

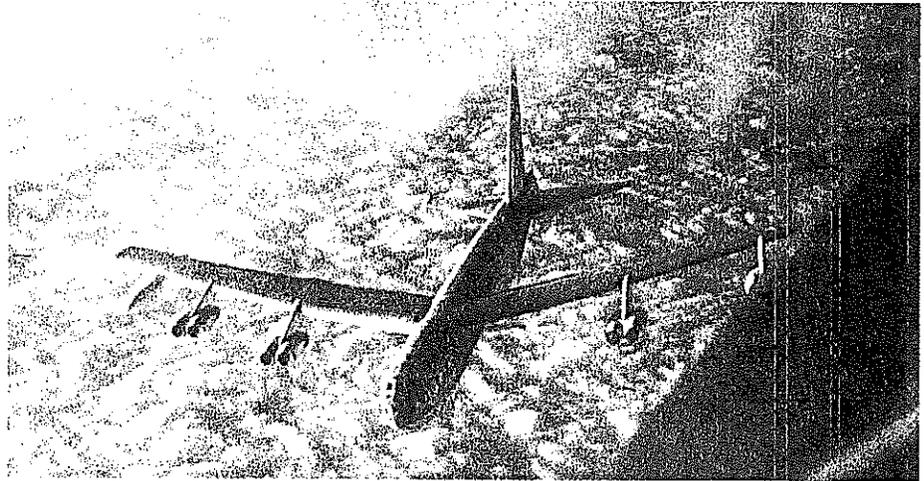
# Broken Arrow at Hardinsburg, Kentucky

by  
Charles H. Bogart

“Broken Arrow,” a Cold War code word, is still used to day by the US government. The utterance of this word would guarantee a rush of adrenaline in the hearts and minds of all that heard it. The code Broken Arrow meant that there had been a nuclear weapon accident “involving either a nuclear weapon, or nuclear warhead, or nuclear component.” On 15 October 1959 a Broken Arrow incident was declared by the Strategic Air Command (SAC) outside of the town of Hardinsburg, Kentucky.

Hardinsburg, Kentucky is a small farm community located 70 miles west of Louisville. It is the county seat of Breckinridge County. In 1960 Hardinsburg had a population of 1,500 and the county had a population of 12,000. Farming was the main occupation. The only US highway in the county was US 60, a winding, narrow, two lane blacktop road, that connected Hardinsburg with Louisville to the east and Paducah to the west.

The 1950s had seen SAC growing in strength. The piston engine B-29, B-36, and B-50 bombers and KC-97 tanker gave way to the jet powered B-47, B-52, and B-58 bombers and KC-135 tankers. The B-52 Stratofortress became the main SAC bomber. Its high speed had led to the development of the jet powered KC-135 Stratotanker, because the propeller driven KC-97 tanker's low speed forced the B-52 to fly at near stalling speed while refueling. The B-52 itself was undergoing a series of modifications that saw the Air Force taking into its inventory



*B-52 as seen from a KC-135 tanker (F. Sylvanovich collection)*

during the 1950s, 488 B-52s, carrying designations running from B-52A to B-52F.

The fear that the Soviets would launch an unannounced attack on the US using nuclear weapons led to SAC aircraft to carrying nuclear weapons on board while they were on “Alert Status” and while flying training missions. The nuclear weapons carried by SAC's B-52s during this period were free falling bombs. The normal free fall bomb load per aircraft was two bombs, but up to four could be carried depending on the weapon class.

On 15 October 1959, at 2:30PM CST, the 492nd Bomber Squadron of the 4228th Strategic Wing, stationed at the Columbus Air Force Base, in Mississippi, launched a B-52F, serial number 57-036, on a training mission as part of “Operation Steel Trap.” The flight was to be of 15 hours duration. The plane was to fly a simulated mission against a Soviet target. During the course of the flight it would refuel twice from a KC-135A and conduct a simulated bombing run.

