Seventy-five years ago this month, Army Air Service biplanes touched down in Seattle after circumnavigating the Earth.

Around the World

By C.V. Glines

Among the airmen who attempted the first around-the-world flight were (l–r) TSgts. Arthur Turner and Henry Ogden; Lts. Leslie Arnold, Leigh Wade, and Lowell Smith; Maj. Frederick Martin; and SSgt. Alva Harvey.

It has been 75 years since eight daring men of the US Army Air Service, flying in four single-engine, open-cockpit biplanes, took off from a lake near Seattle for a flight around the world. It was to be an ultimate test. If successful, it would stand as a historic milestone for aviation and especially for the young US flying service.

Early 1924 was a time of frail airplanes built of wood, wire, and cloth, with uncertain engines and wooden propellers. There were few instruments, and airports were mostly farmers' fields. Immediately following World War I, there had been a spirited national debate about the future of the armed services, which was resolved with the passage of the National Defense Act of 1920. It provided for a Regular Army, National Guard, and the Organized Reserves. It established the Air Service as a combatant arm of the Army.

The Air Service pilots who remained in uniform were encouraged to show that airplanes had a vital role in national defense. They began setting altitude, endurance, and speed records and were the first to cross the nation in less than a day, refuel in midair, and fly nonstop across

the country. Each flight was carefully planned and, although there were failures, the successes were newsworthy and expanded the range of possibilities for the airplane.

The announcement by the Air Service that eight of its airmen would attempt a round-the-world flight captured the public's attention.

Planning Begins

Maj. Gen. Mason M. Patrick, Chief of the Army Air Service, authorized his staff to begin intensive planning for such a world flight in the summer of 1923. There were scoffers who said it couldn't be done; others said that, if it were attempted, it certainly should not be at government expense. The obstacles to be overcome were formidable. Extremes in climate and the lack of facilities for aircraft posed the greatest threats to success.

The preparation was the most thorough that the Air Service had ever undertaken for a single mission. Working under then–Lt. Col. James E. Fechet (later Chief of Army Air Corps) was a 10-man committee headed by Lt. Robert J. Brown. Four basic decisions were recommended. Five two-place, open-cockpit biplanes with interchangeable wheels and floats should be built to Air Service specifications. One would be a prototype for testing, and four would actually make the flight, to improve the likelihood that at least one would succeed.

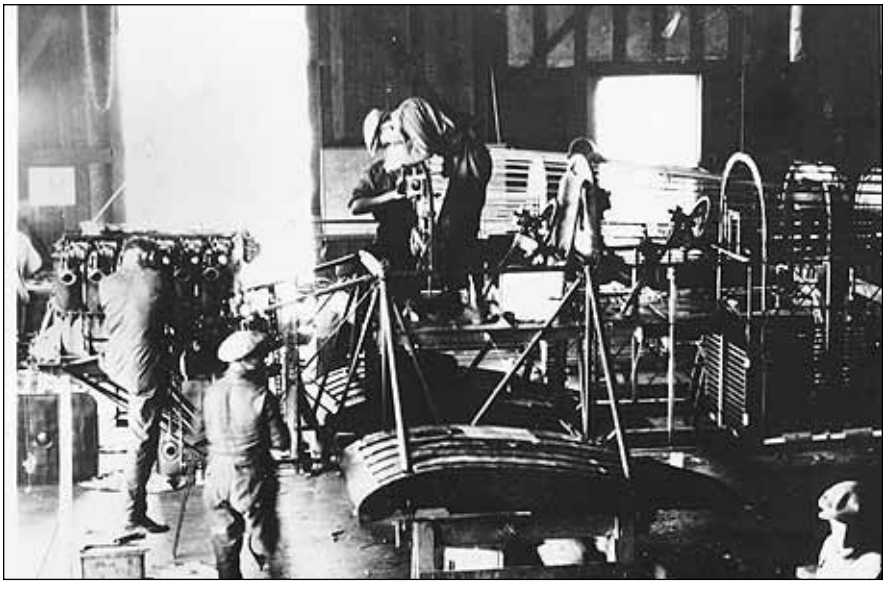
Second, it was decided that, with an early spring 1924 departure, the crew would fly westward to fly the safest route available. By flying against the prevailing winds, they would traverse Alaska before the arrival of intense spring fogs, advance through Japan and China ahead of the typhoon season, miss the monsoons in Burma and India, and cross the North Atlantic before Arctic winter weather arrived.

