

Operation Ivory Soap and the Largest Helicopter Rescue of WWII

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“And to each and every person interested in helicopters—stick with them... They are here to stay, to help or save a life when no other power on earth can come to your aid.”
...*Lieutenant Louis Carle, January 1947*

ABSTRACT

Until recently, Operation Ivory Soap, a secret World War II collaboration between the United States Army, Navy, and Merchant Marines, to reconfigure six Liberty Ships into floating maintenance shops for repairing damaged aircraft in the Pacific, remained in obscurity. Sikorsky R-4B and R-6A helicopters were based on these ships to ferry mechanics and parts wherever needed. This secret project proceeded as planned until an emergency request for medical evacuation of wounded soldiers came in June 1945. Until then, the newly-developed helicopter had rarely been used for aeromedical rescue and never in hostile action. Nonetheless, the incredibly brave and resourceful Ivory Soap pilots, flying without radios, medical training, or specialized transport equipment, saved as many as ninety-four seriously-injured troops in the Philippines—and forever revolutionized the value of the helicopter in combat. Sadly, the pilots’ stories of valor lay buried in forgotten piles of once-classified documents for decades. *But no longer...*

INTRODUCTION

A Grand Legacy Revealed

Operation Ivory Soap, the name derived in jest from the soap that always floats, was a large-scale, joint effort between the Army, Navy, and Merchant Marines in the last phase of World War II. Allied Forces fighting in the Pacific Theater, which included vast areas of the Pacific Ocean, East Asia, Southeast Asia, and extended as far south as Australia and into the Bering Sea on the north, employed a strategy known as “island hopping” as they moved toward Japan. When these bomber and fighter aircraft returned from their long-range missions, they often needed extensive repairs, but building and supplying myriad repair facilities throughout these islands would take months. With timely maintenance and logistical support for the massive aviation armada critical to the success of air operations, the top brass knew this could best be achieved by creating floating aircraft repair factories on reconfigured ships, which could follow invasion forces, drop anchor off shore, and immediately begin depot-level aircraft repair (Ref. 1).

Facilities also had to be built into these ships to accommodate the onboard Sikorsky R-4B and R-6A helicopters and their crews, their primary mission to haul numerous parts where needed, along with ferrying shipwrights and mechanics as the situation required. While most successful in its original mission, Operation Ivory Soap would take on a new level of import when its helicopters were called upon to rescue wounded soldiers throughout the Philippine Islands, in remote areas and under extensive hostile combat fire.

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Even though Operation Ivory Soap was officially declassified in 1953, it remained buried in these files until 1997. For over half a century, the details of those involved in this secret operation lingered in obscurity before the public learned of its true scope. In an address to the U.S. House of Representatives in 1998, Congressman Tony P. Hall [Ohio’s 3rd Congressional District] stood to honor the brave men of Operation Ivory Soap, saying, “This is another one of the never-told stories out of the dusty vaults of declassified secret records. This story was uncovered by one of the ship’s crewmembers [Fred Duncan], seeking his comrades for a reunion. Only in the last few years have these documents been released to the public” (Ref. 2). These facts, buried in the history of the 112th Cavalry Regimental Combat Team and ships’ logs, were painstakingly unearthed by Duncan.

While no one would question the value of helicopters today, most know little of their history or early rescue efforts, often believing they started in the Korean War, thanks to the popular movie and television series, MASH. In truth, they began years earlier, with many lives saved during the last months of World War II by the valor and ingenuity of the previously-unheralded helicopter pilots assigned to Ivory Soap’s floating Aircraft Repair Units. And, *this* is their story...

PART I: The Creation of Operation Ivory Soap

Allied Forces fighting in the Pacific Theater employed an “island hopping” strategy as they moved toward Japan. Time and great distances added to the challenge, making the primary objective, to capture Japanese islands, crucially important, especially those with airfields. This plan, created and orchestrated by Admiral Chester Nimitz and General Douglas MacArthur, called for a two-pronged attack, with MacArthur and his troops covering part of the Pacific Islands with a southern advance, while Nimitz concentrated on the northern axis. Both initiatives were completed successfully.



Figure 1: Map showing the two-pronged island-hopping attack in the Pacific

As the island-hopping campaign progressed, the Allies extended their air superiority throughout the Pacific by utilizing these captured airfields on their long and dangerous advance toward Japan. When the bomber and fighter aircraft returned from their long-range missions, they often needed extensive repairs. However, building numerous maintenance and repair facilities on these islands would obviously take too long and further cause serious logistical and resupply issues.

The Commander of the Army Air Forces, General Henry H. “Hap” Arnold, and his staff, needed an innovative system to support mobile warfare in the Pacific. Timely, logistical repair and maintenance for the massive aviation armada would prove critical to the success of air operations. This could only be achieved by creating mobile depots, i.e., floating seaworthy aircraft repair factories. Setting up the required machinery onboard a ship supported by skilled manpower would obviate the need for repair facilities on various island beaches. These ships could follow the invasion forces, drop anchor off shore, and immediately begin high-level aircraft repair (Ref. 1).

These floating repair shops would be fully equipped with drill presses, lathes, electric furnaces, grinders, joiners, sanders, and numerous precision instruments and testing apparatus, all manned by skilled Air Technical Service Command (ATSC) personnel capable of repairing aircraft and their associated operating systems: radars, radios, tires, engines, propellers, wing-sections, parachutes, on-board oxygen systems, etc. These ships would also carry a comprehensive stock of numerous repair parts. In summary, the use of these floating repair units would provide the Army Air Forces in the Pacific with the needed mobility, rapid response, and depot-level repair parts and capabilities (Ref. 1).



Figure 2: Four-Star General Hap Arnold, Commanding General of the Army Air Forces, shown here in 1949 as a Five-Star General of the newly-created Air Force



Figure 3: General James A. Mollison, Commanding General of Mobile [Alabama] Air Service Command (MoASC), chosen to implement this secret project in February 1943.

General Arnold and his staff assigned the overall responsibility for the project to the Air Technical Service Command, headquartered at Wright Field in Dayton, Ohio. And in March 1944, Arnold chose ATSC’s subordinate command, the Mobile [Alabama] Air Service Command (MoASC), led by General

James A. Mollison, to implement this still-unnamed top priority secret project.

The Mobile [Alabama] Air Service Command was chosen to complete this critical project because of its strategic location on the Gulf Coast and its deep-water ocean terminal headquartered at Brookley Field, where the six Liberty Ships would be modified as Aircraft Repair Ships (ARS). It also had access to the Mobile and New Orleans shipyards. Meanwhile thousands of troops trained nearby. These ships would each house one of the six corresponding Aircraft Repair Units (ARU) with 344 highly skilled technicians, while 18 smaller vessels would be turned into Aircraft Maintenance Units, each carrying 48 men.

Table 1: Liberty Ships Selected for Operation Ivory Soap		
ARS	Original Name	Aircraft Repair Ship Name
1	Daniel E. Garrett	Maj. Gen. Robert Olds
		1st ARU - Marianas
2	Rebecca Lukens	Maj. Gen. Herbert A. Dargue
		2nd ARU - Marianas
3	Thomas LeValley	Maj. Gen. Walter R. Weaver
		3rd ARU - Philippines
4	Richard O'Brien	Brig. Gen. Asa N. Duncan
		4th ARU - Marianas
5	Robert W. Bingham	Brig. Gen. Clinton W. Russell
		5th ARU - Philippines
6	Nathaniel Scudder	Brig. Gen. Alfred J. Lyon
		6th ARU - Philippines
Inevitably the six hybridized Liberty Ships were known as "The Generals" (Ref. 3).		

Facilities had to be built into the six Liberty Ships to accommodate onboard Sikorsky R-4B helicopters and crews, their primary mission to haul parts and ferry shipwrights and mechanics as needed. Sikorsky R-6A helicopters would later join the fleet in the Philippines.

After selecting over 5,000 mechanics and technicians from the Army and the Army Air Forces to man these ships, all of whom had to be trained to live and operate at sea, the difficult challenge of choosing the perfect leader and location for this unique, classified training came next.

An intense search culminated with Lieutenant Colonel Matthew Thompson, Army Air Forces, a former member of the British Royal Navy who had substantial experience at sea, a rare quality for an Army officer. Thompson would lead the entire project from initial organization and training to full deployment to the Pacific Theater. However, with only two weeks to get the project running, finding the perfect location turned critical.

When Thompson heard about a historic waterfront hotel situated at Point Clear across the bay from Mobile, Alabama, which would be closing because of the war, he took a chance and contacted its managing officer, Ed Roberts, who ran the lovely resort facility, the Grand Hotel, owned by the Waterman

Steamship Company. Years later, in an interview with *The Times-Picayune* in New Orleans, a 91-year-old Thompson described that meeting which took place in what is now the Bucky's Birdcage Lounge at the hotel (Ref. 2).

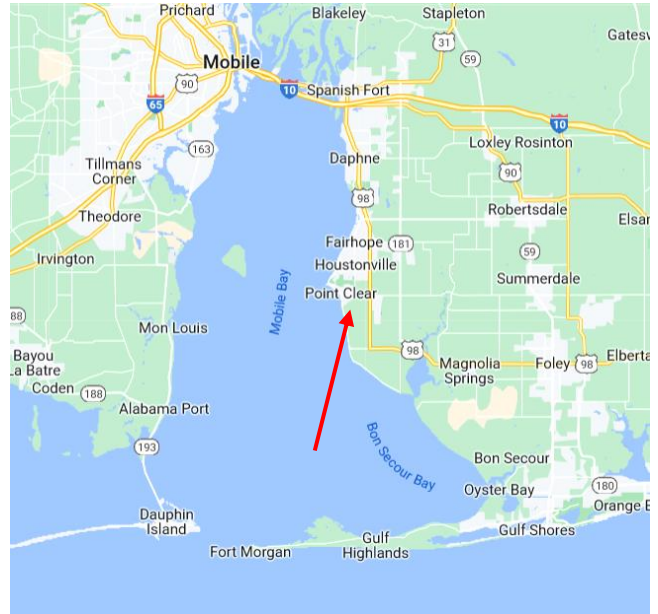


Figure 4: Location of the Grand Hotel on Point Clear, across the bay from Mobile, Alabama



Figure 5: Main building of the Grand Hotel during WWII

Roberts offered to let the troops use his hotel for free, taking Thompson by surprise. "Colonel, I'm too old to fight, and this is my donation to the War effort." A true gentleman, Thompson responded that using the hotel free of charge just didn't feel right. "So, Roberts said, 'Give me a dollar,'" Thompson remembers. "I gave him a dollar, and that was that" (Ref. 2).

In the wake of the meeting, the following contract was drawn up: "It is hereby agreed between Ed Roberts and Lieutenant Colonel Matthew Thompson, representing the United States Government, to lease said premises of the Grand Hotel to the Army Air Corps for the sum of \$1 per year for the duration of the War" (Ref. 2).

Situated at the far end of the east wing of the Grand Hotel sits room number 1108, a corner suite that provides a magnificent view of Point Clear as it stretches into the waters of Mobile Bay. From this special location, Lieutenant Colonel Thompson ran the secret military operation for a period of five months in 1944, designed to play a vital support role in World War II's final push across the Pacific toward the Japanese homeland.



