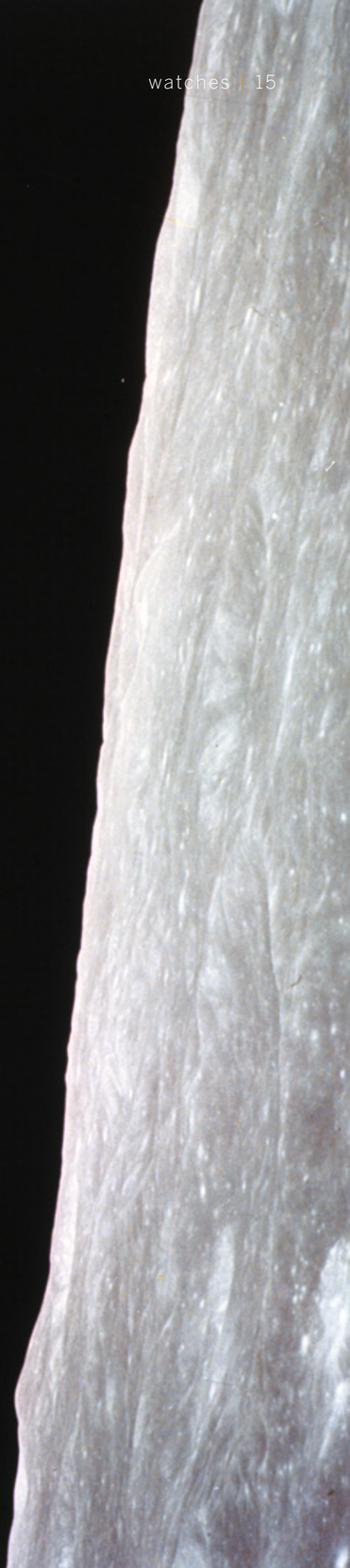
Apollo

FRONTIER

Pioneers

"When Apollo 8 went to the Moon and took that first picture of Earthrise – the earth rising over the horizon – it changed the way humans thought about themselves. Now imagine what it would be like to send a picture back to Earth from Mars of a star . . . and the star would be us here on Earth – that's mind-boggling!"

"There is spirit, passion and inspiration in the hearts and minds of dreamers – dreamers who want to go to places no one has ever been, to see things no one has ever seen and to do things others couldn't do. That's what the romance is all about."
– Eugene Cernan, Gemini 9, Apollo 10 and 17 Astronaut



Gemini 6 and Gemini 7 Rendezvous

There are those remarkable men and women amongst us, who are fearless, who continuously dare to push the boundaries of what is commonly thought possible, who venture intrepidly into uncharted territories in order to lay the foundations for future generations and create partnerships that fuel the flames of perpetual innovation.

The thousands of pioneering men and women, working tirelessly at all levels of the National Aeronautics and Space Administration (NASA), share a combined vision: "To reach for new heights and reveal the unknown so that what we do and learn will benefit all humankind." Their aim is to answer a few basic questions, "What's out there in space? How do we get there? What will we find? What can we learn there, or learn just by trying to get there, that will make life better here on Earth?"

1962

In 1962, people the world over held their collective breath during the Cuban Missile Crisis and the United Nations General Assembly passed a resolution condemning South Africa's racist apartheid policies and called for all UN member states to cease military and economic relations with the nation. The Nobel Prize in Physiology or Medicine was awarded to James D. Watson, Maurice H. F. Wilkins, and Francis H. C. Crick, for determining the structure of deoxyribonucleic acid (DNA), and Telstar relayed the first live trans-Atlantic television signal.

The entertainment industry and cinema-going public mourned the loss of Marilyn Monroe, and Lawrence of Arabia and To Kill a Mockingbird drew the crowds at the box office. The Oscar for Best Picture went to 'West Side Story,' while the Grammy for best song went to Henry Mancini for 'Moon River'.

