive air and sea search was conducted but neither airplane nor crew was found. On December14, almost 100 Army and Navy planes flew over Honolulu and dropped flower leis off Diamond Head to honor their memory.

That month, Pan American Airways announced a decision to build four Sikorsky transoceanic Clipper airboats at a cost of $1 million. They were to be used for experimental air transport flights to speed up inauguration of the proposed West Coast-Honolulu-Manila-China route.

In 1934, Chula Vista, California, saw its K-T flying service open up a branch in John Rodgers Airport. The managers were Charles Knox and the Tyce brothers. Using two airplanes, they offered flying instruction with considerable success. Increased numbers of people took up flying in the Hawaiian Islands.

AMELIA EARHART

Four ocean liners arrived in Honolulu Harbor on December 27, 1934, bringing 400 passengers to the Islands. One was the LURLINE carrying 246 people aboard, including another famous flyer who would create one more aviation mark for the world though the use of Hawaii. Now married, famed aviatrix Amelia Earhart Putnam came with her New York publisher husband, George Palmer Putnam. With them were friends Albert Paul Mantz, another well-known pilot, and his wife (also a qualified pilot). Sitting on the Lurline's decks was a vivid red monoplane, a Lockheed Vega belonging to the intrepid lady pilot.

Reporters and cameramen followed Amelia Earhart (as she preferred to be called, for professional purposes) about the ship before debarking. Speculation was rampant that a Hawaii to Mainland flight was next on her list of spectacular aerial ventures, hence the reason for being in Hawaii with an airplane. Miss Earhart declined to comment on that probability, insisting that the plane would be used for vacation travel between the islands during the vacation. Leaving shipside, the group proceeded to Waikiki Beach and moved in with friends by the name of Holmes in the "Queen's Surf."

Newspapers in Hawaii published a picture of Miss Earhart and Captain Ulm taken before the Australian's departure on his ill-fated flight to Hawaii, in which she bade him good journey. His tragic loss obviously failed to daunt "Lady Lindbergh" from a possible flight to California, likely whether or not she admitted it.



Fig. 75. Aviatrix Amelia Earhart visited the "Big Island" prior to leaping off on a solo flight from Wheeler to Oakland, January 11, 1935.

The plane was like the one she crossed the Atlantic with in 1932 (it carried the same engine), and as flown around the world recently by Wiley Post. A six passenger airplane, its cabin was modified to carry extra fuel tanks, leaving room only for one person. Instead of the normal fuel capacity of 210 gallons, it carried 520. The lone engine was a supercharged Wasp S1D1 NR9657, consuming between 25-30 gallons an hour, and providing a cruising speed of about 140-160 miles per hour. For communications, installed was a two-way radio like those used by transcontinental commercial planes. The monoplane was lifted to a large pontoon and towed to the fleet air base at Ford Island. The next day, Paul Mantz flew it to Wheeler Field. The Army pilot renewed acquaintance with friends stationed there and the huge airplane was put into a hangar for safe-keeping. In the meantime, the aviatrix and friends tried an outrigger canoe on the Pacific for over water travel. One of today's senior civil service employees at Hickam, William L. Jackman (then a private first class at Wheeler), recalls, "The whole project was tightly controlled, security-wise. Most of us couldn't even get to look at the airplane."

That same day, December 29th, headlines in local papers announced that 100 ships and 50,000 men would arrive in Hawaii for war games in April or May, with Pearl Harbor as the center of activities, further attesting to the Island Group's increasing importance to America.

According to a trade magazine, Miss Earhart was about to make a Hawaii-to-mainland solo flight as a publicity stunt to focus attention on the Territory of Hawaii. In immediate reaction, both the aviatrix and her husband issued denials, explaining that they were on vacation and the plane would be used for local travel or for whatever purpose they chose; however if such a flight were to be made advance publicity would deter the effort, as inadvertent take-off delays were frequent those days. To announce such a flight attempt, then not accomplish it, would mislead the public, they stated. This was the first real indication from the visiting group that the record breaking flight might be undertaken. The Army kept silent.

Publicity on accusations and denials continued. One writer questioned airplane suitability (single engine, land type), extent of the Army's role at Wheeler Field in a private venture, relationship of the flight to the impending commercial service between the mainland and Hawaii, the government's expense at sea rescue if forced down, and advisability and contribution of the flight at all, following on the heels of Ulm's recent tragedy over the route. Miss Earhart said little more. She announced an engagement to speak at the University of Hawaii's Farrington Hall on the subject of "Flying for Fun."

The Commerce Department stated no attempt would be made to stop but to help the flight. J. Carroll Cone, Assistant Director of the Aeronautics Bureau, added that Miss Earhart asked for no assistance. The word was spread that local "authorities" were planning to interfere with the flight, to which Miss Earhart reacted by indicating she was not interested in a controversy.

Aviation experts and radio men came to her defense refuting the allegation while she, Paul Mantz and party proceeded to the hangar at Wheeler Field to groom the airplane for whatever flying activity was intended.

Local experts covered each point of contention, entirely supporting Miss Earhart's position. About the use of a single engine land plane, it was the same type used by Kingsford-Smith, whose flight was without protest. The larger fuel capacity was significant, as was the ability to take off more easily. The question of Miss Earhart having to navigate by dead reckoning was not considered a matter of concern. She flew solo across the Atlantic by this means, plus three crossings of the continent non-stop (at least one at night) with accuracy. The possibility of life-saving coverage at sea was considered a matter of public concern over a human life. As for the statement that such a flight would prove nothing, a great deal was expected to be



Fig. 76. The plane flown fromHonolulu to the coast by Amelia Earhart, January 8, 1935.

achieved, including data assimilation on weather and other atmospheric conditions, information for the making of facilities charts (as was done with seafarers' reports for nautical charts), as well as other aviation benefits to be gained from her experience.

The air was noticeably tense for the next few days, unlike the gay excitement and speculation which existed before the controversy. On January 2, 1935, Paul Mantz flew Miss Earhart's airplane in a test of its modified radio set. Flying at 14,000 foot altitude in Honolulu he was able to maintain two-way radio voice communication with land stations as far west on the mainland as Kingsman, Arizona. This was a new trans-Pacific record and an item of great relief for the lady pilot who would come to rely considerably on the set's operation during her flight to Oakland.

Three days later Amelia Earhart and party, as guests of Stanley C. Kennedy of Inter-Island Airways got aboard a company amphibian plane for a sight-seeing tour of Maui and Hawaii. Under the command of Captain Charles I. Elliott, original company pilot, a slow and easy flight provided an excellent view of Oahu's neighbor islands. Miss Earhart was delighted, and wished the company well in its operation. Cynics wondered why she hadn't used her own airplane as promised. When the story came into publication the following day, very little was to be heard from the quiet aviatrix for a number of days afterward.

The January 11, 1935 issue of the Honolulu Advertiser carried the next news of her whereabouts, announcing in large bold print that Amelia Earhart took off from Wheeler Field unheralded on a solo flight to Oakland, California. Take-off time was set at 4:40 p.m. Only slightly over 100 people looked on. It was just one year prior that Commander M. Ginnis led his

flight of six seaplanes from the West Coast to Hawaii. Now a woman was doing it in reverse, flying in one airplane, with one engine, and no other person aboard.

It was about noon on January 11th when Miss Earhart and her husband were delivered to the home of Lieutenant George Sparhawk. Everything was unhurried at Wheeler Field. Bringing along the course plotted before she departed for Hawaii by Commander Clarence Williams, US Naval Reserve, of Los Angeles, who had also plotted the course of her other famous flights except the Atlantic crossing, she reported to Wheeler's aerologist, Lieutenant E. W. Stephens to discuss the weather. Conditions didn't suit her for takeoff but there was hope for improvement in a few hours. To people in the vicinity, she explained that if the weather improved she was going to make a test flight. Hint of a long trip didn't exist. She had with her no luggage or other indicators; clad in a dark brown flying suit of her own design, made of Grenfell cloth, the amazing flyer further dispelled any suspicions of flying over 2,000 miles non-stop by taking a nap "until the weather lifts."

Lieutenant Stuart Wright's aircraft mechanics checked the plane's mechanical condition then wheeled the red monoplane out of the hangar onto the apron for fuel servicing, Paul Mantz stood by. It was after 1 p.m. when it started to rain. Mantz ordered the plane back into the hangar to complete servicing. When the full capacity of 520 gallons was assured, Wheeler's commander, Major Ernest Clark, checked the plane's condition. Miss Earhart still slept peacefully. Major General Halstead Dorey, Acting Commander for the Hawaiian Department, also inspected it then announced with a smile that the airplane was ready for flight. Mantz directed its removal from the hangar.

At about 4:22 p.m., the flyer and her party arrived on the flight line. She signed her flight clearance then stepped toward the waiting plane which sat in puddles of water, reflecting its vivid red. Donning a life jacket, Amelia Earhart climbed into the cockpit. Mantz made a final check of instruments then moved out of the way.

With her was a package of letters, some unique covers, several envelopes she had carried while crossing the Atlantic. For food, she had sandwiches, boiled eggs, tomato juice, hot cocoa, chocolate and water. Engine already idling, Miss Earhart began a check of her panel, instruments and movable surfaces. Then she gave the signal and the wheel chocks were whisked away. Methodically, she moved out of position onto the wet grass beyond the apron and gunned the engine. The rain had its effect, as mud and grass clogged the tailskid. Mantz motioned to the lady pilot to level off, and quickly head into the wind to avoid the tailskid getting snagged. The helmet-less flyer signaled her thanks and taxied into position without further difficulty.

With little hesitation, Miss Earhart pushed the throttle forward and began the long take-off roll. Cumbersome under a 6,500 lb. load, the heaviest she had flown to date for take-off, the plane responded by lifting her from the muddy runway in less total space than Kingsford-Smith had used not quite a month prior. The crimson monoplane raised steadily into somber skies above the record-filled Army airfield, then arched decisively toward Diamond Head and open skies beyond.

Hours droned by but not without action. Miss Earhart kept busy giving half-hourly reports over her radio transmitter. Those with short wave radio sets in Hawaii heard her broadcasts direct, thrilling to the clear feminine voice stating, "This is KHABQ, everything is OK." Honolulu's radio station KGU passed messages to its listeners. The air was electric in the Hawaiian Islands as plane, equipment and aviatrix combined talents to produce a successful and unprecedented journey over treacherous ocean waters. The listening world through modern communications was kept aware of developments. Amelia Earhart's dead reckoning abilities were proven once again, as she stayed quite on the course plotted by her trusted Los Angeles



Fig. 77. Amelia Earhart receiving bouquet in the cockpit of her plane upon landing at Oakland, California, January 14, 1935.

friend. She flew at 8,000 feet most of the way, well above fog banks and thousands of puffy clouds. Passing over three steamers on the same route was heartening verification of her accuracy. Her biggest difficulty was the hard and steady stream of air rushing into Miss Earhart's face through a ventilator which had blown open inadvertently at the trip's beginning. The Wasp engine purred faithfully with the heartbeat of a magnificent lion as it brought the lady flyer safely across a second ocean, acting as her only "breathing" in-flight companion.

The scene at Oakland Airport was a contrast to the Wheeler point of departure, as 5,000 people lined the field to offer a tumultuous reception for the first human to fly solo and non-stop over one ocean and 2,000 miles over another. The West Coast appeared to the pilot twice in error, each time turning out to be cloud shadows on the water's surface. The third time, however, was land. Her flying time lagging somewhat because of throttling back to save fuel at one point, had cut her airspeed from 160 to 140 mph. Then she sighted the landing field and the hundreds of honking cars. The time was 12:50 p.m., January 12, 1935. Some 2,090 nautical miles from "Wheeler Field, 18 hours and 15 minutes later, the scarlet colored Lockheed-Vega gloriously settled into a perfect landing in the California airport which shared so many record breaking honors with its sister air link, Wheeler Field.

A brilliant success, the flight was accomplished by a flyer whose only motivation was the love of flying, and a desire to contribute trail-blazing marks to the world. Of course, she was interested in recognition. No huge prize per se awaited her. She would be listed prominently among the women in history who contributed outstandingly to the world, thereby confusing the accepted picture of apron and saucepan-in-hand womanhood. She did her share to create for the

"weaker sex" a new picture of strength, caring and importance, while retaining charm, dignity and femininity.

She was indeed a hero to the world. Men and women in every land looked upon her with awe and admiration. Her articulate intelligence permeated all readers, watchers and listeners as well. The flight drew attention to Hawaii, showing its importance and contribution to a non-isolated world. But Miss Earhart had other, greater goals in mind which were to be manifested in 1937. The year 1935 was to see more of Earhart. On 19-20 April she flew from Burbank, California, to Mexico City with one stop, in 13 hours and 32 minutes. She then made the first non-stop flight from there to Newark, New Jersey, in 14 hours and 19 minutes.

MILITARY FLIGHTS IN 1935

Later in 1935, Luke's 23rd Bombardment Squadron took off from Ford Island and made an impressive unit round-trip flight to French Frigate Shoals. Next year, three bombardment planes of the 72nd Squadron at Luke flew to Kalaupapa settlement on Molokai to bring the remains of Father Damien, "The Leper Priest," to Oahu. (The famed Belgian priest's remains were later taken by Army transport to Panama where a Belgian man-of-war took them aboard for transport to his native land.)



Fig. 78. Olen V. Andrew with Honolulu students, April, 1935.

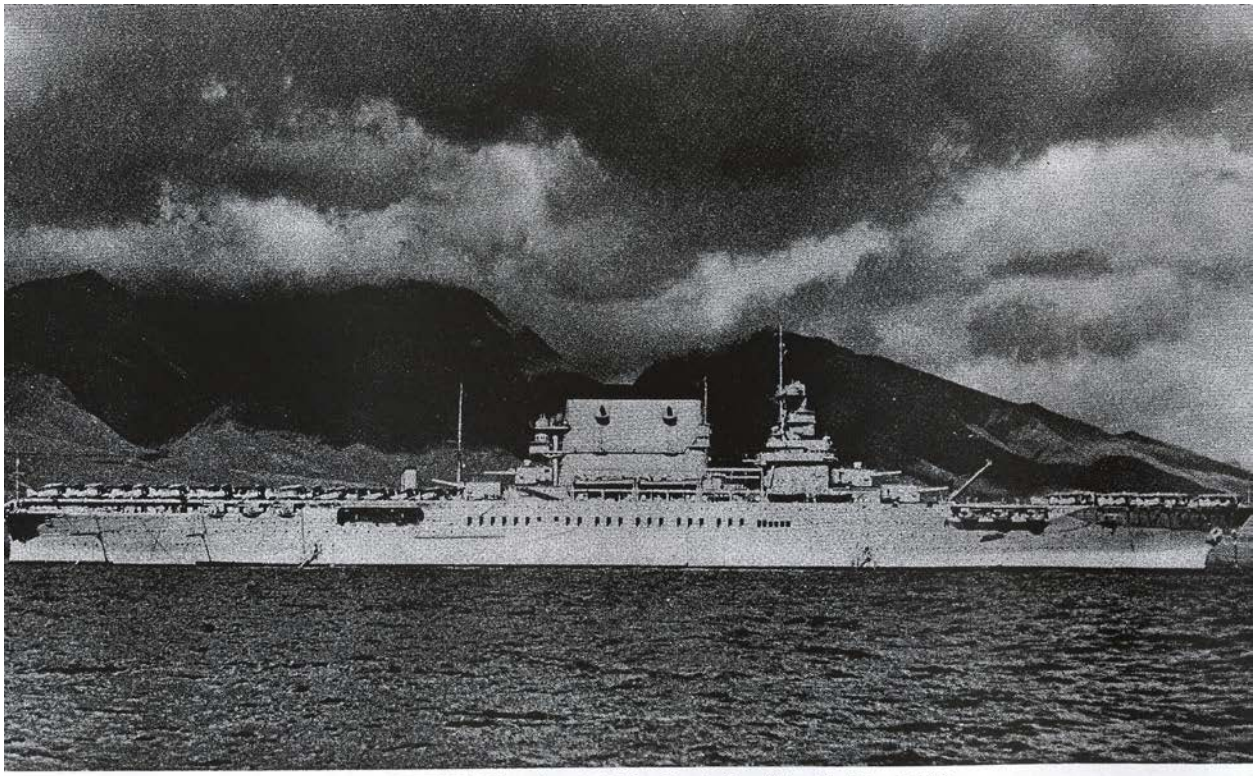


Fig. 79. USS LEXINGTON anchors in Lahaina Roads, Hawaii, to refuel, June 1, 1935. The first US warship to visit Hawaii more than 125 years ago anchored in this same spot.

THATCHER

In 1935, a new Army pilot, Second Lieutenant Herbert R. Thatcher, was assigned to Luke Field. Thatcher was no newcomer to flying or to Hawaii. Thirty years later, commanding the United States Air Force's Air Defense Command, Lieutenant General Thatcher recalled his time in Hawaii:

"While in Hawaii attending the University of Hawaii in 1927 and part of 1928, I was present when Maitland and Hegenberger flew into Hawaii and Art Goebel and Davis landed, as did Martin Jensen. As you know, they landed at Wheeler Field and I was one of the spectators at each of the events. Also, on the boat coming home from Hawaii we were thrilled to witness the flight of Kingsford Smith who was enroute from San Francisco to Australia."

"I had my first ride in a military airplane at Luke Field in 1927 given to me by my tennis partner, then Lieutenant Milo Clark. We flew an LB-1, as I remember."

"I returned to Hawaii in 1935 and was stationed at Luke Field on Ford Island in the 5th Bomb Group where we flew LB-3's, 4's and 5's, the Keystones and B12's and then just as I was leaving there two years later B-18's. I was also in charge of the interisland airway facilities at that time and flew an OA-3, OA-4 and eventually the OA-8 on most of the inter-island trips. We landed at Hilo and South Cape, both on the big Island, at Maalaea on Maui, at Barking Sands on Kauai, at Kalaupapa at the Leper Colony on Molokai. On Oahu at that time we had in addition to Luke, John Rodgers, a strip at Barbers Point called the Mooring Mast, a small field at Haleiwa, a strip at Waimanalo and a not so good strip and seldom used at Laie near the site of the present Mormon Temple.

"Nothing particularly spectacular happened during our stay there as I recall, except one memorable flight to Hilo in an OA-3 with a load of Congressmen aboard. They were inspecting the Federal Prison at Hilo which . . . was located right on the sod strip. It was raining, the sod



Fig. 80. Lt. General Herbert B. Thatcher as 1st Lieutenant.



Fig. 81. Flower "bombs" in Hawaii, April 1935. William Cross Jr., (l), Walter Dillingham Jr. dropped flower leis to passengers on incoming liners.

which was mostly moss was wet and my brakes had no effect whatsoever. I saw the fence at the Prison Camp coming up awfully fast, doing everything possible to stop the airplane—to no avail. I then tried to ground-loop. I succeeded in this and pulled up to a very sharp, snappy stop right in front of the gate of the Prison Camp and discharged my passengers at the gate. I do not know who stopped the airplane—I had nothing to do with it. However, they thought it was marvelous."

"As I was leaving Hawaii two and half years later, Hickam came in just 3,000 feet of the present north-south runway which we used on a few occasions on some live bombing missions we were doing in connection with some navy tests. I recall seeing Miff Harmon in the airplane in front of me clipping the tops of the trees at Kamehameha on the south end of the field, but fortunately, all he did was knock down a few coconuts. I made sure to miss the tree."

"Those were happy days for the bomber pilots since all of us at Luke Field could out-fly anyone at Wheeler Field—they were still equipped with P-12's and with our B-12's we had no difficulty outrunning them. How time changes!"

"The list of generals and admirals who "cut their teeth in Hawaii as young pilots is as long as it is impressive. Not only were the Islands a breeding ground for future airpower leaders, the training they obtained during that formidable period was to prove invaluable. Probably the most impressive for today's readers to recall is the case of General Curtis E. LeMay. LeMay retired February 1, 1965, as Chief of Staff, United States Air Force. Previously, he commanded the Strategic Air Command which served as America's and the Free World's major retaliatory force. LeMay became an Air Corps pilot in October 1929. From 1934 to the fall of 1936, the young lieutenant was assigned to Hawaii's 6th Pursuit Squadron and the 178th Pursuit Group.



Fig. 82. 1st Lt. Curtis E. Le May.



Fig. 83. 2nd Lt. John P. McConnell.

LeMay considers his Hawaiian tour as the first decisive milepost in his career. It was here that his bombardment ideas were formed.

The current USAF Chief of Staff, General John P. McConnell, too, served in Hawaii during his formidable years. Lieutenant McConnell joined the 50th Observation Squadron at Luke Field in June 1937. He later became Post and Group Adjutant of the 5th Bombardment Group (also at Luke), then moved to Hickam.

Other Air Force generals included General Walter C. Sweeney Jr.; Lt. General Robert W. Burns, Major General Don O. Darrow, Major General Albert Boyd, Major General H. R. Spicer, and Major General Brooke E. Allen. There are many more.

CHAPTER X

TRANS-PACIFIC



Fig. 84. Pan American Airways' Clipper arrived in Pearl Harbor April 20, 1935, on a survey flight of the Trans-Pacific Commercial Air Route.

COMMERCIAL SERVICE

The first scheduled airline in America was inaugurated in January, 1914, with Tony Jannus hauling one passenger 22 miles from Tampa to St. Petersburg, Florida, in a Benoist flying boat. Losing money, the venture was discontinued after three months. In a few years, however, commercial airlines operated in many areas of the continent. As for flying to other lands, it took a foreign firm's activities to accelerate such efforts. In 1925, Scadtka Air Lines was set up in Colombia by a World War I German military aviator. SAL planned to fly to Panama, Central America, Cuba and the United States transporting passengers and mail. According to Postmaster General New, an airmail contract with the foreign company would be granted unless an American firm came forward. Acting fast, the Army Air Service's Major Henry H. Arnold and several other officers drew up a proposed airline operation, Pan American, Incorporated, and considered resigning to comprise its leadership. Civilian manned in the final analysis, Pan American was awarded an airmail contract with the Cuban government. Competitive firms were urged by the leader of one, Juan T. Trippe, to join forces. They formed Pan American Airways, Inc., in 1927, and the Key West to Havana airmail route became theirs. Under the inspired leadership of Trippe, PAA surveyed foreign routes, secured franchises from the governments, and so were able to win contracts at the maximum rate fixed by law. In 1929, the company had four contracts, 44 multi-engine planes, many employees and an optimistic future.

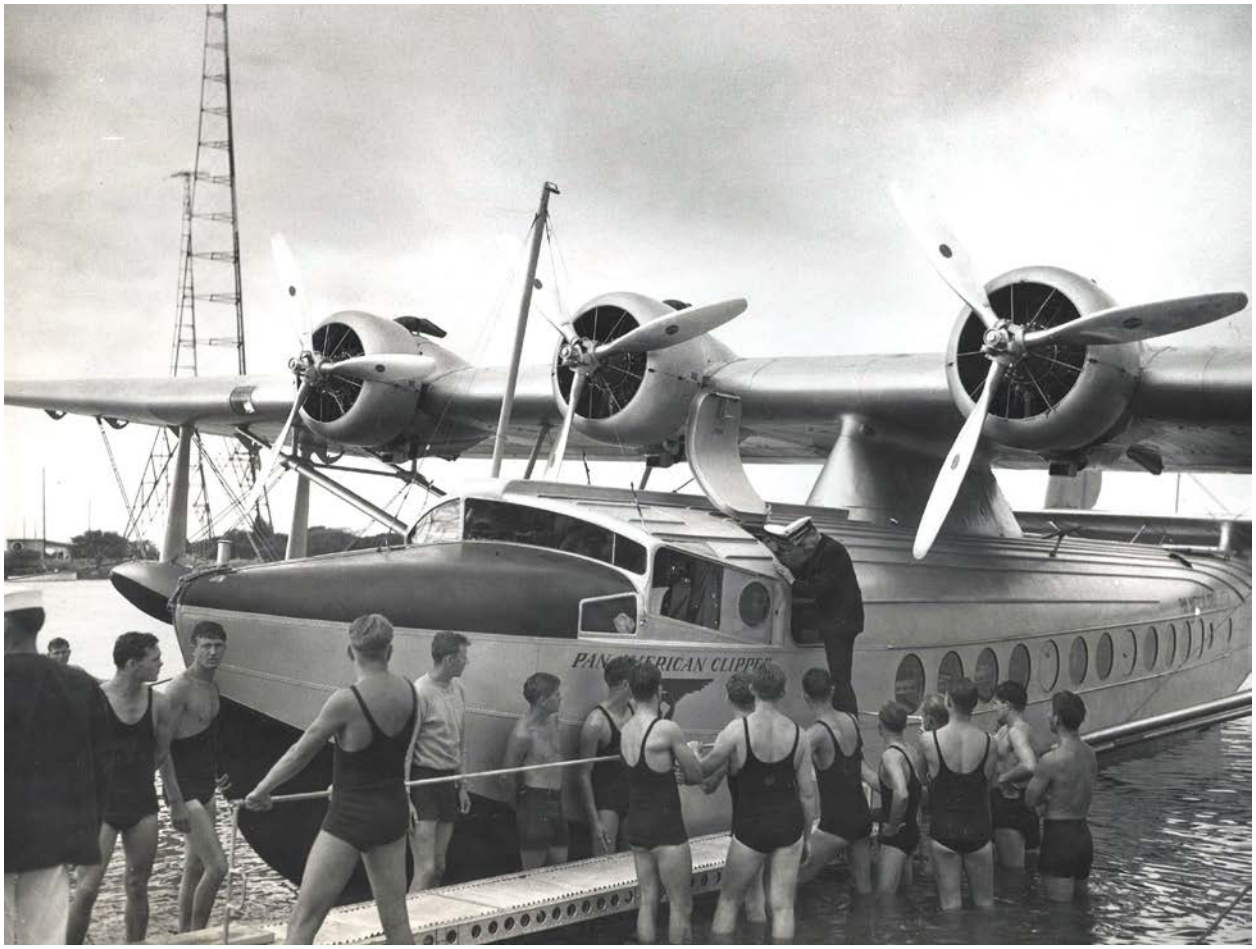


Fig. 85. Clipper ship links America's Hawaiian Isles with Mainland, April 20, 1935. Pan American Clipper's skipper, Edwin C. Musick, steps aground following the ship's epochal 18–hour flight from California.

Juan Trippe was interested in trans-oceanic passenger and mail service to the Orient and, with the help of Charles A. Lindbergh, PAA technical advisor, and the company's chief engineer, Andre Preister, plans were laid out which would take several years to reach flight proportions.

Choosing a flying boat configuration for maximum safety, PAA finalized designs and sent out invitations for bid. Manufacture was to be no easy task. The plane was to safely and comfortably carry crew, passengers, mail and cargo, from California to the Orient and back again, over water on a regularly scheduled basis. In addition, this had to be done profitably. Companies from other countries were interested in the same Oriental route. Being highly subsidized gave them a decided advantage. Dutch, British, Soviet and German airlines surveyed their own routes and prepared airplane specifications. Therefore competition and time entered into the picture, bringing in also United States interest. The stringent requirements narrowed the list of interested contractors to two, veterans Martin and Sikorsky. Contracts were let to the two manufacturers. Then began the enormous task of putting into material and techniques what was drawn on paper—airplanes to function dependably over an 8,000-mile watery route.



Fig. 86. Hawaiian received her first official consignment of federal mail when R. O. D. Sullivan, executive officer of the Pan American Clipper, turned over the government bags to John H. Wilson, U.S. Postmaster at Honolulu, 18 hours after the mail's dispatch in California.

There were many technical and manufacturing problems, but a small army of highly skilled people worked them out. In October, 1931, PAA introduced the Sikorsky S-40, the first American Clipper. When it began to fly, record after record was broken for performance in the air. Engineering efforts proved out, on the whole (some had to be redone) but PAA responded by placing more such planes on requisition. As soon as they were ready, Sikorskys were put on the South American route, already filled with foreign planes on busy runs. This was to be a proving ground for the grandest test of aircraft and flying man for the ultimate mission—crossing the Pacific. There they would train, test, and improve, until such flights could be done better than by anyone else.

Securing control of China National Aviation Company, Pan American sought to avoid for political reasons the arctic great circle route surveyed for the company in 1932 by Lindbergh and his wife. Trippe elected to reach the Orient by use of the springboard, Hawaii, and stepping stone islands along the route upon which to light for servicing, passengers and rest. The route was fixed as San Francisco to Honolulu, Midway Island, Wake Island, Guam, the Philippines, and then to China.

