

Response to Rob Balsamo

As the paper on the data file from the Flight Data Recorder by Warren Stutt and myself has been attacked we have prepared a rebuttal to the issues raised in these attacks.

Frank Legge and Warren Stutt

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Introduction

Pilots for 9/11 Truth is a group which has supported the work of many other groups and individual researchers who present evidence that the destruction of the three buildings at the World Trade Centre on 11 September, 2001, was brought about by controlled demolition,¹ and not by fire and impact damage, as asserted in official reports.

One of the useful and important actions of Pilots for 9/11 Truth (PFT) was to use the Freedom of Information Act (FOIA) to call for release of the data files from the Flight Data Recorders (FDR) of the planes involved in the attack. In the case of the flight which hit the Pentagon, reportedly American Airlines flight 77 (AA77), the data was released in three forms. One was a comma separated values (CSV) file, easily read. The other file appeared to be raw data copied direct from the original file from the FDR, which needed special software, and data frame layout information, in order to reveal its contents. Also released was an animation of the flight. The CSV file showed the flight terminating at a point far higher than the Pentagon.

The animation of the flight was apparently based on the CSV file as it also showed the flight terminating too high, but incorrectly calculated as it showed the plane travelling at the wrong track angle. The NTSB said that the animation was not used for any official purpose.

Eventually the raw file was decoded and again it appeared to show the flight finished too high and descending too steeply to have caused the type of damage observed at the Pentagon.

Some of the people who studied this file compared the course shown with the course as shown by radar reports and concluded that the data had been truncated. One researcher, John Farmer, concluded that 4 to 8 seconds of data was missing.² In this view there was no reason to doubt that the plane could have descended safely, during those missing seconds, and hit the Pentagon in the manner described by the many eyewitnesses. Unfortunately PFT carried out an incorrect calculation which purported to show that the plane could not have hit the Pentagon, as the wing loading in pulling out of the dive would have been too great. They calculated the force to be 10.14g, far above the plane's design limit of 2.5g and well above any reasonable safety margin. Their calculation was shown to be incorrect by several researchers who found various paths were possible, with forces ranging from 1.6g to about 2g, depending on factors such as the assumed height the plane passed above the VDOT antenna tower.³ Anyone wishing to repeat this calculation will find the [spreadsheet attached](#) to this 911Blogger post useful. [Most recent update here: [G-force calculator Pilots8.xlsx.zip](#)]

It appears PFT has become attached to this notion that the plane could not have survived the approach and has not, to this day, admitted that its calculation is incorrect. They continue to maintain that the

topography would prevent the observed approach. They further assert that the FDR data proves the official account of the path of the plane false. This argument has had the unfortunate effect of giving support to those who say the plane could not have hit the Pentagon on the basis of an improperly conducted survey of eyewitnesses who say the plane approached from a more northerly angle. If true, the plane could not have done the observed long line of damage outside and inside the Pentagon and therefore must have flown over, the damage being done by other means. There are good reasons to believe the reported northerly path resulted from poor recollection of an unimportant detail which preceded a traumatic observation, as all these witnesses who were in a position to see the Pentagon reported that the plane hit the Pentagon,⁴ as have many other people.⁵

The FDR file has now been fully decoded by Warren Stutt who has shown it contains 4 seconds more data than previously believed and that it records a path that corresponds with the official account of the flight path.⁶ This proves the PFT claim that the data proves the official account false is unfounded. To maintain their position that the flight could not have hit the Pentagon, apparently unwilling to admit their calculation error, they now are resorting to various strategies to denigrate the new decoding and to attempt to undermine the many researchers who contradict them. Apparently they do not understand that the radar confirms that there are several seconds missing from the data, during which the plane could have performed the descent. Their strategies are dealt with below.

Complaints (in bold italics) and our responses

1. *There is no proof the FDR file is genuine.* This is an amusing claim as it is the very file which PFT said proved the official account false. If it is not genuine, how can it prove the official account false? In fact no proof has been found that the file is false.

2. *The data file is missing crucial information (aircraft ID) from the preamble.* If true, would it matter? Warren Stutt has files from a number of authentic flights, none of which contain the aircraft ID in the preamble. Apparently it does not matter. Furthermore Warren has now decoded some more columns of data and has found the plane ID. It is aircraft 35, fleet 1. This information has been passed to PFT. As some members of PFT work for American Airlines perhaps they will be able to check whether the ID in the file corresponds with AA77. They show no signs of being interested in this useful work.

