

Why the damage to WTC Bldg.'s 3 and 6 does not support the beam weapon hypothesis and some correspondence with Dr. James Fetzer about it

Tony Szamboti, Mechanical Engineer

On Jan. 17, 2007 Dr. Steven Jones was a guest of Dr. James Fetzer's, on his radio show. The discussion on the show centered mostly around the recent debate, in the 911 research community, over the actual mechanism which caused the destruction of the Twin Towers (other than the official story of plane impacts and fire, which is rejected by both groups involved in the debate). Additionally, there is debate over what caused the great collateral damage to the buildings and vehicles around them. The damage to the WTC complex bathtub, or perceived lack of it, is also a point involved in the debate. This debate has pitted the controlled demolition theory and the somewhat recently proposed beam weapon theory (which postulates that an energy or beam weapon could have been used to destroy the towers and cause damage to the adjacent buildings) against each other.

An archive of the Jan. 17th Steve Jones interview on Jim Fetzer's show can be heard at

http://www.911podcasts.com/files/audio/JimFetzer-StevenJones_20070117.mp3

One of the main reasons the beam weapon theory has seemed to have garnered support by some 911 activists, like Dr. Fetzer, is their attempt to reconcile in their minds the horrendous damage to WTC Bldg.'s 3 and 6, which were located directly adjacent to the towers. Bldg. 3 exhibited a large vertical slash through it and Bldg. 6 a large vertical hole after the collapse of the towers. The photos below show WTC3 during the collapse of Tower 2 and both WTC3 and WTC6 after the collapses of both towers.



WTC3 during the collapse of Tower 2
showing large heavy debris raining down on it



September 11, 2001

Photo © 2001 Bill Biggart

WTC3 after the collapse of the Twin Towers exhibiting the large vertical slash through it



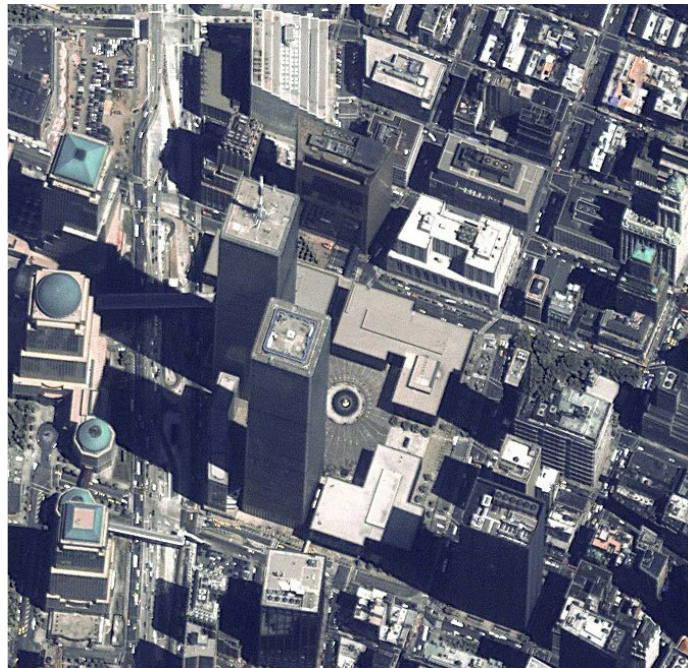
WTC6 after the collapse of the Twin Towers exhibiting heavy damage to three sides of the building deepening in the center

Now for some perspective take a look at where WTC3 (the Marriott hotel) and WTC6 were located in the complex, as shown in the plan view below, with the towers and Bldg. 7 only shown as footprints.



Layout of the World Trade Center complex

With the towers many times their height, WTC3 and WTC6 were effectively right below the towers, as seen in this aerial view. WTC3 (the Marriott hotel) is in the shadow of Tower 2, to its left, and WTC6 is directly in front of Tower 1.



Aerial view of the World Trade Center complex before Sept. 11, 2001

As a mechanical engineer involved in the design of aerospace equipment I am quite familiar with both dynamic and static loads. One other interest I have here is that at one point in my career I worked for the company and engineering group that designed and built the antenna mast which sat atop the North Tower. The group that designed the WTC antenna mast belonged to RCA at the time it was built.

It is obvious, from the photos, that a huge amount of heavy debris, falling from great height, collided with the buildings immediately adjacent to the towers. It is probably safe to say that those grasping for an explanation of the damage to WTC3 and WTC6 do not appreciate the forces that would have been involved and the destruction that debris was capable of. While it is not entirely possible to know the exact magnitude of the forces it can easily be shown that they were tremendous, since the loads would have been impulsive. Impulsive loads are dynamic and they amplify the force involved to many times the weight of the impacting object.