Shortly after Sikorsky's plane was unveiled, the Martin craft followed. Sixteen impressive records were mercilessly broken when put to flight. Immensely pleased, Trippe and his directors knew this was the product of their efforts. A requisition was placed for expedited construction of two more such planes. Selected crews were placed on rigid training over PAA's operating over water routes in South America and the Caribbean, covering navigation, ground school, blind flying, and every technique thought essential to the Pacific venture.

On January 1, 1935, circumstances were favorable so Trippe sent his technical staff from the east coast to San Francisco to set up a Pacific base of operations. Two months later, an expedition sailed with enough plans and equipment to construct the island facilities. Then on April 17, 1935, the S-42 PIONEER CLIPPER skimmed to her first landing in Hawaiian waters, just 17 hours and 44 minutes from its Alameda, California, starting point. Piloted by Captain Edwin C. Musick, aboard the aircraft with him were Captain R. O. D. Sullivan, Frederick Noonan, William Jarboe and Victor Wright. The flight was a smashing success. From there the survey flight crew continued to Midway, Wake and Guam. A second visit to Honolulu was made on June 13, the Clipper remaining two days before its 9 hour flight to Midway. August saw PAA's third flight to Pearl Harbor by the hard working crew. No longer was it a stupendous spectacle.

Properly primed, the CHINA CLIPPER went on a 2,400 mile practice flight on November 2. Flying from Miami to San Juan, Puerto Rico in 8 hours and 15 minutes, the large craft turned around and flew back. One of its four engines malfunctioned slightly.

Hawaii waited anxiously, expectantly. Island living continued at its normal pace. Andrew Flying Service at John Rodgers Airport advertised flights at one cent a pound carried. On November 8, Honolulu received the terrible news that popular Australian air hero, the first user of the springboard, Sir Charles Kingsford-Smith was missing over Malacca Strait on his England to Australia flight attempt. That same day the CHINA CLIPPER flew from Miami to Acapulco, Mexico, leaving at 7:25 the following morning on its 1,500 mile jaunt to San Diego.

Less than eight months after construction of the airway was begun, on November 22, 1935, Postmaster General James A. Farley and Mr. Juan Trippe ordered Pilot Musick, commanding the Martin M-130 CHINA CLIPPER, to take off on the first airmail flight, by way of Hawaii and the other islands, on to its Manila destination. Farley stated in his speech that day that this marked the beginning of "the greatest and most significant achievement in the marvelous, fascinating development of air transportation." Twenty thousand spectators were on hand to watch festivities at Alameda, all eyes on the immense silver airplane. They saw an estimated 110,000 pieces of mail weighing nearly two tons being stowed on board. The band struck up the tune, Star Spangled Banner, as the engines were put to the test and the big flying boat began to respond to Musick's expert commands. Heavily but efficiently the proud plane knifed through the water. Aboard was the veteran crew plus new comers George King and Chan Wright. An anxious throng breathed a sigh of relief as the pride of aviation suddenly escaped from the clutching surface. As it steadily made headway over the unfinished Golden Gate Bridge, a gentleman pensively watched from the University Club in San Francisco. Emory Bronte was brought back in time eight years to the period in 1927 when his flight across the same route was made, with Ernie Smith, the first civilians to do so.

Back in Hawaii, news of the scheduled take-off was heralded with expectation, for this was the beginning of the biggest development for the Islands since the first commercial ship inaugurated its services to Hawaii many years prior. News of the CHINA CLIPPER added color to droll local events. That day (November 22) on the Big Island (Hawaii) the active volcano,



Fig. 87. Martin M-130 used to carry first air mail across the Pacific by Pan American Airways, on November 22, 1935.

Mokuaweoweo staged a second big eruption, overflowing and releasing a lava river seeping mercilessly toward Kohala and the principal city of Hilo. One witness called the terrible sight "like a Niagara Falls of fire." It moved relentlessly at a rate of five miles each day and Hilo looked to be on the verge of destruction. The Army responded with yet another aspect of air-ability, by sending aircraft to the area on surveillance flights. Flows were reported to be a few miles below the summit of the mountain. At the 10,000 foot level there burst three fountains of molten rock, their fiery glow reflecting on the clouds, even becoming visible in Honolulu 200 miles away. One of the Air Corps officers flying on surveillance was Lieutenant Karl Truesdell Jr., who brought his Boeing P-12 over the summit crater and watched great fountains of lava, propelled by exploding gases, reach heights of 200 feet. In the weeks that followed, the lava flow continued under surveillance and the Army eventually concluded that it threatened destruction of the city of Hilo. At this point, large B-4 bombers were sent to the area loaded with live bombs. Under direction of Dr. Thomas A. Jagger Jr., the government volcanologist, the aircraft bombed the lava flow. Within one day, the deadly lava was diverted and Hilo was saved. However, tragedy marred the event when two of the big bombers cracked up on landing at Luke Field and caught fire, killing several Army flyers. Comments from residents included some from the superstitious to the effect that the ancient fire goddess, PELE, caused the crackups for having been disturbed.

In Miami, a second PAA clipper plane took off, departing at 6:18 a.m. for Alameda by way of Acapulco.



Fig. 88. "Aloha, Gallant Clipper of the Skies,"
Honolulu said in greeting to trans-Pacific pioneer, PAA.

The huge CHINA CLIPPER was joined by a great mass of clouds, even before it left the Bay. By nightfall, the plane was completely encased by a ceiling of clouds above and below. Because this was the ninth crossing for all but two of the crew, no one was ruffled. In eight hours, 1,200 miles had been covered in the Pacific Ocean. They were in radio communication with the U.S. Coast Guard cutter ITASCA first, and then spoke to the Norwegian motor ship ROSEVILLE, followed by the USS WRIGHT 900 miles west. Throughout the night seven celestial sightings had been obtained, and 41 radio directive bearings received.

Flying at 10,300 feet, the crew sighted Molokai 200 miles away, then a great mantle of smoke from the erupting crater on the Big Island.

Triumphantly boring their way toward Diamond Head at last, Musick and his expert crew were joined by 60 planes form Oahu's Army and Navy air forces in spectacular, sky-filling escort. (It was a fitting escort, for had not the military shown the way?). Majestically, and once again alone, the CHINA CLIPPER ended 21 hours and 20 minutes of flying with a gentle landing on Pearl Harbor's placid waters. The time was 10:19 a.m., the day November 23, 1935. Nosing into the floating buoy a few yards off shore from the new PAA base on the Pearl City peninsula—Pan American Airways Ocean Air Base Number One—the plane was greeted by 3,000 people who began to applaud. Musick was an hour behind schedule because of strong headwinds for half of the journey, but otherwise the flight had been uneventful. Mrs. Stanley C. Kennedy, wife of Hawaii's commercial aviation leader, was first to greet the flyers as they stepped onto the floating wharf. Gay festivities followed for the crew of seven. The feeling in Hawaii was most aptly put by a local newspaper, "Aloha, gallant clipper of the skies!"



Fig. 89. The Pan American CHINA CLIPPER crew was feted in Honolulu upon arrival, November 23, 1935.

Two tons of cargo went into the big holds of the CHINA CLIPPER on the morning of November 24, Sunday, in preparation for the 8,000 mile race with the sun across the Pacific with the first air mail for the Philippines and the Orient. Hand trucks brought 21 crates of fresh vegetables for PAA island air bases to the west, nine crates of oranges and lemons, 12 crates of turkeys for the first Thanksgiving dinners in the history of those colonies on Midway and Wake, and cartons of cranberries, sweet potatoes and mince meat. Also crated were office and utility supplies, oil lamp wicks, sports equipment, electric light bulbs, spare parts, and a barber's outfit. Also loaded were 16,000 letters (weight 265 lbs), giving a total air mail cargo of 6,653 lbs. bound for Guam and Manila. Next came 14 passengers, two complete air base staff replacements for Midway and Wake.

At 4:50 p.m., all being ready, the crew cast off from the float. Captain Sullivan pointed the 25-ton craft's nose into the north wind towards Midway, 1,380 miles away, as the CHINA CLIPPER became airborne at 7:05 p.m. They passed Kauai Peak, Niihau and found clear weather facing them. At this point, their course was set directly for Midway. In order, the flying boat passed over Necker Island; to the port, the French Frigate Shoals, Gardner Pinnacles, Marco Reef, then Midway, where at 2:01 p.m. (Midway time) a landing was made.

On November 25, the shortest hop (1,252 miles) was started for a tiny point on the map, Wake Island. Averaging 148.7 mph enroute, the plane settled onto Wake Lagoon after an uneventful flight.

At 7:04 p.m., November 27, the plane's keel knifed through the waters and into the air under a 2,000-foot ceiling. At 10:21 p.m., the CHINA CLIPPER overtook the USS CHESTER, eastbound out of Manila. At 3:05 p.m. (Guam time), Guam's Apra Harbor accepted the big seaplane. On Friday, November 29, the crew bid adieu to Guam and soon found the best weather of the journey. They climbed to 6,000 feet, much farther away from the whitecaps and ocean spray.

As the rugged hills of the Philippines came to view, the CHINA CLIPPER's crew, up to then too preoccupied with the innumerable tasks of the job, began to realize the significance of this achievement in American aviation. They were pleased that America's air service, American aircraft and American personnel should be the first to accomplish scheduled air transport service over the world's greatest ocean. At 3:32 p.m. (Manila time), the CHINA CLIPPER came to a landing in Manila Harbor—on schedule, 59 hours and 48 minutes of flying time since leaving California.

Thus came into reality the dreams of many over the tumultuous aviation years. For Hawaii, too, this meant the reaching of a fond dream. Millions had been invested in a venture which would produce millions in increased business. Foreseeable next was the most active water-bound aerial port in the world with huge airliners halting in Hawaii for a few hours or less enroute to the South Seas, Antipodes, and around the world. The local press described the airplane as the newest and one of the most vital forces in the advancement of civilization. It was expected that Hawaii was to be the hub of trans-Pacific flying, military and civilian.

During this period, landing rights at Auckland were granted by the New Zealand government with PAA service to begin December 31, 1936. PAA's attention had turned to the development of a South Pacific route to Australia and New Zealand via Kingman Reef and Pago Pago. Plans were hastened to put the new service into operation, but the lack of adequate facilities along the route forced PAA to apply for an extension of the inaugural date.

A SERIOUS PREDICTION

During the period of Musick's grand entrance to and beyond Hawaii, Billy Mitchell talked with President of the United States, Franklin Delano Roosevelt, about his Pacific area defense survey finds of 1924. Mitchell urged decisive action in view of military buildups in Japan, as well as Germany and Italy. Talking about this experience after his meeting with the Chief Executive, Mitchell stated that Japan had designs on Hawaii militarily and intended to attack the islands from the air with no advance warning or formal declaration of war. He stated that the blow would be made on Pearl Harbor on a quiet Sunday morning when it would be full of ships. In February, 1936, the great air leader died. (Four years later, Roosevelt ordered the production of 50,000 airplanes per year. One year later, Mitchell's predictions were to come to reality. America was better prepared to respond than expected.)



Fig. 90. Coconut christening for Pan American Clipper. Nine-year-old Patricia Kennedy pours coconut milk on Trans-Pacific plane as she says, "I christen thee Hawaii Clipper for the American Territory of Hawaii."

MORE PLANES INTER-ISLAND

By 1936 there was a drastic upsurge in local passenger traffic and it became apparent that Inter-Island Airways' Stanley Kennedy was correct in his predictions and hopes. After seven years of scheduled service without an accident, the traditionally boat-minded islanders realized the safety of inter-island air travel. Riding on the crest of this upsurge, the company bought two Sikorsky S-43 amphibians which carried 16 passengers and a crew of two (twice the capacity of the S-38). At 7,000 feet altitude the new plane could cruise at 185 mph. It could take off with one engine, had unimpaired vision (one wing instead of two), shatter-proof, sound-proof glass, and numerous other attractive features.

In the next three years, two additional S-43s were put into service. The company's fleet then consisted of four S-43s which were used on scheduled service between Honolulu, Maui and Hawaii as well as between Honolulu and Kauai, and two S-38s for services to airports on the other islands where inadequate facilities did not permit the use of the larger S-43s. The S38s were also used for charter and emergency services as the occasion demanded. Success in attracting passengers to the amphibians was due in large measure to the fact that they could safely operate from land or water.

On October 21, 1936, Pan American initiated regular six-day weekly passenger service between San Francisco and Manila via Honolulu.



Fig. 91. Inter-Islands Airways S-43.

During Naval maneuvers of 1936, a flight of Navy planes flew from Pearl Harbor to Midway, 900 miles distant, and established a temporary base there.

A GREAT PIONEER IS LOST

Captain Edwin C. Musick, in command of Pan American's SAMOAN CLIPPER (S-42B) took off from the Division's base at Alameda, March 17, 1937, for the first aerial survey to link the U.S., Hawaii and New Zealand. Captain Musick and his crew of eight departed from Honolulu March 23 and arrived in Auckland on the 29th of March. A tremendous ovation came from the throngs of people who turned out to greet the pioneering Clipper and its crew. Captain Musick returned to Honolulu April 30, 1937 and on December 23, the SAMOAN CLIPPER departed from Honolulu to officially inaugurate the first scheduled cargo and mail service between the U.S. and New Zealand.

The second scheduled flight, which left Honolulu January 9, 1938, ended in the worst tragedy in the history of the Division. "Captain Musick, who had taken off from Pago Pago January 11, sent a radio message back to the ground operator –"OIL LEAK IN NUMBER FOUR ENGINE AM TURNING BACK TO PAGO PAGO MUSICK." Another message minutes later said that the Clipper had to be lightened by jettisoning some of the fuel load. That was the last message received from the crippled plane. Later search planes found floating life jackets and an oil slick at the scene of the tragedy.

Everyone who had followed the pioneering achievements that led to the inauguration of the air route to the South Pacific felt the loss of Pan American Airways' veteran pilot and his gallant crew. Clarence M. Young, Division Manager, summed up the deep sorrow of all Division personnel in a telegram to stations throughout the Pacific outlining a tribute to be paid the crew of the SAMOAN CLIPPER:

"All departments stop. IT IS WITH EXPRESSIBLE REGRET WE MUST CONFIRM TO YOU THE LOSS OF THE NC-34 WITH ITS ENTIRE CREW IN THE IMMEDIATE VICINITY OF AMERICAN SAMOA AT APPROXIMATELY 1930Z (11:30 A.M. PST) JANUARY 11 PRESUMABLY FROM A SUDDEN FIRE OF UNDETERMINED ORIGIN STOP CREW MEMBERS WERE CAPTAIN MUSICK COMMANDING COMMA CAPTAIN CECH. G. SELLERS FIRST OFFICER COMMA JUNIOR OFFICER PAUL BRUNK COMMA NAVIGATION OFFICER FRED MACLEAN COMMA FLIGHT ENGINEERING OFFICERS JACK BROOKS AND JOHN STRICKROD COMMA FLIGHT RADIO OPERATOR TOM FINDLEY STOP AT ELEVEN AM LOCAL TIME YOUR STATION JANUARY 17TH WEST LONGITUDE COMMA JANUARY 18TH EAST LONGITUDE COMMA PLEASE ARRANGE MEMORIAL TRIBUTE TO CAPTAIN MUSICK AND CREW BY SUSPENDING ACTIVITIES AT YOUR RESPECTIVE STATIONS TO THE FULLEST EXTENT PRACTICABLE FOR A PERIOD OF FIVE MINUTES STOP RADIO GUARD WILL BE RIGIDLY MAINTAINED ON ANY AIRCRAFT IN FLIGHT BUT ONLY COMMUNICATIONS ESSENTIAL TO SAFETY SHOULD BE SENT OR RECEIVED STOP NO PERSONS OUTSIDE OF THE COMPANY MAY BE INFORMED AND NO PUBLICITY GIVEN TO THIS PROGRAM STOP IT IS INTENDED SOLELY AS AN EFFORT ON THE PART OF THOSE OF US WHO HAVE BEEN PRIVILEGED TO BE ASSOCIATED WITH CAPTAIN MUSICK AND THE MEMBERS OF HIS CREW TO EXPRESS IN SOME MEASURE OUR DEEP SORROW AND OUR GREAT LOSS WHICH HAS BEFALLEN NOT ONLY OURSELVES BUT THE ENTIRE AIR TRANSPORTATION INDUSTRY THROUGHOUT THE WORLD STOP

Since the Division had planned to use the Samoan Clipper on the South Pacific service, the loss of the aircraft made it impossible to continue service to Auckland.

ANOTHER SHATTERING LOSS

Having already flown solo across the Atlantic Ocean then from Hawaii to California, Amelia Earhart's fervent desire to fly around the world came closer to reality when Purdue University, for whom she worked as consultant on Aeronautics and Careers for Women, decided to back her venture. The university from Lafayette, Indiana, helped the aviatrix raise close to $100,000 for the purchase of a twin-engine Lockheed Electra aircraft. The lofty achievement had already been made by Wiley Post but she could be the first woman to set the world mark. Once the plane was purchased, Miss Earhart finalized plans for the flight and wasted no time putting them into operation. For her crew she chose Harry Manning, Fred Noonan (of Musick's original Clipper crew, by then a veteran of 12 flights across the Pacific); coming along for the ride was ever-helpful Paul Mantz. The plane was modified to make room for extra fuel tanks in the cabin.



Fig. 92. Amelia Earhart waiting to leave Wheeler Field.

Hawaii, still astir with her 1935 triumph from Wheeler Field, decided to honor the aviatrix with a commemorative plaque on Diamond Head. Documents of that flight were placed in a copper box and inserted into the plaque's base on March 6. It was dedicated on March 14, 1937 in an impressive ceremony, while the world awaited her oft-delayed globe-circling take-off.

At 4:10 p.m., March 17, the same day that Musick left Alameda for Honolulu (whom she hoped to beat on take-off), 947 gallons of gasoline were placed on board the Lockheed Electra to feed its two Wasp engines which, with 1,100 horsepower, had the job of lifting 14,000 pounds

from Oakland to Honolulu. Ignoring the short asphalt surfaced runway, at 4:30 p.m., the amazing aviatrix hurtled down Oakland Airport's dirt runway, mud splattering onto the sleek plane. A short run of 1,897 feet was all the craft needed to lift off then rise powerfully into the sky. This took 25 seconds. In 15 hours and 47 minutes, Miss Earhart and party landed at Wheeler Field, a new speed record made for the route, with more than four hours of fuel remaining (600 additional miles of flying). The time was 5:40 in the morning. The tousled-headed flyer emerged from the silver cabin tired but smiling, pleased that the first leg of her long journey was successfully executed. It had been an uneventful flight, with no damaged to the airplane except for dry propeller bearings due to insufficient lubrication.

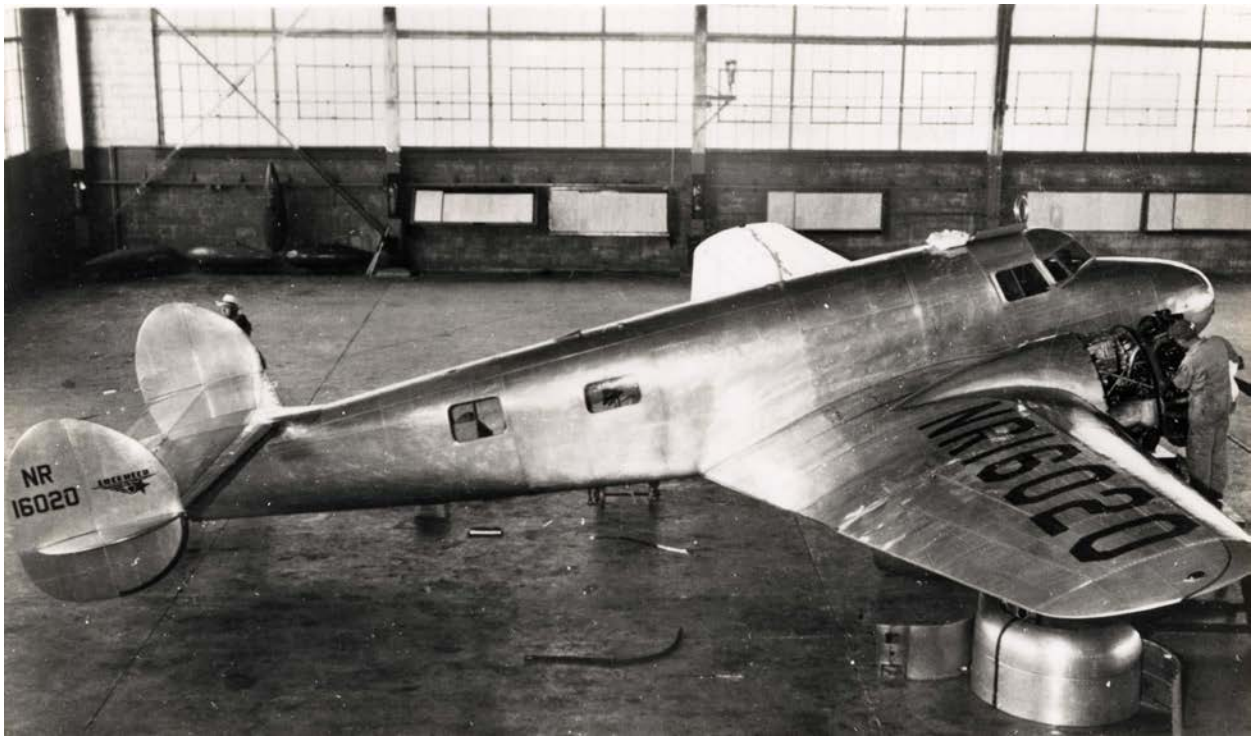


Fig. 93. Amelia Earhart's Lockheed plane in Wheeler Field hangar being tuned for her global flight.

Pictures and stories of the popular lady dominated Honolulu newspapers, heralding the start of another aviation mark which drew the world's attention once again to the Hawaiian Islands' increasingly important role to world communication. Miss Earhart decided against Wheeler Field's runway for take-off because of its rough surface. The blue and white airplane was moved to Ford Island which boasted a 3,000 foot concrete runway and preparations for take-off were hastened for the next leg of the trip. Miss Earhart promised the press "no sneak take-off" from Hawaii.

At 5:53 a.m. on March 20, 1937, she began the take-off roll. The twin-engine plane gained momentum. Suddenly, at the 1,000 foot mark the right tire blew. The strain broke completely the right landing gear sending the Electra severely to one side. Forced into a hard dip, the right wing was badly damaged. One gas tank was punctured, allowing fuel to spew onto the terrain. The right engine case was cracked badly and the rear end of the fuselage torn and dented.

Cool-headed as ever, Miss Earhart and her flying companions climbed unceremoniously out of the aircraft They were unhurt, thanks to the pilot's expert handling of her controls. Ten

seconds more and the plane would have been airborne, lamented the female air-hero! Within six hours after the crackup, Miss Earhart was aboard the MALOLO heading for San Francisco. "I'll be back," she declared determinedly. There was no question in anyone's mind that another attempt would be made at the globe-circling flight, and soon. On May 21, she was ready to try again but decided to circle the equator. This changed her take-off position. On June 2, she left Miami, Florida, with Fred Noonan as navigator, flying to Central America then to Brazil, reaching next across the South Atlantic in the time of 14 hours. From Natal she proceeded to Senegal in French West Africa then soared to Dakar, Gao, Khartum and Massawa (a Red Sea port). Having methodically sliced through the continents of North American and Africa, her sights were set on Asia. Relentlessly pursuing her course under the expert guidance of her

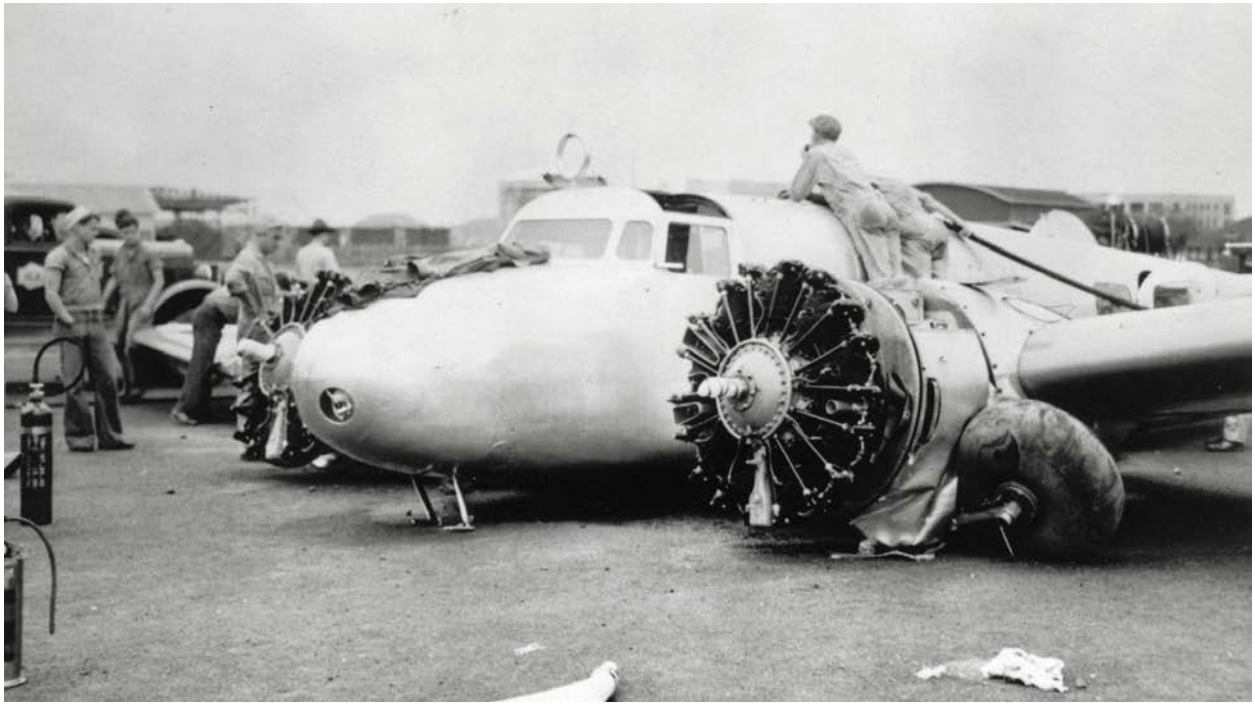


Fig. 94. Miss Earhart's take off was thwarted at Ford Island, when her right landing gear tire blew out. March 20, 1937.

navigator, Noonan, the aviatrix crossed Arabia, India, Burma, Siam, Java, Australia and New Guinea.

On July 1, she made her way from Lae, New Guinea, across the blue Pacific Ocean for Howland Island. A radio report was received on July 2 from her plane that she was over the ocean with no land in sight, with about one-half hour's fuel left on board. Deadly, sickening silence followed. Ships and planes of three nations were sent across the Pacific on a prayerful search mission. The world was stunned by the tragedy. There was to be no more word from the comely, heroic aviatrix.

Aviation would continue forward, despite her deeply felt loss. On July 5, just shortly before midnight, at a point 952 miles east of Newfoundland, two commercial airplanes passed by one another. Pam America's CLIPPER sped for Ireland, as Imperial Airways' CALEDONIA flew west for Newfoundland, on the first of a series of survey flights designed to set up air mail service to Europe and, by the following spring, the first trans-Atlantic passenger service.

CHAPTER XI

HARD EXPANSION



Fig. 95. Bombers swooped down before Schofield Barracks reviewing stand As members of Congress looked on (September 3, 1935)

A GREAT NEW BASE

What years remained for Hawaii in the 1930s, aviation-wise, were devoted largely to increases militarily, as the United States paid greater attention to the buildup of military forces in Europe and the Pacific. Viewed with alarm was the multiplicity of armaments introduced into German, Italian and Japanese camps by their dictators, and the apparent imminence of war. The Army and Navy began to act.

In Hawaii, U.S. military aircraft expansion resulted in a need for more airfield space. In order for the Navy to accommodate its increases, the Army was forced to move off Ford Island. A large facility was needed not only for the Hawaiian Air Depot which became more useful with time, but for organizational expansion of other units. Wheeler would not do. During the period of 1917 to 1931, the Army's air component in Hawaii consisted of seven tactical squadrons and two



Fig. 96. Taken from the Pearl Harbor side of Hickam Field, this 1936 aerial photo of the future Hickam Base shows Keehi Lagoon and Honolulu at the left, Damon Tract at top center, John Rodgers Airport at top right. Further to right is part of Ft. Kamehameha, and the white area at bottom right is Watertown. The ocean area to the right of the old John Rodgers Airport was filled in and is now the site of the Hawaiian Air National Guard. The road on the top left became Nimitz Highway.

service squadrons. In 1931 the 18th Composite Wing was formed with headquarters at Ford Shafter in Honolulu. But now, more units were planned and would soon arrive.

