WELCOME ABOARD

The Intrepid Sea, Air & Space Museum has one of the most varied aircraft collections on the East Coast. All five of the U.S. armed forces are represented through these displays: The Army, Marine Corps, Navy, Air Force and Coast Guard.

A number of international aircraft are also presented. For each aircraft you will notice that a specific year is indicated. This is the year that the original type was introduced to active service. The national flags shown represent the country corresponding to the aircraft markings as displayed at the Intrepid Museum and not necessarily the country of design or manufacture.

From the Avenger torpedo bomber, a stalwart from Intrepid’s World War II service, to the A-12 Blackbird, the spy plane from the Cold War, the collection reflects some of the greatest achievements in military aviation.

On the pier next to Intrepid is another icon of aviation, the British Aerospace/Aerospatiale Concorde. Part of the Museum’s collection since its retirement in 2003, our Concorde, “Alpha Delta,” is the very airplane that set a world’s speed record for passenger airliners on February 7, 1996, when it flew from New York to London in 2 hours, 52 minutes and 59 seconds.

Our newest addition on the flight deck, housed in our Space Shuttle Pavilion, is the space shuttle Enterprise, the prototype NASA orbiter that paved the way for the Space Shuttle Program.

This booklet describes in detail the specifications for each of the aircraft included in the Museum’s collection. Get to know the aircraft and the stories of the men who flew them.
RESTORATION AND PRESERVATION

The preservation of outdoor display aircraft is an enormous challenge. Most of the aircraft collection is subjected to the damaging effects of adverse weather and the relentless forces of natural deterioration. The diligent work of the small full-time staff is supplemented by a dedicated volunteer crew. The volunteers are trained in many of the sciences in order to maintain the aircraft, including the science of metallurgy and the science of organic chemical reactions on aircraft components. With the staff, they identify damage and engineer and fabricate replacement parts. They apply compounds and corrosion preventive coatings to protect the aircraft and its parts. The preservation of the display aircraft at the Intrepid Sea, Air & Space Museum is an ongoing effort. You may even see the restoration crew at work during your visit. Check out the Aircraft Restoration facility on the flight deck.

Intrepid Museum is building an Aircraft Restoration Hangar on the flight deck that will span over 5,000 square feet. It will include space for the restoration, conservation and maintenance of the Museum’s unique collection of historic aircraft, a classroom for educational programs and a viewing area for visitors to see on-going restoration work.

Donate today by visiting intrepidmuseum.org and click on “Give and Join” to learn more.
**Grumman/Eastern Aircraft**  
**TBM-3E Avenger** 1942

- **Max Weight:** 17,895 lb (8,115 kg)
- **Top Speed:** 276 mph (444 kph)
- **Ceiling:** 30,100 ft (9,174 m)
- **Armament:** .50 caliber machine gun in ball turret, 2x .50 caliber wing-mounted machine guns, 2,000 lb (907 kg) of wing-mounted rockets, drop tanks, radar pod, bombs or one torpedo

- **Length:** 40 ft 11 in (12.4 m)
- **Wingspan:** 54 ft 2 in (16.5 m)
- **Height:** 16 ft (5 m)

**DID YOU KNOW?**  
President George H. W. Bush flew this plane in World War II.

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**Piasecki**  
**(HUP-2) UH-25 Retriever** 1949

- **Max Weight:** 5,750 lb (1,205 kg)
- **Top Speed:** 108 mph (174 kph)
- **Ceiling:** 10,200 ft (3,110 m)
- **Armament:** None

- **Length:** 32 ft (9.8 m)
- **Height:** 12.5 ft (3.8 m)
- **Rotor Span:** 35 ft (10.7 m)

**DID YOU KNOW?**  
The rotor blades could be folded when the craft was lowered to the hangar deck, making this helicopter a very small machine that could be easily stowed aboard carriers and even on smaller ships.
**Sikorsky (HRS-1) H-19 Chickasaw 1950**

**SPECIFICATIONS:**
- Max Weight: 7,200 lb (3,266 kg)
- Top Speed: 101 mph (163 kph)
- Ceiling: 10,500 ft (3,200 m)
- Armament: None

**DID YOU KNOW?**
A post-World War II passenger helicopter, this very helicopter made one of the last operational missions of its type when it flew an ice reconnaissance flight over the Hudson River during the winter of 1965.