When B-52F #57-036 was launched on 15 October 1959 she carried on board two nuclear weapons. Besides carrying out her training syllabus she was also assigned an airborne alert

mission. Standard procedure for SAC, in this period, was to keep twelve B-52s airborne 24 hours a day armed with nuclear weapons so that if the North American Defense Command detected a Soviet attack on the United States, SAC could immediately launch its aircraft in a retaliatory strike. This meant that aircraft on training missions were armed with nuclear weapons. This would allow them to divert from their training mission to hit their assigned Soviet target if needed while they were airborne. Each B-52 on airborne alert status could carry two to four nuclear bombs.

The Air Force has never confirmed what type of nuclear weapons #57-036 was carrying on 15 October 1959, but it is thought that they were Mk-39 free fall bombs. The Mk-39 was an improved Mk-15 bomb and had a four megaton yield. This was one of the smaller yield nuclear bombs deployed by the US in the 1950s.

The B-52F normally had a crew of six men. The crew of #57-036 on 15 October, consisted of Captain William G. Gutshall, aircraft commander; Major Milton Chatham, Instructor Pilot; 1st Lieutenant Donald Arger, Co-Pilot; Captain James Strother, Radio

40

Operator; 1st Lieutenant Gino Fugazzi, Radar Navigator; Captain Lyle Burgess, Instructor Navigator; and Technical Sergeant Howard Helms, Gunner.

At 1730 on 15 October 1959, the 901st Air Refueling Squadron (AREFS) of the 4228th Strategic Wing launched a KC-135A aircraft, serial number 57-1513, to provide refueling service to 492nd B-52, #57-036. The KC-135A was scheduled for a 15 hour mission during which she would conduct a number of aerial refuelings. The tanker had a crew of four men. They were Maj Robert Imhoff, Aircraft Commander; 1st Lt William Epling, Co-pilot; 1st Lt Harold Helmick, Navigator; and Staff Sergeant Paul Thomason, Boom Operator.

The tanker, upon departure from Columbus, had been assigned a refueling area over Kentucky. The B-52 crew was briefed where the KC-135 would take up position to refuel. On reaching the refueling position the KC-135 began to fly a left turn pattern that resembled an elongated race course. To assist the B-52 to locate the tanker the KC-135 activated a radar IFF code. This code allows the aircraft to be refueled to identify its refueling aircraft from beyond visual range. SAC's refueling SOP calls for the

tanker to be entering an elongated leg of its pattern when a B-52 joins up to commence refueling. Refueling, if all went well, stopped and the two planes separated, just before the tanker starts its turn for the opposite elongated leg.

The B-52 or other aircraft to be refueled would approach the KC-135A from below and behind. The flight envelope between a B-52 and a KC-135 for refueling is a moving space twelve feet long, 14 feet wide, and 21 feet wide. At a speed of 500MPH, it takes only a second to get out of position. The B-52 pilot positioned his aircraft at the proper distance and altitude from the KC-135 by monitoring its system of director lights arranged in two parallel lines. These lights are located on the belly of the tanker behind that aircraft's nose wheel housing. The row of lights informed the pilot of the refueling B-52 if he needed to come forward or drop back to be in the proper refueling position.

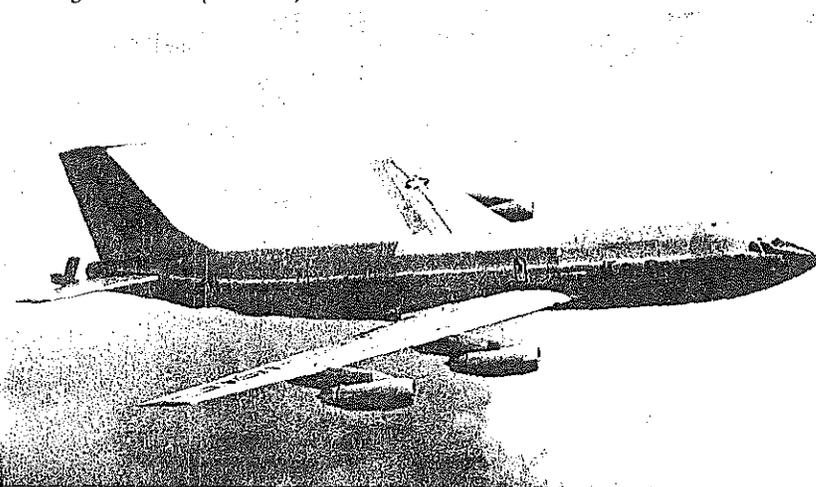
The pressure of the receiving aircraft on the boom controls the light pattern. The boom having the ability to extend and compress, and move right and left within the flight refueling envelope. This movement of the boom activates the directional lights. Additional

