# FLIGHT LINES

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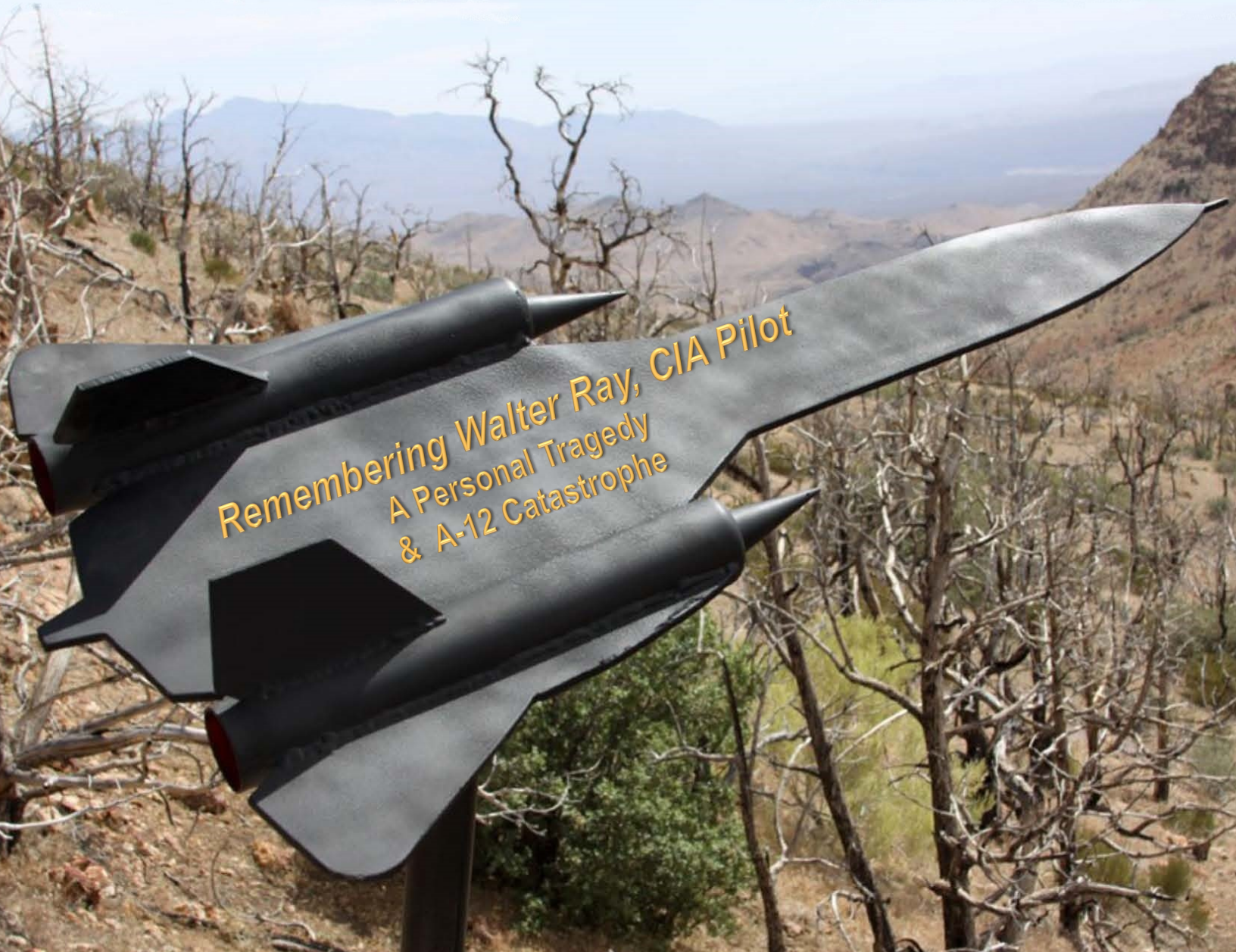


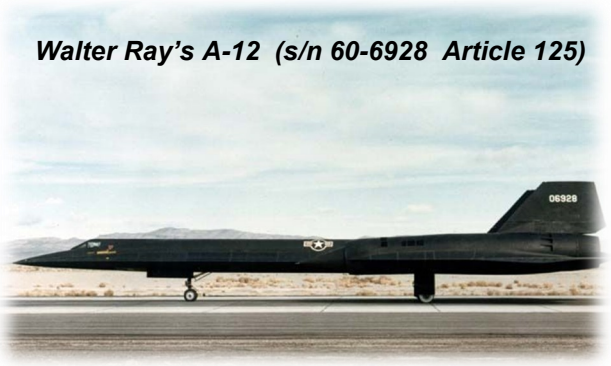
## Remembering Walter Ray, CIA Pilot
## A Personal Tragedy
## & A-12 Catastrophe

