

25 Years Ago, July-August 1991



July 1 After a distinguished 40-year run, the Avro Shackleton patrol aircraft is retired by the U.K. Royal Air Force. Based on the historic Avro Lancaster heavy bomber of World War II fame, the Shackleton is to be replaced by Boeing E-3 Sentinels. David Baker, *Flight and Flying: A Chronology*, p. 87.

50 Years Ago, July-August 1966



July 1 Astronaut Edward White, the first American to make a spacewalk, is presented the General Thomas D. White Space Trophy from U.S. Air Force Secretary Harold Brown, at the National Geographic Society in Washington, D.C. The award was established in 1961 and is given to an Air Force officer, or a unit, that makes the foremost contribution to the progress of U.S. aerospace. *New York Times*, July 12.

July 5 The Apollo-Saturn AS-203 mission of the Saturn 1B vehicle is launched from the Kennedy Space Center, Florida, to gather flight data on the vehicle's second stage and Instrument Unit that are to be adapted to the Saturn 5 configuration. This is the second flight of the two-stage Saturn 1B and carries the unmanned second stage, Instrument Unit and nose cone into a 188-kilometer circular orbit. The second stage first ignites in the atmosphere during the ascent, then shuts down and is restarted after coasting. This reignition of the second stage is a demonstration of what would be required for the more advanced Saturn 5. *New York Times*, July 6, p. 1; *Flight International*, July 14, p. 86.

July 12 The Northrop M2-F2 Lifting Body, designed to acquire aerodynamic and controllability data toward the development of future manned spacecraft re-entering the Earth's atmosphere, makes its first flight when it's launched from a B-52 bomber from an altitude of 13,716 meters, then is maneuvered into a landing at 322 kph. This first MS-F2 is flown by NASA test pilot Milton Thompson. Another phase of the program, which later contributes to the Space Shuttle program, explores how such a craft can survive re-entry into the Earth's atmosphere. *New York Times*, July 18, p. 17.



July 15 NASA opens up permanent public admission to its Cape Kennedy Space Center in Florida. Previously, only private visits were allowed. Some two million visitors are projected for 1967, and three million annually by 1970. For a fee, visitors are driven around the launching area on buses. Later, the Kennedy Space Center Visitor Complex is established with exhibits of U.S. space program artifacts. *Flight International*, July 21, p. 117.

July 15 Boeing celebrates its Golden Jubilee, 50 years after William Boeing incorporated the Pacific Aero Products Co., which nine months later changed its name to the Boeing Airplane Co. ("Airplane" was later dropped). Boeing's first major developments were seaplanes, but the company went on to produce bombers, fighters, commercial planes, missiles, rockets and spacecraft. *Flight International*, July 28, p. 123.

July 18-21

The U.S.'s Gemini 10 mission, flown by command pilot John Young and pilot Michael Collins, carries out low-orbit docking of the spacecraft with the Gemini Agena Target Vehicle booster launched 100 minutes earlier. A second rendezvous and docking is also achieved. Collins also conducts two spacewalks with the aid of a tether. During the second walk, he becomes the first person to meet another spacecraft in orbit during a spacewalk and retrieves a cosmic dust-collecting panel from the side of the Agena. Recovery is made just 5 kilometers off target in the Atlantic Ocean and 8 kilometers from the recovery ship, U.S.S. *Guadalcanal*. *Aviation Week*, July 25, pp. 26-30.



Aug. 10 The Lunar Orbiter 1 unmanned space probe is launched by an Atlas-Agena D vehicle from Kennedy Space Center, the first U.S. attempt to orbit the moon and photograph potential landing sites for Project Apollo astronauts. The 387-kilogram probe enters into a lunar orbit on August 21 with a 40 kilometer perigee and 1,817 kilometer apogee. A total of 413 photos are taken and transmitted back to Earth before Lunar Orbiter 1 crashes on the lunar surface. *Washington Post*, August 14, pp. A1, A6.