Purchased from E. Faxon Bishop et al for $1,091,239, on February 20, 1935, were 2,200 acres of cane fields and algarroba between Pearl Harbor and Fort Kamehameha, adjacent also to the John Rodgers Airport. Under direction of the Army's Quartermaster, America's largest peace-time construction effort was implemented. Based there were to be a wing, (which at that time consisted of a headquarters squadron, four bomber squadrons, and a service squadron), totaling 57 bombers and four other aircraft, in addition to the Hawaiian Air Depot. Among new facilities was to be the famous "Hale Makai," a 3,000-man barracks plus mess hall and various concessions. On May 31, 1935, the base was named for Lieutenant Colonel Horace M. Hickam, a promising air leader who died when his A-12 struck an obstruction on an unlighted runway at Fort Crockett, Texas. Construction continued for several years afterwards, but on September 1, 1937, the first detachment of 20 men (from the 31st Bombardment Squadron) arrived on the new base and moved into tents.

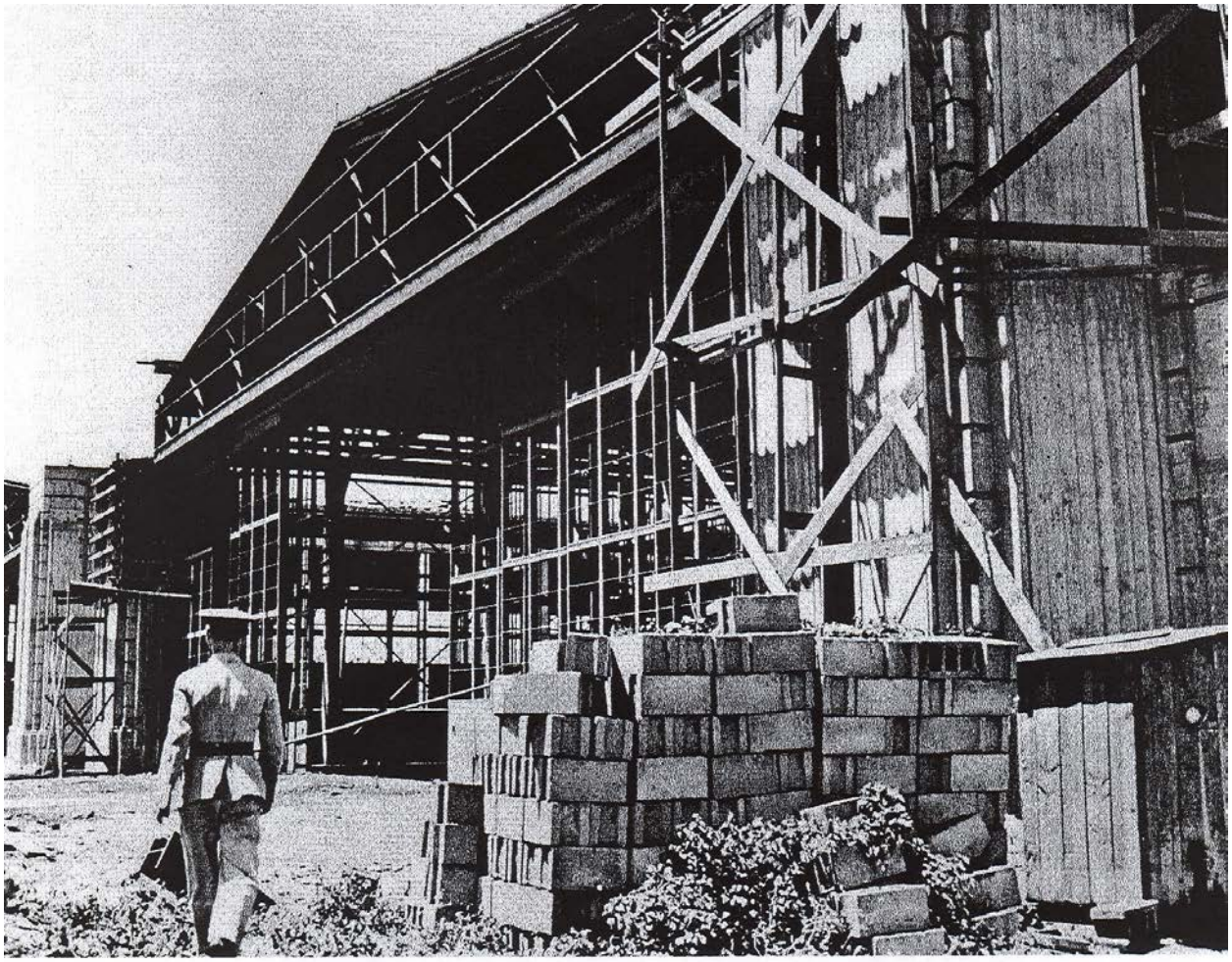


Fig. 97. Under construction in 1937. these hangars at Hickam Field were built to house 26 planes. Each side of the hangar was built to accommodate 13 planes.

March 9, 1938, saw a highly publicized entry into the Hawaiian Islands of a new type of bomber for the Army. Thirteen new B-18s were accepted by Major James G. Taylor, commanding the 31st Bombardment Squadron, as Hickam facilities mushroomed. However, they had to be assembled at Ford Island.

On May 17, 1938, a Naval expansion act became law which authorized the President "to acquire or construct additional naval airplanes including patrol planes, and spare parts and equipment, so as to bring the number of useful naval airplanes to a total not less than 3,000 . . . " The Pacific expected to get 428; Hawaii would receive a new base, on the windward side of Oahu, Kaneohe.

The Navy came through with an excellent aviation mark, on September 7, 1938, by making an impressive mass flight of 17 U.S. Navy planes from San Diego to Hawaii. They flew the 2,570 miles in 17 hours and 21 minutes.

That same month the Hawaiian Air Depot began its move from Luke. It was completed October 31, 1940. For administrative purposes on January 1, 1929, Luke was made a sub-base of Hickam until the official transfer on October 31.



Fig. 98. Early aerospace power is demonstrated in this formation of B-12 and B-18 bombers over Hickam Field. Hickam was officially activated on September 15, 1938, three months after this photo was taken.



Fig. 99. Hickam's main entrance 1938.



Fig. 100. Marguerite Gambo, Honolulu aviatrix shown in cockpit of one of her planes from the Gambo Flying Service, 1939.

LOCAL AVIATRIX

Hawaii produced numerous aviatrixes in the 1930s, under instruction of Olen Andrew, Paul I. Gunn, Robert L. Tyce, Charles B. Knox, and Edward L. Peacock, in particular. The most notable was Marguerite Gambo (later Wood), who began to fly occasionally in 1932 with Peacock, and in 1937 was sent by Tyce on her first solo in a Kinner Fleet. Gunn provided the lady flyer with advanced training and soon she was rated a commercial pilot. In 1938 she participated in flying events, giving stunting exhibitions. By 1939, the aviatrix established Gambo Flying Service at John Rodgers Airport to meet demands by young men for flying training, a number of whom were primarily interested in interisland jobs and preparation for the eventuality of war. The Gambo hangar was the first privately built facility at the airport, adjacent to that of Inter-Island Airways. Flourishing rapidly in an aviation-minded community, the school produced aviators who later went on to distinguished duty in the armed forces. Gambo, Andrew, Knox and Tyce's K-T Flyers were busy with private flying activities.



Fig. 101. Gambo airplanes at John Rodgers Airport, 1939.

NEW ACTIVITY

As the decade came more dramatically to an end, the face of Hawaii changed drastically. No longer was serenity the mode of living. Open talk about attack from the air appeared in newspapers and magazines. Appeasing speeches by local military leaders were made to the public, as the same time brandishing greater numbers of armaments and maneuvers. Instead of causing difficulty, it accelerated the acceptance of preparedness. The Islands became alive with military activity. Aircraft moved brightly about in their rightful place in the sky, atop and above the water, as well as on land, in preparation for any eventuality.

How useful the demi-god, Maui, could have been at that time. But there was no time for ancient fairy tales; planes from foreign lands might make the 1891 predictions of Carey a horrible and even worse reality; the coldly prophetic calculations of Billy Mitchell in the early 1920s were about to unfold, embarrassingly accurate.

The oft scoffed bird-craft had risen through the years in importance, to the point of threatening devastation of the lovely Hawaiian Islands. How right the pioneer advocates had been: Sweet, Curtiss, Mitchell.

The United States had devoted 20 years developing a capability to defend the Islands, but only lightly. The major national emphasis was on Axis-infested Europe. Consequently, reinforcement of hemisphere defenses on the Pacific side was lighter in magnitude and quantity. As diplomatic relations with Japan worsened, the Alaska-Hawaii-Panama triangle took on more of the proportions predicted by the airman Mitchell, and others. Serious attention was given to the key to Pacific defenses, the naval base at Pearl Harbor, and to the role of aircraft in Hawaii, America and the world. Aircraft's effectiveness as a powerful tool of international diplomacy

was dramatically expressed to the world during the Czechoslovakia crisis, the latter half of 1938, by Hitler and his Luftwaffe. There was much to be done in the United States and her possessions.



Fig. 102. P-26s on Wheeler Field's Flight Line, 1930s.

On June 13, 1939, for the first time in the United States, troops, guns and equipment were successfully transported by air, by an infantry unit from Schofield Barracks. Arriving at Hickam in trucks completely equipped with packs, guns, food and supplies, 110 machine gunners of Company D, 19th Infantry and 33 members of Major Taylor's squadron moved by aircraft to quell an imaginary disturbance on Kauai. The trip took only 30 minutes. Thus aircraft had manifested yet another impressive capability in the Islands; future warfare took on an interesting new turn.

Not to be outdone by the military in aviation progress, Pan American Airways' CALIFORNIA CLIPPER landed at Auckland, New Zealand, completing the first flight of a regular two-week service from San Francisco. This was in August, 1939, just a few days after a B-17A made an 1,200 mile flight from Miami to the Panama Canal Zone in six hours (showing the speed with which reinforcements could be rushed to protect the Canal).

In January, 1940, the 7th Bombardment Group, Hamilton Field, surpassed Hawaii's lead by moving a battalion of artillery 500 miles in 38 bombers, further developing the air mobility capability that showed great promise.

In March, 1940, General George C. Marshall became the first U.S. Army Chief of Staff to pay an official call on Oahu. He made the trip to evaluate Hawaii's increasingly vital defense capabilities. Although Marshall later declared defenses generally adequate, he pressed for sharp increases in aircraft, anti-aircraft and personnel in Hawaii. Two months later, President

Roosevelt demanded the numbers of aircraft for both the Army and Navy be increased to the all-high figure of 50,000, with 500 modern warplanes and 10,000 men to be placed in the islands.

Soon after, Hawaii was placed in a state of "limited emergency," due to the political situation. The formerly peaceful tropical scene changed to one with uniformed men in tanks, armored cars, military vehicles and equipment rushing noisily through the streets of Honolulu,



Fig. 103. Formation of B-18s over Diamond Head, April, 1940.

purposely choosing the thickest of city traffic. Aircraft stormed through the skies on military missions. Sentries were set around important plants, buildings, other vital facilities. There was no question that Hawaii was preparing for defense. Local residents had become jittery. Prior to the Hawaiian Department's maneuvers of April-May, 1940, a statement was issued to reassure the public. It sums up military activities at the time:

"Oahu will never be exposed to a blitz-krieg attack. This is why: we are more than 2,000 miles away from land whichever way you look, which is a long way for an enemy force to steam; and besides, it would have to smash through our Navy. But we plan for the worst possible situations, which means we assume that the Navy might be too busy elsewhere to help us. So we have developed a potent air defense. Our reconnaissance bombers are going farther and farther to sea. Our air bases here could be reinforced overnight from California bases. The potency of this striking power which would engage an enemy long before he sighted Oahu

means that to land on Oahu the enemy must first win mastery of the air above it. Assuming that happened, enemy transports then would have to anchor offshore, making them fine targets for our coastal artillery. High speed, mobile forces can be rushed within an hour to any point on Oahu. They pack devastating power."

"As international tensions increase in the Pacific, the war of nerves comes closer to Hawaii. So we double our vigilance, our intensive training. We don't let up until the future is perfectly safe."



Fig. 104. B-18s over Mauna Loa eruption, April, 1940.



Fig. 105. AAF in Hawaii F337. Flight line on Hickam Field. 1940

For the war problem, 56 Army planes took off to begin air operations. Almost every military plane on the Island later took part. Moreover, at landing fields bombers were dispersed so that in case of attack, an enemy bomb could not wreck more than one place at a time. Blackouts were enforced and, as in 1939, declared an unqualified success. But unlike that year when only Oahu was involved, this year's maneuvers required a blackout in all the islands. One local organization feared that a description of the blackout broadcast to the mainland would influence vacation minded people's desire to visit Hawaii.

By April 6, 1940, Hickam Field was the largest U.S. Air Corps station in the Pacific, with approximately 100 officers and 3,000 men. Expansion continued systematically. July saw Pan American Airways continue to expand over-water activity and capability. The ALASKAN CLIPPER, a Sikorsky S-42B, made the first flight from the United States to Alaska. On the same date, July 12, PAA delivered the first airmail to Auckland, New Zealand, by way of Honolulu, Canton Island and New Caledonia. (On September 11, PAA's first passenger service along this route was made.)

On November 1, the Hawaiian Air Force (the first of its kind outside the continental limits of the United States) was activated under the command of Major General Fredrick L. Martin, with headquarters at Fort Shafter in Honolulu. Four days later, HAF had two base commands: 17th Air Base and 18th Bombardment Wing (B-10s) at Hickam, and 18th Air Base at Wheeler with the 14th Pursuit Wing consisting of P-26. The 86th Observation Squadron was placed at Bellows Field, 28 road-miles from Hickam. Wheeler's wing included one squadron in training at Haleiwa, a small field in the northern section of Oahu. To increase the range of the striking force, auxiliary fields were set up on the other islands with the active help of the Civil Aeronautics Authority. These included Kauai, Lanai, Hawaii, Maui and Molokai. To service these outlying fields, the First Transport Squadron was formed, consisting of eight airplanes. Continuing with rapid expansion, the Hawaiian Air Force's aircraft strength rose to 117, in

January, 1941, but all of them were obsolete or antiquated. One month later, 31 P-36s with pilots and crew chiefs left San Diego on the aircraft carrier ENTERPRISE bound for assignment in Hawaii. In April, 55 P-40s arrived, also by carrier. They were flown off the deck to Army airfields on Oahu.

The long-range bombers had been perfected and a decision to allocate B-17s to the Hawaiian Air Force followed. However, they would have to be mass-flown to the islands, a feat that had never been done before. In April, 1941, the Fourth Air Force prepared 21 aircraft and ferry crews for the journey, at the same time making arrangements for active assistance by the Navy, Pan American Airways, and commercial radio stations at San Francisco and Honolulu. The Navy was certainly experienced at placing guard-ships along an airplane's watery route, something they'd done beginning with John Rodgers in 1925. Arrangements were firmed to provide such support for the B-17s. Ground-air liaison communication was also arranged by the Navy. Commercial airlines agreed to provide weather forecasts and map signals to the airborne bombers, while radio stations in San Francisco and Honolulu cooperated by promising homing signals in continuous broadcast during the flight.

The mid-Pacific springboard got ready and on May 13, 1941, the 21 B-17Ds left Hamilton Field, California, near historic Oakland, bound for the Hawaiian Islands in splendid formation. After 13 hours and 10 minutes, the pride of Boeing landed graciously at Hickam Field, only five minutes off their estimated time of arrival. There was no question in the minds of any beholder, either at Hamilton or Hickam, that the Untied States was concerned over the possibilities of war in the Pacific, nor that they had the fire–power to seek decisive victory. There was no need to justify the importance of the Hawaiian Islands to military aviation, and the vital need of warplanes for the mid-Pacific landing facility.

Joint defense plans called for the Army to defend the coast against attack, while the Navy was to seek out and repel enemy forces near the coast. Together, they were to repel attacks on coastal objectives. The Navy was charged with "a system of off-shore scouting and patrol to give timely warning of an attack and, in addition, to operate against enemy forces in the vicinity of the coast." Long-range reconnaissance was the Navy's job, warning and alert for defense was the Army's role.

In July, 1941, the Hawaiian Air Force completed a study and drew up plans for use of bombardment aircraft in the Islands. The plan considered existing pursuit groups adequate for their task, if kept up to strength, and projected radar installation for enemy detection work. Called for was air reconnaissance of the Hawaiian area during daylight, and the provision of an on-call attack force to strike known targets and carriers with enemy planes before they were unleashed against the Islands. Seventy-two B-17s were specified to do the job. Proposed were daily search missions within the circle of an 833-nautical-mile radius of Oahu, each plane covering a five degree section. The plan had one drawback: the entire Air Corps possessed far fewer B-17s than that desired for Hawaii. The plan was scrapped but the conclusion was reached that detection and handling of enemy carriers would be by long-range strike aircraft.



Fig. 106. New B-18s lined up on Hickam's apron prior to the Japanese attack in 1941.

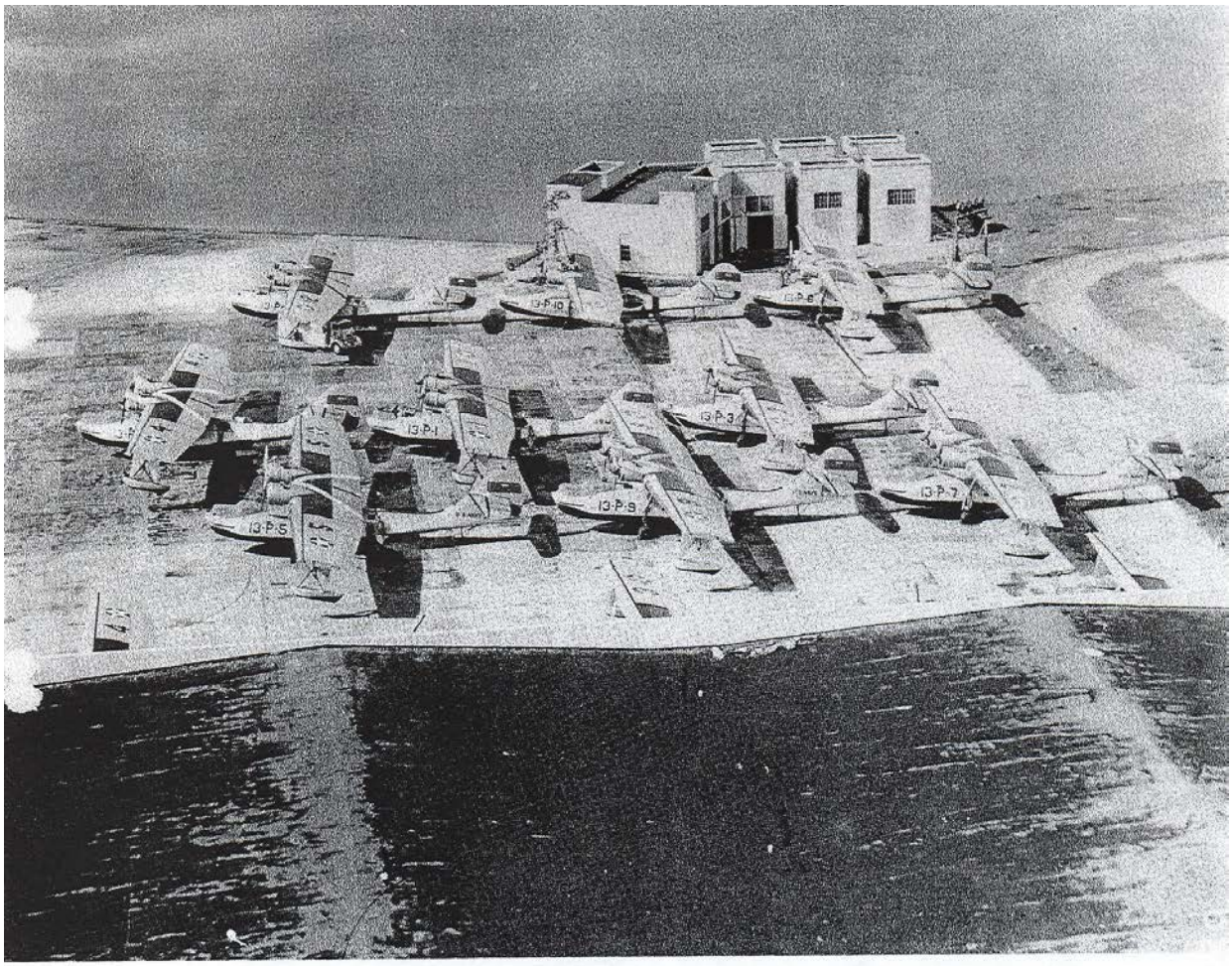


Fig. 107. VP-13 PBY's on ramp at NAS Pearl Harbor in 1940.

Hickam's construction progress was such that Headquarters Hawaiian Air Force was able to move from Fort Shafter to the new base. About that time the 19th Bombardment Wing arrived from California en route to defend the Philippines, considered most likely for attack in the Pacific. A mass trans-Pacific flight of heavy bombers was begun by the 14th Bombardment Squadron for the Philippines via Midway, Wake, Port Moresby, and Darwin. They landed at Clark Field, Manila, on September 12. On October 26 B-17s landed at Hickam for further dispatch.

The War Department's decision to send reinforcements to the Philippines meant that Hawaii's priority for aircraft to support their own mission was lowered considerably, with some of HAF's aircraft inventory diverted to the Philippines. Then the Navy found it could not protect Midway and Wake for lack of sufficient aircraft, and asked for planes from the Army. On November 28, 1941, the War Department was informed that two pursuit squadrons, totaling 50 P-40s and 240 personnel were ready to leave for the two islands by carrier, the Marines to supply more aircraft later. However, because P-40s could not be landed on carriers, the Navy held up acceptance. Also on that day, the War Department alerted 12 B-17s from Hawaii for movement to the Philippines. Two days later, the 7th Bombardment Group's ground echelon of 2,500 men, 18 P-40s and 52 unassembled A-20s left Honolulu in a convoy to the Philippines, only to be diverted on December 12 to Australia. One of two B-24s equipped for high altitude photography of Japanese-held Marshall Islands, on December 5, arrived in Hawaii. By December 7, the Hawaiian Air Force was an integrated command for slightly more than one year. It consisted of 754 officers, 6,706 enlisted men, 231 military planes, and six radar detector stations in operation.

From the civilian end, Inter-Island Airways, Inc. was active in improvements. The company decided to buy three DC-3s. But there was a problem convincing travelers that the new land planes, more comfortable and modern, were as safe as amphibians. Kennedy decided on a dramatic move. The three planes took off from Oakland one morning in August, 1941, and flew in formation to Honolulu in 14 hours and 58 minutes. It was, at that time, the longest over-water flight ever made by the DC-3. Thousands of people were at the airport when the planes came to Honolulu. The event was heralded in Hawaii's press and the DC-3 won rapid acceptance as a safe and advanced transport. It was at this time that the company changed its name to Hawaiian Airlines. This was done primarily to secure a clear identification to potential mainland travelers and to clear the way for possible trans-Pacific operations.

A SINISTER FORCE

On November 26, 1941, a Japanese task force began to move out of Hitakappu Bay in the Kuriles and proceed intently towards its mid-Pacific destination and a bloody mark in history. The force consisted of six aircraft carriers, two battleships, two cruisers, nine destroyers and three submarines. Carefully selected pilots for the aircraft averaged 800 hours' flying time each, and had undergone intensive training in horizontal bombing, dive bombing and torpedo attack in harbor waters.

On the following day the Hawaiian Islands were placed on alert, but not from knowing the force's whereabouts or intentions. Word of diplomatic worsening between the United States and Japan was received, resulting in precautionary measures being taken throughout the Island group. Sabotage was feared from within. Aircraft were corralled into hangars or placed wing-tip to wing-tip for internal security, rather than dispersed for air attack. Extra guards were placed on duty around vulnerable targets. Protective fencing and floodlights were installed. Outright attack by enemy forces was expected, but in the Philippines rather than Hawaii.

At Hamilton Field, California, on December 6, General Henry H. Arnold told the crews of 13 B-17s who were about to leave for Hickam on the first leg of an aerial journey to the Philippines that they "might run into trouble somewhere along the line." However, he had the Mandate Isles in the vicinity of Truk in mind. Then they took off.

The Japanese main force arrived at a position about 200 miles northwest of Oahu before daybreak on December 7, unobserved and poised for attack. Cruising about the water of Oahu were 28 large Japanese submarines, gathering intelligence and positioned to stop any escaping U.S. ships after the assault. Five of these carried midget submarines clamped on their afterdecks. The tiny craft held two men, torpedoes and were powered by batteries. Released from mother submarines, they began to prowl Pearl Harbor's adjacent waters, about 10 miles out. At 3:30 a.m. they headed straight for the pride of the U.S. fleet.

Within Pearl Harbor strange commotions were taking place. Sighting one of the midget submarine's periscopes close to the entrance to Pearl Harbor, at 3:43 a.m., alert minesweeper CONDOR signaled the destroyer WARD into action. A Kaneohe based PBY dropped position markers to assist Skipper Outerbridge of the WARD locate his underwater target. The ensuing search lasted almost two hours, but the sub was not located.

At 5:30 a.m., two seaplanes were catapulted into the air from separate Japanese ships to perform final reconnaissance of the Oahu target area. Then at precisely 0600 hours, the first wave was ordered into the air. It consisted of 50 fighters, 50 horizontal bombers, 40 torpedo bombers and 50 dive bombers, from their carriers. They made for Oahu.

At 6:45 a.m., U.S. target repair ship ANTARES brought the WARD to the right trail as she plowed for Honolulu Harbor. This time the destroyer fired her guns at the tiny submarine's conning tower. The first three-inch shell missed, but the next scored a hit. Depth charges followed and Fourteenth Naval District Headquarters was notified of the event. Ensign William Tanner, pilot for the PBY back on the scene, released depth bombs too, and then reported the activity to his home base, Kaneohe Naval Air Station. Their effectiveness was without question as geysers of water and foam billowed from out of the sea, one mile from Pearl Harbor's entrance. The Navy men, in the ships and airborne, were not sure what they had sunk, whether American or foreign. One thing was certain! Ship and aircraft collaborated in the sinking of the enemy, firing the first shots of many to be sounded around the world!

CHAPTER XII

DECEMBER 7, 1941



Fig. 108. Hawaii is attacked from the air, December 7, 1941.

A HUGE BLIP

One of the Hawaiian Department's new mobile radar "listening posts" was situated atop Kahuku Point on Oahu's northernmost tip, called Opana. It had been in operation only two weeks, manned by the 515th Army Aircraft Warning Service. The key item of equipment was the SCR-270B Radio Direction Finder, a primitive form of radar. According to its operators, the oscilloscope at Opana offered the clearest picture of all six Oahu units. Two men had been on duty in the trailer since noon of December 6, off and on. Having started at 4 a.m., the men on duty were scheduled to go off shift at 7 a.m., the same time as the others. They were Private George E. Elliott Jr., who functioned as plotter and Private (3rd Class Specialist) Joseph L. Lockard, operator. It would have been interesting to them had the B-17s come from the mainland, because they would have caused a large blip on the scope; but the tour of duty had been dull and uneventful.

At 7 a.m., Lockard and Elliott decided not to go home right at quitting time, feeling it would be a good opportunity for Elliot to operate the set for awhile. Being new in the line of work, the training would be useful to him and to the organization. Elliott was eager to get into the operator's seat. It was only two minutes after seven o'clock when "something out of the

ordinary" appeared to him on the screen. Lockard also saw it, looking over the other's shoulders. Puzzled, the operator plunked into his regular position, for he had never before seen such a large blip. There were two blips, at close inspection. Lockard suspected a faulty set and began setting adjustments. At this he became convinced what he was seeing was the radar echo of two large groups of airplanes.

Elliott rushed back to his aircraft warning plotting board and in less than a minute determined the blips to be at three degrees east or north and 137 miles north of Opana.

