

THE RB-47 & RC-135 IN VIETNAM



As 55th Strategic Reconnaissance Wing RB-47H crewmembers in the late '50s, we could not mention our aircraft, our unit, our home base, when we arrived, when we were leaving and absolutely nothing about our mission. We usually sneaked into the deployment base under the cover of darkness and were hidden away on the far side of the field or in an isolated hangar well away from all other activities. We had Detachment Commanders, in some locations, who would not permit the six of us to be seen together in public. We had to eat, play, party, etc. in groups of two or three. We were required to keep our flying clothes in the hangar or wear civilian clothes over the flight suit when going to the flight line for a mission, supposedly to conceal that we were about to aviate. One Detachment CO made us wear flying suits at all times to prevent tipping off the bad guys.

All missions were flown completely radio silent, with the majority of them at night. Even the day sorties were planned for takeoff prior to sunrise in an attempt to avoid detection. When the preflight was completed, we awaited the signal to start engines - one three second green light from the Detachment Commander in the control tower. Ten minutes prior to takeoff, we received two three second flashes of the green light, which was the signal to taxi. While taxiing out to the runway, the tower would call any airplane in the area (or a fictitious one) and report all current meteorological data, which we needed for computing takeoff performance.

The RB-47H waited just short of takeoff position on the active runway. At one minute prior to scheduled brake release we received a steady green light from the tower, which was our clearance to take the active and fly the mission as briefed. It required one minute to bring the six engines up to full power, stabilize them and activate the water/alcohol injection systems. Brakes were released on the navigator's hack and the RB-47 snuck away with a thunderous roar, trailing a large cloud of thick, black smoke for the first few miles. So much for stealth.

However, there was one exception to that ritual. Once a month we had to fly a grueling ordeal we named the "Orient Excess". Most missions out of Japan were pleasant and exciting six or seven hour sorties that did not require aerial refueling. But the grind down south was eleven or twelve hours of sheer boredom and required hitting a tanker out of Okinawa. We would get our fuel, fly the Formosan Straits and head south along the Chinese coast. Even in the early '60s there was nothing of interest in that area. We picked up the civil airport radars in Hong Kong and a few old World War Two radars still being used by the Chinese. Intelligence

reported that the ChiComs occasionally deployed a handful of MIGs to a couple of airfields on Hainan Island. We did everything we could think of to stir those fighters up, to no avail. We punched out chaff, broadcast disparaging remarks about Mao on Chinese frequencies and accidentally strayed off course. We quickly learned to totally ignore the Vietnam area, because there was absolutely nothing going on there. In fact, the Gulf of Tonkin became known as the "Gulf of Tedium".

That was the inglorious beginning of Strategic Reconnaissance in Southeast Asia. Those missions were so dull and routine we could all eat together before the flight, even dressed in flying gear, and all ride to the flight line in the same vehicle. That brash breach of security was topped off with a takeoff in full daylight. (It was surprising how few people on the base knew there was an RB-47 there. It was the talk in the Officer's Club after a day flight.) The most crucial piece of equipment, by far, on those sorties was our flight lunch. The best and most significant change to that monthly ordeal occurred when the Japanese stormed the gates of Yokota in protest to our operations (and the U-2, which shared our facilities). That led to our move to Kadena AB on Okinawa, which subsequently knocked over two hours off the "Orient Excess" flying time. Those two hours were dedicated blissfully to Okinawa's beaches, bath houses and bars.

Things began to heat up in Vietnam by mid-1964, calling for increased reconnaissance. The drone-carrying DC-130s were deployed first to Kadena, and then Bien Hoa. The RB-47H ELINT (electronic intelligence) coverage was stepped up until two aircraft were devoted entirely to the conflict in SEA. The RC-135Ms were operating out of Yokota, but their tasking was against targets from Shanghai to Petropovlovsk. Their interest turned more and more toward Vietnam until that became their primary mission. Later, specially configured RC-135s were devoted exclusively to SEA for months at a time. The missions became more frequent, more frenzied, more risky and more demanding - but no one missed the old "Orient Excess" sorties.

