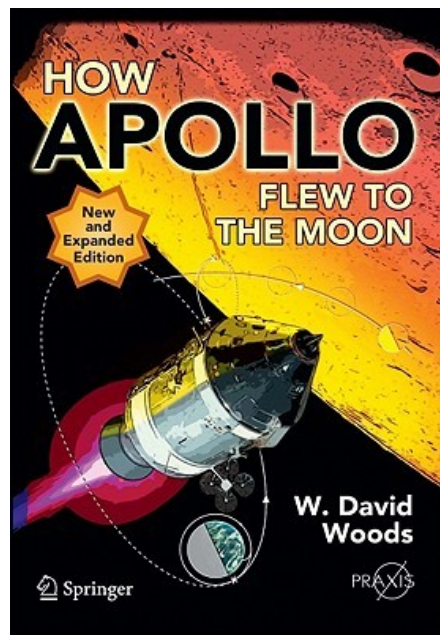




How Apollo Flew to the Moon

W. David Woods

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Stung by the pioneering space successes of the Soviet Union - in particular, Gagarin being the first man in space, the United States gathered the best of its engineers and set itself the goal of reaching the Moon within a decade. In an expanding 2nd edition of *How Apollo Flew to the Moon*, David Woods tells the exciting story of how the resulting Apollo flights were conducted by following a virtual flight to the Moon and its exploration of the surface. From launch to splashdown, he hitches a ride in the incredible spaceships that took men to another world, exploring each step of the journey and detailing the enormous range of disciplines, techniques, and procedures the Apollo crews had to master. While describing the tremendous technological accomplishment involved, he adds the human dimension by calling on the testimony of the people who were there at the time. He provides a wealth of fascinating and accessible material: the role of the powerful Saturn V, the reasoning behind trajectories, the day-to-day concerns of human and spacecraft health between two worlds, the exploration of the lunar surface and the sheer daring involved in traveling to the Moon and the mid-twentieth century. Given the tremendous success of the original edition of *How Apollo Flew to the Moon*, the second edition will have a new chapter on surface activities, inspired by reader's comment on Amazon.com. There will also be additional detail in the existing chapters to incorporate all the feedback from the original edition, and will include larger illustrations.

How Apollo Flew to the Moon Details

Date : Published August 8th 2011 by Springer (first published October 31st 2007)

ISBN : 9781441971784

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Format : Paperback 555 pages

Genre : Space, Science, Nonfiction, History, Engineering

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From Reader Review How Apollo Flew to the Moon for online ebook

David says

This is a spectacular book if you really want to know the details of the Apollo program. If you are not interested you may find it a little dry. My only criticism is that the book is so good I wish it was in hardcover, in a bigger format that would allow for some larger photographs and diagrams. The book would get a solid five stars in this case. As it is, this seems to be the definitive book on the technical and logistics aspects of this important and historic event.

One final note, I got the 2008 version... when I ordered the book their was already a 2011 update out that I somehow missed. I recently got the updated version - and it is even more complete (I now reviewed this under the new listing).

Micah Siegmund says

Fascinating and very thorough account of the Apollo missions to the moon, covering everything from the building of the various rockets/modules, preparation, launch, orbit, landing, scientific activity on the lunar surface, re-acquisition of the lunar module, return to earth, re-entry into the atmosphere, retrieval in the ocean and dozens of other minor tasks and procedures. Most of the book was over my head quite frankly but it was still amazing to try to absorb how many brave and intelligent people it took to pull this off.

Mike Moody says

This book is a treasure trove of technical details on the Apollo moon flights. It starts with a brief history of the Apollo program and then gives a detailed mission profile amalgamated from all of the flights. From orbital insertion burns, to EVA, to reentry, the book covers everything in enough detail to satisfy the most demanding Apollo nerd. The author also highlight differences between the missions as the technology evolved and gives plenty of quotes from the astronauts to illustrate how exhausting the missions were for the men involved. Highly recommended.

Roberto Selbach says

If you are interested in the Apollo program from an engineering standpoint, this book is for you. It is essentially a description of systems and operations for each step of the Apollo/Saturn stack.

