

Japan's F-2 Support Fighter

Code One Magazine

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The F-2 Support Fighter is a single-engine multirole fighter aircraft operated by the Japan Air Self Defense Force, or JASDF. The aircraft, the successor of Mitsubishi F-1 fighter in Japan, was jointly developed in the mid- to late 1980s and jointly produced in the early 1990s by Mitsubishi Heavy Industries, a predecessor to Lockheed Martin Aeronautics Company, and other Japanese and US companies. Based on the F-16 Fighting Falcon, the F-2 was designed to meet the unique requirements of the JASDF. Although capable of both air-to-air and air-to-surface missions, the F-2 has been optimized for air-to-surface missions due to its primary mission of protecting Japan's sea lanes.



The F-2 Support Fighter is a multirole, single-engine fighter aircraft operated by the Japan Air Self Defense Force, or JASDF. Photo by Satoshi Akatsuka



The JASDF operates three F-2 tactical fighter squadrons and one F-2 training squadron. Photo by Ito Hisami



Many of the F-2's systems, including the fly-by-wire flight control system and integrated electronic warfare system, were developed in Japan. Photo by Satoshi Akatsuka



A total of ninety-eight F-2s were built, including four prototype XF-2 aircraft. The initial flight test program began in 1996 and ended in 2000, the same year that the first production F-2 was delivered to the JASDF. The last airframe was delivered in 2011. Photo by Ito Hisami



The F-2 is powered by a single General Electric F110-GE-129 engine, which produces more than 29,000 pounds of thrust. Photo by Ito Hisami



All F-2s carry a drag chute for landing. The chute is used regularly in icy conditions common in Japanese winters. Photo by Ito Hisami



The F-2 carries a variety of ordnance, including the ASM-2 antishipping missile that was developed in Japan. Photo by Ito Hisami



The F-2 incorporated a number of new technologies for its time. For example, it was the first production fighter to be equipped with an active electronically scanned array radar. The wings on the F-2 are made of fifty-five percent composite material by weight. Photo by Ito Hisami



F-2 can carry a wide range of weapons and pods. Photo by Ito Hisami



When the JASDF commemorated its sixtieth anniversary on 1 July 2014, many squadrons painted their aircraft in commemorative markings. This F-2 is from the 3rd TFS at Misawa. Photo by Satoshi Akatsuka



The F-2 is the first fighter aircraft in JASDF that adopted a glass cockpit. The F-2 cockpit has three full color multifunction displays showing radar, weapon information, terrain map, and electronic warfare information. The control stick is on the side of cockpit as in the F-16, F-22, and F-35. Photo by Katsuhiko Tokunaga



From a distance, an F-2 looks very similar to an F-16. When side-by-side, however, the differences are more apparent. The F-2 has a wing area that is approximately twenty-five percent larger than that of an F-16. The F-2 wingspan is more than five feet longer. Photo by Ito Hisami

The F-2 incorporated a number of pioneering technologies. For example, it was the first production fighter to be equipped with an Active Electronically Scanned Array, or AESA, radar. The F-2's wings were also constructed using fifty-five percent composite material by weight. Many of the aircraft's innovative systems, including the fly-by-wire flight control system and integrated electronic warfare system, were developed in Japan.

Production

A total of ninety-eight F-2s were built, including four prototype XF-2 aircraft. The initial flight test program began in 1996 and ended in 2000, the same year that the first production F-2 was delivered to the JASDF. The last airframe was delivered in 2011. F-2s were produced in two versions: the single-seat F-2A and the two-seat F-2B. The two-seat version is used primarily for pilot training.

F-16 Comparisons

From a distance, the F-2 looks very similar to an F-16. Side-by-side, however, the differences are more apparent. The F-2's wing area is approximately twenty-five percent larger than that of an F-16, and the F-2's wingspan is more than five feet wider. The F-2's larger wing allows it to carry more fuel internally and host two additional weapon stations. The horizontal tails, fuselage, and nose on the F-2 are also larger than those on an F-16. Unlike the F-16, the F-2 has a bow frame canopy. All F-2s also have a drag chute—which enable the aircraft to land on shorter runways—whereas drag chutes are optional on the F-16.

Improvements

An improvement program was launched shortly after the first production F-2s were delivered to take advantage of newly developed technologies. Some of the more prominent upgrades were the incorporation of the Joint Direct Attack Munition (JDAM), the AAM-4 active radar

missile developed by Mitsubishi, and a JASDF-compatible datalink. Most recently, in August 2015, the JASDF announced that it will outfit its F-2 fleet with the Lockheed Martin AN/AAQ-33 Sniper Advanced Targeting Pod.

Operational Units

The JASDF operates three F-2 tactical fighter squadrons and one F-2 training squadron. The 3rd Air Wing at Misawa Air Base in northern Japan is home to the first operational F-2 squadron, the 3rd Tactical Fighter Squadron. The squadron formally switched from F-1 fighters to the F-2 in March 2001. The 3rd TFS is also involved in researching and developing tactics for the F-2 fleet, including fighter tactics training courses.

The 3rd TFS was joined in March 2009 by the 8th TFS, which was the final F-2 squadron formed by the JASDF. The 8th TFS formerly flew the F-4E. The 3rd and 8th TFS are both responsible for the air defense of northern Japan. The 8th Wing and 6th TFS at Tsuiki Air Base in southern Japan are responsible for air defense of western Japan.

The 4th Wing at Matsushima Air Base, on the east coast of Japan, was home to the 21st Fighter Training Squadron, which trained F-2 pilots in the F-2B. The base was heavily damaged by a Tsunami in 2011 and all eighteen of the base's F-2Bs were damaged by sea water. F-2 students and instructor pilots moved their operations temporarily to Misawa Air Base, where they borrowed F-2Bs from the 3rd and 8th Squadrons. The damaged F-2Bs are being repaired by Mitsubishi Heavy Industries and Lockheed Martin. The 21st FTS is expected to return to normal training operations at Matsushima in 2017.