Elliott suggested the Information Center at Fort Shafter should be told of the findings. Lockard, at first unsure, allowed Elliott to place a telephone call. This was seven minutes after the blip first appeared. Raising only the male telephone operator to whom he revealed the unusual blip, the anxious soldier was told nobody was available. The operator called back a few moments later, with Lieutenant Kermit A. Tyler on the line. A new assignee, on the 4-8 a.m. shift as pursuit officer, the young officer talked with Lockard about the matter then speculated the blips depicted B-17s from Hamilton or Navy planes on patrol duty. Told to forget about it, for at least the next 30 minutes the two men nevertheless continued to plot what they saw as a "fine problem." Then they made off to deliver the unique overlaid map to superiors and partake of a meal. At this point, the on-going Japanese warplanes were about 30 miles from Oahu, soon to fade from the scope due to a back wave from the mountains.

ATTACK!

Now over Kahuku Point, Commander Fuchida fired his flare pistol and propelled a "black dragon" into the sky. His position as aerial commander was made clear by the distinctive red and yellow strip around his plane's tail. This was the order to attack. As pre-arranged, at this signal the 183 planes of the first wave broke formation. Dive bombers headed upward for the 12,000 foot mark, horizontal bombers to 3,500 and torpedo bombers plunged to sea level then into mountain passes to avoid detection as they headed for Honolulu military targets. A second flare confused the attackers, who nonetheless formed a cloud of fire power on a deadly mission.

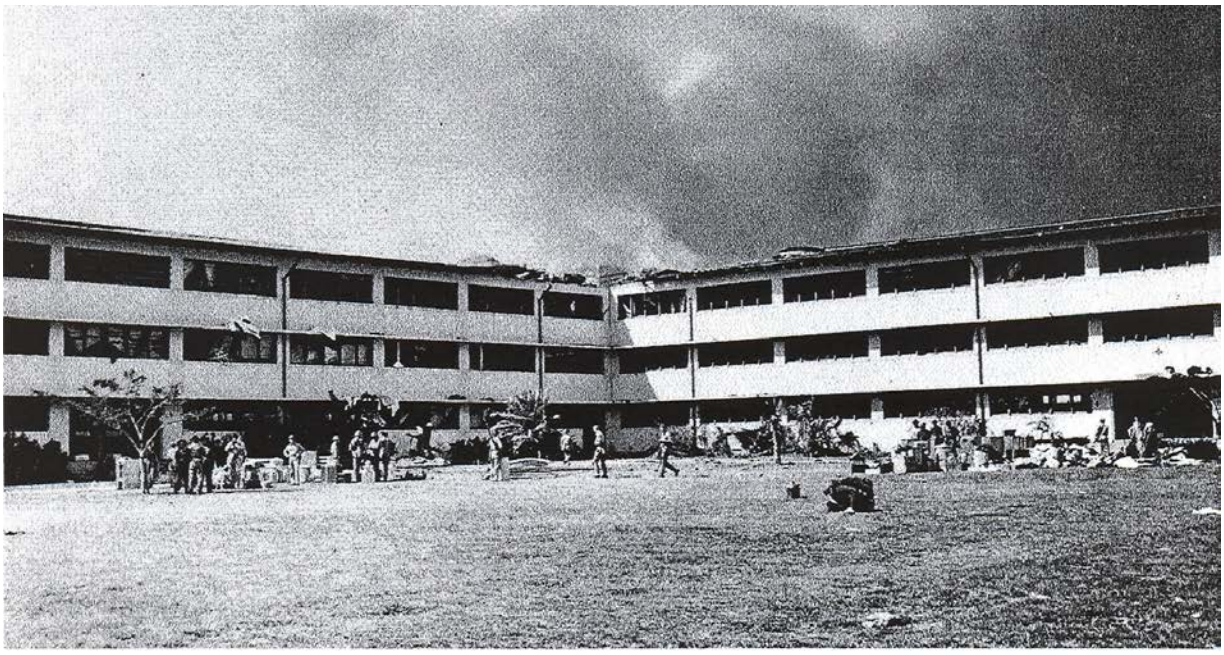


Fig. 109. Barracks (Hale Makai)at Hickam Field, burning after attack by Japanese planes.



Fig. 110. The bombing of Hickam Field, December 7, 1941.

The second wave had taken off 45 minutes after the leading element. Consisting of 50 horizontal bombers, 80 dive bombers and 40 fighters, they varied course on signal and made for their targets.

At 7:55 a.m. the first Japanese planes were seen southeast of Hickam Field, fighters soon joined by 28 bombers. They made three separate attacks in a savage 10-minute assault on the flight line, shops and buildings. Seven fighters later strafed aircraft taxiing on the field for defense after a lull of 15 minutes, then pounded the base a third time at 9 a.m. In all, Hickam suffered 42 planes totally destroyed and many more damaged extensively.

Marine Air Group 21 at Ewa, located adjacent to Pearl Harbor, was hit. Situated there, also wing-tip to wing-tip per instructions, were 11 Grumman F4F Wildcat fighters (the newest of USMC fighter planes), 32 Scout dive bombers and six utility planes. Breaking the sabbatical calm, the approaching roar of strange airplanes, enticed the Officer of the Day away from his breakfast. He stepped out to see hordes of airplanes in the sky. Looking at his watch, he read 7:55 a.m. As the craft drew closer he made the planes out to be Japanese and sprinted toward the guard house to sound the alarm. They came in low over the mountains, skimming smoothly past Barber's Point and, at 7:57, swooped down on the base with blazing armaments. There was no chance, and now no need, for sounding the alarm. Flying as low as 20 feet from the ground, 21 "Zekes" spewed armor piercing shells into the airplanes on the flight line. Pass after pass was made, during the 30-minute attack. Marines rushed out and valiantly began firing at the warplanes with the red-insignias, armed only with rifles and pistols. Destroyed were nine Wildcats, 18 Scouts and all but one utility plane. A second wave of "Zekes" was followed by

"Vals" which had joined the first group about 15 minutes after the attack began, concentrating on buildings, installations, hospital tents and personnel. The third attack was by 15 "Zekes." But this time, Marines had put into action some spare machine guns. Joining them were ground crewmen manning rear-cockpit guns in some of the riddled dive-bombers. They shot down one fighter plane, and damaged several others. Four Marines were killed, 33 of their planes devastated and 16 left too badly damaged to fly.

At one minute after 8, Pearl Harbor and Ford Island were overrun by attacking planes. Japanese bombers destroyed 33 of the 70 planes on Ford Island. Seconds later, dive bombers and torpedo planes struck at warships in the harbor on a sustained basis. Within 30 minutes, torpedo planes made four attacks, dive bombers eight; and after a 15-minute lull, another half hour of vicious bombing and torpedo attacks was started, finally ending at 9:45 a.m. Most of the attacking planes approached Pearl Harbor from the south. Some came from the north over the Koolau Range, where they had been hidden en route by large cumulus clouds. The Pacific Fleet's in-place 94 vessels were pummeled. Most heavily hit was the battleship force. Within a short span of time, all seven battleships had been hit at least once. The ARIZONA took five hits with large armor-piercing bombs and sank in less than nine minutes. CALIFORNIA and WEST VIRGINIA had been sunk, the OKLAHOMA capsized with four shells in her hull, the NEVADA was severely damaged and beached to prevent sinking; the TENNESSEE received additional damage, as did the PENNSYLVANIA. In all, six ships were sunk, 12 considerably damaged, others suffered minor hits. Naval facilities had been seriously damaged, others suffered minor hits. Fortunately, at the time of the attack the Pacific Fleet's carrier force was not



Fig. 111. Japanese attack on Pearl Harbor, December 7, 1941.



Fig. 112. Ford Island burning during December 7, 1941 attack.



Fig. 113. Ford Island's hangar 6 after the attack.



Fig. 114. Wheeler Field, Hawaii the morning of December 7, 1941. Some 90 aircraft were destroyed by the Japanese attack. Here smoke billows up from the Wheeler hangar line. The large, smoking building facing the two hangars at center right of the picture is now occupied by the Headquarters, Pacific Communication Area.

in Pearl Harbor. The SARATOGA, just out of overhaul, was moored at San Diego. The LEXINGTON was at sea about 425 miles southeast of Midway toward which she was headed to deliver a Marine Scout Bombing Squadron. The ENTERPRISE was also at sea about 200 miles west of Pearl Harbor, returning from Wake Island after delivering a Marine Fighter Squadron there.

Wheeler Field's turf now held wartime planes, P-26, P-36 and liquid-engine P-40s, where pioneer aircraft once tread. Of the flock, six planes from the 47th Pursuit Squadron (P-36s and P-40s) were positioned at Haleiwa. The 44th Pursuit Squadron was also away, at little Bellows Field on the opposite side of the island. Rows of planes were neatly lined up on Wheeler's wide cement apron, wing-tips practically touching one another. On alert for days with guns loaded, this Sunday morning they were without ammunition, cleaned up for the weekend to prevent mishap. Four-hour alerts prevailed, plenty of time to install armor piercing shells and tracers before heading off to help the Philippine protectors, if needed.



Fig. 115. General view of few of the demolished planes after raid by Japanese bombers. View of East end of Wheeler Field, T. H., December, 1941.

FIGHTER PILOTS RESPOND

Of the many from Wheeler who were to perform heroically, there and later in Air Force careers, Lieutenants George S. Welch, Kenneth A. Taylor, and a quite new second lieutenant by the name of Francis S. Gabreski, stand out.

Welch and Taylor, on the early morning of December 7, had begun to feel sleepy after being awake all night. The Wheeler Officers' Club dance was enjoyable, but an ensuing poker game dragged through the entire night. Swimming was excellent at Haleiwa, where their planes were, but the Bachelor Officers Quarters beds sounded more appealing to the tired pair. Gabreski had been out, too. He was at nearby Schofield Barracks' Officers' Club, dining and dancing with an attractive young lady visiting her Schofield-based uncle. He was back in his BOQ, a two story wooden building located next to the permanent housing area near the main gate, just rolling over in bed from a deep sleep. Looking at his watch, Gabreski saw it wasn't yet 8 a.m., and immediately thought about getting up to go to church. He rolled over lazily for another few moments, but then a whining noise followed by a terrific explosion gave him a start. Recalling the incident, Gabreski said: "At first I thought it was one of the Navy patrol planes on maneuvers; but then there was another hit, this time pretty close. I heard an airplane flying over the rooftops so I ran out to look. I just barely caught a glimpse of a big red circle on the plane. The rear gunner was spraying the buildings with bullets."

At that, Gabreski ran up and down the BOQ hall alerting everyone to the fact they were being bombed and strafed. Rushing to the front door, he and some of the other pilots looked toward the flight line. "It dawned on me and the other dumb-founded men," Gabreski went on, "that this was an actual bombing and our airplanes and hangars were being hit. Our second thought was, what we could do to help save the planes."

In follow-the-leader fashion, approximately 25 Japanese dive bombers came onto the field from about 5,000 feet altitude, unloading their bombs on the exposed rows of airplanes. The attacked lasted 15 minutes.

Welch and Taylor, back in the club, also had the idea the Navy was out on maneuvers until they saw live bombs being dropped, explosions and fire. Running up to the closest telephone, Welch placed a rush call to Haleiwa where the outfit's P-40s were sitting unarmed. The reply was long in coming, but when someone answered he was promptly directed to load several of the P-40s, particular "mine and Taylor's." Then five officers hopped into vehicles and sped for the airfield 10 miles away. They were Lieutenants Harry M. Brown, Robert J. Rogers, John J. Webster, Welch and Taylor. Crewmen worked fast putting in ammunition and carrying out last minute servicing. The pilots raced down the winding road past pineapple and sugar plantations for the normally placid beach playgrounds of Haleiwa.

In the meantime, Gabreski and his mates looked out across the sky for signs of more enemy aircraft. "Suddenly out of nowhere four planes came through Kolekole Pass and leveled out to strafe the flight line. They set up more fires. We got a good look at what was going on and identified the attackers as Japanese. We decided to rush down and try to salvage what planes we could. Only partly dressed, we ran toward the flight line when a couple of pursuits came down on us with blazing guns. We hit the dirt until they'd passed over, got to the line and physically began pushing and shoving planes away from burning aircraft and buildings. Altogether, we managed to salvage about 30 planes. One hangar that was set afire held 30-caliber ammunition. Inside the heat was so intense that cartridges exploded, sending tracers around men and planes. The last hangar held all the refueling trucks, completely filled with gasoline. We tried to move them but found no keys. So we had to leave them to the mercy of whatever set them off first, planes or fire."

Arriving at Haleiwa's flight line, the five pilots climbed into their pursuits after checking to make sure they were armed. Without knowledge of type or number of attacking enemy planes, they proceeded on their own initiative against the heat of the attack, in the vicinity of Barber's Point. They were airborne by 8:15 a.m. Welch and Taylor observed a formation of 12 planes over Ewa, about 1,000 feet below and 10 miles away. The two paired off. Beginning to fire at one of the enemy, Welch discovered one of his guns had become jammed. Quickly, he pulled into the clearing above the clouds, checked his craft then returned to the scene of action over Barber's Point. Seeing a Japanese plane heading for the sea, he pursued and shot at it until it fell into the ocean. Taylor shot down two planes. No more in sight, the pair proceeded to Wheeler Field for fueling, more ammunition and back into battle. Arriving at home base, Welch laughed at his uniform. He was still wearing Tuxedo trousers. Lieutenant Brown, caught amongst a host of enemy planes, began to shoot his way out. He sent one plane careening into the ocean just off Kahuku Point.

Four P-40s and two P-36s got off from Wheeler 35 minutes after the initial attack and during the next hour flew 25 sorties.

While Taylor and Welch watched their planes being refueled and the one gun cleared, another wave of planes came in from a low altitude. Three headed straight for Welch, who managed to take off before being hit. Taylor got off, too. A chandelle maneuver permitted him to escape the accumulated force of eight to 10 planes. One got on his tail but Welch out-turned him and, his guns blazing at the pursuer, sent him to a fiery death between Wahiawa and Haleiwa. His plane was hit, but Welch headed for Ewa where he saw another plane heading for the open sea. He shot it down about five miles off shore, and then returned to Haleiwa. All told, Welch claimed four planes, Taylor two with two probables (later confirmed), and Brown one.



Fig. 116. Wheeler Field the following day.

Lieutenant John L. Dains used both a P-36 and P-40 in sorties but was shot down by anti-aircraft fire from Schofield Barracks. Haleiwa gave the enemy the most resistance that day and was neglected entirely by Japanese bombers and strafers because it was not on their maps.

Bellows Field received light damage. At about 8:30 a.m. one pursuit strafed the tents then nine more arrived to attack the flight line. Preparing to take off in armed P-40s assigned to the 44th Pursuit Squadron were Lieutenants Hans C. Christensen, George A. Whiteman, and Samuel W. Bishop. Christensen was killed climbing into his airplane. Whiteman and Bishop managed to get airborne. Whiteman barely cleared the runway when he was shot down. Bishop's P-40 was attacked, sending it crashing into the sea. Bullet in leg, Bishop swam to shore. At 8:50 a.m., four P-36s from the 46th Pursuit Squadron left Wheeler to give Bellows a hand. Included in this group were Lieutenants Philip M. Rasmussen, Lewis M. Sanders and Gordon H. Sterling. Greatly outnumbered, they nonetheless attacked the nine planes. Rasmussen shot an enemy from the sky, so did Sanders. Sterling was downed. All together, five people from Bellows were killed and nine injured.

Close to 12 o'clock noon, Wheeler's 45th Fighter Squadron was ordered into the air. Gabreski and 11 other pilots got airborne in a mixture of P-36s and P-40s heading for Pearl Harbor where they were to receive further instructions upon arrival. "One objective of the exercise, it turned out, was to look for a carrier. But we couldn't do anything until we received orders in the air," Gabreski explained. "We never got them. Arriving over Pearl, we were shocked by gunfire from the ground, both from Hickam and Pearl Harbor. We were flying about 5,000 feet altitude and none of us were hit, but seeing the explosions from confused Americans

below us, we broke formation and headed for home. One officer, Lieutenant Fred Schifflet, dove his P-40 down to make an identification pass over Hickam so they could see we were not Japanese. He received a heavy volley of fire from many directions, was hit profusely but not knocked down. Recovering, he made tracks for Wheeler and just managed to land when his engines froze up. The plane was full of holes, but Fred climbed out unhurt." Wheeler lost 42 combat planes, and others were damaged. Army planes made a total of 81 take-offs that day.

NAVY PLANES

During the attack, 25 Navy planes were in the air. Included in this total were three PBYs from Patrol 14 of Patwing 2 carrying live depth charges. They were under orders to sink any submerged submarines unescorted and outside the submarine sanctuary, four more PBYs cooperating in training exercises off Kaneohe, seven Midway-stationed PBYs, and, from Vice Admiral William F. Halsey's Task Force 8, (launched off the ENTERPRISE 200 miles west of Pearl Harbor) 18 scout bombers with instructions to scout a distance of 150 miles and proceed to Ewa Marine Base. Unaware what was taking place, they inadvertently joined the fight but were armed and so could be useful. About half were lost in battle; one fled to the island of Kauai and the remaining managed to land on Oahu. Thereafter, no Navy planes were to get into the air.

B-17s

In the midst of the attack, from Hamilton Field came 11 B-17s belonging to the 38th and 88th Reconnaissance Squadrons, on the first leg of their flight to the Philippines. Surprised by heavy pursuit attack, the large bombers were forced to take evasive action and seek a landing place. Two came in at Haleiwa, two at Wheeler, and one on a golf course at Kahuku. The rest landed at Hickam; one was destroyed in the process and three badly damaged.

KANEOHE NAS

Kaneohe Naval Air Station was strafed twice and then bombed 25 minutes later. Twenty-seven of the 33 planes on base were destroyed and six damaged. (Three were on patrol at the time.) One hangar was burned to the ground, another severely damaged.

CIVILIAN AIRPORT

At Honolulu's John Rodgers Airport, a Douglas DC-3 operated by Hawaiian Airlines was preparing to admit passengers for a regular inter-island flight. Suddenly, from out of the sky came a Japanese pursuit plane, guns blazing. The time was 7:55 a.m. Robert Tyce, pilot of the K-5 Flying Service, was struck in the head by a machine gun bullet and killed, but no one else was hurt. No bombs were dropped on the airport, all damage being caused by aircraft cannon and machine gun fire. Shot at in the air around the field was a privately owned Aeronca. Another Aeronca, with Oahu legislator Roy Vitousek at the controls, was pursued and shot at by two Japanese planes near Kahuku Point, as the task force headed for Pearl Harbor. Both planes came down safely but with confused pilots and passengers. Marguerite Gambo was flying with a student on a cross-country trip at the time. Seeing what was occurring, she went through a seldom-used pass and landed safely. Four Gambo planes were in the air that day, two failed to return.

AN ENEMY ON NIIHAU

The air war extended to Niihau, another Hawaiian island on December 7, 1941. One Japanese plane departing the battle arena came to land on the tiny island of Niihau. Except for

two Japanese employees, Niihau's residents were all Hawaiians. The island was privately owned (still is) by the Robinson family, dating back to when King Kamehameha IV persuaded Elizabeth Sinclair to purchase and occupy it. Niihau had no communication with the other islands, except by boat or ship, therefore residents had no knowledge Oahu was being attacked.

The bullet-riddled plane was one of two which had flown overhead earlier, sighted by Island residents just before going into church for their forenoon services. The planes headed down the Niihau coast in the general direction of Kaula rock. One was smoking badly and seemed to be in difficulty. They were recognized as Japanese. Shortly after church services were over, one was seen coming in low. It crash landed on the heavily furrowed and rocky field, coming to a sudden stop near the house of Hawila Kaleohano. (For a number of years, acting on military request, Niihau Ranch kept all flat lands unusable in this manner for just such a purpose). The plane was considerably damaged. When Hawila came up to the plane he found the Japanese pilot reaching for his pistol and snatched it away from him. The Hawaiian also confiscated a map of Oahu and other papers inside the man's shirt. Unable to understand what the pilot said, Hawila sent for the Japanese residents In the ensuing conversation, the local employee, Harada, ostensibly could extract no information which hinted of the attack, nor the flyer's affiliation with it. Recognizing the Japanese insignia on the plane, some of the people suspected the truth. The group assembled around the strange sight agreed it would be best to guard the intruder until Mr. Robinson returned from his visit to Kauai A double guard system was set up for the man and his airplane Four days went by, Kauai's military authorities held up Robinson's departure clearance until the Oahu attack situation was somewhat stabilized Harada, one of the pilot's guards, talked villagers into allowing the stranger to move into his quarter to appease the worried people—still under double guard. Several days later, the pilot admitted participating in the raid on Oahu, explaining that he and the other pilot sighted were heading for their supposed carrier location somewhere north or northwest of Kauai. Unable to find it, they made for the alternate position southwest of Kaula, also without success. It was near Kaula that the other plane crashed into the sea, whereupon the companion flew to Niihau. The man expressed a willingness to remain on the beautiful island after the war. Later he boasted that Oahu's defenses had been demolished.

On Friday, Harada stole a shotgun from his employer's household. He armed the pilot then they shut up the other guard long enough to escape. Then they set out in armed search for Hawila, the coveted papers and map. The other Japanese resident, Shintani (a Robinson employee of long standing), was sent after Hawila with an offer of a large payment of money for the papers. The Hawaiian refused. At this point, Shintani joined the Hawaiians and had nothing more to do with the pilot. After Shintani's visit, Hawila saw the pilot and Harada heading his way. He alerted the villagers and then joined a group of people preparing to go by boat for help. The people moved their families out of harm's way. Unable to find the elusive Hawaiian, the pair removed one of the plane's guns and took it along to force cooperation from villagers. Friday night, the pistol and map were uncovered in Hawila's house but not the papers or the man. Infuriated, they proceeded to burn down the house and set fire to the plane. Then the search continued. People captured were uncooperative. In the meantime, Benekakaka Kanahele and his cousin, Kaahakila Kalimahuluhulu, confiscated the machine gun's ammunition. They carried it off boldly, with the Japanese only a short distance off. Several men rowed away in a whale boat for Kauai. Included in the party were boat captain Kekuhina Kaohelaulii and Hawila Kaleohano. Upon receiving word of the incident, Robinson notified the military. Army Lieutenant Jack Mizuha, a squad of infantrymen, and the Niihau party, sped for Niihau aboard the lighthouse tender, KUKUI. When they put in to shore, one week after the attack, the need for

them had been eliminated. Saturday morning, Kanahele and his wife were captured. Sending the Hawaiian in search of Hawila, the Japanese held the wife as hostage. Concerned with her safety, Kanahele returned and waited for an opportunity to disarm the two men. The couple were forced to walk back to the village at gunpoint. The desperate men announced their intention to kill Kanahele and his wife as an example, and continue killing until the vital papers were revealed. The Hawaiian saw an opportunity and quickly attacked the pilot. His wife was seized by Harada. The Hawaiian barked out orders not to harm her, as he struggled with the armed man. Suddenly, three bullets were pumped into Kanahele's body from the pilot's pistol. The bleeding Hawila, however, picked up the startled invader and smashed his head against a stone wall. The blow killed him. Seeing this, Harada made use of the shotgun as a suicide weapon.

In a statement to Mr. Robinson later, Kanahele said he was sorry to have to kill the flyer. Being shot and bleeding freely he was unsure how long he would be useful to his wife, children and the others on his beloved Niihau. The brave Hawaiian survived and was later cited by the President of the United States.

Niihau went on to serve the war effort. In the early stages, it was only a station for telephone communication with Kauai. Later, material from sunken ships, such as gasoline and oil that drifted in, was collected and turned over to the Army on Kauai. Army supplies and personnel were moved about by the Ranch's sampan. Navy ships were given help whenever they landed. Later in the war, the Coast Guard established a station on the island after the Army discontinued its post. Much beef and mutton were supplied to Kauai; wool and honey as well.

SUMMARY OF DAMAGES

From the first wave attack, 29 Japanese planes failed to report back to their carriers. Then a roughened sea caused about 50 planes to smash on carrier landings.

Of the 169 Naval aircraft on Oahu, 87 had been destroyed. Only 79 out of 231 Army planes remained flyable. At Hickam, 163 people were killed, 43 missing and 336 wounded. All told, the December 7 disaster resulted in a loss to the Untied States of 2,008 Navy men and 109 Marines (more than half of which are entombed in the USS ARIZONA), and 218 Army personnel. On the injured list were 710 from the Navy, 69 Marines, and 364 soldiers. The total casualty rate was 3,478. For Japan, less than 100 men were lost. Outright, the United States lost 188 planes, Japan 29 plus 50 damaged. The U.S. suffered severe damage to 18 ships and minor damage to a number of others; Japan lost one full-size submarine and five midget submarines.

ONE MAN'S STORY

The story of all the tragedies emanating from this momentous "day of infamy" has been told many times, and continues to be explored. Written in history is the performance of free peoples everywhere in reaction to a dastardly deed by a misled nation. The men and women who survived the attack, and others who felt its effects, went on to varying degrees of contribution to the war effort, later to a short period of peaceful preparation, followed by an international conflict in Korea. The subsequent deeds of one man in combat are noteworthy.

Second Lieutenant Gabreski was confused and dazed, as were other men, when Army airplanes were being torn to blazing shreds during the most effective—but awakening—attack against the United States in history. Acting as a modern Paul Revere, later under fire he helped safeguard planes from fiery devastation. Not until the attackers were gone did he get into position of possible engagement with the enemy, the job for which he was trained and dedicated; then he was shot at by members of his own forces, made to go quietly back to home base. There was an unanswered question in his mind. He felt great admiration, and probably even envy for

Welch and Taylor, who, between them, managed to shoot eight of the enemy out of the sky, Gabreski wondered how well he would have done in combat. Unknown was the feeling of one who tastes victory in the air. His coveted silver pilot's wings were untested in combat, in the very place, and on the crucial day, when the Untied States was attacked.

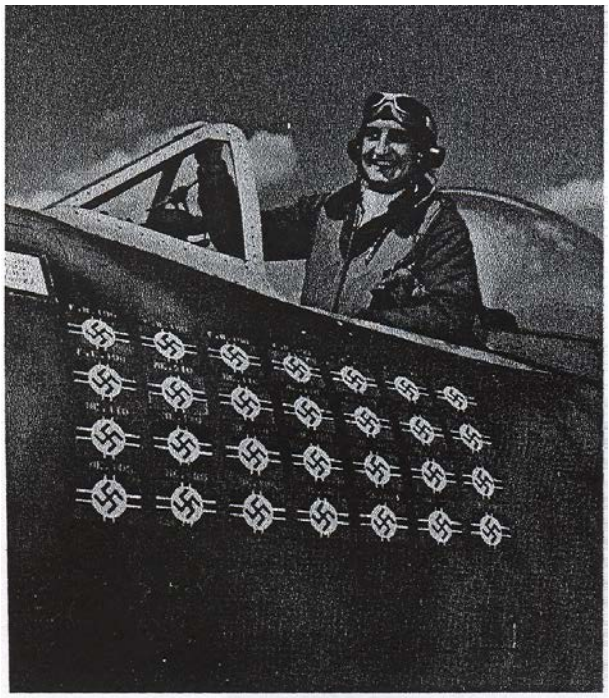


Fig. 117. Failing to engage the Japanese invader in Hawaii, December 7, 1941, then shot at by American ground forces, Francis S. Gabreski went on to become America's greatest living ace.

Things were dull in Hawaii, so Gabreski talked his way to being transferred in a few months to the more active "and better supported" European Theater of Operations. He went to England as an intelligence officer, but soon arranged to fly B-24s, P-38s and P-39s, delivering the aircraft to operational units, with the Ferry Command. This lasted a tame three months, but at least he was an active pilot. Then he managed to fly combat missions with Polish Air Force fighter pilots, in Spitfire 9s escorting medium bombers then later GB-17s. Gabreski fired his guns at the enemy only once. The question was still unanswered when the 56th Fighter Group arrived in England. Gabreski joined it as operations officer of the 61st Fighter Squadron. Prior to getting shot down and taken prisoner, the amazingly accurate Gabreski compiled a record of 28 victories in the air plus three on the ground. During the Korean Conflict, he got 6 ½ more in the air. Today, he is the U.S.' greatest living ace. The question was answered.

