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THE EVOLUTION OF USAF SEARCH AND RESCUE IN
SOUTHEAST ASIA

1961 - 1968

by

Russell G. Ochs, Major, USAF

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Instructor: Dr. Michael Weaver

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On 23 March, 1961, an American SC-47 departed Vientiane, Laos, on a flight that was destined for Saigon, South Vietnam. While enroute, the pilot flew the intelligence gathering aircraft near a Pathet Lao encampment in an attempt to obtain information about the radio frequencies used by the insurgents. Enemy anti-aircraft artillery (AAA) hit the aircraft and brought it down near the encampment. Pathet Lao soldiers captured the sole survivor of the crash and held him prisoner for nearly a year.¹ There was no rescue mission was ever launched. A little over six years later, enemy AAA shot down a USAF F-105 near the Mu Gia Pass in North Vietnam.² However in this situation, a professional force consisting of dozens of Americans and over 15 aircraft successfully rescued the pilot and returned him to his squadron. The reason why each situation had a different outcome was due to one simple fact: the quality of search and rescue (SAR) capability available at the time in Southeast Asia.

In 1961, there was no organization, command and control system, or assets in Southeast Asia that could provide a professional rescue force for a downed airman. In the event that a U.S. pilot, either flying as an advisor to the allied governments in the region or performing Air America missions for the CIA were to go down, their chances of rescue were limited. Survival relied heavily on friendly forces seeing the aircraft go down, and being nearby either on the ground or in the air. Survival was also somewhat dependent on their ability to perform an immediate recovery, because evasion was at best, only temporary. The longer a person was on the ground, the less chance they had of successful rescue.³ In addition, if large numbers of heavily armed enemy forces were in the area, the danger to any rescue aircraft increased and the

¹ Earl H. Tilford, Jr, *The USAF Search and Rescue in Southeast Asia*, (Washington D.C.: Office of Air Force History, 1980), 33.

² Robert L. LaPointe, *PJs in Vietnam: The Story of Air Rescue in Vietnam As Seen Through the Eyes of Pararescuemen* (Anchorage: Northern PJ Press, 2000), 323.

³ Capt B. Conn Anderson, *USAF Search and Rescue in Southeast Asia (1961-66)*, Project CHECO Report (Hickam AFB, HI: HQ Pacific Air Forces, 1966), 48.

possibility of success dropped even further. Due to the formidable terrain and wide-spread hostile forces, no downed airman could simply “walk out” of the jungle. “In Southeast Asia, a pilot downed in hostile territory had only one hope of escaping death or capture, and that was by air rescue”.⁴

The requirement of having an effective SAR force would eventually become a priority as American involvement increased. Unfortunately, the agency tasked with the mission, the USAF Air Rescue Service (ARS), had neither the procedures, assets, or command and control structure required to provide for effective combat SAR prior to 1964. But through innovation and experience, the capabilities of the ARS greatly increased. The improvements that proved most vital were the formation and organization of Southeast Asian SAR forces, the advances in helicopter capability, the creation of the dedicated Rescue Escort (RESCORT) mission, and the development of the SAR Task Force (SARTF). Even though the ARS possessed no combat rescue capability at first in Southeast Asia, by the end of the war it developed what would be the most professional, capable, and experienced SAR force in the world. While this experience and capability was unmatched by the end of the war, it was somewhat slow and costly in its evolution.

American involvement in Southeast Asia gradually expanded throughout the late 1950’s and early 1960’s. As the commitment to support the anti-communist forces increased, the level of participation by American personnel in air activity did as well. By 1961, both “the JUNGLE JIM and FARM GATE programs brought USAF aircraft and pilots into the country to train the Vietnamese” and enabled limited participation in combat missions.⁵ Unfortunately, the ability to position SAR forces in Southeast Asia was somewhat restricted at first. There was a large desire

⁴ Anderson, *USAF SAR in SEA 1961-66*, 48.

⁵ *Ibid.*, 1.

by the U.S. administration to keep American involvement, especially in combat operations, fairly covert. Sending a large SAR contingent into the region would bring about unwanted recognition of America's activities. As a result, SAR operations were carried out on a limited basis. They were conducted by friendly forces in South Vietnam and Laos, and by CIA pilots involved in Air America operations. Regrettably, as American involvement and force size grew in Southeast Asia, American SAR capability and assets lagged well behind.

In early 1962, American participation in FARM GATE expanded from comprising of mostly training activities, into more of an active role in combat operations. "On January 13, 1962, FARM GATE T-28s flew their first Vietnamese forward air controller directed mission, supporting an Army of the Republic of Vietnam (ARVN) outpost that was under Viet Cong attack".⁶ The participation increased steadily, and by the end of January, US airmen flew 229 FARM GATE sorties in direct support of combat operations.⁷ With the USAF flying more and more combat sorties, the risk to aircrews greatly increased. Even though the likelihood of aircraft losses was rising, there was still considerable reluctance to sending assets of the ARS into Southeast Asia.

One significant factor delaying the introduction of SAR forces was the ARS itself. "The leadership at the ARS headquarters was not convinced that it had a legitimate wartime rescue mission. Because their approach was for peacetime search and rescue... ARS planners had not planned for a wartime mission".⁸ In addition to these doctrinal issues, the ARS assets were also incapable of providing effective SAR in combat, jungle, or mountainous environments. The primary rescue vehicle of the ARS in 1961 was the HH-43 Huskie. This small, twin-bladed helicopter was well suited for the roles of crash firefighting and recovering pilots who bailed out

⁶ Tilford, *The USAF Search and Rescue in Southeast Asia*, 37.