Back at NASA, Lt. Col. John H. Glenn, Jr., became the first American to orbit Earth - three times in four hours and fifty-five minutes, and sometime in the autumn, a group of astronauts including Walter Schirra and Leroy 'Gordo' Cooper walked into a watch shop in Houston, Texas and bought Speedmaster watches to use on the upcoming Mercury program flights. Thus began an association which to date has lasted for nearly half a century.

How the OMEGA Speedmaster became the choice of astronauts and space agencies for nearly half a century is the source of many myths and legends. What is on record is the internal memo issued on 21st September 1964 by NASA Operations Director, Deke Slayton, which stated the need for a "highly durable and accurate chronograph to be used by Gemini and Apollo flight crews". Eight days later engineer James Ragan issued a request for quotation for twelve watches - two watches each from six different manufacturers. Of the six brands contacted four responded, answering Ragan's request for each of them to supply three watches for testing.

On the 1st March 1965, after undergoing an intense series of tests, which were aimed at testing the watches' breaking point, the 'Speedmaster,' reference ST105.003 was declared "Flight Qualified for all Manned Space Missions".

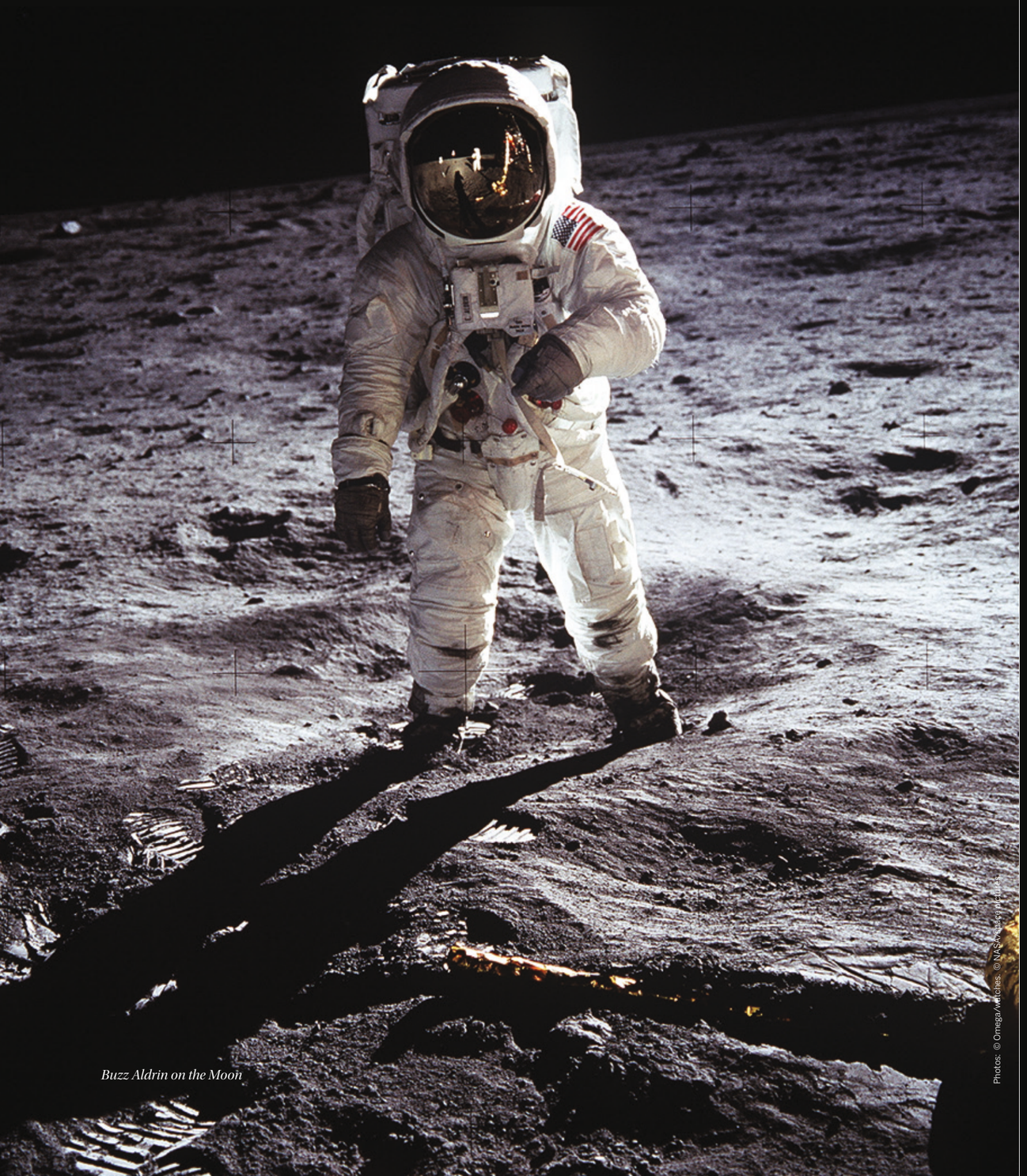
Though the Speedmaster had already proved itself twice in an unofficial capacity in space during the Mercury program flights, the rigorous testing phase saw the watches subjected to temperatures ranging from 71° to 93° centigrade over a two-day period, after which they were frozen to -18° centigrade. They were placed in a vacuumed chamber heated to 93° centigrade, and then subjected to a test where they were heated to 70° centigrade and then immediately frozen to -18° centigrade – not once but fifteen times in rapid succession! Then, the watches were subjected to 40g shocks in six different directions, followed by exposure to high and low pressures, an atmosphere of 93% humidity, a highly corrosive 100% oxygen environment, and noise to 130 decibels. In their final test they were vibrated with average accelerations of 8.8 g.