Figure 6: Lieutenant Colonel Matthew Thompson sits at his desk in Suite 1108 at the Grand Hotel, which is now known as the Thompson Suite.

The Project Gets a Name

With this new project finally having a home, it needed a code name. While General Mollison and his team struggled to find one that would reflect the uniqueness of the operation and still maintain its secrecy, Thompson later told *The Times Picayune* that “One day someone went to the restroom and, when he came back, said, ‘I’ve got a name for the mission: Ivory Soap!’ Like the experimental Aircraft Repair Units the military wanted to deploy, Ivory Soap *floats!* The name stuck, and on July 10, 1944, Operation Ivory Soap was officially underway (Ref. 2).

The Training Begins

Colonel Thompson recalled in an interview that “practically overnight, the Grand Hotel was transformed to mimic nautical conditions, and men were made to live ‘Navy style.’ For example, all personnel were required to refer to the hotel’s floors as decks. Time was kept with a ship’s bell, and men were only allowed to use tobacco when the ‘smoking lamp’ was lit. Out of respect for Ed Roberts and his generous donation, soldiers refrained from wearing combat boots inside the hotel to protect its beautiful hardwood floors.



Figure 7: Sleeping Quarters in the main building

“We had to strip the hotel. The troops ate in the dining room, a mess hall then. I had a 40-foot tower built for them to jump [from] so they could learn to abandon ship. There was a lifeboat right out there, with oars ... Men from the Naval Air Station in Pensacola would fly over and scare the living hell out of the men.

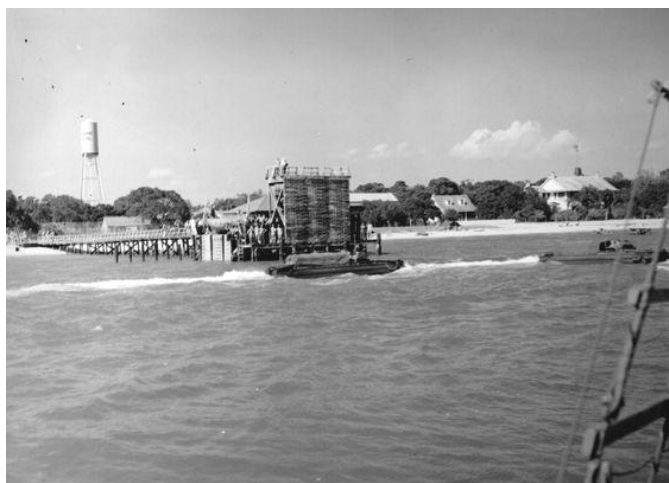


Figure 8: WWII training of crewmembers jumping off the pier from the 40-foot tower at the Grand Hotel

“The troops were subjected to many courses and exercises, including swimming, knot-tying, marching, navigation, ship identification, amphibious operations, cargo handling, and much more. Two men from each ship were trained as underwater divers.



Figure 9: Merchant Marine instructors teaching the men of the Army Air Forces how to tie and use lines (ropes)



Figure 10: A Merchant Marine officer teaching lifeboat skills to the Army crewmembers



Figure 11: Trainees “heave-up” a boat during lifeboat drills as soldiers perform maritime drills in the waters off Point Clear, Alabama.

“Though Operation Ivory Soap was designated as a secret operation, local residents could, and often would, watch the men go about their training in Alabama’s summer heat, which closely resembled the climate of the Pacific. Soldiers paddled lifeboats furiously in Mobile Bay, simulating the aftermath of a shipwreck. Amphibious vehicles stormed the beaches of

Point Clear. Troops stood in formation on the green grass in preparation for the day’s training. Instructors stood beneath wisps of Spanish moss, using charts to teach the men the different parts of a ship. Lectures were often given outside in search of a cool Point Clear breeze” (Ref. 2).

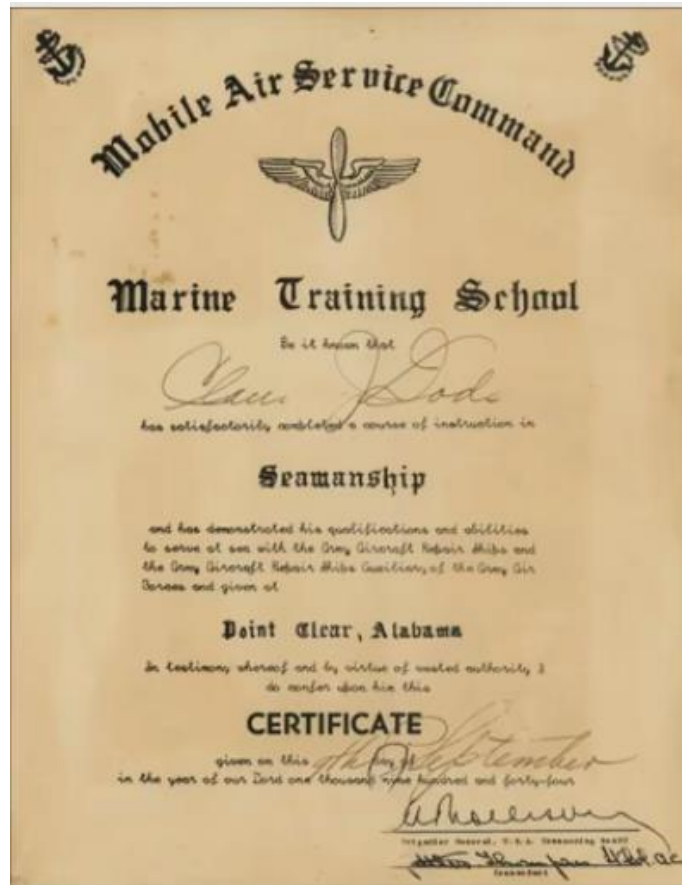


Figure 12: Marine Training School Certificate of Completion, dated September 9, 1944, for Corporal Claude J. Dodson, Sr., signed by Brigadier General James Mollison, Commander, and Lieutenant Colonel Thompson, Commandant

Bates Field

In 1938, the Army Air Corps purchased Bates Field Municipal Airport, located fifteen miles west of Mobile, and established the Brookley Army Air Field there. Its waterfront location served two purposes: as a fighter overhaul and maintenance base and as an Air Materiel Command supplying the Army Air Corps bases around the world. In order to accomplish this mission, the Army built hangars and large warehouses, while using the existing Arlington Point dock (Ref. 4). The dock allowed ocean-going vessels to offload aircraft and transport them to the repair facilities within Brookley Field.

In 1944, the Army decided to take advantage of Brookley’s 17,000-person highly skilled civilian workforce for the top-secret “Ivory Soap” project. The vessels to be reconfigured into Aircraft Repair and Maintenance Units arrived in the

spring of 1944 to begin the refurbishment process, and, by the end of the year, all vessels had departed Mobile (Ref. 4).

After completion of the two-week course at the Grand Hotel, the men went to Bates Field for additional training in their areas of aircraft repair. Bates Field, also an MoASC unit, had a large hangar that housed repair shops similar to those the men would find aboard ship, where, as before at the Grand Hotel, they worked and trained under simulated shipboard conditions.

The realism of the simulated ship operations also applied to the helicopter pilots. Bates Field constructed landing platforms so the pilots could safely practice takeoff and landings (Ref. 1).



Figure 13: R-4B at Bates Field, making a practice landing on a simulated 40 by 72 foot landing platform

Sergeant William Thomas, who was later assigned to the *Brigadier General Clinton W. Russel (ARS-5)*, recalls the following, “The helicopters joined the unit at Point Clear and Mobile, Alabama. It was the first time any of the men had even seen a helicopter. At Point Clear those Army Air Forces soldiers were trained for sea duty and became sailors. Because we were both soldiers and sailors, we were called ‘Sailjers.’ I wasn’t surprised at all to see helicopters because I knew they had tested these things at the Macon Akron Hangar in Ohio... Having flown myself, it didn’t seem that strange to have them around” (Ref. 5).

Lieutenant Colonel Thompson’s training program, and the resulting transformation of men and vessels, was both impressive and effective; in just five months, 5,000 men were trained at the Grand Hotel and Bates Field and sent into the Pacific Theater. And when these troops finally went to war, their training commander, Matthew Thompson, joined them.

Despite the numerous challenges and difficulties encountered in an operation with no precedence or blueprint, this Herculean effort was completed with remarkable speed and efficiency. And as the war progressed, Operation Ivory Soap would later designate the two ships involved with the helicopter rescues in the Philippines as *ARS-5, Brigadier General Clinton W. Russell*, and *ARS-6, Brigadier General Alfred J. Lyon*.

The *ARS-5*’s keel was laid down on March 15, 1944, and the ship was launched April 25, 1944 (41 days later), and delivered May 5, 1944, to the War Shipping Administration where it was simultaneously transferred to the War Department and immediately converted into an Aircraft Repair Ship at Mobile Air Service Command, Brookley Field, Mobile, Alabama (Ref. 6).

The *ARS-6*’s keel was laid down on May 12, 1944, and the ship was launched June 15, 1944 (45 days later), and delivered June 26, 1944, to the War Shipping Administration and simultaneously transferred to the War Department where it too was immediately converted into an Aircraft Repair Ship at Mobile Air Service Command, Brookley Field, Mobile, Alabama (Ref. 7).

On October 1, 1944, the first reconfigured Liberty Ship, *ARS-2, the Major General Herbert A. Dargue*, departed Brookley Field’s ocean terminal to begin her voyage to the Pacific Theater of War. The other five ships soon followed, all having departed by the end of 1944 (Ref. 1).

The men of Operation Ivory Soap would go on to participate in the Allied landings at Guam, Iwo Jima, Okinawa, the Philippines, Saipan, and Tinian (Ref. 2). According to the U.S. Congressional Record, “Hundreds of B-29 bombers and P-51 fighters returned to battle to fight again because of these depot-level maintenance ships” (Ref. 8). The actual tally of lives saved because of the valiant actions of their pilots and crewmembers is incalculable.

Operations at Sea

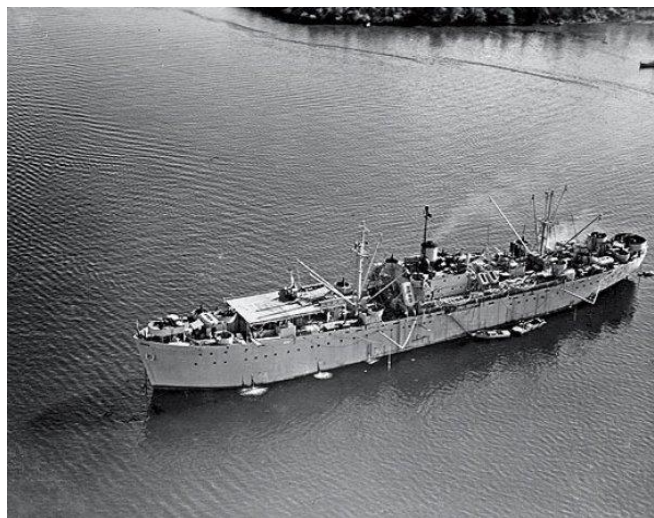


Figure 14: A Sikorsky R-4B helicopter after landing on a Liberty Ship’s improvised 40 by 72 foot platform. Not all danger came from enemy fire since landing on these small platforms required inordinate pilot skill.

