

# OLD SLOW and UGLY

Before radar took over, OS2U Kingfishers were the eyes of the fleet.

by James L. Noles, Jr.



*Slow, maybe. But ugly? OS2U-3s  
fly their version of a beauty shot.*

**R**ear Admiral Robert C. "Ike" Giffen assembled a small group of pilots on the deck of the USS *Massachusetts* in the pre-dawn darkness. Giffen was a commander in a formidable invasion force gathered off the coast of North Africa on November 8, 1942. His mission, known as Operation Torch, was to create a second front against the German forces, but in order to begin the invasion, he'd need the pilots of his aviation detachment to scout for vital information: Would the Vichy French in Morocco, with troops entrenched ashore, and the battleship *Jean Bart* and five submarines in the harbor, resist the U.S. landing? In the days leading up to the invasion, a U.S. Army general had attempted to negotiate an agreement. If the pro-Vichy forces in Casablanca decided to defy their German overlords by not fighting the Americans, they would signal their decision with a white flag. "The admiral told us to reconnoiter the French positions and look for that flag," says Thomas Dougherty, recalling that morning 62 years ago. Dougherty, who today lives in Duluth, Minnesota, was an ensign and a pilot of one of the battleship's two Vought-Sikorsky OS2U-3 Kingfishers. "If we encountered enemy action, we were to call 'Batter up,' and the ship would answer 'Play ball,' to let us know they were launching an attack." In the event of an attack, Dougherty's job as a Kingfisher pilot was to be a "spotter," responsible for directing the fire of a battleship's guns by overflying a target and spotting the shells as they landed. If the shells fell short or too far to the right or left, the pilots would call back with corrections.

When Dougherty flew over the French fleet moored in the harbor, he saw no white flag. Instead, the inexperienced pilot was greeted with what he thought were fireworks. "What did I know?" he remembers. "I was just fat, dumb, and happy, wondering who was celebrating down there. Then, when an explosion's concussion just about knocked me over, I realized they were shooting at me!" He immediately radioed "Batter up" to the *Massachusetts*, and within moments,

the ship's big guns were hammering away at the *Jean Bart*.

Dougherty soon came under attack from a French fighter aircraft, and the Kingfisher's canopy disintegrated in a hail of bullets. "If I had had my seat raised one notch higher," Dougherty declares, "I wouldn't be talking to you today." He splashed down safely in the harbor and was taken prisoner by the French. His radioman, Robert Etheridge, was wounded in the attack and taken to a hospital. Eventually,

keep the aircraft controllable at low speeds. Deflector plate flaps and special drooping ailerons were located on the trailing edge of the wing and were deployed in concert with one another to increase the camber of the wing and thus create additional lift. The spoilers then took over the ailerons' job by providing lateral control during low-speed flight (see illustration, next page).

For armament, the Kingfisher carried a .30-caliber machine gun, the



COURTESY JAMES W. DAVIS

Dougherty and Etheridge were returned safely—Dougherty after only five days of captivity.

#### Birth of an Icon

Directing battleship fire was precisely the kind of mission for which Rex B. Beisel had designed the Kingfisher five years earlier. A Vought-Sikorsky engineer who went on to design the F4U Corsair, Beisel incorporated innovations in the Kingfisher, the first monoplane ever to be launched from a shipboard catapult, that would make it the U.S. Navy's primary ship-based observation aircraft during the Second World War. It was the first to be assembled with spot-welding, a process Vought and the Naval Aircraft Factory jointly developed to create a smooth fuselage that resisted buckling and generated less drag. Beisel also introduced high-lift devices to

USS Salt Lake City's Kingfisher detachment. Robert Epperson is top row, fifth from left. Jim Davis is bottom row, second from left.

breech of which, along with the ammunition can, was in the pilot's compartment. Sitting behind the pilot, the radio operator/gunner manned another .30-caliber machine gun (or a pair) on a flexible ring mount. The airplane could also carry two 100-pound bombs or two 325-pound depth charges.

