The 9/11 Airplane Video Composites

A systematic consideration of the available 9/11 airplane videos, in consideration of the principles of video compositing, Newtonian physics, logic, and common sense, rules out the hypothesis of real planes.

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Abstract

I bring 22 data sets to test two competing hypotheses:

- The real airplane hypothesis – A real Boeing 767 airplane flew into WTC2 on 9/11.

- The video composite hypothesis – The jet crash was faked by inserting airplane images into otherwise authentic video footage.

Each data set is considered under both hypotheses. I explore every explanation that has been offered by supporters of the real airplane. I apply the principles of video compositing, of Newtonian Physics, of logic, and of common sense.

The FOX "Chopper 5" and CNN "Ghostplane" videos are both shown to have multiple observable features irreconcilable with reality, yet perfectly consistent with video compositing. For instance, Chopper 5 is missing an airplane in its first 5 seconds. The airplane that finally does appear has unstable motion. The nose of the airplane image was accidentally allowed to pop out from the back of the tower, and it's missing a shadow. The wings of CNN Ghostplane pass through the wall of the tower, yet no damage is observed. There's a puffball that appears in different places in different videos. Each one of these is strictly impossible in reality. Each one of these is a commonplace problem in the world of video compositing.

Having proven compositing on Chopper 5 and Ghostplane, a distinction is made between the compositing techniques employed on *live, real-time* videos, and those that allow time for editing. By understanding the requirements and limitations of *live* compositing, I rule out the possibility of any flying object being present. *All* 9/11 airplane videos are thus proven to be video composites. Each one has had an airplane image inserted into what is otherwise real footage. A few of the edited shots also required added puffballs and flame to help cover up obvious editing, and attempt to explain away the nose-out blooper.

3 different videos feature a blackout within ¼ second of one another. Suspicious editing abounds. Broadcast quality videos are unavailable at any price. Chopper 5 was never replayed. Audio has been tampered with. Evident is a very guilty mind on the part of the news networks.

Not intimidated, I go further to the next obvious conclusion, that the so-called "mainstream media" is a willing propaganda organ of the U.S. government, complicit in mass murder on 9/11. I coin the term "govern-media". As was the case with the founders of the United States, it is my unalienable right and moral duty to call for the abolishment of the government. Have a nice day.

Introduction

At 9:03 a.m. EDT, on September 11, 2001, two different videos of a flying airplane and the exploding World Trade Center tower were broadcast on live television. These two live video sequences are known as "Chopper 5" and "Chopper 7". Subsequently, approximately 40 more videos of the same event emerged. At least 4 of these later videos depict an airplane entering the wall of the tower.

Two hypotheses have emerged to explain this:

- The real airplane hypothesis – A real Boeing 767 airplane flew into the tower.
- The video composite hypothesis – The jet crash was faked by inserting airplane images into otherwise authentic video footage.

Objective and Methods

Analyze the available videos, consider the principles of video compositing, Newtonian Physics, logic, and common sense to see which hypothesis prevails.

Materials

I call for release of any copy of any live 9/11 airplane video recorded live off of the television at 9:02-9:03 AM, EST, 9/11/01. Especially of interest is FOX Chopper 5. There are only two known copies of this video, and both have been altered. Next update will offer links to download the videos referenced in this work.

- FOX Chopper 5, Salter version. Videographer Kai Simonsen. Apparently recorded off live television, Los Angeles station FOX 11, on VHS tape by person unknown. Footage was allegedly obtained by Jim Hoffman, who gave it to Eric Salter. Digitized by Eric Salter as interlaced Quicktime, 720 x 480. Video has been brightened significantly.
- FOX Chopper 5, Lawson version. Videographer Kai Simonsen Apparently recorded off live television, New York Station WNYW FOX 5, on VHS tape by person unknown. Footage was digitized by person unknown, as mp4, de-interlaced, with frame blending.

- ABC Chopper 7. Videographer John Del Giorno. Original source unknown. Digitized by Eric Salter as interlaced Quicktime, 720 x 480.

- CNN Ghostplane. Allegedly an amateur video shot by Michael Hezarkhani. Interlaced footage ripped from DVD, "CNN – America Remembers".

- Gamma Press. Videographer unknown. Footage is Flash Video downloaded from YouTube.

- Evan Fairbanks. Videographer Evan Fairbanks. Interlaced footage ripped from DVD "In Memoriam – New York City 9/11/01". Footage appears to have been reduced in quality prior to DVD encoding.

- Naudet 1st explosion. Videographer Jules Naudet. Original video/film format unknown. Interlaced NTSC footage ripped from DVD " 9/11 – Filmmaker's Commemorative Edition".

- Naudet 2nd explosion. Videographer Jules Naudet. Original video/film format unknown. Interlaced NTSC footage ripped from DVD " 9/11 – Filmmaker's Commemorative Edition".

- Park Foreman. Allegedly an amateur video shot by Park Foreman. Interlaced footage ripped from "CNN –America Remembers".

- Control Case for Chopper 5 Wide Shot. Videographer Ace Baker. NTSC DV 720 x 480, horizontal resolution reduced 50% to mimic VHS.

- Theory of Live 9/11 Airplane Composites. Educational video utilizing Chopper 5 (Salter) and Chopper 7, from above.

- Theory of Non-Live (Edited) Airplane Composites. Educational video utilizing CNN Ghostplane, from above.

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The Live 9/11 Airplane Videos

1. Nine Extraordinary Compositional Features

I begin by comparing the two live shots. Only 2 different airplane videos are confirmed to have been shown live – Chopper 5 and Chopper 7. The two live shots each originated from a gyroscopically stabilized camera mount on board a news helicopter. They feature a remarkable list of shared compositional characteristics:

- Very brief (<1.5 seconds) appearance and disappearance of plane.
- High contrast between sky and tower edge
- Plane path is across sky only.
- Plane disappears across straight vertical edge.
- All surfaces requiring airplane shadows are hidden.
- Actual impact point is hidden.
- Exploding walls are hidden.
- Camera is as stable as possible, helicopter drifts very slowly to the left.
- No panning, tilting, zooming or focusing while airplane is on screen

As it turns out, these are precisely the characteristics necessary for live video compositing.[1] Absent ***any one*** of these nine, real-time compositing becomes impossible. Given all nine, real-time compositing is quite feasible.

I invite all to please study other helicopter footage from 9/11, or from any live news event. Note the compositional characteristics. News helicopters are moving around all the time. They zoom in and out, pan left and right, tilt up and down. How likely is it that all 9 of these occur by chance, on both live airplane shots? Perhaps a rigorous study could be made to quantify the answer. For now I am content to say: Extremely unlikely.

Thus, the compositional characteristics of Chopper 5 and Chopper 7 both strongly favor the compositing hypothesis, and make the real plane hypothesis extremely unlikely.

[1] See Appendix A, or Theory of Live 9/11 Airplane Composites.

fig. 1 Chopper 5 – West Coast or "Salter" version

fig. 2 Chopper 7 – From Eric Salter

Chopper 5

Several anomalies in the Chopper 5 footage strongly favor the compositing hypothesis, and have no readily apparent explanation under the real plane hypothesis.

The best (only) data we have are the two surviving copies of Chopper 5, both of which were recorded on VHS tape by persons unknown.

fig. 3 Chopper 5 – East Coast "Lawson" version

One version originated in the Eastern time zone, bearing the "NY Good Day" logo and a time stamp of 9:03. The other came from the Pacific time zone, has a "Fox 11 News" logo overlaid, and a time stamp of 6:02. The East Coast version I refer to as "Lawson" because Anthony Lawson references it often. The West Coast version I refer to as "Salter" because Eric Salter allegedly obtained the VHS tape from Jim Hoffman and digitized it.

Both surviving copies have been altered. Lawson was de-interlaced with frame-blending, that is adjacent video fields have been combined together, causing a "double vision"

effect on each frame. The Salter footage remains interlaced, but has been brightened considerably.

I proceed with the best data we have, while at the same time calling for any and all copies of Chopper 5 to please be released.

2. Down the Memory Hole

Given the well-known penchant of the news media to replay dramatic footage ad-infinitum, it is extraordinary to note that the Chopper 5 airplane footage was never replayed. One, and only one, replay of it was attempted on CNN, a few minutes after the event.

fig. 4 CNN Replay of Chopper 5, 9:09 AM EDT.

But the airplane was completely covered up by a huge logo graphic (fig. 4). Other than that, we never saw Chopper 5 again. When the 9/11 news archive was created at archive.org, the Chopper 5 footage had been replaced by completely different video, yet still featured the original voice-over (fig. 5).

fig. 5 FOX Broadcast as it appeared on the archive.org archives

It is therefore reasonable to think that FOX television is hiding something on Chopper 5, and it is unreasonable to think otherwise. This behavior on the part of FOX news is consistent with the video compositing hypothesis, and strongly implies that something went wrong with Chopper 5. It is inconsistent with a real plane hypothesis, because FOX and the other networks would have every reason to replay a real plane, and to feature it on the archives, and no reason to hide it.

3. Slowly Drifting Left

At the beginning of the footage, FOX 5 anchor Jim Ryan says, "As you look at the picture from our chopper now arriving at the scene . . ." But what is he talking about? The helicopter is over New Jersey, about 4 1/2 miles from the World Trade Center.

The helicopter begins to hover, drifting slowly to the left. One trade tower is burning and smoking. Why would the pilot not be hurrying toward what is already the news story of the year?

fig. 6 Chopper 5 – Arriving at the scene?

This observation is consistent with the video compositing hypothesis, because, as noted above, and detailed in Appendix A, live compositing is not possible on an approaching helicopter shot, but is possible on a gyro-stable, slowly drifting helicopter shot. It is not consistent with the real plane hypothesis, because ordinarily an experienced news helicopter pilot would hurry closer to the story.

4. No Plane in the Wide Shot

There is no plane in the wide shot, and it ought to be there. By taking measurements of the plane at the end of the video, we can determine where the plane ought to be at the beginning.

The nose of the plane enters at frame 407 (fig. 7) and is about to touch the edge of the tower in frame 423 (fig.8). From frame 407 to frame 423 is a time span of 16 frames, during which the plane covers the distance indicated by the red arrow (fig. 8). 16 frames x 26 = 416 frames, so we know that over 416 frames, the plane would cover 26 times the distance that it did in 16 frames. 416 frames earlier than frame 423 is frame 7.