Third, other government agencies should be asked to support the effort. The State Department had to exert extensive diplomatic effort to arrange for visas and overflight permissions. The Navy, other Army branches, the US Coast Guard, the Commerce Department, the Aeronautical Chamber of Commerce, and American companies located in the countries to be

visited were to be asked to support the effort logistically and stand by for search and rescue assistance.

Last, the eight fliers were to be the most experienced Air Service airmen available, preferably experienced in long-distance flying. They would have to take training in operating seaplanes and be able to perform their own maintenance throughout the flight.

All recommendations were approved by the War Department by the fall of 1923. Lt. Erik H. Nelson drew up the specifications for the five aircraft, and Donald W. Douglas, a young aircraft manufacturer of seaplanes in Santa Monica, Calif., agreed to make them, based on his Navy DT-2 torpedo bomber but with significant changes for long-range operation.



The airplanes, called Douglas World Cruisers, were to be dual-controlled, have gas capacity increased to 644 gallons for a range of 2,200 miles, have a larger radiator for the 12-cylinder water-cooled 420-hp Liberty engine, increased rudder surface, strengthened bracing, increased upward visibility for the pilot, and the mechanic's seat in the rear moved closer to the pilot. They would each have engine instruments, altimeter, turn-and-bank indicator, drift indicator, and compass but no radio.

Preparing the Route

The route selected went from Sand Point on Lake Washington near Seattle through the Aleutians, across the Pacific to Japan, down the China coast, west to India, through the Middle East, across Europe and the Atlantic, and back to Seattle via Washington, D.C. The route was divided into six segments. Advance officers were assigned to inspect and set up the facilities for the airplanes' arrival at 68 locations. Aircraft parts, engines, and replacement wheels and pontoons were to be procured and placed in appropriate locations.

Capt. St. Claire Streett, who was responsible for the route planning, pored over maps and weather charts in Washington while Lt. Clarence Crumrine spent the summer and winter of 1923–24 exploring Greenland, Iceland, and the Faeroe Islands for the trans-Atlantic hop. Capt. Lorenzo L. Snow was assigned to make diplomatic arrangements. Lt. Clayton L. Bissell was the advance man for the flight from Seattle to Attu in the Aleutians. Lt. Clifford C. Nutt, was assigned to arrange for the Japanese stops, while Lt. Malcolm Lawton was responsible for the route through China and Southeast Asia to Calcutta, India. Lt. Harold A. Halverson departed to prepare for the segment from there through the Middle East. Maj. Carlyle Wash, assistant attaché for aviation in Paris, prepared for the European crossing.

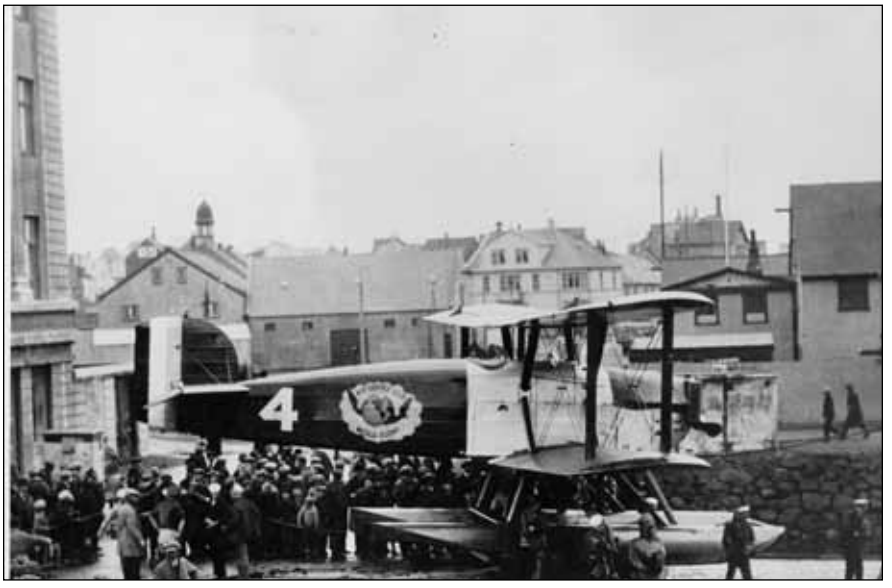
Lts. Crumrine, Bissell, and LeClaire D. Shultz made preliminary arrangements for the trip across the Atlantic to Boston and Capt. Burdette S. Wright, the balance of the flight across the US to Seattle. They immediately departed for their respective areas. Maj. William R. Blair, Signal Corps meteorologist, began a search for worldwide weather information.

