

# 101<sup>st</sup> RESCUE SQUADRON



## LINEAGE

Activated 2004

## STATIONS

Westhampton Beach, NY

## ASSIGNMENTS

## WEAPON SYSTEMS

HH-60

## ASSIGNED AIRCRAFT SERIAL NUMBERS

## ASSIGNED AIRCRAFT TAIL/BASE CODES

## UNIT COLORS

## COMMANDERS

## HONORS

Service Streamers

Campaign Streamers

Armed Forces Expeditionary Streamers

## Decorations

## EMBLEM

On a disc per bend sinister Azure and Or, between two white Pole Stars bendwise, rising from waves of the first and Vert on a pedestal with wings Argent a lady garbed Gules, hair of the second, with dexter hand above her head, supporting a gridlined globe of the like and supporting

on her sinister arm a White tablet with a Red cross, all within a narrow border Blue. Attached above the disk, a Yellow scroll edged with a narrow Blue border and inscribed "SERVARE VITAM" in Blue letters. Attached below the disk, a Yellow scroll edged with a narrow Blue border and inscribed "101ST RESCUE SQUADRON" in Blue letters.

### **EMBLEM SIGNIFICANCE**

Ultramarine blue and Air Force yellow are the Air Force colors. Blue alludes to the sky, the primary theater of Air Force operations. Yellow refers to the sun and the excellence required of Air Force personnel. The background, with Pole Star, symbolizes night and day operations wherever the unit is needed. The pedestal rising from the water indicates water rescue. The winged lady holding the tablet with a red cross denotes safety, vigilance and liberty. The globe supported by her right hand signifies the world wide capability of the unit.

### **MOTTO**

### **NICKNAME**

### **OPERATIONS**

101st Rescue Squadron was activated in 2004 in a reorganization of combat rescue wings within the United States Air Force. The creation of the 101 RQS allowed combat rescue assets to have separate squadrons flying one type of aircraft. The 101 RQS flies the HH-60.

The Rescue of allied pilots or crew behind enemy lines is a highly dynamic mission involving three main sets of players. The pararescue jumpers, or PJs, are the boots on the ground—or the scuba fins in the water—who find and recover those in trouble. The HH-60, who sometimes have to fight their way in and out of a landing zone, pick up the PJs and the survivors. The primary mission of the third element, the HC-130 crew, is to extend the range of the rescue helicopters. "We need to ingress fast, rendezvous, and egress fast," says Lt. Col. Kevin Reilly, the 102nd Rescue Squadron commander. "Everybody has to move quickly. Time is critical." During the Vietnam War, the HC-130 crews usually assumed the role of airborne mission commander, or AMC, during a rescue directing the Jolly Green Giants, as the HH-3 rescue helicopters were called, and the Sandys, usually A-1 Skyraiders, that were used to fly top cover. Today, the crew onboard the E-3 usually serves as the AMC, with the HH-60 crews proudly bringing the Jolly Green Giant nickname forward. Pilots in A-10s or F-16s fly cover.

"The AMC for a rescue without an AWACS is whoever has the greatest endurance and the greatest number of radios," observes Reilly. "And that would be us." The HC-130s have used the radio call sign "King" for decades and the CSAR community has adopted it as a nickname for the rescue tankers. The HC-130s have two HF, two UHF, two VHP, marine band, and SATCOM radios. "The navigators plan the mission," says Kelley. "We have determined how much fuel will be needed by looking at the objective and working backwards to find the points where the helos will need to gas up. En route, we make sure we are on time with the fuel. We also work the defensive systems—chaff and flares. We react to whatever threats are in the area." Typically, helicopter crews refuel before reaching the downed crew and then again after egressing the area. The Jollys need to be fully fueled going in, as the situation on the ground can change drastically in minutes.

"The HC-130 is a big target," concedes Reilly. "Ideally, our missions take place over permissive territory for pre-mission and post-egress tanking. But, we're always prepared to penetrate enemy territory to accomplish our mission. Without the tankers, the wheels fall off everything." For most rescues, HC-130 crews take off first and race ahead of the slower helicopters to be on station once the action starts. "We have the most honorable profession in the military," says SSgt. Dennis Byrne, a 101st RQS flight engineer. "Everybody has a role in a CSAR mission. We bring help to people desperately needing it and then we bring them back alive." The entire US Air Force has only about 300 PJs, counting those in the Air National Guard and Air Force Reserve Command. They are the Air Force equivalent to Navy SEALs or Army Special Forces soldiers. "Qualifying as a PJ requires two or three years of unnatural pain," says 2nd Lt. Christopher Baker, a combat rescue officer with the 103rd RQS. "A lot of people wash out during the ten-week basic course. Once candidates graduate, they go to Army scuba school, survival training, static and free-fall parachute jump training, paramedic school, and then to PJ University. To earn the PJ's maroon beret, we have to be able to do it all."