To determine where the plane should be in frame 7, I'll mark off 26 of the red arrows, at the correct scale, and lay them end to end. I rescale the size of frame 423 to match frame 7. After matching scale (fig. 9), I mark off 26 arrows. So in frame 7, the plane should be in the circle (fig. 10), and it is not.

fig. 7 Chopper 5 – Frame 407, plane enters

fig. 8 Chopper 5 – Frame 423, plane is about to cross tower edge. Over 16 frames, the plane has traversed the indicated distance.

fig. 9 Chopper 5 – Frame 423, with distance arrow, is scaled into frame 7.

fig. 10 Chopper 5 – 26 arrows laid end to end

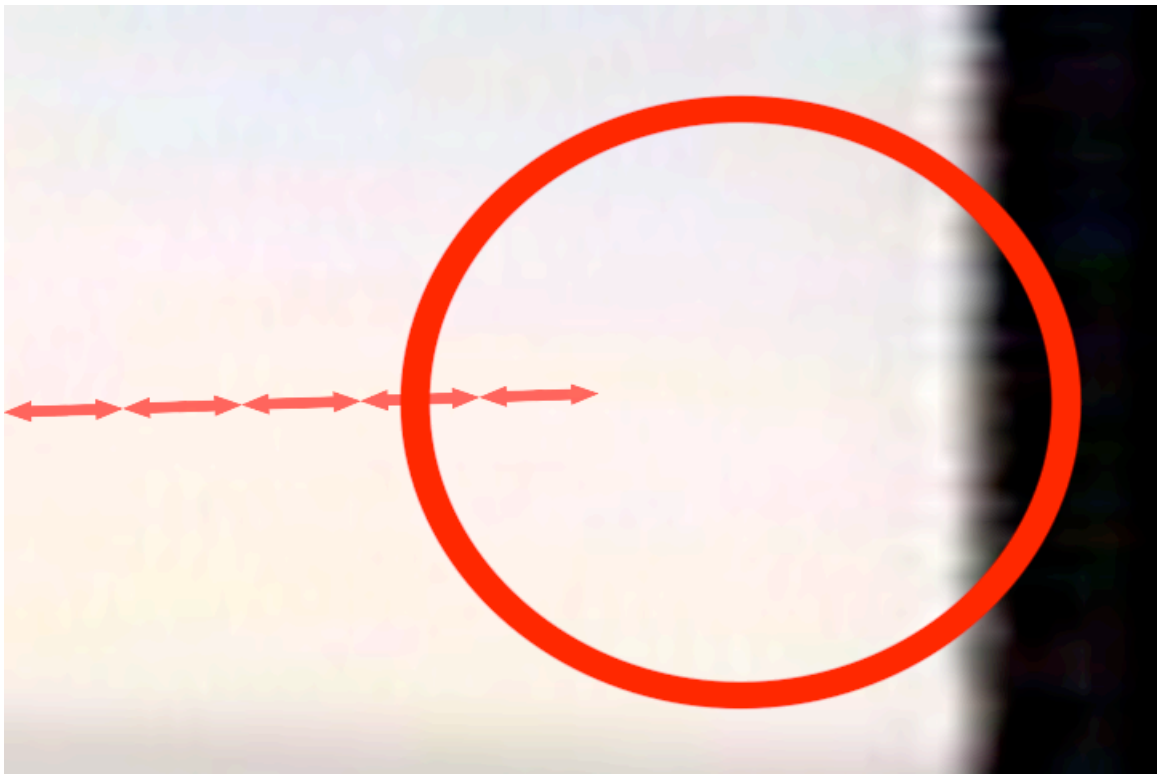

fig. 11 Chopper 5 – Enlargement from previous

If anything, I've over-estimated the distance traveled by the plane during 416 frames. When matching the scale of the towers between the zoomed-out and zoomed-in versions, I left the zoomed-in version (with the plane) a little too large, if anything.

Could the plane still be just beyond the edge of the picture? If we let the video play forward from frame 7, 163 frames (more than 5 seconds) go by before the camera begins to zoom in. That corresponds to about 10 of the arrows, because each arrow is the distance traveled by the plane in 16 frames.

Following is frame 170 (figs. 12 & 13). I've erased 10 of the arrows. The plane should now be well inside the picture, in the circle, and it isn't. The plane isn't anywhere.

fig. 12 Chopper 5 - Frame 170. A real airplane would be inside the red circle

fig. 13 Chopper 5 - Frame 170 – Enlargement from previous

fig. 14 CBS replay – Alleged plane is nowhere near the smoke

Could the plane be hiding in the smoke plume from the burning North Tower? No. The alleged flight path of this plane, "UA175", was from the southwest. The smoke was blowing decidedly toward the southeast. Viewed from the north, (fig. 14 above), we can clearly see that the alleged flight path was nowhere near the drifting smoke.

We can use a different method to corroborate the estimate of where the plane should be in the wide shot. We know that the actual distance from the northeast corner of the North Tower to the southwest corner of the South Tower is about 526 feet. Flight 175 was alleged to be traveling 542 mph according to the official government NIST report. That's 795 feet per second. 416 frames of video is 13.9 seconds. So the plane would go 13.9 x 795 feet or 11,035 feet between frame 7 and frame 423. 11,035 ft./526 ft. = 20.97, call it 21. So, during the time span in question, the plane would travel 21 times the distance across the towers. The towers measure 18 pixels across. 18 pixels x 21 = 378 pixels.

Measuring 378 pixels to the right of the towers places the airplane almost exactly where the other method did - inside the picture, right from the beginning of the video. There is no plane.

Video expert and official story supporter Steve Wright has agreed with the above calculations determining the position of the alleged airplane. His contention is that the airplane is simply too small to appear on video. As an example, he calls attention to the helicopter that is visible, apparently above the towers after the zoom in. Indeed, the helicopter disappears when the camera is zoomed out. However, it is unknown how far away the helicopter actually is. Certainly it is some distance behind (east of) the towers. More importantly, a helicopter is far smaller than a Boeing 767. It is simply a poor comparison.

How big would a 767 appear in the Chopper 5 wide shot? A 767 is a little more than ¾ as long as a twin tower is wide. Below, I've taken a model 767, adjusted the color to blend (fig. 15), blurred and pixilated the image as would occur in video (fig. 16), and scaled it into the shot (fig. 17). The plane would not be large, but it would absolutely appear.

To create a valid real-world control case, I shot video of an airplane landing at LAX. The conditions were very similar (but slightly worse) than those of Chopper 5. I was 6 1/2 miles from the airplane, compared to 4 1/2 miles in Chopper 5. It was early in the morning, shooting toward the sun, as was the case with Chopper 5. It was a clear day, as was 9/11, and the haze made the background almost white, just like 9/11. I was zoomed out, and using a consumer camcorder, presumably with worse quality optics than a professional Electronic News Gathering (ENG) camera.

The available copies of Chopper 5 were recorded off television onto VHS tape. VHS reduces horizontal resolution by about half. To simulate the effect of the resolution loss in VHS tape, I reduced the horizontal size of my control case to 50%, then stretched the result back to original aspect ratio, now with half the horizontal resolution.

fig. 15 A model 767 inserted

fig. 16 Model 767 is pixelated

fig. 17 Model 767 pixelated, blurred, and scaled. A 767 is ¾ as long as a twin tower is wide.

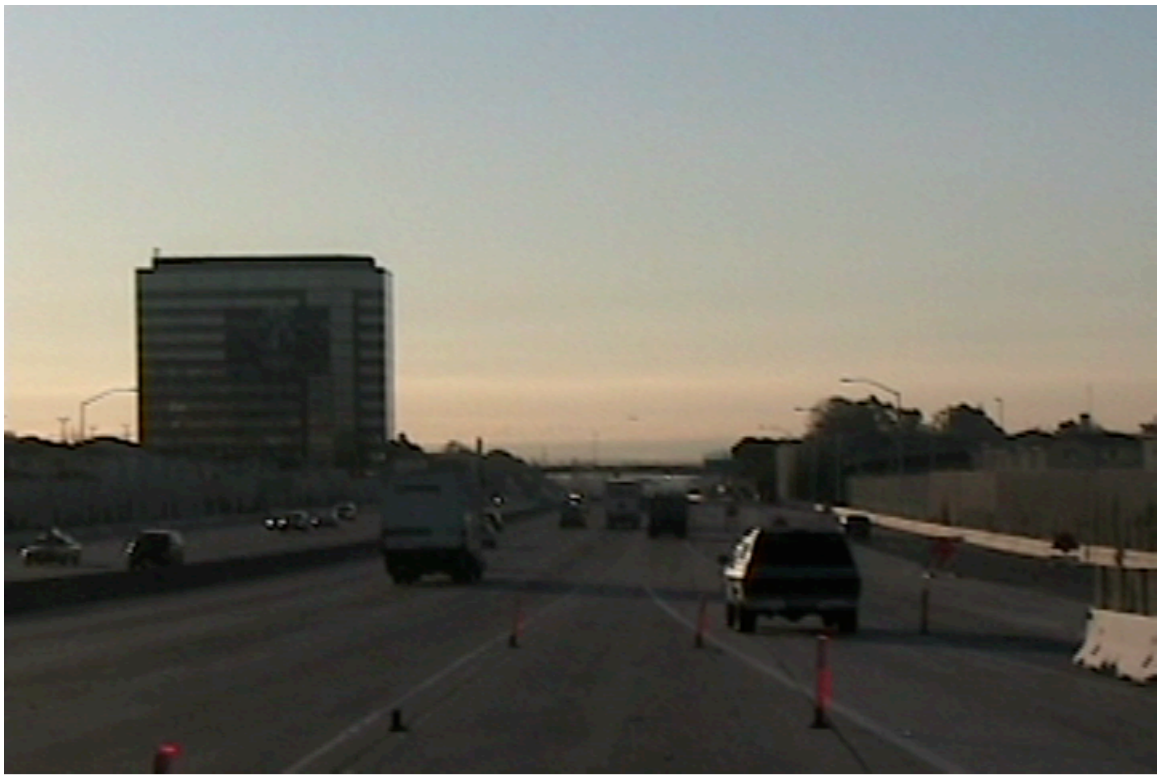

fig. 18 Control case for Chopper 5 wide shot

fig. 19 Control case for Chopper 5 wide shot – Enlarged.

Result: The plane in my control case is small and blurry, but you can see it in every single frame, without exception. It's a gray shape that moves across the much brighter sky.

Thus, I find that a real airplane would be visible for all 170 frames (340 separate images) of the Chopper 5 wide shot. This finding is consistent with the video compositing hypothesis, and rules out the real airplane hypothesis.

5. The Miracle Zoom

After the 5 seconds of wide shot, with no plane in it, the camera then zooms part way in, zooms in some more, then finally zooms all the way in, framing a nice shot of the twin towers. Now at least it *appears as though* the chopper has arrived "at the scene", as anchor Jim Ryan said. Amazingly, ***one*** video frame after the final zoom, an airplane enters the screen. What are the odds of that happening by chance?

Overlaying a moving airplane image on a stable, not-zooming video is feasible. Doing so on a zooming shot is quite tricky, and impossible to do in real time, if it is to be a convincing fake. Finishing all zooming is a practical necessity for any live compositing.

Thus, the miracle zoom is consistent with the compositing hypothesis, and would be a huge coincidence under the real plane hypothesis.

fig. 20 Chopper 5 – Pinocchio's Nose

6. Pinocchio's Nose

In Chopper 5, some object appears to come out of the back (north) side of the tower (above, fig. 20).

This object looks remarkably similar to the nose of the Boeing 767 airplane that appears to fly into the building. In fact, the object is indistinguishable from the nose. In fig. 21 below are 8 enlargements. Some are noses, some are the exiting object. Which are which?

