

25 Years Ago, July 1984

July 17 The Soyuz T-12 mission to Salyut 7 is launched from Baikonur. The crew includes Svetlana Savitskaya, who on July 25 performs the first space walk by a woman. During this activity she conducts welding and soldering. Savitskaya is also the first woman to make two space flights. Her first was in August 1982. NASA, *Aeronautics and Astronautics*, 1979-84, pp. 491-492, 669.



50 Years Ago, July 1959



July 1 Kiwi-A, a nuclear reactor from the National Nuclear Rocket Development Program, operates successfully in its first test at Jackass Flats, Nev. One of a series of atomic reactors for studying the feasibility of nuclear rocket propulsion, it is developed by the Los Alamos Scientific Laboratory. The effort is sponsored jointly by the Atomic Energy Commission and NASA as part of project Rover/NERVA (nuclear engine for rocket vehicle application). E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 110; D. Baker, *Spaceflight and Rocketry: A Chronology*, p. 90.

July 7 The all-solid-fuel Javelin (also called the Argo D-4), the first U.S. four-stage test rocket, is launched from Wallops Island, Va., to an altitude of 750 mi. It carries a 40-lb Air Research and Development Command scientific payload to measure natural radiation surrounding Earth. This is the first in a series of Air Force/NASA-sponsored experiments. The Argo D-4 consists of an Honest John, two Nike booster rockets, and an Allegheny Ballistics Lab X-248 motor. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 110; *Aviation Week*, July 6, 1959, p. 87; *Aviation Week*, July 13, 1959, p. 28.

July 9 A model of an ion-propelled rocket becomes the first such missile to be tested in the new electric test rocket facility at NASA Lewis. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 110.

July 13 The Office of Naval Research launches the world's largest upper atmospheric plastic balloon to date, 6 million ft³, at Fort Churchill, Canada. It carries a 173-lb payload of science instruments. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 111.

July 14 The U.N. releases the report of its Ad Hoc Committee on the Peaceful Uses of Outer Space. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 110.

July 16 The world's second-largest reflector telescope, measuring 120 in., is dedicated at the Lick Observatory at Mount Hamilton, Calif. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 111.

July 20 NASA chooses Western Electric as the prime contractor to develop and construct a worldwide tracking and ground station network in preparation for the upcoming Project Mercury manned space program. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 111; D. Baker, *Spaceflight and Rocketry: A Chronology*, p. 90.



July 21 For the first time, a full-scale Atlas ICBM nose cone is successfully recovered after a flight across the Atlantic Missile Range. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 111.

July 22 NASA selects B.F. Goodrich to design and manufacture the one-piece pressure suit for its Project Mercury suborbital and orbital manned space flights. The development time is rapid—on Nov. 5, the seven Mercury astronauts are fitted with prototype suits in Goodrich's



factory in Akron, Ohio. Each suit cost \$75,000. D. Baker, *Spaceflight and Rocketry: A Chronology*, p. 90; *Aviation Week*, July 27, 1959, p. 41.

July 24 A Thor IRBM data capsule is successfully recovered near Antigua in the Caribbean. It contains movie footage taken of the nose cone separation. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 111.

July 29 At the start of the Sunflare II program, a two-stage solid-fuel Nike-Asp sounding rocket is fired from the Naval Missile Test Facility at Point Arguello south of Vandenberg AFB,

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An Aerospace Chronology
by Frank H. Winter and
Robert van der Linden
National Air and Space Museum

Calif. This is the first of a dozen such rockets to measure radiation and Sun flares 150 mi. up and is the first rocket fired from this facility. E. Emme, ed., *Aeronautics and Astronautics 1915-60*, p. 111; *Aviation Week*, July 20, 1959, p. 29.

