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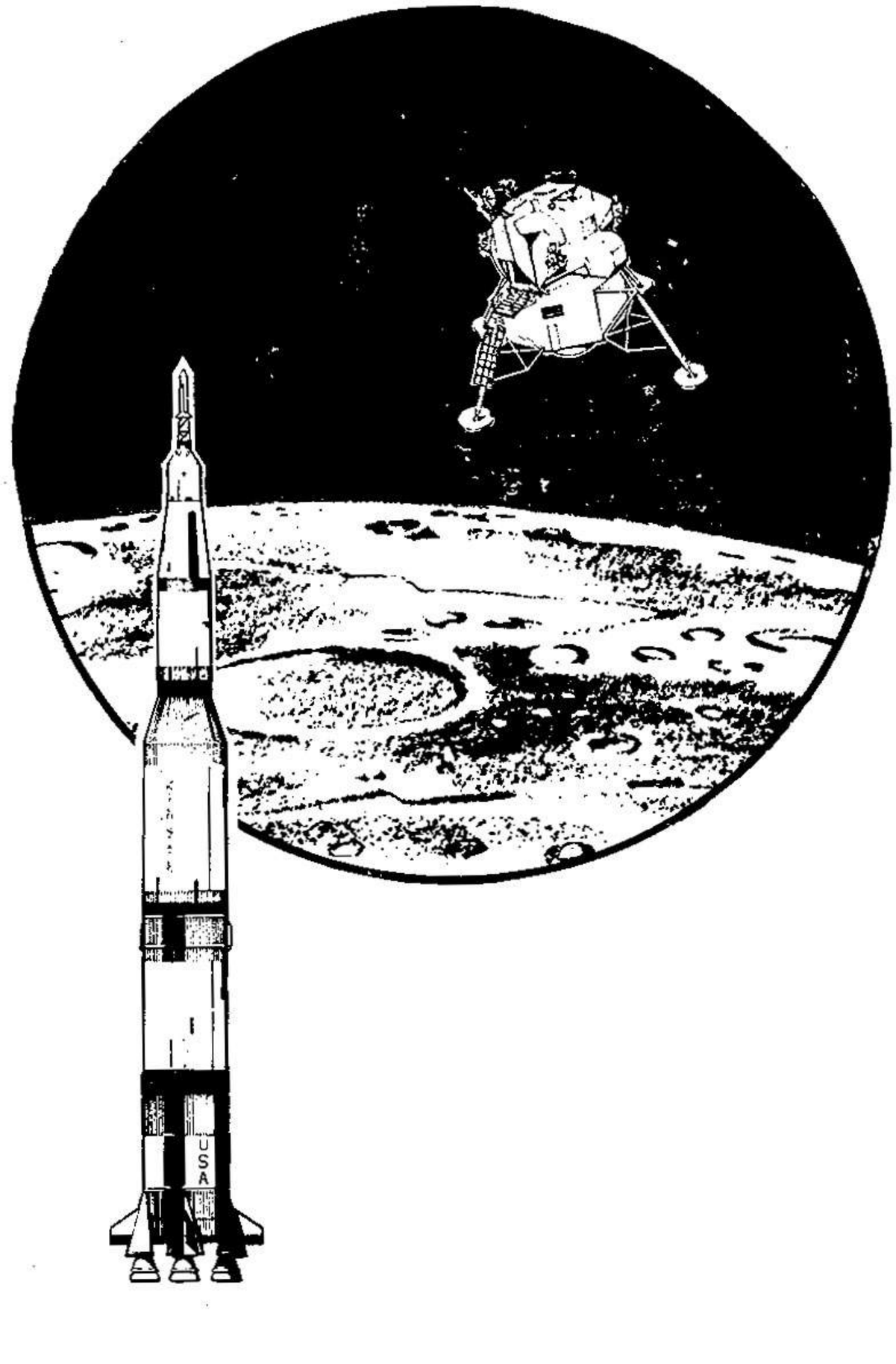

APOLLO 11

A FILM BY TODD DOUGLAS MILLER

NEON CNN FILMS

Official Apollo 11 Insignia

This photograph not for release
before Saturday, July 5, 1969

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, D.C. 20546

TELS. WO 2-4155
WO 3-6925

PROJECT: APOLLO 11

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SHORT SYNOPSIS

From director Todd Douglas Miller (Dinosaur 13) comes a cinematic event fifty years in the making. Crafted from a newly discovered trove of 65mm footage, and more than 11,000 hours of uncatalogued audio recordings, Apollo 11 takes us straight to the heart of NASA's most celebrated mission—the one that first put men on the moon, and forever made Neil Armstrong and Buzz Aldrin into household names. Immersed in the perspectives of the astronauts, the team in Mission Control, and the millions of spectators on the ground, we vividly experience those momentous days and hours in 1969 when humankind took a giant leap into the future.

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LONG SYNOPSIS

From director Todd Douglas Miller (Dinosaur 13) comes a cinematic event fifty years in the making. Crafted from a newly discovered trove of 65mm footage, and more than 11,000 hours of uncatalogued audio recordings, Apollo 11 takes us straight to the heart of NASA's most celebrated mission—the one that first put men on the moon, and forever made Neil Armstrong and Buzz Aldrin into household names. Immersed in the perspectives of the astronauts, the team in Mission Control, and the millions of spectators on the ground, we vividly experience those momentous days and hours in 1969 when humankind took a giant leap into the future.

Miller and team were working closely with NASA and the National Archives (NARA) to locate all existing Apollo 11 footage when NARA staff members made a startling discovery that changed the course of the project: an unprocessed collection of 65mm large format footage, never before seen by the public, containing stunning shots of the launch, the inside of Mission Control, and recovery and post-mission activities. The footage was so pristine and the find so significant that the project evolved beyond filmmaking into one of film curation and historic preservation.

The other unexpected find was a massive cache of audio recordings—more than 11,000 hours—made by two custom recorders which captured individual tracks from 60 key mission personnel throughout every moment of the mission. Apollo 11 film team members created code to restore the audio and make it searchable, then began the multi-year process of listening to and documenting the recordings, an effort that yielded remarkable new insights into key events of the mission as well as surprising moments of humor and camaraderie.

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The digitization of the 65mm collection—as well as the re-scanning of 16mm and 35mm materials—was undertaken at Final Frame, a post-production house in New York City, which helped create a custom scanner, capable of high dynamic range scanning at resolutions up to 8K. The resulting transfer—from which the film was cut—is the highest resolution, highest quality digital collection of Apollo 11 footage in existence.

Constructed entirely from archival materials and eschewing talking heads, Apollo 11 captures the enormity of the event by giving audiences of all ages the direct experience of being there. When John F. Kennedy pledged in 1962 to put Americans on the moon by the end of the decade, he described it as a bold act of faith and vision. Apollo 11 bears witness to the culmination of that pledge, when America and the world came together in an extraordinary act of unity and resolve, to achieve one of the greatest and most complex feats in human history.

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DIRECTOR'S STATEMENT

The mission of Apollo 11 is one of the greatest achievements in human history - hundreds of thousands of people spread across tens of thousands of companies all focused on putting the first humans on another world.

At times it felt like our film had just as many moving parts. What started out as a simple editing exercise - could we tell the entire story of the mission using only archival materials - turned into a cooperative effort by an international team of experts to create the definitive work on Apollo 11 for the screen. The remarkable discovery of a cache of untouched large format film and audio recordings added another dimension to the project: it was more than just a film now, it was an opportunity to curate and preserve this priceless historical material.

This film only exists because of the tremendous efforts and sacrifices of an extremely talented group of individuals. From the archivists and researchers, to the post production teams and production partners, everyone labored for years to ensure we got it right.

We are also indebted to the scores of writers, filmmakers, and researchers that have come before us to build on the canon of project Apollo. And to the astronauts, their families, NASA employees, contractors, and volunteers, many of whom we came to know in the course of making this film, we humbly say thank you. You remind us that great things can be accomplished when people unite for a common goal.

Todd Douglas Miller

January 2019

A CONVERSATION WITH HISTORICAL CONSULTANT ROBERT PEARLMAN

What is groundbreaking about this film?

ROBERT PEARLMAN: A lot of works have been made about Apollo 11, the first mission to land humans on the moon, but what sets this film apart is the fact that this is history being made again — new footage that was previously unknown has been expertly restored and scanned at the highest resolution possible, presenting never-before-seen footage from what many consider the crowning achievement of humankind to date. We're able for the first time in history to get new glimpses and new information about how we landed men on the moon.

What makes the images in *Apollo 11* so special?

RP: The original source material was 70MM, which is the widest-format film you're going to find. The detail that's brought out is considerable — for example, there's a scene capturing the astronauts (Neil Armstrong, Buzz Aldrin and Michael Collins) suiting up for the mission. We knew that scene was filmed, but when it was shown to the public, it had been cropped to 35MM in order to match the other film that was available. Many scenes like this have been expanded to a widescreen view, and we see them in high-definition for the first time. For the viewing public, this means a more visceral, you-are-there feeling, including being in the room with the astronauts as they're getting ready that July morning. For historians, it's an opportunity to see the whole layout of what was happening that day, featuring details that weren't previously available.

Why have we not been able to see this footage all these years?

RP: The fact that these new reels were discovered by coincidence sitting in the National Archives so close to the 50th anniversary of the moon landing makes for a wonderful discovery, giving us the ability to celebrate it properly.

(RP CONTINUED) Originally NASA held the footage in a storage facility but over the years it was transferred to the National Archives, where it was more or less forgotten. Some of the footage was prepared for a documentary released in the 1970s, but once again the footage was cropped. This is the raw footage as it was originally taken, and since NASA didn't have the funds or interest to produce more material, it sat unused. Fifty years later, the possibility of finding footage we've never seen before is becoming more and more rare, if not impossible. Because it's such a famous, iconic event in history, one would think that all footage that was ever to be seen from it would have already been discovered.

The audio is as powerful in the movie as the images. What has been improved in this regard?

RP: The audio footage is something we knew existed — it had not been lost to the years like some of the images — but we've only had access to it recently. When the astronauts went to the moon, there were several different tracks of audio, including the space-to ground audio, or the voice of the astronauts being broadcast to the ground, and the singular voice of the representative from Mission Control being transmitted back up to the astronauts. There were other tracks that were known to exist which had not been released to the public, including the flight director's loop, featuring all the voices from Mission Control consoles talking to him. In addition, there was footage of the astronaut's voices from space as well as the back-room audio loops coming from Mission Support. NASA made hours of this audio available, and what this film team has done is sort through that audio, re-mastering it and synching it up with available film footage. For the first time, you can watch flight controllers speaking from Mission Control and actually hear what they're saying because the audio has been meticulously synched with the corresponding moment in time.

There's spectacular footage of average Americans watching the launch from parking lots and Florida beaches — who shot this footage?

RP: A film team from NASA captured the estimated one million people who showed up for the launch, the most people ever to show up for an event like this. This was the same film team that was documenting the astronauts preparing for the launch, for a project named *Moonwalk One*. This crew filmed nearby beaches, parking lots and well as the VIP and press viewing area. While this footage had been previously released, it was cropped, sometimes dramatically, so we're seeing a much wider view than ever before — we have a fuller record of what was filmed, in the widest format and highest definition possible. We can see more details than ever before. For example, in a scene at the VIP viewing site, you can spot people like Johnny Carson and the science fiction writer Isaac Asimov among the spectators. Watching the crowds outside J.C.Penney and along the beaches, you can see how people dressed at the time, what cars they drove. You can even see the reflection of the launch in the sunglasses of spectators as they watch it take off.

The colors are extraordinary in these scenes — it looks like vintage Kodachrome.

RP: You experience a tremendous mix of feelings watching these scenes, which are almost hyper-real. In one sense you know you're watching footage that's 50 years old — it exudes that sense of age and time — but what's most striking is how state-of-the-art it looks, like it was shot with the highest-quality camera you can find today. We all know how the launch sequence is going to turn out — we know going in that they will make it to the moon and back — but you're on the edge of your seat all over again because it looks and feels like a live event unfurling in the present. It feels like something entirely new, even though this is some of the most famous historical footage ever recorded.