While three watches made it to the final stages of testing, in the end only one watch, the Speedmaster survived, passing with flying colours. Interestingly, after each test the watch would settle to an average rate which was largely within the NASA imposed limits of five seconds per day during normal use.

The Speedmaster made its first official voyage into space on the 23rd of March 1965, on the wrists of Virgil "Gus" Grissom and John Young during their Gemini 3 mission. The only modification made to the watches was the addition of a long Velcro strap that replaced the standard steel bracelet which could not be worn over the space suit. Later that year Edward White wore his Speedmaster on America's first space walk and shortly afterward, OMEGA's management took the decision to add the term "Professional" to the dial of the reference ST105.012 Speedmaster.

Photos: © Omega/watches. © NASA/space pictures.

Edwin E. Aldrin Jr., pilot of the Gemini 12 spacecraft performs extravehicular activity (EVA) during the second day of the four day mission in space. Aldrin is positioned next to the Agena work station.



Buzz Aldrin on the Moon

Photos: © Omega/Watches © NASA/Getty Images

"Once you've been first, it cannot be done again. Not by you, not by anyone else."
– Buzz Aldrin, Esquire, Jan. 2003

First to the Moon

In 1961, after the Soviet Union had successfully put a man in space, President John F. Kennedy challenged America to "commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to earth." In a speech at Rice University in Houston, Texas, on September 12, 1962 he explained to the audience, "We choose to go to the moon. We choose to go to the moon in this decade and do the other things, not because they are easy, but because they are hard, because that goal will serve to organize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one we are unwilling to postpone, and one which we intend to win, and the others, too."
On the 20th July 1969, as the world sat glued to their television screens, America – with the Apollo 11 mission - succeeded in the challenge laid down by President Kennedy. At 20:18 GMT, Lunar Module Pilot, Edwin E. (Buzz) Aldrin Jr, carefully touched down on the moon at Tranquility Base. Then he and Commander Neil Armstrong performed the necessary housekeeping, depressurized the lunar module, and got their cooling units in their backpacks operational, the two latter tasks taking longer than expected.