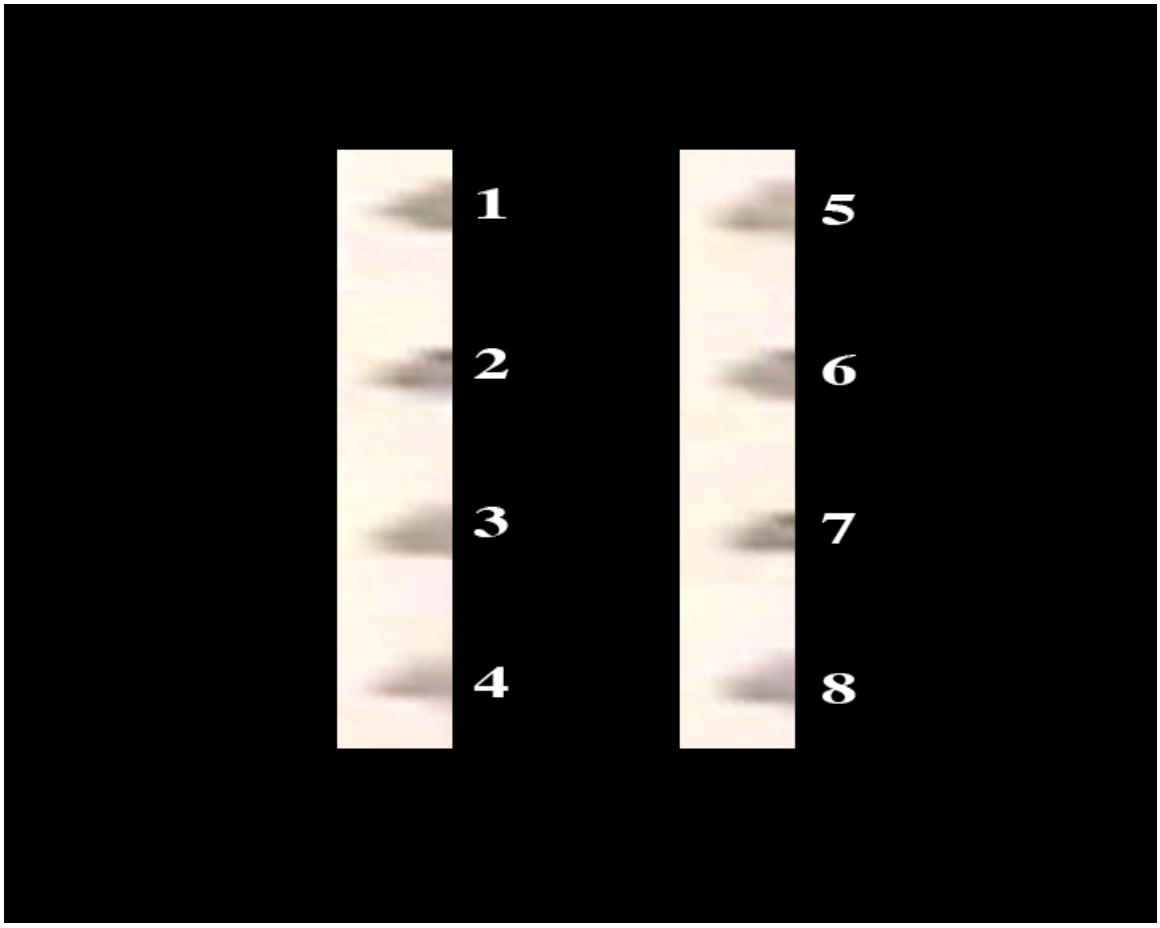

fig. 21 Nose-Out Multiple Choice

Under the video compositing hypothesis, Pinocchio's Nose is simply the nose of the airplane image, escaping the back side of the luma key layer mask, as I've demonstrated.[2]

Real plane supporter Dave Rogers has pointed out that the airplane image appears to slow down considerably while "inside" the tower. He suggests this is proof of a real plane, evidently assuming that a composite airplane image would have to fly a constant speed.

Steve Wright made the same claim on the Hardfire program. He tracked the motion of the airplane, continuing the motion of an outline through the building at a constant speed. The outline emerged well before Pinocchio's Nose.

But this doesn't prove a real airplane. An animated image can be made to change speeds any which way, of course. Steve Wright's own educational video, in the very first lesson, demonstrates compositing by overlaying a jet airplane. He applies a "velocity curve", the jet enters the screen fast, then slows down in the middle of the picture.

Knowing the approximate visual location of the towers in the shot, there is a very good reason why the 9/11 airplane animations would be pre-made to slow down in the middle of the picture: It would give the operator more time to turn off the airplane layer before it pops out the back side of the mask. [3]

Under the real plane hypothesis, the exiting object would be something real. Various explanations have emerged:

- The object really is the nose of the airplane
- The object is an engine
- The object is a landing gear
- The object is a dust explosion

The nose of an airplane is ruled out. A Boeing 767 nose is hollow, it is plastic, it is not meant to withstand any sort of collision. The mere thought of it surviving intact through a dense grid of steel box columns, twice, is just absurd. Kai Simonsen, who was the camera operator aboard Chopper 5, and who is also a video compositing expert, agreed that it looked just like the nose of the airplane. He asked interviewer Jeff Hill, "Why do you say it's impossible?"[4]

To explore whether Pinocchio's Nose could be a real event, we'll next consider the 2nd generation of videos, which emerged in the hours after the event.

Despite being a poor quality copy, the Gamma Press video clearly shows a gray, metallic, cylindrical object emerging. The engine and landing gear are both heavy, solid objects

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[2] See Baker, "Theory of Live 9/11 Airplane Composites".
[3] See Baker, "Theory of Live 9/11 Airplane Composites".
[4] Jeff Hill conversation with Kai Simonsen

made of strong metals such as steel and titanium. We might imagine that one of these objects could penetrate two sets of perimeter steel box columns.

fig. 22 Gamma Press – Nose Out

fig. 23 Gamma Press – Nose out, with added model 767 to scale

I've overlaid a model 767 to scale,[5] and added motion blur (fig. 23). We can see that the emerging object is much too large to be an engine or a landing gear. The size and shape of the Gamma Press nose-out is consistent with a fuselage, which is consistent with Chopper 5.

In Gamma Press, after the Pinocchio's Nose event, a strange, very bright, 2D looking flame gobbles up the object, it disappears, and is never seen again. StillDiggin named this the "Venus Plane Trap" [6]

[5] Boeing 767 is 159 feet long, tower is 208 feet wide. Inserted model is slightly too large, if anything.

[6] See "Pinocchio – Part III"

fig. 24 Gamma Press – Venus Plane Trap

fig. 25 Gamma Press – Venus Plane Trap, darkened, color balance shifted

In fig. 25 above I've darkened and shifted the color balance of the Gamma Press image. The entire image was processed equally. Notice how the Venus Plane Trap sticks out and looks so distinct from the other flame. It is much brighter than the rest of the fireball explosion. This is consistent with adding a fake flame into a real shot with a real explosion. It could be quite tricky to color-match the 9/11 fireball.

In Gamma Press, we have additional video data that seem to support the idea that the Chopper 5 nose-out is some solid object. But there are four terrible problems with the idea that Pinocchio's Nose was a solid object:

- The nose-out object is far too big to be either an engine or a landing gear.
- According to the Gamma Press video, a flame completely destroyed the object in a fraction of a second. Fire can't do that to steel or titanium.
- Other, later videos, such as Naudet, show a dust explosion (see fig. 27 below).
- There are no broken columns where the solid object would have exited (see fig. 26 below).

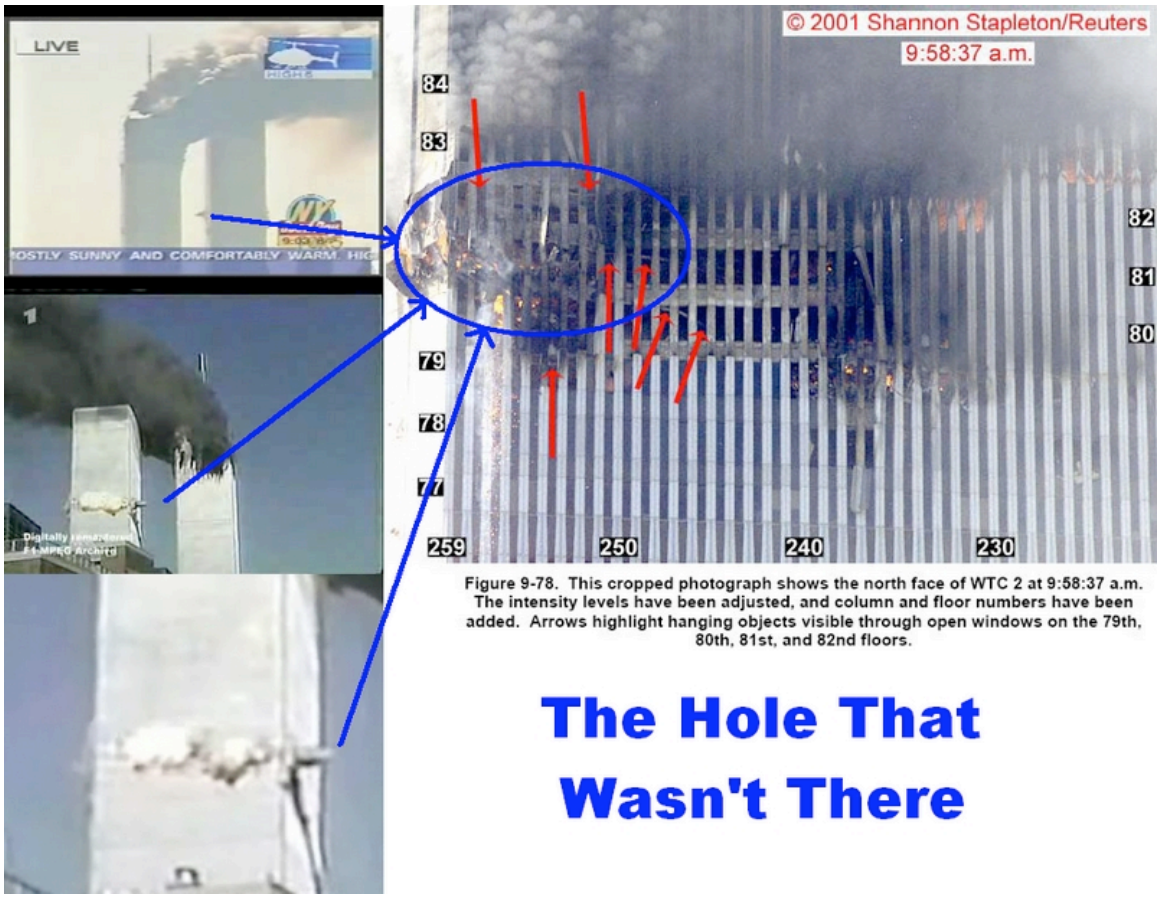

Figure 9-78. This cropped photograph shows the north face of WTC 2 at 9:58:37 a.m. The intensity levels have been adjusted, and column and floor numbers have been added. Arrows highlight hanging objects visible through open windows on the 79th, 80th, 81st, and 82nd floors.

fig. 26 The North face of WTC2, showing the area where a solid object would have exited

Next, I consider the third generation videos, those that emerged days or weeks after the event. They show a dust explosion, not a metallic cylinder. The clearest example of this is Naudet (see fig. 27 below).

fig. 27 Naudet (L) , Chopper 5 (R) – The two images are synchronized in time.

The Naudet footage shows a dust explosion for Pinocchio's Nose, and it looks nothing at all like the fuselage of a plane, or an engine, or any solid object. This dust explosion would be moving at more than 300 mph. It seems impossible that any sort of dust explosion could maintain its shape in the face of a 300 mph headwind. It's dust.

How would a dust explosion (or anything else for that matter) form itself into a size, color, and shape indistinguishable from the nose of a Boeing 767?

Also, we have the Venus Plane Trap flame event from the Gamma Press video. While we might imagine a solid object could explode into flame, how could a dust explosion, which by definition has already exploded, itself explode into flame?

The frames of Naudet that would show the Venus Plane Trap have been edited out. This editing is highly suspicious, especially considering it corresponds with the fade to black in Chopper 5. The Naudet Brothers are called upon to release unedited, original quality footage so that we may examine the sequence that was edited out. And if you have not yet signed the petition requesting broadcast-quality video from the networks, why not do so now?

http://www.petitiononline.com/Video911/petition.html

Thus, the totality of the video evidence is completely inconsistent with Pinocchio's Nose being any real event. The solid objects are ruled out because there is no exit wound, because steel/titanium objects can't burn up, and because the apparent object is too big. The dust explosion is ruled out because it cannot maintain its shape in the face of a 300 mph headwind, nor can it explode. Both are ruled out because the various videos are completely inconsistent with one other, some showing a metallic object, others showing dust.