3. *Radio height marked “not working or unconfirmed”.* Apparently it was working perfectly well. The file shows the correct height when the plane was on the ground in the 11 previous landings. The file contains data from all four radio height systems, which are in agreement with one another. It showed a height in agreement with the pressure altimeter when the plane was flying at normal altitude and speed. Also the Ground Proximity Warning and Pull Up signal were both recorded in the file. How can that be explained if the radio height system was not working? We note that PFT was perfectly happy to use the radio height to confirm the “too high to hit the Pentagon” theory when it appeared to do so, while the last five readings were still missing. Quoting PFT at that time: “A radar altimeter presents no lag. The 273 feet you see above is a hard number **above the ground.**”⁷

4. *There hasn’t been any reply confirming a “bug”.* Warren had found that the FDR file had not previously been fully decoded because there was a deficiency in the official decoding software. Its error checking system was not able to handle a particular type of missing information. He succeeded

initially in decoding the final frame by using his own software without this error checking function. Then he inserted the missing information into the file and found the standard software was able to decode the final frame. He has thereby achieved the final decoding in two distinctly different ways, getting the same result. As the radio heights match the observed impact damage it is hard to see how his results could be wrong. It is true that the NTSB has been informed of this software problem and has not yet replied. Does that prove there is no problem with the software they used or that Warren's decode is flawed? Of course it does not. It is not surprising that the FBI and NTSB would prefer to remain silent about their errors.

5. *The Radio Altimeter was measuring from an object above ground level.* Think about this for a moment. The only object near the last radio height recording was the Pentagon itself, 77 feet high. The last height measured was 4 feet. If the plane, descending rapidly, passed close over the Pentagon, where would it have been one second earlier? According to the pressure altimeter, which PFT trusts, it was 59 feet higher. We would therefore expect the recorded radio height there to be $77 + 4 + 59 = 140$ feet. It read 57 feet. Was there a building there which was $140 - 57 = 83$ feet high? No. There was no building there at all! How about two seconds earlier? At this point, near the Citgo service station, it was 134 feet higher by the altimeter, $77 + 4 + 134 = 215$ feet. It read 89 feet. Was the service station $215 - 89 = 126$ feet high? It looks about 12 feet high. This is proof that the final reading is not from the top of the Pentagon. Clearly there is no evidence of a jump up of the reflecting surface on arrival at the Pentagon; there is just a steady descent.

Then there is the fact that the longitudinal accelerometer registered impact after the last radio height reading was registered. This proves the last radio height was read before the plane arrived at the Pentagon.

6. *The plane was travelling too fast for the capability of the Radio Height system.* Certainly it was travelling faster than the manufacturer's certified operating speed (330 ft/sec), if we use PFT's assumption that this refers to horizontal speed. This would be a ground speed of about 195 knots. But what if it refers to vertical descent speed? That would be near 20,000 ft/min. AA77 was coming down at about 4000 ft/min, well under that limit. Have a look at this page:

<http://www.boeing-727.com/Data/systems/infogpws.html>. You will see graphs showing that a system designed for a Boeing 727 operates up to 0.7 Mach, so it appears there is no horizontal speed restriction. Radio height certainly appeared to be operating satisfactorily, as judged by the FDR file. Ground Proximity and Pull Up warnings were recorded and these are generated from radio height; nothing else on this plane can do it. There is no evidence to suggest the radio height was flawed.

7. *The NTSB data in fact does not support an impact.* There is no logic whatsoever in the claim the data does not support an impact. The pressure altimeter is proven untrustworthy in that particular aircraft and radio height leads inevitably to impact at the level observed, close to the ground. Note, we only say that a divergence is found between radio height and altimeter in the particular aircraft which produced the file. It is indisputable that there is a divergence and Pilots for 9/11 Truth agrees. Their problem is that they put more trust in the altimeter than the radio height system but this cannot be justified.

8. Exceeding the performance limitations and capabilities of a standard 757. This is the “shifting the goal posts” argument. Worried that people might be waking up to the fact that the PFT calculation of g-force is grossly wrong, they search for another means to discredit those who say the plane hit the Pentagon. That is a lot of people they set out to discredit. The first falsity in their argument is the assertion that there is no safety margin in the published maximum safe speed data. This is absurd. Can you imagine the scandal that would arise if a pilot inadvertently strayed one or two knots above the stipulated maximum speed and the plane was destroyed! The second falsity is the assumption that the destruction of the plane would be virtually instantaneous. Excessive speed will produce fluttering. Fluttering will cause excessive loads to be imposed in a pulsating manner. This will cause fatigue. Fatigue can cause failure, but it takes time. This is of course why this type of failure is called fatigue failure! Here is a quote indicating how the Vg diagram is to be interpreted: “*Any maneuver, gust, or gust plus maneuver outside the structural envelope can cause structural damage and effectively shorten the service life of the airplane.*” Clearly this statement implies that there is a safety margin. An article quoting Boeing states: “*Exceeding Vmo/Mmo can pose a threat to design structural integrity and design stability & control criteria of the airplane.*” This does not sound like instant disaster. From the time the plane reached its maximum operating speed until impact was 14 or 15 seconds. Is there any proof that the observed gradual increase in speed would shorten the remaining life of the plane below 15 seconds? The FDR file gives a hint that fluttering occurred but it did not commence until about 4 seconds from impact. Is there any proof that the plane could not withstand fluttering for 4 seconds? Clearly this is a claim without evidence to support it.