⁷ Ibid.

⁸ Ibid.

near the base, known as Air Crew Recovery/Local Base Rescue (ACR/LBR), but they lacked the capabilities to succeed as a dedicated combat SAR vehicle. There was also the question of which service, the US Army or USAF, should be responsible for conducting SAR. “The mission was eventually given to the USAF by JCS directive”, and set the stage for the introduction of the first dedicated SAR elements.⁹

HH-43 Huskie



SOURCE: <http://www.h-43-huskie.info>

In December 1961, a small USAF contingent of five men arrived at Tan Son Nhut AB near Saigon and established Detachment 3, Pacific Air Rescue Center. Once deployed, they stood-up the Search and Rescue Coordination Center (SARCC), which acted as a command and control element for SAR missions in Southeast Asia. At the time, all guidance for any SAR missions conducted by the US military services was located in JCS Publication 2. In detailing the requirements, the publication stated that “each of the military services has a responsibility to provide resources for search and rescue of its own operations, and to assist the other services within the same operational areas, as required.”¹⁰ When a SAR effort required the use of more than one service’s assets, then the publication set the requirement for a Joint Search and Rescue Center (JSRC) to act as the coordinating agency. The members of Det 3 fulfilled this requirement. However, there was no established guidance on how to actually coordinate or conduct combat SAR operations. Eventually as dedicated SAR forces began to arrive, they were

⁹ Anderson, *USAF SAR in SEA 1961-66*, 16.

¹⁰ LaPointe, *PJs in Vietnam*, 40.

able to help invent the combat rescue tactics. Even though the SARC was up and operating, it faced many challenges in its attempt to bring about effective SAR capabilities to Southeast Asia.

The SARCC held the responsibility of coordinating the entire SAR mission for any aircraft reported missing or down. The responsibilities also included directing the required assets and guiding the execution. The major problem with this was that while the SARCC was a command element, they did not have any rescue assets directly assigned to them. “They had to rely on resources drawn from the US Army, US Marines, ARVN and occasionally the South Vietnamese Air Force (VNAF) and USAF”.¹¹ This required the SARCC to coordinate with the outside agencies in order to first find out if any assets were available. If any were, then the SARCC had to attempt to put the pieces together into an effective mission. This severely limited the timeliness and success of the early rescue efforts. Also, the fact that the assets used didn’t necessarily have the proper training in the unique aspects of conducting SAR missions was a critical limitation. As a result, there were tragic consequences.

The lack of properly trained, dedicated forces for the SAR mission proved to be hazardous on several occasions. In January, 1964, a US Army UH-1 Huey crashed into the mouth of the Mekong Delta and the crew members were able to get out before it sank. Another Huey responded to the location, and in an attempt to pickup a survivor, flew in over the person low and at a high rate of speed. This created a large bow-wave in the water which caused the survivor to drown.¹² Later that March, a senior USAF officer was shot down in a VNAF A-1H near Saigon. The SARCC experienced delays in obtaining both air assets and ARVN troops in order to assist in the SAR, and had to postpone the mission until the next day. That following morning the ARVN troops never arrived. Also, several A-1s decided to bomb the site, on their

¹¹ Anderson, *USAF SAR in SEA 1961-66*, 2.

¹² *Ibid.*, 9.

own volition, in an attempt to “explode possible mines and neutralize the area”.¹³ The SARCC Chief was furious about this, and reported that the bombing was “idiotic”, since the condition and location of the pilot was still unknown.¹⁴ With the increase in USAF air activity and presence, the need for dedicated SAR forces became apparent.

The calls for the introduction of SAR forces into Southeast Asia grew in volume from 1962 until 1964. In the summer of 1962, the commander of Det 3, Maj Alan Saunders, made several recommendations that “SAR personnel and equipment be stationed in Southeast Asia”.¹⁵ These recommendations were echoed throughout the theater. The Deputy Director of the Air Operations Center stated, in August 1963, that “the need for professional SAR forces in this area has been recognized for a long time and has been made a matter of record”.¹⁶ Unfortunately, the calls for increased SAR capabilities were getting no where. In September 1963, Maj Saunders took it upon himself to prepare a study on the need for assigned USAF SAR forces in Southeast Asia. This study was in response to the growing air activity in the theater. Maj Saunders reported that at the time, nine USAF aircraft had been shot down, nine more crashed for other reasons, and that all of this resulted in nineteen dead or missing airmen. In addition, the US Army had sustained even higher losses to its aircraft fleet and personnel in air operations.¹⁷ He also analyzed that with the increasing movement of military personnel to Vietnam, in the event that a large transport plane were to go down in the jungle with 100 passengers on board, that “we would be helpless...it would be a disaster”.¹⁸ The report also made note of the lack of properly trained rescue crews and the problems associated with obtaining assets from the US Army,

¹³ Anderson, *USAF SAR in SEA 1961-66*, 6.

¹⁴ Ibid.

¹⁵ Ibid., 14.

¹⁶ Ibid.

¹⁷ Tilford, *The USAF Search and Rescue in Southeast Asia*, 45.

