



# Sikorsky Archives News

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The S-61 was the world's first certified amphibious helicopter with twin turbine technology and a nautical hull design evolving from the Sikorsky clipper ship era



## S-61



(1928) S-38



(1931) S-40



(1935) S-43

**IGOR I. SIKORSKY HISTORICAL ARCHIVES, INC.**



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## The US Navy was the first operator of the S-61 helicopter



The aircraft was initially developed for the U.S. Navy as an HSS-2 anti-submarine search and destroy helicopter. The first flight of the aircraft was achieved in March of 1959, just 15 months after contract award in December of 1957. During the

Department of Defense change in aircraft designations in 1962, the HSS-2 designation was changed to SH-3. A few H-3 aircraft remain in service with the US Navy. ☺

The lengthened commercial versions S-61L and S-61N were developed shortly after the early HSS-2.



### S-61 Series Helicopter Firsts:

- Multi turbine engines
- All weather aircraft
- Submarine search and destroy capability
- Certified for amphibious operation
- Specifically designed for airline operation
- Exceed 200 mph in sanctioned speed run
- Non stop Atlantic crossing by helicopter
- Fastest cross country
- Dipping sonar
- Energy absorbing landing gear
- Automatic flight control system
- Aerial refueling from a tanker airplane

## VH-3

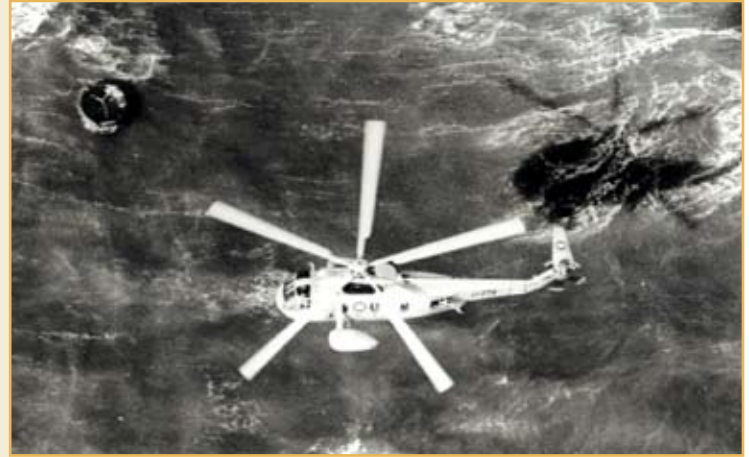
The VH-3 was developed for the Presidential Executive Aircraft in 1961. They were operated initially by the US Army and Marine Corps, and they have been the prime presidential helicopter transportation. They are currently in operation with the Marine Corps. ☺



## S-61R

The S-61R rear loader helicopter is the third member developed in the S-61 helicopter family. The aircraft was used by the U.S. Air Force for search and rescue, and was known as the Jolly Green Giant. The Coast Guard employed the HH-3 version for rescue operations. ☺





## The Miracle of The North Sea Rescue in Skagerrak Strait

**D**uring early September of 1967, a miraculous rescue of 144 men, women and children was accomplished over the North Sea. Sikorsky S-61A helicopters of the Royal Danish Air Force picked up half of the 144 persons rescued when a Norwegian ferry sank under a violent battering from the sea. Two Russian merchant ships in the area were also involved with the rescues.

The ferry was traveling from Norway and was located 37 miles north of Denmark when it encountered 50 knot winds and 40 foot waves. The ferry suffered structural damage and was rapidly taking on water. The Royal Danish Air Force rescue squadron of five S-61A helicopters were launched after receiving the call for help, and arrived at the accident site within 20 minutes. The S-61As swept out over the North Sea and plucked passengers of the crippled ferry from the storm tossed waters, lifeboats and rafts.

The five S-61As spent more than 8 hours in the



rescue operation hampered by the severe winds and huge seas. Miraculously, only two persons were reported lost in the wreckage.

Thirty four pilots, crewmen and doctors, who participated in the rescue were awarded the Sikorsky Winged-S rescue award in a ceremony hosted by Sergei Sikorsky shown in the photo on the right. ☺

## Brute Force Rescue off the West Coast of Ireland

**I**n the early hours of December 9, 1993, an IS-61N operated by the Irish Department of Marine was involved in a dramatic rescue off the West Coast of the Republic of Ireland. The helicopter came to the rescue of a fishing vessel in danger of capsizing and sinking in wind-driven 80 to 100 foot seas. Winds were clocked at 70 knots with gusts of 90 knots. The vessel was rolling more than 70 degrees and pitching violently as it lay beam to the wind in the darkness. After

five crewmen were hoisted to safety, a large wave caused the vessel to drop 70 feet and roll, snagging and breaking the helicopter winch cable, causing damage to fuselage, control rods and main rotor blades. Despite severe vibration, the aircraft returned safely making a run on landing. An aircraft of the Irish Marine Rescue squadron in a typical mission and environment is shown in the following photographs. ☺



*S-61N Irish Rescue Mission*

### First Army/Navy high speed helicopter research program

The S-61F high speed compound helicopter was a joint U.S. Navy, Army and Sikorsky research program to explore methods of increasing the forward speed without penalizing the lift capability of helicopters. The aircraft's first flight was May 21, 1965. The aircraft was a modified SH-3A with conventional fixed wings and a horizontal stabilizer. ☺



*Irish Coast Environment*



A roto-prop, (swing tail) shown here in propeller mode, rotated from the conventional tail rotor position to the propeller thrust position via pilot controls.

