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Book looks 'under skin' of Apollo spacecraft

BY LARRY WHEELER FLORIDA TODAY

WASHINGTON - If the U.S. succeeds in sending astronauts back to the moon, space buff Scott Sullivan will deserve at least a footnote in the historic record.

Sullivan doesn't work for NASA and isn't involved in developing the new generation of lunar launchers and spacecraft.

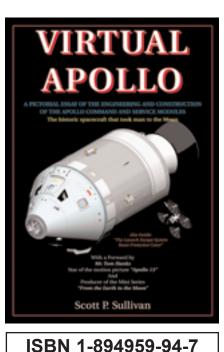
But he did write "Virtual Apollo," a 128-page book that features dozens of colorful, highly detailed illustrations of the Apollo command and service modules.

Published in 2002, the book became a hot commodity in 2004 when President Bush announced his "Vision for Space Exploration" directing NASA to revisit the moon.

"I was getting tons of e-mails from these guys," said Sullivan, a design engineer who lives in Phoenix. "They were telling me, 'We bought your book. Everybody in our engineering community has a copy. We love it.' "

Much of that fan mail came from engineers at companies like Lockheed Martin and Northrop Grumman, which were competing for the right to design a new spacecraft -based on the Apollo capsule -- to take astronauts back to the moon by 2020. Lockheed ultimately won the contract.

Although there have been hundreds, maybe thousands of books published about Apollo, none offer the level of detail found in Sullivan's book, which depicts the spacecraft's hardware layer by layer, inside and out.



NASA had nothing similar. Its original Apollo hardcopy blueprints have been in storage since the 1970s and weren't converted for use in the digital era.

"We were getting calls from the Kennedy Space Center and Johnson Space Center gift shops and regular book stores saying they needed 100 or 200 more copies," said Robert Godwin, chief executive officer of Apogee Books and CGPublishing of Toronto, which specializes in books about space. "It turned out contractors were sending people into the gift shops at the space centers and buying them by the fistful."

Sullivan recreated the Apollo spacecraft while working from home in his spare time, using the same computer-assisted design software used by professional aerospace engineers.

He relied on a variety of source material gleaned from the Internet, NASA's history office and elsewhere to accurately plot the dimensions and hardware depicted in the illustrations.

"You couldn't build a spaceship from what I did, but it is accurate enough that it might inspire enough creative thought, push them in the right direction and expedite the whole process," Sullivan said.

He has since sold the rights to the digital models -- three-dimensional replicas of the original Apollo spacecraft -- to NASA, Lockheed Martin and Northrop Grumman.

"Scott's models allowed us to take both the command module and the lunar lander models and compare them to conceptual designs that we created," said Mike Drever, an aeronautical engineer with Lockheed Martin Space Operations, recently awarded a \$3.9 billion contract to build NASA's "Orion" lunar command and service modules.

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