The Liberty Ships carried necessary armament as well as anti-aircraft guns for protection against Japanese air attack. Each Liberty Ship had a 3-inch bow gun and a 5-inch stern gun, plus two 40mm anti-aircraft and twelve 20mm anti-aircraft gun

mounts. The main threat came from the Japanese “Betties,” Mitsubishi Navy, Type 1, Attack Bombers. Records show these were shot down by the Liberty Ships. While the *Major General Herbert A. Dargue (ARS-2)* was at Saipan her gun crew shot down two Japanese “Betty” bombers. They got another Japanese plane in May after moving on to Iwo Jima (Ref. 9).



Figure 15: 40mm anti-aircraft gun crew onboard ARS-4, Brigadier General Asa N. Duncan, with Sikorsky R-4B helicopter in the background



Figure 16: Liberty Ship anti-aircraft gun crew in action.

Training for the Gun Crews

Edward W. Ciccolella was one of the helicopter pilots assigned to the *Brigadier General Alfred J. Lyon (ARS-6)*. He recalled the following accident during an aborted gunnery practice session:

“One day, while en route, the ship’s commander decided that the gunners needed firing practice. Where on earth he got that idea from I’ll never know, but he came up with a six-foot balloon, shaped just like a huge hot dog! He wanted it strapped to the side of one of the R-4Bs, brought up to 1,500 feet, and then released, to be used as a target for the 40mm caliber guns. The crew chief rigged up a lanyard, which the pilot could pull to eject the balloon, and after mounting it outside the chopper, all was ready.

“The chopper lifted straight up and slowly moved away from the Liberty Ship. Just as he cleared the flight deck, the engine sputtered and quit, and chopper, pilot, passenger, and balloon dropped into the Pacific Ocean! They lifted the men out and back aboard within minutes. They were unharmed except for their temperament. The giant balloon had been tied to the air-intake side of the chopper, and immediately was sucked onto it and very efficiently killed the engine! There was no second attempt at target practice” (Ref. 10). The pilot was Lieutenant James H. Brown and the passenger was T. Frank Crowder.



Figure 17: 6th ARU helicopter pilot Lieutenant James H. Brown, left, and T. Frank Crowder

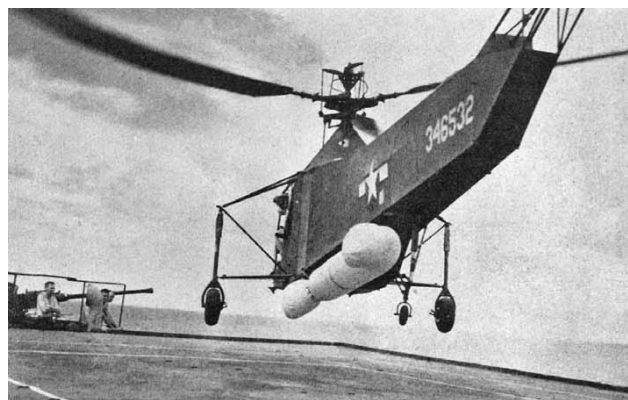


Figure 18: The R-4B helicopter taking balloon aloft. Riding inside were Lieutenant James H. Brown and Frank Crowder. Gun crews are at the ready on the left side of photo.

There were other instances where R-4s ended up in the Pacific Ocean. Staff Sergeant William Thomas was in charge of the Woodworking Shop on board the *Brigadier General Clinton W. Russell* (ARS-5). He was good friends with helicopter pilot Lieutenant Robert “Bob” William Cowgill. He had flown with Cowgill on several occasions and recalls the following:

“Flying in a helicopter was most interesting, especially the fact that we could fly over Manila and surrounding communities and see the people from up above. It was incredible to see buildings on stilts and how the Filipinos lived in the upper part with their animals below.



Figure 19: R-4B Sikorsky helicopter with floats landing on the Aircraft Repair Ship, Major General Roberts Olds (ARS-1)

“It was also fascinating how versatile the helicopter was. With the pontoons it could land on either land or water, which we did. Bob did test flights in the helicopter as we traveled across the Pacific and the Equator and so forth. We have pictures in the book we made of our outfit, like a college yearbook.

“One time I can remember, the tail rotor hit a cable. Without that stabilizer, the whole fuselage went around at a slower speed than the upper rotor and they went into the water. Bob and his passenger both got out all right, and later they rigged a boom and fished the helicopter out of the ocean. Cowgill had a pet name for his helicopter: The Little Brown Jug” (Ref. 5).



Figure 20: Cowgill's helicopter “the Little Brown Jug” being pulled from Manila Bay

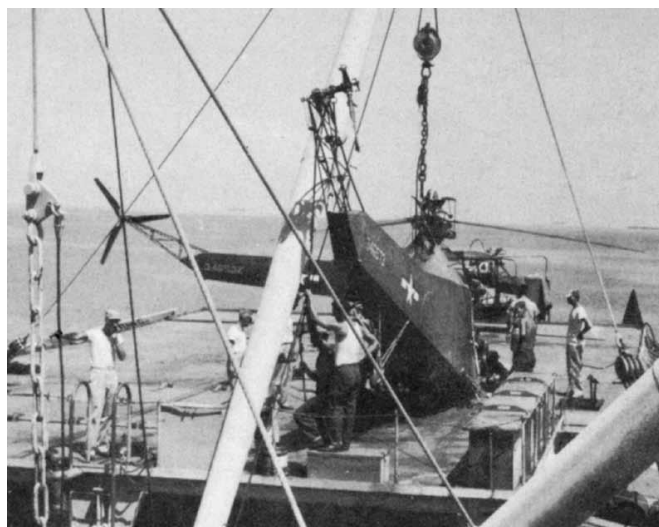


Figure 21: Cowgill's helicopter being placed on the ship's booms (ARS-5)

Another R-4 pilot, Lieutenant Jack L. Zimmerman, when taking off from the *Major General Robert Olds (ARS-1)*, crashed into the sea. For his heroic actions in saving his passenger's life, he was awarded the Soldier's Medal:

“For heroism displayed in rescuing an enlisted man from drowning on 1 November 1944. While taking off from the flight deck of the *Major General Robert Olds (ARS-1)*, Lieutenant Zimmerman with Private William K. Troche as passenger was forced to land at sea. Lieutenant Zimmerman at the risk of his life made several dives into the plane when his passenger had difficulty in extricating himself from the craft. When Private Troche's life preserver failed to operate properly, Lieutenant Zimmerman supported him in the water for approximately 30 minutes and afterwards pulled him to a life preserver, which had been thrown from the ship. The heroism displayed by Lieutenant Zimmerman on this occasion reflects great credit upon himself and military service” (Ref. 11).

After the war, Zimmerman's career path led him to test fly rotary-wing aircraft for various companies. On March 20, 1966, at Edwards Air Force Base in Southern California, Hughes Aircraft Company test pilot Zimmerman flew the third prototype YOH-6A Light Observation Helicopter, 62-4213, to set a *Fédération Aéronautique Internationale (FAI)* World Record for distance over a closed circuit without landing, of 1,700.12 kilometers (1,056.41 miles). One week later, Zimmerman would set six more World Records with the “Loach” (Ref. 11).



Figure 22: After World War II, Hughes Aircraft Division test pilot Jack L. Zimmerman with the record-setting Hughes YOH-6A Light Observation Helicopter, 62-4213

PART II: The Helicopter Rescues

Helicopters were still a rarity during WWII. Even though approximately 385 had been produced in 1944-1945, only a few had made it overseas into the combat zones (Ref. 12). Dr. Roger Connor, the curator of the National Air and Space Museum's vertical-flight collection, describes these units: “In addition to the R-4B, Sikorsky had made two other helicopters for World War II: the R-5 and R-6. The R-4 was a trainer intended merely to introduce the helicopter's potential to the military; the R-6 was a further evolution, designed as a liaison aircraft. The R-5 was the true workhorse, the only one of the group capable of lifting a substantial load.

“Unfortunately, the much larger R-5 suffered a series of engineering delays and was not ready for deployment until several months after the War ended. The R-6 also suffered delays but saw limited service in the last three months of the War. That left the lowly R-4 trainer to bear the brunt of helicopter operations from April 1944 onward. Under ideal conditions, the R-4 could carry, in addition to the pilot and fuel, a mere 195 pounds, which meant only instruments and small components like propeller hubs. But the timely delivery of even small payloads was highly valued” (Ref. 13).



Figure 23: Helicopters, including the R-4B, were assigned to the Pacific Theater not to evacuate the injured but to ferry replacement parts for the Army Air Forces' Boeing B-29s bombers and P-51 fighters.

The first extensively documented rescue by a helicopter during World War II began on April 21, 1944, when a Stinson L-1 light observation aircraft carrying a pilot and three wounded British troops was shot down by Japanese forces and crashed in a rice paddy in Burma.



Figure 24: Lieutenant Carter Harman, 1st Air Commando Group, stands on the left with a Sikorsky YR-4B 43-28223, in Burma on April 26, 1944. The other officer standing with Harman is Lieutenant Frank Peterson. Harman’s crew chief, Sergeant Jim Phelan, is kneeling at right (U.S. Army Air Forces).

Using an R-4 helicopter, 1st Lieutenant Carter Harman brought out each survivor, one at a time, over a two-day period. Harman remained at a forward airstrip, and over the next eleven days flew 23 additional missions before he was forced to redeploy to the rear because of advancing enemy units (Ref. 14).

Ivory Soap Helicopter Rescues—First in Combat

In June 1945, Ivory Soap’s 5th and 6th Aviation Repair Units used a mix of Sikorsky R-4B and R-6A helicopters to evacuate wounded soldiers engaged in bitter mountain fighting on the large island of Luzon in the Philippines, evacuating all to a military hospital within a 30-minute period. Thus, the seminal experience of what would later become known as the life-saving concept of the “Golden Hour” during the Vietnam War had quite unknowingly been achieved by these pilots in World War II. Unlike the Harman recovery, their helicopters encountered sustained enemy resistance and several were damaged (Ref. 15).

The 1st, 2nd, and 4th Aircraft Repair Units (ARUs) supported the 20th Air Force in the Mariana Islands along the northern axis of approach to Japan, while the 3rd, 5th, and 6th ARUs supported the 5th Air Force in the Philippines along the southern axis (Figure 1, shown previously). The southern axis, however, is where the pilots of the 5th and 6th ARUs evacuated the wounded.

Six helicopter pilots flew these rescue missions, three from the 5th ARU and three from the 6th ARU. Recent graduates of helicopter training and still “green,” all six were deployed to the Philippines, their primary mission to haul parts and ferry mechanics and shipwrights wherever needed.

