Meeting the need for speed

by Michael Lombardi

75 years ago, Boeing introduced the Model 247, the world's 1st modern airliner

In 1933, the world was at the depth of the Great Depression. But standing in stark contrast to this economic crisis was the aviation industry, which was experiencing a period of growth and rapid change as air travel started to become something more than a novelty. New air routes were crossing the United States, allowing coast-to-coast passenger travel as well as the delivery of freight and mail. All that was needed was speed.

Advances in the science of airplane structures made it possible to leave behind wood and fabric in favor of stronger all-metal

The first Boeing Model 247 is parked outside the Boeing hangar on the east side of Boeing Field in Seattle the day before it would make its first flight.

BOEING ARCHIVES PHOTO

construction. Fast, streamlined monoplane designs were the look of the future of air travel, and Boeing introduced that future on Feb. 8, 1933, when the Boeing Model 247 took to the air for the first time.

A star of the 1933 Chicago World's Fair, the Boeing Model 247 was the world's first modern airliner. It incorporated the latest knowledge in streamlined, all-metal monoplane construction as well as retractable landing gear, variable pitch propellers, wing deicers, trim tabs and an autopilot.

It took the Model 247 20 hours, with seven stops, to fly between New York and Los Angeles. While that may seem like a long trip by today's standards, it was more than seven hours faster than any other airliner. The ability to cross the United States in less than a day changed air travel overnight.

Boeing was at the forefront of modern airplane design and had been a pioneer in the introduction of all-metal monoplane designs, leading with the Model 200 Monomail and also pioneering the first all-metal monoplane bomber for the U.S. military, the B-9. Both of these programs, while groundbreaking, proved to be interim steps whose lessons learned led to the development of the Model 247.

The design philosophy behind the 247 was to maximize speed and minimize costs. To do this, it was proposed by the Boeing development team, led by Chief Engineer C.N. "Monty" Montieth, that a small twin-engine airplane, based on the B-9, would be safer and more useful to the airline customers than the larger three-engine planes already in service or under development. At the time, designers felt that large planes were structurally weak. Most pilots felt that they were unstable in weather and favored smaller, more maneuverable, transports.

While Boeing engineers focused on speed, there was also great emphasis put on the passenger experience. Even though the cabin of the 247 appears cramped and maybe even a bit treacherous by today's standards (passengers in the forward seats and the crew had to be careful while stepping over the wing spars that ran across the aisle), the 10 passengers flew in great comfort. The cabin featured temperature controls as well as individual reading lights and overstuffed seats that were 40 inches (102 centimeters) apart. A great deal of research went into insulating the cabin from both the cold of high altitudes and the noise of the engines.

The revolutionary 247 was the first Boeing commercial plane to be ordered by a non-U.S. airline when Lufthansa ordered two, and one was ordered for a private owner in China. In all, Boeing built 74 247s.

The 247 remained in major airline service until World War II, when several were converted into Army C-73 transport trainers and others were transferred to airlines spanning the Americas, from Avianca to Wien Air Alaska, and in Europe to the Royal Air Force.

The early success of the 247 was to be its undoing. The initial order for the 247 came from United Air Lines for 60 airplanes. At the time this huge order was a tremendous boon for Boeing, but it would quickly turn out to be a miscalculation that essentially knocked Boeing out of the commercial airplane business until the introduction of the 707.

At the time both the Boeing Airplane Company and United Air Lines were subsidiaries of the United Aircraft and Transport Corporation, and it was only natural for Boeing to support United in achieving an edge over its competition. When Trans Continental and Western Air came to Boeing to order the 247 and were told that it would have to wait until Boeing delivered all the United planes, TWA instead turned to Douglas Aircraft to see what Donald Douglas' team could do to challenge the new Boeing airplane.

The result was the DC-1, an airplane based on the 247 design but larger and faster. The DC-1 was the prototype of the production DC-2, which ultimately led to the legendary DC-3. The Douglas DC series would go on to monopolize the commercial airplane business until the introduction of the 707. During that 25-year period, Boeing would produce only 78 commercial airplanes.

Today it's still possible to see a 247. The most famous 247, flown by Roscoe Turner and Clyde Pangborn in the London-to-Melbourne, Australia, race of 1934, is on display in the Smithsonian Institution's National Air and Space Museum in Washington, D.C. The plane—also known as "Adaptable Annie"—served as an airliner with United Air Lines and as a research plane with the Civil Aeronautics Authority (forerunner of the Federal Aviation Agency) before it was handed over to the care of the Smithsonian.

The only flyable 247 was restored by the Boeing Management Association and is in the collection of the Museum of Flight in Seattle. The airplane currently is in storage and undergoing restoration at Paine Field in Everett, Wash.

A flyable DC-2 has recently joined the 247 as part of the commercial airplane collection at the Museum of Flight. The future display of these two landmark planes standing together will remind future generations that Boeing and Douglas ushered in the age of speed, reliability, safety and comfort in air travel, building a tradition of innovation that continues to this day with the 787. ■

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