guidance during refueling was provided via radio link from the tanker boom operator. With the B-52's nose just aft of the tail of the KC-135, and at an altitude 25 feet lower, the boom operator would fly the boom into the refueling receptacle located just aft of the B-52 cockpit.

The KC-135 refueling boom consists of two tubular sections that can extend out to 27 feet. The boom can be moved through a cone area by "ruddevators," which act as both rudders and elevators, they are, attached near the end of the boom. The boom operator by manipulating the ruddevators can move the boom through a 30 degree right and left azimuth plus elevate and depress the boom from horizontal to minus 50 degrees. At the end of the boom is a telescoping tubular section that the boom operator inserts and locks into the receiving plane's refueling receptacle. Once the boom is plugged into the B-52, refueling commences with 6,500 pounds of jet fuel being transferred each minute. The KC-135A can carry 202,800 pounds of JP-4 fuel for transfer. Upon the B-52 reporting it has received its quota of fuel, the boom operator disconnects the boom. Once free of the boom the two aircraft separate and each continues on its assigned mission.

On 15 October at 1840 CST, the two aircraft, #57-036 and #57-1513 began to prepare for refueling operations. The KC-135, assumed a racetrack refueling box over western Kentucky. The weather that night was clear, and there was no upper air turbulence. Wind speed was 20 MPH out of the west. Horizontal visibility was seven miles. The two aircraft began to rendezvous over Hardinsburg, Kentucky, at 31,500 feet. Upon joining up, the KC-135 would begin to transfer fuel to the B-52 by means of a refueling boom. The

*Boeing KC-135A (USAFM)*



boom refueling operator would lower the boom and guide it into the B-52 refueling receptacle. In order to carry out the refueling operation the two aircraft would have to fly within 25 feet of each other. The B-52 took a position below and to the rear of the tanker.

What happened next is unclear but what is known is that as the two aircraft came into contact with each other at 6:46PM CST. Upon coming into contact with each other the KC-135 refueling tank ruptured. The fuel, spilling out of the aircraft, was ignited by the engines of one of the two planes. The result was a spectacular explosion that was witnessed by persons on the ground up to a 150 miles away. This collision marked the first accident in which SAC lost an aircraft in a refueling exercise since it had begun around-the-clock refueling operations in 1951.

What actually happened in the sky that night is uncertain, but it is known that as soon as the two planes collided, both experienced rapid break-up of their fuselages. This caused both aircraft to lose electrical power including inter-aircraft phones and alarm circuits. Internal fires broke out in both aircraft. The tanker became engulfed in flames as she broke up. The integrity of the B-52 lasted only a little longer. This delay allowed part of the crew of the bomber to abandon their aircraft. Major Milton Chatham was the first to eject. He was followed by Captain William Gutshall, the pilot. Immediately thereafter Captain James Strother and 1st Lt Gino Fugazzi exited the aircraft. The other four crew members of the B-52 were trapped in their aircraft. As for the crew of the KC-135, none were able to exit the aircraft. Destruction of their aircraft was instantaneous.