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**Mikoyan Gurevich MiG-17 (NATO code name Fresco) 1952**

**SPECIFICATIONS:**
- Max Weight: 13,379 lb (6,069 kg)
- Top Speed: 711 mph (1,145 kph)
- Ceiling: 54,460 ft (16,600 m)
- Armament: 3x NR-23 23 mm cannons, 1,102 lb (460 kg) of rockets and bombs

**DID YOU KNOW?**
On October 9, 1966, four of Intrepid's piston-engine Douglas Skyraiders fought four jet MiG-17s. The Skyraiders were credited with shooting down one of those MiGs and damaging two others.
Beech
T-34A Mentor 1953

- Max Weight: ................3,000 lb (1,360 kg)
- Top Speed: ................ 191 mph (307 kph)
- Ceiling: .................... 20,000 ft (6,096 m)
- Armament: .............. None

DID YOU KNOW?
The T-34 is a military training aircraft derived from the civilian Beechcraft Model 35, V-tail Bonanza.

Grumman
(F9F-8) AF-9J Cougar 1954

- Length: 25.9 ft (7.9 m)
- Wingspan: 32.8 ft (10 m)
- Height: 9.5 ft (2.9 m)

SPECIFICATIONS:
- Max Weight:.................24,763 lb (11,232 kg)
- Top Speed:....................647 mph (1,041 kph)
- Ceiling:......................42,000 ft (12,800 m)
- Armament: 4x 20 mm cannons, 2,000 lb (908 kg) of under-wing ordnance, including 4x AIM-9 Sidewinder missiles

DID YOU KNOW?
This aircraft was retired from active service in 1965 and loaned to the town of Wall Township, New Jersey where it was displayed at what is still to this day called “Airplane Park”.

USA

USA
North American FJ-3 Fury 1955

- **Length**: 37 ft 7 in (11.4 m)
- **Wingspan**: 37 ft 1 in (11.3 m)
- **Height**: 13 ft 7 in (4.1 m)

**SPECIFICATIONS:**
- **Max Weight**: 17,179 lb (7,791 kg)
- **Top Speed**: 681 mph (1,096 kph)
- **Ceiling**: 49,000 ft (14,934 m)
- **Armament**: 4x 20 mm cannons, 3,000 lb (1,360 kg) of under-wing ordnance, including 4x AIM-9 Sidewinder missiles

**DID YOU KNOW?**
The Fury was flown by 21 carrier-based fighter squadrons, including VF-33, assigned to Intrepid in 1957.

McDonnell (F3H-2N) F-3B Demon 1956

- **Length**: 58 ft 11 in (17.9 m)
- **Wingspan**: 35 ft 4 in (10.7 m)
- **Height**: 14 ft 7 in (4.4 m)

**SPECIFICATIONS:**
- **Max Weight**: 33,900 lb (15,374 kg)
- **Top Speed**: 647 mph (1,041 kph)
- **Ceiling**: 42,650 ft (12,999 m)
- **Armament**: 4x 20 mm Colt Mk 12 cannons, 6,000 lb (2,720 kg) of bombs, 4x AIM-7 Sparrow (F3H-2M) or 2x AIM-9 Sidewinder missiles

**DID YOU KNOW?**
The Demon was the first U.S. Navy jet which was comparable in all respects to its land-based contemporaries. It was a major design and evolutionary link to McDonnell’s phenomenal F-4 Phantom.
**Grumman (F11F-1) F-11A Tiger 1956**

- **Length:** 47 ft (14.3 m)
- **Wingspan:** 31.5 ft (9.6 m)
- **Height:** 13.3 ft (4.5 m)

**SPECIFICATIONS:**
- Max Weight: ................24,078 lb (10,919 kg)
- Top Speed: ................ 753 mph (1,212 kph)
- Ceiling:  .................... 42,000 ft (12,800 m)
- Armament: 4x 20 mm cannon, 4x AIM-9 Sidewinder missiles

**DID YOU KNOW?**
The Tiger was used throughout the 1960s by the Blue Angels flight demonstration team, and this aircraft was used as solo #5 during the 1961–1963 show seasons.

