

How the Apollo 1 Fire Changed Spaceship Design Forever



From left, Apollo 1 astronauts Virgil I. "Gus" Grissom, Edward White and Roger Chaffee pose in front of their Saturn 1 launch vehicle at Launch Complex 34 at the Kennedy Space Center. The astronauts later died in a fire on the pad.

NASA's first major disaster, the Apollo 1 fire that killed three astronauts 47 years ago. On Jan. 27, 1967, Virgil 'Gus' Grissom, Edward White and Roger Chaffee, the first crew of America's manned moon program, Apollo, were suited up and strapped inside their new space capsule for a dress rehearsal of their upcoming launch — a mission to fly the Apollo capsule to Earth orbit to test the vehicle for moon flights. This was to be a ground test only, and wasn't thought to pose much risk.

But when an electrical spark ignited a fire, flames and smoke swept through the capsule, and the crew was unable to escape. An investigation later was unable to pinpoint the exact initiation spot of the fire, but determined that the plethora of flammable materials (especially Velcro) and pure oxygen environment inside the capsule were partly to blame.

The fact that the disaster occurred on the ground rather than in space made a big difference to those hoping to understand what went wrong. One of the most incriminating finds made by the investigation team was that the 100-percent oxygen environment of the capsule, originally intended to reduce the weight of the vehicle, made fire extremely easy to start.

Another major finding was that the prevalence of flammable materials inside the Apollo 1 cabin further increased the risk of fire.