The collision of the two aircraft was observed by a variety of people

from sites distant and far. Phone calls flooded both the Kentucky and Indiana State Police plus local law enforcement agencies. Most people identifying what they saw in the sky as a meteorite, a shooting star, a UFO, or a Russian "Sputnik" satellite. Only a few understood they were witnessing one or more aircraft crashing. Surprisingly almost all witnesses agreed to what they saw; a flash and then four burning objects falling toward the ground. The citizens making the reports all provided guesses to where the explosion happened or the object crashed. There were also numerous reports to the Kentucky State Police of an explosion which rattled windows from an area centered 20 miles around the village of Glen Dean, Kentucky.

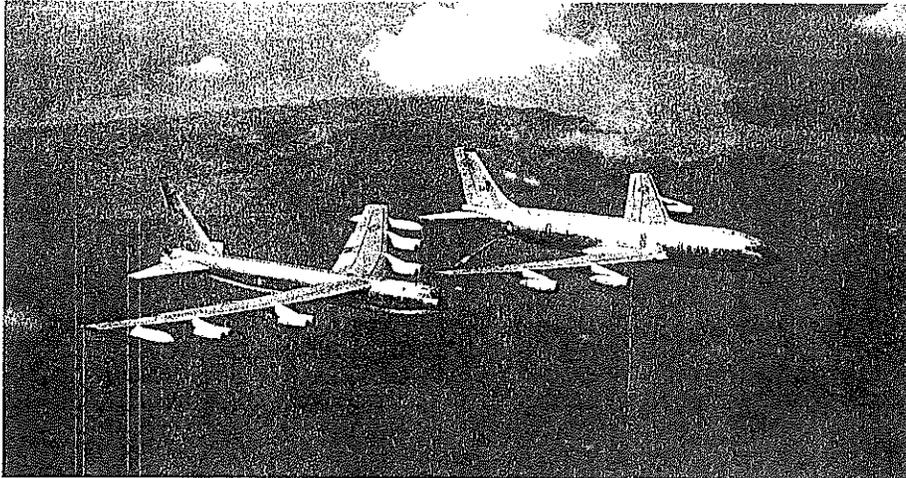
The two aircraft had plunged to the ground twelve miles south of Hardinsburg. They landed two miles apart in rugged hill country served by narrow gravel roads. The KC-135A impacted the earth on the farm of Mrs Ruby Jones 100 yards from the farm house of Briscoll Thurman, near the village of Glen Dean. The aircraft dug a trench 75 feet long and 35 feet wide as it buried itself into the ground. Wellington Mathews, one of the first to reach the site, stated that, "We walked over hills, through woods, briar patches, and ditches to reach the crash site. When we reached the scene we found an area several hundred feet in diameter completely burned. The trees were charred from the flames. Pieces of metal were dripping from the trees like cold icicles. Many of the huge trees were torn down as if they had been pushed over by a bulldozer. The biggest bit of wreckage was a part of the fuselage 50 feet long and six to ten feet across. We couldn't find a single bit of identification nor did we see any evidence of crewmen. The place was almost as light as day. It must have been magnesium

burning, because it was giving off a brilliant white fire. Near the fuselage were three holes in the ground ranging in size from 20 to 30 feet long and six to 8 feet wide. They were filled with a liquid that smelled like Kerosene."

The B-52 plowed into the ground on the farms of Reason Sabastain and of Marcus Whittler near the crossroads of McQuady. At the time of the collision Mr Sabastain had been out on his farm while his wife and two grandchildren were in the house. One of the B-52's engines impacted into the ground 50 feet from where he stood. The main part of the aircraft hit the ground a quarter of a mile away in a grove of oak trees on the Whittler farm. Mr Sabastain, in telling of his experience that night, said "I was standing in the yard when they hit. I looked up and the sky was on fire. At first I didn't know what it could be, but when I saw all those fiery pieces coming down on me, I knew it must be a plane crash. I was standing under a pear tree when the pieces began to hit all over. One part hit 50 feet from where I was standing. Another part hit further away and spouted flames as high as a full grown tree. I ran over and could see a man in the burning wreckage but the heat was so intense I couldn't get close to help."

