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Zapruder frame 207

Artist's rendering of same scene

Chapter One

Zapruder and his receptionist, Marilyn Sitzman, (arrow at top) appear in a photograph taken by Philip Willis as the first shot struck the President (lower arrow).

Seconds after the shooting, Zapruder and Stitzman leave their pedestal.

Standing fifteen feet from the President, William and Gayle Newman (lower arrows) both saw an impact on the right front of the President's head. Marilyn Sitzman, who was behind them (arrow at top) saw a hit "above the ear and to the front."

#### Chapter Three

The President's waving movement continues naturally until he disappears behind the sign.

The President emerges from behind the sign obviously hit.

View of the President from the sixth floor window was blocked during the 2-second interval from Zapruder frames 166 to 210. At one point (Z 186) a small hole in the tree permitted a view of the car for one-sixth of a second.

Witnesses pinpoint the time of the first shot.

The President was shot for the first time somewhere between these two points.

Frames 222 and 230: Governor Connally turns to his left, a movement he said he made immediately after the first shot.

Philip Willis' picture, snapped in the range of Zapruder 205 to 225, was taken (according to Willis) as the first shot was heard.

Policeman B. J. Martin (arrow) said he turned to his right after the first shot. At Z230 he is still looking straight ahead.

Special Agent Kellerman with the President at Love Field, Dallas, November 22, 1963.

Dr. Malcolm Perry who performed a tracheotomy on the President at Parkland Memorial Hospital in Dallas.

Commission Exhibit 399: The bullet found on the stretcher at Parkland Hospital.

Bullet holes in the back of the President's clothing are consistent with testimony given by Secret Service and F.B.I. agents present at autopsy.

F.B.I. agents re-enact assassination. According to the Warren Report, "The back of the stand-in for the President was marked with chalk at the point where the bullet entered. The Governor's model had on the same coat worn by Governor Connally when he was shot with the hole in the back circled in chalk" (R97).

Autopsy face sheet marked by Commander Boswell during autopsy. Hole in back (arrow A) appears lower than the alleged exit in throat (arrow B).

Notes made by Commander Humes at Bethesda Hospital during telephone conversation with Dr. Malcolm Perry in Dallas. Size of throat wound given as "3 to 5 millimeters."

Commission Exhibit 850: Goatskins used in ballistic test to simulate President's neck wounds. Note exit holes are at least twice the size of entry holes.

F.B.I. Exhibit 60: Slit in the front of President's shirt and nick in tie showed no evidence of metallic traces.

Witness S. M. Holland (arrow) on bridge shortly after shooting.

Jean Hill (right) and Mary Moorman (left) during the assassination.

Mrs. John B. Connally at Parkland Hospital after the assassination.

Governor John Connally at Parkland Hospital.

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Sharp downward trajectory through the Governor as measured by the Commission. A bullet striking in this manner would easily have caused the instantaneous collapse of the shoulder seen in the Zapruder frames.

#### Chapter Five

S. M. Holland on overpass points toward stockade fence where he saw a puff of smoke on November 22.

Holland standing behind stockade fence where he found footprints and cigarette butts moments after the assassination.

Sequential frames from the film shot by Orville Nix show the double movement of Kennedy's head after the head shot.

Secret Service agents Hill, Kellerman and Greer after testifying before the Warren Commission.

Frames from the Nix film showing a white mass moving rearward over the trunk of the limousine. According to witness testimony, this may be impact debris from the President's head.

Charles Brehm (arrow) who saw what appeared to be "a portion of the President's skull . . . flying slightly to the rear of the President's car and directly to its left."

Officers Martin and Hargis testified that they were spattered with debris from the head impact. They were to the left rear of the President.

Location of occipital bone at the rear of the skull. It was a piece from this bone that was found twenty-five feet to the left of the car's path.

Officer James Chaney, shown above looking directly at the President, saw "the President struck in the face" by the final bullet.

Officer Chaney at Parkland Hospital.

William and Gayle Newman saw the President hit in the side of the head (above) and, believing the last shot to have come from directly behind them, they threw themselves on the ground (below).

Newsman Seth Kantor took notes at Parkland hospital and recorded that a shot entered the right temple.

Hurchel Jacks, Texas State Trooper and driver of the Vice Presidential car, noted in a deposition that the President had been struck above the right ear near the temple.

Commission Exhibit 397: Half-moon-shaped fragment of bone sketched on the back of the autopsy face sheet by Commander Boswell.

Commission Exhibits 386 and 397 are in apparent disagreement regarding the direction of the head entry wound. The diagram drawn by Commander Boswell during the autopsy (below) shows entry canted to the left, though a later artistic rendering presented to the Commission in lieu of the photographs shows an entry wound canted to the right.