However, when called upon to save lives, these brave, young Ivory Soap pilots offered no hesitation and demonstrated great flexibility in adapting to their new mission. It should be emphasized that not only had they no medical backgrounds, no experience or training to fly in combat conditions, and no crewmembers to assist with these harrowing medical evacuations, they were flying first-generation helicopters, which had marginal performance, range, and power. Greatly increasing this challenge, their helicopters also had no radios and thus no means to communicate with their ground units.

The Number of Actual Rescues

Ivory Soap historian Fred Duncan documented 70 rescues before he passed away in 2005. Sadly, it took another four years until Martin Pociask (*Rotor Magazine*) interviewed Edward Ciccolella in 2009 to add an additional 13 to the tally. As Ciccolella stated, “I don’t really remember Cowgill or Noll, but Carle and Greene were classmates of mine. Jim Brown was with the 6th when I joined the unit. As I recall, I evacuated 13, and I think they were the first for the 6th ARU” (Ref. 10).

Aviator	Helicopter	Number Rescued
5th Aviation Repair Unit* 16-21 Jun 1945		36/47 total
2nd Lt. Louis A. Carle	R-4B	17/28
1st Lt. Robert W. Cowgill	R-6A	17
2nd Lt. Harold Greene		2
6th Aviation Repair Unit** 24-29 Jun 1945		34/47 total
1st Lt. James H. Brown	R-4B	17
2nd Lt. John R. Noll	R-6A	17
FLT OFF Edward W. Ciccolella		13
		70/94***
*5th Departed for Okinawa on 6 July 1945		
**Ship was anchored in Manila Bay during this time.		
***Number could be as high as 94 rescues.		
(Recorded/Added by Interviews)		

However, the total number of helicopter rescues could be as high as 94. Pilots believed they saved more men than what records (typically the ship’s logs) reflect. For example, during an interview Fred Duncan had with Louis Carle, Carle claimed he had 28 rescues, “Well, we won’t argue the point because I picked up 28, but I’m going to tell you something: our records were slightly incomplete. I was working out of a field hospital. And they had a motor pool with gasoline I could use. I’d take off in the morning or sometime, and I’d make four, five, six trips, and I didn’t know that we were recording. And he [Cowgill] didn’t either.

“We picked up a lot more than show on the records, and I’ll tell you why. I’d go there in the morning for the first flight and I’d lift a wounded passenger, and then I’d fly all day and get five or six more. And maybe I’d lift another one and maybe I

wouldn't. He [Cowgill] said the same thing that morning; we should have kept better records" (Ref. 17).

Helicopter historian Roger Connor published an article in *Air & Space Magazine* in 2010 (Ref. 13) stating that the number of rescues could even be higher: "A small number of additional evacuations took place in July. Of the helicopter evacuations of wounded soldiers and airmen in the Pacific and Far East during the War, more than 60 percent were rescued during the operation on Luzon. Helicopter rescue was in no way decisive to World War II—125 to 150 wounded were evacuated—but it was a huge step in convincing the military that rotary wing flight was a useful battlefield technology" (Ref. 13).

Connor also reported that additional helicopter evacuations occurred in China and Burma with the 10th Air Force Air Jungle Rescue Unit in Burma in early 1945, and with the 8th Emergency Rescue Squadron operating in China. The mission in China rescued 43 people downed while flying in transports over the Himalayan mountains (Ref. 18).



Figure 25: 1st Lieutenant Robert Cowgill (in sunglasses) and 2nd Lieutenant Louis A. Carle improvised many helicopter rescue techniques in the Philippines during WWII.

Flying the R-4B and R-6A Helicopters

Dr. Connor further describes the difficulties inherent in flying the R-4B and R-6A helicopters. "The R-4B's blades were constructed of wood ribs around a steel spar and covered with doped fabric. They were difficult to keep in track [rotating in the same plane] and vibrated excessively. The pilot's cyclic stick made continuous small orbits, never staying completely stationary. There was no governor to control rotor speed, and the pilot had to correlate the throttle continuously with collective pitch inputs.

"In one of the only instances of public coverage given to the Ivory Soap helicopter pilots, a June 21, 1945, *Chicago Tribune* article reporting on Carle's initial efforts, noted: 'Driving the "eggbeater" is hard work. The control stick shakes like a jackhammer, and the pilot must hold it tightly at all times. Should he relax for even a minute the [helicopter] falls out of control. Pilots of regular planes say it's easy to identify a helicopter pilot—he has a permanent case of the shakes.' Carle and Cowgill found their evacuations becoming more difficult. The pilots continued to discover unanticipated limitations on these first-generation rotorcraft. Cowgill recalled that though the R-6 was intended as an improvement on the hastily designed (and perhaps overbuilt) R-4, it seemed to have numerous defects and was an even trickier machine to fly. 'They had the fuel tank in front of the center of lift...so when you ran [low] on fuel, the nose began to rise and you would run out of forward stick if you [were] alone,' said Cowgill. 'I had to stop once and put a stone up in the front to trim it up enough because of a design flaw'"(Ref. 13).

1st Lieutenant Daniel Nigro added the following: "The way we had to fly the choppers was really primitive because we often carried many parts needing repair. We did anything—even taking off the 'copter doors—to lighten our load" (Ref. 19).

The First Ivory Soap Rescues: 5th ARU



Figure 26: The 5th Aviation Repair Ship, the Brigadier General Clinton W. Russell (ARS-5) with R-4B on the landing platform

In late spring of 1945, the 5th Aviation Repair Unit evacuated 36 patients from June 16th to the 21st, and then departed for Okinawa on July 6, 1945, unaware it had achieved the world's first helicopter rescue during live combat, thanks to the incredible courage of helicopter pilots, Carle and Cowgill.

2nd Lieutenant Louis A. Carle

Overview: Lieutenant Carle was on TDY (temporary duty) from the 2nd Emergency Rescue Squadron (ERS) for helicopter training when he received the call and performed the first evacuation under intense hostile fire in the Pacific. Flying an R-4B, the official records credit him with rescuing 17 wounded soldiers in 1945, from June 16th to the 21st, although he believes the number to be at least as high as 28. On his last rescue attempt on June 21st, his helicopter crashed, although he walked away without serious injury. Sadly, he was never recognized for his valor.

However, in 1947, Carle documented his rescue efforts in an article appearing in the January 1947 issue of the *American Helicopter Magazine*. Of the six pilots who performed the Philippine rescues, he was the only one to provide firsthand documentation. For that reason, his experiences come to life in the following account (Ref. 20):

The record states that on June 16, 1945, the 5th Air Force received an urgent request from the 38th Infantry Division (of which the 112th Cavalry RCT was assigned) to evacuate two soldiers with head injuries from the jungle 35 miles east of Manila. Lieutenant Carle was assigned the mission and landed his R-4B helicopter close to the front lines, much to the amazement of soldiers who had never seen a helicopter.

Lieutenant Colonel Clyde Grant was the Commander, 112th Cavalry RCT (Regimental Combat Team). With his unit heavily engaged with Japanese troops, evacuating the wounded from dense jungle terrain would be time consuming and difficult, and require additional man-power which would deplete combat assets. On June 15, 1945, Grant made an urgent request to use the helicopters of the 5th Aircraft Repair Unit to rescue his injured soldiers. His original request was refused, so Grant then went to the "mat" with his Commanding General, and helicopter support was finally approved (Ref. 9).

Carle recalls the rescue details: "'SEND HELICOPTER TO VASAC HEADQUARTERS FULLY SERVICED FOR LONG MISSION. PILOT WILL REPORT TO COLONEL KNOX FOR INSTRUCTIONS. URGENT.),' read the radio message delivered to me at 9 a.m., June 16, 1945, as I sat in the tiny operations office beneath the flight deck of the *Clinton W. Russel*, better known as the 5th Aircraft Repair Unit (Floating) *ARS-5*, riding at anchor in Manila Harbor.

"It was not unusual to receive requests from Colonel Knox, wanting the R-4 to make short trips about the Manila area, so I placed no particular emphasis on this message. The helicopter was ready to go, and in less than ten minutes I was in Colonel

Knox's office. His first words, as I stepped through the door, were, 'Carle, will the R-4 fly forty miles and return?'

"'Yes, sir,' I assured him.



Figure 27: June 15, 1945—Lieutenant Colonel Clyde Grant, Commander, 112th Cavalry (RCT). His first request to use helicopters to rescue wounded soldiers from the jungle was refused. He went to the "mat" for his soldiers with his Commanding General.

"'Then I'd like you to look at this map and tell me if you can reach and land at the spot I have indicated with the cross,' he said, pointing to an area located in rough country about thirty-five miles east of Manila, south of Mt. Domire.

"'I think I can make it, sir.'

"'It seems that there is a small hospital at this little town,' Knox continued, indicating Santa Inez. 'They have two serious "brain cases" that must be rushed out to a better equipped hospital for emergency operations. Though the message we received is a little garbled, I understand that there is plenty of room for you to land in rice paddies east of the town. This area will be marked with white and yellow squares, and when you fly over, they will set off a red smoke flare. That's all the information we have. Get ready to go, and I'll radio the 38th Division that you're on your way.'

"'At 10 a.m., twenty minutes later, I took off in my helicopter little realizing that soon I would be in the thick of battle, as it had already been announced that our forces had conquered Central Luzon.

"'Upon reaching the spot where I thought St. Inez should be, I saw only jungle beneath me—jungle and rough, steep sided mountains. It confused me a bit, but I decided to cross another ridge in search of some sign of life. Suddenly I found plenty of life—all hell broke loose, as a hail of 100-pound bombs started dropping all around me. I got out of there, but quick! When I

got my breath back, I saw a squadron of P-47s dive-bombing the spot over which I had just been flying. And St. Inez wasn't down there!

“This incident had just passed when I spotted several men on the burned-off knob of a hill. The hill was fairly level, and after buzzing it to check the wind and identify the men whom I found to be Americans, I landed. The amazed soldiers gathered around, and after a few moments of bewildered gazing at my ‘monstrosity from the skies,’ as one of them called the helicopter, they directed me to a spot some two miles south of Santa Inez, where an officer had been wounded that morning. As the patrol was cut off from the CP (Command Post), they could not get the injured man back to the field hospital. This man was definitely not a ‘brain case,’ as he had been described, but the soldiers were certain that he was one of the two I was after.

“Near a sharp bend in the river, I found the patrol, with the wounded man lying on a stretcher on a tiny beach—a beach almost too small to be called a beach, because of the jungle that pushed toward the stream. Normally I would have called it impossible to land or take off from such a spot, but necessity forced me to try it.

“There was no wind, and after a couple of passes over the spot, I began a steep approach to the most level place on the beach. The left main wheel and tail wheel were in about three inches of water when I touched down. However, I was on a solid footing, so I cut the engine, stopping the rotors.

“As I stepped from the ship, a grimy, bearded sergeant grabbed my hand and began pumping it, welcoming me as though I was his long-lost brother. At the same time, he explained what had happened to his patrol leader and asked for instructions for loading the stretcher. Somewhere he had read that a stretcher can be loaded onto a helicopter. His spirits seemed to drop to the earth when he heard that I had never seen a stretcher used on a helicopter and knew of no way to load a stretcher patient onto the R-4. One of his buddies spoke up asking if a seat could be removed and the man placed on the floor. It could be done, and we did it.