Carried to the ground with the B-52 were the two nuclear weapons it had been armed with. When the B-52 hit the ground the aircraft created a crater four feet deep, 35 feet long, and ten feet wide. Debris was spread over an acre of ground, and numerous ground cover fires broke out at the crash site.

The four surviving crew members of the bomber landed in their parachutes near the village of Glen Dean. Two of them, Major Chatham and Captain Gutshall, were rescued by Raymond Sosh



*Refueling of a B-52 by a KC-135 tanker (USAFM)*

and Ray Ashley who transported them to Critchelow's Store in Glen Dean. The store was one of the few places in the village of approximately 80 souls that had a phone. From here phone calls were made to the Columbus AFB, Breckinridge County Sheriff Office, and to the residence of Dr Walter R. Morris. Dr Morris was summoned to treat Major Chapman who was bleeding badly from a cut and injured arm.

The other two B-52 survivors landed at the farm of Russell Morgan. He recounted to the news media that he saw the two men and their parachutes land in a grove of trees. He stated that he was only able to find them because "they kept calling for help. We yelled back and forth and finally got together." Mr Morgan took the two survivors, Captain Strother and 1st Lt Fugazzi to Glen Dean where they were united with the other survivors.

The news media was on the scene closely behind the doctor. Air Force personnel sent to recover the survivors did not arrive at the store until the next morning. By first light KY 629, a two-lane gravel road, had over 1,000 cars parked along both sides of the road for two miles as sightseers descended on Glen Dean. The good ladies of Glen

Dean quickly swung into action and set up a feeding center at the store where coffee and sandwiches were made available to the workers during the length of the incident.

The news media was able to obtain little information from the survivors. The only recorded response that was quoted was an unattributed statement of "I guess you saw as much as we did, I don't know what happened up there." The news media the following days offered to their readers two scenarios of what happened; the planes collided with each other or the tanker exploded when the fuel transfer started. The Air Force crash investigation report listing the cause of this incident is still classified. Lt General John P. McConnell, at the time he set up the crash investigation team, stated that their mission was to determine if, "The collision caused the explosion or the explosion caused the collision." The accident investigation team based at Little Rock AFB was headed by Brig Gen John S. Samuels. All general literature on the incident however state that the two planes collided.

Initial news reports from the scene stated that five crew members survived the collision. Major Robert Imhoff, the KC-135A pilot

was reported as being safe. It is uncertain how this "rumor" got started, but it is thought this was due to the fact that two of the B-52 survivors were listed as pilots. The news media incorrectly assumed that the two pilots were from different aircraft. This misinformation was only corrected in the news media 24 hours after the incident.

When SAC headquarters received reports of the accident, it dispatched disaster teams from Barksdale AFB, LA, and Offutt AFB, NE. Ft Knox, the Kentucky National Guard, Kentucky Civil Air Patrol, the Kentucky State Police, and the Atomic Energy Commission (AEC) also sent personnel to the scene. The Air Force, upon recovery of the survivors, set out to collect the remains of the eight men lost from the two crashed aircraft. They also secured and covered the two atomic bombs.

First news media reports from the site reported the presence of what were thought to be two nuclear weapons. These were reported to be objects approximately 15 feet long and three feet in diameter. That there were two nuclear weapons on board the B-52 was confirmed by Lt Gen John P. McConnell, Commanding Officer of the 2nd Air Force (2AF). The 2AF controlled the 492nd Bomber Squadron and 901st Air Refueling Squadron. Later the Air Force and the Atomic Energy Commission released a report that both weapons had been recovered. That news release stated; "Two unarmed nuclear weapons were recovered intact. One bomb was found in the wreckage of the B-52. The second was found in the woods close by. One weapon had been partially burned but this did not result in the dispersion of any nuclear material or other contamination." The AEC further stated that its personnel had surveyed the area

with Geiger counters and had detected no radiation. The type of nuclear weapon recovered was not released by the Air Force or the AEC at this time or at latter news briefing, but the author believes that they were MK-39 nuclear weapons. The news media reporting that the bomb "was about the size of a large log being 15 feet long." The Air Force, on reaching the scene, had covered both devices with blankets. The two nuclear weapons were removed from the site on the afternoon of 16 October 1959.

