

## 25 Years Ago, June 1990

**June 1** West Germany's Rosat satellite is launched by a U.S. Delta 2 rocket from Cape Canaveral, Florida. Rosat, named after the famous German scientist Wilhelm Roentgen, who discovered X-rays in 1895, is designed to take photos in extreme ultraviolet light to gather data on intergalactic gases, black holes and other objects on the edge of the universe. *Flight International*, June 13-19, 1990, p. 29.

**June 7** Europe's first test firing of a liquid-hydrogen-fueled ramjet is made at MBB's site at Munich, Germany, toward the development of the Sänger space plane, although the Sänger is later canceled. The Sänger design, named in honor of the early Austrian pioneer of the space plane concept, Eugen Sänger, is a two-stage vehicle in which the first stage is initially propelled by a turbojet and then a turbo-ramjet to bring it up to Mach 6.6. The reusable Horus upper stage then takes off with its cryogenic rocket engine. *Flight International*, September 19-25, 1990, p. 26.



**Also in June 1990** Sabena becomes the first civilian airlines to use satellite communications data for air traffic control during scheduled operations in a trial experiment with the Inmarsat satellite. Sabena's Airbus A310-300 is used in the test. *Flight International*, June 20-26, 1990, p. 5.

## 50 Years Ago, June 1965

**June 3-7** The Gemini 4 mission is carried out, using a two-stage Titan 2 booster that carries astronauts James McDivitt and Edward White. Their spacecraft achieves 62 Earth orbits in 97 hours 56 minutes at 17,567-mph at an apogee of 174.8-miles and perigee of 100-miles. During the second orbit, White, equipped with a tether, emerges from the spacecraft for a space walk. The astronauts also perform medical and scientific experiments during the flight. Their capsule reenters the Earth's atmosphere on June 7 and is recovered in the Atlantic Ocean by a helicopter and taken to the recovery ship, the carrier USS Wasp. *The New York Times*, June 9, 1965, pp. 1, 22.

**June 8** The USSR launches its 3,179-pound Luna 6 space probe toward the Moon. But the probe misses the Moon by almost 100,000 miles. due to an unsuccessful mid-course maneuver when an engine used to adjust the spacecraft's trajectory cannot be switched off. *Tass* releases, June 8, 1965, and June 10, 1965.

**June 10** The first computer landing of an airliner is made with fare-paying passengers aboard, when a British European Airways Trident touches down in London. The



Trident is the first civil aviation aircraft certified to use the automatic-landing system known as Autoflare that was developed by Smith & Sons, Ltd., a British aviation engineering company, in partnership with Hawker

Siddeley Aviation Co. *The New York Times*, June 11, 1965.

**June 12** Canada's solid-propellant Black Brant 5B sounding rocket makes its first launch at Fort Churchill, Manitoba, Canada. *Missiles & Rockets*, June 28, 1965, p. 11.

**June 14** The Early Bird communications satellite successfully transmits, on an experimental basis, an electrocardiogram of a passenger on the S.S. France ocean liner, 2,000 miles at sea, to his physician in Paris. *The Washington Post*, June 15, 1965, p. A14.

**14 June** Carl Norden, the Dutch-born inventor of the famous bombsight named after him, dies at age 55 in Zurich, Switzerland. He emigrated to the United States in 1904, and in 1920, started work on the Norden U.S. Navy bombsight that was produced in 1927. It was an analog computer and was further developed and used by Army Air Force B-17s and other bombers during World War II. *The New York Times*, June 16, 1965, p. 43.

**June 15** In a surprise appearance, the Soviet Union's An-22 aircraft, the world's largest plane, lands at the International Air Show at Le Bourget, France. The AN-22 is said to be able to carry 720 passengers or 80 tons of cargo and weighs 250 tons with maximum cargo. Designed by Oleg Antonov and called the Antaeus, the



aircraft is powered by four turboprop engines, each with twin propellers. The range with maximum load is 3,100 miles at a cruising speed of 420-mph. *Aviation Week*, June 21, 1965, p. 24.

