Full Scale Aircraft Crash/Impact Tests and their Relevance to 9/11

Prepared for the July 27, 2016 9/11 Truth and Other Deep State Crimes Teleconference

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 - 1988 Crash Test (F-4 Phantom)
- Questions





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Plane Crash / Impact Tests

OVERVIEW





Overview

- Many people have suggested replicating the plane crashes of 9/11
 - Determine whether destruction can be replicated
 - Plane penetrate steel structure of WTC towers
 - Survivability of wings after hitting light posts
 - Considered expensive, impractical and possibly would not provide resolution of issues
 - Historical plane crash tests are informative
 - "9/11 Redux" initiative may replicate 9/11 impacts





Partial List: Full Scale Crash Tests

Table 4. Full-Scale Crash Tests Sponsored or Co-Sponsored by FAA That Have Resulted in Fuel Dispersal

Date	Aircraft	Test Agency	Fuel Type	Impact Speed (m/s)	Angle of Incidence (Degrees)	Fuel Dispersal Data ^a	Remaining Fuel Data	Ignition Source	Reference
1965	DC-7	Flight Safety Foun- dation	Water, Gelled Water	72	8 then 20	Yes	No	No	Reed, et al., 1965a
1965	Constellation Model 1649	Flight Safety Foun- dation	Water, Gelled Water	58	6 then 20	Yes	Minimal	No	Reed, et al., 1965b
1972	A-3 (Navy RB-66)	NAVAIRENGCEN Lakehurst, NJ	Water	62	6	Yes	No	No	Ahlers, 1977
1972	A-3 (Navy RB-66)	NAVAIRENGCEN Lakehurst, NJ	AM-1/Jet-A FM-4/Jet-A	59	3 then 15	Yes	Yes	No	Ahlers, 1977
1972	RB-66	NAVAIRENGCEN Lakehurst, NJ	XD8132/Jet-A	54	3 then 15	Yes	Yes	Yes	Ahlers, 1977
1973	RB-66	NAVAIRENGCEN Lakehurst, NJ	XD8132/Jet-A	53	3	No	No	Yes	Ahlers, 1977
1979	SP-2H	NAVAIRENGCEN Lakehurst, NJ	Jet-A	60	3	No	No	Yes	Zagrella, 1980
1979	SP-2H	NAVAIRENGCEN Lakehurst, NJ	AMK FM-9	48	3	Yes	No	Yes	Zagrella, 1980
1981	SP-2H	NAVAIRENGCEN Lakehurst, NJ	AMK FM-9	61	3	No	No	Yes	Schaible, 1982
1981	SP-2H	NAVAIRENGCEN Lakehurst, NJ	AMK FM-9	66	3	No	No	Yes	Schaible, 1982
1982	RB-66	NAVAIRENGCEN Lakehurst, NJ	AMK FM-9	72	4	No	No	Yes	Schaible, 1983
1984	B-720	NASA	AMK FM-9	76	3.5	No	Yes	No	Barber, 1986

a. A "No" means that the fuel ignited and was combusting during the crash transient. All tests had video/cinematography coverage so some dispersal data is available from all tests.

Source: http://digital.library.unt.edu/ark:/67531/metadc622820/m2/1/high_res_d/155780.pdf





Planned Plane Crash Test

"9/11 REDUX" INITIATIVE





9/11 Redux: Announcement



YouTube Video: https://www.youtube.com/watch?v=U7OInv9RQmE





9/11 Redux: Crowdfunding Project

Goal is to recreate 9/11 and prove or disprove, once and for all, what happened. The plan is to use a 747 with a working blackbox, a tall building as close to the design of the WTC as possible, many cameras (e.g. GoPro) to record the event inside the building and inside the plane.

The initial funding goal is \$300,000 and they will go to any country where they can get the right ingredients to faithfully recreate 9/11.





9/11 Redux: Crowdfunding Project

- Indiegogo has taken down their campaign without prior notification
- Paul Salo, project initiator, says support and enthusiasm is skyrocketing
- Links:
 - http://www.activistpost.com/2016/05/man-plans-911redux-to-prove-conspiracy-theories-by-crashingplane-into-old-building.html





9/11 Redux: Update

 "Banks, payment gateways, regulation make it very difficult to challenge authority. We have had many challenges but are plowing through all of them one at a time. Here's a snapshot in time and the challenges in front of us."

> -Paul Salo June 25, 2016

YouTube Video: https://www.voutube.com/watch?v=3gURvbHz5g8





Plane Crash / Impact Tests

1964 Crash Test (DC-7)





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DC-7 Crash Test

- Crash test objectives
 - Occupant survivability
 - Document plane damage upon impact
 - Conditions replicated prior crashes including impacting trees
- DC-7 was a transport aircraft built by the Douglas Aircraft Company from 1953-58





DC-7 vs. Boeing 757

- DC-7:
 - Wingspan: 117' 6"
 - Empty weight: 58,150 lbs
 - Max. takeoff weight: 122,000 lbs
- Boeing 757:
 - Wingspan: 124' 10"
 - Empty weight: 127,520 lb
 - Maximum takeoff weight 255,000 lb





Key Observations Related to 9/11

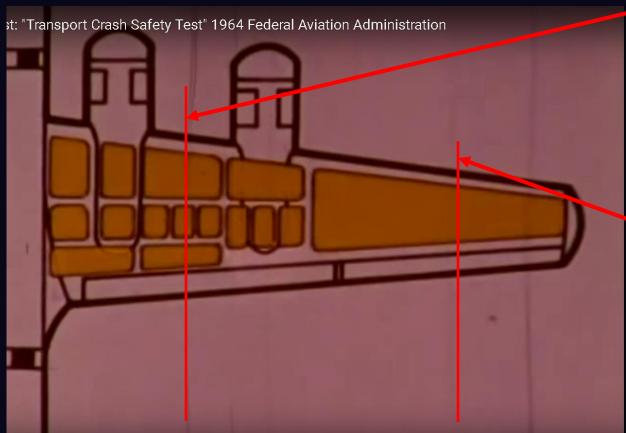
- Wing impacts two wood telephone poles
 - Outer pole (12") severs outer 12' of wing
 - Inner pole (13") was severed by wing
 - Wing crushed back 3 feet to leading wing spar
 - Leading wing spar breaks inner pole
 - Pole completely severed / shattered
 - Wood pole similar to Pentagon tree impact

Source: www.tc.faa.gov/its/worldpac/techrpt/ads37.pdf





DC-7 Fuel Tank Configuration



Inner wood pole impacts fuel tanks between engines

Outer wood pole severs 12 ft of wing and fuel tank





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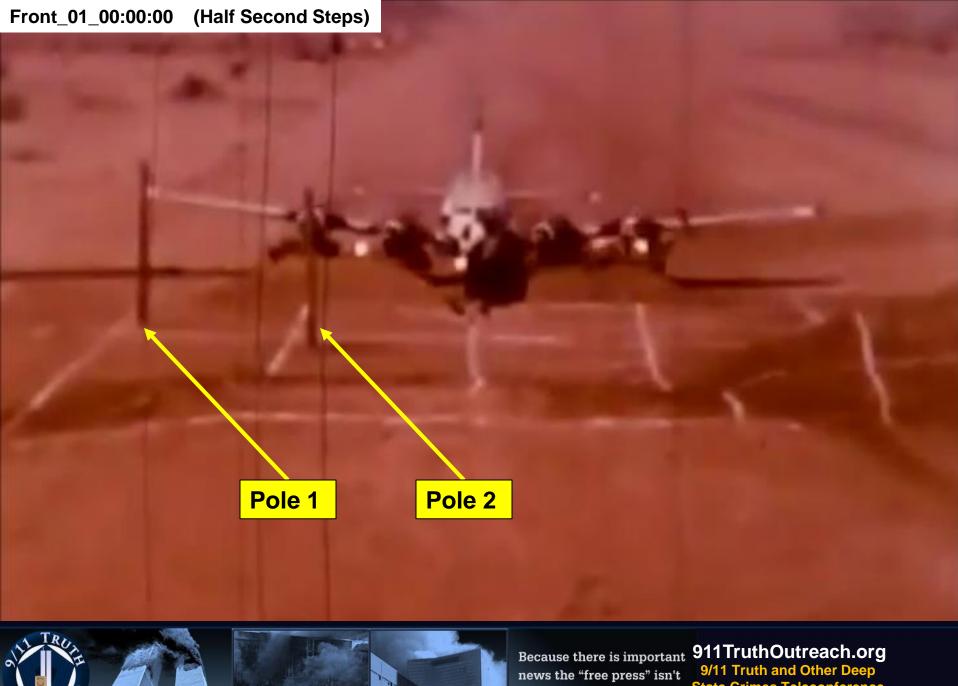
Comments

- DC-7: 45 percent of mass of a Boeing 757
- Wood poles are more massive and less malleable than aluminum streetlight poles
- Damage to wing from 0.188 inch-thick aluminum streetlight poles would be much less than from a wood pole
- Tree severed at column 16 by the right wing is consistent with DC-7 test

YouTube Video: https://www.youtube.com/watch?v=8CZxvu85VM4 (Front view begins at 0:29; Wing begins at 6:40)





