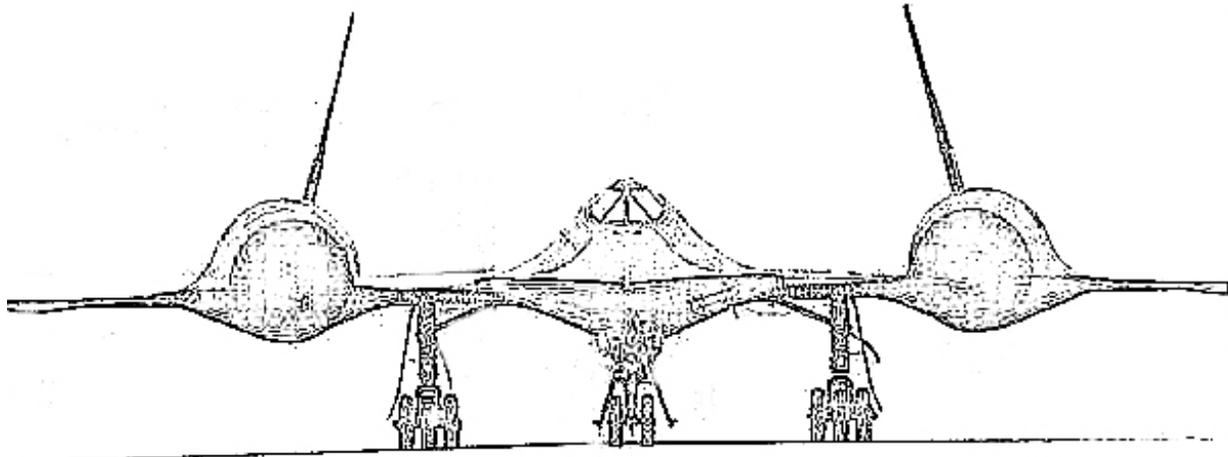


## THE VIEW FROM THE TOP



When the CIA operated U-2 was shot down deep inside the Soviet Union in 1960, President Eisenhower promised no more U-2 overflights of the USSR. The Russians accused the U.S. of breaking their word when an RB-47, of the 55SRW, was downed exactly two months later. Ike then vowed there would be no more overflights by any type U.S. aircraft, which halted all U.S. reconnaissance efforts for a short time and sent shock waves throughout the intelligence community. Recon operations resumed in slightly over a month, but under completely new guidelines, policies and tactics. The impact on the U-2 operation was devastating, as it was then limited to air sampling, peripheral routes, weather and other terribly unsatisfying chores. China was a most desirable ripe plum, but politics ruled that those missions had to be flown by Nationalist Chinese Pilots from Taiwan. That left the U-2 force in desperate need of a war, crisis or conflict of some kind.

The first U-2s were all for the CIA, as were the good missions. The agency received its aircraft well over a year before the Air Force got its first U-2 in June 1957. The CIA U-2s were the famous 'basic black' while the USAF birds were bare metal silver and later gray. The Air Force was saddled with the HASP (High Altitude Sampling Program) mission as its primary task, with a few peripheral missions grudgingly doled out by the CIA. Word around the Intelligence Centers was that the 'U' designation stood for useless and the aircraft were referred to as the "Useless Deuce".

The U-2 pilots were the elite of the Air Force, routinely facing the unknown and operating at extremes which most other pilots would never encounter and perhaps not even believe. Those men were daring, wild, proud, anxious and getting more impatient every day. If they didn't get a mission soon - they would nearly kill each other letting off steam, destroy morale and discipline where ever they went, steal everything in sight just for the practice, drink anything that flowed just for the practice and ruin the U.S. relations with most other free world nations. An obscure cartoon became more and more popular with the U-2 types. It depicted two vultures, perched atop a cactus, watching a prospector crawl across the desert. One vulture, about to spring from its perch, was saying to the other one, "Patience, hell - I'm gonna kill something."