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**Douglas (A4D-2) A-4B Skyhawk 1956**

- **Length:** 39 ft 4 in (11.9 m)
- **Wingspan:** 27 ft 6 in (8.3 m)
- **Height:** 15 ft (4.5 m)

**SPECIFICATIONS:**
- Max Weight: ................18,300 lb (8,318 kg)
- Top Speed: ................ 675 mph (1,086 kph)
- Ceiling:  .................... 47,900 ft (14,599 m)
- Armament: 2x 20 mm Colt Mk 12 cannons with 100 rounds per gun, 10,000 lb (4,500 kg) of bombs, rockets, fuel tanks and missiles

**DID YOU KNOW?**
The wing of the A-4 Skyhawk is shaped like a triangle. Called a modified delta wing, it has a span of only 27.6 ft (8.3 m), and does not required heavy complicated folding mechanisms to fit in the hangar deck of aircraft carriers.
Vought (F8U-1) F-8K Crusader 1957

- Length: 54 ft 3 in (16.5 m)
- Wingspan: 35 ft 8 in (10.8 m)
- Height: 15 ft 9 in (4.8 m)

**SPECIFICATIONS:**
- Max Weight: 29,000 lb (13,155 kg)
- Top Speed: 1,322 mph (2,128 kph)
- Ceiling: 52,350 ft (15,956 m)
- Armament: 4x 20 mm Colt Mk 12 cannons with 144 rounds per gun, 4x AIM-9 Sidewinder missiles and 8x Zuni rockets

**DID YOU KNOW?**
The Crusader became the first aircraft to break the sound barrier on its maiden flight. The Crusader would become the fastest aircraft ever to be assigned to operate on Intrepid.

Grumman (WF-2) E-1B Tracer 1958

- Length: 45 ft 4 in (13.8 m)
- Wingspan: 72 ft 17 in (22.3 m)
- Height: 16 ft 10 in (5.1 m)

**SPECIFICATIONS:**
- Max Weight: 26,800 lb (12,156 kg)
- Top Speed: 253 mph (407 kph)
- Ceiling: 22,000 ft (4,815 m)
- Armament: None

**DID YOU KNOW?**
The E-1B Tracer has a large aerodynamic radome over the wing. This massive dish-type radar system has a search radius of some 250 miles (405 km).
### Mikoyan Gurevich MiG-21 PFM (NATO code name Fishbed F) 1959

- **Length:** 51 ft 8.5 in (15.7 m)
- **Wingspan:** 23 ft 5.5 in (7.1 m)
- **Height:** 13 ft 5.5 in (4.1 m)

**SPECIFICATIONS:**
- **Max Weight:** 20,723 lb (9,398 kg)
- **Top Speed:** 1,385 mph (2,228 kph)
- **Ceiling:** 50,030 ft (15,248 m)
- **Armament:** Centerline single or twin-barrel 23 mm cannon, up to 4,400 lb (2,000 kg) of weapons on the fuselage centerline or 4x under-wing hardpoints

**DID YOU KNOW?**
This MiG-21 is painted in a high-visibility paint scheme to represent its use by the Polish Air Force in NATO Tiger Meet competitions.

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### Bell UH-1A Iroquois “Huey” 1959

- **Length:** 38 ft 5 in (11.7 m)
- **Rotor span:** 44 ft (13.4 m)
- **Height:** 12 ft (3.6 m)

**SPECIFICATIONS:**
- **Max Weight:** 9,500 lb (4,309 kg)
- **Top Speed:** 141 mph (227 kph)
- **Ceiling:** 14,400 ft (4,388 m)
- **Armament:** None, but in later models: 1x 7.62 mm M240 machine gun, or 1x 7.62 mm GAU-17 machine gun, 2x 7-shot or 19-shot 2.75 in (70 mm) rocket pod

**DID YOU KNOW?**
The Huey was the first turbine-equipped Bell helicopter to go into production.
McDonnell
F-4N Phantom II 1960

- **Max Weight:** 58,000 lb (26,303 kg)
- **Top Speed:** 1,500 mph (2,415 kph)
- **Ceiling:** 50,000 ft (15,239 m)
- **Armament:** 4x AIM-9 Sidewinder infrared guided missiles, 4x AIM-7 Sparrow radar guided missiles, 18,650 lb (8,460 kg) of mixed air-to-ground ordnance.