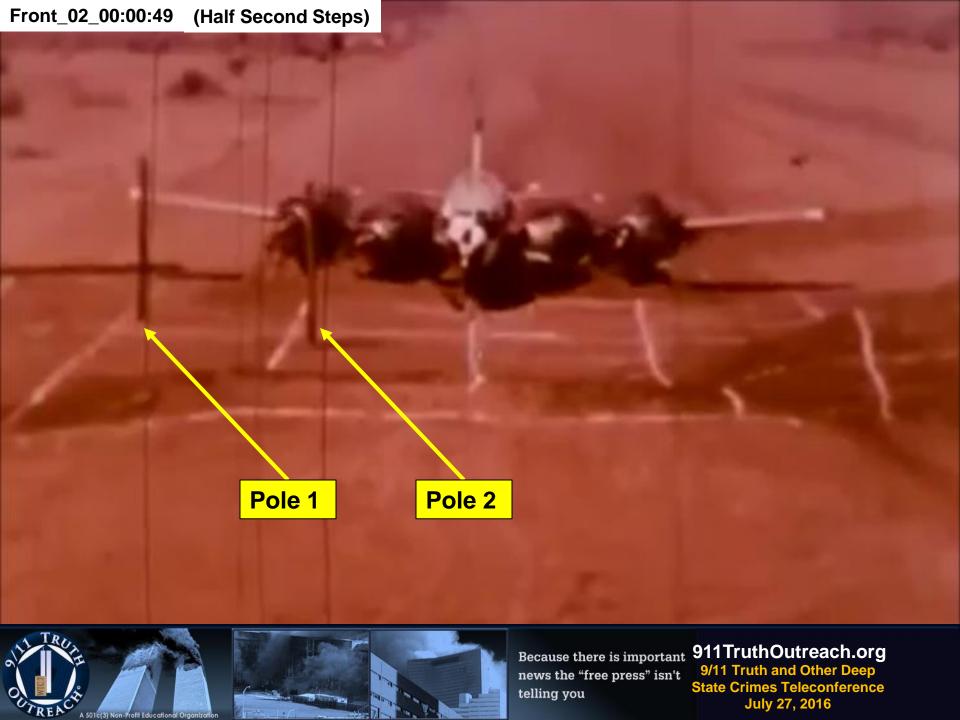


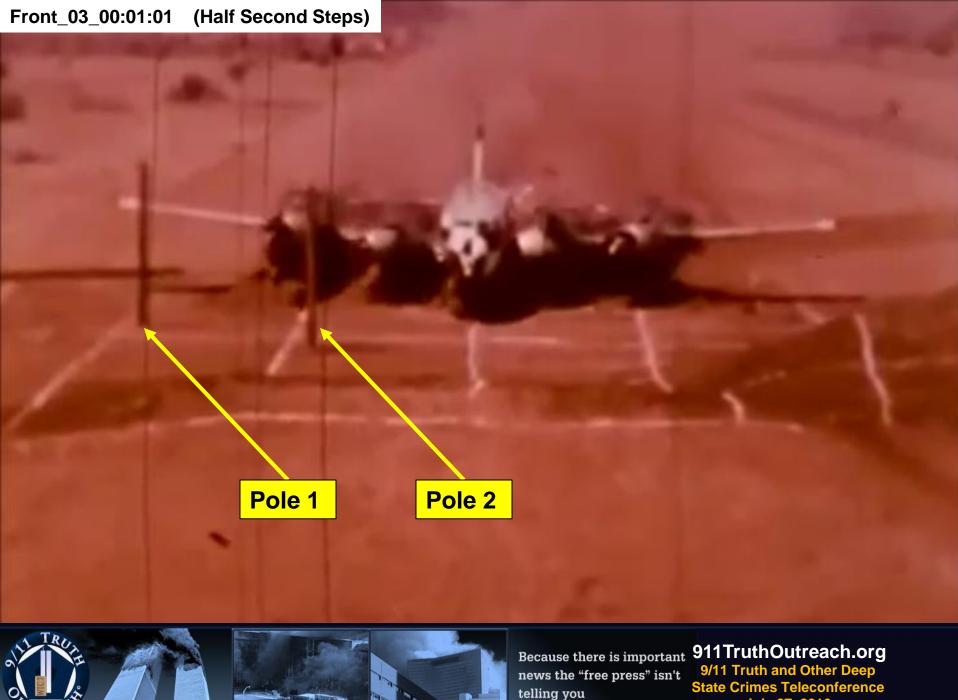




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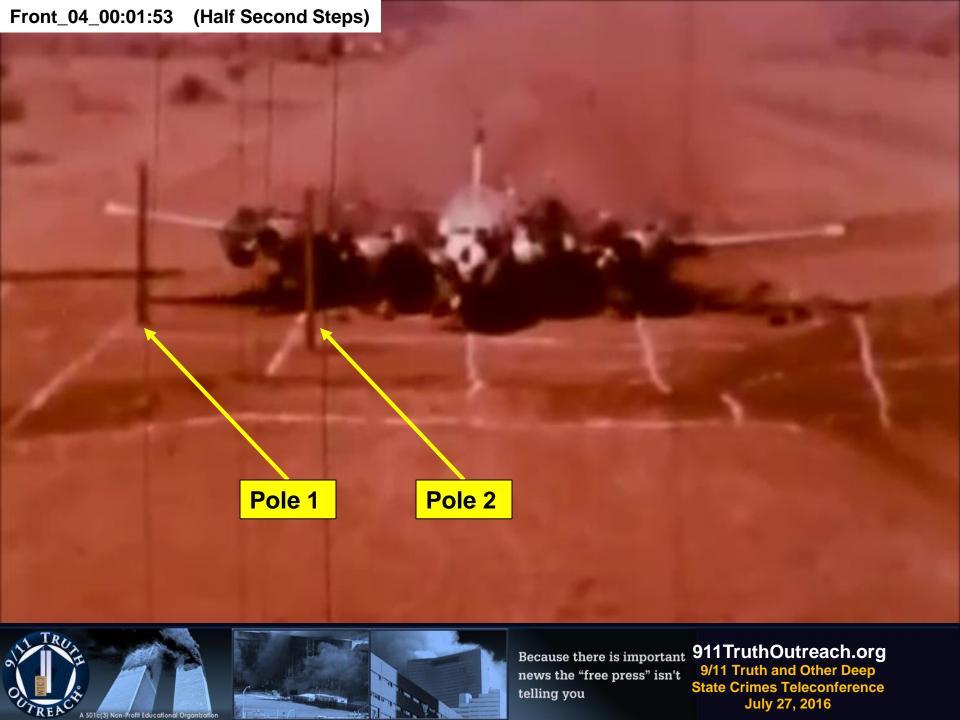
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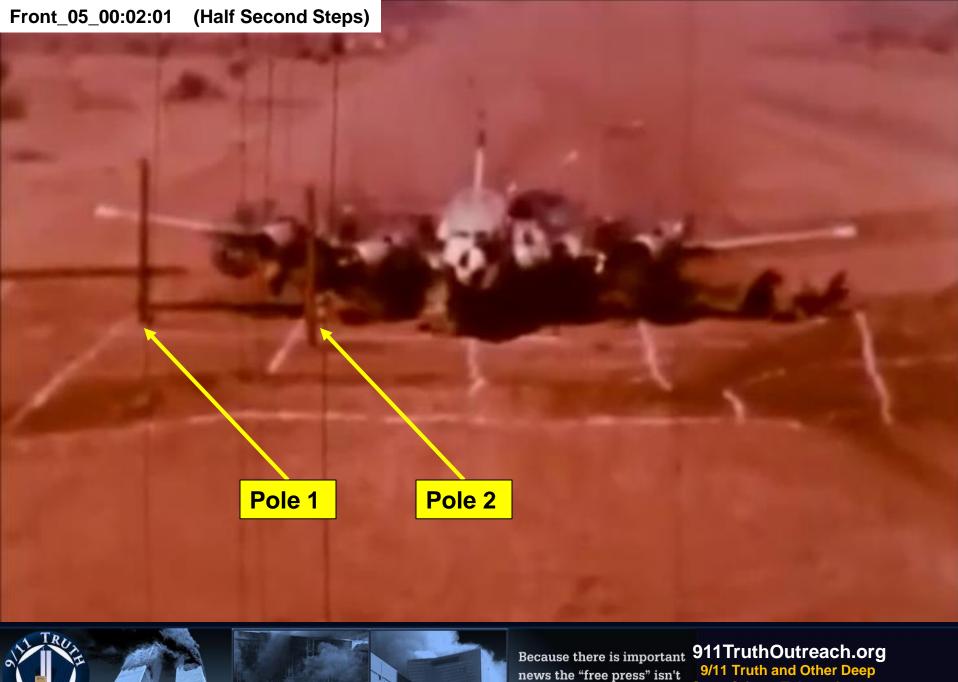