Past

An Aerospace Chronology
by **Frank H. Winter**
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Aug. 11 The X-15 hypersonic rocket research aircraft, flown by NASA test pilot John McKay, reaches a speed of 5,650 kph (Mach 5.15) and an altitude of 76,505 meters, where he carries out a micrometeorite collection study as well as an ultraviolet stellar photography experiment.

Although the X-15 primarily conducts extremely high-speed aerodynamic research flights, this is among the more unusual flights that include astronomical experiments. Dennis R. Jenkins, X-15: Extending the Frontiers of Flight, p. 650; New York Times, August 14, p. 8.



Aug. 17 The new, more powerful Aerobee 350 liquid-propellant sounding rocket, with 27,216-kilogram thrust, completes its second developmental flight and reaches a 357-kilometer altitude before landing in the Atlantic Ocean, following its launch from NASA's Wallops Island, Virginia, launch station. The Aerobee 350 is the largest and most sophisticated of a family of historical sounding rockets that consists of a dozen models and has been in operation since 1948. NASA, *Aeronautics and Astronautics*, 1966, p. 269.

Aug. 24 The Soviet Union launches its 3,000-kilogram Luna 11 space station toward the moon and carries scientific instruments to study gamma and X-ray emissions from the lunar surface toward the beginning of an analysis of the geochemical constituents of the lunar crust. Luna 11

also studies the Moon's magnetic environment. However, the spacecraft's cameras fail to work. On October 1, 1966, the spacecraft goes silent when its battery power runs out. David Baker, *Spaceflight and Rocketry*, p. 199.



75 Years Ago, July-August 1941

July 8 The Boeing B-17C Flying Fortress, known to the British as the Fortress 1, makes its combat debut. Furnished to the Royal Air Force on lend-lease, the planes conduct a daylight attack on Wilhelmshaven, Germany. P.M. Bowers, *Boeing Aircraft Since 1916*, p. 305.



July 18 One of Italy's best known pilots, Lt. Col. Arturo Ferrarin, is killed while testing a new aircraft. Ferrarin made the first Rome-Tokyo flight in 1920 and participated in the Schneider Trophy Races in 1927. He also established endurance and long distance records with Carlo Del Prete in 1928 in a Savoia-Marchetti 64 flying-boat, covering 7,665 kilometers in 58 hours 27 minutes and made other record flights. *Interavia*, July 23, p. 22.



July 19 Capt. Claire Chennault, retired U.S. Army Air Corps pilot, flies to Chungking, China, to become chief instructor of the Chinese air force controlled by Marshal Chiang Kai-shek. Subsequently, Chennault, who is called back into active service in 1942, leads the American volunteer group known as the "Flying Tigers" into combat against the Japanese. *Interavia*, July 23, p. 20.

Aug. 1 Grumman Aircraft's XTBF-1 Avenger prototype makes its first flight. This plane subsequently becomes the U.S. Navy's standard torpedo-bomber during World War II. Rene J. Francillon, *Grumman Aircraft Since 1929*, pp. 161-163.



Aug. 1 Three static tests are made with James Wyld's regeneratively cooled liquid-fuel rocket motor on the American Rocket Society's Test Stand No. 2 at Midvale, New Jersey. The average thrust of 556 newtons is considered a major U.S. breakthrough in the cooling of long-duration rockets. Eugene Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 42; Frank Winter, *Prelude to the Space Age*, p. 85.

Aug. 15 At the inauguration of the new Curtiss-Wright factory in Buffalo, New York, the 2,000th Curtiss P-40 single-seat fighter rolls off the assembly line at the old plant. At the same time, the prototype of the Curtiss P-40D is demonstrated in public for the first time. *Interavia*, September 8, p. 13.



100 Years Ago, July-August 1916

July 30 Two months after joining N.124, the squadron soon to be known as the Escadrille de Lafayette, American Raoul Lufbery achieves the first of his eventual 16 victories during World War I. David Baker, *Flight and Flying: A Chronology*, p. 87.



Aug. 16 The British submarine B-10 is the first sunk by aircraft when Austrian Naval Service planes raid the port of Venice and make a direct hit on the vessel while at her moorings. Alfred Price, *Aircraft versus Submarine*, p. 18.

