A History of Sea-Air Aviation

Wings Over The Ocean

part sixteen

By John R. Lindley

Prior to the American involvement in Vietnam, U.S. Navy carrier forces had served in a variety of politico-military crises around the world. Admiral David L. McDonald lists 13 of these crises between June 1950 and December 1962 (in addition to the Korean War). Most notable were the Suez Canal crisis of 1956, the Jordan and Lebanon crises of 1957 and 1958, the Quemoy-Matsu conflict of 1958, and the Cuban missile crisis from October to December 1962 during which the carriers *Enterprise* and *Independence* helped enforce the missile quarantine on the Soviets.

The leaders of the U.S. chose to use carriers and their air arms in these various conflicts or crises because of their mobility and capability to project U.S. air power unilaterally into regions where land bases were limited or unavailable. Given this previous record of demonstrated usefulness and generally favorable results, President Johnson's decision to employ tactical air strikes from carriers (following the Tonkin Gulf incident off the coast of Vietnam) was a logical extension of these earlier policies. The first air strikes from U.S. Navy carriers took place on August 5, 1964, when 64 jets from *Ticonderoga* and *Constellation* bombed PT boat bases around Vinh, North Vietnam, in retaliation for the PT boat attacks on the destroyers *Maddox* and *Turner Joy* the previous day.

U.S. involvement in the counter-guerrilla war in South Vietnam had begun long before the Tonkin Gulf incident and the resulting retaliatory air strikes, but prior to that time carrier air strikes had not seemed necessary. From August 1964 to February 7, 1965, when aircraft from the carriers *Coral Sea, Hancock* and *Ranger* flew reprisal raids following

Dawn over the Tonkin Gulf silhouettes jets on the deck of Oriskany.

the Viet Cong attack on the air base at Pleiku, South Vietnam, the principal mission of TF 77 aviation was reprisal strikes over the North.

Following the attacks on Pleiku, the air war speeded up and shifted emphasis from reprisal raids to systematic bombing of the North. TF 77 jets joined the Air Force and Marines in these strikes. In addition, carrier aircraft began flying air strikes against Viet Cong positions in the Mekong Delta region of South Vietnam while U.S. forces ashore built airfields in the South which were suitable for land-based tactical air operations. By July 1965 the U.S. Navy had five carriers in the western Pacific, with at least three operating at all times in the Tonkin Gulf, carrying out armed reconnaissance and bombing raids against North Vietnam.

Normally three attack carriers operated in the vicinity of an arbitrary cartographic position in the Tonkin Gulf known as Yankee Station. They launched and recovered aircraft which flew almost daily raids against communist targets. Each carrier steamed independently of the others, but their flight operations were coordinated. Flight operations on Yankee Station normally lasted 12 hours. Then the carrier would have 12 hours for rest, repair and replenishment from the ever-present Service Force supply ships. With three carriers available for flight operations, planes from one of the carriers were always in the air unless weather conditions were unusually bad. In general the targets in North Vietnam were industrial and power facilities, plants, military installations, supply lines, bridges, boats, highways and trucks and other rolling stock.

Although the carrier forces of the U.S. Navy had never satisfactorily solved the problem of night carrier flight operations during WW II or Korea, Seventh Fleet carriers in Vietnam had almost worked out a solution by the mid-1960s. Consequently they flew air strikes day and night trying to keep a constant pressure on the communist supply lines.

The Korean experience had also shown that jets demanded a phenomenal supply of fuel. Each jet sortie meant that the carrier had to spend another minute replenishing from a tanker and each three-ton load of bombs dropped meant a few more minutes alongside an ammunition ship. Thus TF 77 carriers frequently spent a substantial portion of their stand-down time alongside a Service Force ship, such as a fast combat support ship (AOE), which could transfer fuel oil, jet fuel, aviation gasoline, ordnance and refrigerated stores from any of 15 replenishment stations. In addi-

tion the AOEs had an embarked helicopter detachment which could provide vertical replenishment. Whether replenishment took place alongside or by air, the carrier and the AOE could carry out this operation at speeds up to 20 knots. Thus the flattop was never required to stray very far from her operating area in order to resupply herself and her air arm.

