

## “HOUSTON, WE’VE GOT A PROBLEM”

In 1970, this calm announcement was made by Apollo 13 astronaut Jack Swigert to NASA’s Mission Control. Swigert then informed NASA of an on-board explosion, creating the potential for the astronauts to run out of air. This started a frenzied few days of engineering problem-solving that was instrumental in bringing the three astronauts home safely. In less than two days, the NASA engineers devised a way to retrofit on-board chemical containers to clean the air and provide oxygen for the men to breathe on the way home. The solution had to use only the limited materials available to the astronauts in space, such as plastic bags, cardboard, and duct tape, and then it had to be communicated to the astronauts for in-space assembly. Teamwork, innovation, and communication were vital components of making this engineering “miracle” succeed.



<https://www.youtube.com/watch?v=y30VxhWQdsM>