

JASDF unmanned target aircraft

The UF-104J is a full-scale unmanned target aircraft. Actually, 14 F-104J were converted to target aircraft, and between 1995 and 1997, all the F-104J were converted to unmanned target aircraft. All of them were shot down by F-4s and F-15s in the airspace around Iwo Jima after completing their missions as target aircraft between 1995 and 1997.

With the disbandment of the 207 Squadron on March 19, 1986, the operation of the F-104J as a fighter in the Air Self-Defense Force ended. At this point, there were 39 remaining F-104s that could fly, 4 of which were used by the APW (Air Proving Wing), a test unit of the JASDF at Gifu AB. The remaining 35 aircraft were collected and stored at the No. 2 Supply Depot at Gifu Air Base.

Some of the aircraft procured at the expense of the United States were returned to the United States after retirement, of which 23 F-104J and 5 F-104DJ were reissued to the Republic of China (Taiwan) Air Force.

In order to improve missile countermeasures techniques in line with the increased capabilities of combat aircraft, the Air Self-Defense Force decided to convert the decommissioned F-104J to an unmanned aircraft (drone) as a target aircraft with high speed, excellent mobility and the performance and characteristics of the actual aircraft, such as visibility, infrared radiation characteristics and radar reflection properties.

Around this time, research to convert this flyable F-104J to an unmanned target aircraft was started, and from March 1988, trial modifications were carried out by Mitsubishi factory using two F-104J. These two planes were '46-8600' and '46-8592'.

This is the 'YQF-104J Trial Modified Aircraft "Flight Safety Prayer Ceremony"' held at Mitsubishi Heavy Industries on December 7, 1989. It still has the 'Y' prefix, which stands for prototype. The 'Y' prefix was an 'onetime only' use.



(Photo source: Ikaros Publishing 'Air Self-Defense Force F-86/F-104')

Aircraft '46-8592' was Mitsubishi's first prototype and first aircraft to undergo modifications. It was used for development and was one of the two aircraft that a pilot could fly, which was critical to maintain capabilities during the operational period.

December 18, 1989 was the first flight of XQF-104J '46-8592' from Nagoya AB, the first test of the modified unmanned target aircraft.

June 1990 delivery to JASDF (Japan Air Self-Defense Force) and the designation change to QF-104J. Test were conducted at the APW (Air Proving Wing), a test unit of the JASDF at Gifu AB. October 1991 a successful remote control takeoff and landing test with a QF-104.

Following the delivery of two QF-104s to the Air Self-Defense Force, practical tests involving 147 missions were conducted by Air Proving Wing through March 1992. The major event in the development of the QF-104, a remotely controlled landing with complete unmanned drone, was successfully accomplished during practical tests in October 1991. In December 1991 test flights were finished.

'46-8592' rolled out at Komaki Air Base and headed for a test flight. It was originally named 'Q' for unmanned aircraft, but later changed to 'U' for multi-purpose aircraft, and was called UF-104J.



(Photo source: separate volume Aviation Information 'Lockheed/Mitsubishi F-104J/DJ')

In March 1992 the Wing got the approval for test flights. After various tests were conducted in Nagoya and Gifu, they were airlifted to Iwo Jima, where they underwent maintenance and flight training in order to conduct more detailed tests.

When the aircraft was airlifted, there was no hangar because the unit had not yet been established, and the wings were stacked in the only small hangar that existed.

In March 1992, the improved experimental aircraft was transferred to a "temporary unmanned aerial vehicle squadron" on Iwo Jima, where it continued its test operations. The squadron received its first order for six UF-104JA aircraft in 1993 and was officially established as the "UAV Operations Squadron" in March 1994.

In the 1992 budget, 6 production aircraft (for the first contract) were included. Unmanned QF-104 changed name to multi-purpose aircraft UF-104. The trial modified aircraft (manned operation possible) was called UF-104J, and the mass production aircraft (unmanned operation only) was called UF-104JA.

In 1993 6 planes were received for the first contract.

In the end, a total of 14 aircraft, including 2 UF-104Js and 12 UF-104JAs, were operated, including the 6 aircraft for the second contract.