“Luckily, Lieutenant Dela Cruz [the injured] was short and thin. His shoulders rested against the firewall and his feet were placed comfortably between the left rudder pedals. His bullet-shattered hips rested on seat and back cushions from the left seat, and two belts donated by a couple of his buddies served as a safety belt.

“We were ready to take off. The altitude was 1,100 feet. There was still no wind, and I would have to climb fast enough to clear the jungle trees ahead and climb more than 100 feet with less than 300 feet of forward run. To the layman, that might appear to be a simple feat, but to a helicopter pilot this imposed a great problem.



Figure 28: Because the R-4B had no external stretcher mounts, Carle removed a seat so an injured man could lie on the floor of the helicopter.

“I used the following method which I have done many times since, without mishap. I engaged the motors and revved the engine up to full throttle at $7\frac{1}{2}$ degrees of rotor pitch. This gave me 2600 engine rpm and brought the wheels light on the ground. A sharp advance to 12 degrees of pitch ‘jumped’ me into the air. As the wheels left the ground, I pushed forward on the azimuth control [cyclic] and started forward. I held the ship close to the ground until we were less than 100 feet from the trees ahead and had gained nearly thirty miles per hour. Then I pulled sharply back on the azimuth stick and used the airspeed to zoom almost vertically over the trees. The airspeed dropped to near zero, but enough altitude had been gained to allow me to drop slightly and gain back flight speed.

“Thirty minutes later I landed on the road before the 311th General Hospital Headquarters where I secured admittance for my patient. Thus, the first combat evacuation of wounded personnel from front-line positions in the Philippines was successfully completed.

“On June 17th, I was joined by Lieutenant Robert Cowgill of Nutley, New Jersey, and Lieutenant Harold Greene of Augusta, Maine, with the only R-6A in that theater at the time. They had flown it to Manila from Tacloban, Leyte, on the 16th of June, and on the afternoon of the 17th, used it to evacuate three injured soldiers from Headquarters 312th Cavalry Unit (Dismounted). The ‘Six’ was used for ‘walking wounded,’ since, at that time, we had no stretcher mounts for it. We used the R-4 for the more serious, non-ambulatory, cases.

“Within five days in June, the 16th to the 21st, I completed at least seventeen evacuations in a total flying time of twenty-five hours. During those twenty-five hours, I learned more about helicopter flying than I had ever learned before. Naturally, each time we learned something new, we explained it to the others, thus saving the necessity of always depending upon personal experience.



Figure 29: Carle observes the off-loading of a patient for transport to the 311th General Hospital. Stretcher mounts had not yet been attached to the just-arrived R-6A helicopter.

“One of the evacuations made on June 20th is particularly worthy of comment, because it required almost all of the peculiarities of which the helicopter is capable—a hovering turn, backward flight, vertical takeoff, pendular fuselage action, sideward flight, and so forth.

“The landing itself was simple—merely a steep approach to a spot, with only a slight downwind. However, when the wheels touched the ground, they sank to the hubs in mud. Normally I would have stopped the rotors and pushed the nose around into the wind by hand, but this mud made such a task impossible. Instead I used a 180-degree hovering turn to swing the nose around, then backed the tail as far under the trees as possible, in order to have a maximum forward ‘run’ in which to climb out of the tiny clearing.

“The patient was a big, raw-boned kid with a broken leg. He was 19 years old, fresh out of Texas. I don’t even know his name. He’d been shot through the groin several times, and there wasn’t enough morphine to ease his pain. I will *never* forget him (Ref. 20)

“Through his pain he asked if I prayed. I said, ‘Yes, sir, and I’m praying for you right now.’ He responded, ‘Good. I didn’t even get a day in combat, and I’m going to pick me up. I’m coming back.’ And I said, ‘I hope so, sir’ (Ref. 21).

“A bulky splint had been made from a rifle, and both his legs were bound together. This made it impossible to place his legs between the rudders, so our only alternative was to put a cushion over the rudder pedals and place his feet on the cushion. Naturally, this served as a very effective ‘rudder lock’ and gave me absolutely no control over the tail rotor. Again, I used 2600 rpm and 7½ degrees of pitch to start the takeoff, but this time as I pulled the ship into the air, the torque caused the tail to swing almost 90 degrees to the left.

“I followed it with left azimuth control and began moving sideways toward the trees over which I had to climb. As the ship picked up speed, the action of the wind swung the tail partially behind me. As the bank of jungle rushed at me, I glanced at the instruments: rpm 2400, airspeed 25 mph, manifold pressure 27 inches of mercury.

“As I started to zoom, it soon became apparent that the 210 pounds of my passenger, plus the altitude of 1500 feet, were going to make it impossible to clear the high trees. The rpm was dropping rapidly, and the airspeed was near zero. I was almost at the limit of my climb and still the tops of the trees were above me. What I did then was something that I have never had the nerve to practice since—I couldn’t turn back without dropping straight in, probably killing the passenger and myself, so I jerked the pitch control as high as it would go, and prayed. Luckily, we cleared the trees by inches, but the effort had cost a dangerous number of revolutions and all of my airspeed.

“As soon as I realized that we were clear of the trees, I dropped the pitch to 4 degrees and held full throttle, at the same time pushing forward on the azimuth stick. As the rpm came back within the green, I increased the pitch and fortunately missed dropping into the jungle. Again, the rpm dropped, and again I lowered the pitch enough to bring it back. The airspeed was building slowly, and slowly we began to climb to safety.

“What actually had been but a few seconds had seemed an eternity. My clothes were drenched with sweat, and I was so weak that I could hardly move the controls. I have never since had the nerve to try to use full pitch for a climb and hope I never again encounter such a situation” (Ref. 20).

“I later heard that they had that kid on the operating table for something like eleven hours, and the last I knew he was still alive. But, these are things I just can’t talk about” (Ref. 21).

“On June 20th, the 6th ARS returned to Manila Bay and dropped anchor. Their two R-4s were immediately pressed into service, for word had spread around that we were evacuating men by helicopter. More and more units requested our services, until we were overloaded with work, evidenced by the fact that I flew seven hours and made six evacuations on the same day” (Ref. 20).

In what would become his last mission, on June 21, 1945, Carle began a cautious descent in his Sikorsky R-4B, after getting word that a soldier was coming home. But the helicopter began thrashing itself to pieces after hitting a small tree, and crashed. After it hit the ground, a small group of U.S. soldiers helped Carle from the wreckage. A splinter of a wood rotor blade had lodged behind his right eye, and he had other injuries to his head and leg (Ref. 13).

Carle explained the heart wrenching situation in an interview in 2000: “Apparently, while I was trying to get to this soldier—and crashed—he had picked up a Japanese rifle and

wrapped the butt of it around a tree and shot himself. Before I could even get there, he was dead.

“We had orders at that time to burn our equipment if we could, so the Infantry guys fired about four rockets through it before it caught fire. While I walked down a mountain stream [injured from the crash] with the soldiers, still in a combat area, I don’t know why I was ahead [in the front of the column]. I think they put me there to keep track of my tail, but they were teasing me about being in the water and pushed. I was carrying a .45 caliber Army automatic pistol. That’s all! I had one clip of shells. Why I even had it, I don’t know. But they told me later, and I don’t even remember this, that when a Japanese soldier stepped out, they all hit the water and went down on their bellies. I stood up and jerked my gun out, like a Cowboy, and fired six rounds. Hit him with every one of them. Again, that’s one of those situations in war where we just shut it off... I hadn’t even thought of this for a long time” (Ref. 21).

“That mission ended my evacuation work because the 5th ARU was ordered to Okinawa, and of course, I went with her. After we left, the 6th ARU took over the rescue missions. In June they received several new R-6s, and it was they who first used an external stretcher on the ‘Six’ for medical evacuation” (Ref. 20).

1st Lieutenant Robert W. Cowgill

Overview: Lieutenant Cowgill, a senior pilot, was inbound on June 17, 1945, with a new R-6A when called for a medical evacuation. As with Carle’s experience, he removed the seats since there were no outside litters attached to the R-6 at the time. Ironically, he crashed on June 21, 1945, the same day Carle did. Because there were no more helicopters available, he walked out with an Infantry escort, fighting enemy fire the entire way. Indefatigable, he returned to his helicopter a week later and managed to fly it back to the 5th ARU (ARS-5). Robert Cowgill saved 17 soldiers.



Figure 30: Lieutenant Cowgill (center, back row) and friends with R-4B on the 5th Floating Aircraft Repair Ship (ARS-5) in the Philippines in June 1945

On June 17, 1945, Cowgill returned to his ship, ARS-5, flying a new R-6A. The R-6A had slightly better performance than the R-4B, but its cabin was smaller. While Cowgill evacuated those wounded soldiers who could walk, Carle rescued those who were unable to stand or sit.



Figure 31: Lieutenant Cowgill in the cockpit of an R-4B

On June 21, 1945, both Carle and Cowgill would crash their helicopters almost simultaneously. As mentioned previously, after Carle’s rotor tip hit a tree, he had soldiers destroy his abandoned helicopter, as ordered. Incredibly, Cowgill, when flying an equally treacherous approach, also clipped a tree with his tail rotor, and he too was escorted out of the jungle by U.S. soldiers on a four-day evasion which also encountered Japanese enemy forces. Since troops guarded his downed helicopter, he returned a week later to make necessary repairs and flew it back to the ship. Cowgill saved 17 wounded soldiers in that precipitous week in June (Ref. 13).



Figure 32: Flying his R-6A, Cowgill delivers a wounded soldier to an ambulance at the Grace Park Cub Strip near Manila. Cowgill flew 17 evacuations in total.



Figure 33: An R-4B wearing pontoons lands on the flight deck of one of the reconfigured Liberty Ships. The flight deck is over the forward cargo hatch at the front of the ship.

Pilot #3

Overview: Pilot #3 began helicopter evacuations on June 17, 1945, and rescued two soldiers. Relieved from further activity on June 18, 1945, after refusing to fly another mission, he was reassigned to a new unit. In fairness to this pilot, his name has been omitted since the only account of what appears to be cowardice comes through oral history, which cannot be verified; however, his story is telling.

It must be noted again here that the pilots assigned to Operation Ivory Soap were brand new Army helicopter pilots with very few rotary-wing hours. They were only trained to fly the Sikorsky R-4 helicopter and nothing else, nor did they have any training for combat or medical evacuation procedures. And, even more crucially, their first-generation helicopters were not designed for these types of dangerous missions.

Nonetheless, Louis Carle’s reflections on Pilot #3 were shocking to many during the War—and decades later. When asked about this pilot during a November 19, 2000 interview with Operation Ivory Soap historian Fred Duncan (Ref. 17), Louis Carle responded, “He [Pilot #3] only flew one flight, but (laughing) don’t write this in your history book... He was supposed to help me out. I was there first and I’d worked my fanny off and they sent him out to alternate flights with me. It was about a 45-minute flight, over combat, over guns.