The centerpiece of this movie is the moon landing, and the moonwalk — is there anything new we're seeing for the first time?

RP: We're seeing these scenes presented in a new way. The space footage is not new, but it was treated like the rest of the film — scanned at the highest resolution possible and placed into the context of a movie that draws you forward through existing archival footage, not through someone looking back and describing how it occurred. A lot of documentaries have depicted the moon landing and the moonwalk using narration or talking heads — contemporary commentary, which frames the footage so it feels like you're watching history. Because this film is cinema vérité, you're watching archival material telling the story itself in an approximation of real time — the sensation is like watching it unfold for the first time.

As a NASA historian, what in your opinion are the most exciting features of this movie?

RP: Having worked with a lot of filmmakers over the years on various projects, I've had to take people to task before on claims of never-before-seen footage — maybe the general public hasn't seen the footage, but plenty of others have. For the first time, this is bona fide footage that we have not seen before, so the discovery alone was exciting. Add to that the latest in film technology, the ability to present this footage in high resolution, and large format, which looks amazing on the big screen and almost beyond belief on in a large-format presentation. Simply being able to bring the mission back to life and see it on a scale this huge is probably the most exciting factor for me.

What are some of the scenes you are seeing for the first time?

RP: Scanning the rows inside the launch control center, being inside the suit-up room with the astronauts, getting a wider and more audible perspective of Mission

(RP CONTINUED) Control during the launch, and being on board the U.S.S. Hornet (the recovery ship) as the astronauts returned from the mission — you can even spot Nixon in the crowd here. We have photographic documentation from these aspects of the mission, and other 16MM film taken from different vantage points, but the fact that we're seeing this from a new perspective, with new details to catch in a much wider frame, with clearer resolution — these are the moments you long for in a movie like this. This mission was well documented but now you have the opportunity to pick out details that tell a whole new story.

Why was the Apollo 11 launch so important in a historical context?

RP: The race to the moon unfolded in what was a perfect storm of events in the late 1960s — if all those events did not occur, we probably would never have reached the moon. We didn't go because we were scientifically interested in the moon — we went because we were in a cold war with the Soviet Union and it was a testament of our technological prowess that we could send someone to the moon; it might have unfolded differently if this happened during peacetime. This was the crowning achievement of a race between two world powers fighting each other in a way that no one was actually hurt. From a cultural standpoint, the moon has been a symbol of many different things to people throughout humanity, it has always been that unreachable world and we're fueled by the notion that if we can send a man to the moon, we can do anything. In the time frame that it occurred, even with the backdrop of the Cold War, we also might not even have gotten there were not for the very unfortunate assassination of John F. Kennedy, who was not a huge fan of going to the moon. He saw it as a political need in order to beat the Russians. Almost from the point he announced the space race, he was working behind the scenes to try and find a way out of it, even asking the Soviets to partner with us.

(RP CONTINUED) When he was assassinated it became the vision and goal of a fallen hero, and it was untouchable from a political standpoint because it would have been seen as stomping on the legacy of a slain president. This was the culmination of a goal set out by someone that Americans, and the world, looked up to. If anything is going to be remembered about the 20th Century, it's going to be the fact that we took our first steps on another celestial body — because this is the future of humanity, the promise of going further. Apollo 11 was only the first step.

Fifty years on, where do we stand in terms of the space program?

RP: We've changed focus. Our original visions of how to go into space were not to go directly to the moon, it had to do with what came later, which was to establish a space shuttle and space station, then establish ourselves in orbit and go out even further. But a confluence of events changed our priorities. We haven't been back to the moon since 1972, after the sixth moon landing, but we're on the verge of returning — not as singular nations but in privatized missions. We've come to the point where there are companies that are building the rockets that will take private citizens to the moon. Countries like China are sending rovers to the far side of the moon, were no one has ventured before — as recently as January 2019. Later this year, the first Israeli moon lander will be launched from Kennedy Space Center here in the U.S. So we're having a lunar renaissance in the way that we're having more and more countries and organizations sending missions to the moon. Meanwhile, NASA is looking in coming years to send astronauts back to the lunar orbit in cooperation with its European, Canadian, Russian and Japanese partners with the intention of pushing on to Mars. After 50 years, we're at a new crossroads where we're ready to travel beyond flags and footprints toward more permanent lunar settlement. Soon we'll have a lasting presence there, pushing out into the solar system with the goal of always having humans exploring space.

(END OF CONVERSATION; FILMMAKER BIOS FOLLOW)

FILMMAKER BIOS

TODD DOUGLAS MILLER - DIRECTOR, PRODUCER, EDITOR

Todd Miller is best known for his Emmy award winning film, Dinosaur 13, which premiered at Sundance in 2014. His other films include Gahanna Bill, Scaring the Fish, and The Last Steps. He is the founder and co-owner of Statement Pictures, based in Brooklyn, NY, which produces feature films and documentaries as well as large format/IMAX films for science centers and museums. He was born in Columbus, OH, and lives in Brooklyn, NY with his wife and three children.

THOMAS PETERSEN - PRODUCER

Thomas Petersen is a producer, DP, and co-owner of Statement Pictures. He was born and raised in New Orleans and studied journalism before moving to NYC in 2003. Previous documentaries include The Last Steps, The Acquired Savant (his directorial debut), and the Emmy award winning Dinosaur 13. He lives in Brooklyn, NY.

EVAM KRAUSS - PRODUCER

Evan Krauss, a founding partner of NY-based law firm Gray Krauss Sandler Des Rochers LLP, concentrates his practice on music, film, television and new media. Evan works with songwriters, composers, recording artists, music and film producers, writers, directors, and both studio and independent content producers. As a natural extension of his law practice, Evan has also worked as a producer on various film projects, with a concentration in non-fiction. Evan's various executive producer and producer credits include the documentaries *"Hot Girls Wanted"* (Netflix Original), *"The Lost Arcade,"* Showtime acquired films *"Porndemic"* and *"Godfathers of Hardcore"* and the cult classic *"Cropsey."*

MATT MORTON - COMPOSER

Matt Morton is a composer, multi-instrumentalist, and engineer/producer. He was a founding member of the band The Shantee, and has opened for bands including George Clinton and Parliament/Funkadelic, The National, and the Neville Brothers. His film credits include Scaring the Fish, Beauty of the Fight, The Last Steps, and the Emmy-award-winning Dinosaur 13. He was born in Columbus, OH where he lives with his wife Jen and a studio full of instruments, including the 1968 Moog Synthesizer IIIc that he used for the Apollo 11 score.

ROBERT PEARLMAN - HISTORICAL CONSULTANT

Robert Pearlman is a space historian, journalist and the founder and editor of collectSPACE.com, an online publication and community devoted to space history with a particular focus on how and where space exploration intersects with pop culture. Pearlman is also a contributing writer for Space.com and co-author of "Space Stations: The Art, Science, and Reality of Working in Space" published by Smithsonian Books in 2018. He previously developed online content for the National Space Society and Apollo 11 moonwalker Buzz Aldrin, helped established the space tourism company Space Adventures and currently serves on the History Committee of the American Astronautical Society, the advisory committee for The Mars Generation and leadership board of For All Moonkind. In 2009, he was inducted into the U.S. Space Camp Hall of Fame in Huntsville, Alabama.

STEPHEN SLATER - ARCHIVAL PRODUCER

Stephen Slater has had an interest in space travel and documentary filmmaking since an early age growing up in Derbyshire, England. Beginning his television career in sports production, the two fields combined in 2011 when he produced and directed the BBC FOUR documentary "Destination Titan", about the Huygens probe landing on Saturn's largest moon, Titan. Since then, his love of historic footage has seen him specializing as an Archive Producer for a series of high profile feature documentaries, including "The Last Man On The Moon", "George Best: All By Himself", and the BAFTA Award winning "Hillsborough". He is a specialist in the NASA film archive, and in 2011, he was nominated for the Arthur C Clarke Award for Achievement in Space Media.

BEN FEIST - AUDIO RESTORATION / TECHNICAL CONSULTANT

Ben Feist is a software engineer at NASA who splits his time between Johnson Space Center in Houston, and Goddard Space Flight Center in Greenbelt, MD. Ben has spent his career creating technology experiences since the birth of the Internet, and is the Apollo program historian behind the interactive website Apollo17.org, a web experience that recreates the last mission to the Moon in real time. Ben's work at NASA focuses on future missions, solving the many data management and visualization challenges that will face us when humanity once again ventures on to other planets.

AMY ENTELIS - EXECUTIVE PRODUCER

Amy Entelis is executive vice president for talent and content development for CNN Worldwide. She is based in New York. Soon after her arrival in 2012, Entelis began shaping a renaissance at CNN, initiating the hires of more than 30 television journalists, scores of contributors and commentators, and launching

(AE CONTINUED) four premium content brands for the network's global platforms. Under her leadership, CNN launched CNN Films, which produces and acquires documentary films for festival, theatrical, and broadcast distribution; CNN Original Series and HLN Original Series, which develop non-fiction programming; and CNN Films Presents, which acquires encore runs of notable documentary features for broadcast on CNN. Entelis began her illustrious career in television journalism at ABC News, initially as a producer on the weekly news magazine 20/20, and later a producer for World News Tonight with Peter Jennings. Following ABC News, and before she joined CNN, Entelis served as executive vice president for talent strategy at Sucherman Consulting Group. A graduate of Vassar College, Entelis received a Master of Science degree in journalism from Columbia University and serves as a member of the Board of Visitors of the Columbia University Graduate School of Journalism.

COURTNEY SEXTON - EXECUTIVE PRODUER

Courtney Sexton, who joined CNN in 2013, works day-to-day with filmmakers to supervise the production of documentary films for theatrical exhibition and distribution across CNN's platforms. Since Sexton joined CNN Films, the team has acquired, co-produced, or commissioned more than 40 original feature and short films including HALSTON and APOLLO 11. The multiyear collaboration with director Todd Douglas Miller for the production of APOLLO 11 follows Sexton's and Miller's successful collaborations for the News & Documentary Emmy-winning Dinosaur 13, and THE LAST STEPS, a documentary short film about the final NASA lunar mission, Apollo 17, that was distributed by Great Big Story.

In 2018, Sexton served as executive producer for RBG, directed by Betsy West and Julie Cohen, and THREE IDENTICAL STRANGERS, directed by Tim Wardle.

ALEX HANNIBAL - COORDINATING PRODUCER

Alex Hannibal is associate director of content development for CNN Films. She is based in Los Angeles.

Hannibal joined CNN in 2016 and is responsible for supporting the development and acquisitions of CNN Films titles, taking the lead on vetting incoming submissions, and identifying the next generation of documentary directors for CNN Films.

As coordinating producer for APOLLO 11. Hannibal collaborated with director Todd Douglas Miller for more than two years on the development of the feature. In addition to APOLLO 11, Hannibal worked with Miller on the documentary short film THE LAST STEPS, about the final NASA lunar mission, which was distributed by Great Big Story.

JOSH BRAUN - EXECUTIVE PRODUCER

Josh Braun is the co-president of Submarine Entertainment, a hybrid sales, production and distribution company. Submarine's recent series titles include Wild Wild Country, Evil Genius and The Keepers. Recent sales titles include Three Identical Strangers, Shirkers, The Oslo Diaries, Crime and Punishment, White Tide, Pick of the Litter, Kusama: Infinity and Apollo 11. Submarine has been responsible for the sale of five out of the last eight academy award winning documentaries; Citizenfour, 20 Feet From Stardom, Man on Wire, The Cove and Searching for Sugar Man.

TOM QUINN - EXECUTIVE PRODUCER

Tom Quinn is the CEO and Founder of NEON; the auteur focused studio responsible for I, TONYA, THREE IDENTICAL STRANGERS, INGRID GOES WEST, COLOSSAL and upcoming features: AMAZING GRACE, THE BEACH BUM, THE BIGGEST LITTLE FARM, APOLLO 11, and WILD ROSE. As a distributor, Quinn is credited with having created

(TQ CONTINUED) new distribution paradigms for such groundbreaking films as SNOWPIERCER, IT FOLLOWS and BACHELORETTE, while simultaneously championing traditional distribution models for back-to-back Oscar winners 20 FEET FROM STARDOM and CITIZENFOUR. Having acquired, produced and distributed over 200 films spanning a 20 year career, Quinn is responsible for launching 2 distribution labels: the boutique label RADiUS and the groundbreaking genre label Magnet for Mark Cuban and Todd Wagner. He also played a key role in pioneering the use of VOD platforms as the Senior Vice President at Magnolia Pictures, and served as the VP of Acquisitions at Samuel Goldwyn where he was responsible for SUPER SIZE ME. Quinn is the first distributor to win the Visionary Award alongside Eli Roth and Elijah Wood from the Stanley Film Festival, and the Leading Light Award from the DOC-NYC Film Festival.