¹⁸ Maj Alan W. Saunders, *Oral History Interview*, interviewer unknown, Maxwell AFB, AL., 1 July 1964, in Project Corona Harvest, 7.

Marines, and ARVN. Maj Saunders made recommendations on what to do in order to increase SAR capability and how beneficial it would be to air operations in the region. The report was completed and sent up the chain of command. However, it would take five months for any real changes to occur.

Over the course of those five months, the report was “bounced back and forth between MACV, CINCPAC”, and the JCS.¹⁹ At one point, Maj Saunders was told by a US Army colonel at MACV that he was “sitting on the report because he thought the Army’s helicopters could handle the search and rescue requirements”, with some equipment modifications and training.²⁰ This type of infighting continued throughout the chain, even though the CJCS had already directed that the mission belonged to the USAF. There was also still the concern of highlighting the semi-covert USAF operations that were taking place through the introduction of more people and equipment. In addition, there were issues regarding the legality of conducting operations inside Thailand, Cambodia, and Laos. Eventually, CINCPAC approved the introduction of USAF SAR forces in May 1964, and from that point on, there was a rapid expansion of SAR capability in Southeast Asia.²¹ It grew from a detachment possessing only a coordination and control function, into a specialized force with significant operational potential.

While there had been HH-43 units stationed at various airbases to perform the ACR/LBR mission, the first dedicated SAR units arrived in Southeast Asia in June 1964. These first units were stationed at Nakhon Phanom AB in Thailand. From there they could provide support for the YANKEE TEAM reconnaissance missions being flown over South Vietnam and Laos.²² As follow-on forces arrived, detachments were created at Bien Hoa and Da Nang airbases in South

¹⁹ Anderson, *USAF SAR in SEA 1961-66*, 15.

²⁰ Tilford, *The USAF Search and Rescue in Southeast Asia*, 45.

²¹ Anderson, *USAF SAR in SEA 1961-66*, 18.

²² *Ibid.*

Vietnam, and Korat AB, Thailand. However, significant problems associated with the command and control of the growing units began to arise. Some units were stationed in Southeast Asia on a TDY basis, while others were permanent detachments. This created very confusing chains of command for the TDY units. In addition, they fell short “from the standpoint of administration, future planning, and continuity of operations”, as opposed to their PCS counterparts.²³ Therefore, in July 1965, all helicopter units at the separate airbases became PCS detachments under the newly created 38th Air Rescue Squadron (ARS), headquartered at Tan Son Nhut AB.²⁴ Also organized under the 38th ARS were the personnel and functions of Det 3. In addition, all other rescue units, including some fixed-wing rescue assets, fell under the 38th ARS.²⁵ As 1965 came to a close, more solutions were implemented to the command and control problems associated with the expanding SAR mission.

The SAR forces experienced several changes from the top down. In order to illustrate the importance of their “new” role, that of combat SAR, the Air Rescue Service was renamed the Aerospace Rescue and Recovery Service (ARRS) on January 8, 1966. At the same time, all SAR assets in Southeast Asia were reorganized to meet the growing expansion. The 3rd Aerospace Rescue and Recovery Group (ARRG) was activated Tan Son Nhut AB. They assumed control of all USAF SAR forces in the region, the JSRC, and the Rescue Control Centers at Da Nang and Udorn, known as Detachments 1 and 2 respectively.²⁶ In addition, the 37th Aerospace Rescue and Recovery Squadron (ARRS) was activated at Dan Nang, with one detachment at Udorn. This new squadron initially consisted of HC-54 and then HC-130 aircraft used in the SAR Airborne Mission Commander role (AMC). Later, as more and more of the

²³ Anderson, *USAF SAR in SEA 1961-66*, 22.

²⁴ Ibid.

²⁵ Tilford, *The USAF Search and Rescue in Southeast Asia*, 75.

²⁶ Anderson, *USAF SAR in SEA 1961-66*, 27.

new HH-3s arrived in theater, the 37th ARRS transferred their fixed wing assets to the 39th ARRS in January 1967 and became the sole operator of the HH-3s. Because of the superior capabilities of the HH-3s over the HH-43s, the 37th ARRS would then have the primary responsibility of conducting SAR missions in North Vietnam, Laos, and parts of the Gulf of Tonkin. As a result, the 38th ARRS, which changed from ARS in January 1966, would perform the ACR/LBR mission with very limited combat SAR performed only in South Vietnam.²⁷ Even though its beginnings were quite humble, a very organized and effective command and control structure had been established for the SAR forces in Southeast Asia by the end of 1966. At the same time, the rescue helicopter was undergoing its own transformation.

The first dedicated SAR units to arrive in Southeast Asia were equipped with the newly modified version of the HH-43, the HH-43F. The modified Huskies incorporated several changes designed to allow it to better handle the combat environment. They included a more powerful engine, larger self-sealing fuel tanks for increased range and survivability, titanium armor plates in vital areas, and additional radios to increase rescue communication capabilities.²⁸ But perhaps one of the most important pieces of equipment was the newly created rescue device, the forest penetrator. Aircrews had found during early jungle rescue missions, that the old horse collar device would often get hung up in the jungle canopy or lay on top of the trees, instead of passing through to the survivor below.²⁹ Another problem was that it allowed for the pick-up of only one person at a time. The new forest penetrator was compact and designed to easily pass through the jungle canopy. It had multiple hinged seats that allowed for quicker recoveries in the event of multiple survivors, or if the pararescueman (PJ) had to be lowered to the ground and retrieved with the survivor. This enabled the helicopter to spend less time in the hover, reducing

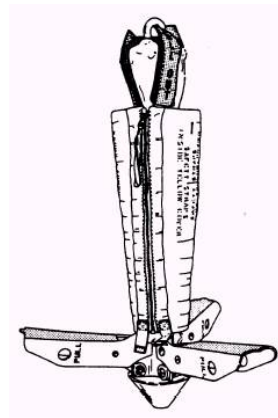
²⁷ Tilford, *The USAF Search and Rescue in Southeast Asia*, 76.