The other departments of government offered cooperation without hesitation. Despite the controversy over defense appropriations and the vigorous debate about the future role of the Army Air Service being stirred by Brig. Gen. William

Top left, construction of the modified Douglas World Cruisers took place at Douglas facilities in Santa Monica, Calif. The aircraft were based on Navy torpedo bombers but received modifications for long-range operation. Above, near the end of the historic flight, the Cruisers fly over New York City Sept. 8, 1924.

L. "Billy" Mitchell, deputy Air Service chief, the Navy furnished charts along coasts where water landings could be made and assigned ships to patrol positions along the ocean routes. The Coast and Geodetic Survey supplied maps of Canada, the Aleutians, and the Atlantic route. The Coast Guard and Bureau of Fisheries also assigned patrol ships along the Aleutians, and the National Geographic Society supplied additional regional information. Streett then prepared a detailed guidebook and maps covering the 28,000 miles of the planned route.

Personnel were selected based on recommendations from commanding officers throughout the Air Service. The leader chosen was Maj. Frederick L. Martin, 41, a Purdue University mechanical engineering graduate, then commanding the Air Service technical school at Chanute Field, Ill. Lt. Lowell H. Smith, 31, was recommended by Maj. Henry H. "Hap" Arnold. Lt. Leigh Wade, 27, who had trained with the RAF in Canada and had service in France, was the nominee from Bolling Field, D.C. The fourth pilot was Nelson, 35, a veteran of the 1920 flight to Nome, Alaska, and experienced in testing aircraft. The pilots then selected their "mechanicians." Martin chose SSgt. Alva L. Harvey; Smith selected TSgt. Arthur Turner; Wade chose TSgt. Henry H. Ogden (promoted to second lieutenant during the flight). Nelson requested Lt. John Harding Jr.



Enthusiastic crowds, like this one in Reykjavik, Iceland, greeted the aviation pioneers. Here,* New Orleans *is lifted from the water for an overhaul. It was still outfitted with pontoons which would be exchanged for wheels in Boston.

Building the Aircraft

During the winter of 1923–24, the pilots and mechanics stayed at the Douglas factory, monitoring the construction of the five airplanes. Nelson made several test flights in the prototype and recommended several minor changes to increase stability. He flew it to McCook Field, Ohio, and then to Langley Field, Va., where the pilots practiced operating with floats and took ground school courses in meteorology, navigation, and survival.

The crews returned to Santa Monica, tested the other four airplanes, and flew to Seattle, the official starting point, in mid-March 1924. There, they learned that Turner had a lung condition that disqualified him from flying. He was replaced by Lt. Leslie P. Arnold, 29, a pilot and mechanic. Meanwhile, 15 engines, 14 extra sets of floats, spare parts, and fuel were sent to advance positions in various parts of the world.

When the day of departure neared, the four airplanes were christened for American cities. Martin's airplane became *Seattle*; Smith's, *Chicago*; Wade's was named *Boston*; and Nelson's became *New Orleans*.

During this time of planning and preparation, the pilots of other nations were also attempting or planning to embark on world flights. British, Portuguese, French, Italian, and Argentine pilots announced their intentions to claim the coveted title of first to circumnavigate the globe. The press saw it as a race and began to follow the American preparations intensely. Some newspaper columnists predicted that none of them could win. The dangers were too great. Airplanes had not yet proven they were reliable enough to be operated over such long distances, especially over water, they said.

On the morning of April 6, 1924, the four rugged Douglas biplanes on pontoons lifted skyward and headed toward Alaska. The route took them northward to Sitka, Cordova, and Chignik, then westward to Dutch Harbor. However, Martin and Harvey, battling fog and high winds on the segment between Chignik and Dutch Harbor, became lost and crashed on a mountainside near Port Moller on the west side of the Alaska Peninsula. The Coast Guard immediately started a search.