(END OF FILMMAKER BIOS; ASTRONAUT AND CREW BIOS FOLLOW)

ASTRONAUT AND CREW BIOS

BUZZ ALDRIN

Buzz Aldrin (formerly Edwin E. Aldrin, Jr.), one of the first men to land on the moon, was born in Montclair, New Jersey, on Jan. 20, 1930. Aldrin attended the U.S. Military Academy at West Point and entered the United States Air Force. He flew 66 combat missions in in Korea and, after a tour of duty in Germany, went on to earn his Doctorate of Science in astronautics at the Massachusetts Institute of Technology (MIT), writing his thesis on orbital rendezvous.

Aldrin became an astronaut with NASA's third group in October 1963. On Nov. 11, 1966, he orbited Earth with James Lovell aboard the Gemini 12 spacecraft and performed the first successful extravehicular activity (EVA, or spacewalk) during the mission that concluded the Gemini program.

As Apollo 11 lunar module pilot, Aldrin joined Neil Armstrong in achieving humanity's first landing on the moon and exploration of the lunar surface on July 20, 1969.

In 1971, Aldrin resigned from NASA and a year later, retired from the U.S. Air Force with the rank of colonel. A self-described "Global Statesman for Space," Aldrin has devoted his activities in the years since to advocating for human space exploration. He has authored 10 books (including four about his experiences on the moon) and established the ShareSpace Foundation and Aldrin Space Institute at the Florida Institute of Technology.

Aldrin also devised the "Aldrin Mars Cycler," a spacecraft system with perpetual cycling orbits between Earth and Mars. He has received three U.S. patents for his schematics of a modular space station, reusable rockets and multi-crew modules for spaceflight. Aldrin currently serves on the Users Advisory Group for the National Space Council.

NEIL ARMSTRONG

Neil Alden Armstrong, the first human to walk on the moon, was born in Wapakoneta, Ohio, on Aug. 5, 1930. After serving as a naval aviator from 1949 to 1952, Armstrong joined the National Advisory Committee for Aeronautics (NACA) in 1955. His first assignment was with the Lewis Research Center (now NASA Glenn) in Cleveland, Ohio. Over the next 17 years, he was an engineer, test pilot, astronaut and administrator for NACA and its successor agency, the National Aeronautics and Space Administration (NASA).

As a research pilot at NASA's Flight Research Center at Edwards Air Force Base in California, Armstrong was a project pilot on many pioneering high speed aircraft, including the X-15 rocket plane. He flew over 200 different models of aircraft, including jets, rockets, helicopters and gliders.

Armstrong was selected with NASA's second group fo astronauts in 1962. His first assignment was as command pilot for Gemini 8. Launched on March 16, 1966, Armstrong and David Scott performed the first successful docking of two vehicles in space.

As spacecraft commander for Apollo 11, the first crewed lunar landing mission, Armstrong gained the distinction of being the first person to land a craft on the moon and first to step on its surface.

Armstrong subsequently held the position of Deputy Associate Administrator for Aeronautics at NASA Headquarters in Washington, D.C. In this position, he was responsible for the coordination and management of overall NASA research and technology work related to aeronautics. He left NASA in 1971 to become a professor of aerospace engineering at the University of Cincinnati. From 1982 to 1992, Armstrong was the chairman of Computing Technologies for Aviation, Inc. in Charlottesville, Va.

He received a Bachelor of Science Degree in aeronautical engineering from Purdue University and a Master of Science in aerospace engineering from the University of Southern California. He was bestowed honorary doctorates from a number of universities.

(NA CONTINUED) Armstrong died on Aug. 25, 2012, following complications resulting from cardiovascular procedures. He was 82.

MICHAEL COLLINS

Michael Collins, who circled the moon during the first crewed lunar landing, was born on Oct. 31, 1930 in Rome, Italy. Collins attended the U.S. Military Academy at West Point, New York, where he received his Bachelor of Science degree. Prior to joining NASA, Collins served as a fighter pilot and an experimental test pilot at the U.S. Air Force Flight Center at Edwards Air Force Base in California. From 1959 to 1963, he logged more than 4,200 hours of flying time.

Collins was named an astronaut with NASA's third selection group in October 1963. He first served as a pilot on the Gemini 10 mission, which launched on July 18, 1966, setting a new world altitude record with crewmate John Young and becoming the United States' third spacewalker, completing two extravehicular activities (EVAs).

As Apollo 11 command module pilot, Collins remained in lunar orbit aboard the spacecraft "Columbia," while Neil Armstrong and Buzz Aldrin became the first people to walk on the moon in July 1969.

In January 1970, Collins left NASA to become the Assistant Secretary of State for Public Affairs. A year later, he joined the Smithsonian Institution as the first director of the National Air and Space Museum. While in that position, he was responsible for the construction of the new museum building, which opened to the public in July 1976. In April 1978, Collins became Under Secretary of the Smithsonian Institution.

In 1980, he became the vice president of the LTV Aerospace and Defense Company, resigning in 1985 to start his own firm.

Collins wrote about his experiences in the space program in several books, including "Carrying the Fire," widely-considered the best written astronaut memoir.

JOANN H. MORGAN

JoAnn H. Morgan (born Dec. 4, 1940) was the first female engineer at Kennedy Space Center and the only woman to be working at a console in the firing room for the launch of the Apollo 11 mission on July 16, 1969. She went on to be the first woman senior executive at Kennedy, later serving as the acting deputy director of the center.

EUGENE F. "GENE" KRANZ

Eugene F. "Gene" Kranz (born Aug. 17, 1933) served as a flight director in Mission Control during the Apollo 11 first landing on the moon. NASA's second flight director, Kranz is best perhaps known for leading Mission Control in the safe return of the Apollo 13 crew after a mid-flight explosion crippled their spacecraft on the way to the moon.

CHARLIE M. DUKE JR.

Charles M. Duke, Jr. (born Oct. 3, 1935) served as the capsule communicator ("CapCom") in Mission Control during the Apollo 11 first landing on the moon. A member of NASA's fifth group of astronauts, Duke went on to become the tenth and youngest person (to date) to walk on the moon as lunar module pilot of Apollo 16 in April 1972.

(END OF ASTRONAUT AND CREW BIOS; CREDITS FOLLOW)

APOLLO 11 CREDITS

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Todd Douglas Miller

PRODUCERS

Todd Douglas Miller

Thomas Petersen

Evan Krauss

EXECUTIVE PRODUCERS

Amy Entelis

Courtney Sexton

COORDINATING PRODUCER

Alex Hannibal

EXECUTIVE PRODUCERS

Josh Braun

Tom Quinn

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Todd Douglas Miller

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Matt Morton

SOUND DESIGN/ RE-RECORDING MIX

Eric Milano

IMAX/LARGE FORMAT MIX

Brian Eimer

ARCHIVE PRODUCER

Stephen Slater

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Ben Feist

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NEWS

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
WASHINGTON, D.C. 20546

TELS. WO 2-4155
WO 3-6925

FOR RELEASE: SUNDAY
July 6, 1969

RELEASE NO: 69-83K

APOLLO 11

The United States will launch a three-man spacecraft toward the Moon on July 16 with the goal of landing two astronaut-explorers on the lunar surface four days later.

If the mission--called Apollo 11--is successful, man will accomplish his long-time dream of walking on another celestial body.

The first astronaut on the Moon's surface will be 38-year-old Neil A. Armstrong of Wapakoneta, Ohio, and his initial act will be to unveil a plaque whose message symbolizes the nature of the journey.

Affixed to the leg of the lunar landing vehicle, the plaque is signed by President Nixon, Armstrong and his Apollo 11 companions, Michael Collins and Edwin E. Aldrin, Jr.

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It bears a map of the Earth and this inscription:

HERE MEN FROM THE PLANET EARTH
FIRST SET FOOT UPON THE MOON
JULY 1969 A.D.
WE CAME IN PEACE FOR ALL MANKIND

The plaque is fastened to the descent stage of the lunar module and thus becomes a permanent artifact on the lunar surface.

Later Armstrong and Aldrin will emplant an American flag on the surface of the Moon.

The Apollo 11 crew will also carry to the Moon and return two large American flags, flags of the 50 states, District of Columbia and U.S. Territories, flags of other nations and that of the United Nations Organization.

During their 22-hour stay on the lunar surface, Armstrong and Aldrin will spend up to 2 hours and 40 minutes outside the lunar module, also gathering samples of lunar surface material and deploying scientific experiments which will transmit back to Earth valuable data on the lunar environment.

Apollo 11 is scheduled for launch at 9:32 a.m. EDT July 16 from the National Aeronautics and Space Administration's Kennedy Space Center Launch Complex 39-A. The mission will be the fifth manned Apollo flight and the third to the Moon.

-more-

The prime mission objective of Apollo 11 is stated simply: "Perform a manned lunar landing and return". Successful fulfillment of this objective will meet a national goal of this decade, as set by President Kennedy May 25, 1961.

Apollo 11 Commander Armstrong and Command Module Pilot Collins 38, and Lunar Module Pilot Aldrin, 39, will each be making his second space flight. Armstrong was Gemini 8 commander, and backup Apollo 8 commander; Collins was Gemini 10 pilot and was command module pilot on the Apollo 8 crew until spinal surgery forced him to leave the crew for recuperation; and Aldrin was Gemini 12 pilot and Apollo 8 backup lunar module pilot. Armstrong is a civilian, Collins a USAF lieutenant colonel and Aldrin a USAF colonel.

Apollo 11 backup crewmen are Commander James A. Lovell, Command Module Pilot William A. Anders, both of whom were on the Apollo 8 first lunar orbit mission crew, and Lunar Module Pilot Fred W. Haise.

-more-

The backup crew functions in three significant categories. They help the prime crew with mission preparation and hardware checkout activities. They receive nearly complete mission training which becomes a valuable foundation for later assignment as a prime crew and finally, should the prime crew become unavailable, they are prepared to fly as prime crew on schedule up until the last few weeks at which time full duplicate training becomes too costly and time consuming to be practical.

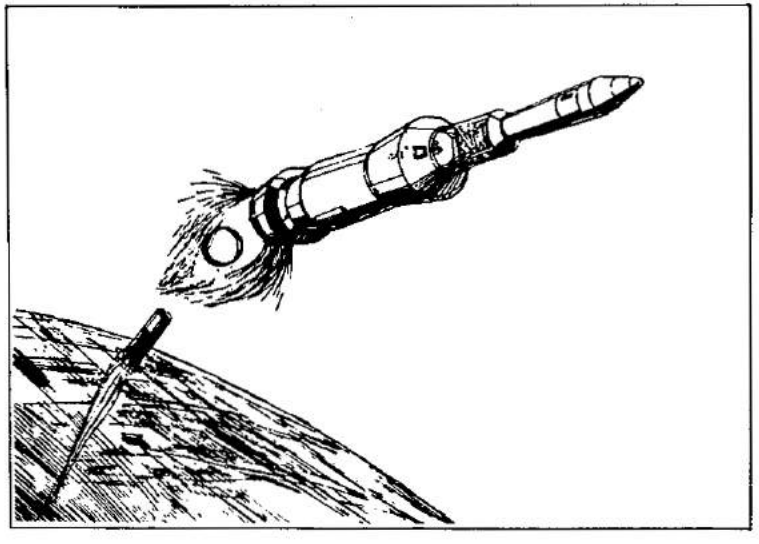
Apollo 11, after launch from Launch Complex 39-A, will begin the three-day voyage to the Moon about two and a half hours after the spacecraft is inserted into a 100-nautical mile circular Earth parking orbit. The Saturn V launch vehicle third stage will restart to inject Apollo 11 into a translunar trajectory as the vehicle passes over the Pacific midway through the second Earth parking orbit.