# THE TRAGIC CRASH OF AN A-12

## Remembering Walter L. Ray, CIA Pilot

On January 5, 1967, a sister-ship of our museum's Lockheed A-12 (*Article 131*) was returning from a training flight to the now well-known CIA's advanced-aviation research facility base (*Area 51*) when fuel starvation caused both engines to shut down. The pilot glided his A-12 to a lower altitude to perform a controlled bailout but could not separate his parachute from his ejection seat. Walter L. Ray became the first CIA pilot killed in the line of duty in an A-12 aircraft.

The cause leading up to the crash was identified as an electrical short in a fuel quantity probe causing the cockpit display to read more fuel on board than there actually was.



***Walter Ray's A-12 (s/n 60-6928 Article 125)***

Ray, ostensibly a civilian pilot for Lockheed, was in the midst of what has been termed "*a routine test flight*" of the very secret Lockheed A-12. As far as the A-12 fleet went, it was relatively middle-aged aircraft, with 335 hours spread over 202 flights. As for Ray, he was a very experienced pilot, with a long military background. Of his 3,354 hours of flight time, 358 hours were in A-12s. He had joined this project on November 7, 1962.

The first aerial refueling, immediately after takeoff, was normal, taking on 36,000 pounds of fuel. After climbing and executing a Mach 3.1 cruise for a while, Ray prepared for his second aerial refueling. He took on another 61,000 pounds of fuel, which was 4 to 5,000 pounds less than he was supposed to get, as the tanker had insufficient fuel. Ray was planning to mitigate this fuel shortage by executing a fuel-saving, reduced power climb on the next outbound leg. This tactic worked pretty well, and Ray was able to conserve enough fuel on his outbound leg so he was only a manageable 800 to 1000 pounds below what he should have had after completing the turn back to Area 51. Then, things began to go sour.

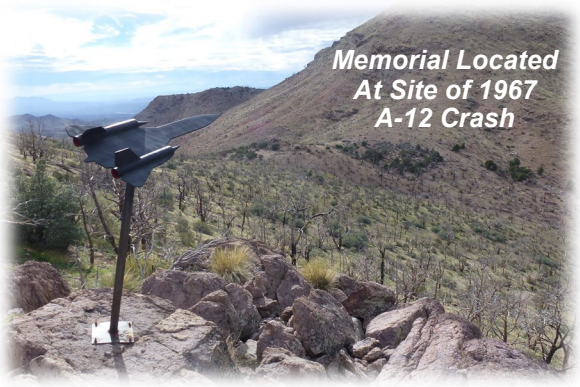
Near Farmington, New Mexico, Ray reported he was down to 7,500 pounds of fuel, and said, "*I don't know where it's gone*." At that point in his flight, he was supposed to have about 13,000 pounds in his tanks, but Ray stated he thought he could still make it. Ray radioed he was 130 miles out, had 4,000 pounds of fuel left, and was losing it at an excessive rate. Then 5 minutes later, at 4:01 pm, he reported that the low pressure lights for his fuel system had come on.....he was running out of fuel. 30 seconds later he called and said his engines were starting to flame out.

Finally, at 4:03 pm, a mere 10 minutes from safe touchdown, Ray made his final radio transmission to state both engines had flamed out, and was ejecting.

The way the ejection system worked on the A-12 was not as most people would imagine. After ejection, the pilot remains strapped in their seat, and the seat releases a small drogue parachute to both slow and stabilize itself. Then, upon reaching some much lower, preset altitude, the seat releases the straps and the pilot is forcibly shoved out of the seat. After that, the pilot's parachute opens, and they complete their descent. The system was designed to safely recover pilots from extremely high altitudes, even if they were injured or unconscious.

As Ray passed through 16,000' the system tried to work as advertised but something went very wrong. His parachute backpack jammed under the seat's headrest. Why Ray couldn't manually extricate himself is not known. Sadly, Ray and the seat impacted the side of a mountain peak and was killed instantly.

Walter L. Ray is honored by the CIA in their "*Book of Honor*", at CIA Headquarters, McLean, VA.



