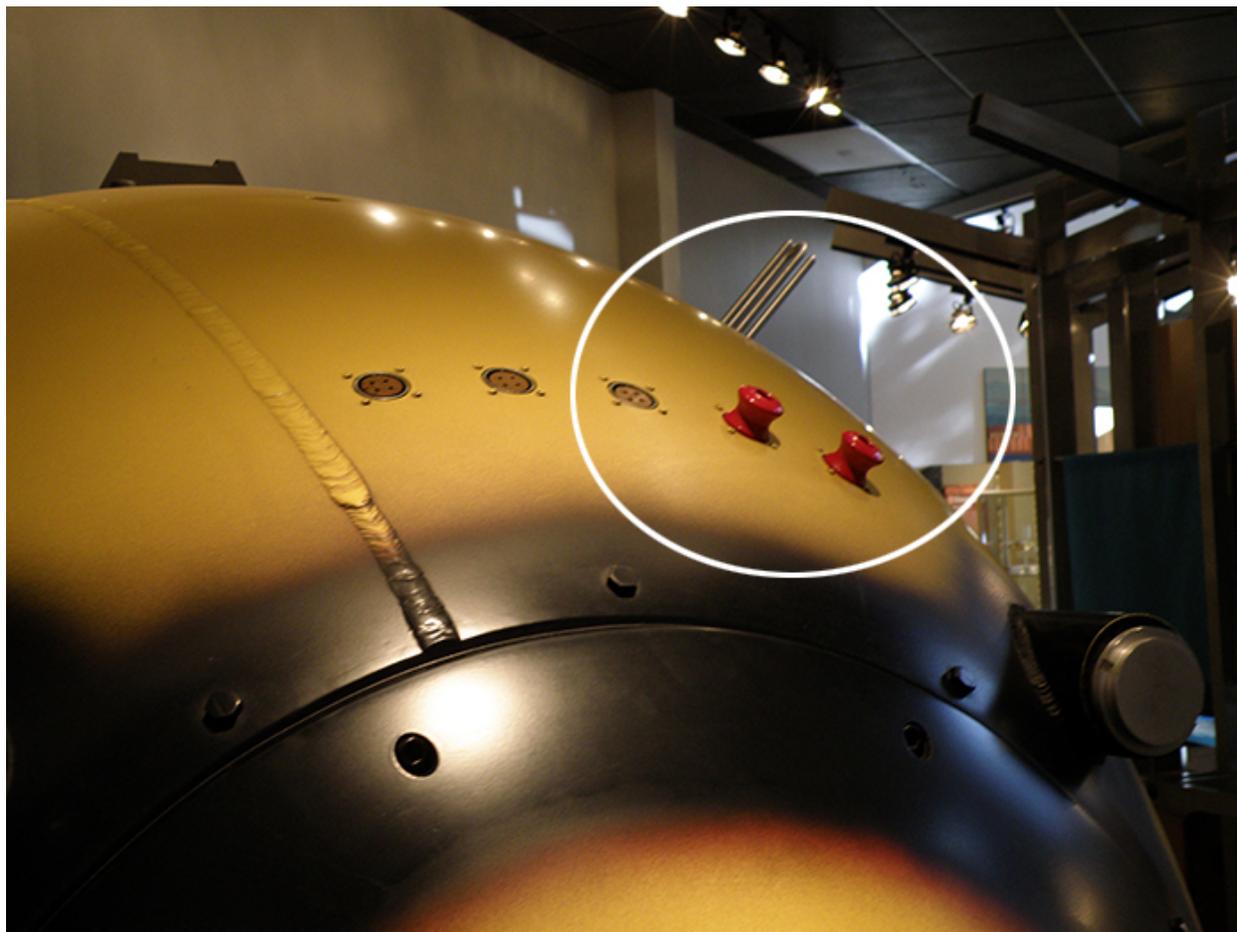


Bomb height at detonation

October 1, 2016



You asked what told the Little Boy and Fat Man bombs to detonate at the exact heights they did. It is a great question! You may have noticed that our replicas of the weapons sport green (Little Boy) and red (Fat Man) knobby plugs. The replicas also have antenna loops. The plugs were the first step in arming the bombs, which were loaded into their respective B-29s with one color of plugs (I think red plugs meant it was armed and green ones meant it was unarmed) and replaced with plugs of the other color once the aircraft were in flight. When the bombs were released, a wire in each weapon was pulled mechanically from a switch, which started a complex sequence of events. A timer counted seconds for the fall. An air-pressure altimeter estimated altitude, and a ground-sensing radar unit also measured altitude. By the way, those radar antennae were invented by a Japanese physicist in the 1930s. When the timer, the barometer, and the radar all agreed it was time, the detonations were initiated. I have always found it interesting that the firing sequence was set up in series rather than in parallel. Had any one of the systems failed, the bomb could have fallen to the ground unexploded. In that case, I think they both carried explosives to scatter the remains. About 10 years ago we

were loaned and put on display Fat Man's safing plugs—the only remaining parts of that bomb. The pull wire is believed to be lost. Thank you for asking. I hope you found your visit to our museum interesting.

Gordon McDonough, Museum science evangelist

1350 Central Avenue
Los Alamos, NM 87545



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(505) 667-4444
www.lanl.gov/museum

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