The "go" for translunar injection will follow a complete checkout of the space vehicle's readiness to be committed for injection. About a half hour after translunar injection (TLI), the command/service module will separate from the Saturn third stage, turn around and dock with the lunar module nested in the spacecraft LM adapter. Spring-loaded lunar module holddowns will be released to eject the docked spacecraft from the adapter.

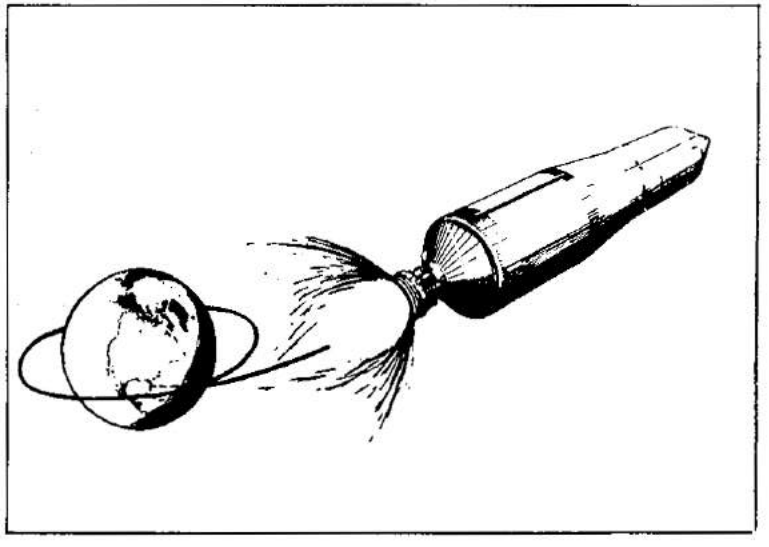
APOLLO 11 —— Launch And Translunar Injection

Astronaut Insertion

Check Of Systems



Saturn Staging



Translunar Injection

-more-

Later, leftover liquid propellant in the Saturn third stage will be vented through the engine bell to place the stage into a "slingshot" trajectory to miss the Moon and go into solar orbit.

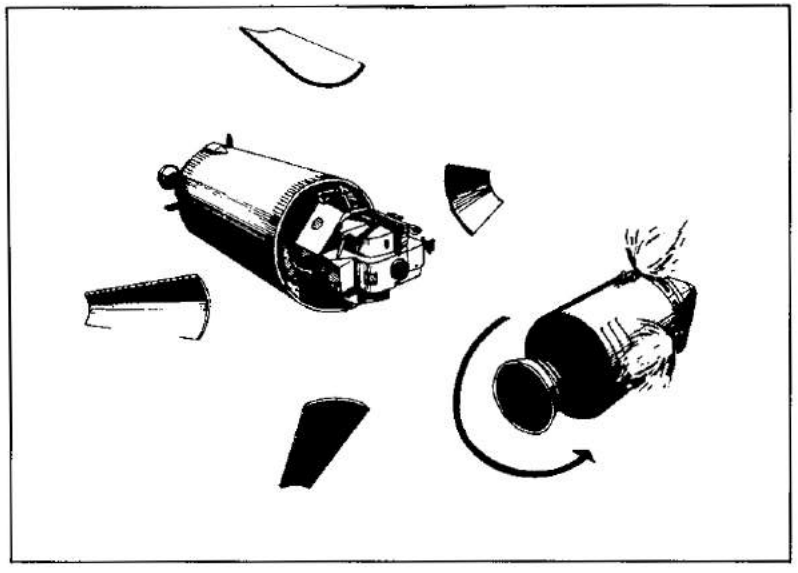
During the translunar coast, Apollo 11 will be in the passive thermal control mode in which the spacecraft rotates slowly about one of its axes to stabilize thermal response to solar heating. Four midcourse correction maneuvers are possible during translunar coast and will be planned in real time to adjust the trajectory.

Apollo 11 will first be inserted into a 60-by-170-nautical mile elliptical lunar orbit, which two revolutions later will be adjusted to a near-circular 54 x 66 nm. Both lunar orbit insertion burns (LOI), using the spacecraft's 20,500-pound-thrust service propulsion system, will be made when Apollo 11 is behind the Moon and out of "sight" of Manned Space Flight Network stations.

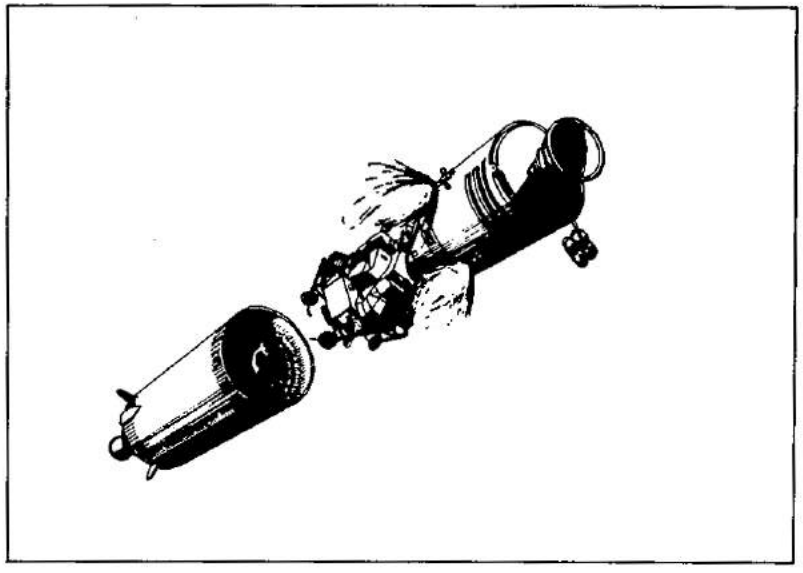
Some 21 hours after entering lunar orbit, Armstrong and Aldrin will man and check out the lunar module for the descent to the surface. The LM descent propulsion system will place the LM in an elliptical orbit with a pericynthion, or low point above the Moon, of 50,000 feet, from which the actual descent and touchdown will be made.

-more-

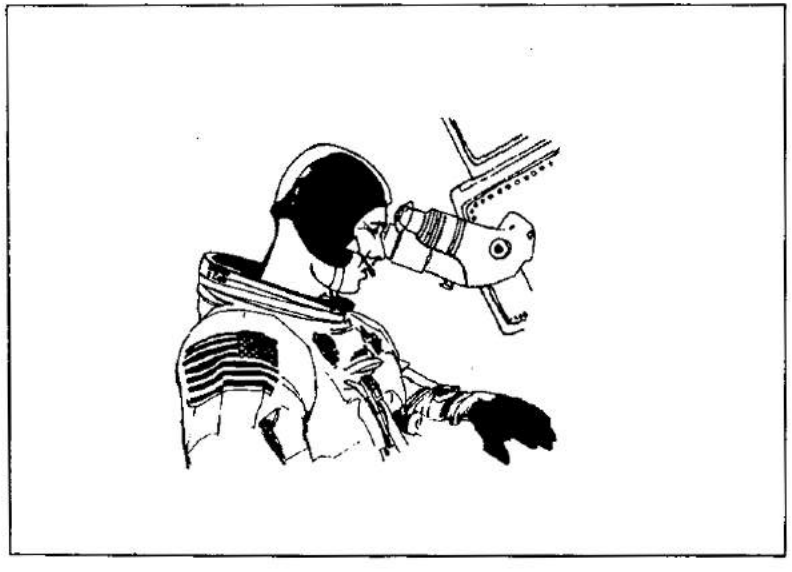
APOLLO 11 — Translunar Flight



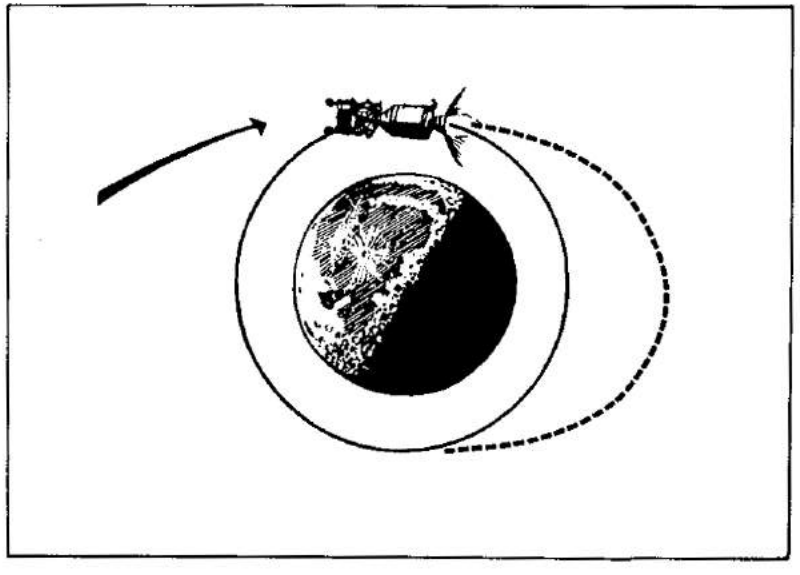
Transposition Maneuver



Extraction Of Lunar Module



Navigation Check



Lunar Orbit Insertion

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After touchdown, the landing crew will first ready the lunar module for immediate ascent and then take a brief rest before depressurizing the cabin for two-man EVA about 10 hours after touchdown. Armstrong will step onto the lunar surface first, followed by Aldrin some 40 minutes later.

During their two hours and 40 minutes on the surface, Armstrong and Aldrin will gather geologic samples for return to Earth in sealed sample return containers and set up two scientific experiments for returning Moon data to Earth long after the mission is complete.

One experiment measures moonquakes and meteoroid impacts on the lunar surface, while the other experiment is a sophisticated reflector that will mirror laser beams back to points on Earth to aid in expanding scientific knowledge both of this planet and of the Moon.

The lunar module's descent stage will serve as a launching pad for the crew cabin as the 3,500-pound-thrust ascent engine propels the LM ascent stage back into lunar orbit for rendezvous with Collins in the command/service module--orbiting 60 miles above the Moon.