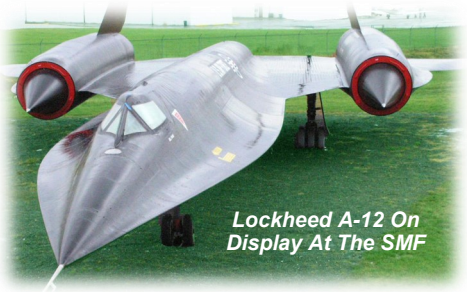
***Memorial Located At Site of 1967 A-12 Crash***

# A NEW "BLACKBIRD" ?

## A-12 ➡ SR-71 ➡ SR-72 ?

The **Lockheed A-12** was a high altitude, Mach 3+ reconnaissance aircraft built for the Central Intelligence Agency (*CIA*) by Lockheed's Skunk Works. The aircraft was designated A-12, the 12th in a series of internal design efforts for "*Archangel*", the aircraft's internal code name and was developed and operated under the code name, Project Oxcart.

The A-12 was produced from 1962 to 1964 and flew from 1963 to 1968. There were a total of 15 built: 12 – A12s, 1 - A-12 (two seat trainer), and 2 - M-21s (*Mothership for the D-21 Drone*). Six A-12s were lost due to accidents and the remaining nine are on display mostly at aerospace museums within the United States. The A-12 was the precursor to the SR-71 "*Blackbird*", a slightly longer variant carrying a heavier fuel and camera load. The A-12 began flying missions in 1967 and its final mission was in May 1968; the program and aircraft were retired that June. The program was officially revealed in the mid-1990s.



*Lockheed A-12 On Display At The SMF*

The SR-71 "*Blackbird*" was developed as a secret project during the 1960s by Lockheed. The shape of the SR-71 was based on that of the A-12, which was one of the first aircraft to be designed with a reduced radar cross-section. At one point, a bomber variant of the aircraft was under consideration before the program solely focused on reconnaissance. The SR-71 (*32 built - 12 lost to accidents with none lost to enemy action*) was retired during 1988 by the USAF largely for political reasons; several were briefly reactivated during the 1990s before their second retirement in 1998. NASA was the final operator of the type, retiring their examples in 1999. As of 2021, the SR-71 continues to hold the official world record it set in 1976 for the fastest air-breathing manned aircraft.

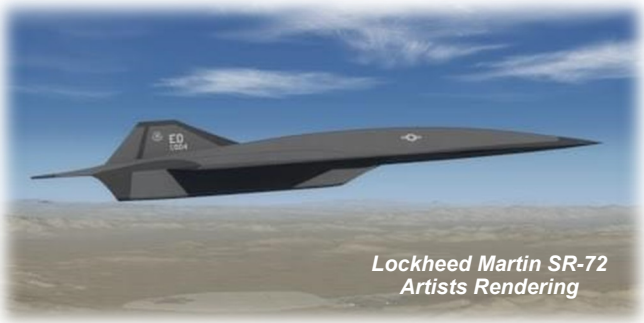
Since its retirement, the SR-71's role has been taken up by a combination of reconnaissance satellites and unmanned aerial vehicles (*UAVs*).

With the retirement of the SR-71, there appeared to be a coverage gap between surveillance satellites, manned aircraft, and unmanned aerial vehicles for intelligence, surveillance, reconnaissance and strike missions. With the growth of anti-satellite weapons, anti-access/area denial tactics, and counter-stealth technologies, it was thought that a high-speed aircraft could penetrate protected airspace and observe or strike a target before enemies could detect or intercept it. The proposed reliance on extremely high speed to penetrate defended airspace is considered a conceptual departure from the current emphasis on the stealth of the fifth-generation jet fighter programs and projected drone developments.

Unconfirmed reports about Lockheed Martin's Skunk Works developing an aircraft for the USAF, able to fly six times the speed of sound, date back to 2007. Development work on a SR-72 demonstrator dubbed "*Son of Blackbird*" was first published by *Aviation Week & Space Technology* in 2013. The company expected an SR-72 test vehicle could fly by 2023.

In early 2018, two hypersonic UAV demonstrators revealed by Lockheed Martin and Boeing raised eyes in many media outlets. But since then there has been not much news about the Lockheed Martin demonstrator. Why? It may reveal how drastically thinking about hypersonics has changed in the last few years. But Lockheed Martin's development of hypersonic weapons may give it an edge in future development of a SR-72.