Prior to reading this book I had read about the Saturn V in general, I knew about its propulsion system, the guidance, the gimbals, the fuel mix. But after reading this book, I was amazed by how much I did not know about it. The book goes through every detail of what happened to each stage, including things that went wrong and why. Things like how they made sure the fuel was kept "below" so bubbles wouldn't go into the turbopumps, etc.

It is a technical book but not overwhelming. The author goes to great lengths to explain things in layperson's terms.

If you are more interested in the Apollo/Saturn V than the average person, I cannot recommend this book enough.

Jim says

If you are a space buff this is the book for you. Like an episode of "How it's Made," this book confines itself to providing a technical, but not overly complicated explanation of how Apollo got to the moon and back. Distilling the thousands of moving parts that comprised the Apollo program into a very well written one volume description, the author takes such concepts as gravity, orbital dynamics, weightlessness, and computer theory, and explains them as they applied to Apollo in a way even the non-scientifically inclined can get their brains around.

Really enjoyable!

David says

The definitive book on the moon program. Even better than the original- more and larger pictures and slightly expanded text in most chapters. In the end, over 120 pages of additional pictures and text. Two greatly expanded chapter, "Down in the Dust", and "Exploration at its Greatest" replace the chapter "Orbital Sojourn" in the original. Eliminates the center color section and puts color pictures throughout the text. Only negative in that like the original it is a Softcover and like the original it has a somewhat goofy cover.

Luiz Felliipe Carneiro says

Very good description in details of the Apollo program. The author tells step by step how a mission works, from the preparations to launch to the splashdown. The book also features nice photographs and astronauts quotes, that helps the reader to feel the ambience of moon missions.

Burke says

This is an outstanding book on the technical aspects on the Apollo missions to the moon, but it's written so clearly that a layperson can grasp it. This is one of the best books on the Apollo program - a must-read for anyone interested in those missions.

Gary Schroeder says

You're likely reading this review because you're interested in the Apollo program...really interested. More interested than the average interested person. You've read the popular accounts. You know who the LMP

was on Apollo 14. You know what a SLA panel is. Your friends are tired of hearing about your little tid bits of Apollo knowledge. You wish they shared your enthusiasm. More importantly, you wish there was more to read, more to know. I have good news for you: there is. Much more. David Woods' excellent "How Apollo Flew to the Moon" fills an important void in the Apollo canon in that it skips the personalities and the typical hagiography covered in copious detail elsewhere and goes straight to the mechanics of the machines that once carried humans to another world and back.

It all looks so simple on film from across the decades--you suit up, you get on top of a rocket, you fly your ship to the moon, fly down in a lander and hop back up. Simple. I'm being absurd here, of course, but this is how many people recall the Apollo landings, one of the single greatest technical and engineering feats in human history. If you're even remotely jaded about this accomplishment, Woods will remind you--in great detail--of just how awe inspiring the machines and their underlying technology were. He takes the reader on a methodical journey from the earliest moments of lift-off to the (surprisingly) complex sequence of events preceding splash down, breaking each into their constituent parts. Along the way, you will learn about telemetry, orbital mechanics, computer science and engineering. You will appreciate the technological wall that must be scaled in order to reach the moon and return...and you will marvel that it was ever accomplished at all.

What would I change about the book? Only one thing. The rather amateur cover. The newer edition has better cover art, but it's still a little lame. I know that authors have little if anything to say about the cover their publisher chooses to slap on their books but for those who do judge a book by its cover, I hope it gets better treatment in the future.

Antonio Santoyo says

Great book. An extraordinary source of information for anyone interested in the technical generalities of NASA's greatest achievement. Easy to read and very insightful, it's a must read for the space aficionado and the public in general.

Jennifer says

This was by far one of the coolest books I have ever read!

Rick Parker says

For space geeks who like to know all the technical details of precisely how the Apollo program managed to land 2 men on the moon and return them to the earth using a single booster, this is the one! I've read it twice and I could (and will) read it again and pick up new information each time.

