

■ HISTORICAL PERSPECTIVE

The Dash-80 (top) and a B-52 Stratofortress salute the rollout of the first KC-135 and the last KC-97 at the Boeing site in Renton, Wash., on July 18, 1956.

Start of a PROUD MISSION



BOEING ARCHIVES PHOTO

The first KC-135 tanker aircraft rolled out 50 years ago this month

By MICHAEL LOMBARDI

It's a rare treat to see a classic 1957 T-bird or Corvette classic car cruising down the road. It might not seem as nostalgic to see a KC-135 Stratotanker fly overhead, even though the airplane type went into service the same year as those classic cars. Yet the Boeing C/KC-135 family—which this month celebrates the 50th anniversary of the first KC-135 rollout—continues to thrive, flying a variety of support missions for the U.S. Air Force as well as allied air forces. The most important of these: the role of aerial tanker, a flying gas station able to refuel other military planes while in flight.

The KC-135 was born out of necessity and innovation. In the early 1950s, Strategic Air Command was beginning to operate the new jet-powered Boeing B-52 Stratofortress that with in-flight refueling was capable of striking targets anywhere in the world. At the time, however, the only tankers in the SAC inventory were piston-engined Boeing KC-97s. The difference in performance between the two planes forced the B-52 to fly near its aerodynamic stall speed while performing the already difficult process of aerial refueling.

This situation created an opportunity for Boeing to introduce a jet-powered aerial refueling tanker—and further refine the “flying boom” refueling technology it invented in the late 1940s.

In 1948, the Air Force asked Boeing to develop a more efficient aerial fueling system that would address the deficiencies of the hose system developed in Great Britain. The existing system, which trailed a hose behind the tanker, had many drawbacks including slow rate of fuel transfer, as well as difficult and dangerous contact procedures.

In response, Boeing invented the flying boom. This system features a telescoping tube that trails underneath the tail of a tanker aircraft and is flown by an operator controlling two small wings called “ruddevators.”

The first airplanes equipped with the flying boom were 116 Boeing B-29 Superfortresses modified at the Boeing plant in Renton, Wash., and re-designated KB-29Ps (the letter “K” is the U.S. military code for a tanker aircraft). In response to a demand for even more capable tankers, Boeing re-designed the C-97 Stratofreighter into a dedicated aerial refueling tanker and built 811

KC-97 flying boom tankers, also at Renton.

Seeing the need for a jet-powered tanker to keep pace with the B-52, as well as the potential for such a plane to be used as both a commercial and military transport, Boeing used \$16 million of its own funds to develop a prototype jet transport, the Model 367-80—popularly known as the “Dash 80.”

The Dash 80 led to two airplanes: The 707, the world's first successful commercial jet; and the Model 717, the world's first production jet tanker—better known as the KC-135 (717 was also used as the product designation for the MD-95 after the Boeing–McDonnell Douglas merger). The Dash-80 is now on permanent display in the Boeing Aviation Hangar at the National Air and Space Museum's Steven F. Udvar-Hazy Center near Washington, D.C.

Today, Renton's known as the home of the 737. But it also has the distinction of having been the production site for Boeing aerial refueling “boom” tankers, including all C/KC-135 airplanes.

To honor its birthplace, the first KC-135 proudly displayed the name “City of Renton” on its nose when it rolled out on July 18, 1956. To christen the airplane, the wife of the mayor of Renton used a bottle of water from the Cedar River, which runs through both Renton and the Boeing site.

In the same ceremony, the last KC-97—

the world's first production aerial tanker and the last production piston-powered airplane Boeing built—was rolled out as well.

The last KC-135 entered the U.S. Air Force fleet in 1965. Nearly 500 of the 732 tankers built remain in service. Boeing continues to maintain, upgrade and support the KC-135 fleet, through the Support Systems business in Integrated Defense Systems.

In 1979, Boeing began replacing the KC-135's 1950s-vintage engine with the more fuel-efficient, quieter and cleaner CFM56 engine. The re-engined tanker, designated either the KC-135R or the KC-135T, is 27 percent more fuel-efficient with performance increases that allow two KC-135Rs to do the job of three KC-135As. Compared with the KC-135A, the reengined aircraft can offload 50 percent more fuel, is 25 percent more fuel efficient, costs 25 percent less to operate and is 96 percent quieter.

The only other company to provide flying boom tankers to the Air Force has been McDonnell Douglas, now part of Boeing. Twenty-five years ago, McDonnell Douglas began delivering the first of 60 KC-10 Extenders to the Air Force, based on the DC-10 commercial airliner. Today the KC-135 and KC-10 continue to serve around the world as the only flying boom tankers that can refuel Air Force aircraft. ■



Boeing test pilots Tex Johnston and Dix Loesch (on ladder) prepare to take the first KC-135 up for its first flight on Aug. 31, 1956.