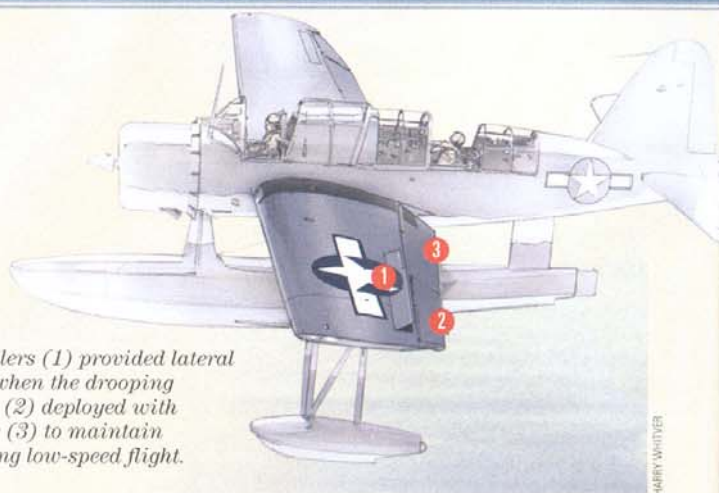
Beisel's first prototype flew in 1938, powered by an air-cooled, 450-horsepower Pratt & Whitney R-985-4 Wasp radial engine. Within two years, Vought-Sikorsky delivered the first production Kingfisher, an OS2U-1, to the battleship USS *Colorado*. Another 54 OS2U-1s and 158 OS2U-2s soon joined the Navy's ranks. The OS2U-2 variant differed slightly from its predecessor,

boasting additional fuel tanks and stronger armor. Confronted with the squat monoplane—some with wheels, others with floats, and still others with wheel-float conversion kits—Navy pilots quickly christened it “the Bug” or, in mockery of the designation OS2U, “Old Slow and Ugly.”

“Slow” was right—it was a lucky pilot who could coax speeds of more than 166 mph out of the Kingfisher. A crafty pilot could, however, work the Kingfisher’s slow speed to his advantage. Joe McGuinness was flying a Kingfisher from the light cruiser USS *Birmingham* over Japanese-occupied Wake Island when a Zero jumped him. McGuinness immediately reduced his airspeed to just above stall speed. “We were almost falling

*The Kingfisher’s landing speed was a remarkably slow 55 mph, thanks in part to low wing loading and a 262-square-foot wing area.*

*The spoilers (1) provided lateral control when the drooping ailerons (2) deployed with the flaps (3) to maintain lift during low-speed flight.*



HARRY WHITVER

out of the sky,” recalls the retired naval aviator. He turned the Kingfisher toward the oncoming Japanese fighter in order to give his gunner a good shot at the enemy pilot. “He [the Zero] was going too fast, and just skidded right over us. My gunner was shooting at him, but we didn’t stick around

to see if we hit him or his airplane.”

Even as the new aircraft were reaching the fleet, Vought-Sikorsky continued to tinker with the Kingfisher’s design. On May 17, 1941, the first of the OS2U-3s flew, powered by a 450-horsepower Pratt & Whitney 985-AN-2 radial engine.



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### Slow, Steady, and Stable

"It was a very stable aircraft," recalls James W. "Jim" Davis Jr., who flew Kingfishers off the cruiser *Salt Lake City*. "Very slow, but very stable. They said you could loop it, but with those big floats, I wasn't going to push it. The Kingfisher was a good airplane for its purpose [spotting and observation] because you could see everything that was going on."

Hundreds of Kingfishers served strictly as landplanes at training bases in Pensacola and Jacksonville, Florida, and Corpus Christi, Texas. Fifty-three others found homes at various U.S. Coast Guard air stations, where they flew anti-submarine and convoy escort missions along the coasts of the United States. The Kingfisher shared its scouting and observation duties with the SOC Seagull, a slow but graceful biplane built by Curtiss Aircraft Company. Pilots familiar with the SOC appreciated its superior fuel economy and rate of climb, although they relished the Kingfisher's excellent radios, especially on long hops over the ocean.

"Both were reliable aircraft," says William Neufeld, author of the book *Slingshot Warbirds* and the younger brother of a naval aviator who flew both types of aircraft. Neufeld concedes that the Kingfisher could be "a little more temperamental" than the SOC. Later, the SC-1 Seahawk joined the fleet as another catapult-launched aircraft. Nevertheless, it was the omnipresent Kingfisher that was destined to become the Navy's iconic floatplane of the Second World War.