During the 1962 Cuban crisis, two RB-47H aircraft were reconfigured to work in conjunction with the Ryan 147 drones launched from DC-130s. The high altitude drones were equipped with electronics that both made them appear much larger (like a U-2) and was capable of intercepting and relaying the SA-2 (primary Soviet surface-to-air missile) fusing signals. The RB-47 would receive, record and analyze the signals from both the drone and missile control radars. The plan was to lure the Cuban missile sites into firing at the drone, thus providing the desired electronic intelligence to the RB-47H. By the time that system was ready to go (in 1963), the political situation was such that the Cuban missiles could not be provoked into launching. A U-2 was downed by SA-2 missiles (SAMs) in October 62, resulting in increased tasking for the RB-47H. The 55th aircraft began flying daily "Common Cause" missions, in concert with other reconnaissance aircraft, for the express purpose of identifying any site that fired upon a U.S. aircraft. The Cubans had been assured that such a site or base would be struck immediately. Obviously they believed that and refused to fire. The mission soon became more appropriately known as "Lost Cause".

That RB-47/drone program (dubbed Fire Fly, Lightning Bug and United Effort) was shelved for a short time, but was resurrected in 1964 and geared up to go after North Korean SA-2s. The drones were not equipped with the device to make them appear as large as a U-2 on radar, so drew no reaction. The United Effort group was not even fully unpacked and settled on Okinawa before being rushed to Bien Hoa for employment against North Vietnamese SAMs. The RB-47s were initially deployed to Clark AB in the Philippines, but later joined the DC-130s at Bien Hoa. Several attempts were made at intercepting the SA-2 fusing signals over the next few months. The SAMs were being fired and the drones were being hit, but equipment problems plagued the operation. Finally, on 13 February 1966, another Ryan drone made the supreme sacrifice, but in so doing provided the RB-47H with all desired proximity fusing, radar guidance and overpressure data. The Assistant Secretary of the Air Force decreed that it was the most significant contribution to electronic reconnaissance in the past twenty years.

Meanwhile, the RB-47H strategic reconnaissance in SEA was giving way to tactical reconnaissance requirements, which were assigned to USAF and Navy fighter/bomber aircraft. The RB-47 began slowly being phased out of the USAF inventory about that time also, thus ending its involvement in Vietnam. That gallant bird probed Soviet defenses for another year before being laid to rest in the Arizona bone yard.

However, the strategic reconnaissance boys were not known to miss opportunities, and Vietnam was an irresistible target with great potential. To take advantage of that, the RC-135Ms were moved from Japan, as the 82nd Strategic Reconnaissance Squadron, and assigned to the 4252SW at Kadena (Okinawa) with increased tasking against the conflict in Vietnam. That tasking grew heavier and heavier until the RC-135Ms were flying a daily mission in the Gulf of Tonkin (twelve hours on station). With the emphasis shifting so drastically from the SinoSoviet mission to the Vietnamese conflict, the operations name was changed from "Burning Candy" to "Combat Apple". That SIGINT (signal intelligence) platform was making such significant contributions to the SEA intelligence effort that it was soon tasked to provide 24 hour-a-day coverage.

The 82SRS and 376SW (4252 designation changed to 376 in 1971) fulfilled that around the clock mission against staggering odds. The RC-135 flight was just over 19 hours for a 12 hour orbit in the Gulf of Tonkin. They had to generate and fly two aircraft a day on 19 hour missions and have a secondary ready for immediate launch (for every mission) in the event the primary couldn't launch or aborted. In addition, they still flew all tasked SinoSoviet missions each week. That doesn't sound too difficult until you realize they only had five aircraft, encountered terrific corrosion problems from the salt spray and high humidity, endured terrible weather both on the ground and in the air, had to move to Clark or Yokota several times a year during typhoon evacuations and overextended the life cycle of every system on the aircraft as well as the airframe itself. In spite of those obstacles, Combat Apple was on station 24 hours a day without break for several years - until the requirement ended.

The RC-135Ms sometimes became so weary, they had to be flown back to the U.S. for major maintenance or complete overhaul. During those occasions, one or two RC-135Ds, from the 6SW at Eielson AFB, were flown in to help out. That often caused more problems than it solved. The D-models, acclimated to the cold dry conditions in Alaska, began to leak badly and malfunction in the hot, humid Pacific environment. They also had to compensate for the reduced range and altitude of the smaller-engined D-models.

The Combat Apple orbits were all in the Gulf of Tonkin in the beginning. Those orbits gave the flexibility to set up smaller orbits anywhere in the Gulf, in order to be near the action. Their refueling orbit was just below the DMZ, enabling them to continue collecting intelligence while refueling.

