

Re: IEEE SPECTRUM magazine: Apollo 13, We Have a Solution

Source: <http://sci.tech-archive.net/Archive/sci.space.history/2005-04/msg00856.html>

- *From:* "Stuf4" <tdadamemd-spamblock-@xxxxxxxxxxx>
 - *Date:* 26 Apr 2005 16:43:28 -0700
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> What's your point? It was indeed an explosion.

Au Contraire, my understanding of the facts is that it was not an explosion. Consider the quote that Cass himself provides in that IEEE Spectrum article:

...

"there was a dull but definite bang—not much of a vibration though...just a noise," said Apollo's 13's commander, Lovell, afterward.

And here are some pertinent quotes from NASA's official "REPORT OF APOLLO 13 REVIEW BOARD" (<http://history.nasa.gov/ap13rb/ch1.pdf>) that have been posted:

"It is now clear that oxygen tank no. 2 or its associated tubing lost pressure integrity because of combustion within the tank, and that effects of oxygen escaping from the tank caused the removal of the panel covering bay 4 and a relatively slow leak in oxygen tank no. 1 or its lines or valves."

"After the relatively slow propagation process ... took place, there was a relatively abrupt loss of oxygen tank no. 2 integrity. About 69 seconds after the pressure began to rise, it reached the peak recorded, 1008 psia, the pressure at which the cryogenic oxygen tank relief valve is designed to be fully open. Pressure began a decrease for 8 seconds, dropping to 996 psia before readings were lost."

"27. Findings

a. The pressure relief valve was designed to be fully open at about 1000 psi.

b. Oxygen tank no. 2 telemetry showed a pressure drop from 1008 psia at 55:54:45 to 996 psia at 55:54:53, at which time telemetry data were lost.

Determination

This drop resulted from the normal operation of the pressure relief valve as verified in subsequent tests."

>>From p5-22, <http://history.nasa.gov/ap13rb/ch5.pdf>

Loss of O2 due to "normal operation of the pressure relief valve" contrasts sharply with the standard story that "the tank exploded"...

Or as Cass writes on the sidebar of his article:

The resulting fire sent pressures within the tank through the roof, and the tank blew up.

(<http://www.spectrum.ieee.org/WEBONLY/wonews/apr05/0405napolasb1.html>)

I hope we can find agreement about the facts of the nature of the Apollo 13 tank failure so that we can move forward to discussing the ramifications of those facts. I don't know enough about the story of those tanks to know the exact details, but I haven't ruled out the use of Corbomite in the manufacturing...

~ CT

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- ◆ **Re: IEEE SPECTRUM magazine: Apollo 13, We Have a Solution**
◇ From: Derek Lyons

• **References:**

- ◆ **IEEE SPECTRUM magazine: Apollo 13, We Have a Solution**
◇ From: Jim Oberg
- ◆ **Re: IEEE SPECTRUM magazine: Apollo 13, We Have a Solution**
◇ From: Stuf4
- ◆ **Re: IEEE SPECTRUM magazine: Apollo 13, We Have a Solution**
◇ From: Sy Liebergot

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