As impossible as it is to reconcile Pinocchio's Nose with a real event, it is quite easily understood under the video compositing hypothesis. The nose of the airplane image was accidentally allowed to come out from the back side of the luma key layer mask in Chopper 5, the other videos are subsequent attempts to explain it away.

The composite works by placing video images on layers, in this case a total of three layers. The tower shot is duplicated and placed on two of the layers. The top copy of the tower shot has had the sky made transparent with an effect called "Luminance Keying" or "Luma Key". When these two layers are combined, it looks identical to the original shot.

fig. 28 Top layer, sky removed (left). Bottom layer, unchanged (center). Put together, it appears identical to the original shot (right).

Sandwiched in between the two tower layers is the airplane layer. It is an airplane image on an otherwise transparent layer. Below I've inserted a model 767 at way too large a scale, to demonstrate the presence of layers.

fig. 29 Manipulating video in layers. With the luma key in place, objects can now be inserted that appear behind the towers, and in front of the sky.

If the flying airplane image is not made to stop at the correct time, having it appear to pop out the back side of the tower is precisely what will happen. Evidently, it did happen, despite the precaution of having the pre-made airplane image slow down once "inside". I have given a detailed explanation of how the live 9/11 composites must have been created, and inserted a 2nd flying airplane image into the Chopper 5 video. [7]

Under the compositing hypothesis, the Venus Plane Trap flame event was added to videos to attempt to explain the fate of Pinocchio's Nose. The mismatching flame color is consistent with compositing.

Therefore Pinocchio's Nose is perfectly consistent with the compositing hypothesis, and impossible under the real plane hypothesis.

[7] Theory of Live 9/11 Airplane Composites

fig. 30 Added airplane model crosses under the layer mask, appearing to pass behind the tower

fig. 31 Flying airplane image is not stopped on time, it emerges from under the layer mask and appears to pop out from the back side.

7. Fade to Black

During the Pinocchio's Nose event in Chopper 5, the picture quickly fades to black. The fade takes place over 3 video frames, about 1/10 of a second (fig. 32).

fig. 32 Chopper 5 – History's defining moment, and picture fades to black?

This is bizarre on its face, because ordinarily there are no fades-to-back in live news. News switchers are trained to ***switch*** between shots, not fade. And they are trained to switch to something, ***anything***, other than black.

A fade to black is easily consistent with the compositing hypothesis. Someone, quite likely Kai Simonsen on board Chopper 5, realized the nose-out error, and instinctively pulled down a fader, pushing it back up again once the airplane layer was turned off.

Attempting to support the real plane hypothesis, three explanations for the fade-to-black have emerged:

- Signal Interruption
- Automatic Gain Control Malfunction
- Lens Extender Engagement

I now consider each of the three "official" explanations for the fade to black.

Signal Interruption?

The fade-to-black cannot be a signal interruption. To be sure, signal interruptions from news helicopters can and do happen, all the time. But they do not cause a fade to black. Rather, signal interruptions of this type will show up as "static", or a "freeze frame", or "pixelization".

fig. 33 Typical noise pattern as signal breaks up from a 9/11 news helicopter

There were broadcast antennae on top of the North Tower, but these had nothing whatsoever to do with communications from any news helicopters. A news helicopter signal is sent up to a satellite by microwave, then relayed back down to the TV station.

In video, “black” is a picture. To transmit a picture, be it black or anything else, video sync must be maintained. During the Chopper 5 fade to black, video sync was never lost.

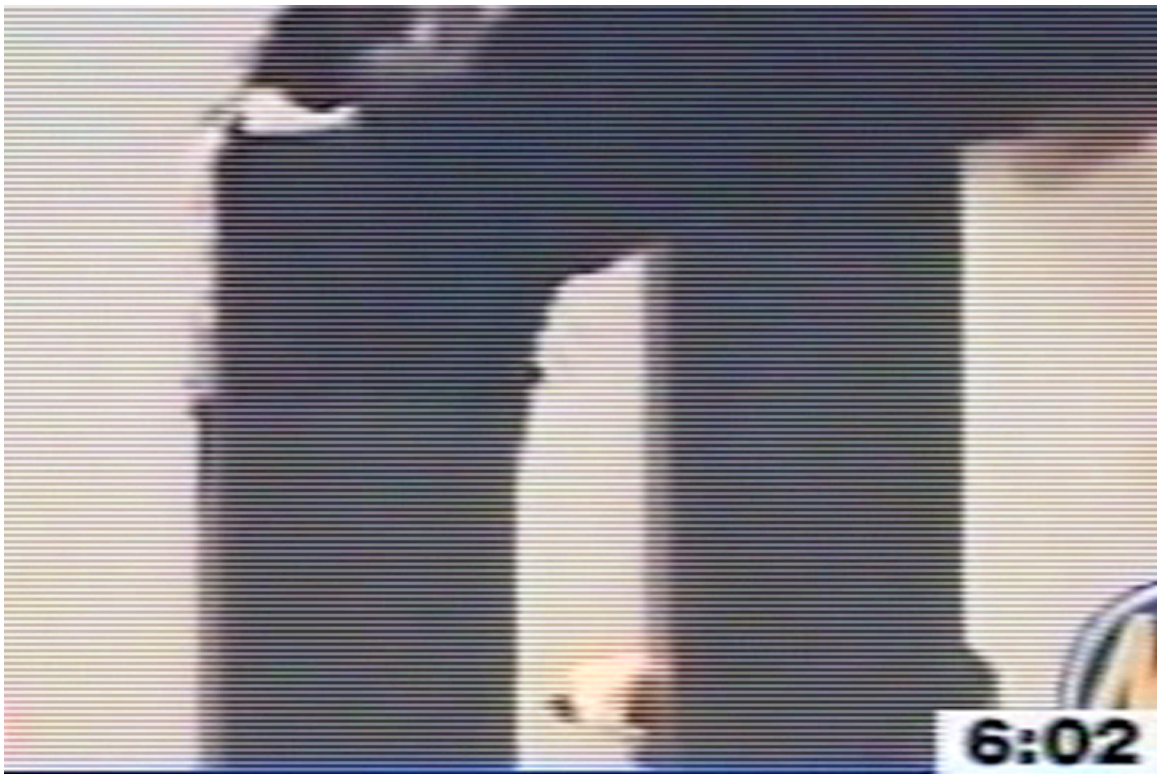

fig. 34 Scan lines

Above (fig. 34) is an enlargement from a video frame (two adjacent video fields) at the beginning of the fade to black. Notice that one set of scan lines has gotten darker, while the other set has not. Were this a signal interruption of any sort, the coherence of the scan lines would not be maintained.

The signal interruption explanation is false.

Automatic Gain Control?

Steve Wright has offered an idea about Automatic Gain Control, or AGC. AGC is a circuit present on all video cameras, even consumer models. AGC detects the overall brightness of the picture, and will adjust the iris and gain attempting to keep the brightness within a target range. If the picture gets too dark, it will open the iris or gain up a little. If the picture gets too bright, it will shut the iris or gain down a little.

Wright suggested that the flame seen emerging from the face of the tower was so bright that it caused the AGC circuit to "overshoot" and shut the camera down to complete black. This explanation fails to hold up to any sort of scrutiny.

First, the flame is rather small in the picture, occupying less than 1/100 of the total picture area. Flames are captured on video all the time, including on 9/11, without causing a blackout.

fig. 35 Chopper 5 – Fading to black

Next, observe fig. 35 above, during the fade to black. We still see picture, but it is quite dark. The AGC circuit is supposed to keep the brightness correct. Why would it make the picture this dark? Furthermore, if it did make it this dark, why would it keep going all the way to black?

I've experimented with various models of video camera, pointing them at very bright light sources, even at the sun. All of them had AGC, all of them responded by darkening the picture, but none of them went anywhere near completely black. Repeat the experiment. See for yourself.

Finally, Chopper 5 cameraman Kai Simonsen offers a completely different explanation (see next section). No evidence has been brought to support Wright's AGC idea. Wright's AGC explanation is rejected.

Lens Extender?

The cameraman onboard Chopper 5 was Kai Simonsen. In a conversation with Jeff Hill, Simonsen was asked about the fade to black. He stated that the effect was caused by his engaging a 2X lens extender at that moment.

Said Simonsen, "You're seeing the edge of the extender pass over the focal point."[8]

It is certainly interesting to hear from the person who was there, but the lens extender explanation is impossible. Passing the edge of an object across the focal point, be it a lens extender or anything else, will darken the picture unevenly. We simply do not see this. We see the entire picture very evenly fading down to black.

Also, a 2X lens extender will magnify the picture and change the focus, that being its purpose. A half second later, when picture fades back up from black, there is no change in magnification or focus. No lens extender was engaged.

The fade to black was exactly what it appeared to be: A fade to black. The only remaining question is whether it was an accident, or intentional. Accidents do happen, but given the training of network news broadcast switchers, it is very unlikely. The fact that supporters of the airplane hypothesis, such as Steve Wright and Kai Simonsen, go out of their way to offer alternative ideas, false though they must be, ultimately serves to reinforce the conclusion that an accidental fade-to-black is not plausible.

More Blackouts. Coincidence?

A fade-to-black is done by pulling down a fader on a video console. Was it an accident? Yet another astonishing 9/11 coincidence? Fox 5 weren't the only ones to have "technical problems" right at the time of the second strike.

Here is the live airplane sequence from CNN, who were showing a version of the ABC Chopper 7 footage. They too incorporate a blackout.

[8] Jeff Hill conversation with Kai Simonsen

fig. 36 CNN Live – Inserting a feed from Chopper 7

Immediately after the airplane image passed behind the tower, and before the explosion, CNN dissolved from the Chopper 7 shot to a close up of the north side of the towers. During the dissolve, there is video noise.

fig. 37 CNN Live – Dissolving from Chopper 7 to the Tower Close-up

Where does this noise come from? We know that the Chopper 7 shot did not break up, because complete copies of it survive. We must surmise that the noise was present on the tower close-up. Why would a video switcher dissolve *away* from a camera that just showed a clear view of an airplane crossing, and *to* a camera with a bunch of noise?

fig. 38 CNN Live - Blackout

In any event, the next frame is black (fig. 38), which holds for about 5 frames (1/6 of a second), then fades back up from black to the close up, then dissolves back to the Chopper 7 shot. The CNN blackout occurs during the same time as the Chopper 5 blackout, which is also the same time that is missing from the Naudet footage.

All three of these blackouts occur within ¼ of a second of each other.

Logically, either these blackouts were accidental or they were on purpose. One accidental blackout is very unlikely. What are the chances that two different networks and a documentary film all coincidentally lost picture, right at the time of history's defining moment? The odds would easily be a billion to one against.

For a side by side synchronized comparison of the 3 blackouts, see Appendix C.

Under the compositing hypothesis, the video technicians were prepared to go to black to help cover up any mistakes that might occur at the crucial moment. The Naudet brothers removed the time period that would show the fate of Pinnochio's Nose, rather than have to deal with inserting a flame consistent with Gamma Press.

Thus the Chopper 5 fade to black event and the CNN blackout are shown to have a simple explanation under the compositing hypothesis, but are astronomically unlikely under the real plane hypothesis.