On several occasions, NVAF MIG-21s would streak out over the Gulf at supersonic speeds and make a pass at the RC-135. Both fuel and fear limited them to only one pass. They would fire everything they had and run for the safety of their AAA and SAM umbrella back home. The RC-135M had no defensive systems and was operating near maximum altitude (especially soon after refueling), limiting its maneuverability. In spite of being such an easy target, no RC-135Ms were lost to MIGs. However, after a few very close encounters, fighter escort was ordered for the Combat Apple. The escort came from carriers in the Gulf, in the form of F-4s and F-8s. The fighters orbited above and a few miles inside the RC-135 track. That escort (like too many other operations in that conflict) soon fell into a stable, predictable routine - always leaving the ferret to refuel at the same time and being relieved by new escorts at the same time. The enemy very quickly identified that pattern and took advantage of it. Two MIG-21s would launch, accelerate to supersonic speeds and cross over into the Gulf of Tonkin just as the escorts rendezvoused with their tanker. That gave them a clear shot at the unprotected RC-135, with ample time to get back over their own defenses before Navy fighters could react.

That occurred twice before additional fighter cover was provided. A couple of orbits before the high cover would depart for refueling, the RC-135 would fly to the far southern end of its route. There, two more fighters would join the RC-135, without being detected, and tuck in under its wings. That trio would then set up an orbit just off Haiphong, while the high cover left to refuel on schedule. The MIGs took the bait and no sooner entered the Gulf than they were jumped and flamed by the close cover. They lost a few MIGs to that tactic before finally giving up and leaving the RC-135 alone. Once they quit, they never again came out over the Gulf after the Combat Apple.

There was one incident in which an aircraft made a close pass at the RC-135 and was tracked by radar from both Red Crown and the fighter escort. The fighters were ordered to intercept and identify the target, which they did. The aircraft was quickly identified as a MIG-19 and blown out of the sky. It turned out to be a drone that had gone out of control after being launched from the DC-130. The RC-135 crew had a large sign made and delivered to the Navy Pilots, to go over the door to their ready room, which read, "THE MIG? KILLERS".

In 1972 an overland route was established for Combat Apple. The route carried them all over Laos and gave access to much intelligence that was unobtainable from the Gulf of Tonkin routes. It took them over the Ho Chi Minh trail and other troop and supply routes. AAA and SAMs then became a threat in addition to the MIGs, which renewed their attempts at the RC-135, as fighter cover was not provided for the Laotian routes. Weapons, moved into Laos against the RC-135, were quickly detected and struck. The ineffectiveness and high losses of that tactic soon led to it also being abandoned by the enemy. The most intense action against the RC-135 came when it was mistaken for a B-52 by enemy radar operators.

With that second route, the daily routine was for one aircraft to fly a 12-hour orbit over the Gulf and the next RC to fly the overland route. Sometimes though, weather would dictate that two or more missions in a row fly the same route.

When you stuff 35 men into the already full RC-135, with all their professional gear, flight gear, lunches and baggage (with the weather, they never knew where they would land), it became quite crowded. That made the ride even more exciting and hairy when taking evasive actions against MIGs or SAMs. But, by far, the most exciting and hairy rides were the result of the torrential rains on Okinawa. Yes, it could be thrilling making takeoffs and landings in zero-zero conditions and penetrating thunderstorms, but the heavy rains caused another unique problem. The RC-135Ms were equipped with thrust reversers, to aid in stopping all its mass. Regardless of all measures taken to prevent it, those rains still found their way into the thrust reversal systems, creating a short in the control circuits and causing the engine to go into reverse. In every case, that occurred shortly after takeoff while climbing out at full power (usually dodging thunderstorms). It caused the RC-135 to yaw violently, lose a great deal of airspeed rapidly and try to roll. It was a wild ride that came with no warning and stained more than a few flight suits.

Other RC-135 types were sent to Kadena for the purpose of collecting specific electronic intelligence. Among those were the KC-135R, RC-135U and several versions of the RC-135C.

The 55SRW RC-135Cs flew strategic reconnaissance worldwide, with the conflict in SEA being a low priority for them. Normally the RC-135C (Big Team) would depart Offutt (Omaha) on a 24-30 hour flight during which it would fly a tasked mission and land at one of its many overseas bases. From that base it would fly one or two 'local' missions of 12 to 20 hours duration, recovering back at the deployment base. Then it would conduct another tasked mission of 24 hours or more on the return to Offutt.

When deployed to Kadena, the C-model would fly a round-robin to cover the war zone. That occurred about once a week and also covered the Chinese coast going and coming to help make it worthwhile.