**DID YOU KNOW?**
Developed for the U.S. Navy, the Phantom was one of the first fighters adopted by multiple armed services. More than 5,000 were produced and flown by American and foreign armed forces.

Sikorsky
HH-52A Sea Guardian 1961

- **Max Weight:** 8,100 lb (3,682 kg)
- **Top Speed:** 104 mph (167 kph)
- **Ceiling:** 11,200 ft (3,410 m)
- **Armament:** None

**DID YOU KNOW?**
HH-52s are directly credited with saving more than 15,000 people from life-threatening circumstances and assisting an additional 25,000 people in dangerous situations.
**Dassault Étendard IVM 1962**

- **Length:** 47 ft (14.4 m)
- **Wingspan:** 31.5 ft (9.6 m)
- **Height:** 12.5 ft (3.8 m)

**SPECIFICATIONS:**
- Max Weight: 22,656 lb (10,275 kg)
- Top Speed: 590 mph (1,100 kph)
- Ceiling: 50,800 ft (15,500 m)
- Armament: 2x 30 mm DEFA cannons, 4,600 lb (2,100 kg) of bombs, rockets and missiles, including the Exocet air-to-surface missile

**DID YOU KNOW?**
This French name means battle-standard or battle-flag.

**Grumman A-6E Intruder 1963**

- **Length:** 54 ft 7 in (16.6 m)
- **Wingspan:** 53 ft (16.2 m)
- **Height:** 15 ft 7 in (4.75 m)

**SPECIFICATIONS:**
- Max Weight: 34,996 lb (15,870 kg)
- Top Speed: 646 mph (1,040 kph)
- Ceiling: 40,600 ft (12,400 m)
- Armament: 18,000 lb (8,160 kg) of bombs, rockets and missiles

**DID YOU KNOW?**
This aircraft entered fleet service in 1963 as the world's first all-weather strike and attack aircraft.
SPECIFICATIONS:
• Max Weight: 120,000 lb (54,421 kg)
• Top Speed: 2,269 mph (3,651 kph)
• Ceiling: 84,978 ft (25,908 m)
• Armament: 3,500 lb (1,590 kg) of imaging sensors

DID YOU KNOW?
The A-12 Blackbird was equipped with high-power cameras that could take photos from 80,000 ft.

At the rate of speed and altitude the A-12 flew, this would create tremendous friction with the air that would heat up the plane's skin to over 1,000° F (438° C).
British Aerospace/McDonnell-Douglas
**AV-8C Harrier** 1969

- **Length:** 45 ft (13.7 m)
- **Wingspan:** 25 ft (7.6 m)
- **Height:** 11 ft (3.3 m)

**SPECIFICATIONS:**
- **Max Weight:** 26,000 lb (11,791 kg)
- **Top Speed:** 661 mph (1,060 kph)
- **Ceiling:** 75,000 ft (22,860 m)
- **Armament:** 2x 30 mm cannons, 9,000 lb external ordnance

**DID YOU KNOW?**
The AV-8C Harrier has the ability to land and take off vertically.

Bell
**AH-1J Sea Cobra** 1971

- **Length:** 44 ft (13.5 m)
- **Height:** 13.5 ft (4.1 m)
- **Rotor span:** 44 ft (13.4 m)

**SPECIFICATIONS:**
- **Max Weight:** 9,979 lb (4,536 kg)
- **Top Speed:** 219 mph (352 kph)
- **Ceiling:** 11,398 ft (3,475 m)
- **Armament:** M197 three barrel 20 mm gun with 750 rounds of ammo, under-wing attachments for 4x TOW missiles, 8x Hellfire missiles, or AIM-9L Sidewinder missile or Zuni rocket launcher

**DID YOU KNOW?**
The U.S. Marine Corps still flies a variant of this helicopter, the AH-1W Super Cobra.
**Grumman F-14 Tomcat 1974**