“Well, he came out to where I was working, went back for one flight, came back, and just flat disappeared while I was gone on the next flight. He went back to the ship, and when I returned there, he was nowhere in sight. He told them that he wasn’t going back there, that it was a dangerous area. I was taking my life in my hands and he wasn’t willing to do the same. They shipped him on down the road and I never heard where he ended up” (Ref. 17).

Pilot #3 was then assigned to a different unit and faced probable disciplinary action since missions during the War were not voluntary, to say the least. However, Pilot #3’s refusal to continue flying his assigned medical evacuations stood alone, an isolated incident in glaring contrast to the valor of the other five Ivory Soap pilots.

The Next Rescues: 6th Aviation Repair Unit

The 6th Aviation Repair Unit took over the rescue missions after the 5th ARU left for Okinawa, evacuating at least 34 patients in six days, from June 24th to the 29th, in 1945, flying off their ship (*ARS-6*), anchored in Manila Bay.



Figure 34: The 6th Aviation Repair Ship (*ARS-6*), the *Brigadier General Alfred J. Lyon*, with R-6A on left and R-4B on the right



Figure 35: An R-4B Sikorsky helicopter on the landing platform of the *Brigadier General Alfred J. Lyon (ARS-6)*

1st Lieutenant James H. Brown

Overview: Lieutenant James H. Brown, a senior pilot, began evacuations with the 6th ARU on June 24, 1945, flying an R-4B and saving 17 men before missions terminated on June 29th.



Figure 36: 1st Lieutenant James H. Brown in the cockpit of an R-4B Sikorsky helicopter above the landing platform on the *Brigadier General Alfred J. Lyon (ARS-6)*

William Garbo, Sr., was one of the 17 combat casualties rescued by Lieutenant James Brown. Martin J. Pociask interviewed Garbo about the events of his helicopter rescue, which appeared as part of the Helicopter Association International Heritage Series in the Fall 2009 issue of *Rotor Magazine* (Ref. 22). Much of what follows comes from this interview.

As Garbo recalls, “I was later reassigned to the 112th Cavalry because they lost a lot of people and needed replacements. I ended up in G-Troop, and at first was assigned as an ammunition bearer. My first real combat experience was at the battle of the Driniumor River, New Guinea. That battle took place during June, July, and August of 1944.

“Later, at Leyte in the Philippines, we were assigned several Filipino soldiers to be our interpreters and to guide us. We were spread out in a grove; all of us were squatting down, resting when a Filipino soldier came over and shoved me several feet away from where I was squatting. I could hear him shouting while he pointed to a small snake, like a coral snake, beneath me. He killed the snake. I couldn’t thank him enough.

“Then we invaded Luzon and freed the prisoners in the POW camp in Manila. After leaving Marongko, a village northwest of Manila, sometime in May 1945, we went by truck to Antipolo, southeast of Luzon where we were dropped off at the end of a dirt road. Our mission was to go to a place called ‘Horseshoe Hill’ to relieve the 42nd Division.

“We were to go up into the Santa Maria Mountains. It was decided to send the troops out on combat patrol. At this point we came under attack and were cut off from each other by heavy fire. The patrol was pinned down and could not move without risk of being shot. Sergeant Anderson was injured and I carried him out of there to a medical unit for treatment.

“We spent the night on a ridge in a foxhole. Every fifteen minutes or so artillery shells were exploding in the valley off to our side. I was asleep in one machine gun position with a soldier named Thomas C. Carroll and another soldier named James Krump, who was on the midnight watch, when an artillery shell exploded above our position and got all three of us. My machine gun was destroyed along with all my gear. The three of us were in shock, but somehow managed to crawl back to a large rock where the medic had set up to care for the wounded” (Ref. 22).

In the morning of June 27th, the doctor who cared for Garbo asked if he would mind flying out in a helicopter. “Without hesitation my answer was yes! I had not seen any of the helicopters, but some of the troopers who came on patrol to our outpost told us about seeing them and that one of the pilots had once brought some fresh beef out to us from the Liberty Ship” (Ref. 22).

When the helicopter landed, the pilot kept his engine running and did not get out of the aircraft. Garbo was placed to the left of the pilot, along with a bag of supplies on his lap, to be dropped off as he passed one of the outposts across the river.

As Garbo recalls, “Yes, I dropped that sack. Several years later Edwin Boger told me he retrieved the sack from the hillside and that he had a picture to prove it. The pilot though had a difficult time trying to lift off due to a lack of air movement. When we did take off, we received fire from the river bed. I understand the helicopter did get hit and lost oil pressure, which forced it to set down some distance from the pickup. At least two helicopters crashed on the way out. Through radio contact, a combat patrol came out and they too were fired on as they made their way out. Another helicopter was sent out and repairs made; both helicopters made it back to the ship” (Ref. 22).

Garbo was asked what he remembered about the pilot and the ride. He responded, “I remember him smiling and telling me not to worry. The helicopter doors had been removed. I think it was a weight factor. Two of my buddies lifted me in the left seat and strapped me in; Frank Hughes from Mississippi and John Vine from Montana. Anyway, we finally lifted off after two or three tries, and the helicopter arrived at the Field Hospital. The medics came running out with a stretcher and got me to the operating tent. Colonel Grant said it only took about 18 minutes to reach the hospital from the mountain Command Post; it seemed longer at the time” (Ref. 22).



Figure 37: 1st Lieutenant James H. Brown

Years later, Garbo tried to find the helicopter pilot who rescued him. “At first I thought it was John Noll. I later learned from Fred Duncan’s research that Lieutenant James H. Brown was the pilot who actually rescued me. I believe Fred Duncan found the confirmation in the Archives at Maxwell Air Force Base in Montgomery, Alabama. I’m not sure about his source, but maybe it was from the ship’s log or the Air Force record or diary. Lieutenant Brown died in Florida. I talked twice with Louis Carle just a few weeks before he died. He was glad to talk with one of the men who had been rescued. As I recall, he was not well, but seemed to perk up when I talked to him” (Ref. 22).

Garbo received many awards and medals for his service, among those was the coveted Winged-S Award from Sikorsky.

2nd Lieutenant John R. Noll

Overview: Lieutenant John R. Noll began evacuations on June 24, 1945. Noll flew the R-6A with two outside litters and rescued 17 soldiers. His last missions were flown on June 29, 1945.

During this short period (June 24-29, 1945), the helicopter mechanics assigned to the 6th ARU revolutionized battlefield medical rescue operations by improvising the use of externally mounted litters. Stokes baskets constructed of steel tubes covered by wire mesh were commonly used to transport wounded soldiers. The Sikorsky R-6 helicopter had been designed and constructed with slots running through the frame

to allow for the mounting of two encased litters. Amazingly, these ingenious mechanics had improvised an external litter capability by welding Stokes baskets to steel frames running through the helicopter. None of the R-6s had deployed with this equipment. Subsequently, prone casualties could then be carried externally without risk to the helicopter, as had been experienced on previous rescue missions (Ref. 13).



Figure 38: Flight section posed onboard ARS-6 with R-6A Sikorsky helicopter. Left to right are (standing) C. Williams, Heuer, Crowder, Prokryn and (seated) Noll, Baker, and Brown.



Figure 39: John Noll shown later as an Air Force Captain and experienced test pilot



Figure 40: Lieutenant John Noll with side-mounted Stokes Litter during a Sikorsky R-6A helicopter demonstration

Flight Officer Edward W. Ciccolella

Overview: Edward Ciccolella began evacuations on June 24, 1945, and flew an R-6A with two outside litters. After spending a night in a foxhole, he rescued 13 soldiers.



Figure 41: Flight Officer Edward W. Ciccolella

Much of the following comes from an interview with Edward Ciccolella by Martin J. Pociask as part of the Heritage Series, *Rotor Magazine*, Helicopter Association International, Fall 2009 (Ref. 10).

In 1943, Ciccolella enlisted in the military when still a senior in high school. A member of one of the very first helicopter classes, he discusses his flight training below: “At school in Ocala, Florida, I trained in a Stearman biplane. I did basic at Macon, Georgia, in a BT-15, and then in an advanced twin engine AT-10 at Columbus, Missouri. Shortly after graduating and getting my wings, I was sent to Chanute Field, Illinois, to helicopter school.

“To the best of my recollection, I’d say there were about six or eight of us. Carle and Greene were classmates of mine. Not my happiest days, as we all were praying to get to fighter training. My first flight in a chopper nearly gave me a heart attack! After two solid years of fixed-wing flying, the instructor took me up to 2,000 feet and pulled the air speed back to zero, at which time I was halfway through bailing out!

“Immediately after finishing there I was shipped out. I spent several weeks in Lae, New Guinea, doing nothing; there were no choppers anywhere. Then I went up to Hollandia, New Guinea, for several more weeks of doing nothing! From there they sent me to the island of Morotai in the East Indies, where I continued to do nothing! Finally, I was sent up to Palawan, the southernmost island of the Philippines—aboard a Liberty Ship where they had choppers.

“I was unassigned when I went overseas, and I hooked up with the 6th ARU when I got to Palawan. There were already two R-4Bs at Palawan when I arrived, and when I got up to Manila Bay we swapped them for two R-6As. Jim Brown was with the 6th when I joined it. I was only with them for a short time. Right after the War’s end, I was sent up to Clark Field [Luzon, Philippines] as the sole chopper pilot. Most of my time was spent flying C-47s, except for the 13 rescue flights I made in the chopper” (Ref. 10).

Ciccolella describes flying his first rescue mission, “On my very first trip in, the Infantry boys had cleared off the top of a small knoll overlooking a valley and laid out a big ‘X’ on it to lead me in. It turned out that our guys had secured that knoll and the high ground behind it while the Japanese were concentrated in the valley. It was late afternoon; there was maybe only an hour or so of daylight left.

“Just as they were preparing two wounded GIs to load onto the helicopter, gunfire started. It went on for about five minutes, and then ceased. I was told that the other side was getting ready to make its move, and that it would be too risky for me to attempt to leave until things settled down. The GIs showed me to a foxhole, equipped with an army blanket, and suggested I get in and keep my head down.

“Nothing happened until a few hours after dark, when the gunfire started again. The GIs had strung a long wire halfway around the part of the hill overlooking the valley, hung dozens of empty K-rations cans on it, and then filled each can with stones and pebbles. It was nearly impossible for an opposing soldier to crawl up the hill without disturbing that wire and making the tin cans rattle. I must have laid there for hours with

only a .45 caliber pistol—until things quieted down again and I managed to get a few hours sleep.