²⁸ Anderson, *USAF SAR in SEA 1961-66*, 21.

²⁹ LaPointe, *PJs in Vietnam*, 71.

its exposure to enemy ground fire. The forest penetrator proved very successful in Southeast Asia and was critical in the recovery of numerous downed airmen in the jungle.³⁰ While the modified version of the HH-43 had distinct advantages over the older model, it still lacked some of the basic requirements to be a truly effective combat recovery vehicle.

Forrest
Penetrator



SOURCE: <http://www.tpub.com>

One major problem was that the HH-43F was not a suitable gun platform. It lacked any large openings in the crew compartment that would allow for mounted machine guns.³¹ This forced the crewmembers to use only small arms for enemy suppression, thus decreasing their defensive capabilities. Also, the range of the HH-43F remained an issue. Even with the addition of an internal fuel tank, the helicopter was unable to make deep rescues into either North Vietnam or Laos from its bases in South Vietnam.³² Another severe limitation concerned the HH-43F's rotor blades. The aircraft manual had a warning against flying the helicopter through heavy rain. The warning was a result of the fact that the manufacturer constructed the rotor blades out of laminated layers of wood and there was a fear that the rotor blades would delaminate under certain rain conditions. In addition, "the temperature and the humidity required the replacement of an abnormal number of blades".³³ Even though there were no known HH-43s

³⁰ Tilford, *The USAF Search and Rescue in Southeast Asia*, 60.

³¹ Anderson, *USAF SAR in SEA 1961-66*, 20.

³² Tilford, *The USAF Search and Rescue in Southeast Asia*, 60.

³³ Anderson, *USAF SAR in SEA 1961-66*, 23.

lost due to blade de-lamination, many crews either disobeyed the warning or did not fly in rainy conditions.³⁴ In addition, the paint scheme of the HH-43s also proved to be a limiting factor. When the HH-43s arrived into theater, they had bright silver paint schemes. The tail booms had large bright-yellow stripes, with the word “Rescue” painted in black. This highly visible paint scheme proved effective for the peace-time LBR/ACR mission. However, it continues to illustrate the pure lack of the ARS’ pre-war combat readiness. After several months, deployed commanders began to camouflage their helicopters using paint supplied by Air America, and at first, without the permission of the ARS.³⁵ With all the limitations, the HH-43s and their crews were still able to adapt to the mission and provide an invaluable service to US airmen flying in Southeast Asia.

Until the successor to the HH-43 was available for service during the Vietnam War, the Huskie performed the majority of the SAR missions. Eventually as the HH-3 Jolly Green Giant took over the combat SAR mission, the HH-43s focused primarily on the LBR and firefighting missions. They did continue to perform limited SAR missions, but only within the permissive environments of South Vietnam. Huskies did remain stationed at all U.S. operated airbases and continued to support flying operations through the end of American involvement. All told, the HH-43 performed over 343 aircrew rescues and more than 545 non-aircrew rescues in Southeast Asia.³⁶ Thirteen HH-43s were lost in combat operations, which accounted for approximately 33 percent of the USAF SAR helicopter combat losses throughout the war.³⁷ Through the middle of 1965, the valiant members of the HH-43 units worked together in order to transform the capabilities of the ARS and brought a badly needed capability to Southeast Asia. “By June 1965,

³⁴ Anderson, *USAF SAR in SEA 1961-66*, 23.

³⁵ LaPointe, *PJs in Vietnam*, 73.

³⁶ Walter F. Lynch, *USAF Search and Rescue in Southeast Asia (July 1969-December 1970)*, Project CHECO Report (Hickam AFB, HI: HQ Pacific Air Forces, 1971), Table 1.

³⁷ *Ibid.*, 71.

rescue missions were being performed which only a year before would have been all but impossible.”³⁸ The ARS in Southeast Asia went from possessing only peacetime rescue skills, to providing valuable combat recovery capability. The experience received lead to the development of better tactics, procedures, command and control, and organizational structures for the ARS. When combined with the introduction in July of the Jolly Greens, 1965 would prove to be a defining period for USAF SAR in Southeast Asia.

By the end of 1964, it was becoming increasingly apparent that the HH-43 would be unable to provide effective combat SAR support for much longer. “The improved anti-aircraft capabilities of the North Vietnamese meant that future SAR missions would have to be undertaken in a more hazardous environment.”³⁹ When combined with the increase in strike sorties over North Vietnam, the fact was that more HH-43 crews would fly into harm’s way. As a result, in December 1964, PACAF and the ARS established the requirement for 15 HH-3 helicopters to replace the “marginally suitable” HH-43s “without delay”.⁴⁰ The HH-3 was a specially modified SAR version of the CH-3 cargo helicopter. The modifications included more powerful engines, 1000 pounds of titanium armor plating, increased speed, greater fuel capacity, shatter-proof glass, and increased hoist capability. Because of the time it took to modify the helicopters and to train the aircrews, the first HH-3s would not be ready for duty in Southeast Asia until November 1965. In the interim, two CH-3s were sent to Nakhon Phanom to replace the HH-43s and fill the gap. The logical addition of the Jolly Greens to the SAR force significantly increased the timeliness and probability of success for rescue missions inside North Vietnam.