The Cuban crisis was a real shot-in-the-arm for the Air Force U-2 group. They were tasked to help out with the surveillance when the situation began to heat up. That involvement grew and grew until they were flying six or eight missions a day at the peak. The U-2 was back in business and doing an impressive job. Morale was very high, but so was the price paid for the mission - the 4080SRW lost three pilots and four aircraft on Cuban missions. When the crisis cooled, they settled down to a daily joint recon operation with the RB-47s of the 55SRW. That quickly became even more routine and dull than the air sampling sorties.

Gone were the good ole days of dodging SA-2 missiles and watching MIG-21s flame out and tumble back to earth after executing a maximum speed zoom climb in an attempt to get high enough for a shot at the U-2. After a few months of those terribly uneventful sorties, the U-2 and RB-47 crews unofficially changed the name of the joint mission from "Common Cause" to a more fitting "Lost Cause".

### **THE DRAGON LADY GOES TO WAR**

The unit's morale, which had been adversely affected by the dull routine of HASP missions and a high loss rate from accidents, received its biggest boost in March 1964 when the HASP program was terminated and the U-2 ordered to Vietnam. The Dragon Lady was going to war! The aircraft were stripped of the air sampling equipment and refitted with photo and electronic collection gear. Another big morale and confidence booster was the upgrading of the U-2A aircraft to U-2C specifications, with the addition of the more powerful Pratt and Whitney J75-P-13 engine and other refinements. The U-2 was no longer engine limited and was then capable of handling the ever increasing sensor loads.

The 4080<sup>th</sup> had been at Davis-Monthan AFB less than a year when ordered to deploy both its U-2 and DC-130/Drone operations to Vietnam. They set up shop at Bien Hoa as OL-20, under the names Lucky Dragon for the U-2s and Blue Springs for the DC-130 group.

The U-2 immediately began to do what it was designed for - high altitude photography. It was tasked with routes all over the combat area with PHOTINT (photo intelligence) as its primary mission. It was equipped with electronic receivers that functioned as threat warning devices when SA-2 or MIG radars operated in imminent attack modes. From time to time it also carried other electronic receivers, tuned to specific bands that were preset on the ground. They could not be tuned by either the pilot or a remote station (that would change later).

The SA-2 missiles had exacted a high toll of the U-2s in China and Cuba, and were respected as a genuine threat to the high flyer in SEA. The rapid proliferation of SA-2s throughout the combat zone, coupled with the impressive capabilities of the Ryan AQM-34 drones combined to bring a quick end to the U-2 overflights.

A U-2 was flying a coordinated sortie, with one of the high altitude drones, in which the drone overflew a SAM defended area, while the U-2 remained on the fringe of the missiles range. The pilot clearly observed the total destruction of the drone by an SA-2 and was awed by the accuracy and destructive force of the missile. He, for one, stated that he was very receptive to suggested changes in the U-2 mission. The U-2s were reconfigured more and more for SIGINT (signals intelligence), while being tasked for very little photo requirements. Eventually, the drones and SR-71 satisfied the photo requirements and the U-2s were devoted solely to SIGINT.

### **EVERYTHING CHANGES**

The initial U-2 deployment under project Lucky Dragon was changed to Trojan Horse and later to Olympic Torch, Senior Book and Giant Dragon. The U-2 force had changed their name, their mission, their aircraft and were to see more significant changes before leaving Southeast Asia. The wing designation changed from 4080SRW to 100SRW on 11 February 1966, resulting in a renumbering of the U-2 squadron from 4028SRS to 349SRS. On 11 July 1970 the force was moved from Bien Hoa to U-Tapao (OL-RU) in Thailand. Just prior to the move, OL-20

was upgraded to full squadron status and designated the 99SRS. But, by far the most significant change was the receipt of U-2R aircraft.