Making history

There is no doubt that that one of mankind's most remarkable milestones occurred on 21 July 1969 at 02:56 GMT, as Commander Neil Armstrong descended from Eagle's ladder and touched one foot onto the surface of the moon. Fifteen minutes later, Buzz Aldrin and his OMEGA Speedmaster Professional were there to record this truly pioneering moment. In that moment, the Speedmaster Professional became the first and to date only watch to be worn on the moon, earning it the moniker "The Moonwatch." As for Commander Armstrong's Speedmaster, the lunar module's on-board clock was working intermittently so he left his reliable Speedmaster on the Eagle as backup.
The Speedmaster Professional was involved in more than a few remarkable moments in space. In 1970 with the Apollo 13 mission, the watch was used to time the critical engine burns required to ensure that the re-entry trajectory of the severely damaged craft was correct. There was no margin for error, or the capsule would have either bounced off or burnt up in the Earth's atmosphere on re-entry. For The Speedmaster Professional's role in the safe re-entry, the astronauts gave OMEGA the "Manned Flight Awareness Award" or Snoopy Award as it is commonly known.
By 1972, the remaining scheduled flights to the moon, (Apollo 18-22,) had been cancelled. On December 17th 1972 at 21:33.24 GMT, Eugene "Gene" Cernan, with his Speedmaster reference ST105.003 on his wrist, became the last man on the Moon.
In 1973 with the planning of the Apollo-Soyuz mission, that which was commonly known as the 'space race' came to an end. For the first time the American and Soviet space agencies would work together. On board, there were a total of ten watches, all OMEGA Speedmasters. Tom Stafford wore the 18 Ct yellow gold Speedmaster Deluxe he had received after the Apollo 11 lunar landing in 1969, while the remaining astronauts wore the standard NASA issue watches equipped with 321 calibre. The cosmonauts wore the newer ST145.022 with 861 calibre. Both Tom Stafford and Alexi Leonov wore their Speedmasters on their wrists during the historic Apollo-Soyuz space rendezvous.
From that mission forward, the cosmonauts wore Speedmasters on their missions including on the Salyut Space Station. A notable exception to this was Speedmaster 125 worn by Vladimir Djanibekov in 1978 on his Salyut 6 mission.
The advent of the Space Shuttle saw the need for all equipment to be retested. Again, OMEGA submitted three different watches for certification; The Speedmaster Professional reference ST 145.022, the Speedsonic Reference ST188.0002, and a prototype Speedmaster automatic "ALASKA III", reference 11003-2. All three watches survived the testing, but once more it was the Speedmaster Professional which was certified in 1978 for all manned space flights.

The most tested watch in the world

As the 80s drew to a close, OMEGA arranged to have two series of Speedmasters sent to the MIR space station to test the long term effects of micro gravity on the oils and springs in the watches. From December 1990 through March 1991 and again in July 1993 through July 1994, the Speedmaster was put through intense testing. When the watches were returned and controlled, they were found to be in perfect working order.
In 1998, it was the turn of OMEGA's Speedmaster X-33 multifunction chronograph to be tested aboard MIR. After successfully completing the tests, the watch was introduced to the public via live satellite link-up with the Houston Space Centre. The X-33 has been flight-qualified by both NASA and the Russian space agency and is part of the standard equipment available to all astronauts and cosmonauts.
While both the Speedmaster Professional and the X-33 are regular visitors to the International Space Station today, it is only the legendary OMEGA Speedmaster Professional which is certified for extra-vehicular activity (EVAs).
The Speedmaster Professional is the only piece of equipment which can claim to have been used during the Mercury, Gemini, Apollo, Skylab, Soyuz, Salyut, Space Shuttle, Mir and International Space Station programs.

Historic Handshake: Apollo Commander, Astronaut Thomas P. Stafford (in foreground) and Soyuz Commander, Cosmonaut Alexei A. Leonov make their historic handshake in space during the joint Russian / American docking mission known as the ASTP, or Apollo Soyuz Test Project.

General Thomas P. Stafford

In his 27 years as an officer in the United States Air Force, Lieutenant General Thomas Stafford was a member of the crew on four historic NASA missions in space and was involved in some of the most thrilling moments in space exploration.

When asked what the Earth looks like from space, he replied "It looks beautiful; it's unbelievable! Only 24 of us ever saw that from out there. The Earth looks like it is suspended in space and I always had the feeling that there should be a string holding it up, or a pole!"

