

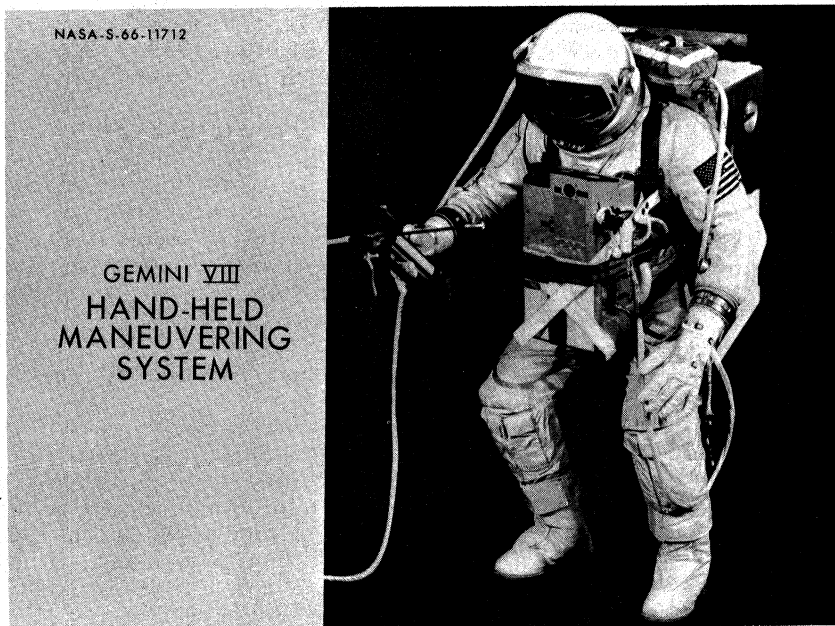


FIGURE 4

Gemini VIII did not exercise this equipment because it was terminated early due to a thruster problem. It did give us our first taste of developing rather complicated pieces of equipment, working procedures, and training techniques. We found, as a result of this experience, that an extremely large amount of crew training time was necessary to develop the EVA capability.

The process generally went like this: We exposed the crewmembers to zero-G in the KC 135, in its parabolic maneuvers, with 2 G's being pulled at the bottom in a period of about 25 seconds of zero-G. Based upon the results of these flights, we then refined our procedures and returned back to the zero-G aircraft. We found that when the pilot was working outside the spacecraft we had to develop very, very close coordination between the two crewmembers.

On the Gemini IX flight we used the same environmental life support system and, also, evaluated the astronaut maneuvering unit. A 25-foot umbilical was used again, and the maneuvering device was the Astronaut Maneuvering Unit. Early in the first dayside pass the astronaut exited the spacecraft and attempted to make use of velcro pads, like I have here, to transport himself along the surface of the spacecraft. We found that this was not a feasible way of doing it. The pads either came off the hand or they managed to tear loose from their attachment point.

Again, we found that the umbilical was not very useful as an orientation device once the pilot let go of the spacecraft. He was unable to do much other than just pull himself back in, and he was not assured from which direction he would come back in.