The Kingfisher's tasks were legion: They included scouting, bombing, strafing, anti-submarine patrols, search-and-rescue, training, and even odd jobs such as towing aerial gunnery targets. Capable of remaining aloft for over five hours, the Kingfishers could range 400 miles from their ships to scour sky and sea for the enemy.

John Marocchi served aboard the USS *Birmingham* while the light cruiser supported U.S. amphibious operations in Sicily, and later in the Pacific. During the invasion of Saipan and Tinian in June 1944, he worked the cruiser's main-battery fire-control computer, a massive machine of wheels and dials. For him, the Kingfishers were in-

dispensable. "We used the reports from the plane spotters to correct aim points," Marocchi explains. "During pre-landing bombardments, the plane spotters were very effective. And once our troops were ashore, the planes spotted for us beyond what could be observed from the ground."

Almon P. "Al" Oliver, a pilot stationed on the battleship *North Carolina*, remembers that the ship's gun crews would begin a fire mission by firing a single round, then radioing the word "salvo." Just before the shell was expected to land, Oliver recalls, the crew called "stand-by," to alert the pilot to observe the shell land, then as the shell was expected to land, "splash." "As the firing continued, the pilot would call out any corrections necessary to put the shells on target, at which time he would report 'No change, no change.'"

### Ready, Aim, Launch!

For Kingfisher crews assigned to the Navy's warships, missions began literally with a bang.

"Aircraft were launched from the ship by a catapult operated by gunpowder," explains Oliver. Battleships and cruisers were, at the time, typically outfitted with two stern-mounted catapults for such purposes. The Navy even equipped some destroyers with them, although the smaller ships had to give up a gun turret and the torpedo tubes, to make room for the catapult. "An eight-inch shell filled with black powder was fired into a cham-

*Curtiss Aircraft Company's SOC Seagulls scouted with Kingfishers.*



NASM US 1A-400-A1



COURTESY JOE MCGUINNESS

*Joe McGuinness trained at the Jacksonville Naval Air Station in Florida in 1942.*



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NAVAL AVIATION HISTORY OFFICE

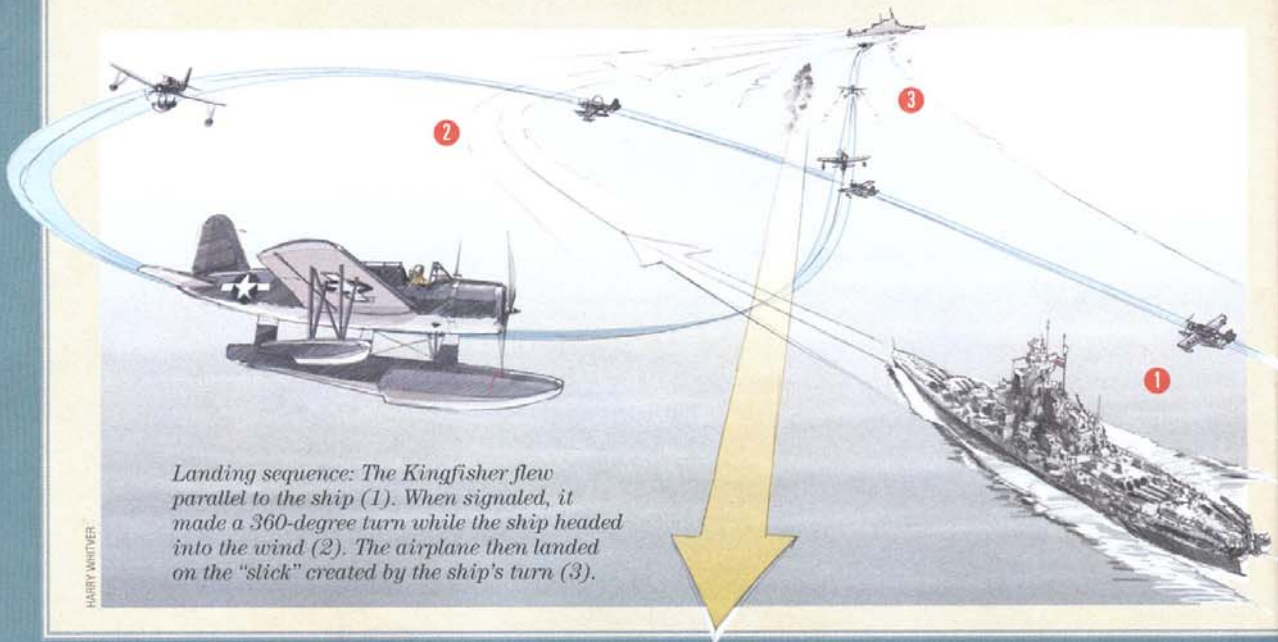
ber, and by the movement of a piston [and] a series of pulleys and cables, a cradle holding the plane was literally fired down the catapult track," says Oliver. "This amounted to being fired from a cannon, since the plane accelerated from zero to 60 knots within a few feet.