The engine limitations of the U-2A had been overcome with the J57 modification, which proved to be quite capable of more than the U-2C airframe would allow. The new U-2R offered significant increases in payload, range, flexibility and safety. The 'R' model with its 23 foot longer wingspan and larger fuselage provided an additional 400 square feet of wing, a much better lift/drag ratio, a greater volume for sensor payloads, a roomier cockpit, increased range and improved flight controls with a much better response to same. That led to a vast reduction in the accident rate, particularly at low altitudes. The 'R' model first flew in August 1967 and was operational in USAF units by late 1968.

The 4080<sup>th</sup> took the Dragon Lady into combat dressed in Air Force gray and the bare metal silver. The U-2 types soon voiced their concern over being too easily spotted, both on the ground and in the air, with their common color schemes. They convinced the powers that be and won approval to paint the aircraft black. In the fall of 1964, Major Smart flew aircraft 680 to Guam, accompanied by some maintenance types and a supply of the magic paint. The support personnel at Anderson refused to have anything to do with the project. No sweat! Improvisation becomes daily routine when you operate highly classified aircraft from strange fields all over the world. The U-2 bunch took up where the WWII Black Sheep left off and were quite adept at it. They liberated the necessary painting equipment, secured an empty hangar, did the paint job themselves, flew the U-2 back to Bien Hoa and proudly claimed the first black U-2 in the USAF.

More on the paint job. I have observed the U-2 and SR-71 on the ground, in the air at altitude and on approaches. I assure you that the new gray paint schemes (most similar to the old U-2 colors) are the hardest to spot under all conditions and a black airplane stands out like a sore thumb. Visibility be damned - a black airplane looks sinister and has an air of mystique, plus no self-respecting "spy plane" would be seen in any color other than black. Sure the paint contained metal particles that dissipate radar energy and added forty pounds to the weight of the airplane - but it did not hide it. (Actually it isn't even black, but a very dark blue). Perhaps if you raced down the flight line on a moonless night with your lights off, you may not spot the U-2 or may even run into it. But, I contend that the black paint is strictly macho.

As further proof - I was at an air show where some of the U-2s were on display. An SR-71 and two black U-2s were grouped together with one of the U-2Cs that had been painted gray for its deployment to England (the British refused to let a black U-2 operate openly from any of their airfields). I overheard someone from three different groups point to the gray U-2 and ask, "What kind of an airplane is that?"

Previously, the U-2 had deployed to overseas locations under a shroud of secrecy. They were partially disassembled and stuck into cargo aircraft for the trip and unloaded during darkness or covered with canvas. They were housed in out-of-the-way hangars and snuck onto the runway for mission launches - usually before sunrise and not at either end of the runway. The sortie was flown under complete radio silence and the strictest security. But, when you go to war you let it all hang out. It was quite a change for the U-2 types to park their aircraft in plain view, taxi out to the runway in broad daylight and talk on the radio. They received taxi instructions, got the meteorological data, were cleared for takeoff, got departure and/or approach directions and all that good stuff that the other pilots get via radio.

When your job is to photograph something, you go get the pictures and come home - as simple as that. But, when tasked to listen in electronically, you must remain in the area as long as possible. The U-2 SIGINT mission was also quite a change. The object was then to orbit in an area for hours and hours that seemed like days. The pilot did not operate the receivers, as they were either automatic or remotely controlled, so he sat there boring holes in the sky for hours with very little to do or see. The only relief came from tuning in on the war, listening to radio calls from strike aircraft and rescue attempts, which helped keep them awake. During the

hours when no strikes were conducted (that sometimes went on for days) it became a real chore to stay awake - especially at night when there were no visual attractions. And they certainly couldn't stick their head out the window for a blast of cool air.

Not only did the mission interest switch from PHOTINT to SIGINT, but the area of most interest moved from North Vietnam to China. More and more the missions were aimed at objectives in China, rather than the active combat areas, until toward the end nearly all efforts were directed at the Chinese. There remained some routine tasking against the combat arena during special operations such as Linebacker, etc.