8. Unstable Motion

A real plane flying through the air has very stable motion. Any changes in speed are very, very gradual. Video cameras scan images at an extremely consistent rate, 1 every 1/59.94 second. Therefore, a real plane on a stable video will move the same distance in every frame.

While the *actual* motion of an airplane is perfectly steady, certain random noise factors can affect the *apparent* motion of an airplane on video. I have exploited the presence of these noise factors to provide a scientific proof that the motion of the plane in Chopper 5 is too unstable to be real.

The noise factors that can influence the apparent motion of a moving airplane on video are:

- Atmospherics
- Video Resolution
- Camera Motion
- Measurement Error

If the air was perfectly transparent (which it isn't), and if video had infinite resolution (which it doesn't) and the camera was perfectly still (which it wasn't) and if position measurements could be made with infinite precision (which they can't), then the motion of the airplane would appear perfectly stable. Such perfect stability would be represented by a perfectly straight line on a graph of velocity over time.

In reality, the atmosphere can distort the apparent position of a plane a tiny bit, video resolution is only so good, the camera in Chopper 5 was moving, and there will be small errors in trying plot the exact position of the airplane in each frame.

All 4 of these are random errors. Each type of error adds to the deviation from perfect stability. These are as likely to be errant left as right, up as down. Such random errors tend to accumulate. They add up. Each error type will add to the total error, that is increase the deviation away from perfect stability. Each will make the graph line more jagged.

Therefore, if we can find a way to eliminate one source of error, while holding the other 3 sources of error perfectly constant, then we would expect to see the total error decrease. We would expect to see the graph line become less jagged. I have devised a method to do just that.[9]

[9] see Baker, Chopper 5 Velocity Analysis

• Stabilize the video to subpixel accuracy.
• Catalog the distance each frame was moved in the stabilization process.
• Place a wireframe around the plane image frame by frame, going for best overall fit.
• Measure the change in airplane position (velocity) per frame.
• Graph these position changes as "ΔX Stabilized".
• Calculate the "Raw" (un-stabilized) data by subtracting the distance each frame was moved from the velocity measurement of that frame.
• Graph these position changes as "ΔX Raw".
• Compare "Raw" graph line to the "Stabilized" graph line.

By doing this, we have subtracted the camera motion from the total error, while holding the other three error types perfectly constant. ***Any measurement error was held perfectly constant because the measurements were only made once***. In a legitimate video, the stabilized graph line must be straighter, with less deviation from the norm, than the raw graph line.

Here are various control cases that test the method. In each legitimate video, the graph line does indeed become more stable after stabilizing the video. Every time. The method does not fail.

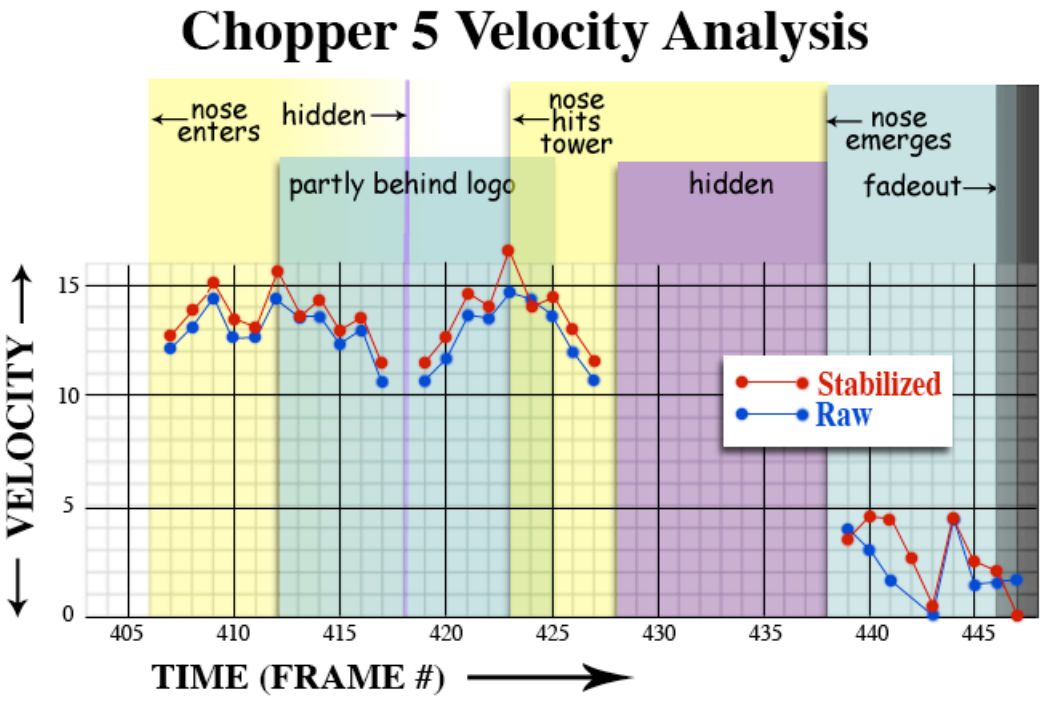

fig. 39 Chopper 5 Velocity Study – Stabilized and Raw

In Chopper 5, however, the graph line becomes less stable after stabilizing the video. This simply cannot be a legitimate airplane video. Camera motion makes the apparent

motion of any real airplane *less* stable. Therefore removing the camera motion must make the airplane motion *more* stable. If it has the opposite effect, we know something is wrong.

Here is a video composite airplane crash that I found on the internet. I have no idea who made it. Using the above method, I compare raw versus stabilized data, and find that that airplane motion becomes shakier after removing the camera motion. Even if we ignore the fact that this jet airplane looks too small compared to the apartment building it crashes into, the velocity analysis is proof of video compositing. It has the same problem as Chopper 5.

Given sufficient time, a video compositor can correct motion problems. But Chopper 5 was shown live. There wasn't time. The 9/11 perpetrators had to show us news helicopter shots, because if they didn't, everyone would wonder where the news helicopters were. With the gyroscopically stabilized camera mounts, they were hoping the drifting helicopter shots would be steady enough so as to make the motion problems undetectable. Chopper 5 was almost that steady. But not quite.

Thus, airplane motion data are consistent with the compositing hypothesis, and not with the real plane hypothesis.

9. The Missing Shadow

fig. 40 Naudet (L), Chopper 5 (R). The animated gif version[10] includes a flashing animation where the shadow should be. Chopper 5 image is from the Lawson version.

If Chopper 5 was a live, real-time composite, then adding proper shadows was not feasible. The shot was composed in such a way that all surfaces requiring shadows were hidden. But evidently a terrible mistake was made. Under the compositing hypothesis, the nose of the airplane image accidentally was allowed to come out the back side of the layer mask, so that it appeared to come out of the back side of the building.

The Gamma Press video clearly shows a very dark shadow across the face of the tower, as does Naudet. Though Gamma and Naudet differ dramatically as to the nature of the exiting object, they agree on the shadow.

No such shadow is present in Chopper 5. Whether it is supposed to be a fuselage, an engine, debris, a dust explosion or anything else, the missing shadow in Chopper 5 is irreconcilable with reality. Shadows do not take a day off.

All the observations in all of these videos are consistent with the following narrative:

[10] Animated gif version of Chopper 5 Missing Shadow

- Chopper 5 and Chopper 7 are live composites, strategically composed to be doable in real-time.
- In Chopper 5, the nose of the airplane image accidentally slipped out from under the layer mask.
- Non-live, edited composites were created during the day on 9/11 which showed a metallic, cylindrical object exiting, complete with (more or less) correct shadows, and which agreed (more or less) with Chopper 5.
- It was discovered that there was no exit wound.
- New composites were created that showed a dust cloud instead of any solid object, complete with (more or less) correct shadows.

I am not aware of any other narrative which satisfies these data. Other explanations have been vigorously sought, none have emerged.

Shadow data are perfectly consistent with the compositing hypothesis, and rule out the real plane hypothesis.

CNN Ghostplane

10. Magically Healing Columns

I now consider what appear to be magically healing steel columns in the Hezarkhani / CNN footage. This footage has been nicknamed “Ghostplane” with good reason. The plane appears to pass effortlessly through the steel box columns and steel-reinforced concrete floors.

We know that at some point in time, an airplane-shaped hole appeared in the side of the tower. Below is a series of images from the Ghostplane video. The first 5 are sequential video fields, separated in time by 1/59.94 of a second. The final image was selected from much later in the video, after an edit. This last image was at the same (or slightly wider) zoom setting as the rest, therefore has the same (or slightly worse) resolution.

fig. 41 CNN Ghostplane – Airplane image appears ready to strike the wall

fig. 42 CNN Ghostplane – Bright flash at the nose

fig. 43 CNN Ghostplane – fuselage half-in

fig. 44 CNN Ghostplane – Wings begin to enter

fig. 45 CNN Ghostplane – Left wing inside, hole appears half-dark. Right wing inside, except for the very tip. No hole there.

fig. 46 CNN Ghostplane – after an edit, dark hole plainly visible

In the second-to-the-last image above (fig. 45), the left wing has already passed beyond the wall. We see the hole in the wall corresponding to the left wing, but the damage area only looks about half as dark as it does later on. The right wing of the airplane has also passed through the wall of the building, except for the very tip, yet we cannot see any damage to the wall in that area.

Is it possible that the airplane-shaped hole is already present, but the video quality is too poor to see it? No. The last frame in the sequence (fig. 46) is from much later in the video, after an edit, and when the camera was zoomed out slightly more. The picture quality would therefore be a little worse than in the previous frames. Smoke now obscures part of the right side of the opening, but clearly we can see the gaping hole in the wall.

There is far more than enough resolution in fig. 45 to see whether or not columns have broken away to reveal the very dark interior of the building. The hole would be as dark as it appears in the fig. 46. Therefore, the columns were broken some time *after* the image of the wings appeared to pass through the wall. Therefore the "wings" of the "airplane" did not break the columns. Something else did.

Steve Wright has offered what is, to my knowledge, the only attempt to explain the Magically Healing Columns observation. He agrees that there is plenty of picture quality to see the big hole, if present. Wright claims that the airplane made a smaller hole, just large enough to accommodate itself, and that the subsequent jet fuel explosion then "enlarged" the hole.

Wright is complimented for his creativity. But his explanation probes the far outer limits of absurdity. A jet fuel explosion cannot possibly break steel. High explosives which *can* cut steel, do so by moving air very fast, from 10,000 feet to 30,000 feet *per second*. Whatever sort of explosions took place within the twin towers, the orange fireball was moving air no more than about 100 feet per second. This is 2 orders of magnitude too weak. Ask any explosives expert. The idea of cutting steel box columns with kerosene is ridiculous.

I have duplicated the compositing techniques that must have been used on CNN Ghostplane. [11] The apparently Magically Healing Columns are perfectly consistent with the compositing hypothesis. The airplane appears to glide through the wall because it is an image disappearing into a layer mask. The damage under the left wing first appears at half-darkness because it is being faded in. Damage under the right wing does not appear at all because it only occurred later.

No explanation has emerged consistent with a real airplane. The Magically Healing Columns rule out a real airplane.

11. The Over-Under Puffball

Under the compositing hypothesis, puffballs were added to the penetration footage to cover up parts that looked particularly fake upon entering the tower, such as the engines. Under the real plane hypothesis, these puffballs must be smoke, or dust from disintegrating engines, or building materials, or something.

Researcher Rasga Saias has pointed out a blatant contradiction between CNN Ghostplane and the Even Fairbanks video. In Ghostplane, the puffball is clearly *below* the left wing. But in Fairbanks, it is just as clearly *above* the left wing.