"It was a sturdy aircraft and could take a lot of punishment," he adds. "We may have called them 'low and

slow,' but they were rugged.

"Prior to launch," Oliver continues, "the ship would turn to a heading that would place the relative wind about 30 degrees off the bow. The catapult would then be trained outboard to put the wind directly down the track." When crews wanted to launch two Kingfishers in rapid succession, they expedited the process by loading both catapults, starboard

and port sides. "The ship would turn so that the starboard catapult was facing into the wind, and launch that Kingfisher first. Then they rotated the port-facing catapult 90 degrees so that it now also faced the starboard side, and launch that Kingfisher as well. This process avoided the labor-intensive maneuver of changing the ship's direction, and enabled us to launch quickly."



*Landing sequence: The Kingfisher flew parallel to the ship (1). When signaled, it made a 360-degree turn while the ship headed into the wind (2). The airplane then landed on the "slick" created by the ship's turn (3).*

HARRY WHITNER



A pilot has attached the hook from a shipboard crane so the Kingfisher can be hoisted onto the deck (left). Before a recovery (opposite), the pilot taxied, sometimes in rough water, to engage a "sled" with a spring-loaded hook on the airplane's main float.

NAVY AVIATION HISTORY OFFICE (2)

Robert Epperson served as a radio operator-gunner with *Salt Lake City's* Kingfisher unit. He recalls the explosive moment of launch from inside the aircraft. "The pilot would clamp his hand down on the throttle, stick his elbow back in his stomach, and lock his head back in a headrest," he says. "In the back, I would put my head down in my lap, cross my arms over it, and grasp a pair of handles with my hands.

"When we were catapulted from amidships, the force was fantastic. Anything that happened to be loose in the cockpit—in fact, just about anything in the cockpit—became a projectile. For the first few seconds after launch, you were busy putting radios and spare ammunition cans back where they belonged so that those things weren't jamming the controls."

Of course, getting into the air was only part of the battle. Even with experience, landing a Kingfisher in the ocean could be a challenge.

"Swells in the landing area are predictable," Oliver explains. "[Usually] they can be judged by the pilot and pose no big problem to operations unless they are extremely high." In the choppiest waters, the ship created a "slick," a wake of relatively calm water, by making a sweeping turn to one side. The airplane flew a pattern parallel to the ship's course at 500 feet, with the ship flying a signal flag at half

mast. A green flag on the starboard yardarm indicated to the pilot that recovery would be made on the ship's starboard side, while a red flag on the port yardarm indicated a port-side landing. When the airplane was about a quarter-mile ahead of the ship, the "C" flag—"Charley" flag in Navy parlance—was waved to signal the pilot to begin the landing sequence.

"Upon signal to execute, the airplane started a circling 360-degree approach and the ship executed a maximum-rate turn of 90 degrees," says Oliver. "A crewman on the fantail threw a smoke flare overboard so that the pi-

*The gunpowder-driven catapult was noisy enough to make onlookers plug their ears. The force of the catapult propelled the aircraft to a speed of about 70 mph.*

lot could align his approach and land into the wind, as close to the ship as possible" (see illustration, opposite).

After landing, the pilot taxied to a "sled," towed from a boom near the stern. The sled, which measured about 10 feet wide and 20 feet long, was more of a heavy rope tied into a series of one-foot squares. A spring-loaded hook attached to the bottom of the Kingfisher's main float engaged the sled, and the plane was towed until a sling





NAVAL HISTORICAL CENTER

*A Kingfisher overflies the first wave of the invasion of Angaur, Palau Island, in September 1944.*

from the cockpit was attached to an aircraft crane on deck. The airplane was then hoisted on board and placed in a cradle atop the catapult track.

