Aircraft Carrier Programs

Sea-Air-Space
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Mission:
Deliver Aircraft Carriers on time, ready for tasking, at an affordable cost
Carrier Evolution

For nearly 100 years, the aircraft carrier has continued to evolve alongside the technological advancements of our Navy.

- The USS John F. Kennedy was the last conventionally powered carrier.
- The Forrestal Class is considered the first class of ‘supercarriers’.
- An all nuclear fleet allows continuous operating for more than 20 years without refueling and 50+ year service life.

Key Events:
- CV-4 (Lexington Class) was first all-purpose carrier built by the U.S. Navy.
- The Yorktown Class included the first use of hydraulic catapults.
- The Midway Class included the first Armored Flight Deck.
- The Essex Class (CV-9), 1942 (above).
- Midway Class, 1945.
- Forrestal Class, 1955 (above).
- Nimitz Class, 1975 (above).
- USS John F. Kennedy (CVN 67), 1968.
- Gerald R. Ford Class, 2016 (above).
- PCU Gerald R. Ford (CVN 78), 2016.

Lexington Class, 1927 (above).
USS Langley (CV-01), 1922.
Yorktown Class, 1937 (above).
USS Ranger (CV-4), 1934.

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In-Service Aircraft Carriers

Years of Service

NIMITZ Class: 500 total carrier-years, serving over 84 years, from 1975 until 2059

FORD Class: Ushering in the Next Generation of Excellence

Only 50% through the service life of the NIMITZ-Class 248 carrier-years remaining. (As of 21 Apr 2016)
GERALD R. FORD Class
Focused Investment

GERALD R. FORD Class Ushers in the Next Generation of Capability, including:

**Increased Flexibility**
- Nearly 3 times the electric plant capacity
- Restored weight and stability service life allowances

**Increased Capability**
- 33% increase in Sortie Generation Rates
- Increased space for flight deck operations and aircraft maintenance

**Increased Affordability**
- Reduced Manning and 20% reduction in maintenance costs
- Designed for 43-month maintenance cycle and 12-year docking intervals
GERALD R. FORD (CVN 78)
Status

Forward Focus
Finish Construction ♦ Complete the Test Program ♦
Deliver the Ship

Current Status
- 98% Overall ship completion
- 97% Compartments turned over to crew (2,520 of 2,607)
- 74% Systems turned over to crew (181 of 245)
- 88% Hull, Mechanical and Electrical (HM&E) testing complete
- 78% Electronics testing complete
- 90% Crew reported onboard (2,357 of 2,628)

2016 Significant Events
Feb  ✓ Multi-Function Radar (MFR) High Power Radiation
Apr  ✓ Volume Search Radar (VSR) High Power Radiation
Apr  ✓ Electromagnetic Aircraft Launch System (EMALS) Deadload testing complete (235 deadloads)
May  ✓ First Advanced Weapons Elevator (AWE) turned over to crew
Jun  ✓ Completion of combat system testing
Aug  ✓ Sea Trials
Sep  ✓ Delivery

Gerald R. Ford (CVN 78) is in the final months before delivery.

(Photos courtesy of HII-NNS)
(Above) Ship’s Sponsor Susan Ford Bales served food during the first meal aboard CVN 78 in Aug 2015. Since then, crew members have settled into life aboard the nearly complete ship.

(Clockwise from top middle):
- First Class Mess
- Ship’s Store
- Gym
- Repair Lockers

(Photos courtesy of U.S. Navy and HII-NNS)
CVN 78 Progress – Crew Settled In

(Clockwise from top left):
- Berthing
- Staterooms (CAPT’s Cabin)
- Heads/Showers

(Photos courtesy of HII-NNS)
CVN 78 Progress – Crew Settled In

(Clockwise from top left):
- Laundry
- Barber
- Dental
- Medical

(Photos courtesy of HII-NNS)
CVN 78 - Training Ramps Up

Above (left to right):
- Medical teams conduct medical training during a General Quarters exercise.
- Sailors practice hose handling during general quarters in the hangar bay.
- Sailors from Combat Systems department practice loading an inert-dummy RIM-162 Evolved SeaSparrow Missile into the NATO Sea Sparrow Missile System launcher.

(PHOTOS COURTESY OF U.S. NAVY)
EMALS uses electrically generated moving magnetic field to propel aircraft, which places less physical stress on aircraft and requires less maintenance as compared to steam catapults.

(Above): On 5 Jun 2015, CVN 78 catapulted an 16,000-lb orange sled - known as a "dead load" - into the James River at Newport News Shipbuilding. To date, more than 230 deadloads have been launched.

AAG recovers current and future aircraft and contributes to reduced manning.

(Above): On 31 Mar 2016, the Navy reached a milestone with the first AAG recovery of a manned aircraft, an F/A-18E Super Hornet, at the Runway Arrested Landing Site (RALS) at Joint Base McGuire-Dix-Lakehurst in N.J.
Significant Events

- Feb 2011 – CVN 79 Steel Cutting Ceremony
- Jun 2015 – DD&C Contract Awarded
- Aug 2015 – Keel Laying Ceremony
- Jun 2017 – 50% Erected
- Apr 2018 – 75% Erected
- May 2019 – Island Loaded
- Feb 2020 – Launch
- Jun 2022 – Delivery

(Clockwise from top left):
- CVN 79's Aft Pump Room Being Set in Place – 60,000 More Hours of Pre-Outfitting than CVN 78.
- 965 Ton Aft Pump Room Superlift Being Moved to Dry-Dock.

(Photos courtesy of HII-NNS)
GERALD R. FORD Class
The Future is Now

- FORD Class builds upon the impressive legacy of the Nimitz Class
- CVN 78 construction nearly complete, delivers this year
- CVN 79 and follow-on construction incorporates lessons learned and other reduced cost