

## Debunking the 9/11 Myths: The World Trade Center

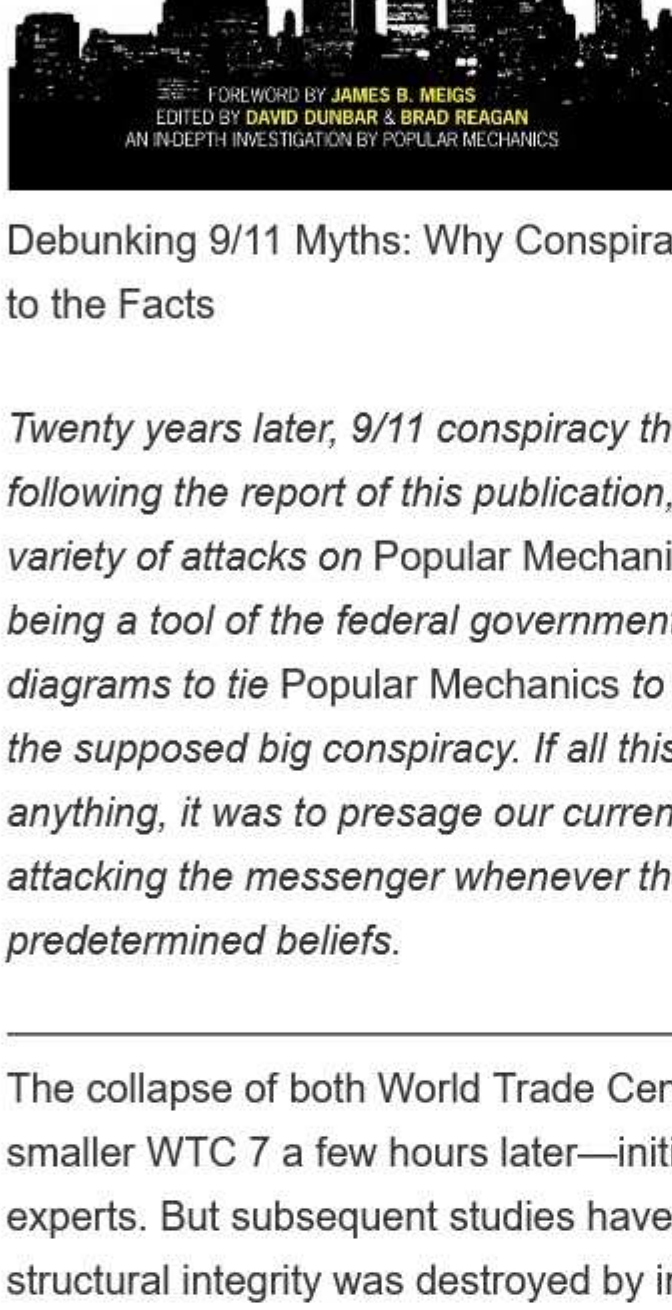
By Popular Mechanics Editors

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**September 2021:** For the past 20 years, conspiracy theories about the September 11, 2001 [terrorist attacks](#) against the United States have swept the nation. The destruction of the Twin Towers in New York City, for instance, was an inside job, according to “truthers” who have propagated the claim for two decades.

It was in this climate that Popular Mechanics first took on the task of debunking 9/11 myths. Our first report appeared as the cover story for the March 2005 issue. The reporting grew into a [2006 book](#) with a forward by Sen. John McCain, which was updated in 2011. Below, you'll find a lightly-edited version of the section on the World Trade Center.