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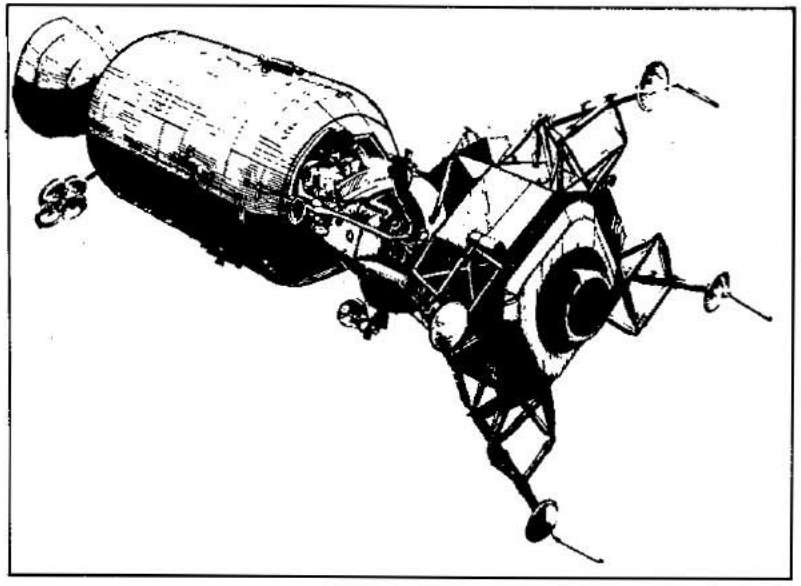
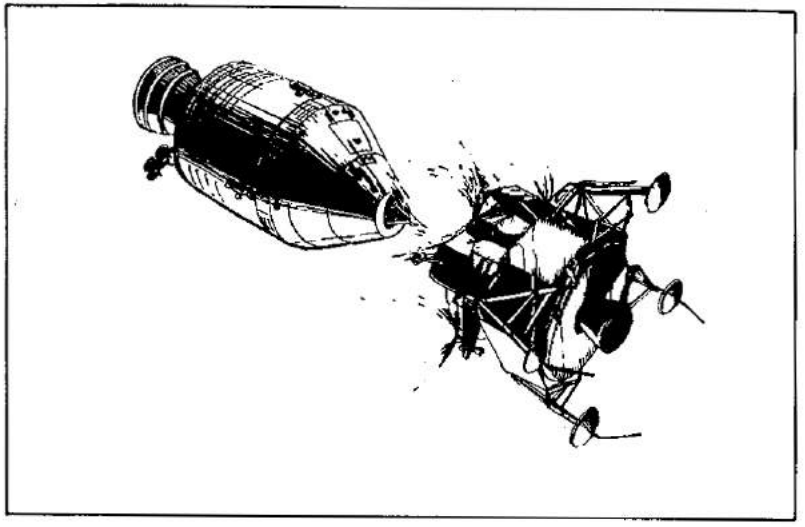
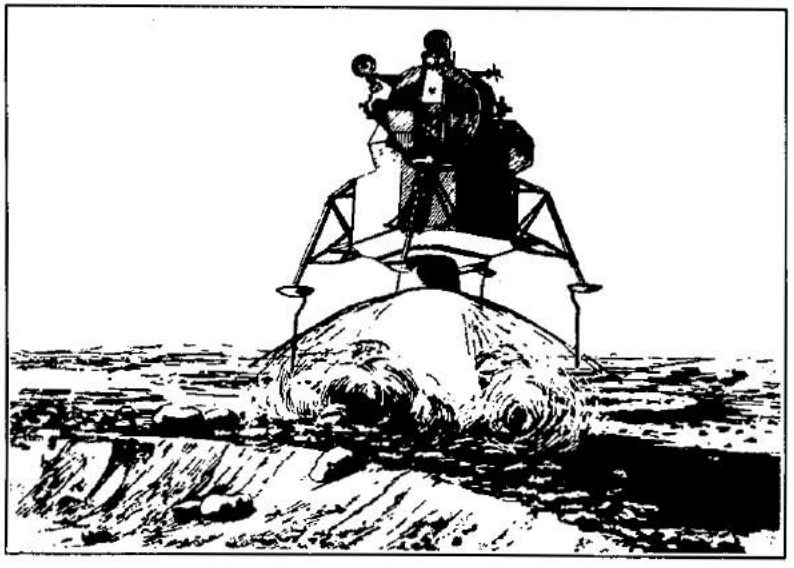
APOLLO 11 — Descent To Lunar Surface



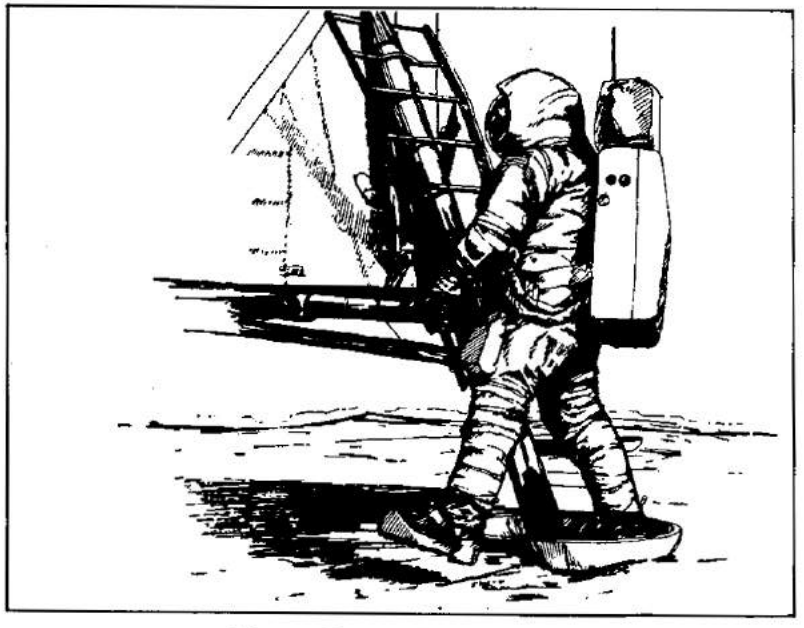
Transfer To LM



Separation Of LM From CSM



Landing On Moon



First Step On Moon

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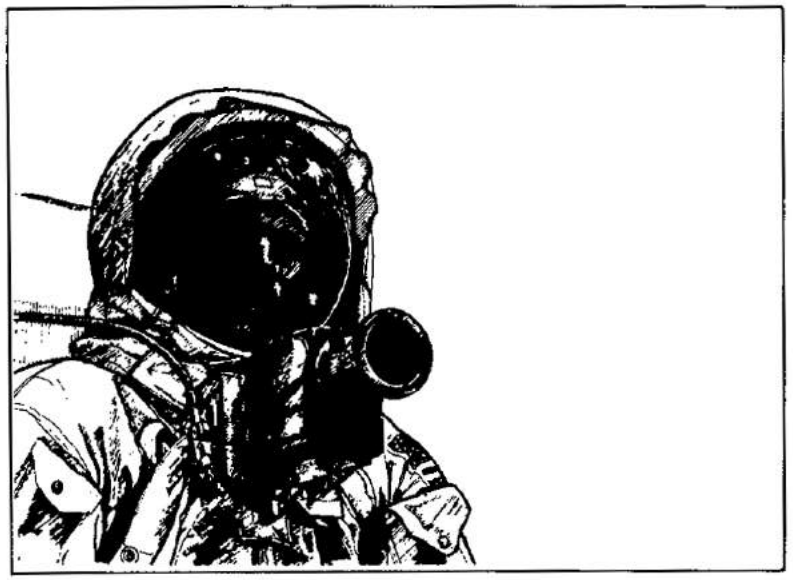
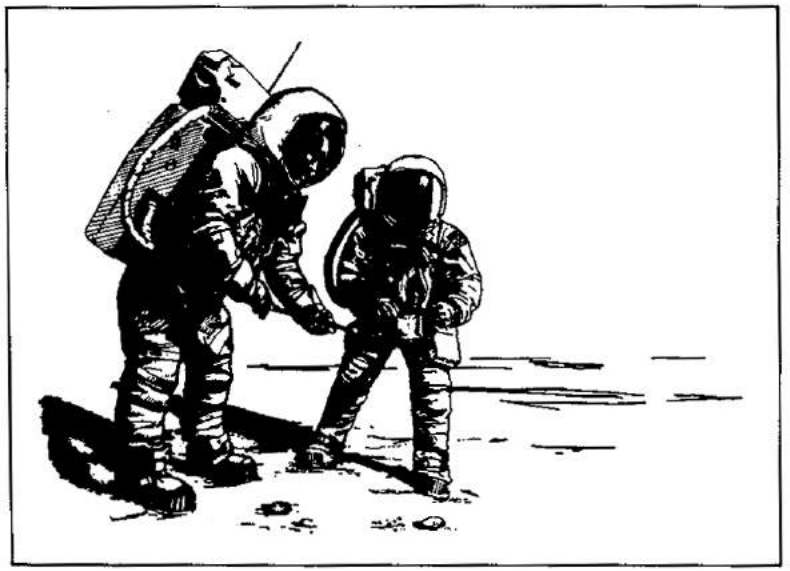
APOLLO 11 — Lunar Surface Activities

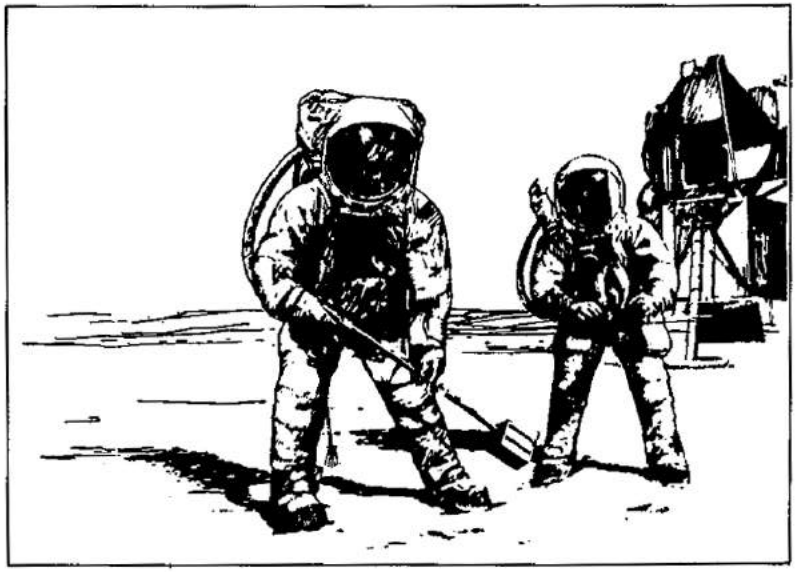


Commander On Moon

Contingency Sample



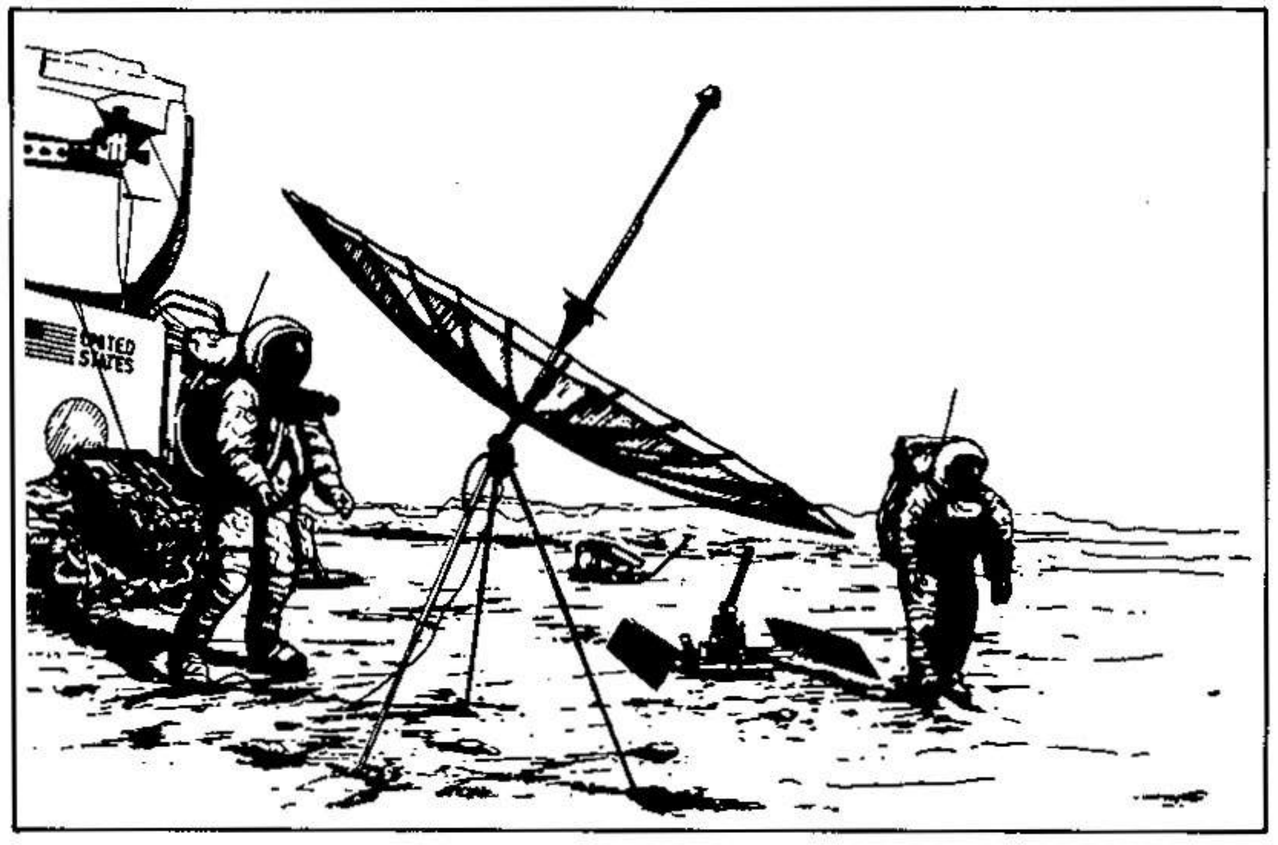
Documented Sample Collection



Sample Collecting

more-

APOLLO 11 — Lunar Surface Activities



Experiment Placements

TV Camera

Alignment Of Passive Seismometer

Bulk Sample Collection

-more-

Four basic maneuvers, all performed by the LM crew using the spacecraft's small maneuvering and attitude thrusters, will bring the LM and the command module together for docking about three and a half hours after liftoff from the Moon.