The diagram of Kennedy's skull drawn' by Boswell shows a good deal of information never recorded in the official autopsy report. For example, area of fracture in left temple region, crushed vomer bone, and fracture in the globe of the right eye socket.

Photograph of a dent in the chrome windshield trim of the President's limousine.

Photo of cracks in windshield.

Photo taken by James Altgens just before the last shot (note undamaged windshield). Another photograph taken seconds after the final shot shows the cracks in the windshield.

Chapter Six

Lee Bower's view of parking lot and stockade fence.

Bystanders rush to the grassy knoll moments after the shooting. Several said they thought shots came from the knoll.

"Right under these trees . . . it was just like somebody had thrown a firecracker and left a little puff of smoke there." S. M. Holland,

Holland retraces his steps from the overpass around to the back of the stockade fence.

Area behind stockade fence.

S. M. Holland's diagram of footprints behind the stockade fence. Prints are indicated by black marks to the right of car No. 2.

Stunned spectators swarm through parking lot shortly after the assassination. Several thought the shots had come from that direction.

Emmett Hudson said the shots had come from behind, above, and to his left.

A photograph taken by Mary Moorman reveals two curious marks at the top of the stockade fence. By comparing this with a photograph taken at a later date, it can be seen that the one on the right (arrow) is a signal tower and that the one on the left (circle) is no longer there.

The signal tower.

S. M. Holland stands where he saw the puff of smoke and where, coincidentally, the shape appears on the Moorman photograph.

A possible sniper's view of Elm Street from the Records Building...

... and from the Dal Tex Building.

Immediately after the first shot, Secret Service agents Ready and Landis turn toward the Depository.

Howard Brennan (arrow) looks up at the Depository Window where minutes before he had seen an assassin take his last shot.

The sixth floor window of the Depository is visible in this movie frame taken by Robert Hughes moments before the shooting started. Frames from four seconds of the movie show that the shape changes in width and gets narrower (arrow). It may be the gunman Brennan saw turning to his right to get into firing position.

The clip found in the rifle on the sixth floor holds six cartridges but held only four on November 22.

Commission Exhibit 139: Oswald's rifle, found on the sixth floor of the Depository.

Lt. J. C. Day of the Dallas Police Department, carrying the rifle from the Depository on the afternoon of the assassination.

Photo of sniper's nest in the Depository taken by the Dallas Police. Note two cases next to the wall and a third some distance away.

Commission Exhibit 543: This dented cartridge case found on the sixth floor of the Depository could not (in this condition) have held a projectile on November 22.

Three of the four cartridge cases bear chambering marks characteristic of Oswald's rifle. The fourth lacks a chambering mark and has a dented tip.

Commission Exhibit 399: A portion was sliced from the tip of this bullet for FBI spectrographic comparison with other bullet fragments. The results of this test were never released.

The hole in Governor Connally's shirtfront suggests the large size of the exit wound in his chest.

Commission Exhibit 842: Bullet fragments removed from the Governor's wrist.

Pre-operative and post-operative X-rays of Governor Connally's wrist show that two bullet fragments remain (arrow).

Pre-operative
Post-operative

X-ray of Governor Connally's thigh shows a bullet fragment embedded in his femur.

Commission Exhibits:

399

856

853

857

At left Commission Exhibit 399, and below it, Governor Connally's wrist through which it was supposedly fired.

At right Commission Exhibit 856, and below it, the cadaver's wrist through which it was fired.

Two of the bullets above were fired into long tubes filled with cotton. The third, according to the Commission, was fired through two people, causing nine separate wounds, and shattering two large bones. (The bullet in the middle, OE 399, is the one purported to have done all the damage.)

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These two photos show the location of the stretcher and the bullet in the clevator vestibule at Parkland Hospital.

Sketch drawn by Darrell Tomlinson during his interview with Assistant Commission Counsel Spector. Note position of stretcher A (taken from the elevator) and stretcher B (found by Tomlinson in vestibule). Much to Specter's consternation, Tomlinson testified he found the bullet on stretcher B.

Emergency room registration list which suggests a possible origin for the stretcher in the hallway on which bullet 399 was found.

Trauma Room One, where President Kennedy was treated and pronounced dead and from which bullet 399 may have been taken.

O. P. Wright believes that the stretcher bullet he examined on November 22 looked like the sharpnosed bullet above. The Commission, however, insists it was bluntnosed CE 399, below.

### Chapter Eight

Motorcade on Main Street.

Motorcade on Main Street. Pilot car in foreground.