INCLUDES NEW FINDINGS ON WORLD TRADE CENTER BUILDING 7



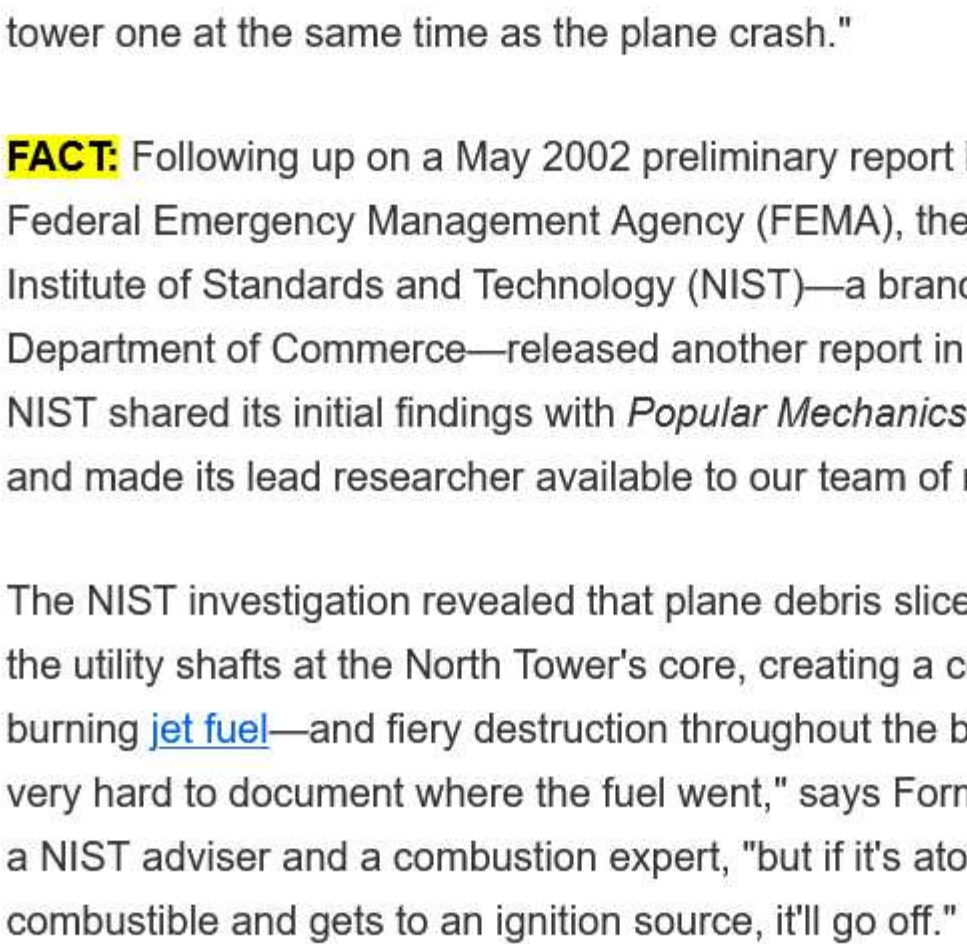
Debunking 9/11 Myths: Why Conspiracy Theories Can't Stand Up to the Facts

Twenty years later, 9/11 conspiracy theories linger on. In the years following the report of this publication, truthers would launch of variety of attacks on Popular Mechanics, accusing the magazine of being a tool of the federal government and drawing tinfoil-hat diagrams to tie Popular Mechanics to the Bush Administration and the supposed big conspiracy. If all this nonsense accomplished anything, it was to presage our current era of “alternative facts” and attacking the messenger whenever the message clashes with one’s predetermined beliefs.

The collapse of both World Trade Center (WTC) towers—and the smaller WTC 7 a few hours later—initially surprised even some experts. But subsequent studies have shown that the WTC’s structural integrity was destroyed by intense [fire](#) as well as the severe damage inflicted by the planes.

However, that explanation hasn’t swayed [conspiracy theorists](#), who contend that all three buildings were wired with explosives in advance and razed in a series of controlled demolitions.

### Widespread Damage



The south tower of the World Trade Center collapses September 11, 2001 in New York City.

Thomas Nilsson/Getty Images

**CLAIM:** The first hijacked plane crashed through the 94th to the 98th floors of the World Trade Center’s 110-story North Tower; the second jet slammed into the 78th to the 84th floors of the 110-story South Tower. The impact and ensuing fires disrupted elevator service in both buildings. Plus, the lobbies of both buildings were visibly damaged before the towers [collapsed](#). “There is NO WAY the impact of the jet caused such widespread damage 80 stories below,” claims a posting on the San Diego Independent Media Center website ([sandiego.indymedia.org](#)). “It is OBVIOUS and irrefutable that OTHER EXPLOSIVES (... such as concussion bombs) HAD ALREADY BEEN DETONATED in the lower levels of tower one at the same time as the plane crash.”

**FACT:** Following up on a May 2002 preliminary report by the Federal Emergency Management Agency (FEMA), the National Institute of Standards and Technology (NIST)—a branch of the U.S. Department of Commerce—released another report in spring 2005. NIST shared its initial findings with *Popular Mechanics* at the time, and made its lead researcher available to our team of reporters.

The NIST investigation revealed that plane debris sliced through the utility shafts at the North Tower’s core, creating a conduit for burning [jet fuel](#)—and fiery destruction throughout the building. “It’s very hard to document where the fuel went,” says Forman Williams, a NIST adviser and a combustion expert, “but if it’s atomized and combustible and gets to an ignition source, it’ll go off.”