Martin received minor injuries, but both managed to make a difficult 10-day hike to a cannery where they reported by radio that they were safe. They returned to the States on a fisheries steamer. Smith, next ranking man, was made acting commander and received orders at Dutch Harbor "to proceed to Japan at the earliest possible moment." The three remaining airplanes landed at Atka and Attu where they were delayed for several days because of the infamous Aleutian williwaws before continuing to Japan. Meanwhile, Navy ships carried fuel, spare parts, and supplies to the Japanese stops.

The three airplanes, en route to the Kuriles, had to deviate and land at Nikolskoye in the Komandorski Islands, forbidden Russian territory. Prevented from going ashore, they refueled from the US Coast Guard cutter *Eider* and continued to Japan where they made six stops and then three stops in China before proceeding to Hong Kong.

Ill Fortune for Some

While the Americans, favored by good planning and maintenance, were completing the first quarter of their itinerary, pilots of the other five nations were being defeated by inadequate logistics planning, poor maintenance, and accidents, so that all eventually failed in their quest to be first. As the World Cruisers edged into the tropics of Southeast Asia,

engine problems developed and Smith had to make a forced landing due to engine failure near Hue, French Indochina. A pre-positioned engine was brought from Saigon and installed. Pontoons still attached, the airplanes then made a risky shortcut flight over the impenetrable jungle of the upper Malay Peninsula from Saigon to Rangoon to save 800 miles.

During this southernmost part of the route, daily mishaps began to hound the crew members. At Rangoon, Arnold almost drowned, Smith collapsed from dysentery, and Nelson's airplane was rammed by a sampan. But these hindrances were overcome and the fliers continued to Calcutta by way of Akyab, Burma, and Chittagong, India (now Bangladesh), where the pontoons were exchanged for wheels. While in Calcutta, Smith also broke a rib when he fell into a hole.

Linton O. Wells, an Associated Press correspondent based in Japan who had been reporting the Pacific crossing, met the fliers in Calcutta. He was to return to Tokyo after the airplanes departed. However, Wells believed the big part of the story lay ahead and persuaded Wade to take him along so he could help by doing the injured Smith's work. He was not a stowaway as reported by some; permission had been requested from Washington but no reply had been received. Wade allowed Wells to squeeze in beside Ogden in the rear cockpit of *Boston* and flew from Calcutta to Karachi via Allahabad, Ambala, and Multan. It was a miserable flight in 120-degree heat and sand storms. At Karachi, a message was received denying Wells permission to fly in an Army airplane. By this time, all three airplanes needed engine changes which were made at a Royal Air Force depot by the Americans working 16-hour days.

The trio then flew to Chah Bahar and Bandar Abbas in Persia (now Iran) and Baghdad, Mesopotamia (now Iraq). Syria was next, then Constantinople (now Istanbul), Bucharest, Budapest, and Vienna. Although very exhausted by this point, the six fliers headed toward Paris to be there for the annual July 14 Bastille Day celebrations. Instead of rest, however, they had to attend luncheons, receptions, press interviews, radio broadcasts, autograph sessions, and an evening at the Folies Bergere where they all fell soundly asleep.

The Most Dangerous Leg

The Americans were escorted by French and English military and civilian airplanes on the next leg from Paris to London, where they stayed briefly before proceeding to Brough Airdrome on the Humber River near Hull. The next 13 days were spent changing engines and exchanging the wheels for pontoons. Meanwhile, the US Navy positioned several ships along a line from Scotland to Boston, considered the most dangerous leg of the trip.

Flying* Seattle** ***in fog and high winds along the Alaskan peninsula soon after the around-the-world flight began, Martin (left) and Harvey crashed into a mountain and spent 10 days making their way back to civilization.

The three airplanes left Brough for Kirkwall in the Orkneys where USS *Richmond,* the flagship of the armada, was waiting. Fog grounded the airplanes for several days, but when the weather was reported as favorable on Aug. 2, they took off together for Iceland, hoping to be able to remain in contact with the surface of the sea. But shortly after takeoff, they ran into a thick fog bank. *Chicago* and *Boston* climbed and came out on top, but Nelson in *New Orleans* nearly spun in when he lost control briefly. He recovered a few feet above the water and climbed to the top of the fog layer where he found himself all alone and continued to Iceland by dead reckoning.

Meanwhile, when Nelson was not sighted, Smith and Wade returned to Kirkwall to sound an alarm. Smith flew low over the town's main street and dropped a message:

Contact Richmond. Start search for Nelson.

