



The C-17 Reaches THE END OF THE LINE

After a 20-year production run, Boeing has delivered the Air Force's final Globemaster III.

Boeing delivered the 223rd and final C-17 to the Air Force on Sept. 12, completing the service's order for the Globemaster III after a production run that lasted 20 years.

Since the first C-17 unit began mobility operations in January 1995, the aircraft has become the workhorse of the air mobility fleet, rapidly delivering people, supplies, and equipment around the globe while being widely praised for its versatility and reliability.

McDonnell Douglas won the C-X contract in August 1981. Based on the company's YC-15 concept demonstrator, the C-17 was judged to be low risk because it would be based on "proven" technologies.

But the project was hardly an engineering milk run. The C-17 was being asked to do things a giant airlifter had never done before, such as land on unimproved airstrips, land on short fields, taxi in a tight space, and even back up on a runway, all

while delivering superheavy, outsize cargo at strategic distances.

The C-17 had to overcome flight-control problems, wings that were unable to carry their designed maximum load, automation growing pains, and a crew size reduced to just two pilots and a loadmaster. There were also teething problems in using new computer-aided design methods.

The program's early years were troubled. Several generals and a host of company managers were fired during development and initial production.

The C-17 was threatened with cancellation, and Pentagon leaders delivered an ultimatum that if it couldn't be shaped up, some other transport aircraft—such as a cargo version of the Boeing 747—would be substituted.

Planned procurement numbers tell the tale. The C-17 program was originally to deliver 210 airplanes; that was reduced to 120, then 40, and as low as eight before

the program regained its footing. The figure began to rise—to 140, then 160, then 180—as deliveries and costs improved. Congress ultimately boosted production to 223 aircraft, leaving a force of 222 (one was lost in an accident)—notably, a dozen more than the original Cold War requirement.

It all came to a head in 1994, when the Air Force and McDonnell Douglas agreed to a get-well plan. Both the service and the company would pony up cash to fix the C-17's deficiencies. Requirements were reset to more realistic standards, giving the aircraft more breathing room. Lawsuits on both sides were dropped.

Fairly quickly, the project turned around. Air Force and corporate leaders praised the new spirit of cooperation and communication. Delays diminished; eventually, aircraft came to be delivered ahead of schedule. Quality improved, and costs began to drop. What was once known as the "problem-



Boeing photo



Far left: C-17 pilot Capt. Angela Hodgson performs a walk-around check before a mission in Southwest Asia. Left: The first C-17 flies in 1991. Below left: The first two production Globemaster III aircraft near completion at the McDonnell Douglas facility in Long Beach, Calif. After a troubled start, the C-17 program recovered to become an operational and acquisition success story.

plagued C-17” acquired a new reputation as an acquisition and operational success story.

“It performs tremendously. It has such a wide range of mission capabilities,” said Robert Steele, the Air Force’s C-17 deputy program manager.

Over its nearly two decades of service, the Air Force’s C-17 fleet has logged more than 2.6 million flight hours, according to Boeing. It acquired the C-17 program as part of its merger with McDonnell Douglas in 1997.

In addition to combat support activities, C-17s have provided humanitarian relief after every major natural disaster, said Nan Bouchard, Boeing’s C-17 program manager. The aircraft also perform missions such as transporting satellites to launch bases and hauling gear during presidential trips.

From Sept. 11, 2001, to Sept. 4, 2013, Air Force C-17s flew more than 550,000 missions—some two million

flying hours—carrying nearly six million passengers and four million tons of cargo, said an Air Mobility Command spokeswoman. Since 2006, C-17s have air-dropped more than 84,000 bundles and 132 million pounds of cargo.

Despite that pace, the C-17 has had the highest mission capable rate of any mobility platform year over year, said Steele. “We are at basically 84 percent-plus ... over the last six years.”

Today’s C-17 fleet averages about 10,000 flight hours per airframe, according to Air Force Materiel Command. The oldest production C-17, tail No. 91192, has nearly 20,000 flight hours. That aircraft arrived at Charleston AFB, S.C., in June 1993. It became part of the 17th Airlift Squadron, the first C-17 combat-ready unit.

The airframes are holding up “very well,” despite the fact that the Air Force uses them “extensively and in pretty difficult environments,” Steele said. “We have not

seen any significant issues, ... just normal wear and tear.”

While the Air Force is doing a number of studies and analyses on the airframes, there are no service life extension initiatives underway right now, he noted.

The C-17 remains the backbone of US airlift capability and “the premier airlifter of the world,” according to Col. David Morgan, chief of the C-17 combined program office. It is a “very dependable, very reliable airframe,” he said.

Each time the C-17 got within a couple of years of reaching its planned last USAF delivery, Congress directed that more be bought. These extensions also helped accommodate international buyers. Six countries—Australia, Britain, Canada, India, Qatar, and the United Arab Emirates—now operate C-17s, and a consortium of 13 European countries shares three aircraft. Boeing reports more international orders are in the works.

The Air Force is now focused on standardizing C-17s to a common configuration, giving each one extended fuel tanks and other enhancements developed in later production.

Maj. Gen. Timothy M. Zadalis, commander of the 618th Air and Space Operations Center at Scott AFB, Ill., said the Air Force would face “a much greater challenge” in providing global reach in support of national objectives without the C-17 fleet and its aircrews and maintainers. The center coordinates the activities of the Air Force’s strategic airlifters and tankers.

“The C-17 offers incredible versatility to satisfy airlift, airdrop, and aeromedical evacuation mission sets into a variety of operating environments, from well-established airfields to austere semiprepared landing surfaces,” he said in a written statement. The aircraft, “along with the team of mobility enterprise airmen around the world, allows us to answer the call, so others may prevail.”

The C-17 is expected to serve USAF well into the 2050s. ■

Executive Editor Michael C. Sirak, Executive Editor John A. Tirpak, and Associate Editor Merri M. Shaffer contributed to this report.