CHAPTER XIII

THE PACIFIC AIR WAR

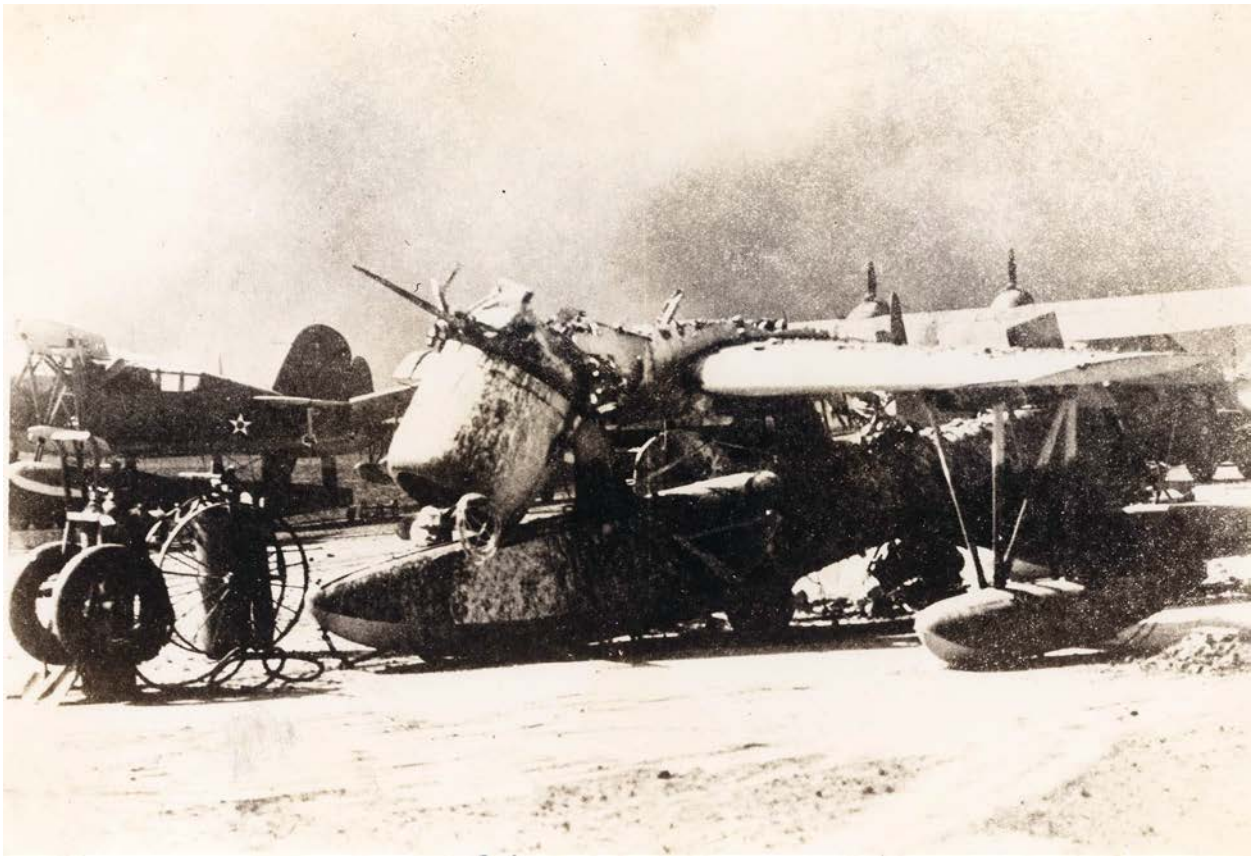


Fig. 118. Attack in the Pacific.

When Japanese carrier aircraft, in one swift stroke, devastated America's principal military base in the Pacific, the world was made acutely aware of the power of aviation forces and the value of mid-oceanic airfields (mobile or land type). This was emphasized even more nine hours later, when Philippine targets were also attacked. The Philippines, however, had some advance warning. At Clark Field, north of Manila, two squadrons of B-17s were lifted into the air, thereby avoiding destruction and retaining an air strike capability for subsequent application At 12:33 p.m., more than 50 Japanese bombers and 50 pursuits completely destroyed the airfields at Ilba with bombs and machine-gun fire. Minutes afterwards, Clark Field was attacked. Other targets were hit hard, too. Thus, virtually one-half of the United States' total bombardment force was destroyed on the ground. Four P-40s managed to score their first kills in the Philippines.

Strikingly displayed by Japan was the fact that planes dispatched from landing "fields" far out at sea could bring about favorable results for an attacking force. Therefore, victory over Japan required the development of forward air bases and increased use of aircraft carriers. These would permit much of the total attack upon the heart of the enemy's homeland to be carried out.

The Pacific War, therefore, was to see water-bound airfields, both islands and aircraft carriers, play a significant role in the drama of a deadly world war in and above the world's largest ocean. A principal base was to be Hawaii, which the Japanese felt had been permanently crippled on December 7, 1941.

Preparing islands for greater military use was not new to the War Department or to Hawaii. Because the key to the Pacific defense lay in the naval base at Pearl Harbor, Air Corps units were charged with defending this and other military installations on Oahu. From 1939 on, the Air Corps made efforts at increasing its range therefore effectiveness. Two years later, auxiliary fields were established on other major islands of the group. Further, landing strips were prepared on the islands of Midway, Johnston, Palmyra, Canton and Christmas. These were to become of inestimable value to Allied forces during the Pacific War.

What followed the attacks upon Hawaii and the Philippines, therefore the entire nation, symbolized with typical effectiveness the United States' ability to respond, mobilize and pursue its objectives for an eventual victory. Air power, both from use of carriers and islands, was to be a decisive factor in bringing about a successful conclusion to hostilities.

Absent from Pearl Harbor during the attack, carrier aircraft soon began to pursue the enemy. On December 10, aircraft from the ENTERPRISE sank Japanese submarine L-170 north of Hawaii. The submarine had scouted the Hawaiian area prior to the attack. She became one of the first Japanese combat ships sunk by U.S. forces during World War II.

Two-plane detachments from Patrol Wings 1 and 2 based in Hawaii began scouting patrols from Johnston Island on December 18. A week later, two-plane detachments from squadrons at Pearl Harbor and Kaneohe began patrols from Palmyra Island.

Australia was selected as the major base for Allied resistance in the Pacific. First, however, islands on the ferry route leading to Australia had to be garrisoned. On January 12, the Combined Chiefs of Staff approved a plan to this effect. It was also agreed that the U.S. should arrange local defense of Palmyra, Christmas Island, Canton Island, American Samoa, and Bora Bora, and that New Zealand should be responsible for local defense of the Fiji Islands (with the help of U.S. forces and materiel).

By February, sufficient air units were stationed across the Pacific to offer some resistance to enemy attack. One-half of the troops and a third of the cargo sent overseas from the U.S. during the first three months of 1942 went to Australia. Hawaii was both an air and sea tunnel in these efforts.

Then the carriers began to show large-scale effectiveness. Early in March, the ENTERPRISE moved to within 1,000 miles of Japan to launch air attacks on Marcus Island. A carrier air strike was launched from the LEXINGTON and YORKTOWN in the Gulf of Papua. Planes flew over the 15,000-foot Owen Stanley Mountains on the tip of New Guinea to hit Japanese shipping engaged in landing troops and supplies at Lae and Salamaua. One converted light cruiser, a large minesweeper, and a cargo ship were sunk and other ships damaged.

From a position at sea 668 miles from Tokyo, the carrier HORNET launched 16 medium bombers, B-25s, led by Lieutenant Colonel James H. Doolittle for the first attack on the Japanese homeland (April 18, 1942). The B-25s made a spectacular low level attack against Tokyo and other Japanese targets. All 16 planes were lost in bad weather over China. The HORNET, later that month, rendezvoused with the ENTERPRISE and other ships of Task Force 16, commanded by Vice Admiral William F. Halsey, north of the Hawaiian Islands, and proceeded across the Pacific.

BATTLE OF THE CORAL SEA

Then followed the first naval engagement in history fought without opposing ships making contact, the Battle of the Coral Sea (May 4-8, 1942). On May 4, an Army Air Force B-25, spotted a Japanese carrier and two heavy cruisers east of Port Moresby, but was driven off by fighters. They were part of a Japanese task force intent on landing at Port Moresby. Task Force

17, commanded by Rear Admiral F. J. Fletcher, with the carrier YORKTOWN, bombed Japanese transports engaged in landing troops in Tulagi Harbor, damaging several and sinking one; joined other Allied naval units including Task Force 11, under Rear Admiral A. W. Fitch, with the carrier LEXINGTON south of the Louisiades; and after stationing an attack group in the probable track of the enemy transports, moved northward in search of the enemy covering force.

Carrier aircraft located and sank the light carrier SHOHO covering a convoy, while Japanese aircraft hit the separately operating attack group and sank one destroyer and one fleet tanker. The next day, the Japanese covering force was located and taken under air attack, which damaged the carrier SHOKAKU. Almost simultaneously, enemy carrier aircraft attacked Task Force 17, scoring hits which damaged the YORKTOWN and set off uncontrollable fires on the LEXINGTON, as a result of which she was abandoned and was sunk. Although the score favored the Japanese, they retired from action and their occupation of Port Moresby by sea was deferred and finally abandoned.

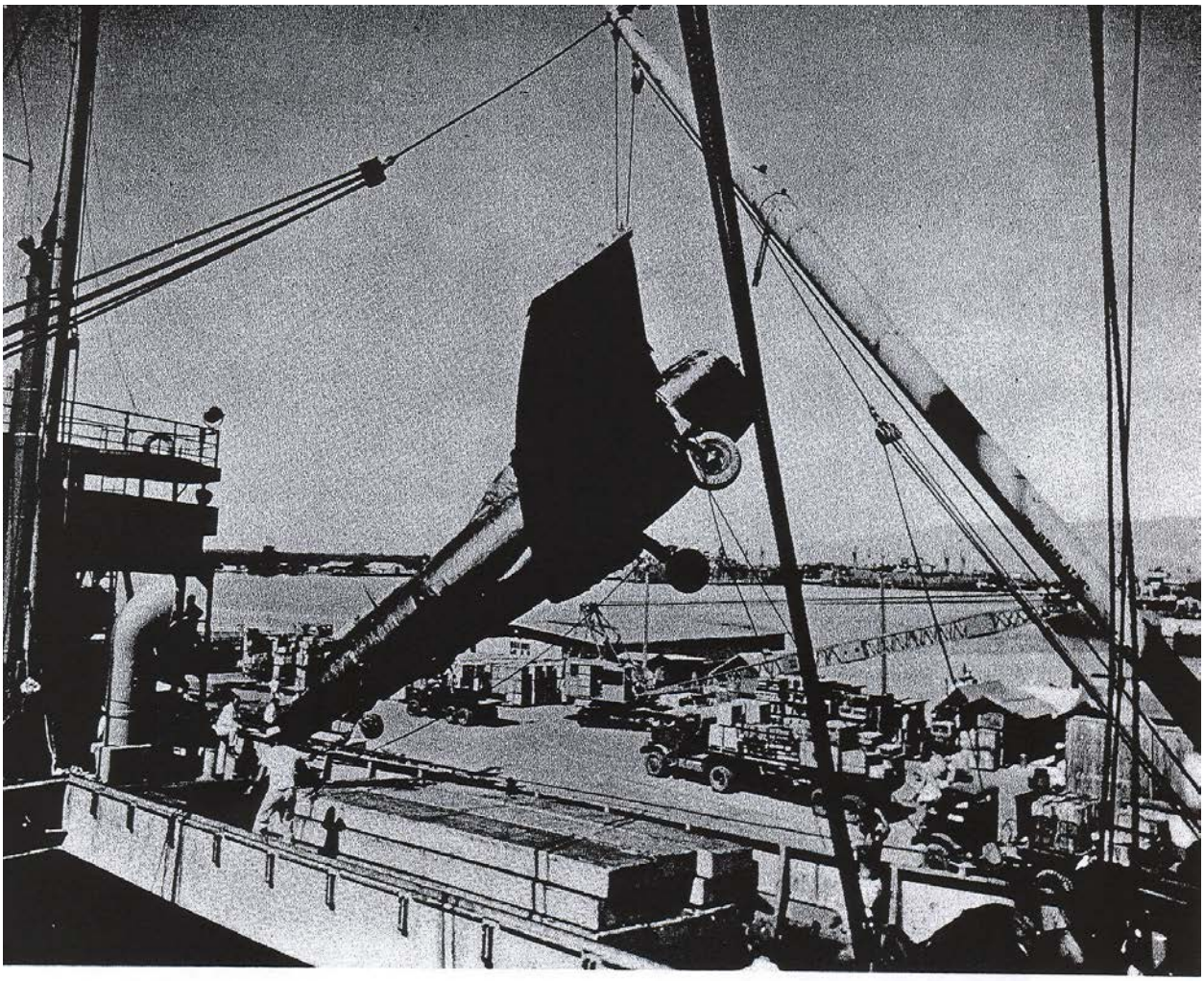


Fig. 119. New fighters being unloaded in Pearl Harbor for delivery to Hickam where they were assembled and prepared for flight.

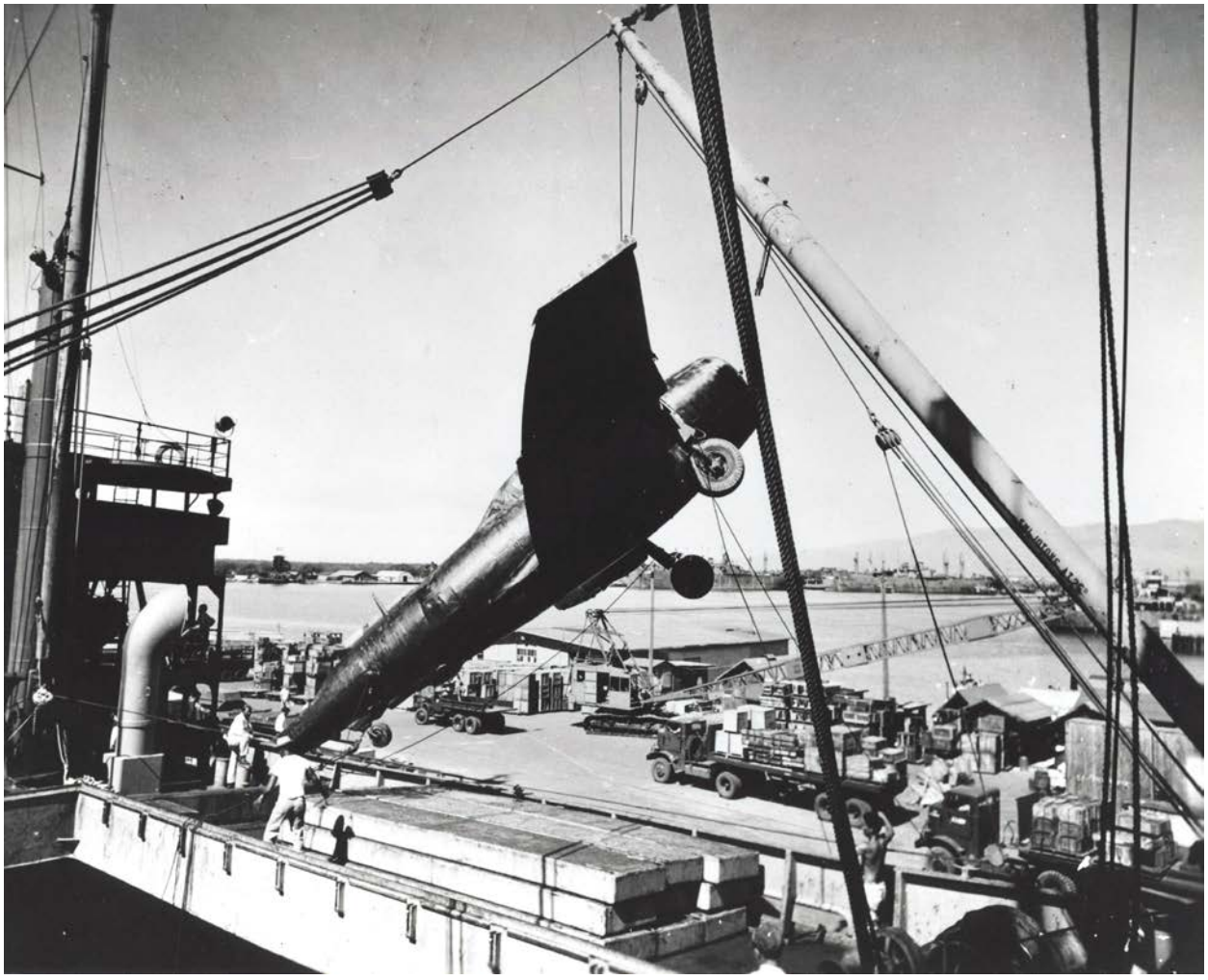


Fig. 119. New fighters being unloaded in Pearl Harbor for delivery to Hickam where they were assembled and prepared for flight.

A VR-2 flight from Alameda to Honolulu, the first transoceanic flight by Naval Air Transport Service aircraft, initiated air transport service in the Pacific on May 15, 1942. On May 20, Rear Admiral J. S. McCain reported for duty as Commander Aircraft, South Pacific, a new command established to direct the operations of tender and shore-based aviation in the South Pacific area. The transfer, on May 25th of Patrol Wing 4 from Seattle to the North Pacific began with the arrival of its commander at Kodiak, Alaska.

THE BATTLE OF MIDWAY

In an attempt to divert forces from the Midway area, a Japanese carrier force launched small raids on Dutch Harbor. The famous Battle of Midway started on June 3. A strong Japanese thrust in the Central Pacific to occupy Midway Island was led by a four-carrier Mobile Force supported by heavy units of the Main Body (First Fleet). This attack was met by a greatly outnumbered U.S. carrier force. It was composed of Task Force 17, commanded by Rear Admiral Fletcher, with the YORKTOWN, and Task Force 16 with the HORNET and ENTERPRISE (commanded by Rear Admiral R. A. Spruance), and by Navy, Marine Corps, and Army air units based on Midway.

Nine B-17Es from Midway, led by Lieutenant Colonel Walter C. Sweeney Jr., surprised the Japanese Occupation Force 570 miles west of Midway. They dropped demolition bombs and scored direct hits on the transports.

On the 4th, the real battle was on. PBYs searched for the Mobile Force. In the air, also, were B-17s, B-26s, TBFs and Marine Air Group 22's planes. Sighting the carriers with their supporting heavy ships were the B-26s and the TBFs, as Japanese aircraft were hurtled against Midway targets. Concentrating on the destruction of Midway air forces and diverted by torpedo, horizontal, and dive bombing attacks, the Japanese carriers were caught unprepared for the air attack. It began at 0930, with the heroic but unsuccessful effort of Torpedo Squadron 8. They were hit full force at 10:30 by dive bombers. B-17s hammered the carriers, as well.

Heavily hit, the carrier SORYU was subsequently torpedoed by the submarine NAUTILUS and sunk, the KAGA went to the bottom of the sea shortly afterwards. A Japanese counter-attack at noon and another two hours later damaged the YORKTOWN so severely that she was abandoned. In the late afternoon, dive bombers from the ENTERPRISE and HORNET struck the Mobile Force again, sinking the AKAGA. The HIRYU, fourth and last of the Japanese aircraft carriers in action, was also bombed by six B-17s en route from Oahu to Midway before it sank. With control of the air lost, the Japanese retired under the attack of Midway-based aircraft (June 5) and of carrier air (June 6) in which the heavy cruiser MIKUMA was sunk and the MOGAMI severely damaged. Japanese losses totaled two heavy and two light carriers, one heavy cruiser, and 258 aircraft. United States losses were 40 shore-based and 92 carrier aircraft, the destroyer HAMMANN and the carrier YORKTOWN, which sank on June 6 and 7 respectively from a single submarine attack. Thus ended a series of successful offensives by the Japanese, turning the tide of the Pacific War. Water-bound airfields, stationary and motioned, played a primary role in the entire war effort which followed. Navy and Marine aircraft alone destroyed 15,401 enemy aircraft in the air and on the ground (3/5ths of Japan's aircraft), sank 161 Japanese warships and 447 Japanese merchant ships. They lost only 897 in aerial combat, a 10-to-one advantage. Hawaii, first stopping-off place west of the mainland, contributed significantly to these successes. Bases were used for training, staging, repair, modification, and as a supply center, involving scores of thousands of people, civilian and military.

CHAPTER XIV

THE AIRLINES IN HAWAII

Within a few days of the December 7 attack, half of the United States airlines' aircraft were turned over to the military which was short of transports and experience in conducting a scheduled military airline type of operation. Along with the aircraft went about half their people, including executives, to work with the armed services. All airports were taken over. In Hawaii, inter-island ships were placed on duty transporting troops into the Pacific. To meet a shortage of food on Oahu, Hawaiian Airlines (formerly Inter-Island Airways, Inc.), on March 20, 1942, was granted the unique position by the Civil Aeronautics Board of being the first scheduled U.S. carrier of air cargo. Two S-43s were converted to freight carriers (they airlifted more than one million pounds during the first year of operation). Transported between the islands were such items as beef and cattle on the hoof, ice cream, milk, fresh bread, household goods, newspapers, motion picture film, and laundry and dry cleaning.

As Pearl Harbor became more and more congested with ships in 1942, work was rushed by the Navy on the development of a seaplane harbor at Keehi Lagoon—site of Lawrence's untimely demise in 1898. (In 1939, a Federal appropriation for $9 million had been authorized for this and other developments; the following year Congress authorized $3.3 million for the dredging of Keehi Lagoon; in 1941, $1.9 was authorized for the development of John Rodgers Airport in conjunction with the seaplane project.)

In 1943, the landplane area at John Rodgers Airport was filled with spoil from seaplane dredging and three runways were completed. The Army also started an extensive construction program. Next year, the Navy completed construction on John Rodgers Airport of a terminal building, control tower and hangars for aircraft operated by the Naval Air Transport Service. On November 16, 1945, Pan American Airways resumed commercial seaplane operations utilizing the terminal building built by the Navy. The airport was returned to the Territory of Hawaii on October 1, 1946, for operations and maintenance. Improvements and expansion projects were initiated to accommodate the expected heavy aircraft load. Civil air transportation boomed in the United States after World War II. Between 1945 and 1948, domestic (U.S.) route mileage increased from 8,000 to 28,000 miles. U.S. carriers were flown 100,000 route miles; passenger rates rose up to 25% each year, air freight increased from 15 million ton-miles in 1946 to 21 times that in 1953. As John Rodgers Airport, by common usage, became known as Honolulu Airport, the name was changed accordingly.

Due to the tremendous advances in air transportation during the war, civilian aviation was to permeate the world scene. Airlines began to move rapidly into trans-Pacific services. Requests for space at the Honolulu Airport were made by prospective trans-Pacific operators, including Pan American Airways, KNILM (Dutch Airlines), Far East Air Transport, Transocean Airlines, Samoan Area Airways, Philippine Airlines, United Air Lines, Australian National Airways; Matson Navigation Company, Pacific Overseas Airlines, and China National Aviation Corporation. The civilian aviation future for Hawaii was bright, but the main source of income initially was for fixed-base operators at Honolulu Airport. Thirteen fixed-base or non-scheduled flying services applied for airport space.

The Hawaii Aeronautics Commission was created in 1947 to control the airport and its expanding services.

A short history of Pacific airlines follows, for their story is also the story of Hawaii's contemporary history.

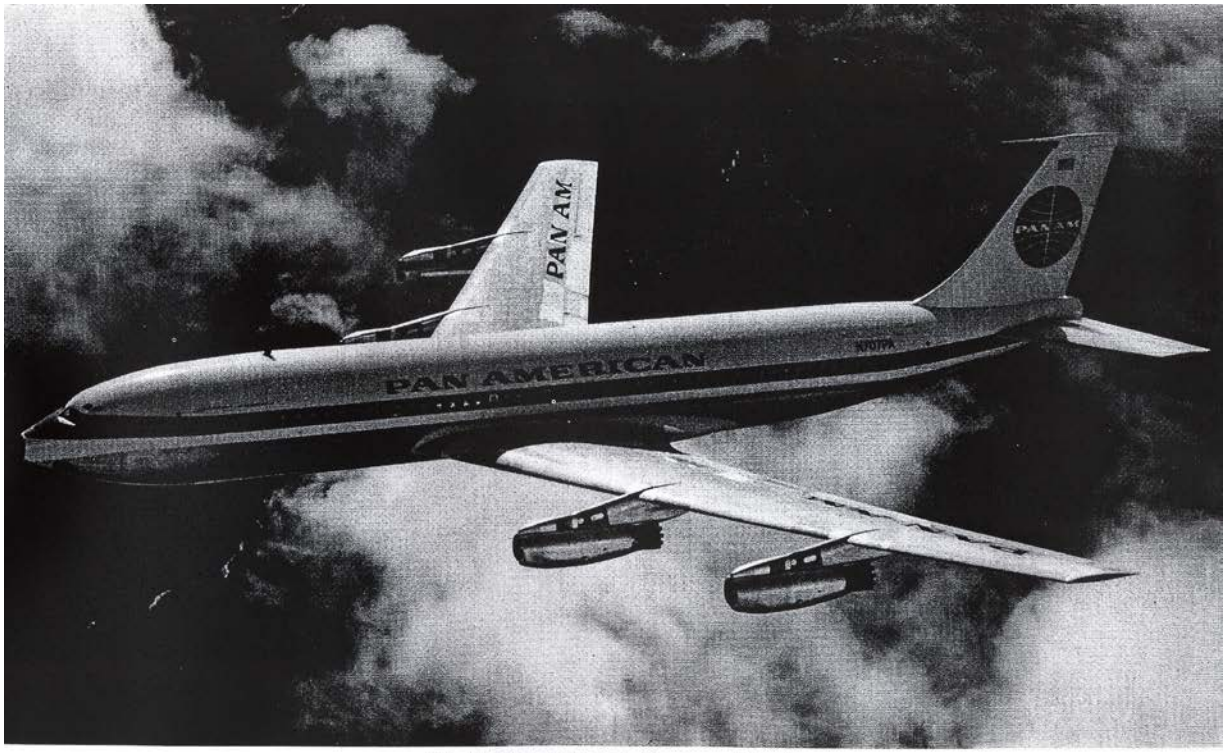


Fig. 121. Pioneer of trans-Pacific commercial service, Pan American World Airways now sends jets across the Pacific.

PAN AMERICAN

First to make the Pacific crossings by way of Hawaii and other islands, through the years Pan American steadily increased its world services. The first Martin Clippers were augmented in 1941 by larger Boeing Clippers. On November 16, 1945, PAA resumed commercial operations with their Boeing Clippers which had been leased to the Navy during the war. Expansion continued. On the Atlantic side, PAA and Trans World Airlines merged in 1962 to create a financially strong U.S. flag trans-Atlantic carrier (to better compete with foreign carriers which, since 1950, had reduced the U.S. share of the trans-Atlantic market from 63% to 37%). In the Pacific during 1963, PAA inaugurated the first U.S. jet service to Tahiti. In 1964, they applied for permission to make direct flights from California to Hilo. To accommodate the expected influx of visitors, Big Islanders are busily preparing accommodations. This includes a jet runway, a $13 million resort area, a new airport terminal building, hotels, shops, and attractions. This direct air service is expected to increase the island's economy, as occurred with Oahu.

At the same time, Pan American is making a bid to link the United States and Japan via Alaska, by passing Hawaii in a "modernization of the Pacific air structure."

QANTAS

In September, 1940, Qantas Empire Airways was commissioned to fly a number of desperately needed PBY flying boats, ordered for the Royal Australian Air Force, to Australia from United States territory. For diplomatic reasons, delivery had to be a civil undertaking, as the aircraft had been ordered for an air force actively "at war," while the United States at the time was neutral. One purchasing condition was that each aircraft should be flown to Honolulu under American command, and then it only should be handled by Australians. Sufficiently equipped with trained pilots and technicians, QEA was joined by Captain P. G. Taylor, famed navigator with Kingsford-Smith in the LADY SOUTHERN CROSS in 1934.