Burning fuel traveling down the elevator shafts would have disrupted the elevator systems and caused extensive damage to the lobbies. NIST heard first-person testimony that “some [elevators](#) slammed right down” to the ground floor. “The doors cracked open on the lobby floor and flames came out and people died,” says James Quintiere, an engineering professor at the University of Maryland and a NIST adviser. A similar observation was made in the French documentary *9/11* by Jules and Gedeon Naudet. As Jules Naudet entered the North Tower lobby, minutes after the first aircraft struck, he saw victims on fire, a scene he found too horrific to film.

### "Melted" Steel

**CLAIM:** “We have been lied to,” announces the website AttackOnAmerica.net. “The first lie was that the load of fuel from the aircraft was the cause of structural failure. No kerosene fire can [burn hot enough to melt steel](#).” The posting is entitled “Proof Of Controlled Demolition At The WTC.”

**FACT:** Jet fuel burns at 800 to 1500 degrees Fahrenheit, not hot enough to melt steel (2750 degrees Fahrenheit). However, experts agree that for the towers to collapse, their [steel](#) frames didn’t need to melt, they just had to lose some of their structural strength—and that required exposure to much less heat. “I have never seen melted steel in a building fire,” says retired New York deputy fire chief Vincent Dunn, author of *The Collapse Of Burning Buildings: A Guide To Fireground Safety*. “But I’ve seen a lot of twisted, warped, bent and sagging steel. What happens is that the steel tries to expand at both ends, but when it can no longer expand, it sags and the surrounding concrete cracks.”

“Steel loses about 50 percent of its strength at 1100 [degrees Fahrenheit],” notes senior engineer Farid Alfawak-hiri of the American Institute of Steel Construction. “And at 1800 [degrees] it is probably at less than 10 percent.” NIST also believes that a great deal of the spray-on fireproofing insulation was likely knocked off the steel beams that were in the path of the crashing jets, leaving the metal more vulnerable to the heat.

But jet fuel wasn’t the only thing burning, notes Forman Williams, a professor of engineering at the University of California, San Diego, and one of seven structural engineers and fire experts that *Popular Mechanics* consulted. He says that while the jet fuel was the catalyst for the WTC fires, the resulting inferno was intensified by the combustible material inside the buildings, including rugs, curtains, [furniture](#) and paper. NIST reports that pockets of fire hit 1832 degrees Fahrenheit.

“The jet fuel was the ignition source,” Williams tells *Popular Mechanics*. “It burned for maybe 10 minutes, and [the towers] were still standing in 10 minutes. It was the rest of the stuff burning afterward that was responsible for the heat transfer that eventually brought them down.”

### Puffs of Dust

**CLAIM:** As each tower collapsed, clearly visible puffs of dust and debris were ejected from the sides of the buildings. An advertisement in *The New York Times* for the book *Painful Questions: An Analysis Of The September 11th Attack* made this claim: “The concrete clouds shooting out of the buildings are not possible from a mere collapse. They do occur from [explosions](#).” Numerous conspiracy theorists cite Van Romero, an explosives expert and vice president of the New Mexico Institute of Mining and Technology, who was quoted on 9/11 by the *Albuquerque Journal* as saying “there were some explosive devices inside the buildings that caused the towers to collapse.” The article continues, “Romero said the collapse of the structures resembled those of controlled implosions used to demolish old structures.”

**FACT:** Once each tower began to collapse, the weight of all the floors above the collapsed zone bore down with pulverizing force on the highest intact floor. Unable to absorb the massive energy, that floor would fail, transmitting the forces to the floor below, allowing the collapse to progress downward through the building in a chain reaction. Engineers call the process “pancaking,” and it does not require an explosion to begin, according to David Biggs, a structural engineer at Ryan-Biggs Associates and a member of the American Society of Civil Engineers team that worked on the FEMA report.

Like all office buildings, the WTC towers contained a huge volume of air. As they pancaked, all that air—along with the concrete and other debris pulverized by the force of the collapse—was ejected with enormous energy. “When you have a significant portion of a floor collapsing, it’s going to shoot air and concrete dust out the window,” NIST lead investigator Shyam Sunder tells *Popular Mechanics*. Those clouds of dust may create the impression of a controlled demolition, Sunder adds, “but it is the floor pancaking that leads to that perception.”