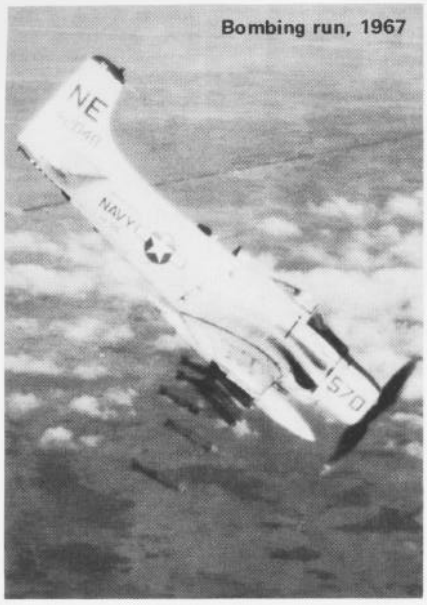
The U.S. Navy employed five different aircraft for attack carrier operations in Vietnam. A carrier of the larger, post-World War II *Forrestal*-class would ideally have an air group composed of 24 F-4B *Phantom II* fighters, 28 A-4E *Skyhawks,* 9 A-6A *Intruder* attack jets, 6 RA-5C *Vigilante* reconnaissance jets and 4 E-2A *Hawkeyes* for airborne early warning. The McDonnell Douglas F-4B *Phantom II* was a versatile twin-engine jet flown by a crew of two. Designed primarily for operating on supercarriers like *Forrestal* or *Enterprise,* the multipurpose jet had Mach 2.2 speed at 48,000 feet. The *Phantom II* carried no guns; its armament consisted of *Sparrow* and *Sidewinder* missiles. The small Douglas A-4 *Skyhawk* is an attack jet widely used by the U.S. Navy and Marine Corps. Although it weighs only 9,853 pounds empty (in the A-4E variation), it can carry nearly 15,000 pounds of armament and bombs. Despite being the smallest jet combat aircraft in service, the *Skyhawk* has a speed of Mach 0.9 at sea level and can be fitted to deliver nuclear weapons. The other attack jet of the typical carrier air group in Vietnam was the Grumman A-6A *Intruder.* This twin-jet, two-man-crew aircraft carries conventional or nuclear weapons. With Mach 0.9 speed at sea level, it uses a complex digital computer system tied in with its radar, navigation and communications gear to locate targets day or night, in good weather or bad. North American's RA-5C *Vigilante* was the Navy's multisensor reconnaissance aircraft in the Vietnam War. Although originally designed for use in a long-range attack role, the *Vigilante's* Mach 2.1 speed at 40,000 feet makes it ideal for intelligence gathering. The last major component of the typical attack carrier air wing was the Grumman E-2A *Hawkeye.* This queer-looking, twin-engine turboprop airplane carries a 24-ft. diameter radome over its fuselage. This radome was a key part of the Navy's airborne early warning system designed to detect enemy targets beyond the line-of-sight of surface ship radars. The *Hawkeye* carries a crew of five.

The U.S. Navy's carrier jets were not the only jets in the air over Vietnam. In addition to other friendly jet aircraft, there were Soviet-built MiG-17 and, later, MiG-21 fighters. Beginning in 1965, American jets began to tangle with these enemy planes. The *Phantoms* soon proved superior to both the MiG-17 and MiG-21 in aerial combat during the bombing campaign over North Vietnam. Most U.S. aircraft lost over North Vietnam were shot down by conventional antiaircraft fire. Most of the American jets used over the North were vulnerable to ordinary antiaircraft fire because they

A HAL-3 helo flies over abandoned Viet Cong village on the Cua Lon River.

had been designed for high-speed combat at high altitudes against enemy aircraft which might be missile equipped. Thus these Navy and Air Force jets often lacked the protective devices which had helped American planes survive damage from Japanese antiaircraft fire in WW II. Soviet MiGs and surface-to-air missiles (SAMs) accounted for all other losses over the North. For any American plane damaged over North Vietnam, safety lay out to sea. Once over the Tonkin Gulf, aircrews knew they could ditch in the ocean with a fair chance that they would be rescued by the ships or helos of TF 77.