'46-8592' is delivered to Iwo Jima Air Base for flight test. The 46-8592 and 46-8600, which are trial modifications, are capable of manned flight as well as remote control, and were used not only for test flights but also for training drone pilots.



(Photo source: separate volume Aviation Information 'Lockheed/Mitsubishi F-104J/DJ')

The two UF-104J were converted to the UF-104JA unmanned drone after testing was completed.

After that, a total of 14 Starfighters converted to UF-104JA target drone and all of them were shot down at firing range located near Iwo-Jima island, famous battlefield of WW2.

In addition, the UAV Operation Squadron adopted the Scorpion (white) and Southern Cross (yellow), a unit insignia typical of Iwo Jima.

UF-104J '46-8592' of the Unmanned Aircraft Operation Corps flying over Iwo Jima with the F-15J of the 7th Air Wing 305th Squadron. Following two trial modifications, 12 were modified to be unmanned-only production versions, designated UF-104JA. Two prototypes were later upgraded to the JA type, and the UF-104JA was operated with a total of 14 UF-104JAs.



(Photo source: Ikaros Publishing 'Air Self-Defense Force F-86/F-104')

UF-104J: 46-8592, 46-8600

UF-104JA: 36-3527, 46-3575, 46-3621, 46-3633, 46-3635, 76-3681, 76-3682, 76-3692, 76-3694, 76-3707, 76-3708, 76-3709

Note that on the production UF-104JA, the number after the dash in the serial number was changed from "8" for fighters to "3" for the drone aircraft.

Missile shooting training targeting UF-104JA started in 1995, and 14 aircraft were shot down in the following order.

46-3575 shot down March 21, 1995
76-3694 Shot down March 24, 1995
36-3527 shot down March 26, 1995
76-3709 shot down on February 21, 1996
76-3708 shot down on February 25, 1996
46-3621 shot down March 13, 1996
76-3707 Shot down March 24, 1996
46-3635 shot down March 25, 1996
76-3692 shot down March 28, 1996
76-3681 shot down on February 21, 1997
76-3682 shot down on February 25, 1997
46-3592 shot down March 10, 1997
46-3600 shot down March 11, 1997
46-3633 Shot down March 11, 1997

46-8592 was shot down on March 10, 1997 and sank into the sea. It has been 33 years since it was delivered in 1964.

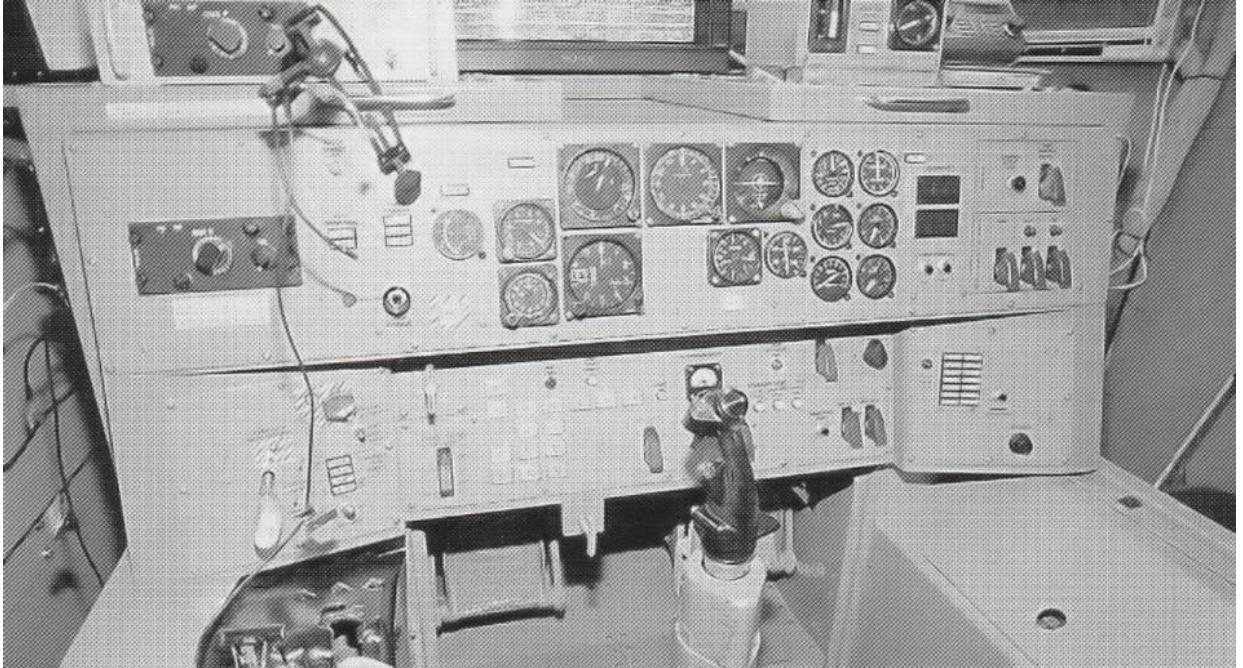
The F-104 of the Air Self-Defense Force made its first domestic flight on March 8, 1962, and the last two drones were shot down on March 11, 1997. 35 years of the era of 'Eiko' came to an end.