The boost out of lunar orbit for the return journey is planned for about 135 hours after Earth liftoff and after the LM ascent stage has been jettisoned and lunar samples and film stowed aboard the command module. An optional plan provides for a 12-hour delay in the transearth injection burn to allow the crew more rest after a long hard day's work on the lunar surface and flying the rendezvous. The total mission time to splashdown would remain about the same, since the transearth injection burn would impart a higher velocity to bring the spacecraft back to the mid-Pacific recovery line at about the same time.

The rendezvous sequence to be flown on Apollo 11 has twice been flown with the Apollo spacecraft---once in Earth orbit on Apollo 9 and once in lunar orbit with Apollo 10. The Apollo 10 mission duplicated, except for the actual landing, all aspects of the Apollo 11 timeline.

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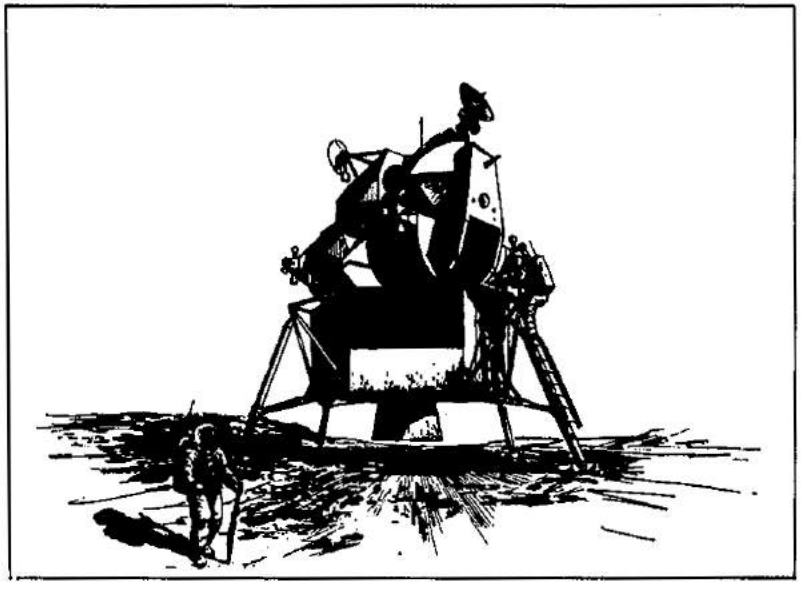
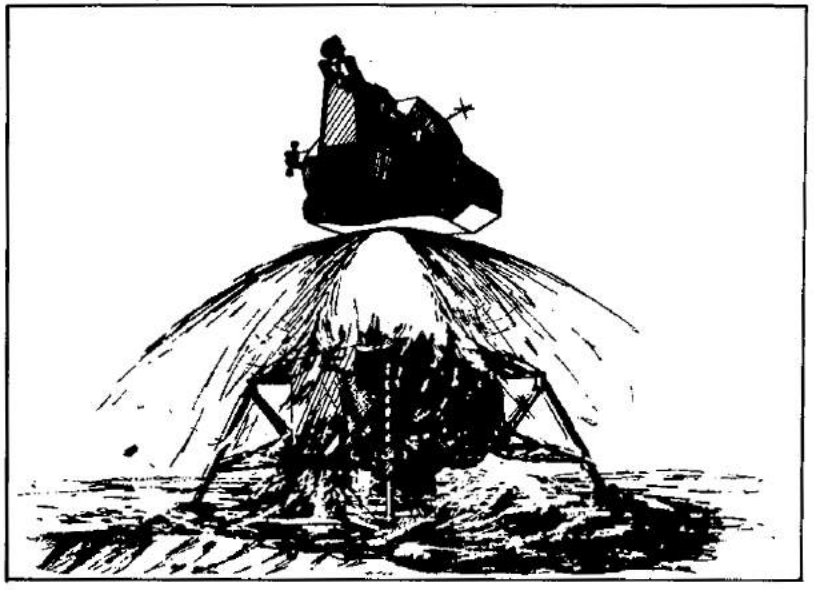
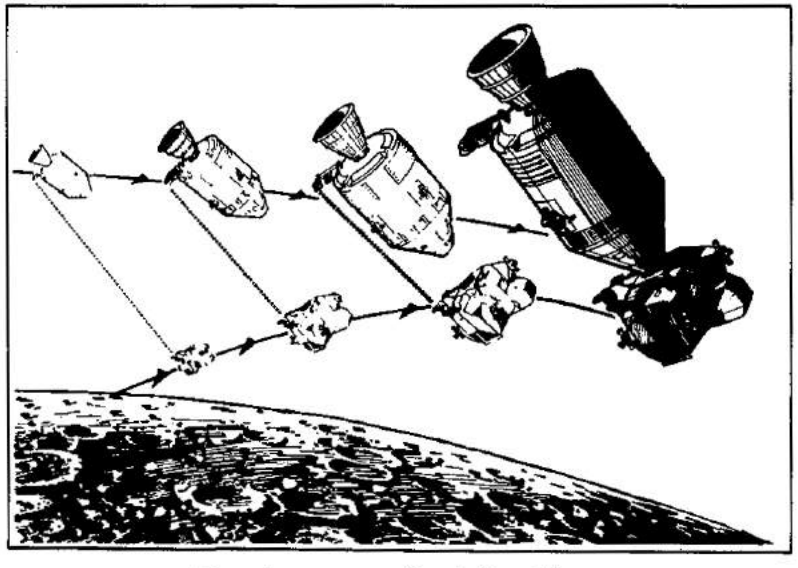
APOLLO 11 — Lunar Ascent And Rendezvous



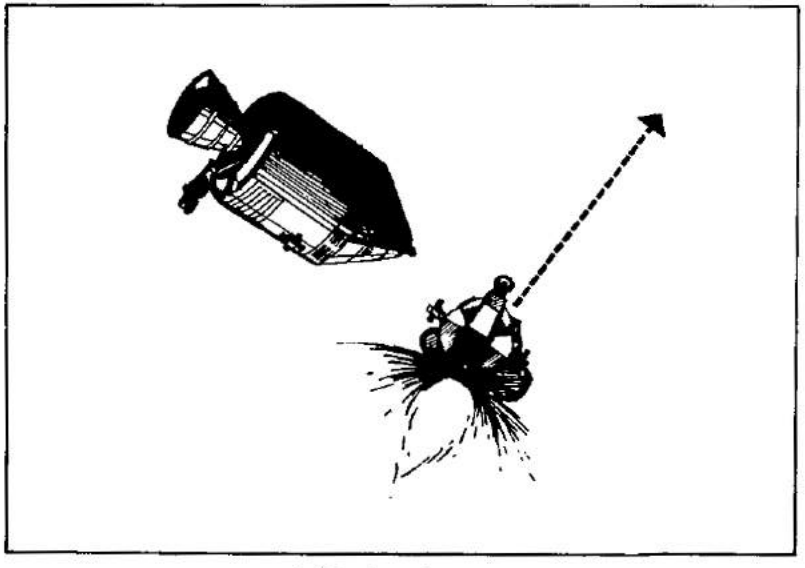
Return To Spacecraft



Ascent Stage Launch



Rendezvous And Docking



LM Jettison

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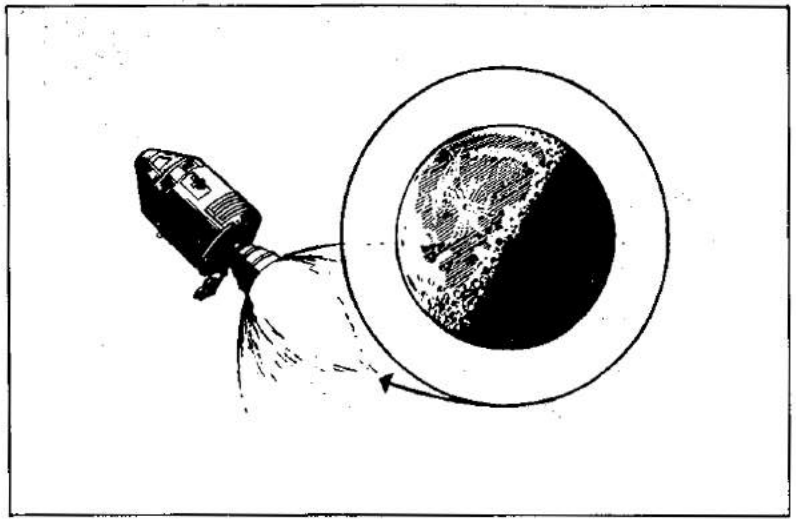
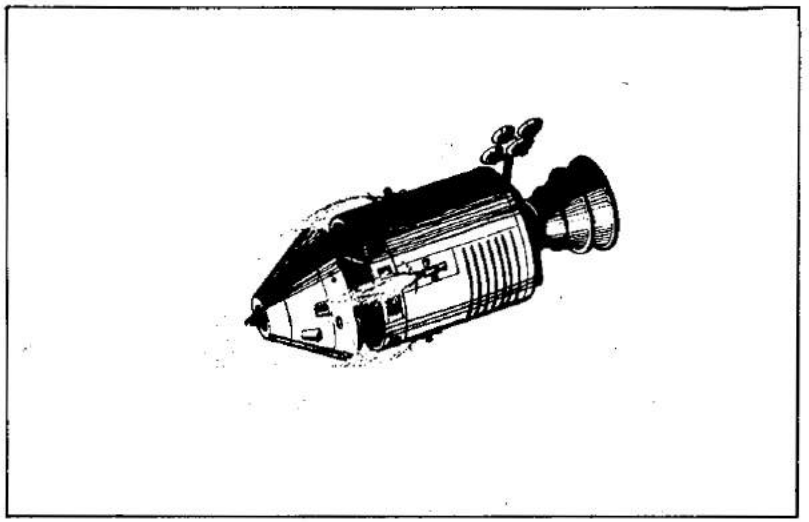
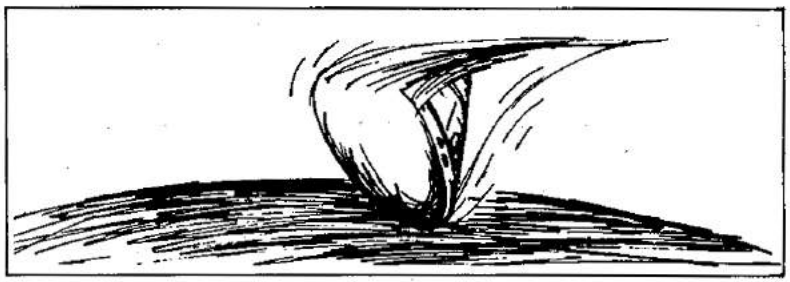
APOLLO 11 — Transearth Injection And Recovery