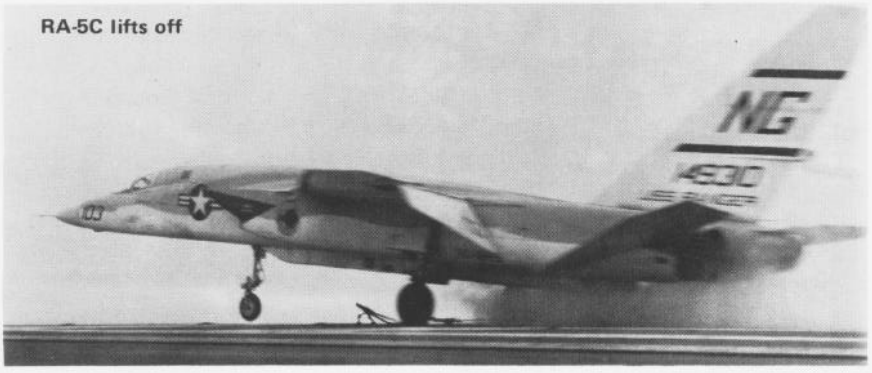
By the fall of 1966, U.S. Navy and Air Force attacks on North Vietnamese targets had reached 300 per week. Strikes against targets near the North Vietnamese capital of Hanoi and the chief port of Haiphong, as well as missions near the Red Chinese border, raised the level of bombing considerably in 1967. That year the bomb tonnage dropped on the North in one month exceeded the 80,000-



Bombing run, 1967

A-4 and F-4 leave Kitty Hawk.

VA-35 Intruder

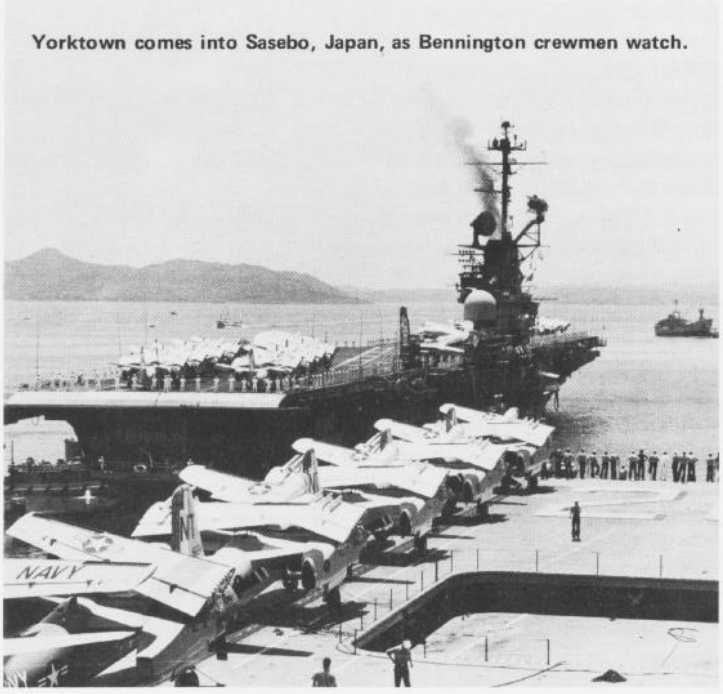


RA-5C lifts off

tons-per-month dropped on German-controlled Europe in WW II (29,000 tons per month were dropped on Japan and 17,000 tons a month on North Korea). *Intruders* and *Skyhawks* from the Navy's carriers regularly hit bridges, rail lines, warehouses, factories, POL storage tanks, port facilities, truck convoys, trains and the like in an attempt to stop the production of war material and disrupt the economy in North Vietnam. But these sorties failed to halt the communist infiltration of South Vietnam. Consequently, on March 31, 1968, President Johnson halted all bombing strikes north of the 20th parallel in an effort to get peace talks under way in Paris. With the cessation of bombing north of the 20th parallel, carrier strikes hit the southern panhandle of North Vietnam, trying to stem the southern flow of supplies.

Carrier aviation was not the only seaborne aviation fighting the communists. When 7,000 Marines hit the beach at Da Nang in March 1965, they brought with them helicopters and the techniques of vertical assault.

Vertical assault, or invasion from the sea by helos, was the product of U.S. Marine Corps and Royal Navy and Marine development. The U.S. Marines wanted a faster way to hit the



Yorktown comes into Sasebo, Japan, as Bennington crewmen watch.

Death of a MiG

beach than was possible with conventional horizontal or over-the-beach assault. They began working out the techniques of vertical assault by helos after WW II and tried them in Korea. Similarly, when an Anglo-French task force occupied the Suez Canal area in October-November 1956, 22 helos from the British light carriers *Ocean* and *Theseus* landed 415 Marines (on November 6), who helped seize the canal.

These combat tests in the 1950s of the concept of vertical assault demonstrated that it was most effective when used in combination with regular over-the-beach assault. When used alone, vertical assault could not deliver enough men and was too vulnerable to defensive fire. When combined with horizontal assault, vertical envelopment had the advantages of tactical surprise and the choice of a landing area that might be behind enemy defenders. This allowed for attack from two directions. And the wide dispersal of amphibious force ships presented less of a target to defensive fire.

