

HONR269i

To the Moon and Back: The Apollo Program

Discussion Questions

Session 15: Gemini EVA

1. NASA took a year to commit to Lunar Orbit Rendezvous and then developed Gemini in part to work out any problems that exist, but in Gemini rendezvous and docking turned out not to be problematic. On the other hand, microgravity EVA turned out to be a far bigger challenge than anyone had anticipated. Why is it that NASA got this backwards, investing very substantial time and energy in the issue that turned out not to be a problem, and failing to invest time and energy in the issue that actually was a problem? There are at least three good answers to this question ...
2. One important part of the solution to the EVA crisis turned out to be neutral buoyancy training. Several people had thought of this idea, but the Manned Spacecraft Center had not chosen to pursue it. Why? Did they not know of it? Did they know of it but were unable to use it for some reason? Did they know of it but decide they didn't need it? Whatever cause you identify, explain what should have been done to get MSC using neutral buoyancy training sooner.
3. Maneuvering units turned out to be an evolutionary dead end – today they are used only for astronaut rescue and not for operational purposes. Instead, tethers and a foot coupling to a robotic arm are used. Explain what it is about maneuvering units that make them less good of a choice. Then explain why they didn't know that back in Gemini.