Presidential limousine turns from Main onto Houston Street,

Presidential limousine on Houston Street.

Limousine and Secret Service follow-up car on Houston Street.

Motorcade begins turn onto Elm Street under Texas School Book Depository building.

The turn onto Elm Street.

Just after turn onto Elm Street.

Elm Street, in front of the Depository.

The first shot.

Limousine under fire.

Impact on President's head.

Secret Service Agent Clint Hill runs to car.

Hill reaches car.

Hill and Mrs. Kennedy on trunk.

Limousine heads toward underpass.

View of stockade fence from 6th floor Depository window.

The shot not fired ... while the motorcade was still on Houston Street. (Re-enactment photo).

Chapter Nine

Commander Humes' formal document certifying that he had burned preliminary notes of the autopsy. The reason, one Commission staff member believes, was that they reflected a finding contrary to the official report.

Assistant Commission Counsel Arlen Specter.

According to forensic expert Dr. Milton Helpern, the word "presumably," inserted twice (arrows) into Humes's draft of the official autopsy, "just doesn't read like the work of men in confident command of their ship."

The position of Kennedy's back wound was sketched by Commander Boswell (left) during the autopsy. Later, when an official rendering was made (right) the wound was raised to agree with the official theory.

The Warren Commission: (from left to right) Mr. Allen W. Dulles, Rep. Hale Boggs, Sen. John Sherman Cooper, Chief Justice Earl Warren, Sen. Richard B. Russell, Mr. John J. McCloy, Rep. Gerald R. Ford.

Chapter Ten

The "missing frames" from the Zapruder film, published for the first time.

Commission Document 205.

Mauser and Mannlicher-Carcane.

Oswald's rifle (belt is open).

Rifle discovered in the Depository, but as yet untouched, resembles a Mannlicher-Carcane. (Dallas Police Photo)

A Mannlicher-Carcane rifle being removed from the Depository on the afternoon of November 22, The original color slide of this photograph, taken at the instant of the first shot, shows that the President's coat was not bunched at the time of the impact of the first shot.

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This frame from the Nix film was thought by many to show a man firing a rifle from the roof of a station wagon.

A frame from another movie, taken from a slightly different angle, reveals the "man" to be shadows and the "station wagon" to be the roof of a vehicle in the parking lot well behind the fence (arrow in insert).

The man in the doorway of the Depository (arrow).

Lee Harvey Oswald "Man in doorway" Billy N. Lovelady.

The Umbrella Man: umbrella open.

The Umbrella Man: umbrella furled.

Commission Exhibit 162: Jacket found near Tippit slaying.

Untraced laundry mark and dry cleaning tag.

Position of bystander Tague when he was nicked in the cheek by a bullet fragment.

Section of Main Street curbing removed by the FBI in July 1964.

Bullet mark on curb of Main Street, as photographed on the afternoon of November 22.

Carolyn Walthers (arrow center) saw two men in an upper floor window of the Depository. Arnold Rowland (arrow right) saw a gunman on the sixth floor of the Depository at the same time another witness saw Oswald on the first floor.

Movements of two men and one station wagon:

(1) A second man besides the gunman was seen at a window by Carolyn Walther who was standing on Houston Street. This second man, she said, had on a brown sport or suit jacket. (2) A man answering the same description was seen by James Worrell leaving a rear door of the Depository a few minutes after the assassination. (3) Richard Randolph Carr (watching from a building under construction on Commerce Street) saw a man in a tan jacket on the top floor of the Depository shortly before the assassination. Carr saw the same man a few minutes afterward walking "very fast" down Houston Street, turning the corner onto Commerce Street, and getting into

a light-colored Rambler station wagon (driven by a Negro) on Record
Street (4). (5) Deputy Sheriff
Roger Craig and motorist Richard
Robinson both saw a man run down
across a grassy incline in front of
the Depository and get into a lightcolored Rambler station wagon (6).
Craig said the driver of the station
wagon was either a Negro or "a
dark-complected white man." The
station wagon then proceeded
through the triple underpass (7).

Immediately before the shooting, an unidentified figure (arrow) appears in the window next to the assassin's. These three frames from Robert Hughes's eight millimeter movie film cover four seconds; the last frame coming approximately seven seconds before the shots. Hughes stopped shooting at this point.

Dallas Police photo taken a short time after the assassination showing boxes in front of second window. It is evident that these boxes would not have appeared above the first lintel of the window from outside.

An enlargement from Hughes's film shows a figure in the window next to the assassin's.

Two photos of the Depository windows, taken only moments after the assassination by Dallas photographer James Murray, show boxes much lower in the window than the figure apparent in the Hughes film.