Cockpit of the UF-104J. The basic layout remains unchanged, but the radar unit in the center pedestal area was removed and a new control panel for the UAV system was installed, with a new radio altimeter next to it.

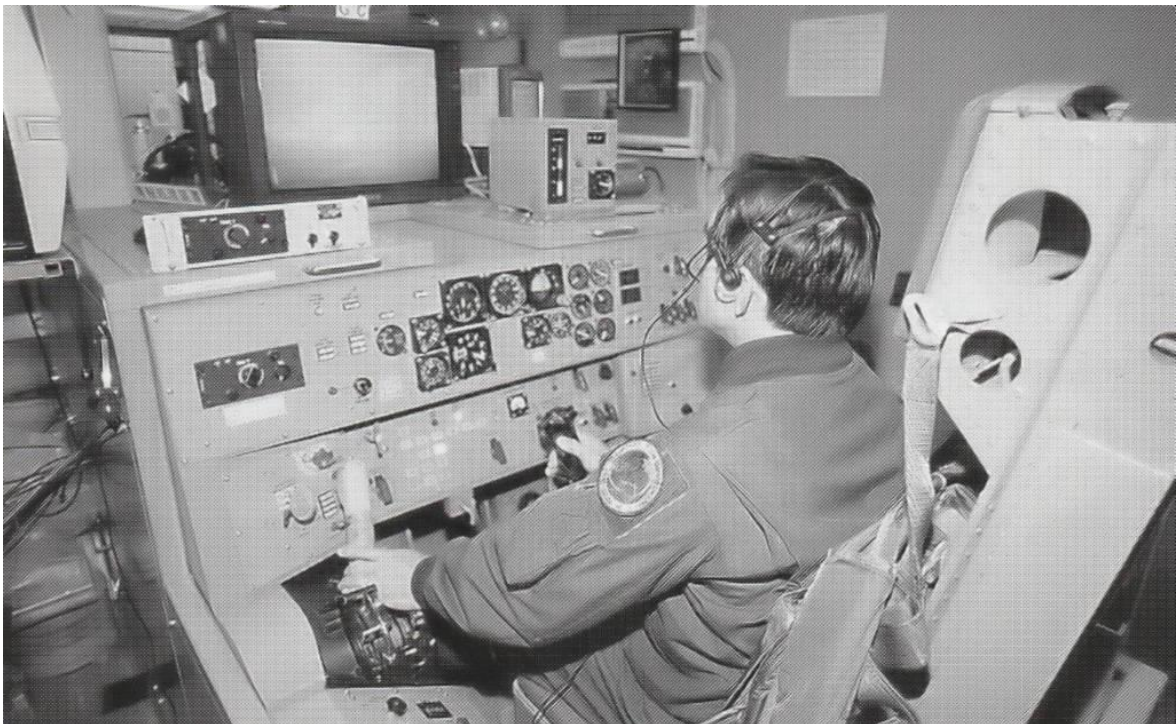


Remote control system, ground cockpit

In addition to the basic instruments, the ground cockpit contains various instruments and switches that allow remote control from the ground. The pilot on the ground controls the aircraft by looking at the front monitor and instruments, which show the images transmitted by the aircraft. Control command signals are transmitted via data link and reflected in the aircraft. The system is based on a fail-safe concept with two configurations that ensures a high level of safety in autonomous flight mode even in the event of communication failures.