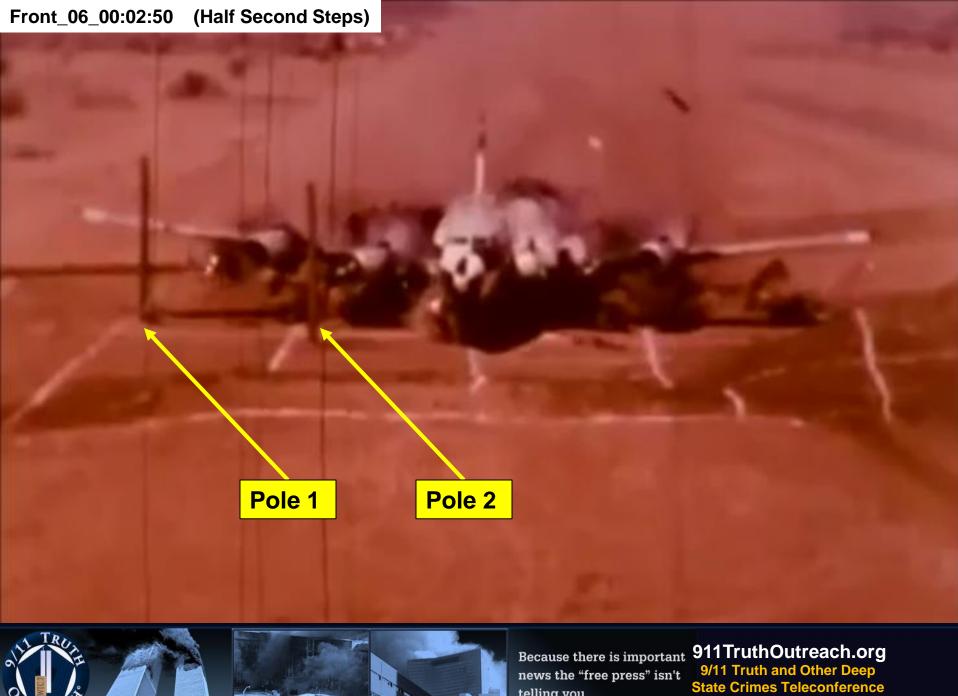






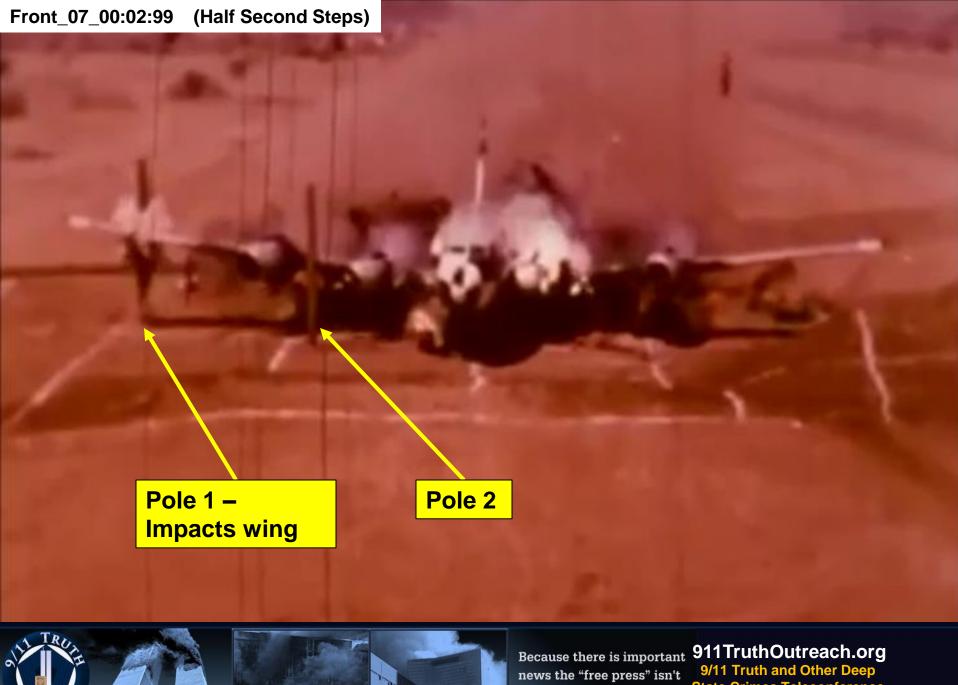










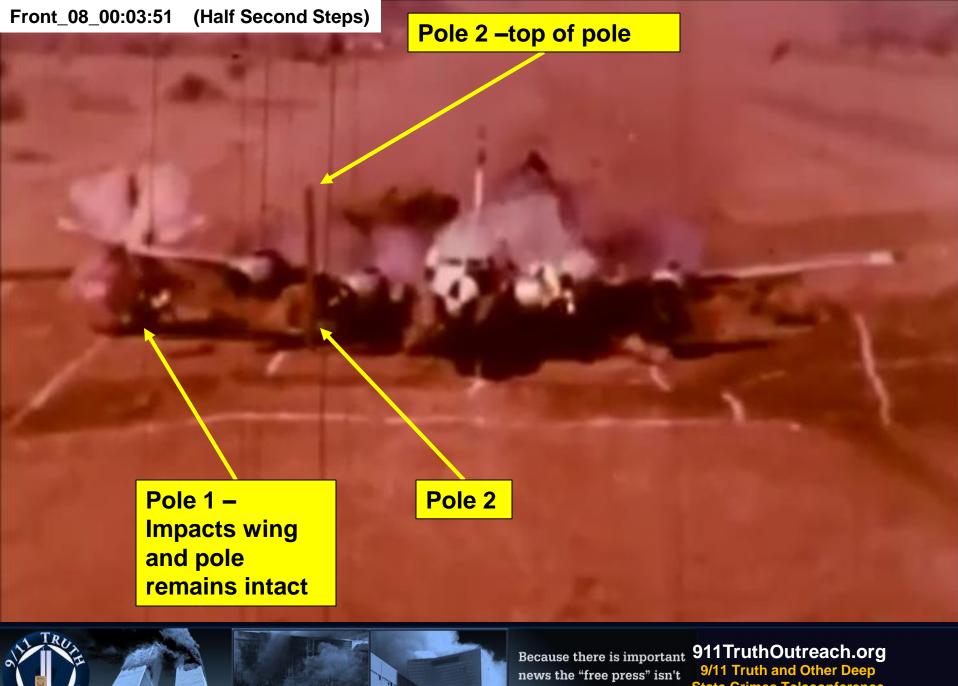






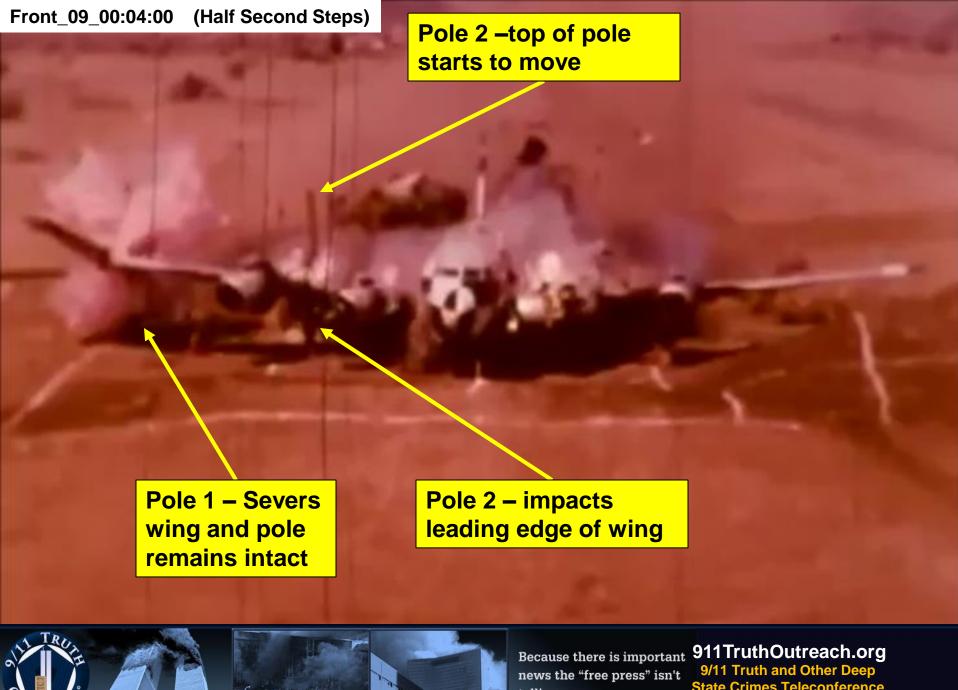
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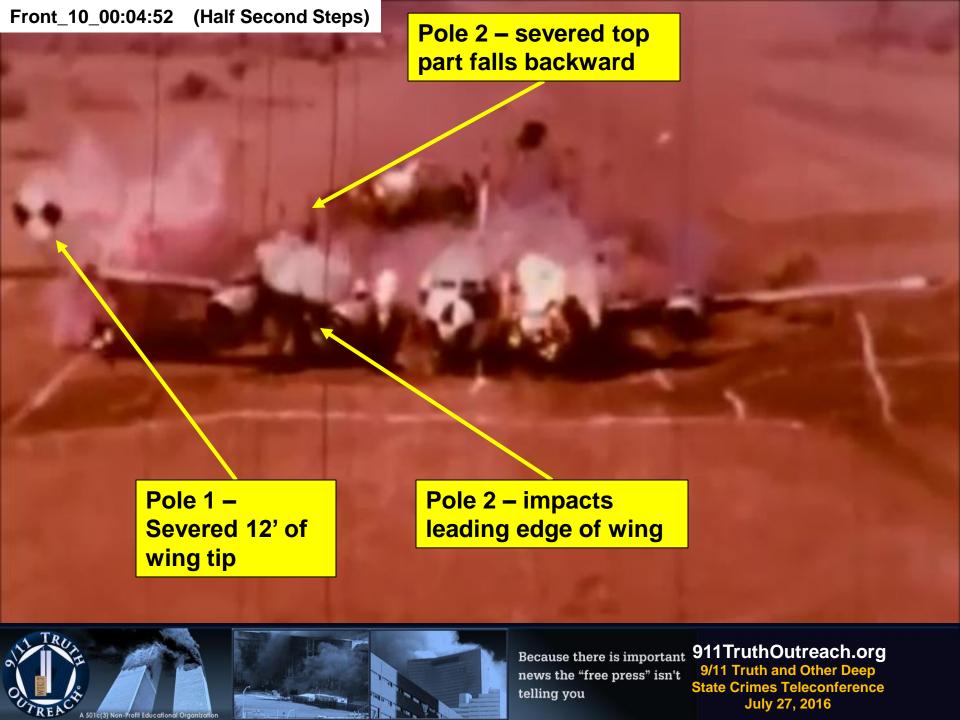