³⁸ Tilford, *The USAF Search and Rescue in Southeast Asia*, 66.

³⁹ Anderson, *USAF SAR in SEA 1961-66*, 25.

⁴⁰ Lynch, *USAF SAR in SEA Jul 1969-Dec 1970*, 77.

HH-3 Jolly Green



SOURCE: <http://www.fas.org>

One of the major improvements offered by the HH-3 was its sizable increase in range over the HH-43. The Jolly Green was able to carry two external fuel tanks, which it could drop, along with larger amounts of internal fuel. Both of these modifications enabled the HH-3 to more than double the range of the HH-43.⁴¹ The increased fuel capacity of the HH-3 also provided for another critical capability. Instead of having to sit ground alert during air strikes, the HH-3s had the fuel to fly orbits just inside northern LAOS while US aircraft were over the target areas in North Vietnam. When the intensity and depths of the air strikes in North Vietnam increased during 1966, the orbits reduced the amount of time it took for rescue forces to reach downed airmen.⁴² Once the HH-3s gained an air refueling capability in early 1967, SAR helicopters were able to not only cover the strike windows, but could also conduct extended SAR missions with air re-fueling from an HC-130 aircraft. The airborne orbits, along with the ability of the HH-3 to fly almost 30 percent faster than the HH-43, greatly increased the odds for the successful rescue of downed airmen. Speed was proving to be the critical factor in any successful SAR attempt.

Experience had demonstrated that the longer an aircrew member was on the ground in enemy territory, the less likelihood there was of them being rescued. A study done in 1967 showed that if forces could arrive over an airmen within 15 minutes, his chances of recovery

⁴¹ Anderson, *USAF SAR in SEA 1961-66*, 41.

⁴² LaPointe, *PJs in Vietnam*, 47.

were greatly improved.⁴³ From July 1966 to November 1967, 470 aircrew members had been shot down, of which it was believed that 419 had survived the landing. Of these, 197 had no SAR attempt made, due to such reasons as an “unlivable environment” for SAR forces or someone actually witnessing the survivor being captured or killed. This left 222 SAR opportunities, of which 173 were successful. Within the 49 unsuccessful attempts, 23 were directly contributed to the lack of speed in getting to the survivor before they were captured, killed, or before sundown.⁴⁴ As a result of the introduction of the HH-3, more and more survivors were finding themselves underneath a hovering helicopter within that critical 15 minute window. However, while the Jolly Greens provided increased capability as the air war was intensifying, it did possess some limitations to its operations.

As with any new weapon system, the Jolly Greens did experience some initial shortcomings. Reminiscent of one of the complaints made against the HH-43, the initial HH-3s lacked the defensive firepower required to effectively suppress enemy ground forces. At first, the only armament carried by the HH-3 was the crew members’ handheld small arms. By the end of 1965, after a few months of combat experience, the need to equip them with either M-60 machine guns or mini-guns was recommended by the aircrews. In mid-1966, the ARS completed a study examining the defensive requirements of the HH-3. The study recommended changes to the basic aircraft, and by February 1967, the HH-3s in Southeast Asia were equipped with two mounted M-60 machine guns.⁴⁵ Other criticisms included the fact that the HH-3s were slightly underpowered, and had problems holding a hover at high gross weights above a 4,000

⁴³ Maj Richard A. Durkee, *USAF Search and Rescue in Southeast Asia (July 1966-November 1967)*, Project CHECO Report (Hickam AFB, HI: HQ Pacific Air Forces, 1968), 21.

⁴⁴ Durkee, *USAF SAR in SEA Jul 1966-Nov 1967*, 21.

⁴⁵ Anderson, *USAF SAR in SEA 1961-66*, 75.

foot operating elevation.⁴⁶ This created serious problems for crews when trying to rescue downed airmen in mountainous terrain. Often they were forced to throw equipment overboard, or dump fuel in order to get down to a weight low enough to sustain a hover.⁴⁷ Perhaps the most significant limitation was the lack of an effective night recovery capability for the HH-3. This was a familiar complaint of the ARS, which carried all the way back to the early days of HH-43 operations. It would not be until July 1967, after the first HH-53s were delivered, that the ARS would possess a modest capability allowing them to perform night rescues. While improvements in the rescue helicopters played important roles in the growing success of the 3rd AARG, the addition of another specialized airframe to the mission would prove vital to the achievements of the SAR forces.