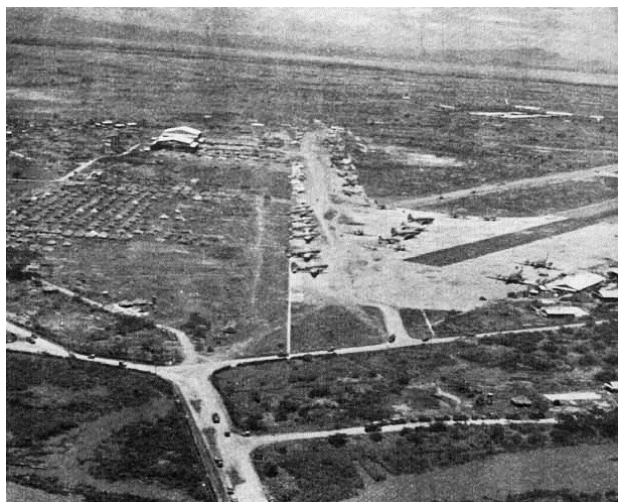


Figure 42: Nichols Field, Manila

“Next morning all was quiet, the GIs loaded the wounded onboard, and I took off for Nichols Field in Manila, where I was met by an Army ambulance that took over. I made 12 more flights to the knoll, but the rest were uneventful, although I was told I was taking ground fire on a couple of them. I was awarded the Air Medal for these missions, but I’ll always believe that the thing that qualified me was that night in the foxhole. Several weeks later I got an invitation from the Commanding Officer of an Infantry outfit based in Manila for dinner in their Officer’s Club.

“I would usually fly out of Clark Field and then go due east for about 20 miles into the mountains. What we did was to run two 1½-inch pipes through the lower fuselage and weld a Navy metal stretcher to each side of the chopper. We had two mechanics trained by a Sikorsky technical representative” (Ref. 10).



Figure 43: Flight Officer Edward Ciccolella delivering another wounded soldier using the side-mounted stretchers (Stokes Litters) on the R-6A Sikorsky helicopter

Ciccolella goes on to describe life aboard the *Brigadier General Alfred J. Lyon*, “Actually, to be honest it was pretty boring. Manila was still trying to recover from the War. There were signs everywhere of the historic battle when the 503rd

Parachute Regimental Combat Team took the island. I experienced very little activity except for taking a trip out to Corregidor in an R-6A. I’ve always wondered if my landing in the courtyard of that fortress was the first ever. Unfortunately, it seems very little use has been made of the installation since the War’s end.



Figure 44: Another view of the R-6A’s side-mounted litter

A Visit by General Jimmy Doolittle



Figure 45: August 16, 1945, Lieutenant General Jimmy Doolittle shown exiting a running R-4B helicopter after landing on the *Brigadier General Asa N. Duncan (ARS-4)*

On August 16, 1945, Lieutenant General Jimmy Doolittle visited Operation Ivory Soap, arriving in an R4-B helicopter. From January 1944 to September 1945, he commanded the 8th Air Force in Europe and then in the Pacific. On April 18, 1942,

Doolittle had gained fame by leading a daring raid on Tokyo with sixteen B-25B Mitchell Medium Bombers, launched from the aircraft carrier *USS Hornet*. The Doolittle Raid would earn him the Medal of Honor.

After Germany surrendered on May 7, 1945, the 8th Air Force was re-equipped with the B-29 Superfortress Bombers and started to relocate to Okinawa. Two bomb groups had begun to arrive on August 7, 1945. However, the 8th was not scheduled to be at full strength until February 1946, and Doolittle declined to rush 8th Air Force units into combat, saying that “If the war is over, I will not risk one airplane nor a single bomber crewmember just to be able to say the 8th Air Force had operated against the Japanese in Asia” (Ref. 23).

World War II officially ended in Asia on September 2, 1945, with the surrender of Japan on the *USS Missouri*. Before that, the United States had dropped two atomic bombs on Japan, and the Soviet Union declared war on Japan, causing Emperor Hirohito to announce acceptance of the Potsdam Declaration on August 15, 1945, which would eventually lead to the surrender ceremony (Ref. 24).

This would end the need for the Aircraft Repair Units of Operation Ivory Soap. By the middle of 1946, the ships were being put into storage. On April 8, 1946, *The Brigadier General Clinton W. Russell, ARS-5*, was returned to the War Shipping Administration for lay up in the National Defense Reserve Fleet, James River Group, Lee Hall, Virginia (Appendix A). And on August 30, 1946, *The Brigadier General Alfred J. Lyon, ARS-6*, was returned to the War Shipping Administration for lay up in the National Defense Reserve Fleet, Astoria, Oregon (Appendix B).

CONCLUSION

Operation Ivory Soap and its six pilots will forever be known for boundless bravery and as laying the foundation for the future of aeromedical evacuation in military as well as civilian use.



Figure 46: Carle (bottom left) and Cowgill (bottom right) with R-4B and crew onboard the *Brigadier General Clinton W. Russell (ARS-5)*.

Over half a century later, in 2000, when reflecting back on his Philippine rescues, Louis Carle stated, “We [Carle and Cowgill] weren’t heroes. Neither one of us. We didn’t consider ourselves to be heroes; we never thought of it as anything. Dinney [Cowgill’s Nickname], just before we left over there, looked at me and asked, ‘Lou, were you sacred when we were flying in combat, or under the combat zone, into the combat zone?’ I said, ‘Honestly, no, but I sure as heck get scared every once in a while, now!’ And it’s the truth! It was just a job to do and we had to be a little careful not to put ourselves in danger” (Ref. 21).

In June 1945, aeromedical evacuation by helicopter in a combat environment was a concept that had not yet even been pondered. What caused these six men to risk their lives flying a mission for which they had no training and certainly had never anticipated? Why did they repeatedly fly through a hostile enemy environment to rescue these wounded soldiers?

The source of that boundless bravery is motivation, according to retired Major General Patrick Brady, a DUSTOFF Hall of Fame inductee and Medal of Honor recipient from the Vietnam War, where aeromedical evacuation by helicopter became known as DUSTOFF, an acronym for Dedicated Unhesitating Service to our Fighting Forces” (Ref. 25).



Figure 47: Major General Patrick Brady flew over 2500 combat missions in various helicopters and rescued over 5000 men during two combat tours in Vietnam. Awarded the Medal of Honor for saving over 60 wounded men in one day, he used three different helicopters which sustained over 400 holes from enemy fire.

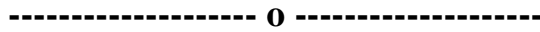
“DUSTOFF crews save lives. When you’re engaged in saving a life, there’s a special motivation there. Knowing that the injured person on the battlefield is a father, son, husband,

brother, you go after him as you would want someone to come after you or one of yours. It's personal," Brady said.

"When combat troops are ordered to take a hill or some other strategic objective, the options are weighed, and if the engagement appears more costly in lives or equipment than the probability of success, they regroup and try something else. For DUSTOFF, there is no option, even though that means landing in the middle of boiling turmoil in the most intense part of the battlefield.

"When DUSTOFF is called, you can't *not* do it when somebody is hurt. You've got to give it everything you've got because you're saving a life. It's just that simple. There's no mission more noble, nothing more motivating. To overcome obstacles of enemy, terrain, and weather to get the wounded and get them to a hospital—you can't match that in life—the feeling of doing the best you can and the result being the saving of a human life. That's what motivates DUSTOFF. You just do it," Brady said (Ref. 26).

And, these six brave Ivory Soap pilots did just that. Because of their actions, this unanticipated and unplanned helicopter rescue operation in the Philippines during WWII became the starting point for the future of aeromedical evacuation, saving untold thousands of lives.



THE LEGACY OF OPERATION IVORY SOAP

The myriad future programs for helicopter rescue owing to the actions of the Ivory Soap pilots can be traced to the day Louis Carle was assigned a special job to form an Emergency Rescue Squadron.

In his own words, Carle explains this important mission: "After V-J Day, I was transferred to the 2nd Emergency Rescue Squadron for the purpose of setting up a helicopter division for air, sea, and jungle rescue.

"By January 1, 1946, we had four new R-6As, two pilots (Flight Officer Ciccolella of Albany, New York, who had been on the 6th ARU, and myself), and two mechanics (Corporals Frank Holman of Alameda, California, and Salvatore Guastello of New York City). None of us knew a great deal about R-6s, but we were willing to learn, and we had the aid of Major J. J. Sanduski, who was in Manila as an advisor on helicopter affairs. And, the teaching of new crews began.

"Neither helicopter pilots nor mechanics were being sent from the United States, so we began immediately to teach men. This training program, plus our rescue operations which have averaged about four rescues per month, put a lot of hours on our new ships in a short space of time and gave the mechanic trainees a lot of excellent experience.



Figure 48: 2nd Lieutenant Louis Carle with a patient doing a demonstration flight.

"Our training program for pilots was based on much the same system as that used by the Army school at home, with one notable difference—from the first hour of instruction maximum performance was stressed. We would tell the students, 'Learn to know exactly what your ship can do and how to make it do what you want it to do. Don't try to perform miracles nor try to make your ship perform miracles'" (Ref. 20). [Appendix C lists Carle's Six Lessons for Pilots]

MASH and the Korean War

In the 1950s, the Army entered the Korean War with only 56 helicopters, which increased greatly over the next five years. These helicopters flew thousands of soldiers to safety and allowed aviators to transport over 18,000 individuals to Mobile Army Surgical Hospitals (M.A.S.H.) for life-saving care, thanks to the precedent set by the six pilots of Operation Ivory Soap. By the time the United States entered the Vietnam War, helicopters had become a valuable tool and resource (Ref. 15).

Floating Repair Ships in Vietnam

John Francis Sullivan, a 1st Lieutenant serving with the Air Materiel Command (AMC) at Brookley Field in late 1943 was directly involved with Operation Ivory Soap. He served aboard the *Brigadier General Alfred J. Lyon, ARS-6*, and, by November 1962, Colonel Sullivan was a widely respected Army aviator.



Figure 49: Colonel John F. Sullivan conceived of building a floating aircraft repair ship off the coast of South Vietnam, thanks to his years with Ivory Soap.

Sullivan was called on by General Frank Besson, Commanding General of the Army Materiel Command (AMC), to apply the lessons learned in Operation Ivory Soap. Besson recognized Sullivan's unique background in converting the Liberty Ships and his Army helicopter experience by assigning him as project officer for Operation Flat Top to convert a former World War II seaplane tender, the *USS Abermarle*, into a floating helicopter repair shop, renamed the *USNS Corpus Christi Bay*, for service off the coast of Vietnam from 1966 to 1972 (Ref. 27).



Figure 50: *USS Corpus Christi Bay* at anchor at Yung Tau, South Vietnam, circa 1967-1969, with two UH-1 Huey helicopters sitting atop her aft flight deck

True Aviation Pioneers

In recognition of the efforts of the Project Ivory Soap pilots, Dan Gower, The DUSTOFF Association Executive Director, stated the following, "Ivory Soap was the project during World War II that took Liberty Ships and outfitted them to conduct aviation repair. During June of 1945, six aviators flew Sikorsky R-4s and R-6s into the combat zone of the Philippines to bring injured soldiers out for medical treatment, often under fire. While not the first helicopter rescue, they were the first flown with external litters welded to the side of the airframe in an "unauthorized and untested" manner. True aviation pioneers and part of our DUSTOFF roots" (Ref. 28).