It's also possible that the project may be continuing in secrecy similar to its predecessor's development. As the SR-72 brings a different kind of capability, the military may have chosen only to reveal hypersonic projects that are on par with what other nations are doing.



*Lockheed Martin SR-72 Artists Rendering*

# SIGNING EVENT AT MUSEUM

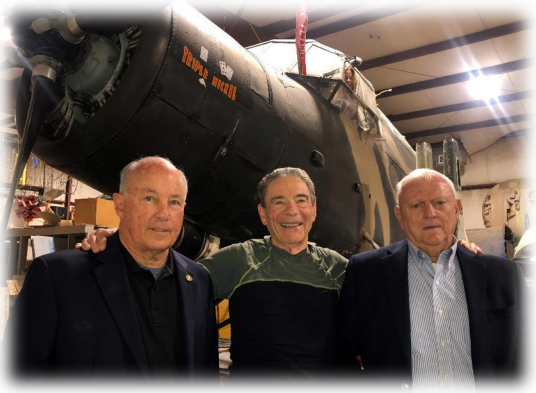
## An Air Combat First !

The Southern Museum of Flight's unique **Shadow Gallery** attractively displays 17 reproductions of original artwork displayed only at CIA headquarters in Langley, VA, and where members of the general public cannot visit. Based upon once-secret events that have since been declassified, the artwork provides a rare glimpse into decades of U.S. spy work. There is one print in our Gallery that now bears the signature of Ted Moore, the CIA helicopter pilot portrayed in artwork entitled, "*An Air Combat First*", a commissioned painting by Keith Woodcock. Ted Moore recently paid a visit to our museum with his family and another former CIA operative, and signed "his" artwork that is displayed in the Gallery.

On January 12, 1968, four North Vietnamese AN-2 "*Colt*" biplanes headed for Lima Site 85 in Laos to destroy this US radar facility providing critical guidance to American fighter-bombers. At about 1:30 pm, as they approached their target, the four Colts split into two equal formations–one pair began low-level bombing and strafing passes. Coincidently, Air America pilot, Ted Moore, was flying an ammunition supply run to the site in his unarmed UH-1D "*Huey*" helicopter when he saw the biplanes attacking. Moore and his flight mechanic, Glenn Woods, took chase. Moore positioned the Huey above and behind the Colt, a blind spot for the pilot of the biplane. Woods pulled out his AK-47 rifle and began firing at the biplane while ground fire hit the second Colt. Both attacking Colts suffered severe damage and crashed before reaching the border. Fearing a similar fate, the two unengaged Colts retreated unharmed.

The painting captures one North Vietnamese Colt fleeing and the other being pursued by the Air America Huey piloted by Moore as mechanic Woods fires his AK-47 at the cockpit. This daring action by Moore and Woods gained them - *and Air America* - the distinction of the first and only time a helicopter had taken out a biplane. It was also the first recorded air-to-air victory for the CIA.

"*The works displayed at CIA headquarters were funded by private contributions and donated to the CIA*", said Erik Kirzinger, who played a key role in helping put the collection together. The prints displayed in the Shadow Gallery at our museum are accompanied both by written explanations of the historic events they depict and stories of how the artists completed the artwork.

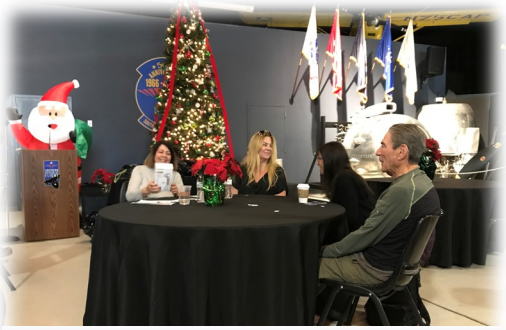


***Ted Moore*** *(center) "reunites" with the museum's* ***Antonov AN-2 "Colt"*** *and with* ***Dr. Jim Griffin*** *(former SMF Director at left) and* ***Jim Monroe*** *(former CIA officer at right)*

*(With an enlarged view of the picture above, Ted Moore's daughter can be seen in the left seat at the cockpit window)*

Our distinguished guests toured the rest of the museum and then joined the staff and volunteers for the museum's annual luncheon holiday party.

If was a great day to again meet individuals that are depicted in the paintings of the various CIA missions that have been so important at ensuring the security of the United States.



***Ted Moore*** *enjoys holiday lunch event at museum with his wife and daughter*

*Thanks to all for their dedication and service!*