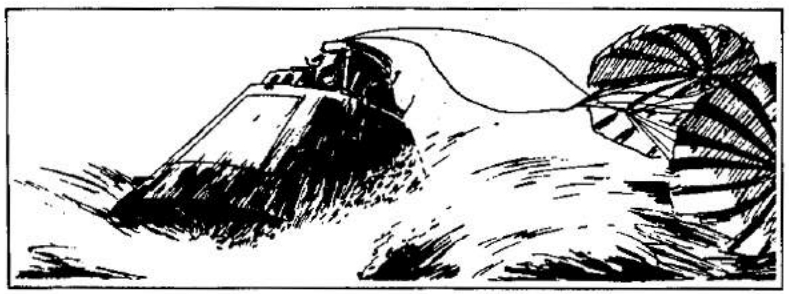
Transearth Injection



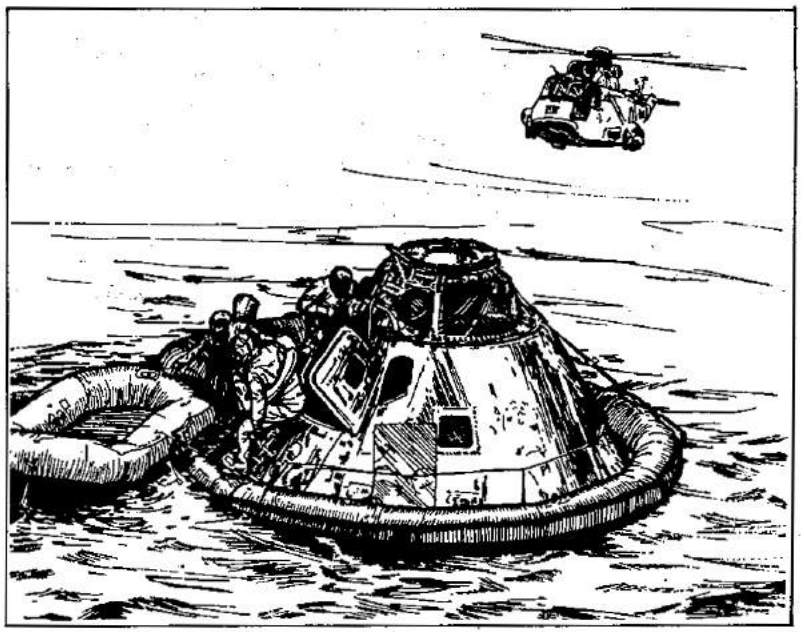
CM/SM Separation



Reentry



Splashdown



Recovery

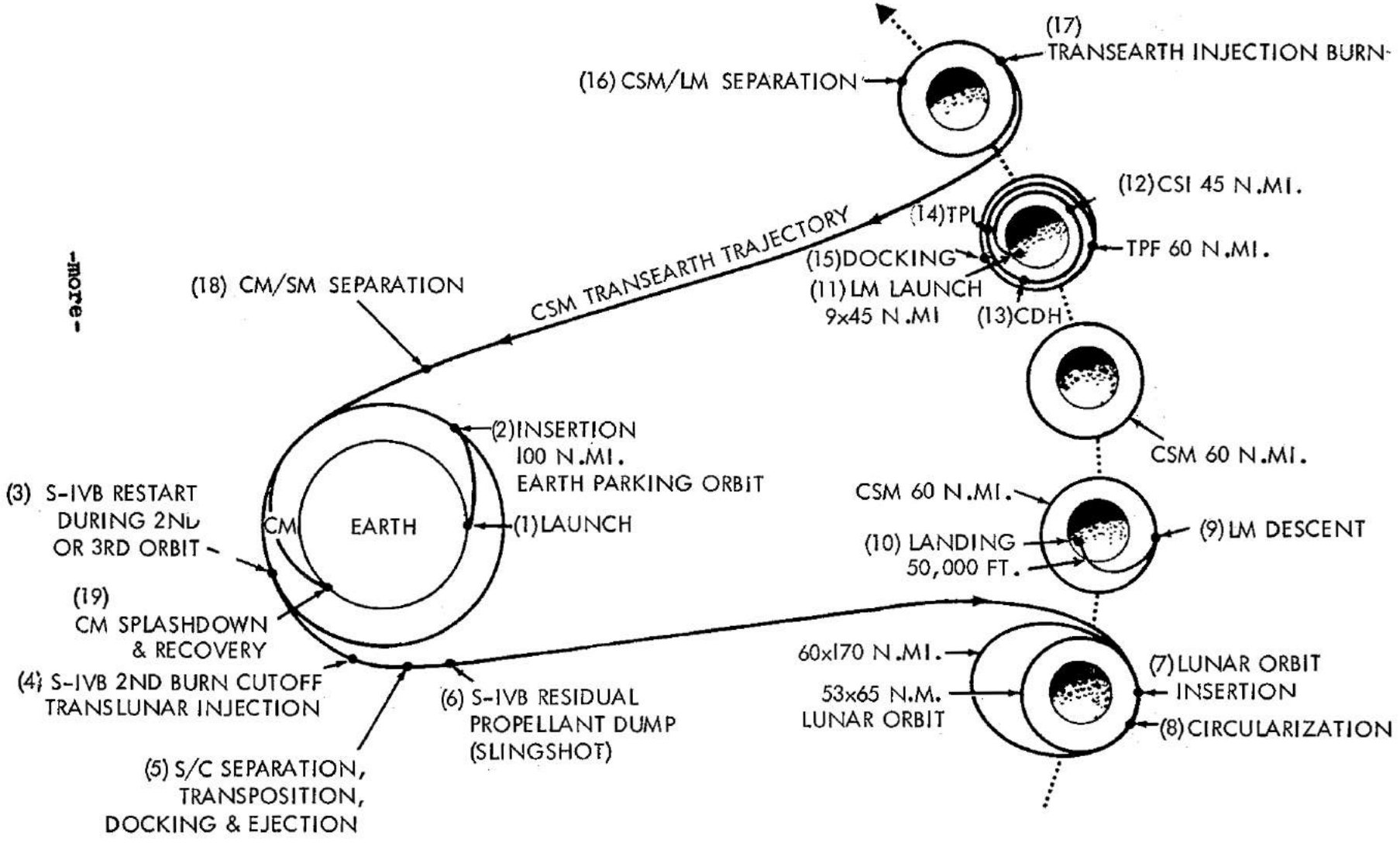
-more-

During the transearth coast period, Apollo 11 will again control solar heat loads by using the passive thermal control "barbeque" technique. Three transearth midcourse corrections are possible and will be planned in real time to adjust the Earth entry corridor.

Apollo 11 will enter the Earth's atmosphere (400,000 feet) at 195 hours and five minutes after launch at 36,194 feet per second. Command module touchdown will be 1285 nautical miles downrange from entry at 10.6 degrees north latitude by 172.4 west longitude at 195 hours, 19 minutes after Earth launch 12:46 p.m. EDT July 24. The touchdown point is about 1040 nautical miles southwest of Honolulu, Hawaii.

(END OF GENERAL RELEASE; BACKGROUND INFORMATION FOLLOWS)

FLIGHT PROFILE



APOLLO 11 COUNTDOWN

The clock for the Apollo 11 countdown will start at T-28 hours, with a six-hour built-in-hold planned at T-9 hours, prior to launch vehicle propellant loading.

The countdown is preceded by a pre-count operation that begins some 5 days before launch. During this period the tasks include mechanical buildup of both the command/service module and LM, fuel cell activation and servicing and loading of the super critical helium aboard the LM descent stage.

Following are some of the highlights of the final count:

T-28 hrs.	Official countdown starts
T-27 hrs. 30 mins.	Install launch vehicle flight batteries (to 23 hrs. 30 mins.) LM stowage and cabin closeout (to 15 hrs.)
T-21 hrs.	Top off LM super critical helium (to 19 hrs.)
T-16 hrs.	Launch vehicle range safety checks (to 15 hrs.)
T-11 hrs. 30 mins.	Install launch vehicle destruct devices (to 10 hrs. 45 mins.) Command/service module pre-ingress operations
T-10 hrs.	Start mobile service structure move to park site
T-9 hrs.	Start six hour built-in-hold
T-9 hrs. counting	Clear blast area for propellant loading
T-8 hrs. 30 mins.	Astronaut backup crew to spacecraft for prelaunch checks
T-8 hrs. 15 mins.	Launch Vehicle propellant loading, three stages (liquid oxygen in first stage) liquid oxygen and liquid hydrogen in second, third stages. Continues thru T-3 hrs. 38 mins.

-more-

T-5 hrs. 17 mins.	Flight crew alerted
T-5 hrs. 02 mins.	Medical examination
T-4 hrs. 32 mins.	Breakfast
T-3 hrs. 57 mins.	Don space suits
T-3 hrs. 07 mins.	Depart Manned Spacecraft Operations Building for LC-39 via crew transfer van
T-2 hrs. 55 mins.	Arrive at LC-39
T-2 hrs. 40 mins.	Start flight crew ingress
T-1 hr. 55 mins.	Mission Control Center-Houston/spacecraft command checks
T-1 hr. 50 mins.	Abort advisory system checks
T-1 hr. 46 mins.	Space vehicle Emergency Detection System (EDS) test
T-43 mins.	Retrack Apollo access arm to standby position (12 degrees)
T-42 mins.	Arm launch escape system
T-40 mins.	Final launch vehicle range safety checks (to 35 mins.)
T-30 mins.	Launch vehicle power transfer test
	LM switch over to internal power
T-20 mins. to T-10 mins.	Shutdown LM operational instrumentation
T-15 mins.	Spacecraft to internal power
T-6 mins.	Space vehicle final status checks
T-5 mins. 30 sec.	Arm destruct system
T-5 mins.	Apollo access arm fully retracted
T-3 mins. 10 sec.	Initiate firing command (automatic sequencer)
T-50 sec.	Launch vehicle transfer to internal power

-more-

T-8.9 sec.	Ignition sequence start
T-2 sec.	All engines running
T-0	Liftoff

*Note: Some changes in the above countdown are possible as a result of experience gained in the Countdown Demonstration Test (CDDT) which occurs about 10 days before launch.

-more-

APOLLO 11 PHOTOGRAPHIC TASKS

Still and motion pictures will be made of most spacecraft maneuvers as well as of the lunar surface and of crew activities in the Apollo 11 cabin. During lunar surface activities after lunar module touchdown and the two hour 40 minute EVA, emphasis will be on photographic documentation of crew mobility, lunar surface features and lunar material sample collection.

Camera equipment carried on Apollo 11 consists of one 70mm Hasselblad electric camera stowed aboard the command module, two Hasselblad 70mm lunar surface superwide angle cameras stowed aboard the LM and a 35mm stereo close-up camera in the LM MESA.

The 2.3 pound Hasselblad superwide angle camera in the LM is fitted with a 38mm f/4.5 Zeiss Biogon lens with a focusing range from 12 inches to infinity. Shutter speeds range from time exposure and one second to 1/500 second. The angular field of view with the 38mm lens is 71 degrees vertical and horizontal on the square-format film frame.

The command module Hasselblad electric camera is normally fitted with an 80mm f/2.8 Zeiss Planar lens, but bayonet-mount 60mm and 250mm lens may be substituted for special tasks. The 80mm lens has a focusing range from three feet to infinity and has a field of view of 38 degrees vertical and horizontal.

Stowed with the Hasselblads are such associated items as a spotmeter, ringsight, polarizing filter, and film magazines. Both versions of the Hasselblad accept the same type film magazine.

For motion pictures, two Maurer 16mm data acquisition cameras (one in the CSM, one in the LM) with variable frame speed (1, 6, 12 and 24 frames per second) will be used. The cameras each weigh 2.8 pounds with a 130-foot film magazine attached. The command module 16mm camera will have lenses of 5, 18 and 75mm focal length available, while the LM camera will be fitted with the 18mm wideangle lens. Motion picture camera accessories include a right-angle mirror, a power cable and a command module boresight window bracket.

-more-

During the lunar surface extravehicular activity, the commander will be filmed by the LM pilot with the LM 16mm camera at normal or near-normal frame rates (24 and 12 fps), but when he leaves the LM to join the commander, he will switch to a one frame-per-second rate. The camera will be mounted inside the LM looking through the right-hand window. The 18mm lens has a horizontal field of view of 32 degrees and a vertical field of view of 23 degrees. At one fps, a 130-foot 16mm magazine will run out in 87 minutes in real time; projected at the standard 24 fps, the film would compress the 87 minutes to 3.6 minutes.

Armstrong and Aldrin will use the Hasselblad lunar surface camera extensively during their surface EVA to document each of their major tasks. Additionally, they will make a 360-degree overlapping panorama sequence of still photos of the lunar horizon, photograph surface features in the immediate area, make close-ups of geological samples and the area from which they were collected and record on film the appearance and condition of the lunar module after landing.

Stowed in the MESA is a 35mm stereo close-up camera which shoots 24mm square color stereo pairs with an image scale of one-half actual size. The camera is fixed focus and is equipped with a stand-off hood to position the camera at the proper focus distance. A long handle permits an EVA crewman to position the camera without stooping for surface object photography. Detail as small as 40 microns can be recorded.