The Atomic Energy Commission (AEC) personnel had come to the crash scene, because in 1947 the AEC had been charged with insuring that there was a separation between the producer and consumer of nuclear weapons. As originally conceived, the AEC had physical custody of all nuclear weapons, even at US Air Force bases. Only if the President directed that nuclear weapons were to be used would the AEC turn the weapons over to the Air Force, Army or Navy.

The AEC would continue to retain direct control over most of the US nuclear weapon stockpile until 1967 when President Johnson ordered the AEC to turn all the nuclear weapons it held over to DOD.

In 1959 the AEC was still an equal player with DOD in the control and accountability of nuclear weapons. This explained the presence of the two AEC representatives at the B-52 crash site. These two AEC representatives were charged with ensuring that both nuclear weapons and their components were completely recovered, and that there had been no release of radioactive material at the crash site.

The same day as the two nuclear weapons were removed from the site, the bodies of all eight missing

B-52 and KC-135 crew members were accounted for. After the bodies were viewed by the Breckinridge County Coroner, who declared them dead and issued their death certificates, the bodies were removed from the site. Local newspaper reports stated that the deceased were each placed in a body bag. The body bags were then transported on stretchers by the military personnel to the nearest road where they were loaded on ambulances for transport to Ft Knox.

With the bodies and nuclear weapons recovered, the Air Force now turned to recovering as much of the wreckage of the two aircraft as possible. The Air Force's main concern was to insure that all classified material was recovered. The area of search covered roughly a five mile square area. Most of the debris fell within two separate 10,000 sq ft areas, but other parts had separated from the two aircraft at the time of the collision and fell to the earth in a five mile long corridor. Other material from the aircraft had been picked up and removed from the site by sightseers.

News reports speak of bits of debris scattered over a wide area around Glen Dean and McQuady. A large portion of one wing of the tanker was found two miles from the crash site. Also found some distance away were objects identified by the news media as a chair, engine, and a door. Due to the wide spread debris trail, the Air Force requested all citizens in the area to report any debris they spotted. A phone number at Ft Knox was provided for citizens to call. Citizens were also advised not to move any debris they found for only if the Air Force knew its actual location could the object found help in solving the mystery of what happened. The Air Force also advised that in addition to the two recovered nuclear weapons on

board, the aircraft had carried other explosives that could pose a threat to anyone picking them up. Various pieces of aircraft material, as a result of this notice, were recovered from sightseers and from property that lay outside the primary search area. The Air Force would spend three weeks searching the area to ensure recovery of as much of the two aircraft as possible before ending recovery operations. I have found no mention of how the reported jet fuel pools at the crash sites were cleaned up.

Today no historical marker locates the site of the crash of these two aircraft. In fact local knowledge of the event is limited to the generation who experienced the crash. The next collision between a B-52 and a KC-135 would not be forgotten. This collision would generate world wide news coverage, protests, documentaries, and numerous books and articles. This was the 17 January 1966, "Palomares Spain Incident" in which four nuclear weapons were involved. The hunt to recover the missing crew members, the four nuclear weapons, and the two aircraft parts is now part of the lore of the Cold War. The Hardinsburg B-52/KC-135 crash incident was reduced to a footnote of the "Palomares Spain Incident." The military death count for the Cold War only gives the names of those killed in direct confrontation with the Communist Forces, but the eight who died at Hardinsburg are but part of the total fatalities suffered by the US Armed Forces from various causes during the Cold War. The end result of dying in combat and dying during a training mission are the same, life ceases. The 15th of October 1959, thus marks a day in which the Cold War reached out and touched the lives of many in Breckinridge County, Kentucky. ☼