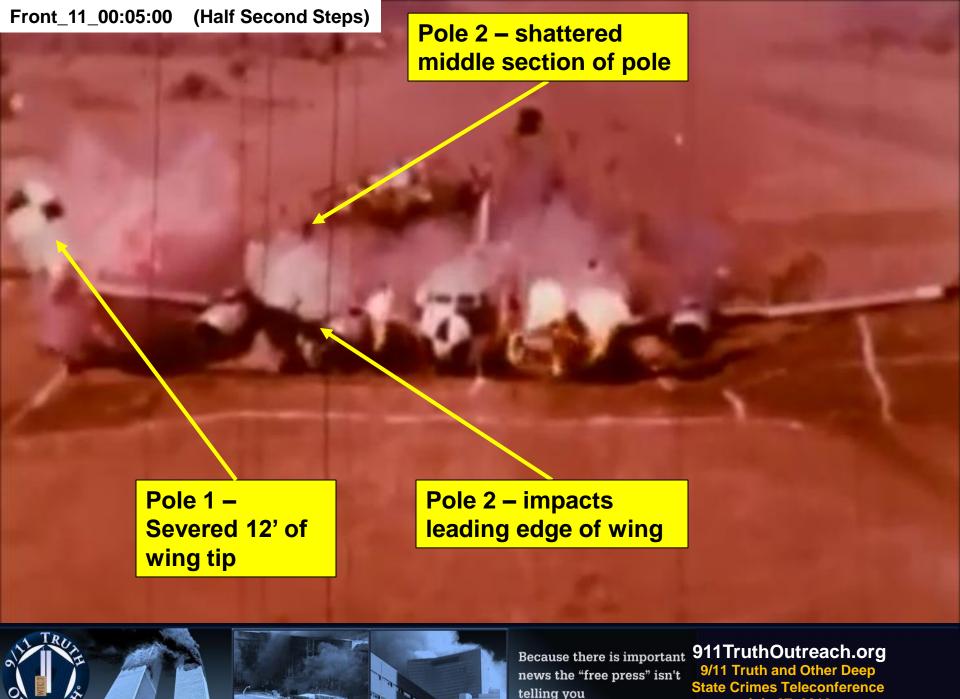






















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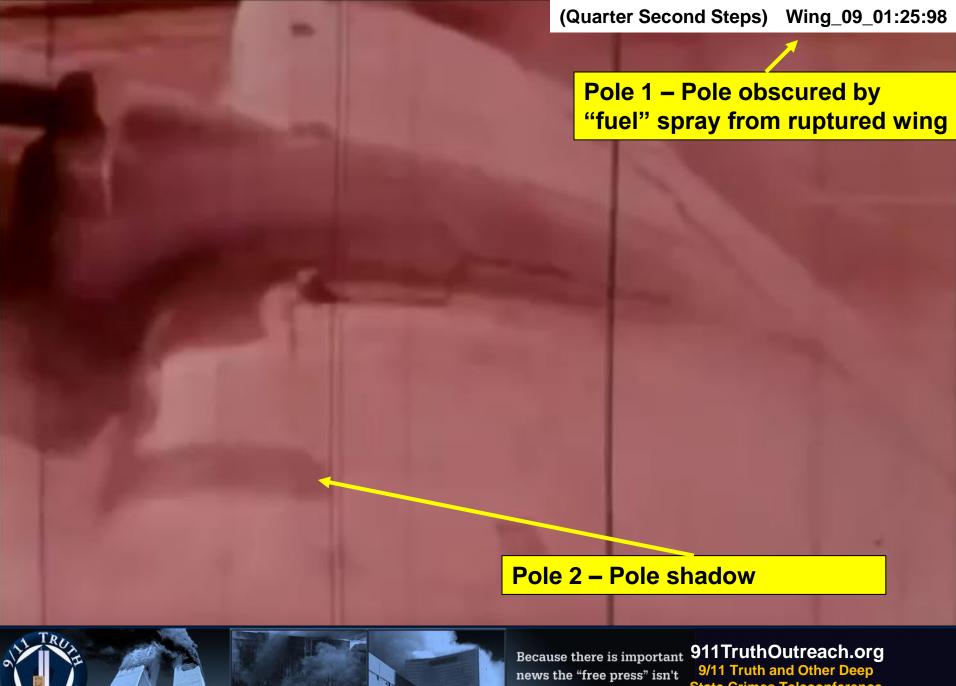






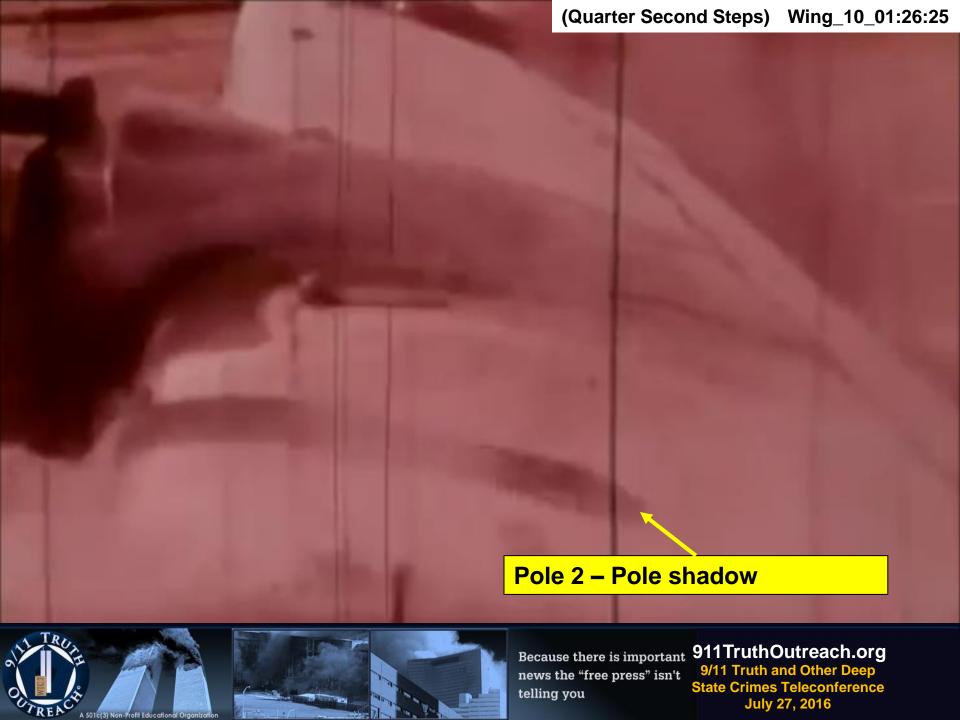












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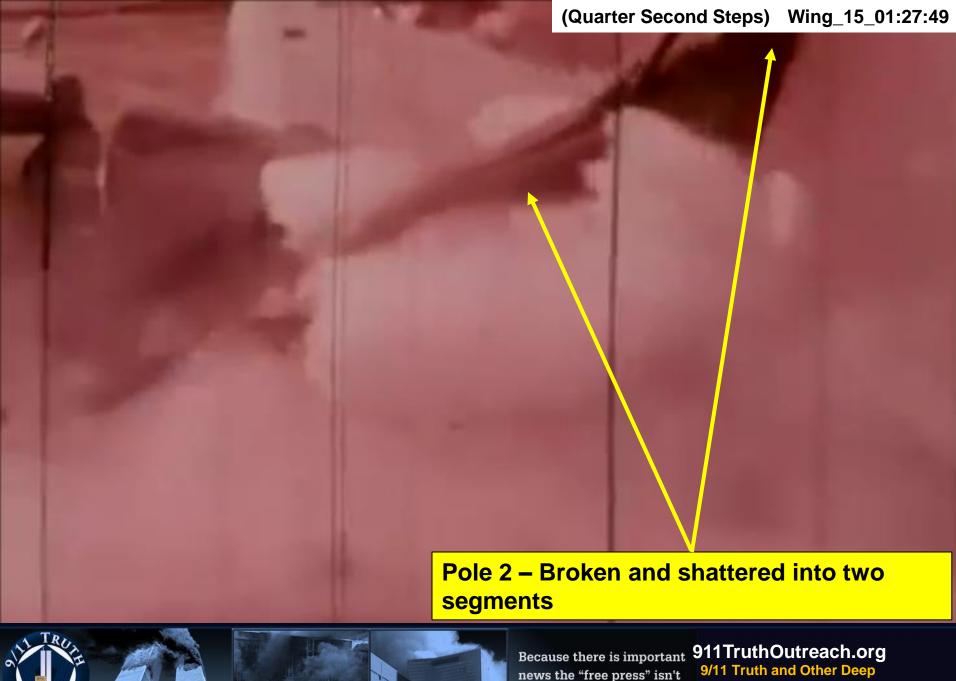
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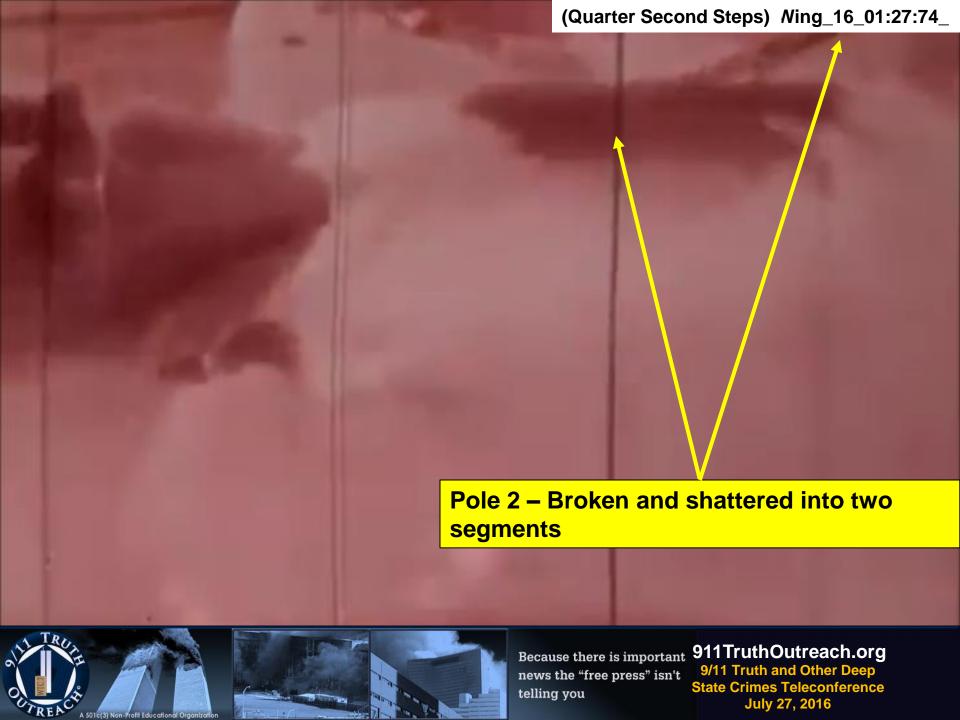