75 Years Ago, July 1934

July 12 The British Rocket Syndicate of London, with capital of £1,000, is registered. The company is to "carry on all kinds of business connected with rockets or rocket-like projectiles capable of long range or travel, and adaptable to hold articles, to acquire inventions pertaining to rockets or rocket-like projectiles, aeroplanes, gyroscopes, gliding planes, vehicles, and boats." But because of a 300-year-old law that prohibits private rocket experimentation, the company does not survive. In addition, the British public is apathetic about rocket propulsion, and there is little money during the depression years for investment in such a speculative venture. *Flight*, July 12, 1934, p. 724; F. Winter, *Prelude to the Space Age: The Rocket Societies 1924-1940*.

July 13 Over 30 countries sign an International Sanitary Convention for Aerial Navigation white paper. They agree to establish special sanitary organizations at every airport in their territories, with the necessary staff and equipment for examining and, if necessary, isolating passengers, and means for disinfecting airplanes. The signatories must also give adequate notification of the existence of plague, cholera, yellow fever, typhus, and smallpox, and ensure that aircraft coming from infected localities land only at prescribed airports. *The Aeroplane*, July 18, 1934, p. 86.

July 13-14 Flight Lt. H.M. Schofield wins the 13th King's Cup Race for

light planes. He averages 134.16 mph in the final heat in a new Monospar S.T. 10 monoplane. The object of the race, which began in 1922, is to "improve the breed of British aircraft and to stimulate interest of the public in civil aviation." Participants must all be British subjects, and the airplanes entirely constructed in the British empire. *The Aeroplane*, July 18, 1934, p. 68.

July 25 Louis Bleriot, who made the first aerial crossing of the English Channel in 1909, is made an honorary life member of the British Royal Aero Club at special anniversary ceremonies in London. The French ambassador is present as are many early British aviation pioneers, including J.T.C. Moore-Brabazon, holder of British pilot's license No. 1, Frederick Handley-Page, Sir Alliot Verdon-Roe, Sir Alan Cobham, and C.F. Fairey. *Flight*, Aug. 2, 1934, p. 792.

July 28 Explorer I, the Army Air Corps/National Geographic Society stratospheric balloon, reaches an altitude of 60,613 ft from its takeoff site near Rapid City, S.D. The crew consists of Maj. W.E. Kepner, pilot; Capt. A.W. Stephens, scientific observer; and Capt. O.A. Anderson, alternate pilot. The metal gondola carries instruments to measure temperatures, cosmic ray activity, solar radiation, and pressure, but these are demolished when it crashes. Only the barographs, in their insulated balsa wood box, are recovered. The crewmembers return unharmed via parachute. *Aviation*, August 1934, pp. 264-265; E. Emme, ed., *Aeronautics and Astronautics 1915-60*, p. 111.

And During July 1934

—The four-engine Fokker F.XXXVI monoplane undergoes test flights. It is designed to carry 32 passengers on European airlines or 16 passengers on the Amsterdam-Batavia (Jakarta) Dutch service. For the latter, the plane offers fold-up sleeping berths. The craft has a top speed of 174 mph and a crew of five: two pilots, a wireless operator, a mechanic, and a steward. *Flight*, July 26, 1934, p. 763.

100 Years Ago, July 1909

July 25 Frenchman Louis Bleriot crosses the English Channel at the Straits of Dover in an airplane. This is considered the first significant step in aviation since the Wright brothers' 1903 flight. He covers the 31-mi. distance in his 11th airplane, the Type XI, powered by an Anzani three-cylinder motor rated at 35 hp. His altitude does not exceed 150-200 ft. Bleriot wins the £1,000 prize offered by *The Daily Mail* for the feat. This is the first practical demonstration of the potential of airplanes; earlier flights were usually of very short duration and distance. Bleriot, who had made a fortune manufacturing lamps for the first cars, began flying experiments in 1900. Earlier in the month he made a preliminary long-distance flight of 36 min 55 sec in Paris. C. Gibbs-Smith, *Aviation*, pp. 144, 148, 224, 245; *Flight*, pp. 453-461.