An impulsive load is a function of the change in momentum with respect to the duration of the impulse. The equation for an impulsive force due to a collision is

$$Force = \frac{m_i v_i - m_f v_f}{\Delta t} = m \frac{dv}{dt} = ma$$

which one can see ultimately breaks down to Isaac Newton's famous equation $F = ma$, since the change in velocity with respect to time gives the deceleration.

As there was approximately 100,000 tons of structural steel in each tower, there would have been a lot of pieces of significant weight falling, onto the immediately adjacent buildings. The 360 foot tall antenna mast, which sat atop the North Tower, easily weighed in at 100 tons or more. For the sake of argument, and not to say that the antenna mast itself hit WTC6, we will use it as an example of what kind of loads a heavy hard structural item, impacting the roof of a building like WTC6, would cause, after having fallen over 1000 feet. For simplicity, we will say it fell exactly 1000 feet before impacting the roof of WTC6. The drag on the mast during the fall would be somewhat negligible, due to the small surface area to mass ratio of the structural steel, so we will use freefall times to find the velocity at impact, using the equation

$$t = \sqrt{2y/g}$$

which yields 7.88 seconds for a fall time, and with the equation

$$v = v_0 + gt$$

where the initial velocity (v_0) is zero and the acceleration due to gravity is 32.2 ft/sec^2 , we get

$$velocity = 253.7 \text{ ft./s}$$

which is equal to 173 mph for those who don't normally think of speed in terms of ft/s.

Now being somewhat conservative and assuming the duration of the collision is a rather long one at 50 milliseconds or $1/20^{\text{th}}$ of a second, the deceleration is

$$\frac{253.7 \text{ ft./s}}{.050s} = 5,074 \text{ ft./s}^2$$

which we then divide by the acceleration of gravity to find the number of g's involved.

$$\frac{5,074 \text{ ft./s}^2}{32.2 \text{ ft./s}^2} = 157.5 g's$$

This is not unusual at all for velocity shock and is actually on the low side of what is normally seen with hard rigid items involved in a high speed collision.

Now with a force 157.5 times it's weight, it would be nearly 8,000 tons or 16,000,000 pounds of force, which the antenna mast would have been applying to the roof of WTC6. This force is equivalent to the static weight of a modern 500 plus foot long U.S. Navy guided missile destroyer. One can easily imagine that these buildings would not be designed to support the weight of a ship of that size on their roofs. This force would have also acted on a much smaller area than the hull of the ship, causing extremely high stresses and ultimate local failures of parts of the structure of WTC6. One just needs to think about a hard relatively compact 100 ton item moving at 173 mph and hitting these buildings, to realize the damage that would ensue.

Of course, the antenna mast wasn't the only thing falling from great height that day, as it is obvious from the photos that there were many huge pieces of structural steel falling on the immediately adjacent buildings. In fact, WTC3 and WTC6 weren't the only buildings heavily damaged from the falling debris. The photo below shows the side of WTC5, which was closest to the Towers, sustained very heavy damage.



WTC6 (at lower left) and WTC5 (at lower right) after the collapse of both towers

I am certain that scale models of these adjacent buildings, with items falling from scaled towers onto them, would produce very similar damage to what we see in the photos of these buildings.

After hearing, on the radio show, the argument that something like a beam weapon had to be employed, to cause the destruction seen in WTC3 and WTC6, I sent Dr. Fetzer an e-mail letter. In that e-mail I explained that impulsive loads were the most probable cause for the damage exhibited on the smaller buildings directly adjacent to the Twin Towers. The text of my e-mail to him is below.

Jim,

I listened to your Jan. 17th interview of Professor Jones over the weekend. I have to say I wish you would slow down and just think through what you are saying. There are many reasons why the use of a beam weapon does not provide an adequate explanation for how the Twin Towers were brought down.

It seems your main reasons for considering the beam weapon are the dustification of the concrete and furnishings in the Twin Towers, the large slash through Bldg. 3, the hole in Bldg. 6, the burned out cars, and the damage or lack of it to the bathtub.

In looking at the slash through Bldg. 3 it is very rough and jagged. Would a beam weapon do that? I seriously doubt it. The conjecture for the use of a beam weapon seems to be just that. Nobody has explained how it performed the damage to Bldg.'s 3 and 6 other than for Judy Wood to say they were missing the towers and getting the hang of it when they did that damage. That just isn't a very solid explanation. Nobody supporting this speculation has said how a beam weapon could start the collapse in each tower near the impact points of the aircraft or how it melted metal. A shoot down of a missile with a laser or any other beam, even if possible, would be a very focused event. Nobody has explained how a weapon that depends on focused energy could do what we see being done to all of the steel and concrete in the Twin Towers. There is also circumstantial evidence to say this capability doesn't even exist since why would the massive and expensive ABM's, recently installed in Alaska, have been built. There is a huge difference between an EMP weapon which could be used to fry an aircraft's electronics and cause it to crash, like what might have happened to Senator Paul Wellstone's plane, and a beam weapon of the order needed to demolish huge buildings.