9. It is littered with speculation and gross errors. Certainly there is some speculation in the paper, as is usual when discussing an intriguing subject. Such speculation is clearly identifiable by context. I do not think the keen student of the 9/11 event would want it removed. There may well be minor errors which we would appreciate having drawn to our attention. The charge of gross errors is another matter. Nobody outside PFT has raised any issues and we are sure there are none. So far we have received only abuse, snide comments, trivial complaints and false assertions from PFT, as demonstrated above. I have seen no willingness to engage in civilized debate, as would be appropriate for this very serious matter. There is a complete failure to address their own gross error in calculation of the g-force involved in the final seconds of flight.

10. They are using an FAR to corroborate their claims of “Altimeter Error”... which is completely wrong. If they understood why it was wrong they would understand why their paper is garbage. It is true we referred to the wrong FAR. We referenced a FAR for the purpose of confirming the altimeter was working within its permitted error margin when the radio height system started working at about 2500 feet above ground on descent. Had we used the correct FAR we still would have found the altimeter was working within its permitted error margin, and the conclusion of the paper would have remained the same. Clearly this is a trivial error which had no bearing on the logical conclusion of the paper. We would have appreciated having the error pointed out, if it had been done in a courteous manner, but it was not. The current plan is to leave the wrong FAR reference in the paper as a honey pot to see how many stupid, illogical things critics will say about it. It will be interesting to see whether Balsamo ever admits that he was wrong in asserting that this error proved the paper to be rubbish.

My advice to Pilots for 9/11 Truth is that they should review their calculation of g-force, get their work peer reviewed, and publish the findings that result. If they then remove the erroneous material from their website, or mark it as superseded, it would pave the way for establishment of a good working relationship with the many researchers who say there is no proof that the 757 did not hit the Pentagon.

Notes added March 2011

A new series of arguments against our paper has appeared at the Pilots for 9/11 Truth website. This time our paper is not named, the attack being a series of claims that the FDR file we referred to cannot be from AA77. These claims will be dealt with below.

11. Flight Deck Door parameter shows the door closed for entire flight. This claim was made a long time ago and carries no weight as the NTSB report lists this parameter as “not working or unconfirmed”.⁸ Furthermore it is not relevant to the current paper which is about the course of the plane as recorded in the FDR. It is not about how the hijacking was carried out. This complaint is therefore illogical and a distraction.

12. Position reports show plane departed from wrong gate. This is untrue. As the Inertial Reference System may drift, and was observed to drift in all the previous flights on the FDR file while the plane was taxiing, it is not possible to determine accurately the position of the plane on the ground while taxiing, so it is not possible to accurately locate the plane when it has parked. The FDR file indicates that the location of the plane at Dulles, prior to the final flight, was either not correctly set at the gate, or rapidly drifted, as the plane appeared to back out over a grassed area, taxi across a car park and over the roof of a building before getting near the runway. It is thus amazing that a person who claims to be an aviation expert would consider it reasonable to claim they know which gate the plane departed from. Once in the air the plane can receive information from VOR and DME ground stations and the position will be corrected. The large error on the ground at Dulles was observed to disappear when the plane was in the air. The FDR track started to converge with radar tracks about 100 seconds after take-off. Convergence was complete about a minute later.⁹ This is another illogical distraction.

- 1 Scholars for 9/11 Truth and Justice: <http://stj911.org/> , Architects and Engineers for 9/11 truth: <http://www.ae911truth.org/> , Journal of 9/11 Studies: <http://www.journalof911studies.com/> , The Science of 9/11: <http://www.scienceof911.com.au/>
- 2 Farmer, J. Direct links are no longer available. Some people have tried to discredit Farmer's work but his finding: "The FDR file positional data ends 6 ± 2 seconds prior to the reported impact location." as quoted in a study by W. Clinger, <http://www.cesura17.net/~will/Ephemera/Sept11/Balsamo/balsamo2.html#finalseconds> has been proved correct by the recent full decoding of the file by Warren Stutt.
- 3 Legge, F. <http://www.journalof911studies.com/volume/2009/WhatHitPentagonDrLeggeAug.pdf>
- 4 Sarns, C. <http://csarnsblog.blogspot.com/>
- 5 Eye witnesses. One estimate is that there are about 89 published reports of witnesses who state that they saw something hit the Pentagon, many stating that it was a plane. <http://911research.wtc7.net/pentagon/analysis/witnesses.html>. Here is another with 104 saying they saw a plane hit the Pentagon: <http://wtc7lies.googlepages.com/911pentagonflight77evidencesummary> ; <https://www.youtube.com/watch?v=YTNRkb7AaQk>
- 6 Legge F. and W. Stutt, Flight AA77 on 9/11: New FDR Analysis Supports the Official Flight Path Leading to Impact with the Pentagon: http://www.journalof911studies.com/volume/2010/Calibration%20of%20altimeter_92.pdf
- 7 <http://pilotsfor911truth.org/forum/index.php?showtopic=4801>
- 8 http://www.nts.gov/info/AAL77_fdr.pdf
- 9 <http://forums.randi.org/showthread.php?t=202034>