The RC-135C, nicknamed the 'Chipmunk' due to its large cheeks, was equipped with the enormous AN/ASD-1 reconnaissance system. It consisted of numerous automatic, wide-open

and programmable receivers which, as was commonly said, covered the electronic spectrum from “DC to light”. It had such a broad coverage and processed so many signals at such an incredible rate, it became known as the “Vacuum Cleaner”. It intercepted all electronic data wherever it flew, recorded it in digital and analog format, established the location of each emitter through its many direction finders, and highlighted each signal that varied from the norm in any way or that had been programmed for special processing. The volume of data collected by that system was sufficient to require an entire unit and elaborate equipment to process it. That large and impressive operation became known as “Finder” and the amount of intelligence coming out of Finder was staggering.

Any signal detected by the ASD-1 could be relayed either automatically or manually to the ALD-5 operator or QRC operator. The ALD-5 was state-of-the-art in technical analysis. It consisted of many types of special detectors that, for the first time, could break a radar or data pulse down and look inside it to detect special features or capabilities of the emitter. The data was recorded on several video, digital, photo, etc. devices for later evaluation by the 544ARTW.

Several anomalies were found in NVM missile radars that caused a great deal of interest. However, most of them were found to be caused by dents or rust in the antennas or problems with the sites' power supplies.

The QRC position consisted of the very latest, wildest experimental equipment. It had such infinite capabilities in measurement and timing that the only equipment capable of calibrating it was another QRC system. Items of the highest national priority were processed by the QRC operators and analyzed by a special unit of the 544th.

With its vacuum cleaner capability and very little specific tasking in the war zone, the Chipmunk spent only a couple of hours in the combat area on those missions. It went in, sucked up all the signals, let the two high-tech operators look around a little, then resumed its global tasks.

Due to the advanced technology and sheer bulk of its recon systems, the RC-135C was late becoming operational. The need for its intelligence was so critical and urgent, it could not be spared for special projects such as Vietnam for the first couple of years. The 55SRW possessed two KC-135R aircraft, which were strictly special mission platforms. They were configured to meet whatever requirement was levied and then deployed to Kadena. Those aircraft were KC-135As modified for reconnaissance and retained their refueling capability for a long time. They are not to be confused with current KC-135Rs, which are true tankers refitted with CFM engines. As those two retained their tanker capabilities, the KC designation was not replaced with RC, and as they were used for reconnaissance an R was hung on the end. Those aircraft had special equipment installed and flew in that configuration until the requirements had been met. The equipment would then be removed and the aircraft reconfigured for another objective. They operated much like Combat Apple, orbiting where ever the fishing was best. However, they had the old style engines, so their missions were limited to about 12 hours.

Later, when the RC-135C caught up with its global requirements, one or two of them were specially equipped (primarily in the QRC position) and sent to Kadena for one to three months at a time, to assume the duties of the KC-135Rs, which then became training aircraft for the 55SRW and 376SW.

The RC-135U “Combat Sent” was the most elaborate and capable special mission aircraft ever. It was a drastically modified RC-135C with technical capabilities that seemed like science fiction. There were only two RC-135U models to cover all areas, so it spent only about three months a year at Kadena and that time was divided between the combat zone and SinoSoviet areas. Even with that light schedule, the RC-135U detected significant changes in the fusing and guidance signals of NVM missile systems.

The mission planners were alerted to a special problem with the RC-135U, but would not take action until after a couple of serious incidents. The weight and drag of the Combat Sent was much greater than that of the Combat Apple and other aircraft. Yet, those brilliant

tacticians assigned the RC-135U an orbit altitude above that of the RC-135M. The U-model went balls-to-the-wall all the way, trying to attain and hold its assigned altitude. It managed to wallow along until after refueling. With the added weight of the fuel it could not get back to altitude, stalled and fell out of the sky through the paths of the aircraft below. Fortunately it did not collide with other aircraft and was recovered both times, before eventually being assigned a lower altitude.

Quite frankly, the combat pay was nice to have, but the missions in the combat zone were terribly dull and uneventful in comparison to the other missions flown by the RC-135C, D, M, and U models. The exception being the Combat Apple's mad dashes into Thailand after being mistaken for a B-52 and chased by MIGs.

Another Kadena based aircraft that orbited the Gulf of Tonkin was the "Combat Lightning". They were KC-135As into which was installed a rack containing several radio transmitters and receivers. It was in the gulf to relay or echo messages to strike and rescue aircraft to assure that they were received. It was no more than a repeater and was all done automatically, not requiring an operator. The equipment could quickly and easily be moved from one aircraft to another, so no particular airplanes were dedicated to that mission.

With the end of U.S. involvement in the hostilities in SEA, the RC-135 interest increased for a short time. The area was looked at intensely to detect changes in equipment, tactics, etc. The area then took its place with all others in the global commitment of SAC's RC-135s.