And PJs have the tools to do it all. From heart defibrillators, to weapons, infrared beacons, rappelling gloves, scuba suits, communications gear, a CamelBak hands-free water carrier, a hand-held global positioning system receiver, and even more specialized equipment that allows friendly forces to identify them from the air, PJs carry whatever is needed for the task. "How much a PJ carries depends on the mission," says CMSgt. Rob Marks, "but we usually carry a lot. Our loads can range from a small medical kit to 150 pounds of equipment." One of the more unusual loads PJs can put on HC-130s is a Rigging Alternate Method Zodiac, or RAMZ (pronounced rams), that looks like a big cube strapped down to the cargo ramp with chemical Nightsticks attached to its parachute rigging.

"The RAMZ package includes a scuba tank that inflates the Zodiac, a fourteen-foot inflatable boat," explains Marks. "The Zodiac goes out of the HC-130 at 2,500 feet and the PJs jump right behind it. Once their canopies open, the PJs steer to the boat that has landed and is floating on the surface, ready for action." This Zodiac features a SATCOM link and a Johnson outboard motor that can be immersed in water. "People accuse PJs of always getting new toys," offers Marks. "They don't call the Zodiac a toy when it comes and rescues them, though. Then it's a tool."

The 106th RQW flies three 1960s era HC-130Ps and two late-1980s HC-130Ns. Both variants have been refitted with NVG-compatible cockpits, but neither has the distinctive large dorsal hump common to rescue C-130s that once housed the AN/ARD-17 Cook Aerial Tracker. The tracker has been replaced by the much smaller ARS-6(V) personnel locator system that provides direction and distance to the downed pilot. Every pilot and crewmember carries a radio and hand-held global positioning system receiver in their survival vests when they take off on a mission. Once activated, the tracker and radio work together to provide an exact location for the King crew to look on the ground or in the water. In the HC-130, two loadmasters normally sit next to the thirty-six inch wide windows on each side of the aircraft and act as scanners during training. Their workload increases quite a bit during an actual rescue, so additional crewmembers are brought on to be dedicated scanners to help look for downed airmen in the water during a surface search. The scanners are equipped with binoculars or night vision goggles, depending on conditions. To stay sharp, the scanners work in thirty-minute shifts and then take a break.

Racks of survival equipment line the right side of the HC-130 cargo hold, going up and over the 1,800-gallon fuel tank attached to the floor, leaving the loadmasters with only a small work area. After a low-level flight to avoid detection, the HC-130 crew arrives on scene and begins looking for the downed crew. Once the downed airmen are found, the HC-130 navigator notes their position. As the HC-130 pilot circles, the loadmaster opens the ramp and readies a smoke marker. At the pilot's signal, the loadmaster releases the marker, which ignites and descends by parachute. With a second pass, the loadmaster puts a marker on the other side of the downed crew. "This job is a little different than on other aircraft," says SrA Dan Manzella, a 102nd RQS loadmaster. "It requires some special training. We have to know how to use pyrotechnics, launch free-fall rescue bundles, spot survivors, and help coordinate aerial refueling formup. The PJs check their own equipment, though. They're pretty independent."

"Crew coordination comes from practice," says Capt. Kevin Costello, another 102nd RQS navigator. "The pilots have to be able to concentrate. We deploy with dedicated crews to improve crew resource management. Dedicated crews know the strengths and weaknesses of other crew members from flying together everyday. In peacetime, we can't set up dedicated crews. Being in the National Guard means our civilian jobs don't always make us available at the same time. We compensate for not working together as a dedicated crew by practicing a lot and by using our combined wealth of experience."

The HC-130 navigator uses the radar and the forward-looking infrared/TV system to find the HH-60s. The FLIR image can be seen at the navigator's station and on a smaller screen on the pilot's side of the instrument panel. The aerial refueling begins with the HC-130 crew making a low-altitude, high-speed rendezvous. The King crew slows down, approaches the helicopters from behind, and overtakes them. The HC-130 flight engineer reels out the refueling hoses from the underwing pods. The FLIR, which has a 360-degree field of view, also confirms the eighty-foot hose is out and the one hundred-pound drogue, or basket, has reefed out to its full three-foot diameter. Meanwhile the pilot in the HH-60, who sits in the right seat, extends the helicopter's refueling probe, also on the right side of the aircraft. The twelve-foot extension allows the probe to clear the rotor diameter. Pave Hawk crews always rendezvous on the left side of the HC-130, allowing the pilots from each aircraft to make visual contact. The left pod is better to refuel from because the HH-60 is out of the HC-130's exhaust and is clear of the wing. When refueling from the right pod, the helicopter is in the HC-130's exhaust and inside the pod, bringing it four feet closer to the HC-130 fuselage.