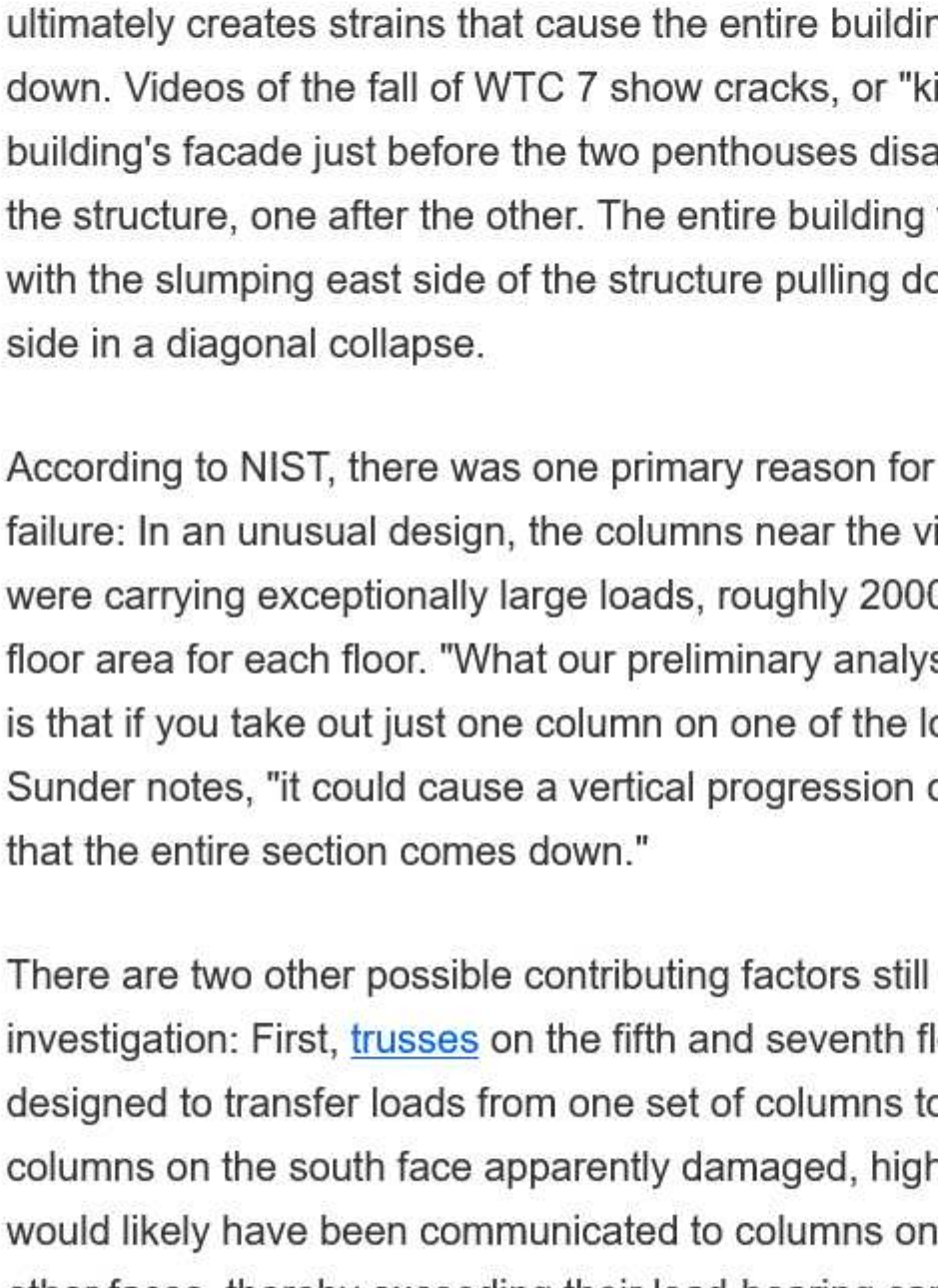
## Get the Facts: 9/11 Conspiracy Theories

Demolition expert Romero regrets that his comments to the *Albuquerque Journal* became fodder for conspiracy theorists. “I was misquoted in saying that I thought it was explosives that brought down the building,” he tells *Popular Mechanics*. “I only said that that’s what it *looked* like.”

Romero, who agrees with the scientific conclusion that fire triggered the collapses, demanded a retraction from the *Journal*. It was printed Sept. 22, 2001. “I felt like my scientific reputation was on the line.” But [emperors-clothes.com](#) saw something else: “The paymaster of Romero’s research institute is the Pentagon. Directly or indirectly, pressure was brought to bear, forcing Romero to retract his original statement.” Romero responds: “Conspiracy theorists came out saying that the government got to me. That is the farthest thing from the truth. This has been an albatross around my neck for three years.”