Two J-60 jet engines mounted forward and under the fixed wings provided jet thrust augmentation.

## The S-61N established a favorable reputation supporting the transportation needs of the Offshore Oil Industry.

The 1960s period required an expanded use of helicopters to support the offshore oil industry operations. As drilling operations continued to push further away from land to search for oil deposits, larger, safer, faster, and more economical helicopters such as the S-61N were required. The S-61N is capable of carrying up to 25 people plus cargo to oil rigs which are located as far as 150 miles from

shore around the world. The twin engine capability, blade inspection provisions, all weather state-of-the-art technology for the time period, and amphibious fuselage features made it one of the most desirable and productive helicopters available. The S-61 commercial aircraft are still in use today for offshore, construction, forestry service, and corporate operations. ☺



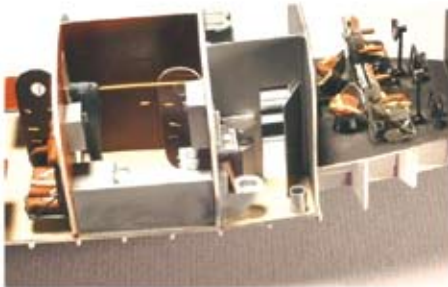
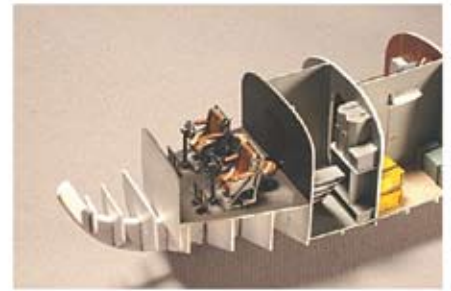
*The photos above show the variety of oil rigs, which range from low level barges to over 50 foot elevation above the sea level landing pads. The helicopters land in all weather conditions in up to 60 knot cross winds. The limited space on the landing pad coupled with the oil rigs superstructure leaves very little room for pilot maneuvering requirements to land and take off. Take off and landings are a thrill to experience.*

**Fascination with the Sikorsky flying boat and amphibian era is still alive and well with aviation historians and model enthusiasts.**

In April of 2006, Bill Bosworth, a model enthusiast, requested information on the Sikorsky S-42 flying boat to help in his quest to build a scaled model. Bill builds his creations using a plastic molding technique. After some research of our files at the archives, copies of drawings, photos, and dimensional data were forwarded to Bill to assist his project. The new year has arrived and Bill completed his masterpiece. He classifies himself as a model scratch builder. Bill prepared the following description and photographs documenting his model making approach and progress. The hull is built up as any boat model hull would be

*Bill stated, "that it's just a plastic model, but personally, it is a tribute to the people and the era that advanced aviation to new heights"*

constructed. The top of the hull, wings, engine cowls and nacelles are vacuum formed plastic molded over carved wooden molds. The model is constructed in 1/48 scale resulting in a 28 inch wingspan. The interior is complete with large round windows to allow a peak inside. The interior is wood paneled with carpets, leather seats, curtains all simulating the 1930's style. Bill stated, "that it's just a plastic model, but personally, it is a tribute to the people and the era that advanced aviation to new heights." The following photos show some of the intricate details and workmanship, which represents a real labor of love that produced a beautiful work of art. ☺



*Pictured above is the plastic model of the 1930's Sikorsky S-42 flying boat created by Bill Bosworth at 1/48 scale.*

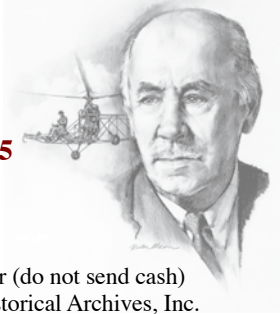
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Newsletter designed and edited by  
**Lee Jacobson and Edgar A. Guzmán**



**“I have been hungry in America. I have known what it is to seek for work and not find it in America. But there was never a day during the hardest times that I lost hope in my planes or that I did not say aloud, “Thank God I am here, a free man, breathing free air. No man can order what I do. If I fail I can try again!”**

**- Igor Sikorsky**



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