25 Years Ago, August 1984

Aug. 16 Using a three-stage Delta 3294 booster, NASA launches the active magnetospheric particle tracer explorers (AMPTE) from Cape Canaveral AFS. AMPTE consists of three subsatellites designed by the U.S., Great Britain, and West Germany to gather data about the transfer of mass from the solar wind to the magnetosphere. NASA, *Aeronautics and Astronautics*, 1979-1984, p. 495.



Aug. 24 Telecom 1 and ECS-2 satellites are placed into orbit by an Ariane 3 booster from Arianespace's facility in Kourou, French Guiana. This is the 10th flight of an Ariane and the first of the more powerful Ariane 3. NASA, *Aeronautics and Astronautics*, 1979-1984, p. 495.



Aug. 30 After four postponements, the new space shuttle Discovery is launched on its maiden flight. Its six crewmembers are commander Henry Hartsfield, pilot Michael Coats, mission specialists Judith Resnick, Richard Mullane, and Steven Hawley, and the first commercial payload specialist, Charles Walker of McDonnell Douglas. The crew deploy the SBS-4 communications satellite, which later uses its solid rocket booster to place itself in a geosynchronous orbit. Discovery also carries the Leasat-2 communications satellite leased by the Navy, and AT&T's Telesat-3. NASA, *Aeronautics and Astronautics*, 1979-1984, p. 495.

50 Years Ago, August 1959

Aug. 3 The Subroc antisubmarine missile makes its first test flight from the Naval Ordnance Test Station at China Lake, Calif. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 111.



Aug. 7 Explorer VI, a small satellite designed to study cosmic rays, trapped radiation of various energies, and other phenomena in the upper atmosphere, is successfully launched into a highly elliptical orbit by a NASA Thor-Able 3 launch vehicle. Known as a "paddlewheel satellite" because of its four solar cell paddles, it also tests a scanning device designed to photograph Earth's cloud cover. The satellite transmits the first pictures of Earth from orbit. It also acquires valuable data on radiation levels. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, pp. 111, 144; *Aerospace Year Book* 1960, p. 455.



Aug. 7 Naval reserve officer Malcolm Ross and Robert Cooper ascend to 38,000 ft in their open gondola Strato-Lab high-altitude observatory balloon. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 111.

Aug. 13 The Discoverer V reconnaissance satellite is placed into a polar orbit by an Air Force Thor-Agena A launch vehicle. However, on Aug. 19 its reentry capsule, which an Army-Navy task force was to have caught in midair as it para-

chuted down, is not retrieved because of malfunctions. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 112.

Aug. 17 The Nike-Asp solid-fuel sounding rocket, using a Nike-Ajax antiaircraft missile booster as its first stage and an Asp motor for the second stage, is successfully launched for the first time at NASA's Wallops Island Station, Va. The vehicle is designed to climb to 150-mi. altitudes to gather geophysical data on wind activity. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 112.

Aug. 19 A Soviet Il-18 turboprop transport with a 15-ton payload flies from Moscow to Melitopol, Ukraine, and back, at an average speed of 447 mph. Later the Soviets claim the flight broke five new records for piston and turboprop transports with payloads. *Aviation Week*, Aug. 31, 1959, p. 31.

Aug. 21 A Project Mercury "boilerplate" mockup capsule is launched by a Little Joe booster for purposes of activating and testing the escape and recovery rocket system atop the capsule. However, the escape rocket ignites 30 min prematurely. The capsule is carried up to 2,000 ft, then falls into the Atlantic Ocean. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 112; *Aviation Week*, Aug. 31, 1959, p. 33.

Aug. 27 A test version of the Polaris IRBM is successfully fired for the first time at sea from the USS Observation Island, off Cape Canaveral, Fla. *Aerospace Year Book* 1960, p. 456.

Aug. 27 The satellite tracking station at Woomera, Australia, successfully photographs the U.S. satellite Explorer VI from a distance of 14,000 mi. E. Emme, ed., *Aeronautics and Astronautics* 1915-60, p. 112.