A battery-powered electronic flash provides illumination. Film capacity is a minimum of 100 stereo pairs.

The stereo close-up camera will permit the Apollo 11 landing crew to photograph significant surface structure phenomena which would remain intact only in the lunar environment, such as fine powdery deposits, cracks or holes and adhesion of particles.

Near the end of EVA, the film casette will be removed and stowed in the commander's contingency sample container pocket and the camera body will be left on the lunar surface.

-more-

LUNAR DESCRIPTION

Terrain - Mountainous and crater-pitted, the former rising thousands of feet and the latter ranging from a few inches to 180 miles in diameter. The craters are thought to be formed by the impact of meteorites. The surface is covered with a layer of fine-grained material resembling silt or sand, as well as small rocks and boulders.

Environment - No air, no wind, and no moisture. The temperature ranges from 243 degrees in the two-week lunar day to 279 degrees below zero in the two-week lunar night. Gravity is one-sixth that of Earth. Micrometeoroids pelt the Moon (there is no atmosphere to burn them up). Radiation might present a problem during periods of unusual solar activity.

Dark Side - The dark or hidden side of the Moon no longer is a complete mystery. It was first photographed by a Russian craft and since then has been photographed many times, particularly by NASA's Lunar Orbiter spacecraft and Apollo 8.

Origin - There is still no agreement among scientists on the origin of the Moon. The three theories: (1) the Moon once was part of Earth and split off into its own orbit, (2) it evolved as a separate body at the same time as Earth, and (3) it formed elsewhere in space and wandered until it was captured by Earth's gravitational field.

Physical Facts

Diameter	2,160 miles (about $\frac{1}{4}$ that of Earth)
Circumference	6,790 miles (about $\frac{1}{4}$ that of Earth)
Distance from Earth	238,857 miles (mean; 221,463 minimum to 252,710 maximum)
Surface temperature	+243°F (Sun at zenith) -279°F (night)
Surface gravity	1/6 that of Earth
Mass	1/100th that of Earth
Volume	1/50th that of Earth
Lunar day and night	14 Earth days each
Mean velocity in orbit	2,287 miles per hour
Escape velocity	1.48 miles per second
Month (period of rotation around Earth)	27 days, 7 hours, 43 minutes

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Apollo Lunar Landing Sites

Possible landing sites for the Apollo lunar module have been under study by NASA's Apollo Site Selection Board for more than two years. Thirty sites originally were considered. These have been narrowed down to three for the first lunar landing. (Site 1 currently not considered for first landing.)

Selection of the final sites was based on high resolution photographs by Lunar Orbiter spacecraft, plus close-up photos and surface data provided by the Surveyor spacecraft which soft-landed on the Moon.

The original sites are located on the visible side of the Moon within 45 degrees east and west of the Moon's center and 5 degrees north and south of its equator.

The final site choices were based on these factors:

*Smoothness (relatively few craters and boulders)

*Approach (no large hills, high cliffs, or deep craters that could cause incorrect altitude signals to the lunar module landing radar)

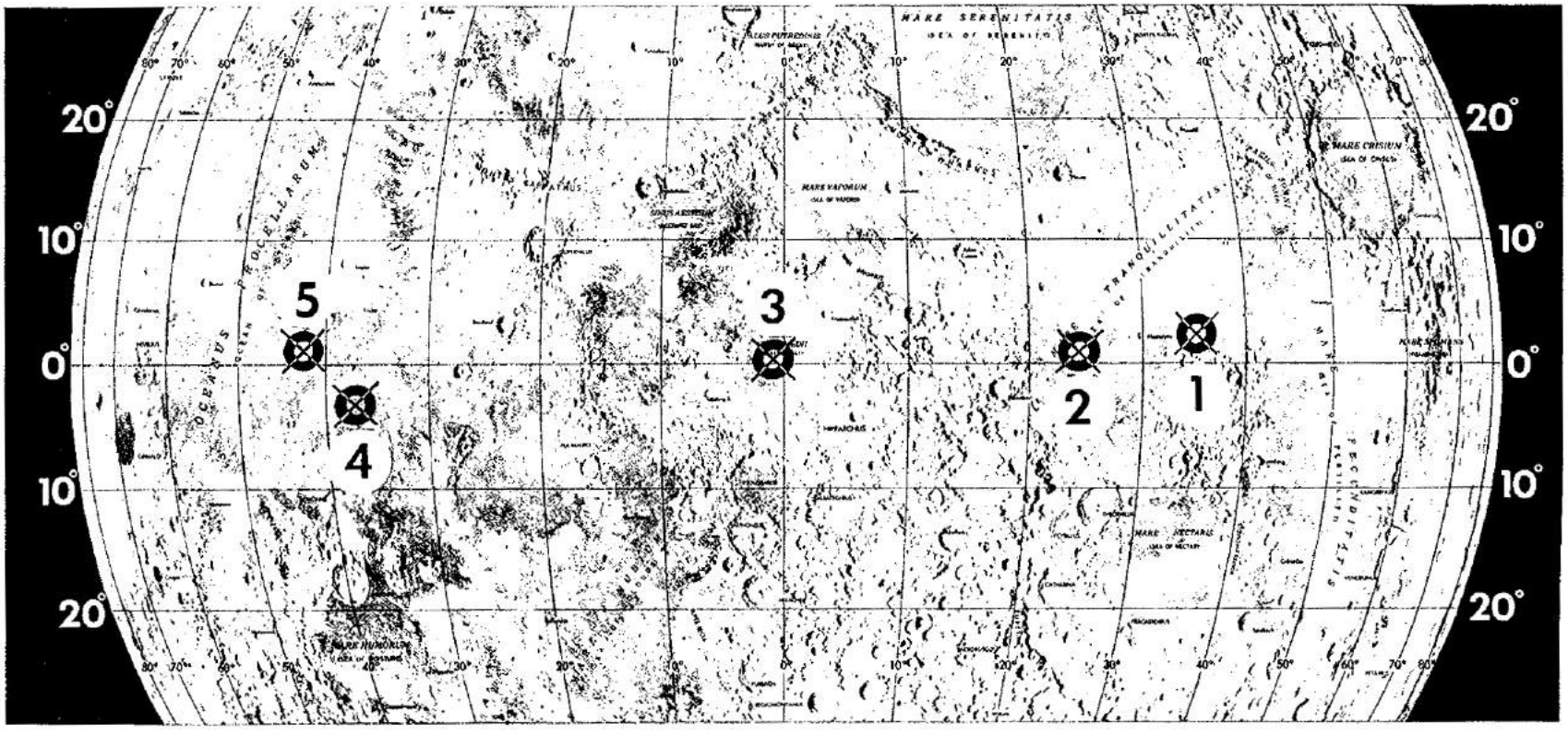
*Propellant requirements (selected sites require the least expenditure of spacecraft propellants)

*Recycle (selected sites allow effective launch preparation recycling if the Apollo Saturn V countdown is delayed)

*Free return (sites are within reach of the spacecraft launched on a free return translunar trajectory)

*Slope (there is little slope -- less than 2 degrees in the approach path and landing area)

APOLLO LUNAR LANDING SITES



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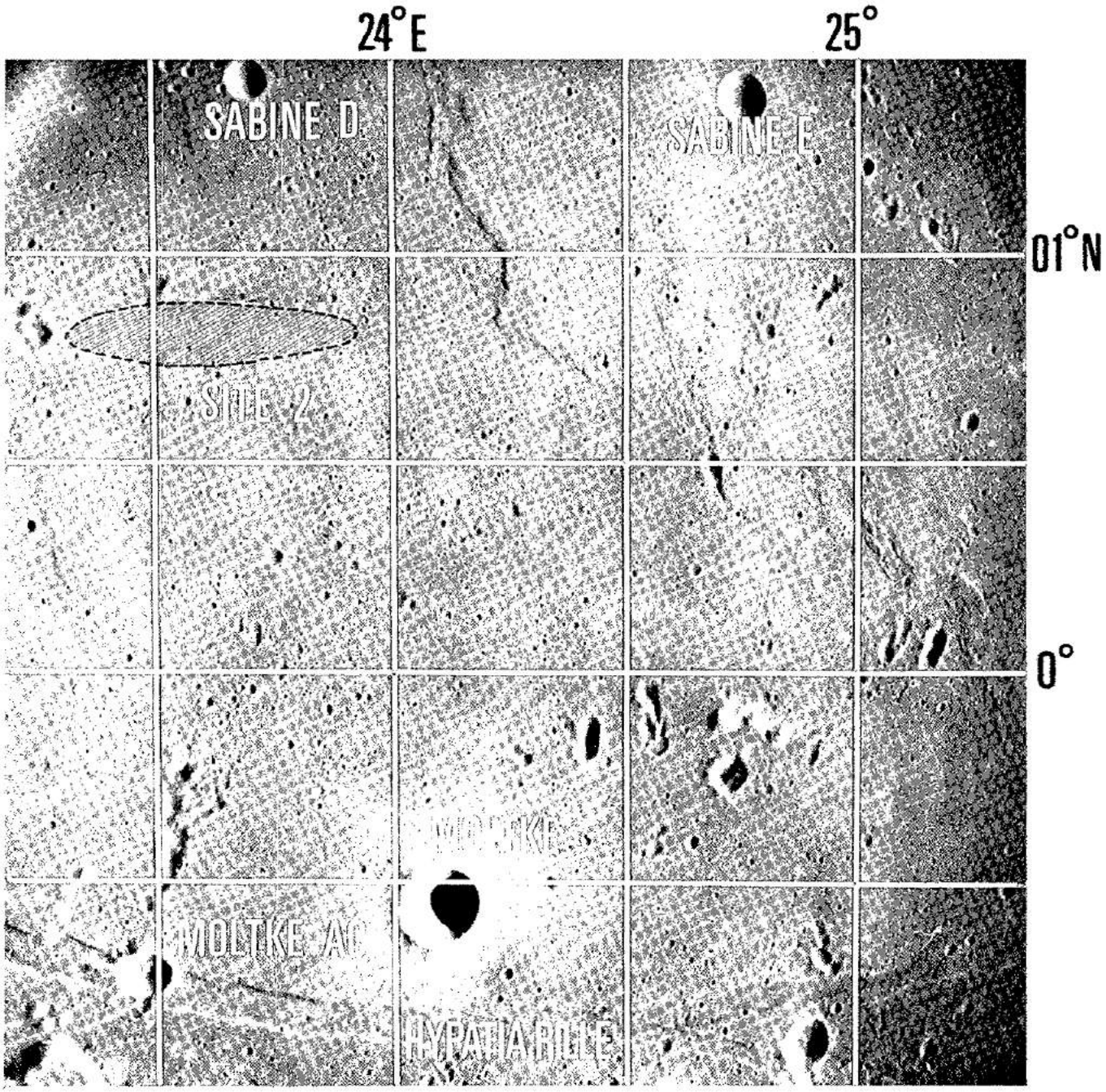

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The Apollo 11 Landing Sites Are:

Site 2

latitude 0° 42' 50" North
longitude 23° 42' 28" East

Site 2 is located on the east central part of the Moon in southwestern Mar Tranquillitatis. The site is approximately 62 miles (100 kilometers) east of the rim of Crater Sabine and approximately 118 miles (190 kilometers) southwest of the Crater Maskelyne.

Site 3

latitude 0° 21' 10" North
longitude 1° 17' 57" West

Site 3 is located near the center of the visible face of the Moon in the southwestern part of Sinus Medii. The site is approximately 25 miles (40 kilometers) west of the center of the face and 21 miles (50 kilometers) southwest of the Crater Bruce.

Site 5

latitude 1° 40' 41" North
longitude 41° 53' 57" West

Site 5 is located on the west central part of the visible face in southeastern Oceanus Procellarum. The site is approximately 130 miles (210 kilometers) southwest of the rim of Crater Kepler and 118 miles (190 kilometers) north northeast of the rim of Crater Flamsteed.

-more-

NEON AND CNN FILMS PRESENT
A STATEMENT PICTURES PRODUCTION

APOLLO 11

A FILM BY TODD DOUGLAS MILLER

RUNNING TIME: 93 minutes
RATING: Not Yet Rated

NEON
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