**SPECIFICATIONS:**
- Max Weight: 61,000 lb (28,000 kg)
- Top Speed: 1,544 mph (2,485 kph)
- Ceiling: 50,000 ft (16,000 m)
- Armament: M61 Vulcan 20 mm cannon, AIM-54 Phoenix, Mk-83 and Mk-84 series bombs

**DID YOU KNOW?**
The Tomcat was the fighter plane featured in the film *Top Gun*.

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**Israel Aircraft Industries Kfir C-2 1976**

**SPECIFICATIONS:**
- Max Weight: 36,376 lb (16,500 kg)
- Top Speed: 1,750 mph (2,816 kph)
- Ceiling: 58,000 ft (17,700 m)
- Armament: 2x 30 mm cannon, 13,415 lb (6,085 kg) of mixed ordnance of bombs, rockets and missiles

**DID YOU KNOW?**
Between 1985 and 1989 the U.S. Navy and Marine Corps leased 12 Kfirs from Israel to be used for training in what is called Dissimilar Air Combat Training. Given the designation F-21A, the Kfirs gave the American pilots experience against an adversary of unknown capability.
General Dynamics
F-16A Fighting Falcon 1978

SPECIFICATIONS:
• Max Weight: ................25,971 lb (11,778 kg)
• Top Speed: ............. 1,320 mph (2,125 kph)
• Ceiling: .................... 55,000 ft (15,240 m)
• Armament: M61 Vulcan 20 mm, 6x AIM-9 Sidewinder missiles, 6x AGM-65 Maverick, 4x AGM-88 HARM, 4x AGM-119 Penguin, various bombs including the Paveway series laser-guided bombs and B61 nuclear bombs

DID YOU KNOW?
The Falcon is nicknamed “Viper” after the “viper” fighters in the 1970s science fiction television series Battlestar Galactica.

Aermacchi
MB-339 1979

SPECIFICATIONS:
• Max Weight: ................14,000 lb (6,350 kg)
• Top Speed: ............... 496 mph (920 kph)
• Ceiling: .................... 46,000 ft (14,020 m)
• Armament: 4,000 lb (1,815 kg) of mixed ordnance of bombs, rockets, and missiles

DID YOU KNOW?
An Italian Air Force aircraft, the Museum’s MB-339 is painted in the colors of the “Frecce Tricolore”, the Three Colored Arrows of the Italian Air Force air demonstration team.
British Aerospace/Aérospatiale

**Concorde 1976**

- **Length**: 203.75 ft (62.1 m)
- **Wingspan**: 83.7 ft (25.5 m)
- **Height**: 37.1 ft (11.3 m)

**SPECIFICATIONS:**

- **Capacity**: 100 passengers and 2.5 tons of cargo
- **Cruising Speed**: 1,350 mph (2,150 kph/Mach Two)
- **Cruising Altitude**: 60,000 ft (18,181 m)
- **Fuel Capacity**: 31,568 gal (119,500 liters)
- **Fuel Consumption**: 6,770 gal (25,629 liters) per hour
- **Range**: 4,300 mi (6,880 km)
- **Max Weight**: 408,000 lb (185,065 kg)
- **Flight Crew**: Three (two pilots and one flight engineer)
- **Cabin Crew**: Six

**DID YOU KNOW?**

Due to friction heating, the Concorde expanded in length approximately eight inches during flight.
SPECIFICATIONS:

- **Weight:** .......................150,000 lb (68,180 kg)
- **Top Speed:** ................ 310 mph  (499 kph)
  This was top speed during the Approach and Landing Test program; **Enterprise** could reach speeds above 470 mph (756 kph) atop the Boeing 747 Shuttle Carrier Aircraft.
- **Ceiling:** .........................26,000 ft (7,925 m)
  This was the highest altitude that **Enterprise** was released from during the Approach and Landing Test program.

**DID YOU KNOW?**  **Enterprise** was the 1977 experimental prototype for orbital space shuttles that followed in 1981. During test flights atop a converted Boeing 747 carrier aircraft,
We invite you to join us in our mission to conserve and restore the Museum’s aircraft collection, by donating to the Aircraft Restoration Hangar Project. Visit us at intrepidmuseum.org and click on “Give and Join” to learn more.