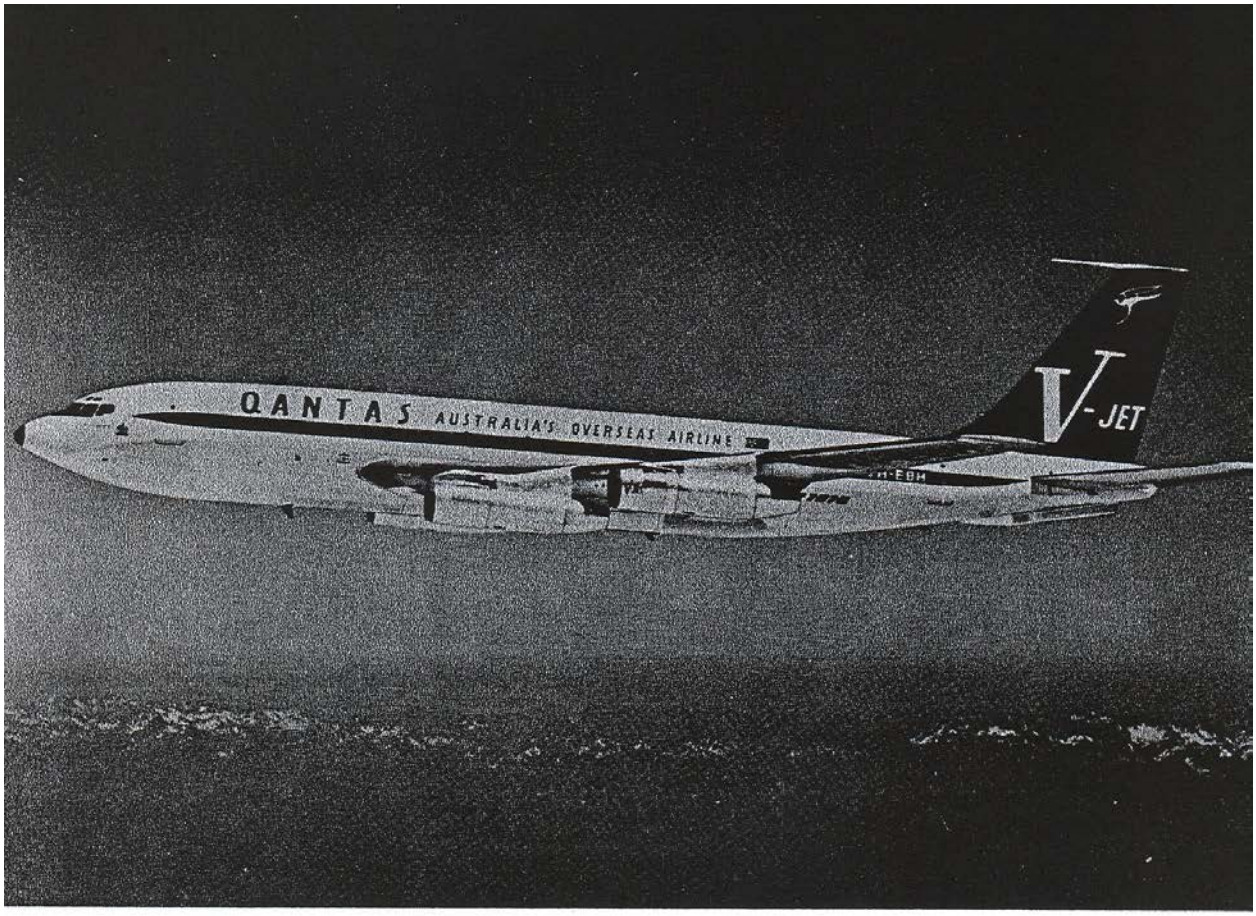


Fig. 122. First to cross the Pacific by air were Australians. Today, Qantas fulfills the pioneer's hopes.

The first "Catalina" arrived in Honolulu from San Diego on the 26th after flying the 2,613 miles in 22 hours and 10 minutes. The American crew was replaced by Australians, including Taylor. They negotiated the next leg to Canton Island, 1,911 miles distant, in 14.16 hours. Departing Canton on January 30, 1,988 miles were crossed in 14.37 hours to Noumea, then through to Sydney (1,221 miles) in 9.17 hours, arriving February 2, 1941. A second delivery flight followed with aircraft A24-8 arriving in Honolulu on August 11, and leaving with its Australian crew two days later. Aircraft A-24-18 left Honolulu on October 17, 1941, on its delivery flight to Australia, stopping at Canton Island the same day, and then on to Suva. Instead of flying the usual route via Noumea, it was flown non-stop to Sydney. Two small bags of mail were placed aboard and the first non-stop Suva-Sydney flight was off. The plane covered the 2,025 statute miles in 17 hours and 9 minutes.

Upon Japan's entry in the war, Pan American Clipper service from New Zealand was diverted, among other places, via Australia, but continued Japanese advances resulted in cessation of this service. In mid-1942, mails were flown across the Pacific by Britain's Royal Air Force and by U.S. Army aircraft. A year later, the United States' Air Transport Command began a regular service to England via the Pacific, followed similarly by the RAF Transport Command. These Pacific services ended in December, 1945, after which mails for Canada and the U.S. were sent through the United Kingdom.

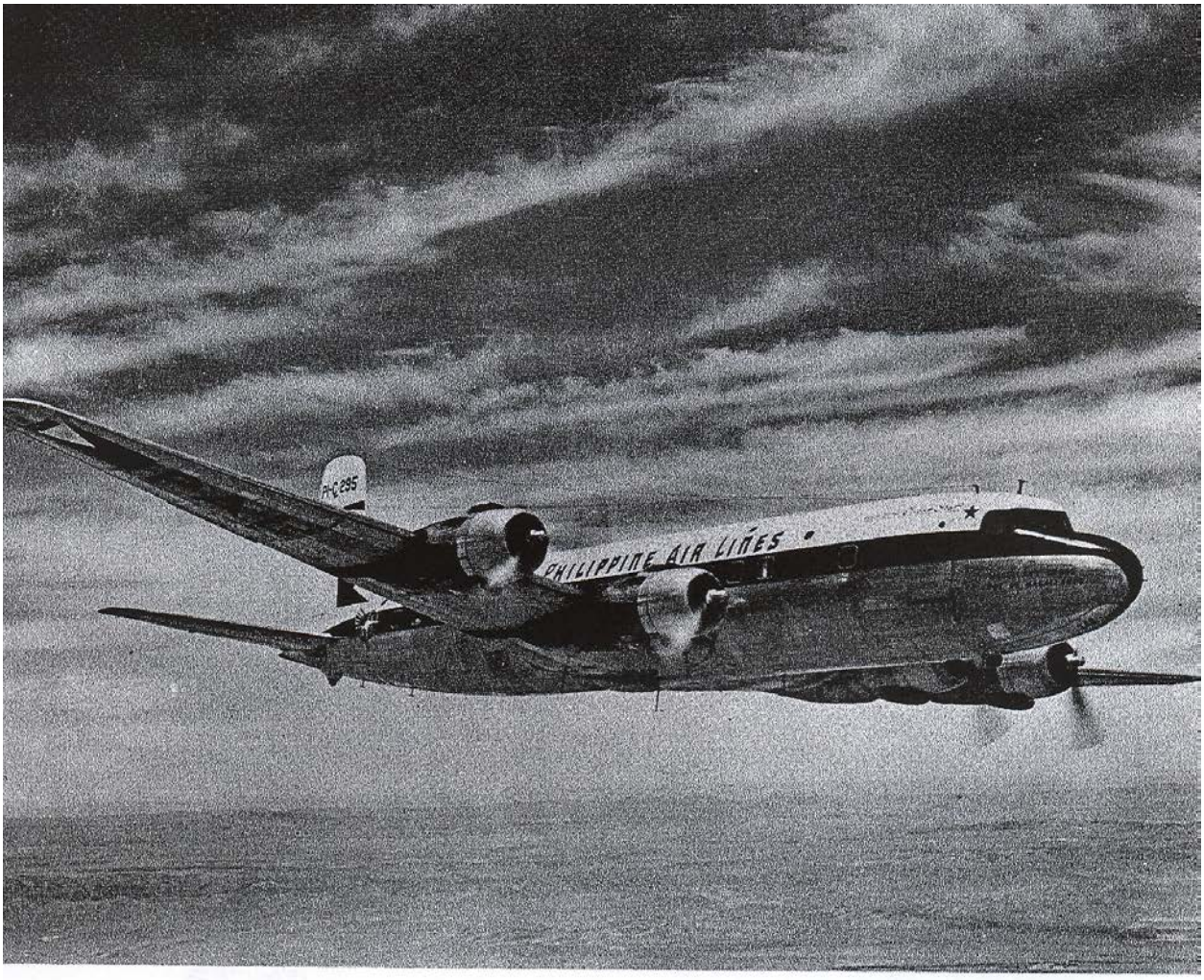


Fig. 123. Philippine Air Lines provides trans-Pacific service over a long watery route.

British Commonwealth Pacific Airlines (BCPA) was incorporated in June, 1946, by the governments of Australia (50%), New Zealand (30%), and the United Kingdom (20%) to provide a service between Australia/New Zealand and San Francisco/Vancouver via Fiji, Canton Island and Hawaii. Until its own fleet and personnel could be acquired, the route was operated on a charter basis by Australian National Airways, a private company. Their first flight was in September, 1946, and continued operations until BCPA took over the route in April, 1948. In 1954, BCPA was acquired completely by Australia and integrated into Qantas, the first flight over the Pacific route leaving Sydney on May 15 in the Super Constellation VH-EAG. Qantas began the first jet air service across the Pacific on July 29, 1959, operating Boeing 707 jets (the first non-American airline to put the Boeings into service), cutting Pacific flying times by nearly half, with stops of one hour 40 minutes at Nadi, Fiji, and one hour 55 minutes at Honolulu.

PHILIPPINE AIR LINE

The Philippine Aerial Taxi Company was organized in December, 1930, to fly a shuttle service for mining businessmen. PATCO, flying Bellanca Skyrocket monoplanes, grew into a full-fledged airline and became the first scheduled carrier in the Far East. In 1940, PATCO ceased operations and Philippine Air Line was formed to operate on the former company's

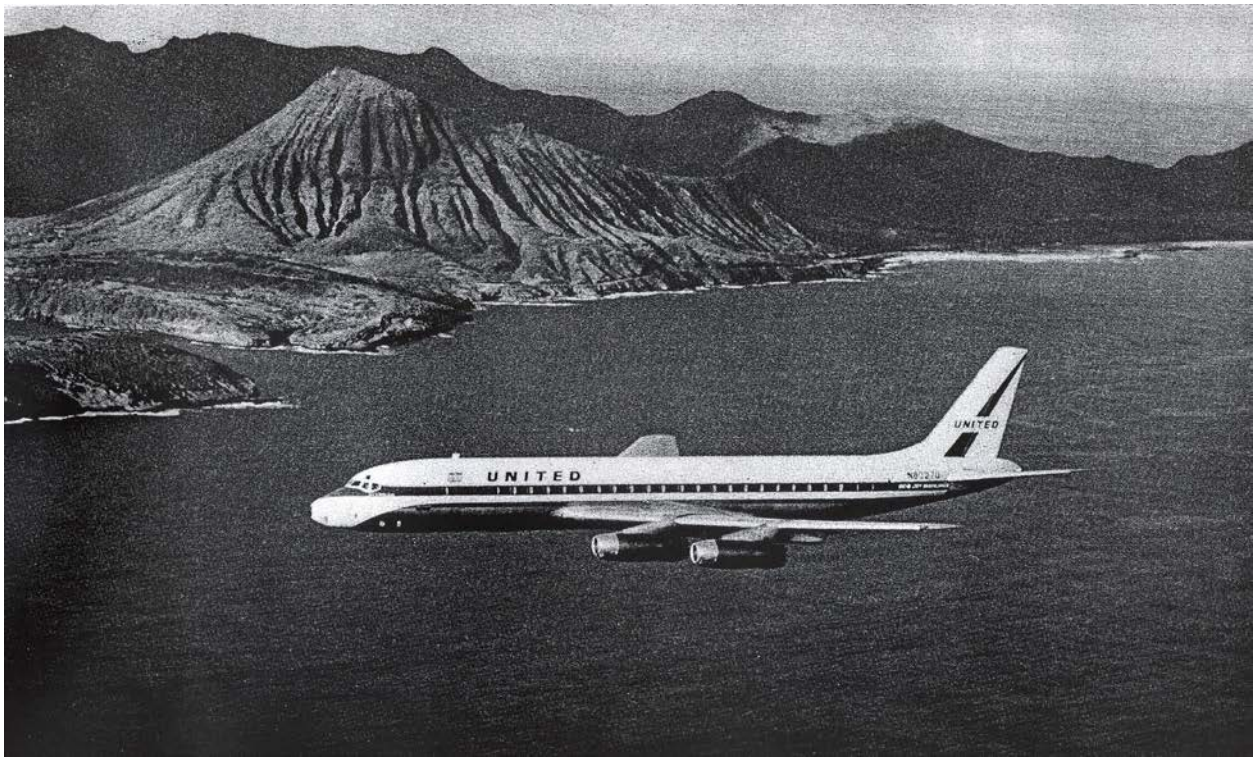


Fig. 124. United jets grace the Hawaii scene, birthplace of UAL's founder, William A. Petterson.

franchise. The airline was incorporated on February 25, 1941, flying two Beechcraft Model 17 single-engine biplanes. World War II intervened in PAL's regular growth, both in airplanes and routes, including a proposed service to Hong Kong.

In February, 1946, PAL started operations again, with five Douglas DC-3s, and other airplanes, but found two other airlines already in operation. That August, PAL chartered two four-engine Douglas DC-4s and opened international service to the United States' West Coast, and to points in the Far East. At the end of the year, PAL delivered passengers to San Francisco, Oakland, Honolulu, Guam, Shanghai, Bangkok, and Singapore.

Steadily, PAL grew. On June 1, 1957, a viscount was introduced into the Manila-Hong Kong route, followed by a second then a third in 1959. Fokker F-27s were next in 1960. On June 20, 1962, the DC-8 made its first scheduled flight to the United States. Two years later, DC-4s were placed in trans-Pacific service.

UNITED AIR LINES

United Air Lines' Honolulu service was initiated on May 1, 1947. That year, the average passengers carried on this route (total of both directions) was 2,100 per month. In 1964, the monthly average was 33,100. For the period May 1, 1947, through August 31, 1964, 1,917,749 passengers were carried on the Honolulu route alone. The cargo-carried monthly average (also total of both directions) went from 36,500 pounds in 1947 to 787,000 in 1964, totaling for the period May 1, 1947, through July 31, 1964, a total of 45,985,000 pounds.

When United Air Lines inaugurated Stratocruiser service from Hawaii to the mainland in 1950, Honolulu was linked directly with 87 mainland cities. In November, 1964, UAL installed in-flight movies for ocean-overflying passengers.



Fig. 125. Honolulu's Waikiki Beach and extinct crater Diamond Head form the background for this Northwest jet.

NORTHWEST ORIENT AIRLINES

Northwest began operating on October 1, 1926, flying airmail between Minneapolis/St. Paul and Chicago. Used were two rented planes, an OX-5 Curtiss Oriole and an OX-5 Thomas Morse, both open cockpit planes. The first "fleet" consisted of three 85-mph Stinson "Detroiters," which carried three passengers (the first closed-cabin planes used by a commercial airline). Passenger service was inaugurated in July, 1927. That year the company carried 106 passengers.

In 1928, Northwest Airways began the route expansion that saw it develop in 20 years into Northwest Orient Airlines, now carrying about 2 ½ million passengers yearly. Service to Hawaii was inaugurated on December 22, 1948.

Northwest became a prime contractor in the Korean Airlift in 1950. Flying DC-4 aircraft, Northwest completed 1,380 Korean Airlift round-trip trans-Pacific crossings, more than 13 million miles. During this period they flew 40,000 soldiers and 12 million pounds of cargo across the Pacific at no interruption to their regular commercial trans-Pacific schedule of flights. Service was in DC-4 aircraft, on the Seattle/Tacoma-Portland-Honolulu routing. Stratocruisers were placed on the run subsequently, and in December, 1953, Northwest began service with DC-6Bs. DC-8 jets went into operation in September, 1960; service was interrupted by a strike and the present 720B service was begun in June, 1961. Northwest currently operates a daily round trip through-plane service linking New York, Chicago, Seattle-Tacoma, Portland and Honolulu.



Fig. 126. Canadians and Hawaiians exchange visits via Canadian Pacific Air Lines planes.

CANADIAN PACIFIC AIR LINES

It was on July 13, 1949, that a 36-seat Canadair 4 took off from Vancouver for Sydney, Australia, via Honolulu. This was the inauguration of Canadian Pacific Airlines' international service which now includes 38,000 miles in a route pattern linking 15 countries on five continents. The original 4,800-mile flight from Vancouver to Sydney took over 37 hours. It went via San Francisco, Honolulu, Canton Island (for refueling only) and Nandi, Fiji. Today's aircraft do it in a little over half the time, though the route is slightly longer (8,600 miles) since Auckland, New Zealand was added late in 1951. Range of modern aircraft has eliminated the San Francisco routing and the refueling stop at Canton.

In 1950, the first full year of operation of CPA's South Pacific route, there were only about 500 passengers in and out of Hawaii. The total has grown steadily, with marked increases recorded since 141-seat DC-8 jets were put on the route in March 1961.

Jet flying time for the 2,767-mile flight is only 5 ¾ hours non-stop, compared with 14 ½ hours in 1949 when the piston-engine Canadair 4 had to go via San Francisco.

During 1964, more than 25,000 passengers shuttled between Honolulu and Vancouver, and more Canadians are seeking Hawaii's warm sun in the winter months, and many Hawaiian residents are visiting Canada with its scenery and fishing.



Fig. 127. TIA DC-8 shown at Honolulu International Airport.

TRANS INTERNATIONAL AIRLINES

Trans International Airlines was founded in 1946, first among charter specializing carriers to offer pure jet aircraft exclusively in contract and charter service. Flights to Hawaii, Japan and the Philippines were inaugurated in 1950.

TIA is a major supplier of passenger and cargo transportation services for the U.S. government. At present, this service provides C-8 aircraft on regularly scheduled routes from the mainland to Hawaii, to Japan and to the Philippines.

JAPAN AIR LINE

Japan Air Line is a latter-day successor to Dai Nihon Koku, the first Japanese government-controlled airline, established in 1938. JAL was founded in August of 1951 with a charter fleet consisting of three Martin 202s and one DC-4. Only domestic flights were made then. Because Japanese airmen were not then authorized to pilot aircraft, the company operated for a time under a charter agreement with Northwest Airlines, which manned and maintained JAL's small air fleet.

The new JAL emerged in essentially its present format when the Japanese Diet enacted the Japan Air lines Company Limited Law in October, 1953. Early in 1954, JAL broke loose from its domestic status by inaugurating a twice-weekly service over the Tokyo-Honolulu-San Francisco route and on the Tokyo-Okinawa run, to become Japan's sole international flag carrier.

Acquiring long-range jets in 1960, JAL moved into the front rank of the world's airlines.



Fig. 128. Japan Air Lines planes are a regular part of the Pacific scene.

Expanding steadily through the years, at last count JAL was servicing over 46,000 route miles with a fleet of 35 airplanes, more than half of them modern jets. In 1963, JAL carried more than a quarter million passengers over its international routes and 1.6 million domestically. Japan Air Lines currently provides trans-Pacific jet service to the United States 17 times a week. JAL also services Southeast Asia, Europe (via the North Pole and via the new "Silk Road" route, stopping at Hong Kong, Bangkok, Calcutta, Karachi, Cairo, Rome and Frankfort enroute to London), Okinawa, as well as domestic trunk routes within Japan Next on the JAL plan is a thrice-weekly jet service around the world.

WORLD AIRWAYS

Incorporated in 1948, World Airways began service to or through Hawaii during 1956 on a military transpacific contract. First to be used were DC-4 aircraft, changing to DC-6 and Constellation type aircraft in later years. On October 1, 1960, World entered a MATS trans-Pacific inter-island contract for passenger and cargo flights as follows; weekly round trips form Hickam AFB to Midway; two trips per week from Hickam to Johnston Island, Kwajalein Island, Eniwetok Atoll, and return to Hickam. In the spring of 1961, World Airways established charter service which, for the first time, involved group movements from West Coast gateway cities, and some inland points, each weekend to Maui.

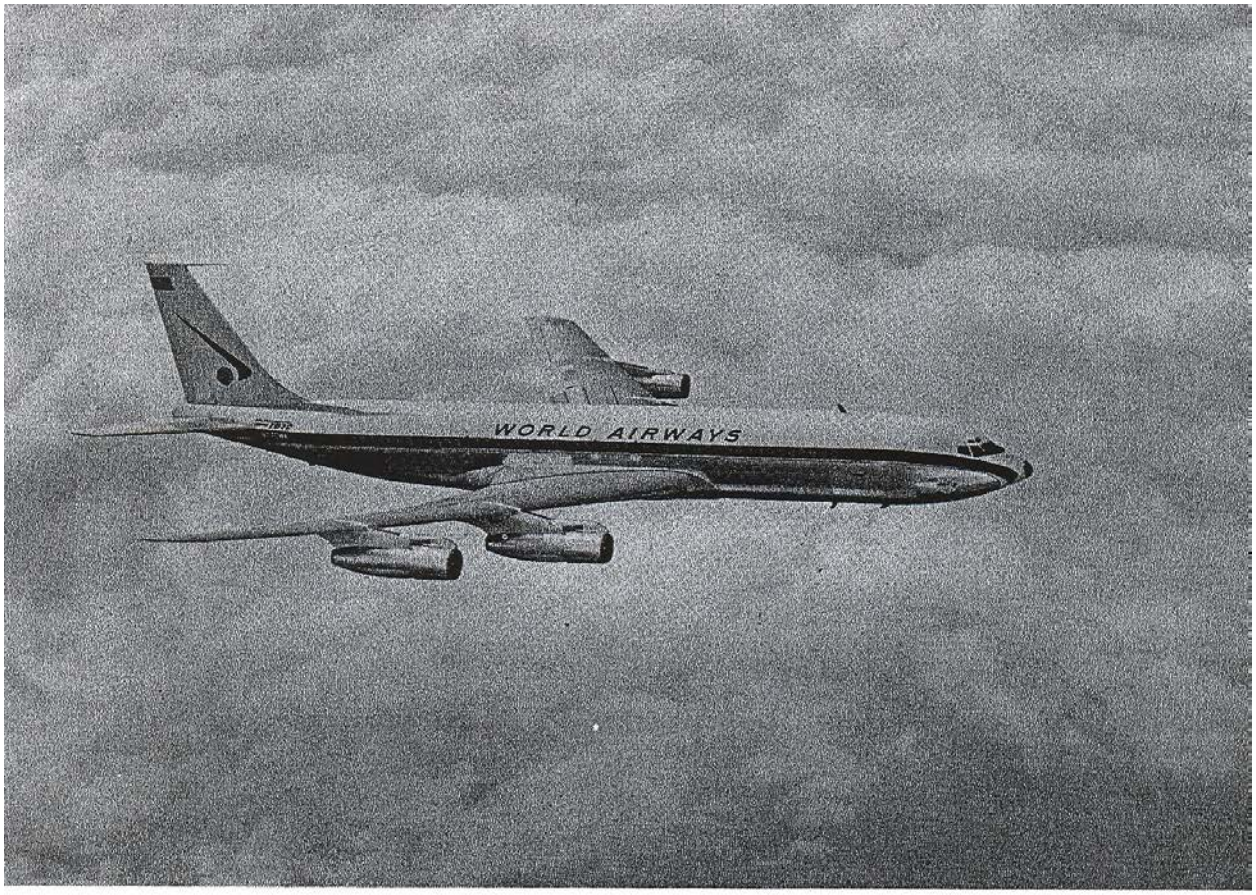


Fig. 129. World Airways Boeing 707C in flight near Hawaii.

In March, 1961, World entered into an agreement with Western Electric Company (contractor for the Pacific Missile Range) for air transportation on a scheduled basis between the West Coast, Honolulu and Kwajalein. Four months later, another transpacific contract was entered into for round trip transportation of passengers from Travis AFB, California, to Bangkok, Thailand via Honolulu, Guam, Philippines and Saigon. Other trans-Pacific contracts followed in 1963 adding Okinawa.

Boeing 707 jet aircraft joined the fleet in 1963, with World Airways becoming the first jet operator based at Oakland International Airport. That August, World flew a non-stop passenger flight from California to Japan in 9 hours and 58 minutes.

BRITISH OVERSEAS AIRWAYS CORPORATION

In 1924, four small private air carriers were amalgamated to form British Overseas Airways Corporation's predecessor company, Imperial Airways. These were Handley Page Transport, Ltd; Instone Air Line, Ltd; Daimler Airways, Ltd; and the British Marine Air Navigation Co., Ltd. Included in their accomplishments were an experiment in airmail (1911) and the opening of the world's first regular daily international passenger air service (1919). Imperial's 1924 fleet included the first three-engine airliner, the 120 passenger biplane, "City of Washington. In its first year of operation, the new airline carried 11,395 passengers and flew 853,042 miles. Services were inaugurated from the United Kingdom to Africa, the Middle East, Asia and Australia. In May, 1937, Imperial opened a flying boat service between Bermuda and New York in parallel with Pam American Airways. Two months later, the "Caledonia," an



Fig. 130. Tri-weekly trans-Pacific flights are made by BOAC jets.

Imperial Airways flying boat, made the pioneer commercial survey flight across the Atlantic, east-to-west. Most of BOAC's present 145,000-mile, six continent network of air routes were established by Imperial.

BOAC emerged as the national overseas airline of great Britain in 1939, British Airways for domestic flights and services between London and European cities (forerunner of BOAC's present sister corporation, British European Airways). On April 1, 1940, the two were amalgamated.

During the war, BOAC flew more than 55 million miles throughout the world. After the war, BOAC began expanding its routes and services. The British European Airways Division of BOAC became a separate corporation and on August 1, 1946, took the United Kingdom/ continental services. In 1947, BEA also absorbed the domestic services within the UK.

On August 23, 1959, BOAC started making twice-weekly flights with jet-prop Britannias from New York, San Francisco and Honolulu to Tokyo and Hong Kong. Thus was inaugurated trans-Pacific service, linking up BOAC's eastern flights to form the first round-the-world jet service. In 1960, the Britannia flights between San Francisco and London via New York and from San Francisco to Tokyo and Hong Kong were replaced by Boeing 707s. This completed BOAC's first pure jet round-the-world service. A twice-weekly connecting service between U.S. points and the Philippines was inaugurated on November 2 with a Tokyo-Manila Comet 4 jet service, connecting in Japan with BOAC's Boeing 707 "Jet Bridge" to the Orient. On March 26, 1962, Boeings were placed in service to Asia. During fiscal year 1962-63, BOAC accommodated nearly a million passengers and flew 2.8 billion passenger miles. Today, BOAC flies tri-weekly jets across the Pacific.



Fig. 131. U.T.A. merged with T.A.I. in 1963 to form U.T.A. French Airlines. They fly the Pacific.

U.T.A. FRENCH AIRLINES

Transport Ariens Intercontinentaux was formed in 1946, serving a number of destinations in Africa but intent on increasing to the Far East and the Pacific. In May, 1960, T.A.I. opened a weekly schedule between Los Angeles and Tahiti via Honolulu with DC-7 aircraft. A year later, following inauguration of the jet landing strip in Tahiti, DC-8s were placed on the route, part of an 18,000-mile service introduced between Paris and Los Angeles via the Far East, Indonesia, Australia, New Caledonia and Tahiti.

Formed in 1949 with the participation of the Compagnie Maritime des Chargeurs Reunis, another French private airline was Union de Transports Ariens (U.T.A.) serving Africa. In 1963, the two companies merged to form U.T.A. French Airlines. Served are 118,000 miles of network and resources involving 43 destinations (six in Asia, eight in Oceania, two in America, six in Europe and 21 in Africa). In November, 1964, two non-stop weekly services between Papeete (Tahiti) and Los Angeles were inaugurated, by-passing Honolulu.

CONTINENTAL

On September 2, 1964, Continental Airlines brought its first flight into Honolulu after flying from California to Japan, Philippines, and Guam, completing the initial survey flight of the MATS contract Pacific service. Honolulu was established as Continental's largest overseas base.



Fig. 132. Part of U.T.A. French Airlines now, these planes include the Pacific in their routes.

T.E.A.L.

Expected soon is the beginning of jet service between Auckland and Los Angeles by way of Honolulu of the New Zealand-based Tasman Empire Airways, Ltd. (T.E.A.L.), with DC-8 aircraft. T.E.A.L. started operations with an Auckland-Sydney flying boat service in 1940, Auckland to Fiji in 1950, extending the following year to Tahiti via Western Samoa. Exercising reciprocal rights, Pan American will send its airplanes through Auckland. T.E.A.L. was originally owned by three governments: New Zealand (30%), United Kingdom (20%) and Australia (50%). In 1953, the Australian government took over the British government's interest, concurrently with the liquidation of BCPA. New Zealand took over full ownership in 1961.