Could heavy falling debris cause the damage we see in Bldg.'s 3 and 6? It certainly can when falling from a great height, since the impulsive load onto a rigid structure would be tremendous and those structures were not designed to handle such loads and would certainly fail locally. The damage from the debris would also be random and jagged just like what we see.

The Twin Towers had four inch thick concrete floors, so with 110 stories they had 440 inches or the equivalent of a thirty-seven foot high column of concrete over a one acre area. A demolition theory requires the towers to be destroyed from the top down in a rolling wave to mimic a collapse. The impulsive loads of the steel and debris onto each rigid lower floor would be huge in a demolition of this type. The demolition of the Kingdome does not even begin to compare to how the continuous explosions and impulsive loads acted on each floor in the towers. The dustification can be explained by both explosions and huge impulsive loads, from the debris falling from above onto each four inch thick floor. Look at the huge dust cloud generated by the demolition of Bldg. 7 and realize that was happening every third floor or so on the towers due to the way it was demolished, from the top down.

The bathtub was damaged to some degree. It needed to be quickly reinforced, as it had moved over three feet in some areas. The falling debris was also not concentrated once it got to the bottom, since much of it had been blown far outside of the footprint of the towers. There also would have been damping at this point, due to loose material already on the ground, since the basements had been blown out, preventing massive impulses.

As for the burned out cars, we know incendiaries were used in the destruction of the towers due to the presence of molten metal in the rubble. This is a very feasible explanation. The use of a beam weapon for their explanation requires it to be very erratic. That doesn't square with it's need to be somewhat precise in the destruction of the towers. A beam weapon also doesn't explain the focused squib explosions emanating from the sides of the towers, well below the demolition wave but way above the 30th floor, which you believe was where a demolition started.

I agree that it is legitimate to initially consider various theories, to see which best fit the evidence, but I think it can be easily shown that both the beam weapon and mini-nuke theories don't explain the evidence. There was no radioactivity found in the ground zero dust and the beam weapon needs a lot of help to explain anything. Both of these theories should be near non-starters for anyone thinking rationally.

Tony Szamboti

Dr. Fetzer responded in an amiable way

Thanks, Tony. I will share your thoughts with Judy and Morgan. Just for the record, I have been endorsing STUDYING alternative hypotheses, such as mini-nukes, directed-energy, solar energy, lasers, masers, and plasmoids. I don't know what caused this massive destruction, but I, personally, cannot see any way in which thermite/thermate can be the whole story. [NB: no one is saying thermite/thermate is the "whole story".] My purpose has been to encourage research on multiple possibilities. That's not only highly rational but the core of science.

Jim

And there were two additional exchanges

Jim,

As far as the slash through Bldg. 3 and the hole in Bldg. 6, that damage is easily explainable due to the huge impulsive loads from the debris falling from great heights. The framework of those buildings could not take those loads and there certainly would have been localized failures, just like the piece of ice and a meteorite recently crashed through people's roofs. It is right and rationale to look at all possibilities and study alternative hypotheses. However, the second phase in that approach is to heavily scrutinize these theories as to how well their use, in an explanation, fits the data. It doesn't look like either mini-nuke or beam weapon theories can stand up under scrutiny. They simply don't fit the evidentiary data and should be cast aside.

Tony Szamboti

With the last being

Tony,

I appreciate your thoughts. If a theory cannot withstand critical scrutiny, then it should be rejected. And that, of course, includes the thermite/thermate hypothesis Steve has advanced. Do you endorse it? My inference is that you do. I am organizing a conference in Madison for late July to address these issues, including sessions on the possible use of conventional explosives and of non-conventional explosives. Steve has declined to chair the panel on conventional modes of demolition. Perhaps you could persuade him to change his mind. I think you might make an excellent second member of such a panel. You and Steve could do a nice job on this. Give it a shot.

Jim

I am in no way trying to knock Dr. Fetzer here, as I would like to believe his heart is in the right place. I am only trying to show him that it is extremely likely that the damage had a more simplistic cause than being the result of the use of a beam or energy weapon. I support the

controlled demolition hypothesis in light of its superior explanatory power for the evidence we see in the complete collapses of the Twin Towers in NYC on Sept. 11, 2001. As I have shown, the heavy collateral damage, to the immediately adjacent buildings, is easily explainable with the gravitational energy in the debris from the towers, after they were brought down in a controlled demolition. I would be glad to attend the conference in Madison, WI, if it is still necessary at that point, and if it will help.

I can be contacted at

tonyszamboti@comcast.net