### Seismic Spikes

**CLAIM:** Seismographs at Columbia University’s Lamont-Doherty Earth Observatory in Palisades, New York, 21 miles north of the WTC, recorded the events of 9/11. “The strongest jolts were all registered at the beginning of the collapses, well before falling debris struck the earth,” reports the website WhatReallyHappened.com. A columnist on Prisonplanet.com, a website run by radio talk show host Alex Jones, claims the seismic spikes (boxed area on Graph 1) are “indisputable proof that massive explosions brought down” the towers. The site says its findings are supported by two seismologists at the observatory, Won-Young Kim and Arthur Lerner-Lam. Each “sharp spike of short duration,” says Prisonplanet.com, was consistent with a “demolition-style implosion.”



Screenshots/PM

Revisionists say sharp spikes (graph 1, above) mean bombs toppled the WTC. Scientists disagree with the claim.

**FACT:** “There is no scientific basis for the conclusion that explosions brought down the towers,” Lerner-Lam tells *Popular Mechanics*. “That representation of our work is categorically incorrect and not in context.”

The report issued by Lamont-Doherty includes various graphs showing the seismic readings produced by the planes crashing into the two towers as well as the later collapse of both buildings. WhatReallyHappened.com chooses to display only one graph (Graph 1), which shows the readings over a 30-minute time span.

On that graph, the 8- and 10-second collapses appear—misleadingly—as a pair of sudden drops. Lamont-Doherty’s 40-second plot of the same data gives a much more detailed picture: The seismic waves—blue for the South Tower, red for the North Tower—start small and then escalate as the buildings rumble to the ground. Translation: no [bombs](#).

### WTC 7 Collapse

**CLAIM:** Seven hours after the two towers fell, the 47-story WTC 7 collapsed. According to 911review.org: “The video clearly shows that it was not a collapse subsequent to a fire, but rather a controlled demolition: amongst the Internet investigators, the jury is in on this one.”



Photograph by New York Office of Emergency Management

WTC 7 stands amid the rubble of the recently collapsed Twin Towers. Damaged by falling debris, the building then endures a fire that rages for hours. Experts say this combination, not a demolition-style implosion, led to the rooftop “kink” that signals WTC 7’s progressive collapse.

**FACT:** Many conspiracy theorists point to FEMA’s preliminary report, which said there was relatively light damage to WTC 7 prior to its collapse. With the benefit of more time and resources, NIST researchers now support the working hypothesis that WTC 7 was far more compromised by falling debris than the FEMA report indicated. “The most important thing we found was that there was, in fact, physical damage to the south face of building 7,” NIST’s Sunder tells *Popular Mechanics*. “On about a third of the face to the center and to the bottom—approximately 10 stories—about 25 percent of the depth of the building was scooped out.” NIST also discovered previously undocumented damage to WTC 7’s upper stories and its southwest corner.

NIST investigators believe a combination of intense fire and severe structural damage contributed to the collapse, though assigning the exact proportion requires more research. But NIST’s analysis suggests the fall of WTC 7 was an example of “progressive collapse,” a process in which the failure of parts of a structure ultimately creates strains that cause the entire building to come down. Videos of the fall of WTC 7 show cracks, or “kinks,” in the building’s facade just before the two penthouses disappeared into the structure, one after the other. The entire building fell in on itself, with the slumping east side of the structure pulling down the west side in a diagonal collapse.

According to NIST, there was one primary reason for the building’s failure: In an unusual design, the columns near the visible kinks were carrying exceptionally large loads, roughly 2000 square feet of floor area for each floor. “What our preliminary analysis has shown is that if you take out just one column on one of the lower floors,” Sunder notes, “it could cause a vertical progression of collapse so that the entire section comes down.”

There are two other possible contributing factors still under investigation: First, [trusses](#) on the fifth and seventh floors were designed to transfer loads from one set of columns to another. With columns on the south face apparently damaged, high stresses would likely have been communicated to columns on the building’s other faces, thereby exceeding their load-bearing capacities.

Second, a fifth-floor fire burned for up to seven hours. “There was no firefighting in WTC 7,” Sunder says. Investigators believe the fire was fed by tanks of diesel fuel that many tenants used to run emergency [generators](#). Most tanks throughout the building were fairly small, but a generator on the fifth floor was connected to a large tank in the basement via a pressurized line. Says Sunder: “Our current working hypothesis is that this pressurized line was supplying fuel [to the fire] for a long period of time.”

WTC 7 might have withstood the physical damage it received, or the fire that burned for hours, but those combined factors—along with the building’s unusual construction—were enough to set off the chain-reaction collapse.

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