ACKNOWLEDGEMENTS

Dr. Roger Connor, interviewed Ivory Soap historian Fred Duncan, as well as Louis Carle and the other Ivory Soap pilots in 2000 and 2001 as part of an oral history project for the National Air and Space Museum. Connor is also the author of "Medevac from Luzon: A small band of helicopter pilots risked their lives to rescue wounded soldiers during World War II," *Air & Space Magazine* (July 1, 2010). This is by far the pre-eminent work on Operation Ivory Soap, which contributed greatly to the writing of this paper (Ref. 13).

Special thanks are also offered to Martin J Pociask, for his three brilliant interviews conducted for the Helicopter Association International (HAI) Heritage Series in *Rotor Magazine*, which contained copious, firsthand source material on the pilots of Operation Ivory Soap (Ref. 5, 10, 22).

And to Breck Pappas for the excellent background material and historical data concerning the origin of Operation Ivory Soap in the Mobile, Alabama, area, published in his outstanding article, featured in the December 2, 2016, edition of *Mobile Bay Magazine* (Ref. 2).

APPENDIX A: Aircraft Repair Ship *Brigadier General Clinton W. Russell* (Ref. 6)

- Laid down: 15 March 1944, as SS *Robert W. Bingham*, a Maritime Commission type (EC2-S-C1) hull, under Maritime Commission contract (MCE hull 2925), at Delta Shipbuilding New Orleans, LA.
- Launched: 25 April 1944
- Delivered: 5 May 1944, to the War Shipping Administration and simultaneously transferred to the War Department
- Converted to an Aircraft Repair Ship at Mobile Air Tactical Command Brookley Field, Mobile, AL
- Commissioned: *Brigadier General Clinton W. Russell* (ARU(F)-5)
- During World War II *Brigadier General Clinton W. Russell* provided support facilities for the U.S. Army Air Forces in the Philippines, Saipan and Iwo Jima

- Returned: 8 April 1946 to the War Shipping Administration for lay up in the National Defense Reserve Fleet, James River Group, Lee Hall, VA.
- Final Disposition: Sold for scrapping, 27 October 1959, to J.C. Berkwit & Co. (PD-X-578) for \$79,888.00

APPENDIX B: Aircraft Repair Ship *Brigadier General Alfred J. Lyon* (Ref. 7)

- Laid down: 12 May 1944, as SS *Nathaniel Scudder*, a Maritime Commission type (EC2-S-C1) hull, under Maritime Commission contract (MCE hull 2938), at Todd Houston Shipbuilding, Houston, TX.
- Launched: 15 June 1944
- Delivered: 26 June 1944, to the War Shipping Administration
- Allocated to the War Department, 26 June 1944 and simultaneously transferred to the War Department
- Converted to an Aircraft Repair Ship at Mobile Air Tactical Command Brookley Field, Mobile, AL
- Commissioned: *Brigadier General Alfred J. Lyon* (ARU(F)-6)
- During World War II *Brigadier General Alfred J. Lyon* provided support facilities for the US Army Air Force in the Philippines, Saipan and Iwo Jima
- Returned: 30 August 1946 to the War Shipping Administration for lay up in the National Defense Reserve Fleet, Astoria, OR.
- Final Disposition: Sold for scrapping, 11 May 1962, to Schnitzer Steel Products Co.

APPENDIX C: 2nd Lieutenant Louis Carle's Six Rules (Ref. 20)

“Experience has taught us to expect all rescue missions to be, almost without exception, such as to exact maximum performance from the helicopter. Therefore, we follow six rules of flight that are generally unknown to pilots who fly only under standard conditions. These rules apply only to R-6As and R-4Bs:

1. Always use a ‘jump takeoff.’ Use a higher than normal pre-takeoff rotor pitch setting and disregard the maximum rpm redline. Such a high rpm may shorten the life of the engine, but it will lengthen the life of the pilot.
2. Do not try to climb from the takeoff spot. If you must ‘clear’ an obstacle, gain as much speed as possible near the ground and utilize this speed in a ‘zooming’ climb. Maintain a high rpm until starting the zoom.
3. Never attempt a rescue by hovering over the party to be rescued! Exception: Known wind above 15 knots.

4. Land with a slight forward roll, even in close quarters. It may prevent a sudden drop into unpleasant conditions. Make the approach to the spot on which you want the wheels to rest—not to a position several feet above this spot.
5. Make all approaches as shallow as possible. Maintain a level altitude and keep the nose straight ahead of the motion.
6. If it is necessary to land downward, use an extremely high approach rpm and use the centrifugal force to break the fall that will result as the craft reaches zero airspeed. Do not pull the stick back in an attempt to slow the ground speed via the ‘quick stop’ method. Allow the ship to drop and advance the pitch sharply a foot or two before the wheels touch the ground. You may hit slightly hard, but your tail rotor won’t be damaged as it would be if the landing were made tail low.

For the prospective helicopter pilot I have one bit of advice—if the birds can’t do it, don’t try to make your helicopter do it. And to each and every person interested in helicopters—stick with them—they’re here to stay, to help or save a life when no other power on earth can come to your aid” (Ref. 20).

Written in 1947, Carle’s words were not only prophetic, they are just as true today.

APPENDIX D: Key Figures

Lieutenant Colonel Clyde Everett Grant deserves special placement here since he is the most unsung hero in the legacy of Ivory Soap valor. His insistence on securing helicopter evacuation for his wounded soldiers from the dense jungles of the Philippines, and while under intense enemy fire in June of 1945, was the true beginning of what would become known later as DUSTOFF and MEDEVAC—medical rescues by helicopter, responsible for saving hundreds of thousands of wounded soldiers from the last stages of World War II and on through Korea, Vietnam, the Middle East, Somalia, Iraq, and Afghanistan.

Grant was born in Haskell County, Texas, on April 1, 1908. As the World War II Commander of the 112 Cavalry RCT, he achieved the rank of Lieutenant Colonel before being discharged from the Army on March 6, 1946. He returned to Abilene, Texas, where his family had been living since 1919. There he would serve as the local postmaster for many years. He died at the age of 93 on September 22, 2001 (Ref. 29).

Fred M. Duncan was the Ivory Soap historian of the Aircraft Repair Units. Duncan was a 16-year-old merchant seaman when he found himself part of Operation Ivory Soap. These facts, buried in the history of the 112th Cavalry Regimental Combat Team and ships’ logs, were painstakingly unearthed

and presented to the DUSTOFF Association by Fred Duncan. He served 30 years in uniform (Merchant Marines, Marines, Army) and another 25 years in the Civil Service at Wright Patterson Air Force Base, Dayton, Ohio. Duncan passed away on February 8, 2005 at the age of 77 in Dayton, Ohio (Ref. 30).

Louis A. Carle, the first Ivory Soap pilot to fly an aeromedical evacuation through combat, was born on December 8, 1924, and raised on an Illinois “corn and hog farm” where most of the family income came from breaking and training heavy work horses, as well as light harness and pleasure horses. After the war, he lived in Sacramento, California. A severe heart problem stopped his active training of horses and horseshoeing, but he kept busy breeding Quarter horses, Longhorn cattle, and Rhodesian Ridgeback and Australian Shepard dogs. Carle spent a large portion of his time writing “Cowboy Poetry.” His poems have been published in magazines and newspapers nation-wide. He has been featured on many cowboy websites. Carle passed away on December 20, 2000, at the age of 76 (Ref. 31).

Robert W. Cowgill, one of the principal Ivory Soap pilots, graduated from the University of Washington with a degree in aeronautical engineering and became an Army Aviator. After the war, he went with Hiller Helicopters, where he became the chief flight test engineer. In 1968 he left aerospace engineering and became an authority on Pacific Northwest coastal Native American art and history. He developed a large collection of art, artifacts and books, and devoted the last 35 years of his life to carving pieces inspired by that culture. He died in Port Townsend, Washington, June 13, 2003, at the age of 79 (Ref. 32).

NOTE: After the 1945 medical evacuations in the Philippines came to light during the last years of the 20th century, Cowgill finally received long overdue recognition. He was awarded the Sikorsky Winged-S Rescue Award in 2001, and in April of 2003 he received the Air Medal shortly before he passed away. “I know what we did and I’ve always been proud of it. That’s good enough for me,” he told the *Port Townsend, Washington Leader Newspaper* (Ref.32).

John R. Noll, another Ivory Soap pilot, was born in Lewisburg, Pennsylvania, on June 21, 1922. After Operation Ivory Soap, Noll became a member of the newly created Air Force and continued to serve as an experienced test pilot. On February 11, 1954, he flew the first flight of the McDonnell Aircraft Corporation’s XV-1 Convertiplane while performing the duties as the program’s primary test pilot. In 1958, he retired as an Air Force Captain and moved to Florida. John Roger Noll passed away in Longwood, Florida, on July 10, 1997, at the age of 75 (Ref. 33).

James H. Brown as an Air Force Captain later on served as a writer and technical advisor for *Flight*, an American television anthology series that originally aired in syndication from 1958 to 1959. The series aired for one season focusing on early Air Force history, with 38 half-hour episodes produced. It was created with the assistance of the United States Air Force

where Brown was instrumental in episode number 33, *Chopper Four*, based on the Philippine rescues (Ref 34). Though the characters and events do not match the actual history, it greatly contributes to the service of the Sikorsky R-4B helicopter.

Edward W. Ciccolella was born on February 24, 1925. He was raised in Albany, New York and enlisted while a senior in high school in 1943, with a passion to become a pilot. After two years of fixed wing flying, he went to helicopter school and then joined the other pilots of Ivory Soap. He was released from the Army in August 1946 and returned to Albany, New York, where he became a technical writer and editor, and eventually a proposal manager for General Electric’s defense contracting. Ciccolella passed away on September 25, 2012, at the age of 87 (Ref. 35).

Bruce L. Felknor served as a radio officer during World War II for the United States Merchant Marine, and deployed both in the Atlantic and Pacific. After the war, he worked for several years as a writer, and as an advertising and public relations executive. In later years, he devoted a great deal of effort to the Merchant Marines, serving as history editor on its website and attending and speaking at gatherings of fellow mariners. He worked assiduously for Merchant Marine recognition and benefits. He passed away on September 27, 2008, in Evanston, Illinois, at the age of 87 (Ref. 36).

Lieutenant Colonel Matthew Thompson: In 1997, the Grand Hotel honored the men of Operation Ivory Soap. During the hotel’s 150th anniversary celebration, room 1108 was officially renamed the Thompson Suite in honor of the man whose office occupied that very room for a period of five months in 1944. Thompson retired in Pensacola, Florida, and was a frequent visitor to the Grand Hotel in his later years where he refused to stay in any other room besides 1108. Lieutenant Colonel Thompson passed away in 2005. He was 99 years old (Ref. 2).

Thompson’s Legacy at the Grand Hotel on Mobile Bay, Alabama: *Mobile Bay Magazine* reports that “Every day at 3:45 p.m., the Grand Hotel honors its wartime history with a procession across the grounds, concluding with a brief history lesson and cannon firing on the edge of Mobile Bay. May it ever be a reminder of the resourcefulness and tenacity of those involved with Operation Ivory Soap and the generosity of individuals such as Ed Roberts in the midst of war” (Ref. 2).



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