Early SAR operations conducted by lightly armed HH-43s were quick to prove that rescue helicopters were very vulnerable to enemy ground fire. Due to their slow speed and the requirement to hover while picking up survivors, it became apparent that helicopters would require some type of RESCORT aircraft during combat operations. The helicopters required RESCORT aircraft to clear any threats from their ingress and egress paths, and to suppress enemy ground fire in the recovery area. They also would be vital in locating the survivor prior to the helicopter's arrival and then preparing them for the pick-up. In August 1964, approval was given for U.S. pilots to fly T-28s from Laos, Thailand, or South Vietnam, in support of rescue missions on a case by case basis.⁴⁸ Armed T-28s had proved very effective in escorting Air America helicopters on missions, and the pilots had gained considerable experience in the RESCORT role. The good slow speed handling, 4,000 pound ordnance load, and long loiter time made the T-28 a good match for escorting the HH-43s. But since there had been no

⁴⁶ Durkee, *USAF SAR in SEA Jul 1966-Nov 1967*, 5.

⁴⁷ *Ibid.*

⁴⁸ Tilford, *The USAF Search and Rescue in Southeast Asia*, 65.

procedures or training in the combat SAR role for the ARS prior to the war, there was little expert knowledge on how to incorporate the RESCORT aircraft into the missions. Another problem was that RESCORT was only an additional role for the T-28s. Their primary job was that of close air support and interdiction, and they would provide RESCORT support only when they could. Eventually, the requirement for effective and dedicated RESCORT capabilities grew as American involvement increased, and the stage was set for it to play a more important role in SAR missions.

A-1 Skyraider



SOURCE: <http://skyraider.org/skyassn/otherpics>

In May 1964, a new aircraft arrived at Bien Hoa AB as a replacement for the 1st Air Commando Squadron's T-28s. The new aircraft, the Douglas A-1 Skyraider, quickly proved to be an effective replacement in the close air support and interdiction roles and "became the mainstay of USAF counter-insurgency operations".⁴⁹ In addition, the A-1 was well suited to fulfill the role of RESCORT. The A-1 was armed with 20mm cannons, could carry 7,000 pounds of ordnance, was able to sustain significant battle damage, and maintained an excellent loiter capability. In addition, its slow speed handling qualities allowed the A-1 to best meet the needs of the RESCORT mission over any other aircraft available for several reasons. The slower speeds enabled the A-1 pilots to stay closer to, and keep sight of, the helicopters more effectively during the escort phases of the missions. Also, the speed allowed the pilots to better see enemy

⁴⁹ Andy Evans, *Combat Search and Rescue* (London: Arms and Armour, 1999), 37.

ground positions, threats, and the survivor's location. The A-1s could also perform tighter turning maneuvers, enabling them to bring their weapons back on the enemy much quicker than the faster, larger turning jets. However, while the A-1 brought new capabilities to the fight, RESCORT was still relegated to a secondary role for its pilots. Luckily, as the requirement for RESCORT capability increased in Laos and North Vietnam due to the intensifying bombing operations, a dedicated effort to gain greater A-1 RESCORT support began.

The A-1s in Southeast Asia were highly sought after because of their many roles. As a result, the desire of having four A-1s for each SAR mission was difficult for the ARS to achieve.⁵⁰ The ARS made countless requests to have dedicated A-1s scheduled in support SAR efforts, with little response. However, as a reaction to increasing rescue needs in August 1965, the A-1s of the 602nd Air Commando Squadron moved from Bien Hoa AB, to Udorn AB in Thailand. While the pilots of the 602nd still found themselves flying close air support and strike missions, there was a significant change in that for the first time, the daily schedule contained eight USAF A-1s solely for dedicated RESCORT missions.⁵¹ Because of this, the A-1 pilots quickly began to expand and improve the tactics of RESCORT and SAR, while working closely with the helicopter pilots of the 38th ARS. The ability to have dedicated numbers of A-1 aircraft for SAR missions meant that pilots could develop standardized tactics in order to maximize the capabilities of the escorts. As a result of the innovations, highly trained and experienced RESCORT pilots were better able to support the helicopters in the SAR missions.

For the most part, whenever an A-1 was performing the RESCORT mission, it flew under the callsign of "Sandy". The operations officer of the 602nd started that tradition shortly after the unit arrived at Udorn. He had a dog by that name and used it whenever he flew rescue

⁵⁰ Anderson, *USAF SAR in SEA 1961-66*, 44.

⁵¹ *Ibid.*

missions.⁵² Soon, “Sandy” became synonymous with the RESCORT mission, and was often the first “point of contact in the rescue process” for a downed airman.⁵³ The Sandy pilots became experts at being able to locate and identify survivors, while providing protection for them and the rescue helicopters. Utilizing the A-1’s 20mm cannons, napalm, white phosphorus bombs, cluster bombs, high explosive or white phosphorus rockets, and even CS tear gas bombs, Sandy pilots were more than capable of providing any level of protection. On several occasions with the survivors or PJs in imminent danger of being captured or killed on the ground, the A-1s successfully attacked enemy forces that were as close as 25 meters. Because of the airspeeds, there was no jet fighter during the Vietnam War capable of matching this weapons delivery accuracy.⁵⁴ In addition to the highly skilled pilots, the slow, tough, and versatile A-1 itself was a “major reason for the outstanding success of hazardous rescue missions in Southeast Asia”.⁵⁵ Both the A-1s and rescue helicopters comprised two of the major elements that comprised a newly developed concept, the SARTF. However, there was a third element required to execute successful recoveries and it would play a crucial role in every mission.