**June 16** Dr. Werner R. Kirchner, of Aerojet-General Corp., receives the James H. Wyld Propulsion Award from

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and **Robert van der Linden**

the American Institute of Aeronautics and Astronautics (AIAA). He is cited for "outstanding contributions to solid rocketry," including his development of the thrust-vector control and thrust reverser that made possible the use of large, solid-propellant rocket motors in ballistic missiles such as the Polaris. The New York Times, June 17, 1965.

**June 21** The 1.5-million-pound thrust F-1 rocket engine completes its 1,000th test firing. A cluster of five of the engines is to provide 7.5-million pounds of thrust for the first stage of the Saturn 5 to take men to the Moon. Marshall Space Flight Center Release 65-154.

**June 27** Six scientist-astronauts selected for the Apollo manned Moon-landing program are announced. They are: Owen Garriott, associate professor of physics; Edward Gibson, senior research scientist; Duane E. Graveline, flight surgeon; Lt. Cmdr. Joseph Kerwin, USN, staff flight surgeon; Frank Michel, assistant professor of space sciences; and Harrison Schmitt, astrogeologist. The Washington Post, June 27, 1965.

**June 28** The Early Bird 1 communications satellite begins commercial operations when President Lyndon Johnson formally inaugurates telephone service via the satellite in a 25-minute, six-nation conference call with European leaders. The New York Times, June 29, 1965, p. 12.

## 75 Years Ago, June 1940

**June 10** Italy enters the war on the side of the Axis powers. Upon Italy's entry in the conflict, the British Overseas Airways Corp. services to Italy are eliminated and all British Empire air services are suspended. Interavia, June 14, 1940, p. 11.

**June 12** The first production-built helicopter, the Focke Achgelis Fa 223 Drache, completes its initial flight. It is powered by a single 1,000-hp BMW Bramo radial engine that drives two rotors mounted outboard of the fuselage. Only 20 are built. David Baker, Flight and Flying: A Chronology, p. 253.



**June 18-19** The first large-scale air raid on Great Britain is undertaken by a hundred or more German Heinkel 111 bombers. Although they mainly attack RAF air stations, some of the bombs fall on two-story houses in a working-class district of Cambridgeshire, killing about a dozen civilians. The air station attacks are unsuccessful — six of the bombers are shot down by Spitfire fighters and one by anti-aircraft gunfire. Flight, June 27, 1940, p. 559.

**June 26** Congress authorizes construction of the NACA's third research lab near Cleveland, Ohio. Initially called the Aircraft Engine Research Lab, in 1948 it is renamed the Lewis Flight Propulsion Lab after George W. Lewis, who served as the NACA's director of aeronautical research from 1924 to 1947. Upon the founding of NASA in 1958, it is transferred into this organization and becomes the Lewis Research Center. E.M. Emme, ed., Aeronautics and Astronautics 1915-60, pp. 40, 99.



**June 28** Italian Air Marshal Italo Balbo is allegedly killed in an aerial engagement with British aircraft over Tobruk, Libya. Born in 1896, Balbo was an early leader in Benito Mussolini's Fascist movement and through political means gained his role in the Italian Air Ministry. It is claimed by some that Balbo was actually murdered on Mussolini's orders because he represented a political threat to his leadership. Interavia, June 29, 1940, p. 1.

## 100 Years Ago, June 1915

**June 7** The German Zeppelin L.Z. 37 is shot down by an incendiary bullet later known as the Brock bullet, after its inventor, British scientist Frank Brock. Brock bullets are used thereafter and bring down 12 of the 17 Zeppelins shot down. Alan St. H. Brock, A History of Fireworks, p. 26.



**June 8** Pioneering American aviator Glenn Curtiss is awarded a patent for his development of the stepped fuselage for flying boats. This revolutionary invention places a step approximately halfway along the underside of the fuselage to help break the surface tension of the water, allowing the aircraft to take off more easily. David Baker, Flight and Flying: A Chronology, p. 78.