General Stafford was the pilot of Gemini VI during the first rendezvous in space and he commanded Gemini IX. In May of 1969 he was the commander of Apollo 10 which orbited the Moon and made reconnaissance and tracking on future Apollo landing sites. General Stafford logged his fourth space flight commanding the Apollo-Soyuz Test Project, a joint space flight culminating in the historic first meeting in space of American astronauts and Soviet cosmonauts.

In total General Stafford completed 507 hours and 43 minutes in space fight and wears the Air Force Command Pilot Astronaut Wings. He has received many military decorations and awards including; the Distinguished Service Medal with two oak leaf clusters, Distinguished Flying Cross with oak leaf cluster, Air Force Commendation Medal and Air Force Outstanding Unit Award ribbon with three oak leaf clusters. Other awards presented to General Stafford include the Presidential Medal of Freedom, NASA Distinguished Service Medal with oak leaf cluster, NASA Exceptional Service Medal with oak leaf cluster, the American Institute of Aeronautics and Astronautics (AIAA) Chanute Flight Award (1976), and the Veterans of Foreign Wars National Space Award.

General Stafford has received the Harmon International Aviation Trophy twice.

In 1966 he was awarded the trophy for piloting Gemini VI. During this mission he performed the first rendezvous in space and helped develop techniques and basic theory for practical space rendezvous. The 1976 trophy was presented jointly to General Stafford and Colonel Alexei Leonov, Soviet Union cosmonaut, for their work on the Apollo-Soyuz Test Project. For the first time two spacecraft of different designs, which had been launched from pads 6,500 miles apart, met and docked in space.

Captain Eugene A. Cernan

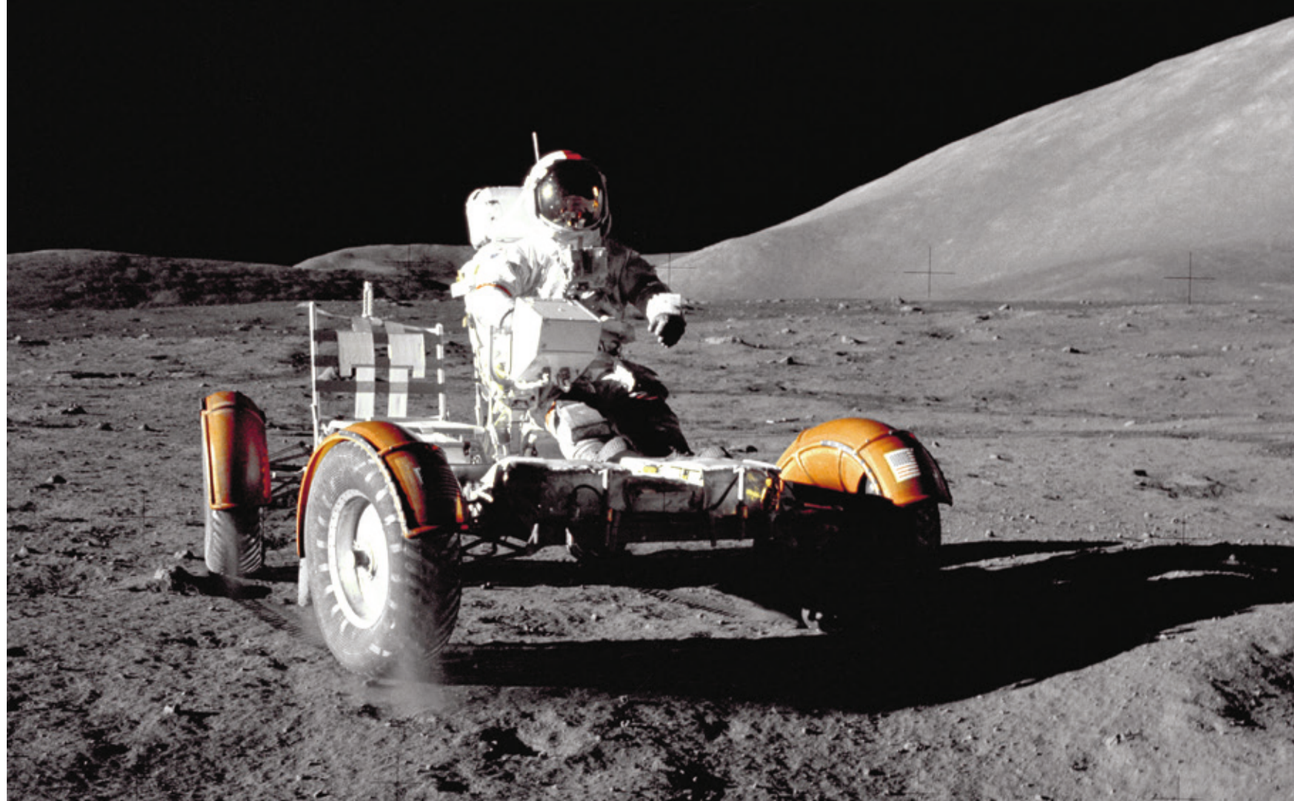
Astronaut Eugene A. Cernan, Apollo 17 mission commander, makes a short checkout of the Lunar Roving Vehicle during the early part of the first Apollo 17 extravehicular activity (EVA-1) at the Taurus-Littrow landing site