INTER-ISLAND SERVICE

HAWAIIAN AIRLINES

During the war years, the airplane was the only means of inter-island transportation and Hawaiian Airlines boomed as thousands of people took to the air. However, United States control established by the military in Hawaii resulted in seats being allocated on a strict priority basis to passengers directly connected with the war effort. This system of control had its damaging effects on HAL immediately after the war, because islanders sometimes resented the military system of priorities. The way was clear for a second interisland service to be established.

Hawaiian Airlines continued to serve inter-island needs. On its 23rd anniversary, HAL acquired five new Convair 340s, the first pressurized aircraft in inter-island operation. Pioneer Stanley Kennedy retired from active management of the company in 1955, becoming Chairman of the Board. Under Arthur D. Lewis, former Vice-President of American Airlines, the company was completely reorganized to withstand better the effect of increasing competition and to



Fig. 133. Hawaiian Airlines (formerly Inter-Island Airways) plane, 1963.

prepare for expansion. The Convair's seating capacity was increased by six. Four of the six DC-3s were converted for aerial sightseeing, provided with panoramic windows five feet in length and an increase in seating by three (from 28 to 31).

Shortly, HAL's service included twice-weekly service form Honolulu to Midway Island, carrying 72 tons of cargo and passengers per month in contract with the Military Air Transport Service. Hawaiian Airlines next began seeking a trans-Pacific jet service.

During 1963, HAL carried 2,105,046 ton-miles of air freight delivering newspapers, laundry, household goods, eggs, chickens, perishable foods, and U.S. mail between the islands. November 11, 1964 marked 35 years of operation as a scheduled inter-island air transportation company, claiming the distinction of being one of the oldest scheduled air carriers in the United States and holder of the world's safety record (carried throughout this period were eight million passengers without a single fatality to either passenger or crew member, and traveled over 1.2 million passenger miles).

ALOHA AIRLINES

In 1946, the Trans-Pacific Airlines (later renamed Aloha Airlines) was begun in Honolulu by Ruddy F. Tongg. Starting with 14 employees, the charter service began with a DC-3 equipped with "bucket seats," in competition with HAL. The new company offered special appeal with in-flight entertainment featuring singing, hula dancing, and ukulele playing stewardesses.

By 1949, in spite of legal difficulties, the local inter-island flying service received its temporary certificate as a scheduled carrier. Olen Andrew became chief pilot and took charge of all flight operations.



Fig. 134. Aloha Airlines makes scheduled inter-island flights. (1964)

A family plan service was established in 1950, followed later by discount fares. Japanese speaking tour conductors and stewardesses were hired to accord its passengers from Japan Service and typical island hospitality.

President Eisenhower signed Aloha's permanent certificate on July 20, 1956. At the time it was operating five DC-3s.

Having arranged for Aloha's purchase of Rolls-Royce powered F-27 jet–props, Olen Andrew returned to active flying in the new airplanes in 1959. Two Vickers Viscounts were placed into service in June, 1963, and a third early in 1964.

Now 19 years old, the airline has a perfect safety record of never a passenger or crew fatality in its history.

ANDREWS FLYING SERVICE

Still actively in existence is the pioneer private flying service started in 1932, Andrew Flying Service. Olen Andrew officially retired from Aloha Airlines in 1964 and flies once again with the company bearing his name.

One of the Andrews' distinctive services is regular flights to the isolated settlement on Molokai, started in 1946 when Marguerite Gambo went to the mainland. Twice-daily flights are made, and once on Sundays, bringing to that community perishable items and other useful

articles that cannot be brought in otherwise. (A barge makes only three visits a year). In 1964 Andrew remarked, "We deliver anything to the people there—food, mail, the morning paper, the afternoon paper, laundry, refrigerators, Christmas trees, just about anything that will fit in an airplane."

GAMBO

War saw the government ban all private flying, therefore the Andrew Flying Service, Gambo Flying Service, and all other private operations ceased. Marguerite Gambo, however, received special permission from the Civil Aeronautics Administration to continue making charter flights to Molokai's Kalaupapa Settlement, bringing in supplies and medicines. After two delivery flights, the aviatrix accepted a CAA position on the mainland where she assisted in training Navy pilots. Her Honolulu hangar and shops were turned over to the military. In 1945 she returned to Hawaii to inaugurate ground school instruction at the University of Hawaii. Two years later, she went back into business with the Hawaiian School of Aeronautics, providing CAA approved flight training to veterans. The aviatrix remains active in flying circles today.



Fig. 135. John Rodgers Terminal, Honolulu International Airport, 1964.

CIVIL AVIATION SUMMARY

In the year preceding World War II, only 1,153 people came to Hawaii by air, which was roughly 1% of all visitors from the mainland. The fare was $278 and it took 16 hours one way. Following hostilities, the fare dropped to $195. In 1947, the mainland-Hawaii route could be flown in 12 ½ hours at a fare of $135. The fare was lowered in 1954 to $125 and the flying time to 7 ½ hours. Jets, in 1959, reduced the time to the present 4 ½ hours.

On August 22, 1962, Honolulu International Airport was dedicated following an expenditure of $34 million on new facilities. Taking the name of John Rodgers, then, was the airport terminal building. In 1963, Honolulu International Airport was ranked the 10th busiest airport in the United States. That year, aircraft operations (arrivals and departures) totaled 258,869 (including 144,697 military, with which it shares runways). Individual overseas passenger movements (arrivals and departures of individual travelers) amounted to 1,405,213, and 929,829 inter-island passenger movements. Fares had been reduced for some mainland-Hawaii flights to $100.

During 1964, Hawaii had 509,000 visitors, bringing the total over the half-million mark for the first time. This was about 80,000 more than in the previous year. The increase was more than twice the aggregate annual total of all visitors in 1950 (34,386). Other Pacific regions also showed gains that year. Tourists to New Zealand, who numbered 105,000 in 1963, were more than 120,000 in 1964. French Polynesia had 25,000 in 1964 compared to the previous year's figure of 14,000, with half the tourists coming from the Untied States. Australia had 150,000 foreign visitors in 1964, a 23,000 increase over 1963. Travel both to and from Japan, the Philippines, Korea, Formosa and other points and the United States was up in 1964.

About 110,000 persons traveled through Hawaii from North America to points west in 1964, and about 100,000 stopped on their way from the South Pacific and the Far East. Hawaii received most of its foreign visitors from Canada, Japan, Australia, Europe and the Philippines—in that order.

Three important developments were responsible for the high traffic figures in Hawaii as of this writing—the cutting of travel time, the lowering of air fares, and a general increase in prosperity. In the next few years, a new supersonic airplane is expected to be introduced into service which will make it possible to fly between the mainland and Hawaii in 90 minutes. By 1970, according to the Hawaii Visitors Bureau, the bigger jets (offering $150 round-trip fares from the West Coast) will bring 900,000 visitors to Hawaii.

CHAPTER XV
POST-WAR MILITARY AVIATION PROGESS



Fig. 136. Crew of the PACUSAN DREAMBOAT before making a 9,444 mile non-stop flight from Hawaii to Cairo via the North Pole, 39 hours, 36 minutes, October 1946.

After World War II, American industry joined the Army and Navy in programs to develop an effective airpower capability for the nation. It was the resumption of intensive research and development, both for aircraft and guided missiles. Cooperating for scientific research was the National Advisory Committee for Aeronautics (NACA).

In remarkably short order, magnificent aviation marks were unfolded. Concurrently, military aircraft in service were tested for greater performance and versatility. Included was extensive over-water flying. And once again the Hawaiian Islands were to prove useful to flyers striving for aviation achievements.

On August 6, 1946, two radio-controlled B-17s made a 2,174-mile flight from Hickam to Ruroc (now Edwards Air Force Base), California.

Two months later, the B-29 PACUSAN DREAMBOAT, piloted by Colonel Clarence S. Irvine, made a 9,444-mile non-stop flight from Hickam to Cairo via the North Pole. The bomber followed an approximate great circle route from Hawaii to Alaska, then to Iceland, and finally to Cairo, passing over London, Paris and Foggia (Italy). Flight time was 39 hours and 36 minutes.



Fig. 137. Taking off from Hickam Air Force Base on February 8, 1947, is Lt. Robert E. Thacker with Lt. John M. Ard in an Air Force P-82. The pair flew 5,000 miles from Hawaii to New York in 14 hours and 33 miles, the longest fighter plane flight and a record for the route.

A magnificent aviation mark was made on October 14, 1947. Combat veteran Captain Charles E. Yeager, flying a Bell XS-1 research airplane, broke the so-called sound barrier in flight through California skies above Muroc Dry Lake. Called the most notable achievement since the first powered flight, it was the beginning of man's breaking away from the bonds of earth. Other experimental flight test pilots went on to speed and altitude records in the early X-series craft, including Frank K. Everest, Arthur Murray, Ivan Kincheloe; more sophisticated versions were to follow.

The United States made progress in another direction. The mid-Pacific islands were to be relied upon for a vital function. On June 1, 1948, the Air Force and Navy transport services were combined to form the Military Air Transport Service (MATS). Under the single-manager concept, the cost-saving operation was to economically and efficiently implement a globe-circling function to air transport people, materiel, mail, strategic materials, and other cargo. MATS became a separate command of the Air Force commanded by Major General Laurence S. Kuter, Vice Commander being Rear Admiral John P. Whitney. In command of the Pacific Division was Rear Admiral Mathias B. Gardner. By June 21, the first MATS passenger service was initiated when a Navy transport aircraft flew from Hickam to Fairfield-Suisun (now Travis AFB), California.

The CAROLINE MARS (Navy JRM-2 Flying Boat) landed in Chicago with 42 persons on board and a 14,000 pound payload, after a record non-stop flight from Honolulu of 4,748 miles in 24 hours and 12 minutes (August 28, 1948).

On December 8, 1948, a six-engine B-26 completed a 9,400 mile non-stop flight from Fort Worth, Texas, to Hawaii and back without refueling.

Between February 26 and March 2, 1949, B-50 LUCKY LADY II completed the first non-stop, round-the-world flight in history. The pilot was Air Force Captain James Gallagher. He covered 23,451 miles in 94 hours and one minute. Aerial refueling was provided by B-29 tankers over the Azores, Arabia, the Philippines, and Hawaii—which served as a communications and emergency facility, much as had been done by guard ships for John Rodgers in 1925.

On June 19, 1950, the CAROLINE MARS completed a 2,609 mile flight from Honolulu to San Diego with 144 men aboard for the largest passenger lift over the Pacific on record.

These peacetime aviation advances were suddenly interrupted on June 25, 1950, when hostilities erupted in Korea. Hickam and other military bases in Hawaii became the key point for troops and material passing through and in supporting the war effort. By July, MATS had begun the Pacific Airlift, the mass movement by air of men and materials The Pacific Division of MATS served island bases in the Pacific from Hawaii to Japan, Okinawa, the Philippines, as well as Saigon, Bangkok, New Delhi, and Karachi. At Dhahran, the Pacific and Atlantic Divisions joined hands. Augmenting the two were MATS planes from the Continental Division, flying in both the Atlantic and Pacific areas. Hawaii had become a major stop on the global route.

Augmented by chartered commercial aircraft and a Canadian Transport Squadron, MATS carried 559,000 passengers, including 62,000 air evacuation patients; 67,000 tons of cargo and 30,050 tons of mail in 35,000 Pacific crossings by way of Hickam.

Combat requirements for naval aviation in Korea were quite different from those of the island-hopping campaign of World War II. The United Nations intention was to confine the battle area to the peninsula, limiting air operations to support of troops. Carrier forces flew deep support missions, attacked enemy supply lines, roamed over enemy territory looking for targets of opportunity, bombed enemy bridges, interdicted highways and railroads; attacked refineries, railroad yards and hydroelectric plants; and escorted land based bombers on special missions. In comparison to the forces engaged in World War II, Korea was a small war. At no time were more than four large carriers in action at the same time. Yet in the three years of war, Navy and Marine aircraft flew 276,000 offensive sorties, dropped 177,000 tons of bombs and expended 272,000 rockets. This was within 7,000 sorties of the World War II totals in all theaters and bettered the bomb tonnage by 74,000 tons and the number of rockets by 60,000.

One of many units to serve with distinction in the Korean Conflict was Marine Aircraft Group 13. It had been reactivated in April of 1951 and moved to Kaneohe Bay Marine Corps Air Station, on Oahu, in early 1952. The unit was commanded by Colonel E. R. West. MAG-13 was rounded out with two Corsair squadrons, along with maintenance and base squadrons, and Marine Air Control Squadron 2.

Aviation units based in MCAS, El Toro (California) were rotated to Hawaii every six months for training until April, 1954, including Marine Fighter Squadrons 232 and 214 HMR-161 from MAG-13 inked new pages in Marine aviation history during the Korean war, as the first Marine Helicopter transport unit came into existence Headlines were made with such combat operations as the lift of an infantry command to the front line, the landing of an infantry company at night, and the relief of a battalion with full equipment on the main line of resistance.

The Korean War had a great impact on Honolulu International Airport, with rapid increases in aircraft landings. In March, 1951, 104 acres of the Hickam reservation were leased, enabling an extension of the facilities and the use of a runway 200 feet wide and 13,104 feet long. Honolulu International Airport, during this period, was in third place for the entire nation

in aircraft operations. Aviation marks of world significance continued to be made by use of the Hawaiian Islands.

In July 1952, a flight of 58 F-84 Thunderjet fighters, led by Colonel David C. Schilling, stopped at Hickam Air Force Base, Hawaii, on their way from Turner Air Force Base, Georgia, to Yokota Air Base, Japan. Their 10,985 mile flight with only seven stops enroute and with aerial refueling by tanker aircraft, came early in the jet age and was a forerunner of one of the major facets of American airpower today . . . the maintenance of tactical forces through a system of rotations. (Every few months a USAF unit crosses the Pacific via Hawaii and the relieved unit returns to its home base in the United States.) Rotations provide continuing tactical forces at various locations, and are a dramatic demonstration of the Tactical Air Command's (USAF) ability to fly its fighters to any point in the world.

In January, 1957, three B-52 Stratofortresses landed at March AFB, California, completing a 24,325 mile round-the-world non-stop flight in the record time of 45 hours and 19 minutes. This was the first globe-circling non-stop flight by jet aircraft.

With Navy Lieutenant Commander James M. Pruitt as pilot, a twin-jet A3D Skywarrior flew from Hawaii to California (2,438 miles) in four hours and 12 minutes on August 1, 1957. This was a record for the eastward trip.

Air Force Colonel Archie Blood led 16 F-100D Supersabres from Tokyo to Honolulu (3,850 miles) on December 3, 1957. This was an unofficial record for the flight.

A KC-135 Stratotanker made the first non-stop flight from Washington, D.C. to Honolulu on July 11, 1958. The 5,000 miles were covered in 11 hours and eight minutes.

On December 16, 1958, a new type of air vehicle was flown over the Pacific Ocean. It was a Thor ballistic missile launched from California, the first Free World firing of a ballistic missile under simulated combat conditions.

On September 20, 1959, Peter Gluckman set a round-the-world solo flight record when he landed at San Francisco, completing a 29-day trip in a Meyers "200" airplane.

A NEW USEFULNESS

Air travel through Hawaii became more commonplace with time, as had previously occurred with improved ships. Though significant marks were still being made in the air, the excitement of aviation had simmered to placid acceptance. Pioneering days over, Hawaii's usefulness to airplanes fully justified the efforts and sacrifices of those who made it possible. For it, Hawaii benefited in many ways, not the least of which was the gaining of millions of friends from far-off lands, tourists and the military men and families of the mid-Pacific outpost. What new lay in the horizon?

The saga of flight began to take a revolutionary turn in the 1950s. Missiles and space craft were introduced then developed as strangers (as with early aircraft) in a known environment. They managed to survive after a lonesome struggle, and then improve to unbelievable performance thanks to an external influence. Government support and appropriate public interest was increased when, on October 4, 1957, the Soviets injected into orbit around the earth their "Sputnik" satellite. Doctor Goddard's flight to 184 feet of the first liquid-propelled rocket in 1926 was viewed with new interest when, on January 31, 1958, the United States' first earth satellite was launched, the Army's JUPITER, followed on March 17, 1959, by the Navy's VANGUARD. The worlds' eyes looked with anticipation to the Hawaiian Islands and adjacent waters, as once again the world's largest ocean would become a vital proving ground for flight vehicles.

The Islands were made ready to function in this new role, so was the entire Pacific—one portion of the world's space network. First to be equipped was Oahu. A large dish-like antenna 60 feet in diameter was perched on its western tip where, tilting and rotating, it could command a

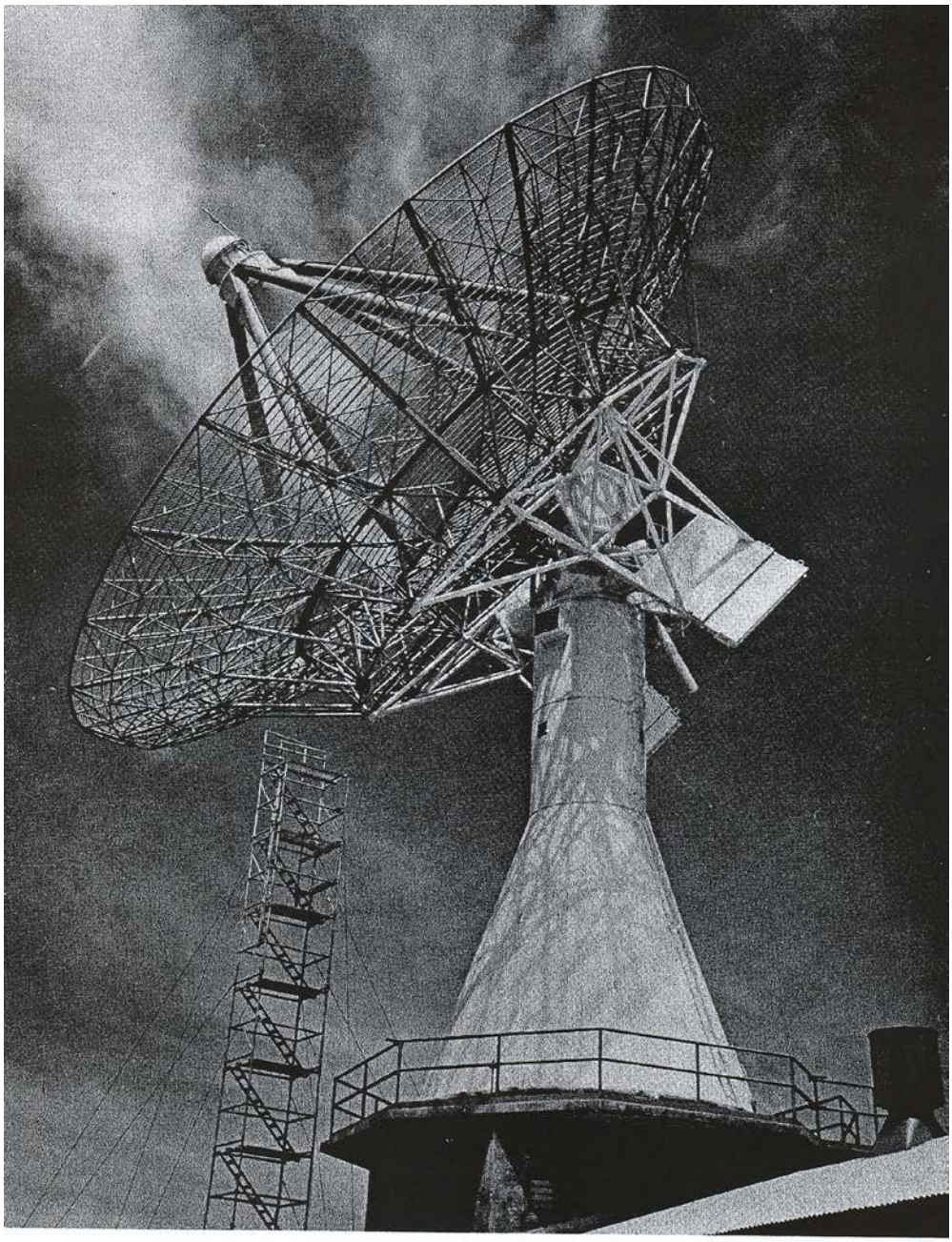


Fig. 138. Antenna on Kaena Point Tracking Station searching for space vehicles.

sweeping view of the Pacific. Overlooking the Kaena Point lighthouse, the parabolic tracking antenna became a living part of the Kaena Point Tracking Station. The station, along with other such installations in California, New Hampshire and Alaska, functioned to track man-made satellites in orbital flight about the earth It was given the ability to pick up signals from the vehicle and "pinpoint" its course, hear its transmissions, give commands to the satellite, and reckon its range.

Assisting this and the other tracking stations during launch operations are telemetry ships operating in the Pacific. They function to receive transmissions from orbiting vehicles and record them on tape (later flown to control centers for analysis). An organization was placed at Hickam to assist in recovering the vehicles. For this purpose, Pacific waters became one large splash net for vehicles and manned capsules re-entering the earth's atmosphere. They became alive with ships, over flying aircraft, and frogmen.

On August 11, 1960, the world saw the first recovery of an object ejected by an orbiting satellite, a 300-pound capsule from the Air Force's Discoverer XIII launch. It was recovered by Navy frogmen from the sea about 330 miles northwest of Honolulu. Eight days later (August 19), Air Force Captain Harold F. Mitchell (stationed at Hickam) piloted a C-119 aircraft and made the first successful aerial retrieval of an orbiting capsule, ejected by Discoverer XIV which had been launched the previous day. Recovery was made over the Pacific.

Navy Commander Alan B. Shepard Jr., became the first Project Mercury astronaut to cross the space frontier, in a 14.8 minute flight to an altitude of 115 miles over the Atlantic, flying about 5,100 mph. Two and a half months later, Air Force Captain Virgil I. Grissom was launched to an altitude of 118 miles, in a 393-mile suborbital space flight over the Atlantic. Prior to the next space achievement, the airplane boasted its increasing capabilities and usefulness to man. On February 9, 1962, a MATS Boeing 707 set a new record for commercial-type airplanes by flying from Hawaii to California in three hours and 49 minutes, with 159 passengers.

Eleven days later, Astronaut John H. Glenn Jr. successfully completed a three-orbit flight around the earth, becoming the first United States orbital flyer in the time of four hours and 56 minutes. Glenn landed in the Atlantic.



Fig. 139. Astronaut L. Gordon Cooper, Jr., in contour couch during weight and balance tests. Hangar "S" – White Room – Cape Canaveral, Florida.

Commander M. Scott Carpenter became the second to orbit the earth on May 24, 1962, also landing in the Atlantic.

On July 19, 1962, an Army Nike-Zeus anti-missile missile fired from Kwajalein Island made the first known interception of an intercontinental ballistic missile (ICMB). High above the Pacific it intercepted a nose cone of an Atlas missile launched from Vandenberg Air Force Base, California.

Astronaut Walter M. Shirra Jr., a Navy commander, became the third American to orbit the earth on October 3, 1962. He made five complete orbits and settled into the Pacific near the end of the sixth orbit after nine hours and 14 minutes of flight.

Attention was taken away from space progress momentarily as another spectacular aviation event was recorded in history. On April 30, 1963, America's Betty Miller took off from Oakland for Brisbane, Australia, 74,000 miles away. In 51:38 hours flying time, averaging 140 mph in her twin-engine Apache One-Five Yankee, the aviatrix completed the journey by way of Honolulu, Gilbert Islands, Fiji Islands and New Caledonia.

Hawaii was intricately involved in the tenth and final launch in the Mercury program, the sixth United States manned space fight with Astronaut Leroy Gordon Cooper—an Air Force major—at the controls.

Monitoring the flight of Mercury Spacecraft "Faith 7" was a worldwide tracking network consisting of 19 land stations and four ships at sea. Those in the Pacific were Kano, Nigeria; Zanzibar; Muchea and Woomera, Australia; Canton Island; Hawaii; and Guaymas, Mexico. Lying in wait 800 miles west of Midway Island was USNS RANGE TRACKER to handle orbits 5, 6, 7, 20, 21, and 22. In the South Pacific was the ROSE KNOT VICTOR, 3,000 miles off the coast of Chile.

Impact set for a position some 900 miles northwest of Honolulu, 125 miles southeast of Midway, the Pacific was dotted with a flotilla of nine destroyers and one carrier, assisted by a good share of more than 100 aircraft around the world.

Set with medical support, if needed, was a bioastronautic group consisting of 129 people at various points. Included in the Pacific contingent were carriers and ships containing, among others, medical specialists. Honolulu's Tripler General Hospital (U.S. Army) had ready a specialty team consisting of a general surgeon and anesthesiologist, surgical technicians and nurses, a thoracic surgeon, orthopedic surgeon, neurosurgeon, internist, radiologist, neurosurgical technician, orthopedic technician, medical equipment technician, pathologist, urologist, and plastic surgeon. An Air Force C-130 aircraft stood available at Hickam to transport part or all of the medical team plus up to 1,000 pounds of equipment. At each of the tracking stations were included aero medical monitors.

For recovery operations, the Department of Defense assigned 28 ships, 172 aircraft, and more than 19,000 people in direct operational support of the MA-9 mission. Thirteen planned recovery areas were designated in the Pacific, and eight in the Atlantic Ocean. Task Force 130, commanded by Rear Admiral Charles A. Buchannon, consisted of the carrier KEARSARGE, 10 destroyers and some 20 aircraft. Covering an area south of Japan in the Western Pacific were four destroyers and six search and rescue aircraft belonging to the Western Pacific Recovery Group under Rear Admiral H. L. Reiter Jr. Captain T. S. King covered 10 areas around Midway Island, including the primary landing area, with the KEARSARGE, six destroyers and 14 aircraft.

For quick recovery, DOD strategically positioned 100 search and rescue aircraft in 28 staging bases around the world, including pararescue men, SCUBA divers, survival experts and medical technicians, for on-scene assistance to the astronaut. One of the more important areas was Hawaii. Rescue coordination centers included one at Kunia adjacent to Wheeler Air Force Base on Oahu.

The Pacific Missile Range's air, sea and land based facilities, commanded by Rear Admiral John E. Clark, were directed from Point Mugu, California. The facilities at Kaneohe Bay, Oahu (main downrange PMR site) tied downrange facilities into the world-wide Mercury communications network. Kaneohe specialists also helped determine the MA-9's point of entry into the Pacific after the orbital flight.



Fig. 140. MA-9 liftoff from pad #14 Cape Canaveral with Astronaut L. Gordon Cooper.

Kauai provided to the mission Kokee Park, site of a tracking station. Three EC121s served as communications relay centers, relaying voice transmissions from capsule to communications facilities in Hawaii and to the nearest surface ship, and recording telemetered capsule reentry data.

At 8:09 a.m., May 15, 1963, Faith 7 was inserted into orbit flying at a maximum speed of 17,546.6 mph. On the 22nd orbit around the globe, at 170 miles southeast of Kyushu, Japan, near the Pacific Command Ship COASTAL SENTRY QUEBEC, Cooper's retro-rockets were fired sending him towards a Pacific landing. The main chute deployed at 11,000 feet and Faith 7 landed 7,000 yards from the prime recovery ship, the aircraft carrier USS KEARSARGE, after 34 hours, 19 minutes a and 49 seconds.