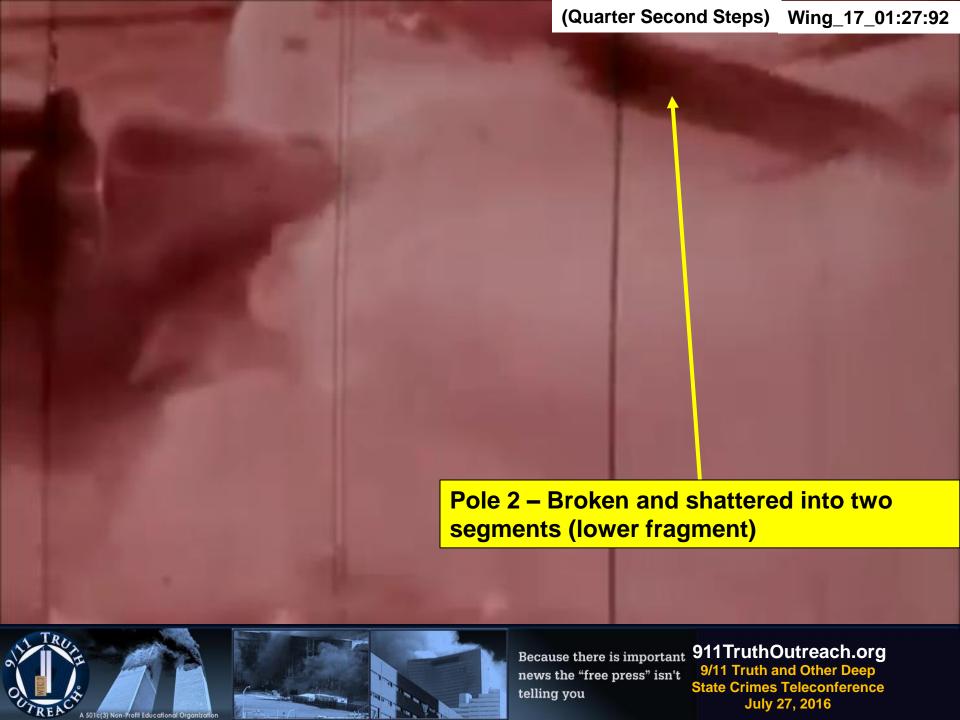


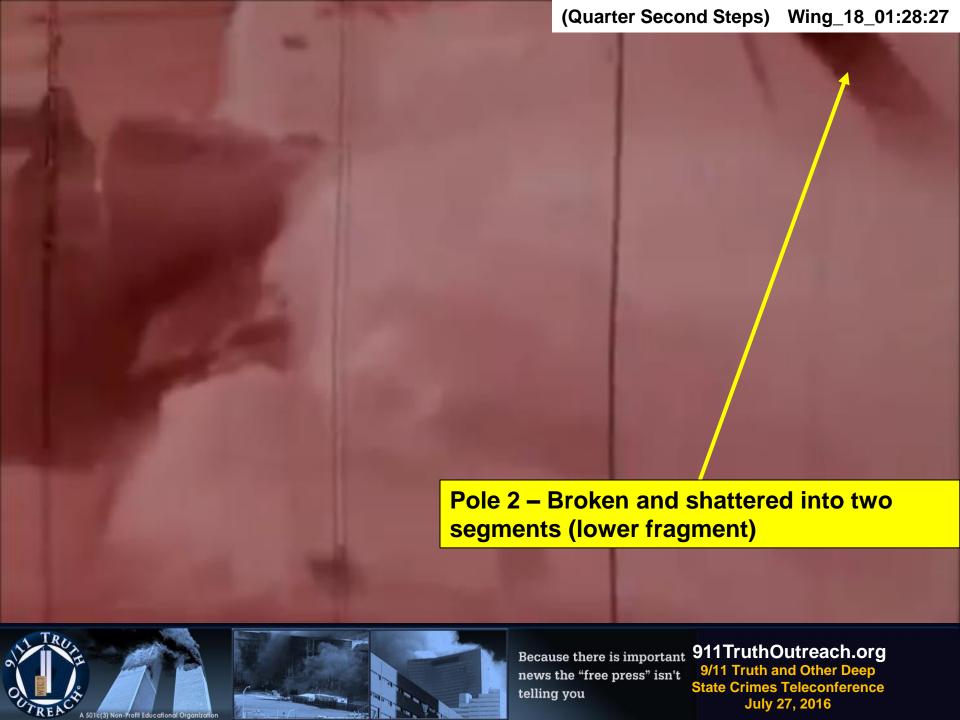












Plane Crash / Impact Tests

1965 Crash Test Lockheed Constellation L-1649





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Lockheed L-1649 vs. Boeing 757

- Lockheed Constellation L-1649:
 - Wingspan: 150 ft
 - Empty weight: 91,645 lb
 - Maximum takeoff weight: 156,104 lb)
- Boeing 757:
 - Wingspan: 124' 10"
 - Empty weight: 127,520 lb
 - Maximum takeoff weight 255,000 lb





Crash Report Observations

Report

"The right wing impacted the two telephone poles. The first pole nearly sheared off the outer wing panel opening up to No. 4 fuel tank ..." (p 15)

"The portion of the right wing inboard of the No. 3 engine nacelle remained attached to the fuselage throughout the crash. (p 16)"

Source: www.tc.faa.gov/its/worldpac/techrpt/ads38.pdf

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Key Observations for 9/11

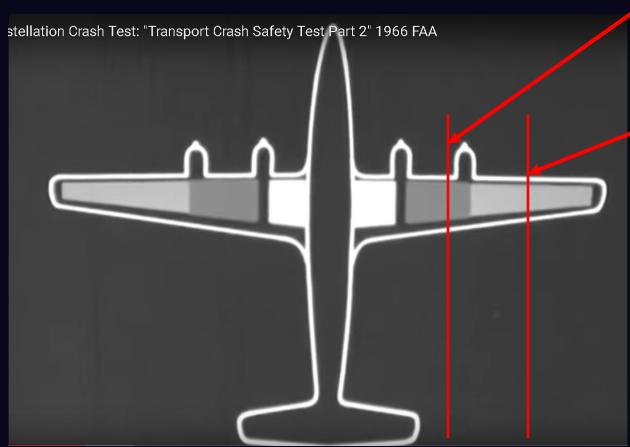
- Plane impact included impacts into two wooden poles
 - Similar to 1964 DC-7 crash test
- Both wood poles were severed by wings

YouTube Video: https://www.voutube.com/watch?v=rc-lgthw GM (FrontView 1:52)





Lockheed Constellation Fuel Tank Location



Inner wood pole impacts fuel tank

Outer wood pole impacts 20 ft of wing and fuel tank

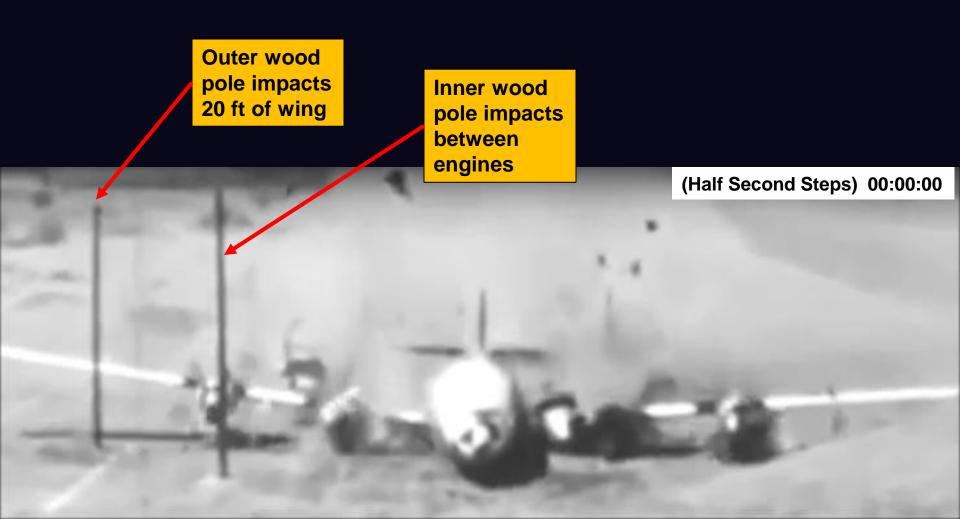




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Outer wood pole impacts 20 ft of wing and fuel tank