As with every military operation, there needs to be an effective command and control system. Since most SAR missions occurred many miles away from the rescue coordination centers, the idea of incorporating an airborne control platform into the SARTF was adopted. The aircraft would be able to orbit in the vicinity of the operation and provide a more effective means of command and control for that mission. This capability arrived at Korat AB in January 1964, along with the first SAR dedicated HH-43s. Two HU-16 aircraft were pressed into “emergency service” and “jury-rigged” with communications equipment to assist in what would become the

⁵² George J. Merrett, *Cheating Death: Combat Air Rescues in Vietnam and Laos* (Washington, D.C.: Smithsonian Books, 2003), 20.

⁵³ LaPointe, *PJs in Vietnam*, 133.

⁵⁴ Ibid.

⁵⁵ Anderson, *USAF SAR in SEA 1961-66*, 76.

AMC role.⁵⁶ Initially the HU-16 was an amphibious aircraft that also performed the role of water SAR over the ocean when required. But similar to the problems associated with the HH-43, the HU-16 was somewhat inadequate for the additional mission it was required to perform. Possessing only limited electronic search capability, cramped crew stations, and a low probability of survival over Laos and North Vietnam, the ARS quickly sought a replacement for the HU-16s.⁵⁷ They decided to develop a dedicated and highly specialized aircraft, based on the C-130 airframe, which could fulfill all the requirements of the demanding AMC mission. Unfortunately for the SARTFs, the new HC-130s would not be ready until 1966.⁵⁸ So, once again, as a result of their lack of pre-war combat SAR capability the ARS would have to perform a mission with less than optimum equipment.

HU-16



SOURCE: <http://www.hu-16.com>

In June 1965, three SC-54s arrived at Udorn, and replaced the HU-16s in the AMC role. While the SC-54s had slightly improved communication capabilities, survival features, and range over the HU-16s, they still were not suited for the unique demands of combat SAR support.⁵⁹ They lacked the modern communication equipment and back-up systems required to effectively control the many different elements of the SARTF. Fortunately, the SC-54 operations in Southeast Asia were short lived, lasting only about six months. In December 1965, the newly

⁵⁶ Tilford, *The USAF Search and Rescue in Southeast Asia*, 63.

⁵⁷ Ibid.

⁵⁸ Anderson, *USAF SAR in SEA 1961-66*, 43.

⁵⁹ Ibid.

arrived HC-130 replaced the SC-54s in the AMC role. Until that point, many viewed the AMC assets as the “weakest link” in the SARTF.⁶⁰ But with the increased capabilities that the new HC-130s brought, the AMC role would prove invaluable to the successful completion of SAR missions.

HC-130



SOURCE: <http://www.globalsecurity.org>

By the beginning of 1966, the 3rd ARRG had the assets, command and control, organizational structure, experience, and personnel to provide a truly effective SAR capability throughout Southeast Asia. The procedures for each member of the SARTF had been developed almost from scratch, and were continually refined and perfected. Although the elements of each SAR mission were vastly different from the next, for the most part, the SARTFs executed the efforts in much the same way. An HC-130 that was orbiting in a safe location near the planned strikes, usually received the first indication that an aircraft was down. Once the HC-130 was aware of the problem, through reception of the pilot’s “Mayday” call or the wingman passing the information, they would notify the nearest RCC and the JSRC. From there, the RCC would alert the RESCORT aircraft and rescue helicopters, and scramble them if they weren’t already airborne. Sandy 1 and 2 would proceed to the survivor’s area, while Sandy 3 and 4 would rendezvous with the helicopters and escort them to a safe holding area near the survivor. While this was occurring, the HC-130 would coordinate for other air assets to provide MIG protection, SAM suppression, forward air control, additional strike capability, and tanker support when

⁶⁰ Anderson, *USAF SAR in SEA 1961-66*, 43.

needed. From then on, it was up to the A-1s to begin the critical step of locating the survivor.

Flying as a pair, Sandy 1 and 2 would arrive in the area well before the rescue helicopters and attempt to locate the downed airmen. Through the use radio receiving equipment, verbal descriptions, and visual devices, the A-1s would “provide the ‘search’ in search and rescue”.⁶¹ Sandy 1 and 2 would then fix the survivor’s exact position and relay it back to the rescue helicopters. They would proceed to authenticate the survivor, using questions with pre-arranged answers, in order to ensure that he was the actual survivor and not the enemy. All the while, the A-1s would continually scan the area for any threats to both the survivor and the other rescue forces. Often, they would have to engage enemy forces on the ground or eliminate AAA sites before the helicopters could enter the area. After Sandy 1 and 2 suppressed the threats and the AMC gave the clearance to execute, Sandy 3 and 4 would then escort the helicopters to the survivor’s location. When directed by Sandy 1, the survivor would ignite a smoke flare and reveal his exact position to the recovery helicopter for the rescue. The second helicopter would remain in a high hold at some distance, in case the first helicopter experienced a problem. The Sandy flight would then form a large circle around the hovering helicopter, with at least one A-1 in a position to deliver ordnance on any threat that presented itself. If the survivor required help on the ground, the helicopter would lower the PJ to the jungle floor. Once down, the PJ would provide first aid, defensive support with small arms, and helped the survivor onto the jungle penetrator for pick-up. Once everyone was onboard, the helicopters would then leave the area at maximum speed, with the A-1s providing protection along the route. This basic concept would prove to be the standard practice for almost every SAR mission in Southeast Asia after 1965. In fact, while “over the years the equipment improved and aircraft changed...the search and rescue

⁶¹ Anderson, *USAF SAR in SEA 1961-66*, 44.

task force of 1965 closely resembled that of 1973 in doctrine, tactics, and procedures.”⁶² While we should acknowledge the members of the SAR force for the incredible improvements they made to the SAR mission and the vital capabilities they brought to the theater, we must also recognize them for the great sacrifices that they made.