Captain Cernan, one of fourteen astronauts selected by NASA in October 1963, said when talking about the cultural impact of the Apollo missions, "We went to explore the Moon, and in fact discovered the Earth."

During 20 years as a naval aviator, including 13 years with the National Aeronautics and Space Administration (NASA), Captain Eugene A. Cernan left his mark on history with three historic missions in space. As the pilot of Gemini IX, he became only the second American to walk in space (after Buzz Aldrin), and as the lunar module pilot of Apollo X; he orbited the Moon along with fellow OMEGA Ambassador General Thomas P. Stafford. As the commander of Apollo XVII, he was the last human being to leave a footprint on the lunar surface. This last mission to the moon established several new records for manned space flight that include: longest manned lunar landing flight (301 hours 51 minutes); longest lunar surface extravehicular activities (22 hours 6 minutes); largest lunar sample return (an estimated 115 kg (249 lbs.); and longest time in lunar orbit (147 hours 48 minutes). Captain Cernan has logged 566 hours and 15 minutes in space, of which more than 73 hours were spent on the surface of the moon.

Gene Cernan has long been an outspoken advocate for increased space exploration and wants current and future generations to have the opportunities that he and his colleagues had. "Space and aviation have been sources of inspiration and romance for more than 100 years. The U.S. desperately needs to do something to recapture the pioneering spirit that allowed it go to the Moon. America must find a way to instil in its children the desire to launch expeditions into the unknown - to breach what today seems impractical or even impossible. If I can call the moon my home long before today's generation of young adults were even born, then I challenge them and their children to tell me what in their lifetime is impossible."

Among his numerous honours, the most significant are the Navy Distinguished Flying Cross, the Distinguished Service Medal with Star, the NASA Distinguished Service Medal, the FAI International Gold Medal for Space, induction into the U.S. Space Hall of Fame, enshrinement into the National Aviation Hall of Fame, Naval Aviation's Hall of Honor and the International Aerospace Hall of Fame.



Astronaut Edwin E. Aldrin, Jr., Lunar Module pilot, is photographed during the Apollo 11 extravehicular activity (EVA) on the lunar surface. In the right background is the Lunar Module "Eagle." On Aldrin's right is the Solar Wind Composition (SWC) experiment already deployed. This photograph was taken by Neil A. Armstrong with a 70mm lunar surface camera.

Buzz Aldrin, Ph.D. (Colonel, USAF, Ret.)

Aldrin was one of the third group of astronauts named by NASA in October 1963, and was the first with a doctorate, which he earned at MIT.

On November 11, 1966, he and command pilot James Lovell were launched into space in the Gemini 12 spacecraft on a 4-day flight, which brought the Gemini program to a successful close. During this time Aldrin performed the world's first successful spacewalk Aldrin established a new record for extravehicular activity (EVA), spending 5-1/2 hours outside the spacecraft.

He served as lunar module pilot for Apollo 11, July 16-24, 1969, the first manned lunar landing mission. Aldrin followed Neil Armstrong onto the lunar surface on July 20, 1969, completing a 2-hour and 15 minute lunar EVA.