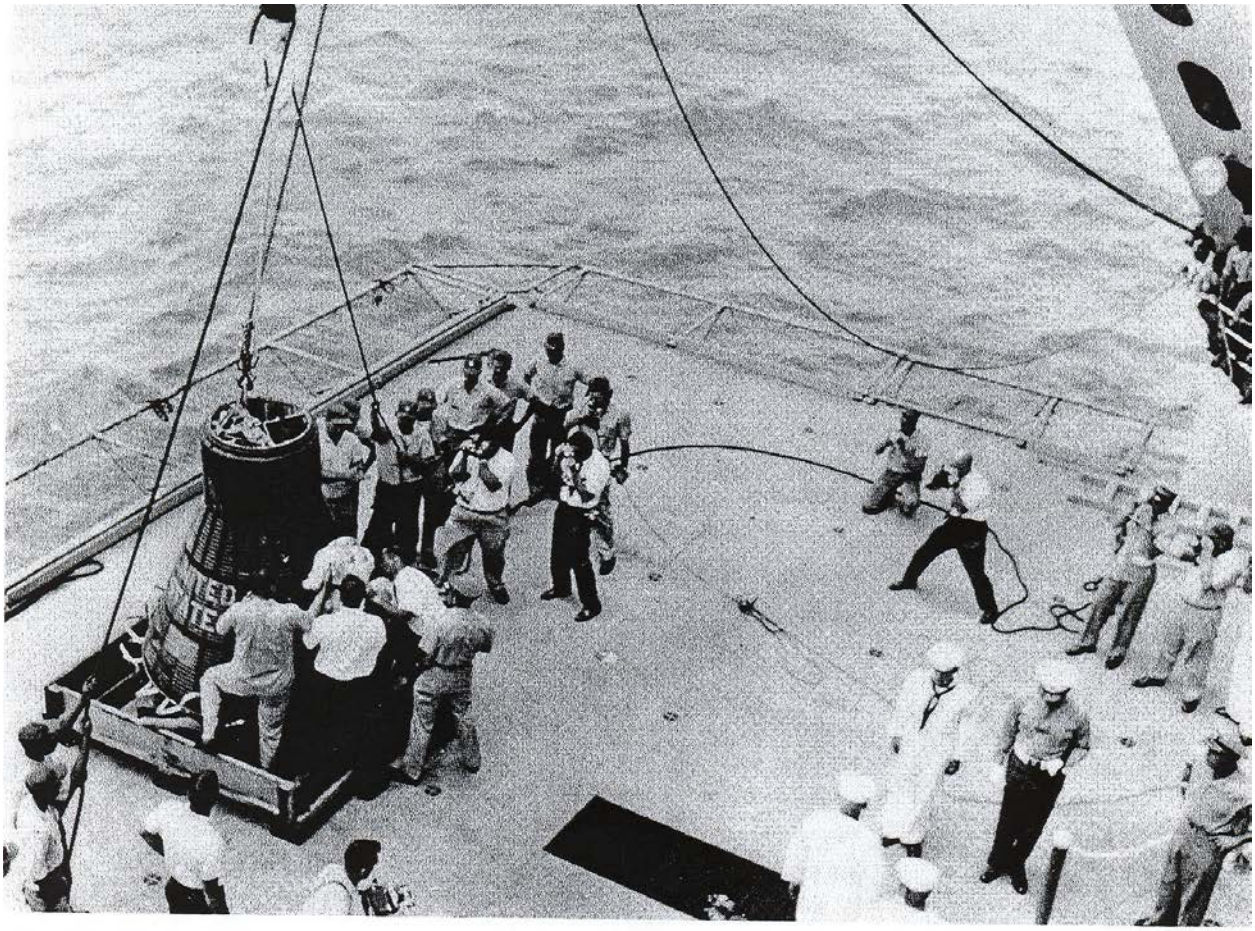


Fig. 141. Photographers gather around as Cooper emerges from "Faith 7" on the deck of the prime recovery carrier Kearsarge after his 22-orbit flight. The crowd cheering Cooper's arrival included also the 1,600 man crew of the ship.

NEW MARKS BY SMALL AIRCRAFT

Coming back into headlines the following year was an amazing aviation achievement, in a way reminiscent of several previous attempts at conquering the globe's airspace. On April 13, 1964, Mrs. Geraldine Mock from Columbus, Ohio, brought her single-engine Cessna 180 to a landing at Honolulu International Airport on the penultimate over water leg of a solo, round-the-world flight. Four days later, after becoming the first woman to fly the Pacific alone from west

to east and the first woman to fly a single engine plane in either direction across the world's largest ocean, the diminutive aviatrix landed in Columbus. She was the first woman to fly solo around the world, flawlessly covering 22,858.8 statute miles in her SPIRIT OF COLUMBUS. Following on her heels was aviatrix Joan Merriam on a round-the-world course identical to that of Amelia Earhart in 1937, also in a two-engine airplane. She succeeded splendidly.

On June 22, 1964, a 54-year-old Japanese-American took off from Oakland in his single engine Piper Comanche on a four-stop solo flight to Japan. Henry Ohys carried messages to 17 Japanese cities from sister cities in California. Sponsored by the Japanese-American Aeronautics Association, which he founded in 1932, and backed by the Los Angeles branch of the Bank of Tokyo, Ohys landed in Honolulu 13 hours and 50 minutes later. On July 6, the pilot landed in Tokyo after stops in Midway, Wake and Iwo Jima.

CHAPTER XVI

MILITARY AVIATION



Fig. 142. Pacific Air Forces Base Command, at Hickam AFB, is the center of Air Force operations in Hawaii. PACAF Base Command links the Far East and Southeast Asia with the U. S. mainland.

For close to half a century, military aviation units have been permanently stationed in Hawaii. Steadily, the numbers of aircraft and people have been increased. Today, they are an accepted part of the Hawaiian scene. Military spending is Hawaii's number one source of income.

AIR FORCE

Following the Korean War, up to 1957, the Air Force in Hawaii was represented almost exclusively by the Air Transport Command and its successor, the Military Air Transport Services (MATS). The 1502d Air Transport Wing uses Hickam as home base and center of operations for airlift forces in the Pacific. MATS aircraft fly from Hawaii to every navigable landing facility in that part of the Pacific.

Headquarters for Far East Air Forces moved to Hickam from Japan (redesignated Pacific Air Forces--PACAF) in 1957. PACAF is the aerospace arm of the USAF in the Central and Western Pacific, the Far East and Southeast Asia. Its prime mission is to insure that the United States and its Allies maintain control of the air in an area which covers 40% of the earth. Comprised of some 70,000 officers and men, and approximately 40 tactical squadrons of strike, support and air defense aircraft, PACAF operated from more than 25 air bases in more than half a dozen countries through the Pacific. Directions come from Hickam.



Fig. 143. Hickam Air Force Base, 1964.

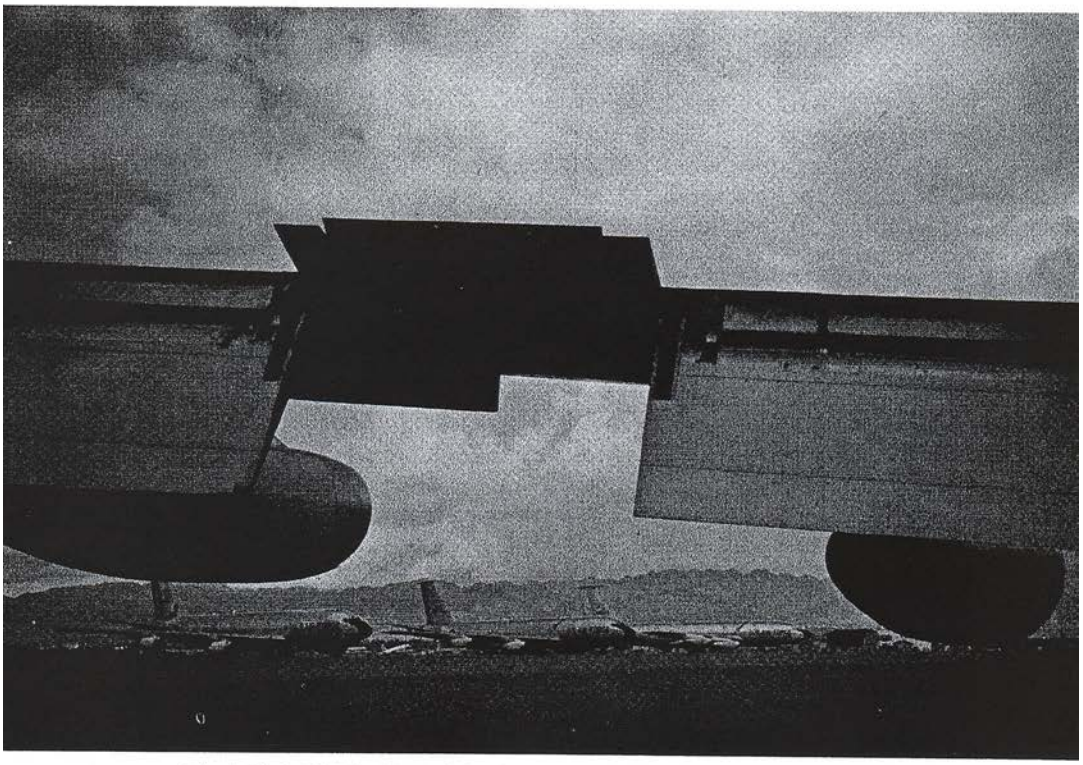


Fig. 144. SAC KC-135 aerial refueling tankers at Hickam AFB. 1965.



Fig. 145. Jet fighters of USAF transiting at Hickam AFB, 1964.

The strategic locations of Hickam and Wheeler became useful to other missions: air rescue, communications, weather reconnaissance, security, photography, logistical coordination, charting services, aircraft delivery, postal and others. Their sphere of operation is the entire Pacific. Air Defense of the islands is performed by the 326th Air Division. Today, there are some 20 major and 80 other tenant units at the two bases. They represent almost every major command in the Air Force, and other government agencies. To support these and all other Air Force activities in Hawaii, PACAC Base Command was established with headquarters at Hickam. Growing out of Seventh Air Force fame during WWII and the Korean War, the 4,000-man command was geared to meet its support mission. PBC operates one of the largest fuel servicing operations overseas, also a busy aircraft maintenance complex. In 1963, over 29,000 aircraft were refueled, 360,000 passengers were accommodated and almost 50,000 tons of cargo and mail were handled. Trans-Pacific tactical fighter deployments passing through Hickam underscore the global mobility of modern strike forces.

In command of the 326th Air Division is the commander of PACAF Base Command. The Division's responsibilities are important to the nation: detection, interception and destruction of any aircraft or missile which may pose a threat to the security of the Hawaiian Islands. During an emergency the commander would have operational control of all aircraft and men assigned to the Hawaii Air National Guard, certain aircraft and units of the Navy and Marine Corps based on Oahu, and the missile units of the Hawaii Army National Guard. Hickam-based Hawaii Air

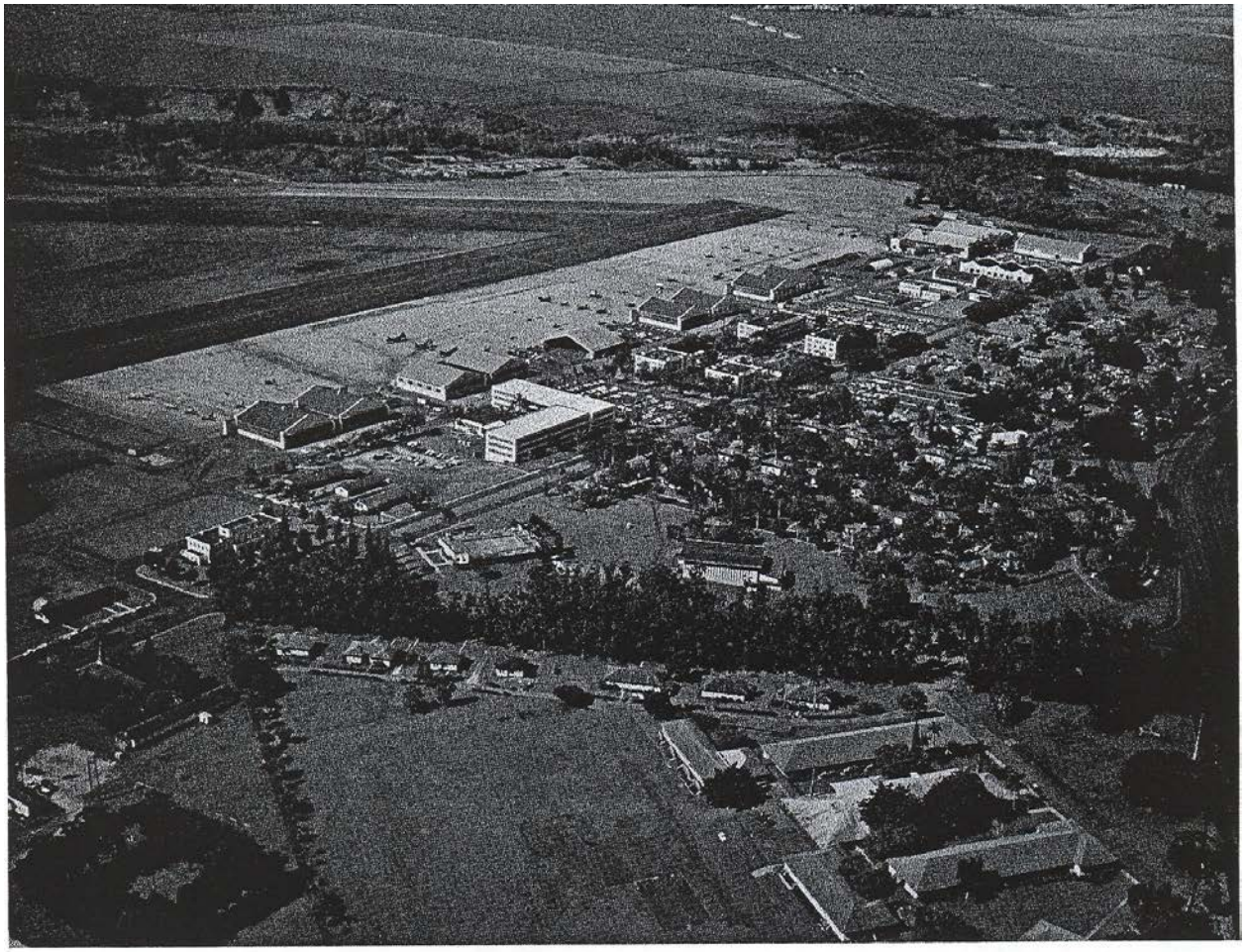


Fig. 146. Wheeler AFB, Hawaii, as it appears today, some 40 years after its construction was initially completed and 22 years after it was devasted by the Japanese attack launching World War II. A comparison with old pictures reveals comparatively few changes – a distinct contrast to the tremondous changes in military aviation during the same periods of time.

National Guard (HANG) F-102 interceptors are on continuous five-minute air defense alert.

The Hickam-based 1502d Air Transport Wing compiled an unsurpassed record of achievement, while performing a variety of functions. For the first time in the history of organized aviation, a military unit has flown more than one-half million hours without an accident—the 1502d, by July of 1964. During 1963, the Wing's 32 aircraft flew more than 50,000 hours ranging west over the Pacific islands to Japan; south to the Philippines and Taiwan, Southeast Asia, Australia and New Zealand; north to Alaska; and east to the mainland United States and on to Europe. Hickam is transited by almost all mainland-based MATS aircraft on flight to the Far East and to Southeast Asia. A 1502d plane has landed somewhere in the world every 20 minutes for the past 80 years.



Fig. 147. Hawaii Air National Guard F-102's in flight over Hawaii.

ARMY

While Wheeler Air Force Base today accommodates a number of major units, a majority of the airplanes based there belong to the U.S. Army. Light fixed-wing monoplanes, two-engine utility craft, and helicopters are flown from Wheeler for training, interisland transport of personnel and materials, and other Army aviation missions. They belong to U.S. Army Hawaii and the 25th Infantry Division, both of Schofield Barracks nearby. Light airplanes belonging to the Civil Air Patrol and the Hickam Aero Club also are based at Wheeler and use its facilities.

NAVY

The Navy component in Hawaii is Pacific Fleet, which is in direct communication with its chief striking force, the U.S. Seventh Fleet based in the Western Pacific.

The Commander, Naval Air Bases, Fourteenth Naval District, has headquarters at Barber's Point Naval Air Station on Oahu. He also has command of the Marine Corps Air Station in Kaneohe, and the Naval Air Stations on the islands of Midway and Kwajalein. The Barber's Point activity is one of the Navy's largest, and is a supporting base for aircraft of the Pacific Fleet, as well as a home base for utility, patrol and rescue aircraft. It is also the home of the Pacific Barrier headquarters where operations of early warning radar planes and radar-picket destroyer escorts



Fig. 148. Colonel Francis S. Gabreski (left), stationed again in Hawaii, shakes hands with an Hawaiian Air National Guard pilot after a checkout in a HANG F-102, 1964.



Fig. 149. U. S. Army planes at Wheeler, 1964.



Fig. 150. UH1A at Schofield Barracks on training exercise for air mobility. (1964)

are directed. Here is a nerve center to warn of approaching hostile forces crossing over an imaginary line that reaches out from Barber's Point to Midway, and thence to the Aleutians where it joins Canada's fixed Distant Early Warning (DEW) Line.

Commander, Fleet Air Hawaii, also at Barber's Point, controls Naval air power for almost one-sixth of the Pacific Ocean area and supervises the training activities of carriers and their air groups while in Hawaiian waters.

Operating under a mobility concept, the U.S. Pacific Fleet shifts its strength where most needed. There are few ships in Pearl Harbor. Aircraft carriers and other combat ships spend the majority of their time at sea. Pacific Fleet forces are divided into the U.S. First and U.S. Seventh Fleet, capable of mounting a sea-air offensive or provide naval defense for the United States. In almost every phase of the Fleet's operations, the key ship is an aircraft carrier, of which the Fleet has nine at present. In addition, the Fleet has four antisubmarine warfare support aircraft carriers; added, too, are three amphibious assault ships. These ships are mobile bases for planes and helicopters. An aircraft carrier is able to travel over 600 miles in any direction in one day; carrying her striking force hundreds of miles further are the aircraft on board. Surrounding the aircraft carriers are a variety of ships, equipped with anti-air and anti-submarine missiles, depth charges, torpedoes and rockets. In the air, the Fleet has fighters, bombers and interceptor aircraft with air-to-air and air-to-surface missile capabilities.



Fig. 151. The latest Navy planes in flight over Honolulu, 1965.



Fig. 152. Underway in West Pacific, USS Midway (CVA-41) STBD. USS PICKING (DD-685), Port, USS Preble (DLG-15).

MARINES

United States Marines of the Fleet Marine Force, Pacific, add yet another dimension to the Fleet's striking capability. Teaming up with ships of the Amphibious Force, these "infantrymen of the sea" are geared to fight either a limited or general war. Marine Corps helicopter squadrons aboard amphibious assault ships transport men behind enemy lines directly from the ship. Marine Corps aircraft fly from Pacific bases and from front line airstrips, providing ground troops with aerial coverage.

FLEET SUMMARY

The United States Pacific Fleet today is the world's largest, and probably history's most powerful, naval command, with more than 400 ships, 3,000 aircraft and 250,000 men.

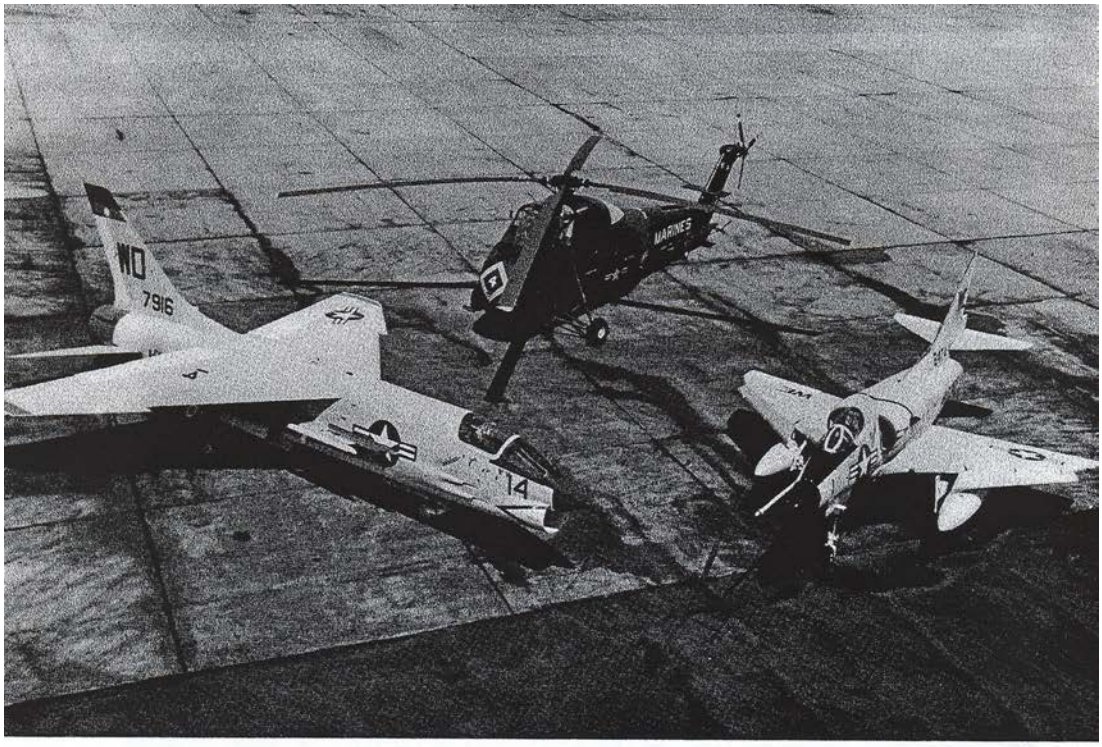


Fig. 153. Modern Marine Corps planes at Kaneohe Marine Corps Air Station. 1964.

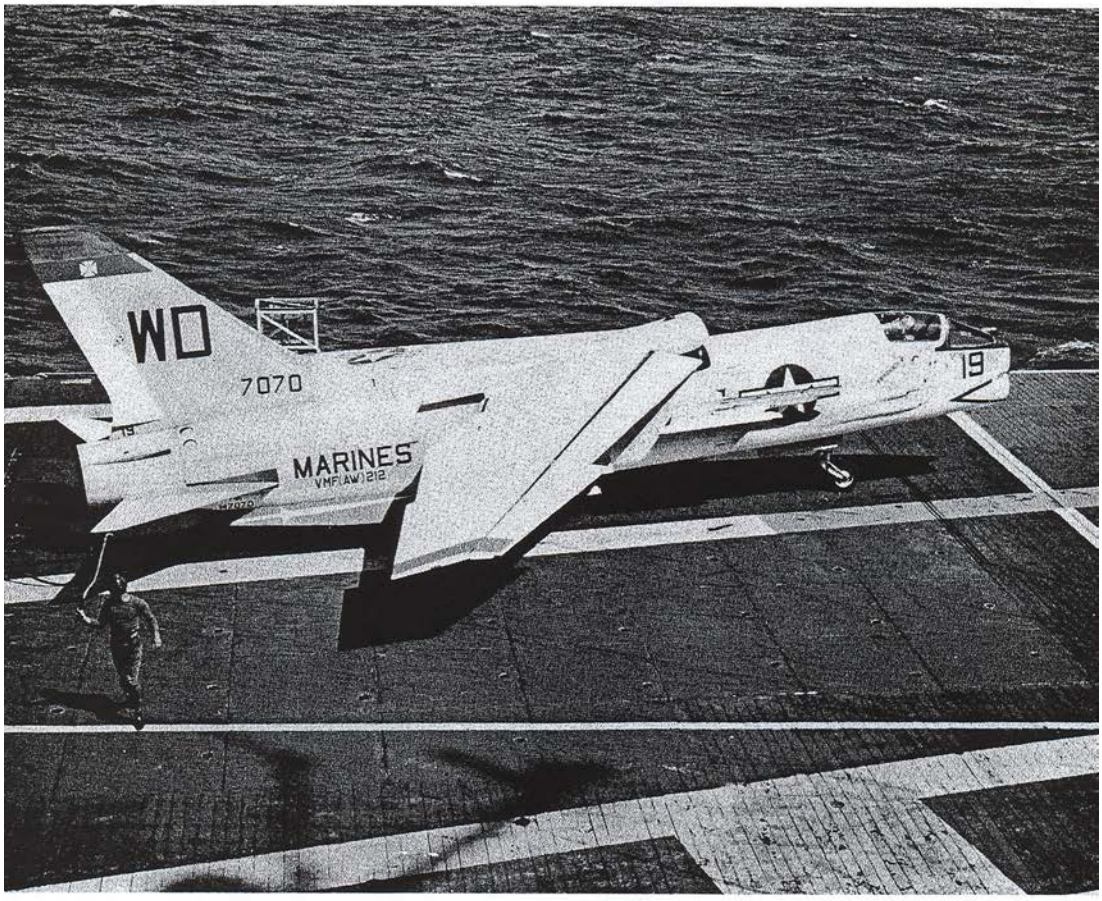


Fig. 154. F8-D jet fighter.



Fig. 155. Marine Medium Helicopter in Hawaii waters.

COAST GUARD

Situated at Barber's Point is the Coast Guard Air Detachment, one of the Coast Guard's 23 air facilities from which 107 aircraft of varying types operate. Aircraft based at this facility include the long range HC-130B and the medium range HUY-16E amphibian, providing speed, range and versatility for the primary mission of the unit—search and rescue (which annually accounts for nearly 50% of total activities). It is a vital unit of the Pacific Maritime SAR Region, covering the Central Pacific, and is controlled by the Commander, 14th Coast Guard District in Honolulu Also situated in the Islands are long range ships, home ported in Honolulu, and 95-foot Patrol Boats based at Kauai, Oahu, Maui and Hawaii, and utility boats, among the other equipment.

From Pearl Harbor until the end of World War II, Coast Guard aircraft delivered 61 bombing attacks on enemy submarines, located some 1,000 survivors of downed aircraft and torpedoed surface craft, and actually took part in the rescue of 95 of these. Since its beginning, Coast Guard aviation has been directly responsible for saving more than 8,000 lives at sea. The unit operating in the Islands has contributed a large share.

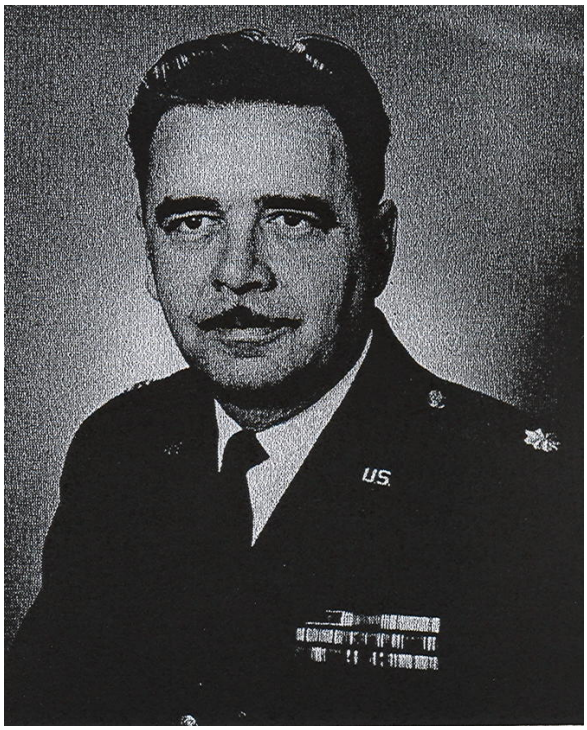


Fig. 156. U. S. Coast Guard C-130 in flight near Diamond Head, Oahu, 1964.



Fig. 157. Hawaii's salute to Arthur Godfrey in 1964 included a super-sonic jet ride offered by the Hawaii Air National Guard. Flying in a TF-102 "Delta Dagger." the famed showman was accompanied by instructor pilot Major Harold Hagai (right). Godfrey, a Colonel in the USAF Reserve, has flown just about every aircraft in the Air Force inventory.

About the Author



Lt. Colonel William Joseph Horvat, USAF, was born in Slovenia, Yugoslavia. He entered the United States in 1924, obtained his citizenship in 1936, and during his college career majored in Military Sciences at the University of Southern California, University of Maryland, and the University of Alabama.

He enlisted in the U.S. Air Force in 1940 and graduated from Officers Candidate School in 1943. Most of his overseas duty was in England, and his latest assignment there was squadron engineer officer for air-sea rescue operations. He was processed out of the Air Force in December 1945 and returned to active duty in August 1947.

After graduating from Command Staff School he was Materiel Liaison Officer at Wright-Patterson Air Force Base. He served as Research and Development Project Officer with the Air Force Ballistic Missile Division, through 1961. Later he was assigned to the Communication Satellite Program, and more recently was Chief of Services at Hickam Air Force Base, Hawaii. Presently, Col. Horvat is Chief of Base and Transient Maintenance Branch, Maintenance Systems Division, Directorate of Maintenance Engineering, Hq. Air Force Logistics Command.