The pair landed in the harbor to wait for word. Early that evening, a message arrived from Horna Fjord, Iceland:

Got into propeller wash and near tail spin Came out just above water past fog belt Arrived five thirty seven. Nelson

Wade and Smith departed for Horna Fjord the next day, but *Boston's* engine suddenly lost oil pressure between the Faeroe Islands and the Orkneys and Wade landed it safely. Seeing that Wade and Ogden were not injured, Smith decided not to land. He dropped a note to a Navy destroyer about Wade's landing and proceeded to Horna Fjord to join Nelson. Wade and Ogden spent about six hours drifting on a rapidly swelling sea. Their signal flares alerted a British fishing trawler and they were taken in tow until USS *Richmond* arrived. *Boston* was damaged during the trawler's tow and Wade and Ogden hoped they could repair it aboard *Richmond.* They drained the airplane's gas and oil, handed their tools to the deckhands, and climbed aboard. Wade described what happened next.

All Hell Breaks Loose

"We stood on the ship's deck [and] watched the crane swing over the side and drop its hook. ... The lift signal came and the *Boston* started rising out of the water. Then all hell broke loose. Five thousand pounds of hoist-

ing gear wrenched off its mooring and crashed down on the plane. The *Boston* was a broken mess."

When it was obvious that the airplane was so badly damaged it couldn't be repaired, Wade signaled to cut it loose and let it sink. "We bade farewell to our friend who had carried us so far around the globe," he said. "We headed for Iceland with heavy hearts."

Smith wired Washington about the loss of *Boston* while Wade and Ogden proceeded aboard *Richmond* to Iceland and then to Nova Scotia. *Chicago* and *New Orleans* flew to Reykjavik, Iceland, and Frederiksdal, Greenland. It was a harrowing 886-mile, 11-hour flight outside the shipping lanes and the naval escort. The last 300 miles were flown at wave-top level dodging mist-hidden icebergs.

President Calvin Coolidge (holding hat) and several Cabinet members greeted the world travelers when they stopped at Bolling Field, D.C. Shown (l–r) are Arnold, Ogden, Smith (shaking hands), and Wade. Although the* Seattle *and* Boston *cruisers were lost to accidents,* Chicago *and* New Orleans *are in museums today.

Chicago and *New Orleans* then flew on through fog and rain to Icy Tickle, Labrador. En route, *Chicago's* fuel pump failed and Arnold had to use the emergency hand pump for the rest of the flight. "I pumped until I thought I just couldn't pump any more," he said. "Then I'd look down at the cold water and start all over again."

Meanwhile, the prototype World Cruiser had been ordered to Pictou Harbor, Nova Scotia, and Wade and Ogden joined the other two airplanes in the hurriedly named *Boston II*. The three then proceeded to Mere Point, Maine, and Boston, where the pontoons were exchanged for wheels. Mitchel Field, N.Y., was next, then on to Bolling Field, where the crews were greeted by President Calvin Coolidge and Cabinet members.

After Washington, the three crews hopscotched across the country, stopping at 14 cities in nine states, where they were met by hordes of enthusiastic crowds. The reception at Santa Monica, home of the Douglas plant, was exceptionally vigorous and Wade received two broken ribs when an overeager greeter gave him a bear hug; it was his only injury on the trip.

This was not the end of the unprecedented journey since Seattle had been designated as the official starting point. The airplanes arrived there Sept. 28, 1924, 175 days after their departure. The official statistics show that two of the airplanes and their crews had flown 371 hours, 11 minutes, and covered 26,345 miles. They had flown over 28 different nations and colonial mandates and made 72 stops. In addition to being first to conquer the globe by air, the flight was the first across the Yellow Sea and first to cross both of the world's largest oceans during the same trip. A world orbit in an open-cockpit, single-engine airplane has never been duplicated.

Just as the men were honored for their historic aviation "firsts" during their lifetimes, *Chicago* and *New Orleans* have also been venerated. *Chicago* holds a place of honor in the National Air and Space Museum in Washington, D.C. *New Orleans,* formerly in the US Air Force Museum at Wright–Patterson AFB, Ohio, is now located at the Museum of Flying at Santa Monica, the birthplace of the five Douglas World Cruisers. ▪

C.V. Glines is a retired Air Force colonel and longtime contributor to Air Force *Magazine. His 31st book, a biography of Col. Bernt Balchen, the famous polar aviator, will be published by Smithsonian Institution Press this month.*