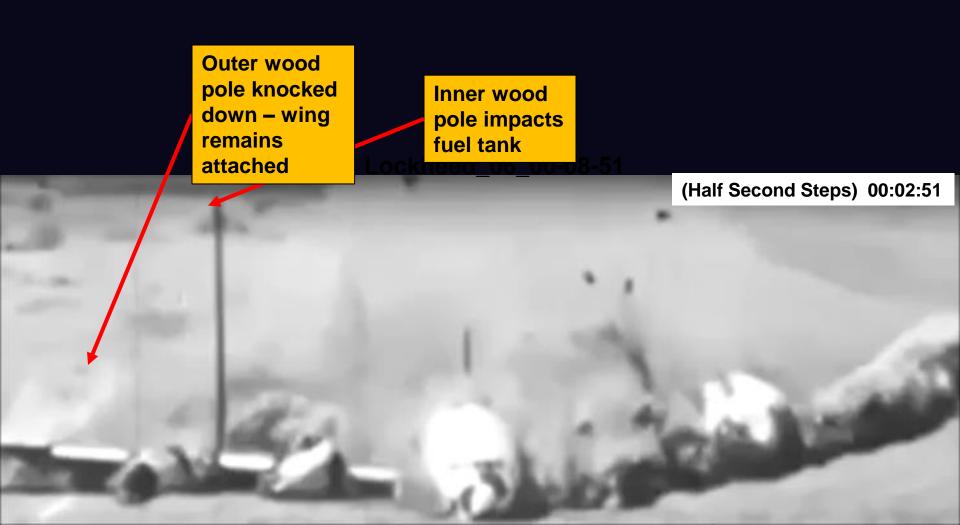


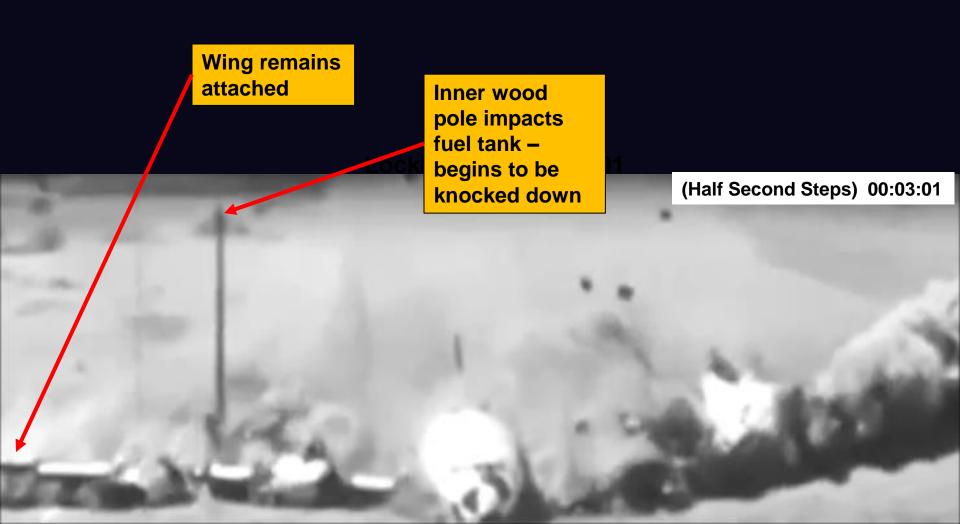
Outer wood pole begins to be knocked down

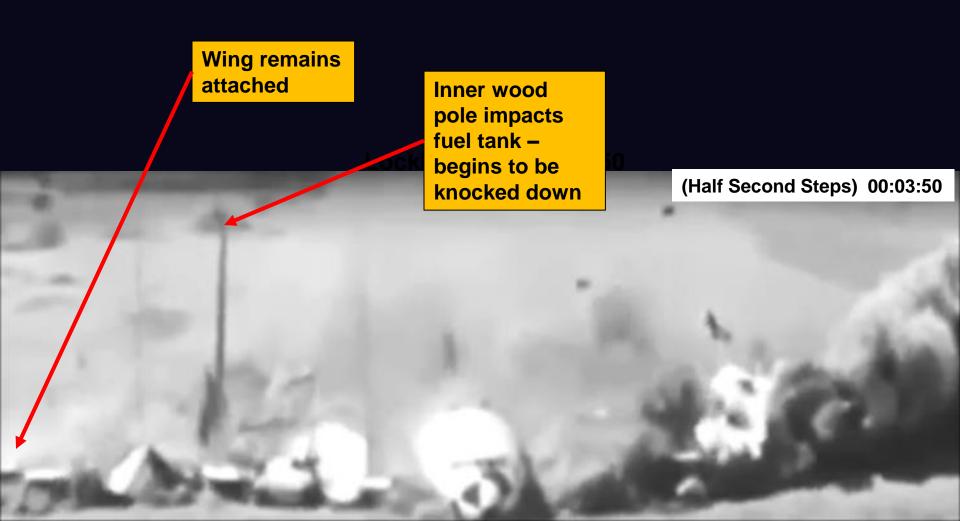




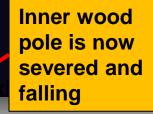












(Half Second Steps) 00:04:51

Inner wood pole is now severed and falling

(Half Second Steps) 00:05:01

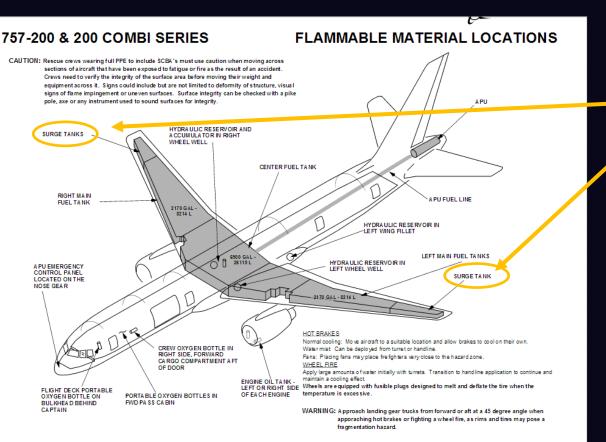
Inner wood pole is now severed and falling

(Half Second Steps) 00:05:50

Inner wood pole is now severed and falling

(Half Second Steps) 00:06:01

Boeing 757: Fuel Tank Location



Surge Tanks extents about 11 feet into the wing from the wingtip

Source: http://www.boeing.com/assets/pdf/commercial/airports/arff/arff757.pdf





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Plane Crash / Impact Tests

1984 Crash Test (Boeing 720)





Boeing 720 Crash Test

- Four engine transport jet
 - Edwards AFB, CA
 - Remote controlled
 - Crashed into a barren patch of nearby desert
 - December 1, 1984





Boeing 720 Crash Test

- Controlled Impact Demonstration (C.I.D.)
 - Designed to underscore results of:
 - Exhaustive research in specific areas of aircraft safety
 - Improved crash protection and
 - Reduced post-crash fire hazards





Crash Objectives

- The crash objectives were:
 - Obtain data on impact forces
 - Transmission of forces thru the structure to the seats and occupants
 - Evaluate energy absorbing seats
 - Compare predicted structural behavior with an actual crash.
 - Test AMK (anti-misting kerosene) fuel

YouTube Video: https://www.voutube.com/watch?v=vVvZeSgxmsw





Key Observations for 9/11

- Plane approached the ground at a shallow angle
 - Ground effect did not prevent the plane from approaching the ground
 - Wing flaps were down which increases ground effect
 - Slower speed increases ground effect
 - Plane descended smoothly below ½ wing length
 - Slid on underside of plane upon hitting ground











"Ground effect" does not push port wing up to level the plane.

If "ground effect" were the strong force that becomes (exponentially) greater as the wing approaches the ground, as some suggest, the port wing should not be able to drop lower than the starboard wing - absent a large force from the control surfaces.



If "ground effect" were such a strong effect closer to the earth, the forces under the left wing would be so large in the upward direction under the left wing that a tilt near the earth would be impossible of self correcting.

"Ground effect" does not push port wing up to level the plane.

If "ground effect" were the strong force that becomes (exponentially) greater as the wing approaches the ground, as some suggest, the port wing should not be able to drop lower than the starboard wing - absent a large force from the control surfaces.



"Ground effect" obviously didn't keep the plane level.