The early SIGINT configurations consisted of preset receivers that could monitor only one or two frequencies, scanning receivers with limited capability and wide-open receivers that intercepted everything within a preset band. The shortcomings were obvious and much effort went into improving the systems. There the U-2 benefited from its rival, the drones. Both U-2s and drones soon routinely performed their tasks utilizing intercept systems that were remotely monitored and controlled by specialists in other aircraft or ground sites. Those systems enabled the specialists to select signals of the most interest, search for suspected emitters, operate the equipment as if they were aboard the U-2 and to relay their intelligence to users around the world via satellite and other communications.

What began with six hour photo missions soon extended to eight, then ten and finally twelve hour or longer flights. Once the U-2 was on station and in orbit, it was kept there as long as possible or until another U-2 relieved it. Pilot endurance became the key and limiting factor in the operation. The larger 'R' model cockpit, with such amenities as a hot-cup (food warmer), made it a little easier for the pilots to endure the extended missions. Still, twelve hours is agonizingly long to wear a pressure suit, sit in one position, endure extremes of heat and cold, control your bowels and feel your body dehydrating from the extremely dry air and the oxygen they had to breath constantly. It required several days to replenish the fluids lost in a twelve hour U-2 flight. One benefit from all that was that they were so terribly uncomfortable, it became difficult to fall asleep.

The U-2 began as an impressively sleek, clean airplane. But like all aircraft involved in electronic reconnaissance, the U-2 began to sprout bumps, bulges, pods and antennas. By the end of the conflict, some U-2s sported so many antennas they looked more like a porcupine than a flying device. That still holds true as today's TR-1s are encumbered with a variety of superpods and as many antennas as there are types of emitters.

#### **FOR THE RECORD**

While in Southeast Asia, the U-2 compiled an impressive list of feats. The Paul T. Cullen trophy is the highest honor SAC accords a reconnaissance unit and is dearly coveted by all in the business. For its accomplishments in support of the war in 1972, the 100SRW was awarded the Cullen Trophy. During the same period, the 100<sup>th</sup> was recognized as the best recon unit in 15AF, for which it received the John A. Desportes Trophy. In addition, they were awarded Presidential Unit Citations and Air Force Outstanding Unit Awards while in combat.

In January 1973, the U-2s flew more than 500 combat hours. That was the first time any U-2 outfit flew 500 hours in a single month. That was topped in December 1974 when they logged more than 600 hours. That averaged 20 hours a day for quite delicate systems operating near the limits of both man and machine under combat conditions and some of the worst weather in the world. I hate to think of the possibilities if all that energy and ingenuity had been expended against friendly forces in the absence of a mission for the U-2 gang.

The U-2s were pulled out of Thailand in March 1976 and deployed to other OLS around the globe. The Dragon Lady had proved to be a quite capable and reliable reconnaissance platform. That led to the manufacture of the TR-1 and firmly established a mission for the high flyer so long as manned aircraft are employed by the military.

**HABU**

The SR-71 went to war in much the same manner as the RC-135, in that it operated out of Kadena Air Base and had mission requirements other than the war zone. SAC had a large, established wing, the 4252SW, already at Kadena operating a large fleet of KC-135s and the RC-135s. The base had been set up many years before with all the SAC operations on the far side of the field, well isolated from all other activities. That had been done to satisfy the security requirements of the RB-47 and U-2 in the '50s. Even more stringent measures were taken when the RC-135s arrived, making it an ideal location for SR-71 operations. The 9SRW established Detachment One at Kadena and deployed the SR-71 in 1967. Okinawa is infested with an unusually aggressive poisonous snake called the Habu. The SR-71s were christened with that moniker and a small white snake symbol appeared on the vertical fins.

The SR-71 operated much like the U-2 of old - under a heavy veil of secrecy. The aircraft remained hidden as much as possible and their existence on Okinawa was vehemently denied. The Habu drew large crowds of spectators and photographers each time it took off or landed and pictures of it at Kadena appeared in magazines all over the world. Yet, the DOD sternly insisted that there were no SR-71s or personnel on Okinawa. Well, so much for credibility.