When going to the right drogue, the Pave Hawk crew flies over the top of the HC-130 rudder mainly to avoid turbulence. Low-voltage formation lights (also known as slime lights) on the upper surfaces of the HC-130 stabilizers further remind the helicopter pilots of the size of the HC-130, especially if they are wearing NVGs. Prior to the aerial refueling, all moving equipment on the helicopter, such as its FLIR, is secured as a precaution. The helicopter then slides up to the pre-contact position about two feet behind the basket. Loadmasters on the HC-130 call the flight deck crew when the helicopters move to the right basket and are ready to refuel.

When the HH-60 pilot lines up the refueling boom with the drogue, makes contact, and pushes the basket forward several feet, fuel begins flowing. The helicopter immediately rises above the HC-130's wing with the hose and drogue attached to the boom to get into clear air. In a matter of

seconds, several hundred pounds of fuel transfer. After refueling, the Pave Hawk crews ingress the area at low altitude. CSAR missions normally involve at least two helicopters, both armed. The Air Force's HH-60 fleet has provisions for either 7.62mm miniguns or .50-caliber machine guns. Once over the downed crew, the flight engineer counts down the altitude and calls the hover. For a sea rescue, the door is opened and the winch, with its 600-pound capacity, is lowered. Each survivor is pulled up separately, sometimes in a horse collar and sometimes in a litter, with a PJ providing support when necessary. Any remaining PJs are pulled up separately.

When PJs do not parachute with their boats, the HH-60 pilot descends to wave top height and the two PJs jump in. In this instance, the downed airmen use a rope ladder to scramble into the helicopter followed by the two PJs. The ladder is unhooked and dropped in the water instead of taking precious seconds to retrieve it, especially in hostile fire. Depending on terrain, PJs wearing coveralls and other protective gear can use a fastrope, a special rope designed to work similar to a fire-pole so they can slide to the ground. Like the rope ladder, the fastrope is also discarded. The operation goes like clockwork. Within minutes, survivors are on board, helicopters clear the area, and head back to the tanker. There are six rescue wings in the Air Force that now all come under the purview of Special Operations Command: three active duty, one Air Force Reserve Command, and two Air National Guard units, one of which is the 106th RQW.

The 106th has better conditions to practice than most units. "We are in a prime location for training," says Maj. Andrew Wineberger, an HH-60 copilot with the 101st RQS. "We have water and sand three miles from our runway. The Vermont mountains are an hour's flight away. Plus, we have restricted airspace the length of Long Island that's right off the shore." The National Search and Rescue Plan divides the duties of all the entities involved in search and rescue. The Air Force has jurisdiction inside the continental United States. The Coast Guard has jurisdiction from the coast to 200 miles out at sea. "We work closely with the Coast Guard," notes Reilly. "However, some missions exceed the capabilities of the Coast Guard, and that's where we come in. "The Coast Guard helos can't refuel," Reilly continues. "For civilian rescues, the Coast Guard searches with its version of the HC-130 and drops rafts. We can bring our helos way out with one of our Kings. We can drop PJs and their boats. The Coast Guard executes its mission far more frequently than we do. But, we can drop personnel into the water 1,000 miles from the coast. We are truly the last available lifeline."

One of the missions the 106th RQW is responsible for is Space Shuttle launch support. Gabreski ANGS, with its 9,000-foot runway, is an alternate landing site for the shuttle. A wing-specific mission is mid-ocean astronaut rescue. The unit's location meant it was a first responder during the TWA Flight 800 explosion in 1996, the John F. Kennedy, Jr., search operation in 1999, and the World Trade Center attacks in 2001. The rescue the 106th participated in pointed out a serious range shortcoming of the Pave Hawk. In 1991, a 101st RQS HH-60 crew was returning to base after attempting to rescue a solo sailor 250 miles southeast of Long Island and had to ditch during what was later chronicled in the book, *The Perfect Storm*. Despite repeated attempts to hit the drogue in the worst possible weather, the Pave Hawk crew could not hook up and ran out of fuel. All of the Air Force's HH-60 now carry a 670-gallon fuel bladder to extend range. But the bladder cuts into available space in the helicopter for PJs, their equipment, and, of course, the survivors. The Air Force will soon kick off an HH-60 replacement program, however. The service also recently awarded contracts for converting existing EC-130s and WC-130s to HC-130s, as demand

for tankers is always high, particularly for refueling helicopters. "We put more than 1,200 hours on our six HH-60s and 1,460 hours on our five HC-130s last year," notes Col. Rob Landsiedel, the wing's maintenance group commander. "We have surpassed 1,600 hours on the Kings in some years. We have Guardsmen doing this mission 120 to 150 days a year. We are a high-demand, low-density asset. That isn't going to change."

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Sources