Plane Crash / Impact Tests

1984 CRASH TEST – YAW MOTION ANALYSIS (ROTATION)





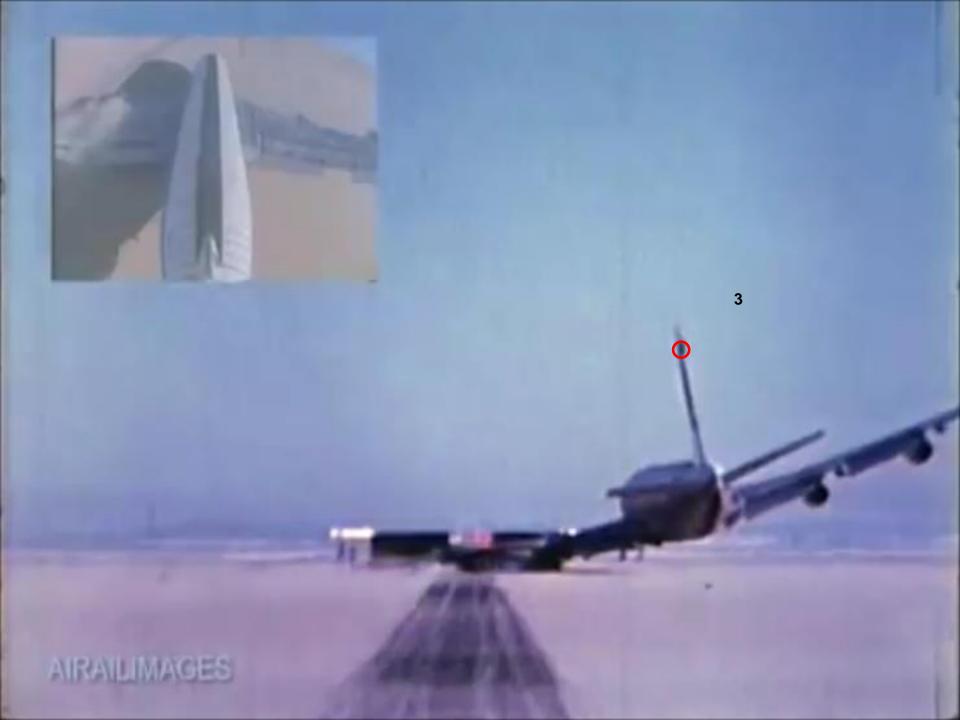
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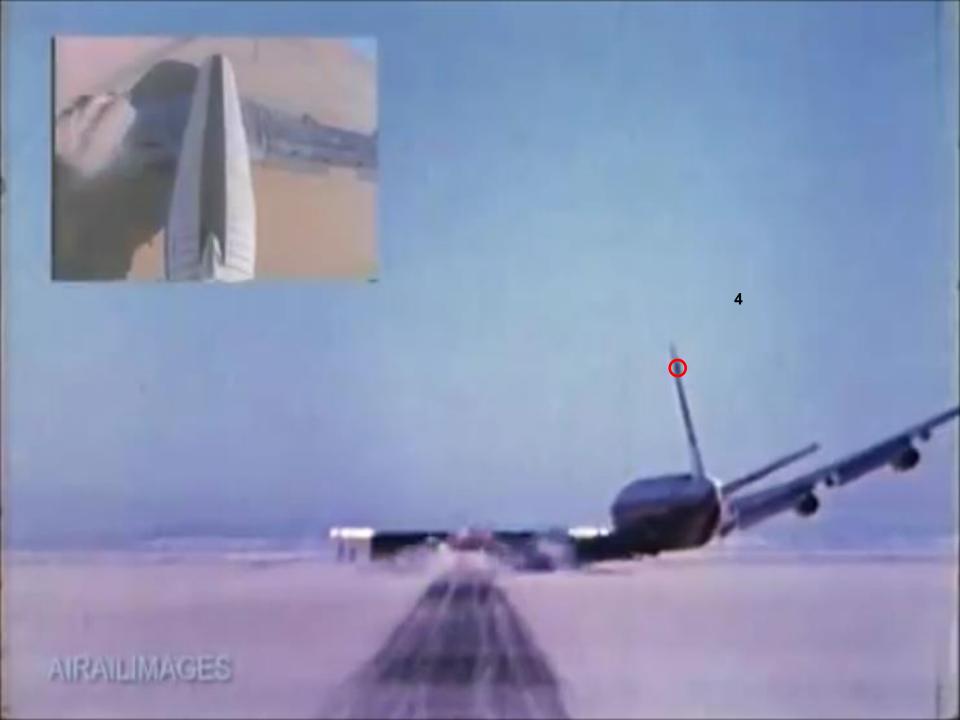
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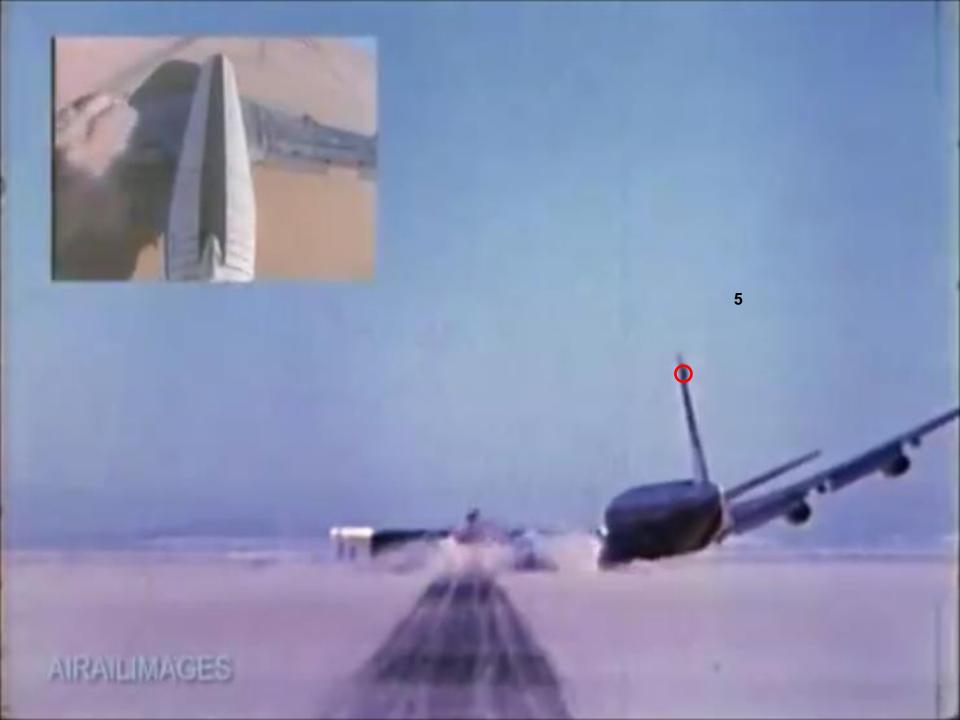
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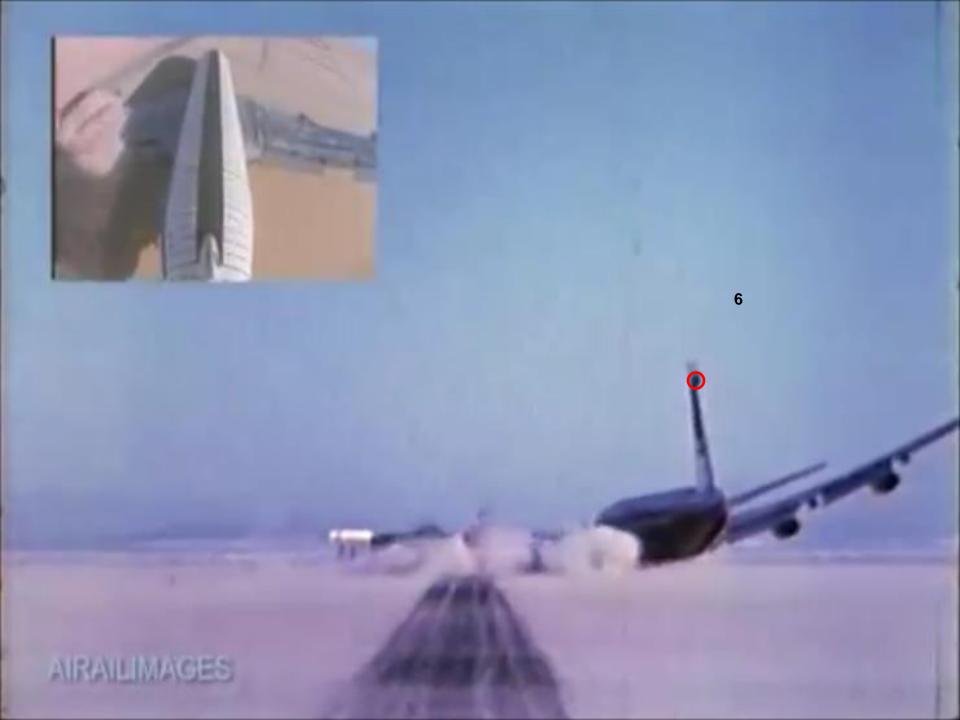


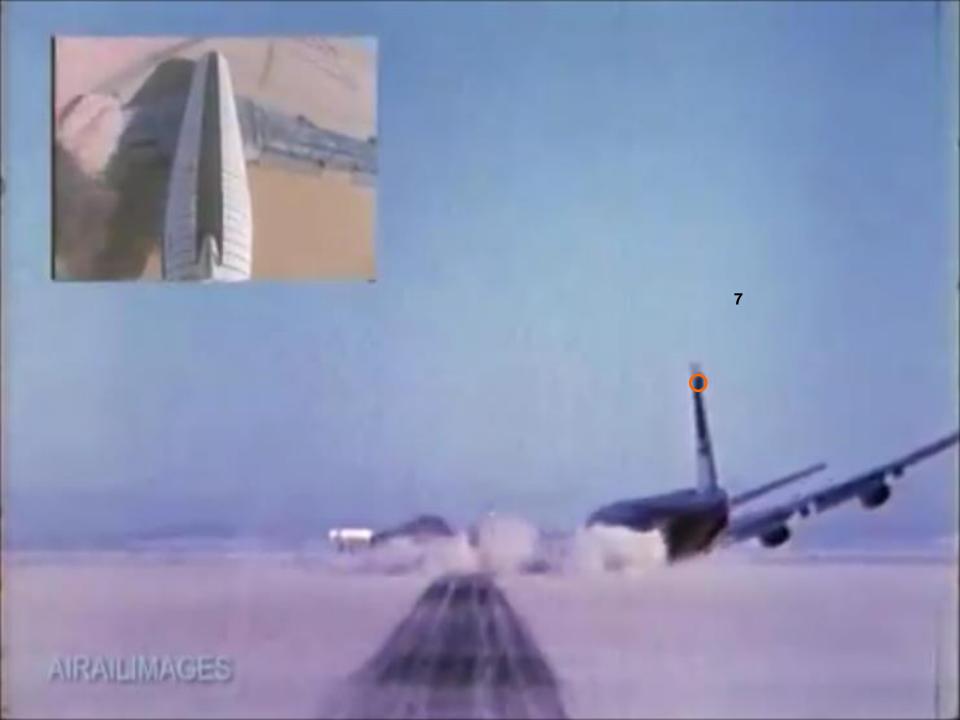






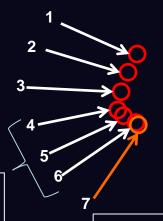






Location of Tail Marker Showing Rotation Due to Wing Impact

Rotation between Points 4 and 6 is 0.38 seconds
Left wing slid on ground
Did not encounter a large (immovable) object
Engine on opposite was not at full power



At Point 7, plane is still rotating but the plane is now also traveling left





Plane Crash / Impact Tests

1988 Crash Test (Phantom F4)





Crash Test Parameters

- Phantom F4 jet impacts concrete block
 - 19 ton aircraft (about 17% of the mass of 757)
 - 480 mph impact speed
 - Block is reinforced concrete
 - 23 ft square and 12 ft thick
 - Total mass of 469 tons
 - Placed on "air bearings" to allow the block to accelerate upon impact