Like the RC-135s, in the early days of the war, the SR-71's primary tasking was against the Chinese, Korean and Soviet targets. They flew regular missions over North Vietnam with the same priority as the other sorties, except when in support of special operations. During those times, such as the LineBacker operations, their total attention was devoted to the conflict.

### **GIANT SCALE**

On a typical mission, the SR-71 taxied to the end of the runway, accompanied by a convoy of support vehicles (it looked like a parade). It then sat at the end of the active for a considerable time while last minute checks and adjustments were made. All that was done in broad daylight and always created a major traffic jam on Highway One. And just to make sure no one missed the fact that the Habu was about to aviate, the only "Pedro" helicopter on Okinawa took off and hovered above the middle of the runway. It only did this when the SR-71 was taking off or landing. And the Washington idiots still insisted there were no SR-71s on Okinawa.

The Habu leaves the ground with an unmistakable roar that can be heard and felt for miles and goes out of sight almost straight up. The normal sortie was about three hours with a refueling shortly after takeoff and in the middle of the flight. Cruising at 80,000 feet at a speed of Mach 3, the aircraft had a turn radius of 160-180 miles. Therefore, all missions were flown in gentle arcs across the area of interest. Its first pass could take it across Thailand, Laos, North Vietnam and out over the Gulf of Tonkin for refueling with a KC-135Q or the route could be reversed with refueling taking place over Thailand. After a refueling, a second loop was made to cover different targets or the Habu could be tasked against Chinese targets on its return trip to Kadena.

The SR-71 Giant Scale operations for that theater were planned to be conducted strictly from Okinawa. All flights were planned for recovery back at Kadena, however provisions were made for emergency recovery at Udorn, Thailand. There were instances (very rare) when the SR-71 had to land at Udorn because it was unable to get its fuel or had a mechanical problem. It required a bona fide emergency to get permission for recovery at other than Kadena, as the aircraft required unique, elaborate procedures and equipment. That reluctance to deviate from the plan resulted in the loss of an aircraft when it was directed to land at Kadena in extreme cross winds during the late stages of a typhoon. The SR-71 managed to land, but when the brake chute came out, the cross wind drug the airplane off the side of the runway, blowing the three tires on one main landing gear. The crew jettisoned the chute and made a touch and go out of it. On the second attempt, everything was against them. The high cross wind, blown tires on one main and no brake chute. The Habu went off the side of the runway and hit a concrete abutment, clipping off the nose gear.

Everyone else at Kadena envied the SR-71 types when a typhoon threatened. All other flying operations had to pack up and move out to Japan, Guam, Clark, etc., to operate from there until the storm passed. All that had to be done without losing any missions. Those lucky Habu troops just nailed everything down good and ceased operations until the storm cleared.

The SR-71 is great for photo work and covers quite a large area in very little time. It is well suited for ELINT (electronic intelligence), InfraRed, radar imagery and about all forms of reconnaissance except COMINT (communications intelligence). At one time or another it carried sensors for all those forms of intelligence, including COMINT. Its problem was that it simply wasn't in one area long enough to monitor a complete conversation. In contrast, the U-2 was able to loiter around one area for hours, making it the King of COMINT.

The SR-71 carried a variety of countermeasures equipment over North Vietnam, more to evaluate the gear than for protection. Countless SA-2 missiles were expended in the space recently occupied by the SR-71. Firing those missiles at an SR-71 made about as much sense as sending a MIG-15 up to intercept the U-2. The SR-71 moved at thirty miles a minute and the SA-2 had a thirty mile range. In addition, once the initial booster burned out on the SA-2 (after 20 seconds), the Habu was faster than the missile. If their radar and command/control between sites had ever become good enough, perhaps they could have filled the sky ahead of the SR-71 with enough junk that it would run into something.

Unlike the U-2, the SR-71 remained at Kadena and concentrated on its other Asian targets when the conflict ended. Both systems matured and developed considerably during the war, and as a result were deployed worldwide. Where ever they are, what ever their mission - the U-2 and SR-71 will continue to give us "The View From The Top".