[11] See Baker, "Theory of Non-Live (Edited) 9/11 Airplane Videos".

fig. 47 Fairbanks (top), CNN Ghostplane (bottom) – The flash

fig. 48 Fairbanks (top), CNN Ghostplane (bottom) – Plane begins entry

fig. 49 Fairbanks (top), CNN Ghostplane (bottom) – Puffballs replace engines below CNN wings, no puffball under Fairbanks left wing

fig. 50 Fairbanks (top), CNN Ghostplane (bottom) – Fairbanks puffball emerges, clearly above the left wing.

The Over-Under Puffball is consistent with the compositing hypothesis, because under intense pressure, it's quite possible that a human made a mistake in pasting the puffball into the Fairbanks video. This rules out a real airplane, or at least rules out a real puffball, because a puffball cannot be both above and below a wing at the same time.

Missing in Action

Valuable data were lost when the Chopper 5 shot faded to black. These are not the only missing data.

12. Broadcast Quality Footage

Ordinarily, television news stations keep archives of all significant news events. For a standard fee, clips are available to use in such things as documentary movies. However, broadcast-quality copies of 9/11 airplane videos appear unavailable at any price. In March 2008, I contacted WNYW television and requested to license a broadcast-quality copy of Chopper 5 for use in my upcoming documentary film. Isaura Nunez, head of public affairs for WNYW, confirmed that their archive department did have the footage, but declined my request, saying only "Unfortunately, we will be unable to participate in this project".[12]

It's not just me. Broadcast-quality Chopper 5 footage has never appeared in any documentary, or anywhere at all after 9/11. The two copies that survive are both home-recorded lower quality versions posted on the internet. Broadcast-quality would allow even better analysis than what has been presented here. If you are still inclined to be skeptical about no plane crashes, I ask you: Why would the media conceal the best versions of these videos, if not to cover-up evidence of digital compositing?

The non-availability of a proper Chopper 5 is consistent with the compositing hypothesis, in that it indicates a "mens rea" (guilty mind) on the part of WNYW FOX 5. Other than cover-up, no explanation has emerged for this behavior. It is therefore inconsistent with the real plane hypothesis.

13. The Naudet Edit

The footage of the alleged 2nd airplane strike captured by the Naudet brothers, and presented in the documentary "9/11 – The Filmmaker's Commemorative Edition", contains a very suspicious edit. The footage is shot from street-level, northeast of the towers. It appears to catch a glimpse of an airplane coming in, then shows the explosion. Before the camera tilts down, we see the Pinocchio's Nose event, and it appears to be a dust explosion.

Then, there is an edit, after which we see the continuation of the explosion. Some amount of time is missing. Not much, no more than a second or so. But it is exactly the time that

[12] WNYW's Nunez Denies Request for Chopper 5

would show the fate of Pinocchio's Nose. It is also exactly the time corresponding to the fade to black in Chopper 5.

Such an edit is consistent with the compositing hypothesis, because creating multiple views of an imaginary steel-destroying and/or dust-exploding flame event would be very difficult. Far easier would be to simply delete that portion of time, rather than have to deal with it.

Such an edit is not consistent with the real plane hypothesis, because there is no cinematic reason to edit away that short period of time. The footage is chaotic and raw, with wild camera movement anyway. Whatever was captured in the missing moment could only make the footage more dramatic.

14. The Ghostplane Edits

The CNN Ghostplane footage also has suspicious editing. A version first aired on CNN late on the evening of 9/11. The "complete" version appeared in the documentary "CNN – America Remembers". We see an airplane come into frame, glide effortlessly into the building with no apparent damage to the plane. A full second later, the building explodes from within, and the fireball expands.

Then, there is an edit in the video. After an unknown amount of time, picture returns, and there is a gaping, airplane shaped hole in the wall. Suspiciously, we never see the columns breaking and the hole forming in the side of the tower. What is in the missing footage?

In the "America Remembers" version of Ghostplane, a man's voice, with a middle-eastern accent, close to the microphone, and presumably photographer Michael Hezarkhani says, "Oh my God. A plane just flew into the building". However, during the original airing of the footage on 9/11, on CNN television, which *did* include audio, no such voice is heard. Obviously the voice was added to the documentary version. Why?

As far as I know, there is no video record in existence of what happened to either tower approximately 10 seconds after each fireball exploded. Why not? We are to believe that many of the second strike videos were captured by amateurs, but we also know that cameras were relentlessly seized by "officials" on the scene. [13] Is it really possible that nobody managed to capture the formation of the plane-shaped holes? Are we to think this is just another amazing coincidence?

The observations are consistent with the video composite hypothesis. The overdubbed voice would simply be taking the opportunity to reinforce the illusion of an airplane. The airplane-shaped hole is formed by explosives after the time when the alleged airplane is supposed to have passed through.

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[13] See for example "Anonymous Photographer" whose digital photos were deleted by police, then restored with disk software.

No other explanations these missing data have emerged consistent with a real airplane. Any forthcoming will be considered.

15. The Park Foreman Edit

Footage allegedly shot by Park Foreman also ends immediately prior to the time that would show the fate of Pinocchio's Nose. Furthermore, the initial airing of the Park Foreman footage was very strange. On 9/11, after announcing that a video would be played, CNN then proceeded to show 3 still frames.

The Park Foreman edit is consistent with the compositing hypothesis for the same reason as the Naudet edit. The strange initial airing is consistent with compositing, because composites can be rendered one frame at a time. While it might be safe to show a few particular frames, the compositors would want to double and triple check the final composite video for any problems with motion.

It is inconsistent with a real airplane, because ordinarily the news media will simply play a video that it wants to play, not go to the trouble of extracting individual frames.

16. No Sound in Fairbanks

According to Evan Fairbanks in an interview with Jeff Hill, his footage was accidentally recorded with no sound. [14] It was played on ABC News on the evening of 9/11 without sound. Earlier reports suggested that Fairbanks was made to surrender his video to the FBI, and/or the NYNJ Port Authority, who gave him back a copy with no sound.

However, in the documentary "In Memoriam – New York City 9/11/01", the sound of an approaching jetliner and crash has been added and synchronized with the Fairbanks video footage. It can only be characterized as a sound effect, of unknown origin.

Deceiving the audience into believing it is sound recorded by Evan Fairbanks is the obvious motive for including it. No other explanations have emerged. Images with synchronized audio seem much more realistic to the audience than those without sound.

17. Hezarkhani Won't Talk

In 2007 9/11 researcher Jeff Hill called alleged Ghostplane videographer Michael Hezarkhani . Hill was asking straightforward questions, such as the location the video was shot from. Hezarkhani refused to discuss it on advice of his attorney, saying only to

[14] Jeff Hill conversation with Evan Fairbanks

contact CNN.[15] Allegedly Hezarkhani was a tourist in New York on 9/11. Why isn't he allowed to talk about his famous amateur footage?

Hezarkhani's silence is consistent with the compositing hypothesis, because he and his attorney are acting as though he has something to hide. It is not consistent with the real plane hypothesis, because if the plane in his video is real, he should be allowed to talk.

[15] Jeff Hill conversation with Michael Hezarkhani

Cartoon Physics

18. Newton Rolls in his Grave

Following is an extended quote from Morgan Reynolds, in which he applies Newton's Laws of motion to the real airplane hypothesis:

> Newton's third law, sometimes called the law of reciprocal actions, states that all forces occur in pairs and these two forces are equal in magnitude and opposite in direction. That is, the forces of action and reaction between bodies in contact have the same magnitude, same line of action, and opposite sense. If there is a force on the building in a crash, there is an equal and opposite force on the airplane. Yet the plane does not slow down or break apart! If an aluminum plane ran into a Twin Tower, it must crumple, shatter and could not possibly leave a jetliner-shaped, cartoon-like "silhouette of passage" because in a collision with a tremendously strong building, arguably the strongest in the world, an airplane with its far lower mass, density and strength because it is built to be lightweight, would be far less able to withstand the equal force exerted on both bodies. The airlines weigh your luggage and worry about its distribution en route while building security personnel and custodians do not worry about the weight building entrants bring in or where they distribute it because buildings do not have to be lightweight and are built with redundant strength.
>
> Strength and massiveness matter greatly in which body will fare better in withstanding the equal force of an impact. Everybody knows this in shopping for a car: should I buy a heavy SUV for safety or accept the risk of driving a lightweight econobox or sportscar? If the damage inflicted on the other body in a collision between a jetliner and a Tower were likened to a sports contest, it would be something like Tower 100, Airplane 2. Imagine, for example, that a Tower fell on the airplane instead of the aluminum airplane hitting the Tower: complete and utter devastation of the airplane. However, this mismatch is not what the videos show. Instead, the aluminum plane cuts right through steel and disappears inside the Tower. This is impossible. Structural steel is far stronger than aluminum and present in abundant quantities, and would suffer only light damage compared to complete and utter destruction/rejection of an aluminum airplane, with most of its debris scattered outside the building, especially wings, tail section and a majority of the shattered fuselage. The five floors in each Tower allegedly impacted by planes weighed more than 100X that of the alleged 140 ton airplanes. [16]

[16] Morgan Reynolds on Crash Physics. See also Reynolds, "Plane Deceit at the World Trade Center" (large pdf).

The Hezarkhani / CNN video has become known as “Ghostplane” for good reason. The image of the airplane glides effortlessly into the side of the tower. It does not break, twist, bend, crumple or even slow down.

Passenger aircraft such as this Boeing 767 are mostly aluminum. They are hollow, and built to be as light as possible. The side of the Trade Tower was a dense grid of structural steel box columns, tied together with steel plates. It is built to be as strong as possible, and as flexible as needed. The floors of the tower were 4" steel-reinforced concrete slabs poured into steel pans, held up by cross-braced steel floor trusses. We are to believe that this airplane met those floors edge-on, and all those steel columns, at more than 500 m.p.h., and not a single piece broke off and fell to the ground?

19. Comparisons to Sandia F4 Test

Consider the footage of an old F4 fighter jet impacting a wall. There is no fuel in the jet, as it is attached to a rocket sled. The airplane explodes radially upon impact. Pieces of the wings break off. While the airplane largely disintegrates, the wall is largely unharmed. This is consistent with Newton’s Laws. Sandia does *not* present a Force Paradox, discussed below. At any point in time, both the wall and the airplane are receiving an equal force, in opposite directions. The plane is much weaker, and it is destroyed.

Consider Ghostplane. We observe an airplane image which passes effortlessly through the steel and concrete wall and floors, without appearing to slow down, bend, bounce, twist, or break.

This is perfectly consistent with video compositing. An airplane image proceeds into a layer mask, where it simply disappears bit by bit, frame by frame. This is a simple effect to produce. Creating a more realistic jet crash effect is *immensely* more difficult and time consuming.

These data are not consistent with a real airplane impacting a wall.

20. The Force Paradox

According to the official story, the top part of each twin tower crushed itself, and the entire intact undamaged structure below it, into fine powder, in something just a little bit longer than free fall time. Fast "collapse" times require very low resistance from below, because the greater the resistance, the more energy is absorbed by the resisting part, the less energy is available to accelerate falling mass downward, the slower the collapse time.

On the other hand, the building and all its contents were converted into very fine powder. Mechanical crushing requires extremely high resistance. A hammer requires an anvil. A mortar requires a pestle. You can smash a piece of ice into small chips with a hammer, but it better be sitting on a hard floor. Imagine trying to shatter a piece of ice while in free fall. It won't work.

And then imagine that while in free fall, you not only manage to shatter the ice, but shatter the hammer as well. It makes no sense whatsoever. As a rule, collisions between objects do not cause mutual annihilation. This contradiction was pointed out by many, and dubbed "The Resistance Paradox" by Gerard Holmgren.[17]

Clearly, the twin towers were blown to kingdom come. Period. I apply the same reasoning to the real airplane hypothesis.