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Aug. 29 A Navy technician withstands an acceleration of 31 *gs* in a centrifuge at the Aviation Medical Acceleration Laboratory at Johnsville, Pa. E. Emme, ed., *Aeronautics and Astronautics 1915-60*, p. 112.

75 Years Ago, August 1934

Aug. 5 G.E. Collins of the London Gliding Club soars in a glider from Dunstable Downs to Hunstanton, England, a distance of 95 mi. On the same day Philip Wills ascends to 6,000 ft in a glider from Sutton Bank, near Thirsk, England. Both feats are claimed as British gliding records. *The Aeroplane*, Aug. 8, 1934, p. 182.



Aug. 12 James Melrose sets a new around-Australia record in his De Havilland Puss Moth. His time of 5 days 11 hr beats by two days the record set by H.F. Broadbent in 1931. Melrose learned to fly 16 months before his Australia flight. *Flight*, Aug. 16, 1934, p. 836.

Aug. 17-Sept. 2 The International Aero Exhibition, the second to be organized by Denmark, takes place in Copenhagen. Great Britain dominates the foreign exhibitors at the show, which also features French, Czech, Soviet, and Danish military craft. There is no room to exhibit the Ant-20 (Maxim Gorki) and Ant-14 (Pravda) Soviet aircraft except as models. The only full-sized Russian plane, flown

by Vasily Molokov, is the two-seater that rescued nine members of the Chelyuskin Expedition from the Arctic Ocean ice floes. The 850-hp M-34 and 650-hp M-48 Russian engines are also on display. *Flight*, Aug. 16, 1934, pp. 851-855.

Aug. 18 Today, Soviet Aviation Day, the giant Soviet airplane Ant-20, called the Maxim Gorki, officially becomes the flagship of the Maxim Gorki Propaganda Squadron. Designed by Andrei Tupolev, the all-metal monoplane has a wingspan



of 210 ft and eight engines providing a total of 7,000 hp. It holds a crew of 23 and accommodations for 40 passengers. The plane has editorial offices, an onboard printing press for producing propaganda, a photo lab, cinema room, radio transmitting room, cafe, buffet, lavatory, saloon, microphone room, and passenger cabins. The Gorki has a maximum speed of 137 mph and a range of 600 mi. It also has a loudspeaker to broadcast lectures, music, and news bulletins to the ground from 3,000-ft altitudes. *Flight*, Aug. 9, 1934.

Aug. 18 Max Cosyns and Nere Van der Elst ascend in a stratospheric balloon fitted with a new aluminum gondola, from Hour-Havenne, Luxembourg, and reach 52,329 ft. After drifting 1,000 mi. across Europe, they land at Zenalvje, Yugoslavia. The balloon is the same one used in 1931 by Jean Piccard, the Swiss physicist, who ascended to 51,777 ft and 53,152 ft in 1932 on his second flight. Cosyns accompanied Piccard on that latter flight. *Flight*, Aug. 23, 1934, p. 872.

And During August 1934

—The first tailless fighter, Westland-Hill's Pterodactyl Mk. V, makes its debut. The two-seat plane has a Rolls-Royce Goshawk engine and is said to be very maneuverable. The absence of fuselage or tail unit behind the wings gives the gunner in the stern an excellent field of view. The large upper wing is swept back and tapered; the lower wing is smaller and tapered but not swept back. The plane has performed well at RAF displays at Hendon. *The Aeroplane*, Aug. 15, 1934, p. 197.



100 Years Ago, August 1909



Aug. 22-29 The first international aviation meet takes place at Rheims, France, and demonstrates that the airplane is now a practical vehicle. During the meet, Henri Farman achieves the first flight over 100 mi. and the first flight to carry two passengers. C. Gibbs-Smith, *Aviation*, pp. 145-146, 245; *Flight*, Aug. 28, 1909, pp. 518-523; and Sept. 4, 1909, pp. 532-540.