Pilot performs remote control. The monitor in front of the aircraft displays not only the images from the camera, but also various indicators that enable the pilot to steer the aircraft to a safe course during landing by placing the leading indicators within the reference circle. Launch and landing maneuver assistance (LTO) is also provided to ease the pilot's workload.



Notes:

A TV-camera is installed in front of the cockpit at the pilot's eye level. This image is transmitted to the ground in real time via downlink.

Electronics compartment behind the cockpit. Inside is the heart of the UF-104 system, the Unmanned Aircraft Control Computer (DFCC), a digital computer with 0.8 MIPS power that can operate at up to 80 Hz.

The UF-104s were painted red on the tail and auxiliary tanks to improve visibility. In addition to the polyurethane-painted aircraft used at Naha, the aircraft were also overhauled with the normal silver paint.

Ground-based transmit and receive antennas and protected ground system. Two 8-foot-diameter Cassegrain parabolic antennas are installed on a 25-m-high tower and have a range of up to 200 NM, using the C-band for data links to the aircraft.

Iwo Jima was also used as a relay base for the U.S. military. It is now gone, but it was used as a relay base for the U.S. military in those days.

Although it is no longer there, the U.S. Coast Guard was located there at the time.

C-130s and other aircraft on regular flights could be seen.

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Japan F-104 Chronology

<https://sacpon118.blog.fc2.com/blog-entry-2397.html>

Deployment and operation status of the F-104 in the Air Self-Defense Force in chronology.

November 6, 1959: The National Defense Council decided to domestically produce 180 F-104s and 20 training aircraft (two-seat type), a total of 200 aircraft, by 1965.

January 26, 1960: At a cabinet meeting, it was decided that the total price for procuring 200 F-104 aircraft would be approximately 96.8 billion yen.

April 15, 1960: The US government has decided to bear 28% of the cost of Japan's F-104 procurement plan. By March 1961, it was decided that 3 fighter-type J-type aircraft would be imported as completed aircraft, 17 aircraft would be knockdown-produced, 160 aircraft would be licensed domestically, and all 20 trainer-type DJ aircraft would be imported as completed aircraft. . (first production)

November 1, 1960: The F-104J Domestic Production Committee was established at the Defense Agency (at that time).

March 31, 1961: The Defense Agency Procurement Implementation Headquarters officially signed contracts with eight domestic manufacturers, including Shin Mitsubishi Heavy Industries (at that time), the main contractor. The price per unit is about 480 million yen.

June 30, 1961: The first F-104J '26-8501' makes its first flight in the United States.

August 26th: The first F-104DJ '16-5001' makes its first flight in the United States.

September: Seven 1st phase pilot personnel (instructors) were dispatched to the United States.

February 8, 1962

'26-8501' will remain in the United States for testing, and Unit 2 '26-8502' will be brought to Japan first. In the same month, the first knockdown machine '26-8504' was completed.

Same March 8

'26-8502', which was brought in earlier, will have its model number changed to '16-5001' and will be the first registered model. The real '16-5001' located in the United States will be changed to '26-8505.' The second and first aircraft will make its first flight in Japan on this day.

March 22, 1962: A temporary F-104 training unit was launched at Chitose base (training was initially conducted at Komaki base).

April 1, 1962: Unit 2 and Unit 1 will be received by the Air Self-Defense Force.

May 20, 1962: The first unit was exhibited on the US 3rd Army Day held at Yokota Air Base, and the F-104J was unveiled to the public for the first time.

Fiscal 1962 deliveries: 24 J models, 10 DJ models

March 8, 1963: The Temporary F-104 Training Corps was reorganized into the 201st Squadron and transferred to the 2nd Air Wing.

April 10th: The 201st Squadron's F-104J '26-8504' crashed, the first major accident of the F-104.