No official airplane theory exists. To the extent that it does, it is argued there that mass times velocity gives total kinetic energy, thus the impacting airplane is equivalent to so many tons of TNT. This treats the entire airplane as a single mass, a single solid object.

But, in explaining why the back part of the plane does not appear to slow down, the official theorists say that the plane is more like a liquid, or a constellation of very small parts, unconnected. It atomizes, completely shatters, thus relieving the back part of any obligation to slow down.

Just as in the case of the towers' "collapse", the official story is trying to have it both ways. The plane is both strong enough to act like a solid in terms of the total kinetic energy, but weak enough to act like a liquid in terms of the deceleration of the back part. It makes no sense.

To actually think about it correctly, we must consider the *power* of the impact. Power is force over time. That is force divided by time. The longer a period of time over which a force is spread out, the less power it delivers, and the less destruction it causes. A burning log releases more energy than a stick of dynamite. The reason a stick of dynamite can destroy your fireplace, while a burning log cannot, is that the dynamite releases its energy in a much shorter period of time than does the fire. The dynamite has less *energy*, but much more *power*.

If indeed the airplane is weak enough to atomize on impact, which I think is basically correct based on the Sandia F-4 video, then it would be like a bug on the windshield to a twin tower. Much of it would turn to confetti, large parts like wing flaps or tail sections would bounce off. Engines, being steel and titanium, are strong, and might make a significant dent or maybe sever a column. A plane-shaped hole is strictly ruled out.

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[17] "Manufactured Terrorism" by Gerard Holmgren

Ghostplane and the other airplane entry videos look cartoon-ish because they depict cartoon physics. They show no crash physics at all. My recreation of Ghostplane looks essentially identical to the original, devoid of crash physics. [18]

Thus, a consideration of Newton's Laws and the Force Paradox lends no support to the real plane hypothesis, while being perfectly consistent with the compositing hypothesis.

21. No Wake Vortex

All fixed wing aircraft produce an effect called "Wake Vortex". [19] Wake vortex is directly related to the amount of lift generated by each wing. The extremely high air pressure from under the wing collides with extremely low pressure from above the wing to create a strong, tornado-like rotating air mass. This is a stable phenomenon, and it can persist for over a minute. The presence of wake vortex is the reason why even the busiest airports wait at least 5 minutes between landings on a given runway. Wake vortices are always present behind a flying airplane. They are invisible, of course, unless there are clouds, smoke or debris in the air.

Following are two photos showing wake vortex behind fixed wing aircraft.

[18] See Baker, "Theory of Non-Live (Edited) 9/11 Airplane Videos"
[19] See "The Wake Vortex Problem"

fig. 51 Wake vortex behind a crop duster.

fig. 52 Wake vortex in the clouds far behind a jetliner.

The following series of images is from a video of a plane dropping a load of hydrocarbon incendiaries like Napalm. [20] Notice how the exploding flame is forced to curl around the vortex.

[20] See "No Real Planes @ 911"

fig. 53 Airplane drops napalm. Exploding hydrocarbons are forced to curl around vortex

Now consider this image (fig. 54) from the Naudet video, showing the explosion at WTC 1, the North Tower:

fig. 54 Naudet – Explosion at WTC1

This is less than 5 seconds after a Boeing 767 airplane supposedly flew right through this airspace at top speed. Where is the wake vortex?

Fig. 55 is an image from the CNN-Hezarkhani "Ghostplane" video, showing the explosion at WTC2, the South Tower:

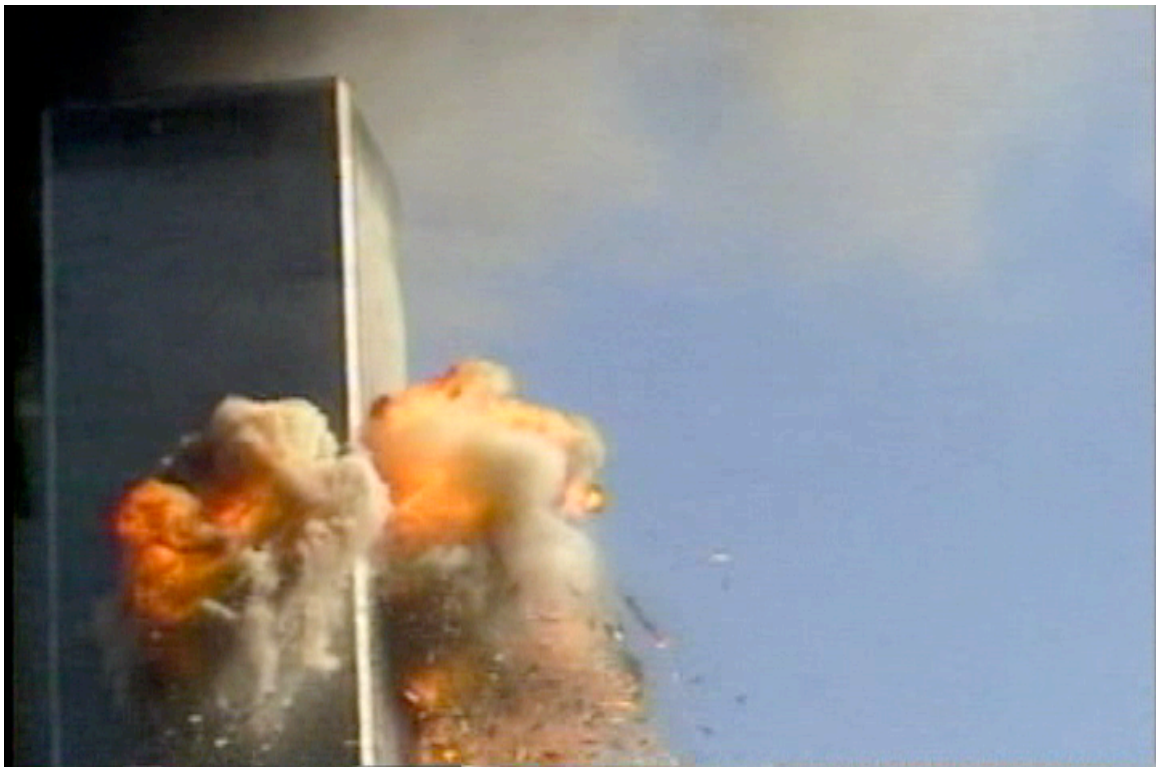

fig. 55 CNN / Ghostplane – The explosion at WTC2, the South Tower.

Again, what happened to the vortex? I invite all to study the 9/11 airplane videos over and over again. There is no evidence of the strong rotating air mass we know would have to be there.

As far as I know, Steve Wright has given the only official explanation for the missing wake vortex. Wright argues that that the fireball acts as a liquid, and will not mix with the air, instead just pushes the air, vortex and all, back out of the way.

This appears to be nonsense. Wright is confusing chemical mixing with force. Both the vortex and the fireball are gasses in motion – the vortex is rotating, the fireball is expanding. When the two interact with each other, each will exert force on the other, irrespective of whether they are inclined to mix together chemically. Oil and water do not mix. But oil floating on the surface of water will begin rotating when it encounters a whirlpool.

We have video evidence of hydrocarbon explosions strongly affected by wake vortex. [21]

The missing vortex in all the videos is consistent with the compositing hypothesis, and not at all consistent with the real plane hypothesis.

[21] See "No Real Planes @ 911"

22. Detonation Flashes as Sync Pops

The "airplane" strike on each twin tower featured a quick bright flash, right at the nose, just as it appeared to enter the wall. What were these flashes?

Under the video composite hypothesis, the flashes have a very useful purpose: Sync pops. Such a sync pop would be a vital element in this video fakery. Without the flashes, getting the 9/11 airplane composites right would have been far more difficult, and taken a lot more time.

Everyone has seen the countdown that precedes a motion picture. It ends when the counter reaches the number 2. On that exact frame, there is a bright flash, and often a beep tone. Known as a "two pop" or a "sync pop", the reason for having this flash is synchronization.

The video and audio elements of a show are created separately, and assembled together later. If a special effects artist created, say, a video composite sequence, he could deliver it back to the editor with a sync pop on the correct frame. The editor could then visually align that pop with the pop on his master, and he would quickly and confidently know that the effects shot was at the correct place on the timeline.

Without a flash, synchronization would be a major headache. A plane is to be inserted into various pieces of footage, from different cameras, at different angles. Locations would be scouted and test footage shot. The airplane overlays are done.

The angles and sizes match. But how to determine where in time to place the airplanes? If the plane on one video enters the tower a little too early or a little too late, compared to another video, it could be a dead giveaway. For example, if there is a particular feature in the falling debris that is known to occur 123 frames after airplane impact, it had better be the same 123 frames later on all videos that show it.

Compositors could try to use the same strategy, and key in on some identifiable feature, and work forward or backward in time. But what if there is no such feature readily apparent? Or if there is, what if one angle shows it, but another doesn't? Time is of the essence! The composites would need to be done as quickly as possible, and done right. There is no time to scour explosion videos looking for a key piece of falling aluminum.

There is time code, which can be embedded into video and used to synchronize elements. But to function in this situation would require a live time code feed from a single master clock, going to all of the cameras as they are recording the tower explosions. This requires a satellite connection from the studio (i.e. a news van with a satellite dish), and a pro camera. The idea would be to pass off these videos as "amateur" videos shot on consumer recorders.

How can it be known where in time to place the airplane sequence?

Enter the flashes. The flashes are very brief, lasting about 1 video frame, or 1/30 of a second. They make a very handy marker for where to place the nose of the airplane, in both time and space. On all of the prepared airplane layers, a particular frame has already been designated as the one where the plane impacts the tower. In the editing software, it is a simple matter to slide that impact frame to line up with the flash frame.

The flash frame also tells when to begin erasing the plane with a mask. The flash frame is the last one before the nose starts to disappear.

The flash can be made to partly cover up the nose of the airplane, thus obscuring what occurs at the moment of apparent impact.

Under the video compositing hypothesis, the flashes on the 9/11 airplane videos are not only plausible, they are essential. They are real explosive detonations. They may or may not have also been a necessary beginning of the huge internal explosions which followed. Either way, they would be vital in synchronizing the airplane videos consistently. Thus the flashes support the compositing hypothesis.

Under the real plane hypothesis, we are left with Frank Greening's explanation for the flashes. Dr. Greening suggests that the impact causes the aluminum cladding and rust to form a spontaneous thermite reaction. The behavior of the flash appears inconsistent with thermite, because it does not form molten iron "sparks" which fall down and gradually turn darker shades of yellow, then orange, then red, as the molten iron from thermite is known to do. Rather, the flash behaves as a luminescent gas. It does not fall. It does not appear heavier than air. The flashes thus do not support the real plane hypothesis.

Summary and Conclusions

9/11 was a media job. The airplane videos are composites. I have presented 22 data points:

1. Nine Extraordinary Compositional Features
2. Down the Memory Hole
3. Slowly Drifting Left
4. No Plane in the Wide Shot
5. The Miracle Zoom
6. Pinocchio's Nose
7. The Fade to Black
8. Unstable Motion
9. The Missing Shadow
10. Magically Healing Columns
11. The Over-Under Puffball
12. No Broadcast-Quality Video
13. The Naudet Edit
14. The Ghostplane Edit
15. The Park Foreman Edit
16. No sound in Fairbanks
17. Hezarkhani Won't Talk
18. Newton Rolls in His Grave
19. Comparison to Sandia F4 Test
20. The Force Paradox
21. No Wake Vortex
22. Detonation Flashes as Sync Pops

Each and every one strongly favors the compositing hypothesis. Taken individually, many of them render the real plane hypothesis extremely unlikely, others rule it out. Put together, all doubt is erased. Chopper 5 and CNN Ghostplane are video composites.