In July 1971, Aldrin resigned from NASA. Aldrin has logged 289 hours and 53 minutes in space, of which, 7 hours and 52 minutes were spent in EVA.

The docking and rendezvous techniques he devised for spacecraft in Earth and lunar orbit became critical to the success of the Gemini and Apollo programs, and are still used today. He also pioneered underwater training techniques, as a substitute for zero gravity flights, to simulate spacewalking. Asteroid "6470 Aldrin" and the "Aldrin Crater" on the moon are both named after him.

Since retiring from NASA and the Air Force, Col. Aldrin has remained at the forefront of efforts to ensure America's continued leadership in human space exploration.

Aldrin has received numerous decorations and awards, including the Presidential Medal for Freedom in 1969, the Robert J. Collier Trophy, the Robert H. Goddard Memorial Trophy, the Harmon International Trophy in 1967 and the Congressional Gold Medal in 2011.

Of the Apollo mission Aldrin said, "The true value of Apollo is the amazing story of innovation and teamwork that went into overcoming all the obstacles to reach the moon. Apollo is the story of people at their best, working together for a common goal. We started with a dream, and we can do these kinds of things again". Buzz Aldrin

Photos: © Omega/watches. © NASA/space pictures.

Speedmaster

MOONWATCH ANNIVERSARY LIMITED SERIES

The OMEGA Speedmaster is one of OMEGA's most iconic timepieces. Having been a part of all six lunar missions, the legendary Speedmaster is an impressive representation of the brand's adventurous pioneering spirit. This limited edition Speedmaster Moonwatch "Apollo XVII" commemorates the 40th anniversary of the final lunar mission in December 1972. It features a 925 silver dial embossed with the same design as the Apollo XVII patch. A small seconds dial, 30-minute recorder and 12-hour recorder grace the dial along with a central chronograph hand. The bezel, with its black aluminium tachymetric ring, is mounted on a 42 mm stainless steel case, and is presented on a stainless steel bracelet. At the heart of this chronograph is OMEGA's mechanical calibre 1861, a manual-winding movement. The Speedmaster Moonwatch "Apollo XVII" was produced in an edition limited to 1,972 pieces.

Reference: 311.30.42.30.99.002

Speedmaster

MOONWATCH PROFESSIONAL 42 MM

The OMEGA Speedmaster is one of OMEGA's most iconic timepieces. Having been a part of all six lunar missions, the legendary Speedmaster is an impressive representation of the brand's adventurous pioneering spirit. This OMEGA Speedmaster Professional "Moonwatch" features a black dial covered by a hesalite crystal and graced by a small seconds sub-dial, 30-minute recorder and 12-hour recorder along with a central chronograph hand. The black bezel, with its tachymetric scale, is mounted on a 42 mm stainless steel case and presented on a matching bracelet. At the heart of this chronograph is OMEGA's mechanical calibre 1861, the famous manual-winding movement that was worn on the Moon.

Reference: 3570.50.00

Speedmaster

MOONWATCH OMEGA CO-AXIAL CHRONOGRAPH 44.25 MM

Black ceramic on coated nylon fabric

Emblematic of OMEGA's bold style, forward-thinking innovation and adventurous spirit, this ceramic OMEGA Speedmaster "Dark Side of the Moon" represents a sleek and sporty new addition to the iconic collection. This unique timepiece features a black zirconium oxide ceramic dial with striking 18K white gold "Moonwatch"-style hands and two ceramic subdials at 3 and 9 o'clock. A matt chromium nitride tachymeter scale - among the most identifiable design features of the Speedmaster - stands out on the polished ceramic bezel which is set on a 44.25 brushed and polished ceramic casebody. Engraved on the ceramic caseback just above the sapphire crystal, are the words "Dark Side of the Moon" - an appropriate tribute to this Speedmaster's heritage and captivating design. This timepiece is powered by the OMEGA Co-Axial calibre 9300.

Reference: 311.92.44.51.01.003

Photos: © Omega/watches. © NASA/space pictures.