For the men of the 3rd ARRG and the 602nd Air Commando Squadron, rescue was a very risky business. The crewmembers of the SARTFs performed their missions while flying somewhat less than ideal aircraft within an enemy threat environment that proved deadly for even the most sophisticated jet fighters of the time. The SARTFs operated successfully during poor weather conditions, in mountainous terrain, and with tactics and procedures that were at times still unproven. As a result, the SAR force paid a heavy price in terms of losses. Through the end of 1967, 25 SAR members had lost their lives in combat. By the end of the war, that number would rise to 75.⁶³ The Sandy force, especially, took heavy combat losses. Even though the A-1 was a very rugged and reliable aircraft with many returning safely from missions after experiencing considerable battle damage, the dangerous requirements of the SAR mission took its toll. In order to locate downed airmen or to engage enemy ground threats, the A-1s had to fly at very low altitudes. They often spent considerable time in the heart of the AAA engagement envelopes and frequently experienced extremely heavy fire. In addition, several A-1s were also lost to enemy guided missiles and even MiGs over North Vietnam. “By 1967 the A-1 had the highest loss rate of any airplane in Southeast Asia. Skyraider loss rates per 1,000 sorties ranged from 1.0 in South Vietnam to 2.3 over Laos and up to 6.2 for missions over North Vietnam. The high loss rate over North Vietnam was directly attributable to the rescue escort role”, with a total

⁶² Tilford, *The USAF Search and Rescue in Southeast Asia*, 66.

⁶³ LaPointe, *PJs in Vietnam*, Appendix 1.

of seven A-1s lost on SAR missions.⁶⁴ The awards received by the SAR forces best illustrates the dangerous conditions of the missions, along with the brave sacrifices and valor of its members. By June of 1969, personnel of the 3rd ARRG had received more awards and decorations than any other unit of its size in Southeast Asia. The total came to 9,131, which included 391 Bronze Stars, 1,269 Distinguished Flying Crosses, 260 Silver Stars, 18 Air Force Crosses, and 1 Medal of Honor.⁶⁵ The dangers that the rescue forces faced continued to grow through the end of the war, as did the numbers of men lost and awards received. But luckily for the U.S. airmen who found themselves shot down over North Vietnam or elsewhere in Southeast Asia, the SAR forces remained committed to doing whatever they could to bring them out.

The evolution of the USAF SAR mission and forces that occurred from 1961 through 1967 was astounding, given the position from which they started. Vital to the success of the ARRS was the transformations of its command and control structure, rescue helicopters, and the creation of the RESCORT mission and SARTF. Although initially restricted by a complete lack of combat rescue capability, doctrine, or training, by 1967 the ARRS would establish itself “as a necessary and viable part of the Air Force operations in Southeast Asia.”⁶⁶ In fact, many of the same tactics, techniques, and procedures that evolved from the SAR mission in Southeast Asia are still in use by today’s USAF rescue forces. The full importance of the missions that the men of the ARRS performed is best illustrated by the number of people that benefited from their dedication and sacrifice. From the beginning of 1964 through the end of 1967, the 3rd ARRG performed over 1288 total rescues, of which 414 were combat aircrew members.⁶⁷ The fact that prior to 1962 there was no dedicated or properly trained rescue force in Southeast Asia meant

⁶⁴ Tilford, *The USAF Search and Rescue in Southeast Asia*, 73.

⁶⁵ Maj James B. Overton, *USAF Search and Rescue (November 1967-June 1969)*, Project CHECO Report (Hickam AFB, HI: HQ Pacific Air Forces, 1969), 68.

⁶⁶ Tilford, *The USAF Search and Rescue in Southeast Asia*, 76.

⁶⁷ Overton, *USAF SAR Nov 1967-Jun 1969*, 66.

that a downed pilot's chances of rescue were minuscule. However, by the end of 1967, those same chances had climbed to nearly 40 percent.⁶⁸

Colonel Robert Maloy, commander of the 36th Tactical Fighter Wing, sent a letter to the commander of the ARRS that perhaps best describes the gratitude and respect that the combat fighter pilots had for the SAR force members. Col Maloy was forced to eject over the Gulf of Tonkin after his F-4 was damaged over North Vietnam on 15 October 1967, and he was subsequently rescued by a Jolly Green of the 37th ARRS. He wrote, "I want you to know that your Jolly Green boys certainly did themselves proud. I could not have been happier than when I saw a chopper come into a hover over my raft that was bobbing in fairly heavy seas. They more than paid for any hospitality I can offer them for a long time to come. It always gave me a warm feeling to know that they were ready to pick me up if the need arose. I now have a deeper appreciation for the fact that they have the guts to go anywhere to get the job done."⁶⁹ Through complete transformation in the early years of the Vietnam War, the ARRS created the foundation for what would become the most capable SAR force in the world. They set the precedence for their motto... "That Others May Live".

⁶⁸ Durkee, *USAF SAR in SEA Jul 1966-Nov 1967*, 27.

⁶⁹ LaPointe, *PJs in Vietnam*, Appendix 355.

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