Chopper 5 was shown live, it must have been a real-time composite. This then rules out a real plane, and rules out ***any*** flying object. This is because covering up a real flying object with a composite requires real-time motion tracking. Real-time motion tracking did not exist in 2001, and to this day is not nearly reliable enough to identify and track an incoming flying object. [22]

[22] See Baker, "No Flying Object".

Therefore there was no plane crash into WTC2. Therefore all videos depicting an airplane approaching and/or hitting WTC2 are video composites.

9/11 was a military operation, an intelligence operation, and a media operation. It was a psychological operation. The creation and presentation of the 9/11 airplane videos must have been centrally coordinated. News camera operators must have been instructed on what to shoot, and what *not* to shoot. A single master time-code stream must have been transmitted to Choppers 5 and 7.

Even ignoring the fake airplane videos and media involvement, the evidence for an inside job is overwhelming. From the disintegration of the twin towers, to the war games, to intercept failure, to the insider trading, it goes on and on. Given this, an independent news media would make the 9/11 inside job and cover-up the news story of all time. No such story is even considered. The various networks do not function independently of each other, nor of the government.

There is one, and only one conclusion that can be reached: The so-called mainstream news media is nothing more, and nothing less, than the propaganda arm of the United States Federal Government. They willingly and intentionally participated in an act of mass murder, and mass deception. In a deliberate and pre-meditated fashion, they created fake moving airplane images, and inserted them into news video. No other narrative fits the facts.

The 9/11 problem far transcends any particular presidential administration or congress. I do not call for "a new investigation", as do so many others. The U.S. Government has become destructive of the ends for which it was established - to protect the rights of individuals. Therefore I have no choice but to suggest that the prudent course of action is to abolish the United States Government, or more correctly, the govern-media. The people are endowed by their creator with the unalienable right to do so. In fact, it is not only their right, it is their *duty*. [23]

Sincerely,

[23] See Jefferson et al, "The Declaration of Independence"

Appendix A

Theory of 9/11 Live Airplane Composites

It has been claimed by compositing expert and official story supporter Steve Wright that it would be impossible to real-time composite airplanes into footage such as Chopper 5 and Chopper 7. To demonstrate the utter falsity of this claim, I present a detailed theory and demonstration of precisely how these airplane videos would have been created. Of particular interest is to note the 9 compositional elements which must be present to make this live compositing feasible, and to note that all 9 were present in both of the live shots.

Higher quality versions of the compositing demonstrations may be downloaded here:

http://psy-opera.com/Videos/TheoryC5.mov
http://psy-opera.com/Videos/TheoryC7.mov

Under the compositing theory, no airplane crashed into either Twin Tower. The various videos which depict a plane entering a building, such as Naudet, CNN Ghostplane, Evan Fairbanks, Luc Courchesne, and Spiegel TV, show just that – a plane *entering* a wall. They are devoid of the crash physics we would expect from an aluminum aircraft interacting with a steel and concrete structure. The plane does not twist, bend, break, explode or slow down.

Video compositors would never attempt a live composite showing the plane entering the tower. The timing, positioning and lighting are too critical. It is currently impossible to accomplish that effect in real-time with the precision needed to avoid detection. If the explosion went off even one frame before the plane hit, that would be very difficult to explain away.

However, the live shots do not show a plane entering the tower. In fact, the live shots were composed in such a way as to make them doable. Only 2 shots showed airplane images live – Chopper 5 and Chopper 7.

My present objective is to offer a theory of how the live 9/11 airplane videos were accomplished, and how one of them evidently went wrong.

23. Concept and Methods

Live 9/11 composites would be created using a real-time digital effects environment, such as Avid. To demonstrate, I will recreate the technique of the 9/11 composites using Adobe After Effects, because it is software that I own. After Effects is a layer-based compositor that does not operate in real time. However, the principles of compositing are exactly the same, regardless of software. Any parameters in After Effects which can be

set one time, and then operate correctly without need for frame-by-frame adjustment, are parameters which will operate correctly in real-time, given a real-time environment such as Avid.

Here are listed features for Avid Symphony, which include:

- Real-time Chroma and Luma keys
- Real-time full-motion alpha keying

These are precisely the features that would make possible real-time composites like the videos seen on 9/11.

24. Shot Composition

Creating a convincing live composite of the 9/11 airplane event would require several important attributes that simplify the job enough to be doable.

1. Very brief appearance and disappearance of plane
2. High contrast between sky and tower
3. Plane path is across sky only
4. Plane will disappear across a straight vertical edge
5. All surfaces requiring airplane shadows are hidden
6. Actual impact point is hidden
7. Exploding walls are hidden
8. Camera is as stable as possible
9. No panning, tilting, zooming or focusing while airplane is on screen

Violating any one of these 9 requirements makes realistic live compositing impossible. How likely is it that all 9 happened by chance, on both shots?

Compositionally, Chopper 5 and Chopper 7 are nearly identical. Both shots are from a mechanically stabilized helicopter platform. In both shots the helicopter is drifting slowly and steadily to the left. In both shots there is no zooming, tilting, panning or focusing while the camera is on screen. Both show a plane entering from the right side of the screen. Both have a straight, vertical , high contrast tower edge and clear sky to the right. In both shots, the plane crosses in less than one second, and disappears behind the edge. In both shots the (exploding) south and east faces of WTC2 are hidden.

Both shots have *all* of the requirements for a doable live composite. The only compositional difference is that in Chopper 7 and the plane appears to approach from an angle, in Chopper 5 the plane crosses perpendicular to the camera view.

25. Test Shots

Test shots of the towers are made ahead of time and studied for luminance keying suitability. They are made at about 9 a.m. on a clear day, the easiest (only) type of

atmospheric conditions to reliably duplicate. It is shown that it is quite easy and effective to pull a key from this footage.

The positions of the helicopters are known via GPS. The goal is to compose the shots in a way that can be duplicated within a margin of error. With Chopper 5, the idea is that the left edge of WTC2 goes smack in the center. In Chopper 7, WTC2 is completely obscured by WTC1, which is positioned dead center.

26. The Airplane Layer

With the tower test shots in hand, the airplane layers are made. Each airplane must match the corresponding tower shot in color, and must appear to travel 550 mph.

The two airplanes are originate as stock 3D airplane models in a program such as Lightwave 3D. A single flight path is created in 3D space. Progressive video of that flight can then be rendered from any virtual camera position, and placed on a transparent layer, 59.94 frames per second.

http://i265.photobucket.com/albums/ii211/CollinAlexander/PlaneColor.gif

Color, lighting and motion blur are adjusted as needed to blend into the test shots.

Since the airplane will be disappearing into a layer mask, there is a danger that the plane might run too long, travel too far, and escape out the back side of the mask. One safeguard against this is to have the plane slow down significantly after it has traveled far enough to enter the mask, and before it exits the mask. After doing test shots, it is possible to know the position of the tower within approximately 20 pixels.

Each frame of the airplane overlay is positioned. The plane flies across at full speed until it will surely be inside the mask, then it will slow down. It will slow down gradually, not all at once, in case any part of that deceleration is seen, it can be explained as the natural deceleration from impacting the tower.

27. Masking

It is necessary to remove the sky from the top layer. This is done by real time luminance keying (luma key).

Luma key makes transparent all pixels above an adjustable brightness threshold. A real edge on video is not perfectly sharp. The edges of the mask are made softer by adjustable degrees, with a parameter called "edge feathering". The mask parameters are dialed in and tested during the minutes just before the actual event.

28. Synchronization

There is about a 1/2 second margin of error with respect to the explosions. As long as the explosion doesn't begin before the plane crosses, and does begin no more than 1/2 second after the plane crosses, then each live video should look OK. This is good because we cannot know with frame-accurate precision when the explosion will become visible on the "impact" wall.

There is no margin of error with respect to synchronizing the two airplane shots to each other. They are synced using SMPTE time code. SMPTE clock stamps every frame of video with numbers for hour, minute, second and frame.

The explosion is set to go off at a known time on the wall clock - 9:03:11:00. The airplane layer videos have embedded time code beginning 20 frames before impact, 9:03:10:10. On that video frame, the airplane is just outside the picture, to the right.

Master time code is transmitted via satellite from the studio to both helicopters. Airplane layer is set to "receive external sync". At 9:03:10:10, the airplane layer plays automatically.

29. Stabilization and Motion Tracking

The motion of the airplane must appear steady. Unstable camera motion would necessitate motion tracking of the towers. Real time motion tracking is unreliable in this situation, because the towers are in silhouette. There is not enough detail to reliably track them.

Without motion tracking, both live camera shots must be as stable as possible. A gyroscopically stabilized camera mount, such as Wescam is used. Helicopters cannot hold still. The best option is to fly very slowly, in the same direction as the airplane image, maintaining as constant and steady a speed as possible. Stability will not be perfect, but will be good enough. Deviations from perfect flight path will be small enough, and video quality will be poor enough, that the resulting unstable motion can be blamed on resolution and measurement error. True broadcast-quality copies of the final result must be kept top secret.

30. On-Board Compositing

For several reasons, the shots must be composited with an AVID system on-board the helicopters, as opposed to at the studio. Communications satellites are set up to relay NTSC video signals. The composite is created in a progressive format, then converted to NTSC. A raw camera shot (without the airplane) could be intercepted and recorded by the wrong people. Even if a secure transmission could be guaranteed, the number of eyes that saw the raw shot would be kept to an absolute minimum.

American television conforms to the NTSC standard, which is interlaced video at 29.97 fps. Compositing is best done with progressive images, not interlaced. The video is shot at 59.94 fps progressive, and the composite is done in this format. Each frame of the

composited output is converted into one interlaced video field, thus becoming 29.97 fps NTSC. This NTSC signal is transmitted back to the studio as an ordinary news helicopter feed.

On board requirements:

Avid Symphony or similar
59.94 fps progressive camera, Wescam mount
Small broadcast switcher
Receiving master SMPTE clock from the studio

A total of three video layers are required for the effect:

31.

- The raw twin tower camera shot.
- The airplane flying across a transparency.
- The twin tower shot, with sky masked out in real time.

At the correct time, the airplane flies across the screen, right to left, and disappears behind the tower. The engineer stops the plane layer. If it is stopped too soon, the plane freezes or disappears in mid air. If it is stopped too late, the nose of the airplane will poke out the back side of the mask.

In case of emergency, the last resort is to pull down the master fader, and transmit a black picture until the situation is rectified.

Appendix B

Theory of Non-Live (edited) 9/11 Airplane Composites

The available video evidence overwhelmingly supports the compositing hypothesis over the real plane hypothesis. While the live airplane videos did not actually show an airplane entering a building, the subsequent videos do. This would place additional technical challenges on the compositors, and require more time.

32. How to Make a Ghostplane

I've created a step-by-step demonstration of how the entry videos must have been done. See "How to Make a Ghostplane".

http://acebaker.blogspot.com/2008/07/theory-of-edited-non-live-911-airplane.html

The steps are:

1. Stabilize source video.
2. Render airplane layer from 3D program.
3. Add airplane, color correct, blur.
4. Establish motion path of airplane.
5. Add layer mask to disappear airplane.
6. Add shadows on tower face.
7. Add hole, with masking.
8. Add puffballs.
9. Unstabilize everything.