CV 59 Forrestal - 1990

United States

Type: CVA - Attack Carrier

Max Speed: 33 kt

Commissioned: 1990

Decommissioned: 1993

Length: 324.0 m

Beam: 39.3 m

Draft: 11.3 m

Crew: 5180

Displacement: 60000 t

Displacement Full: 78200 t

Propulsion: 8x Boilers, 4x Steam Turbines

Sensors / EW:
- AN/WLR-11 - (RWR for AN/WLR-1G, Improved AN/WLR-3 & AN/ALR-52) ESM, RWR, Radar Warning Receiver, Max range: 222.2 km
- AN/SPS-48C - (1978) Radar, Radar, Air Search, 3D Long-Range, Max range: 407.4 km
- AN/SPS-67(V)1 - (1982) Radar, Radar, Surface Search & Navigation, Max range: 64.8 km
- AN/SPS-49(V)5 NTU - (1982) Radar, Radar, Air Search, 2D Long-Range, Max range: 463 km
- AN/SPS-64(V)9 [RM 1220 6X] - (20kW, USN, 1x antenna) Radar, Radar, Surface Search & Navigation, Max range: 37 km
- AN/ULQ-6C - (AN/SLQ-26) ECM, OECM & DECM, Offensive & Defensive ECM, Max range: 0 km
- AN/SPN-43B - (1984) Radar, Radar, Shipboard Air Traffic Control (SATC), Max range: 129.6 km
- Mk95 [EO] - (Mk6 Mod 0, Mk91 FCS) Visual, Visual, Target Tracking and Identification TV Camera, Max range: 148.2 km
- Mk95 [Radar] - (MFCR, Mk91 FCS) Radar, Radar Illuminator, Medium-Range, Max range: 118.5 km
- AN/WLR-1C - (AN/SLQ-26) ESM, ELINT, Max range: 926 km

Weapons / Loadouts:
- 20mm/85 Mk15 Phalanx Blk 1 Burst [300 rnds] - Gun. Air Max: 1.5 km.
- RIM-7M Sea Sparrow - (1985) Guided Weapon. Air Max: 25.9 km. Surface Max: 25.9 km.
- Mk214 Sea Gnat Chaff [Seduction] - (1987) Decoy (Expendable). Surface Max: 1.9 km.
- Mk216 Sea Gnat Chaff [Distraction] - (1988) Decoy (Expendable). Surface Max: 1.9 km.
- Mk186 TORCH Flare [Seduction] - (1979) Decoy (Expendable). Surface Max: 1.9 km.
- AN/SLQ-25 Nixie - Decoy (Towed). Surface Max: 1.9 km.
- 7.62mm MG Burst [20 rnds] - (Ship & Facility) Gun. Surface Max: 0.4 km. Land Max: 0.4 km.

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OVERVIEW: The Forrestal-class aircraft carriers were a four-ship class designed and built for the United States Navy in the 1950s. It was the first class of so-called supercarriers, combining high tonnage, deck-edge elevators and an angled deck. The first ship was commissioned in 1955, the last decommissioned in 1998.

DETAILS: The Forrestal class was the first completed class of "supercarriers" of the Navy, so called because of their then-extraordinarily high tonnage (75,000 tons, 25% larger than the post-World War II-era Midway class), full integration of the angled deck (Forrestal and Saratoga were laid down as axial deck carriers and converted to angled deck ships while under construction; Ranger and Independence were laid down as angled deck ships and had various minor improvements compared to the first two), a very large island and most importantly their extremely strong air wing (80-100 jet aircraft, compared to 65-75 for the Midway class and fewer than 50 for the Essex class). Compared to the Midway class, the Forrestals were 100 feet (30 m) longer and nearly 20 feet (6 m) wider abeam, resulting in a far more stable and comfortable aircraft platform even in very rough weather. When commissioned, the Forrestal-class ships had the roomiest hangar decks and largest flight decks of any carrier ever built. Because of their immense size they were built to a new, deep-hulled design that incorporated the armored flight deck into the hull (previous American design practice was to design the flight deck as superstructure). This was a very similar structural design as used on British "armored" carriers, and grew out of the requirement for such a very large carrier, because carrying the strength deck at the flight deck level produced a stronger and lighter hull. The Midway-class ships sat very low in the water and were poor sea boats through their long careers; they were very wet forward and their aviation characteristics were poor. The deeper Forrestal hull allowed the ships more freeboard and better seakeeping. The Forrestal-class carriers, like the Midway class that preceded it, were designed with armored flight decks.

Forrestal-class ships were the first examples of supercarriers and thus not quite a perfected design; their elevators in particular were badly arranged for aircraft handling. The portside elevator, a relic of the original axial-deck design, was especially poorly suited, as it was located at the fore end of the angled deck, in the landing path as well as the launch path of aircraft from the #3 and #4 catapults. The subsequent Kitty Hawk class moved the portside elevator to the aft end of the angle and reversed the position of the island and the second starboard elevator, vastly improving aircraft handling. The sponson-mounted guns suffered from poor range and complicated firing arcs, and were located in very wet and thus nearly useless positions in the bow and stern. They were removed after only a few years and were later replaced by missiles and much later by close-in weapon systems (CIWS). The aft guns in Forrestal lasted until the fire in 1967, then were removed and eventually replaced by missiles in the mid-70s.

The original design of the Forrestal-class ships would have had a very small, retractable island; this design had numerous problems (the mechanism to raise and lower the island was never perfected before the angled deck was added to the design) and smoke fouling of the deck was expected to be a severe problem due to lack of adequate venting. The redesign to an angled deck allowed a very large island, much larger than on previous carriers, giving unprecedented flexibility and control in air operations.

TYPE: Aircraft Carrier.

SPECIFICATION: Displacement: 60,000 tons || Length: 1,070 ft (330 m) || Beam: 129 ft 4 in (39.42 m) || Draft: 35 ft 9 in (10.90 m) || Propulsion: Steam turbines @ 280,000 shp || Complement: 4,378.

PERFORMANCE: Speed: 34 knots (63 km/h).

SENSORS: AN/SPG-53A Fire Control Radar || AN/SPN-35A Shipboard ATC || AN/SPS-10B Surface Search Radar || AN/SPS-37 2D Long Range Air Search || AN/SPS-8A Height Finding Radar || Furuno Surface Search Radar || AN/WLR-1 ESM || AN/ULQ-6A Offensive/Defensive ECM.

ARMAMENT: (8) 5 in/54 caliber Mark 42 guns || (3) 8 cell NATO Sea Sparrow Mark 29 missile launchers || (3) 20 mm

Phalanx CIWS Mark 15 guns.

AIR WING: Up to 90 aircraft.

SHIPS BUILT: Forrestal (CV-59) || Saratoga (CV-60) || Ranger (CV-61) || Independence (CV-62).

SOURCE: [SCO] Wikipedia http://en.wikipedia.org