The landing of U.S. Marines at Da Nang in March 1965 was the first major American commitment of ground forces in Vietnam. By 1969 the Marines had made more than 60 amphibious landings along the coast of South Vietnam. Many of these landings were made in an attempt to use surprise and concentrated force to clear Viet Cong strongholds; others established permanent beachheads. In either case, the Marines often received close air support from their own tactical aircraft flying from land bases, just as they had in Korea.

The principal helicopters employed in vertical assault and other helicopter operations in Vietnam were the UH-1 *Iroquois (Huey),* the AH-1 *SeaCobra,* the CH-46 *Sea Knight,* and the CH-53 *Sea Stallion.* The *Huey* is a helicopter gunship which carries a crew of two and up to seven passengers. It was used for troop transport, medevac, and utility. The *SeaCobra* is another gunship with a two-man crew used only in an air support role. The *Sea Knight* is a troop or cargo transport which has a two-man crew and can carry between 25 and 33 Marines. The *Sea Stallion* is a large helo capable of lifting up to 16 tons of cargo or 38 Marines. It has a crew of from three to six.

To facilitate vertical assault and to provide a seagoing base for Marine helos, the U.S. Navy has gradually developed a new type of amphibious assault ship (or, as the British call it, commando carrier). When the Marines began experimenting with helos in the late 1940s, they operated their rotary-drive aircraft from escort carriers. As the WW II escort carriers were scrapped or mothballed, the Navy replaced them with new ships designed specifically for amphibious operations requiring helicopters. Today an amphibious assault ship like the 16,000-ton *Iwo Jima* (completed in 1961) provides an afloat base for 9 large and 20 small helos and 2,100 troops.

When U.S. military forces in Vietnam halted bombing of the North on March 31, 1968, they increased their efforts to cut off communist infiltration and supply routes in South Vietnam. But air power alone, whether from carriers or land bases, could not halt the infiltration and overland supply. Even the aerial mining of Haiphong Harbor in May 1972 and a full-scale bombing campaign in late 1972 failed to provide the South Vietnamese military with the support necessary for defending their country. Thus the U.S. signed a truce agreement with the North Vietnamese in early 1973 and began a phased withdrawal of all U.S. forces from the South. Although the non-communist South Vietnamese government tried to keep the pressure on the communists following the American withdrawal, they were unable to stop a North Vietnamese invasion in the spring of 1975. The communists captured Saigon, the South Vietnamese capital, on April 29, 1975, thereby permanently ending the communist and non-communist division of Vietnam with the establishment of a single Vietnamese state under the control of the Hanoi government.

The Vietnam War was a small unit war in which conventional military tactics were sometimes ill-adapted to fighting in the jungle or Mekong Delta areas. Like Korea, the war in Vietnam did not have any great fleet or air battles. Naval Aviation, primarily carrier air strikes and helicopter vertical envelopment, played a primary role in the war just as it had in Korea. Similarly, air power in Vietnam was most effective when employed in conjunction with ground operations. Lengthy and repeated experience in Vietnam showed that the mere possession of and ability to operate vast carrier air and helicopter forces could provide local command of the air; but local command of the air and the ability to strike communist military and industrial targets were not enough to maintain the independence of South Vietnam.

In Vietnam, as in Korea, the United States once again chose not to use nuclear weapons or, with the exception of the Cambodia invasion, to widen the war by attacking the sources of communist supplies outside of Vietnam. Having decided not to use nuclear weapons, American leaders seemed to expect that the bombs dropped from Navy, Air Force and Marine Corps jets would provide a favorable outcome. That was not the case. Undoubtedly there are many reasons, one being a fundamental confusion concerning the role of the airplane. The airplane is a vehicle of transportation. As a commercial vehicle, it carries cargo or passengers. As a military vehicle, it is used to deliver various kinds of weapons: bombs, rockets, missiles. Many persons believed that the airplane could force the communists to submit to the United States. In doing so, they confused the airplane as a vehicle of transportation with the weapons it carried. This was as if the Greek myth-makers had confused Pegasus with the sword or lance which Bellerophon had used to kill the Chimaera. Pegasus gave Bellerophon an advantage in fighting the Chimaera, but the Greek youth still had to fight the monster himself. Pegasus, his vehicle of transportation, could only provide Bellerophon with a favorable advantage in combat. The winged horse could not by itself supply victory; only Bellerophon could do that.

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