Fiscal 1963 deliveries: 60 J-types, 9 DJ-types.

March 31, 1964: 202nd Squadron was established at Nyutabaru Air Base and was incorporated into the 5th Air Wing.

June 25, 1964: 203rd Squadron was established at Chitose Air Base and was incorporated into the 2nd Air Wing.

October 1, 1964: 202nd Squadron, the F-104 unit, will take the first anti-aircraft intrusion (AD) mission.

December 1, 1964: 201st Squadron is assigned to anti-aircraft intrusion measures.(Air Defence task)

December 1, 1964: 204th Squadron was established at Nyutabaru Air Base and was incorporated into the 5th Air Wing.

Fiscal 1964 deliveries: 96 J models, 1 DJ model.

March 17, 1965: Delivered the 180th aircraft '56-8680', the final machine of the J type for the first production, and completed the delivery of 200 machines for the first production including the DJ type

March 31, 1965: 205th Squadron was launched at Komatsu Air Base and was incorporated into the 6th Air Wing.

December 8, 1965: A contract has been concluded for the additional production of 30 F-104Js (secondary production).

December 20 1965: 206th Squadron was established at Hyakuri Base and was incorporated into the 7th Air Wing.

March 31, 1966: 207th Squadron was launched at Hyakuri Base and was incorporated into the 7th Air Wing.

January 20, 1967: Delivered the first machine '76-8681' for the second production.

December 2, 1967: F-104 procurement plan for a total of 230 F-104s, including 210 J-types and 20 DJ-types, has been delivered.

November 7, 1972: 207th Squadron moved to Naha base and joined the 83rd Squadron.

October 1, 1975: 201st Squadron disbanded (12 years later, in March 1986, it revived as F-15 unit).

December 1, 1978: 206th Squadron was disbanded.

June 30, 1981: 205th Squadron is disbanded.

December 20, 1982: 202nd Squadron disbanded (on the 21st, the temporary F-15 Squadron was reorganized and launched as the 202nd Squadron)

March 24, 1984: 203rd Squadron was reorganized into an F-15 unit.

November 5th (until 8th) 1984: 1984 Combat Skills Competition was held at Komatsu Air Base, the final battle for the F-104 Unit (207th Squadron).

March 2, 1985: 204th Squadron was reorganized into an F-15 unit, moved to Hyakuri Base and incorporated into the 7th Air Wing.

March 19, 1986: 207th Squadron was disbanded.

In the 1986 budget, research expenses for converting the remaining movable F-104 into an unmanned target aircraft were recorded.

1987 (Showa 62, Japanese calendar year 62): R&D expenses for the F-104 converted unmanned target aircraft were included in the 1987 budget.

1988 (Showa 63, Japanese calendar year 63): Continued to include R&D expenses in the 1988 budget.

March 1989 (Heisei 1 Japanese calendar year 1): The F-104J used by the aviation test team was removed from the register.

December 18, 1989: First flight of QF-104J '46-8592', the first test modified unmanned target aircraft.

October 1991: Successful remote control takeoff and landing test with QF-104.

March 1992 (Heisei 4): 'A temporary unmanned aerial vehicle operation team was launched.'

In the 1992 budget, 6 mass-produced machines (for the first contract) were included. Unmanned aerial vehicle QF-104 changed name to multi-purpose aircraft UF-104. The trial modified aircraft (manned operation possible) is called UF-104J, and the mass production aircraft (unmanned operation only) is called UF-104JA.

1993 (Heisei 5): Received 6 planes for the first contract in 1993.

March 1994 (Heisei 6)

The temporary unmanned aircraft operation team was reorganized into the unmanned aircraft operation team. In the end, a total of 14 aircraft, including 2 UF-104Js and 12 UF-104JAs, were operated, including the 6 aircraft for the second contract.

March 24, 1995: First shot down of an unmanned aerial vehicle during shooting training.

Three planes were shot down in 1995

1996 (Heisei 8): 6 planes were shot down in 1996

March 11, 1997: shoot down 2 remaining drones during shooting training. With this, the number of fightable F-104s in the Air Self-Defense Force will be zero.

Five planes were shot down in 1997