Terry Carroll says

This is an outstanding book describing and explaining the technology of the Apollo space program. I've read dozens and dozens of books on the Apollo-era manned space program (including Mercury and Gemini), and

when I started reading this, I didn't really expect to learn much I hadn't already encountered. I was very wrong about that.

Mr. Woods provides an exacting level of detail, sure to make sure you learn something you didn't know. A representative example is his discussion of why Apollo 8 leapfrogged earth-orbital testing and went directly to the Moon in 1968. It's well known that the lunar module (LM) was not yet ready for manned spaceflight, and most texts say pretty much that. Here's Woods's statement (pp 36-37):

Apollo 8 had originally been planned as the D-mission, a test of the entire Apollo system including a lunar module in low Earth orbit, on the assumption that Apollo 7 would successfully carry out the C-mission. However, the first man-capable LM was not ready for flight owing to a litany of problems: stress fractures had appeared in some of its structural components; the type of wiring used on the intended spacecraft was prone to breakage; and the engine for the ascent stage was prone to combustion instability. Bereft of a LM, managers were unwilling to simply repeat Apollo 7, so they altered the mission sequence and brought the deep-space goals of the E-mission forward, but without a lander.

This is typical of the level of detail that Woods artfully supplies: instead of just saying the LM wasn't ready, he describes why: stress fractures, wiring breakage and ascent stage instability. This is the only book I've ever read that provided this level of detail, and it's worth noting that Woods does so without turning the passage into a drudgerous recitation of facts. This is typical of his approach throughout the book.

There's a lot I learned in this book, that I'd never encountered elsewhere. I never realized the Saturn stages had retro rockets and ullage rockets; the retros used on a dropped stage to pull it away from the still-moving rocket; and the ullage rockets (in the early Saturns) giving a light boost to settle the propellants in their tanks before igniting the upper stages; or that the stages were separated with explosive cord that actually cut through the metal, rather than explosive bolts as I'd always assumed. Also, the details of the Hohmann transfer orbit, a two-burn maneuver used to change from a lower orbit to a higher one; I'm pretty surprised I'd not encountered that one before.

And errors? I usually spot a small number of errors in just about every book of this nature, but not in this book. I thought I'd caught one: Woods refers to the VAB, the huge building in which the Saturn stages were vertically assembled, as the "Vehicle Assembly Building," and my understanding was that that name did not come about until the 1980s and the Shuttle program; during the Apollo program, I thought, it was called the "Vertical Assembly Building." But when I attempted to verify that, I found that that I was wrong: yes, it was indeed the Vertical Assembly Building when it was first built, but the rename to Vehicle Assembly Building occurred in 1965, well before the first Apollo flight; even then, NASA had its eyes on post-Apollo operations.

Woods is British (making his level of knowledge and detail about this US space program even more admirable), so it's a bit disconcerting to have British spelling used throughout, but one quickly adapts to that. The only area of improvement I would suggest deals in his use of the metric system. As he is British, use of metric is understandable, and he addresses this in the preface of the book. However, given that the text of the book is interspersed with references to 1960s NASA documents and quotes, all of which use the English system of feet, pounds, etc., it would have been nice to have also seen the English units added parenthetically.

But this is a quibble. The bottom line is that this is an extraordinary and excellent book for anyone interested in the details of the Apollo program, and I recommend it with no reservations whatsoever.

Cira says

Do not judge this book by its unfortunate cover! By far the best narrative about the engineering side of the Space Race, and Woods' passion for the subject is evident on every page.

Daniel says

Typical sentence in this book: 'Of course, Earth does have an atmosphere and any spacecraft on a trajectory with a 40-kilometer perigee is bound to plough into its gases where the immense kinetic energy will be dissipated as heat' (p. 467). This book inspires me to learn more about space/rocketry. The Apollo missions were absolutely amazing considering the technology they utilized. This book celebrates the engineers, mathematicians, and physicists who built the system just as much as it focuses on the astronauts who rode the Saturn V and the Saturn I into space. This book is pretty technical but is within reach of an enthusiast like me....the author acknowledges that it is his goal to not include even one formula & he succeeds.