**Scout, Search, and Rescue**

Meandering over enemy lines for hours at a time to call in naval gunfire on obstinate enemy positions, the Kingfishers endeared themselves to the troops slugging it out with the Japanese below. But few men held the Kingfisher in higher esteem than the downed naval aviators who relied on "Old Slow and Ugly" to save them from capture or death. An incident related by Oliver from the last days of the war represents countless such episodes in the Pacific.

On August 10, 1945—the day after the atomic bombing of Nagasaki—hurried orders scrambled Oliver off the *North Carolina* to rescue a Navy pilot who had ditched off the Japanese

island of Honshu. Before he even had time to plot a decent course, Oliver blasted off the catapult. Another Kingfisher, piloted by Lieutenant Ralph Jacobs, linked up with him for the rescue. To free up space, both men flew without backseat gunners. Instead, eight fighters flew escort overhead.

Dodging friendly fire from a U.S. submarine, quickly followed by heavy anti-aircraft fire from Japanese shore positions, Oliver and Jacobs spotted the downed aviator, Lieutenant (Ju-

nior Grade) Vernon Coumbe. Shot down the day before, Coumbe had spent a tense night a scant two miles from a major Japanese naval base.

Ordering Oliver to remain airborne, Jacobs braved high winds and choppy surf to splash down near Coumbe. Immediately, automatic weapons fire streaked through the air while shells plunged into the water around the Kingfisher. As Oliver took evasive action overhead, Jacobs taxied near the beach.

*In April 1944, a Kingfisher rescued nine downed naval aviators in Truk Lagoon. Here, the aircraft approaches the submarine USS Tang as the rescued fliers cling to its wings.*



US NAVY, NASM (S) #00092801

"The airplane started what appeared to be a takeoff run into the wind," Oliver remembers. "I expected Jacobs' take-off might be rough due to the choppy water, but the high wind would be helpful. Yet as I watched the plane run into the wind longer than I felt necessary and begin to bounce and porpoise, I became concerned and flew down alongside the plane. To my amazement, both cockpits were empty."

Turning back toward the beach, Oliver spotted both Jacobs and Coumbe struggling in the surf. While Jacobs had stood in the cockpit trying to help Coumbe on board, the blast from a nearby shell had dumped Jacobs out of the airplane. As he fell, he had inadvertently kicked the throttle wide open, and the aircraft took off unmanned, leaving him and Coumbe stranded on the hostile shore.

"I landed and taxied back, then turned into the wind, flaps down, and sailed backwards through the surf with the main float touching the beach," Oliver recounts. "Since the plane had only one seat in the rear cockpit, I yelled out to Jacobs that he should help the rescued pilot into the back seat and that I would send someone back for him." Jacobs understandably disagreed with Oliver's idea, and scrambled into the back seat along with Coumbe.

Within moments, Oliver's Kingfisher labored aloft. With its center of gravity so far aft, his aircraft "flew like a pregnant duck." It also burned fuel at an increased rate, so Oliver kept a careful eye on his fuel gauge. Some two and a half hours later, he landed alongside the *North Carolina* with what he described as "one cup of fuel" in the tank. For the three pilots, it had been a remarkably close call, and both Oliver and Jacobs received Distinguished Flying Crosses for their bravery.

### The Kingfishers Retire

The end of World War II marked the end of the era of using catapults to launch aircraft from ships other than aircraft carriers. Increasingly effective

*The OS2U-3 was the only variant exported. In all, 1,519 Kingfishers flew, bearing not only U.S. markings, but those of other countries, from Uruguay to Australia.*

anti-aircraft weapons, improvements in radar-controlled gunfire, and the ascendancy of the helicopter conspired to edge the slow, vulnerable Kingfisher off the stage. Today, some half-dozen Kingfishers reside in museums around the world, including the National Air and Space Museum's Steven F. Udvar-Hazy Center in Chantilly, Virginia. Kingfishers are also on display at the USS *Alabama* and the USS *North Carolina* battleship memorials, at the Naval Aviation Museum in Pensacola, Florida, and at museums in Havana, Cuba, and Santiago, Chile. These few exhibits are all that remain of the more than 1,500 Kingfishers that served during World War II. —

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