Source: http://www.iasmirt.org/transactions/10/DC 250400.pdf





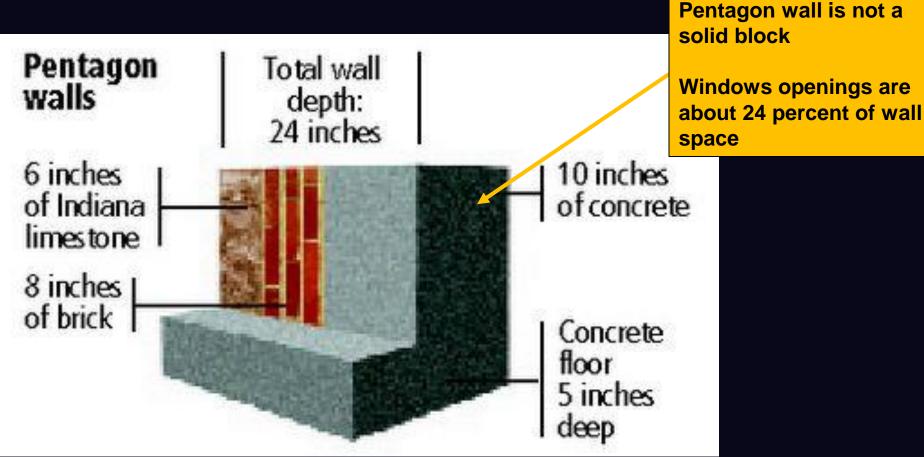
Crash Test Results

- Crashed into solid concrete block
 - Weight of solid concrete block was 469 tons
 - No weak spots built into the concrete block
- The penetration depth due to impact
 - Penetration of engine was 60 mm (2.5 inches)
 - Penetration of fuselage was 20 mm (0.8 inch)
- Block moved 0.3 meters (about 1 ft) during impact





Mass of Pentagon Outer Wall









Calculation: Mass of Pentagon Wall

- Calculation of mass of Pentagon wall
 - Dimension: 12 ft high opening
 - Dimension: 80 ft wide contiguous opening
 - 960 sq ft (total wall area)
 - 720 sq ft (of non-window concrete wall)
 - » Assuming 25 percent is window space
 - » Assuming 267 lbs / sq-ft of concrete/brick/limestone wall
 - Mass of about 96 tons (1/5 of Sandia block)
 - 96 tons / 469 tons = 20.5%





Key Observations Related to 9/11

- Limited relevancy to 9/11 issues
 - F4 (with 0.17 of mass of 757-200) strikes:
 - Solid concrete block that is 5 times more massive
 - Concrete block does not have window openings
 - Windows are about 25 percent of the Pentagon wall
 - Windows provides weak points that allows it to fracture
 - Confetti like debris from F-4 impact
 - Solid concrete block requires debris reflected back
 - Pentagon wall breaks plane mass enters building

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YouTube Video: https://www.voutube.com/watch?v=CZ8uvQk1H9I





Key Observations Related to 9/11 (Continued)

- What it does show is:
 - A plane with 17% of the mass of a 757 Can impact a solid concrete mass
 - Displace the concrete block about 1 foot
 - Impact destroys plane leaving "confetti" like debris.
 - Doesn't address what would happen if:
 - A less massive wall with weak points was impacted
 - Effect of structural failure with breeching of the wall
 - Quantity and type of debris created upon impact





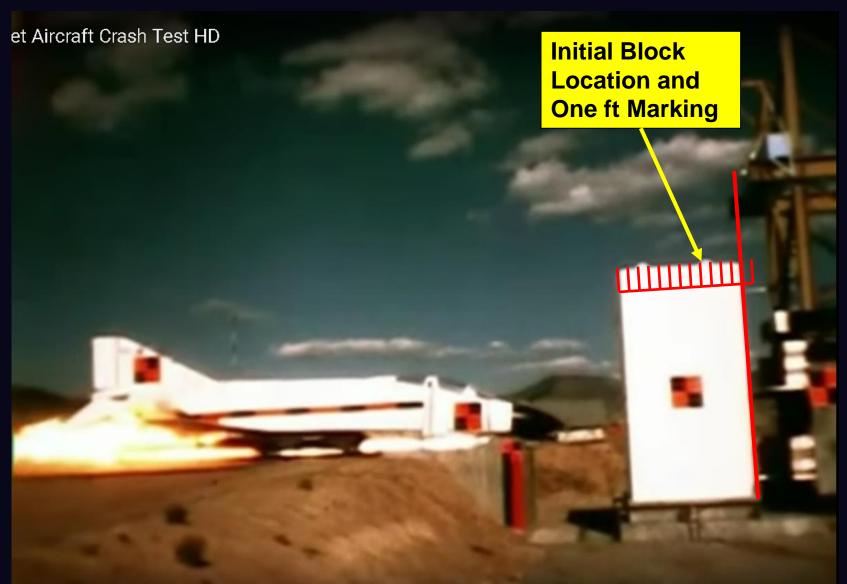
Key Observations Related to 9/11 (Continued)

- Most relevant observation related to 9/11
 - Sandia impact documents
 - Momentum of the air flow in the wake of the aircraft
 - Momentum of air mass impacting wall, creating the upward/outward dispersion of debris in all directions
 - Illustrates the reasons for the Pentagon fireball and northward distribution of debris (e.g. heliport)
 - Air flow creates upward and outward fireball
 - Wake air flow from southwest pushes debris northward

YouTube Video: https://www.youtube.com/watch?v=CZ8uvQk1H9I



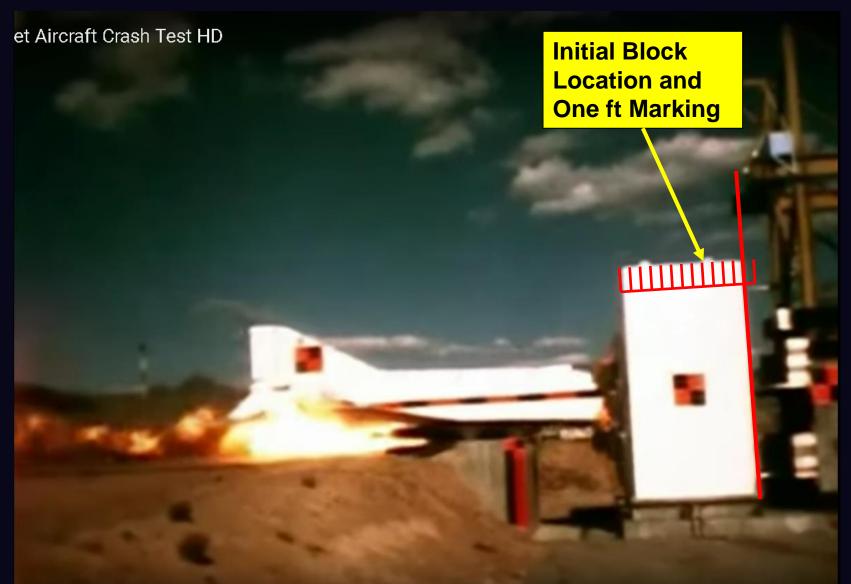








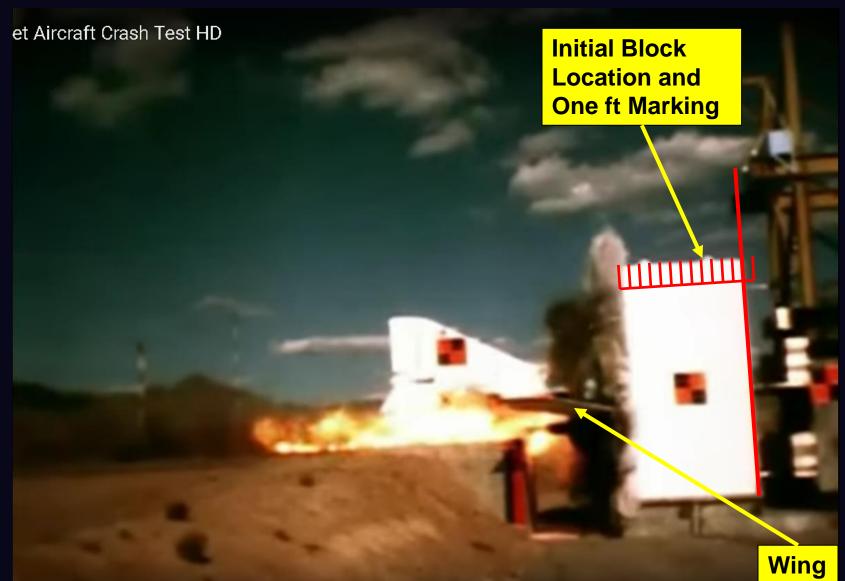
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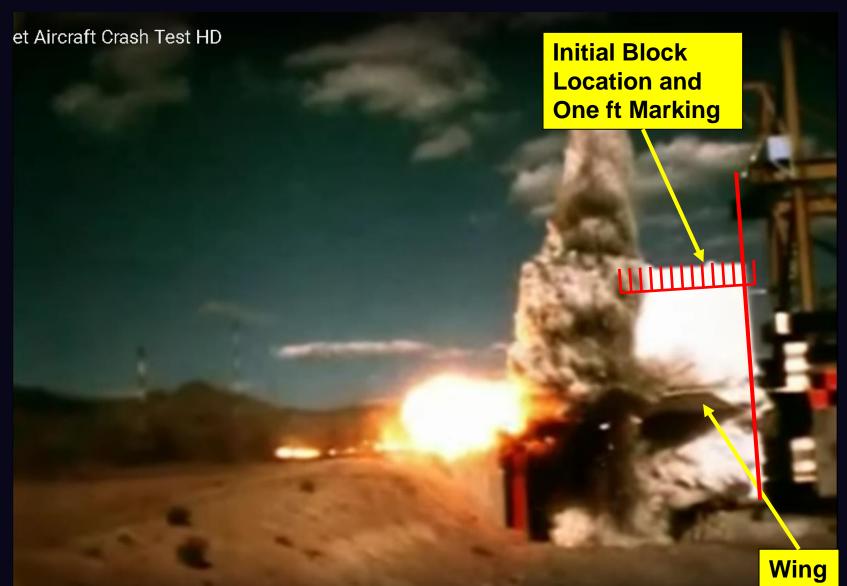
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Momentum of Air Trailing the Plane Impacts and Blows Debris Outward



Momentum of the trailing air flow in the wake behind the plane creates the outward dispersion of the debris in all directions upon reaching the block.

This creates the upward and outward fireball that was reported.

Note: The Sandia test did not include fuel to create a fireball.

YouTube Video: https://www.youtube.com/watch?v=zPe-bKlid8w

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Questions



