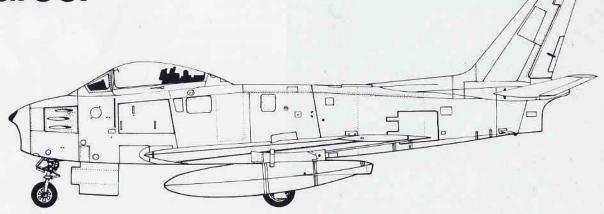


F-86 Sabre in action

by Larry Davis illustrated by Don Greer





squadron/signal publications



[Cover] "Nina" and "Lady Margaret", F-86Es of 25FIS, 51FIW take off from the runway at Sawon AFB, Korea in 1952. "Nina", sporting two victory stars, was the personal aircraft of the wing commander.

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List of Contributors

U.S. Air Force North American Aviation Gene Boswell Jack larussi M/Sqt. David W. Menard, USAF Sqt. Marty Isham, USAF U.S. Air Force Museum Mrs Vivian White Dave Wilder Jerry Campbell Ron Picciani Robert L. Lawson Mick Roth Albert Evans, Colonel, USAF Ret. Ray Beale American Aviaton Historical Society Flight Systems Inc. Italian Air Force The Netherlands Air Force Donald Miller Fred Chapman Harvey Brown, USAF Ret. Colonel John Ludwig, USAF

Dedication

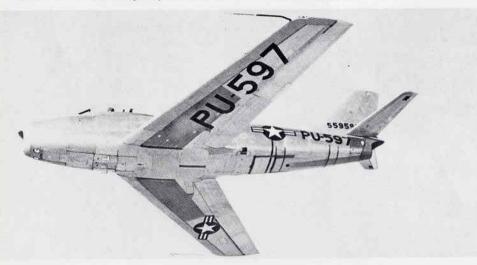
This book is dedicated to Cheryl and Mom, who've put up with a lot of Sabres through the years.

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Original XP-86 design was based on the FJ-1 Fury. But the straight-wing design would not allow the 600 mph speed that Air Force wanted. [NAA]



45-59597, the first swept-wing XP-86 in flight over Muroc Army Air Base in 1947. Note the 'pursuit' buzz number. [NAA]

All three XP-86s, -597, -598, -599, in flight over the California desert in 1948. [AFM]



F-86 Sabre

In 1944, the war in Europe was moving towards culmination. The Atlantic Wall had been breached, Russian forces were approaching German soil, and the Allied Air Forces pounded German cities every day and night. But the Germans did not die easily. They unveiled three weapons of the future - the V-1, V-2, and a jet propelled interceptor - the Me 262. The Me 262 so revolutionized aerial warfare that, if used correctly, it could have halted the allied air offensive. However, decisions at the very top of the German General Staff rendered the Me 262, as a weapons system, practically useless.

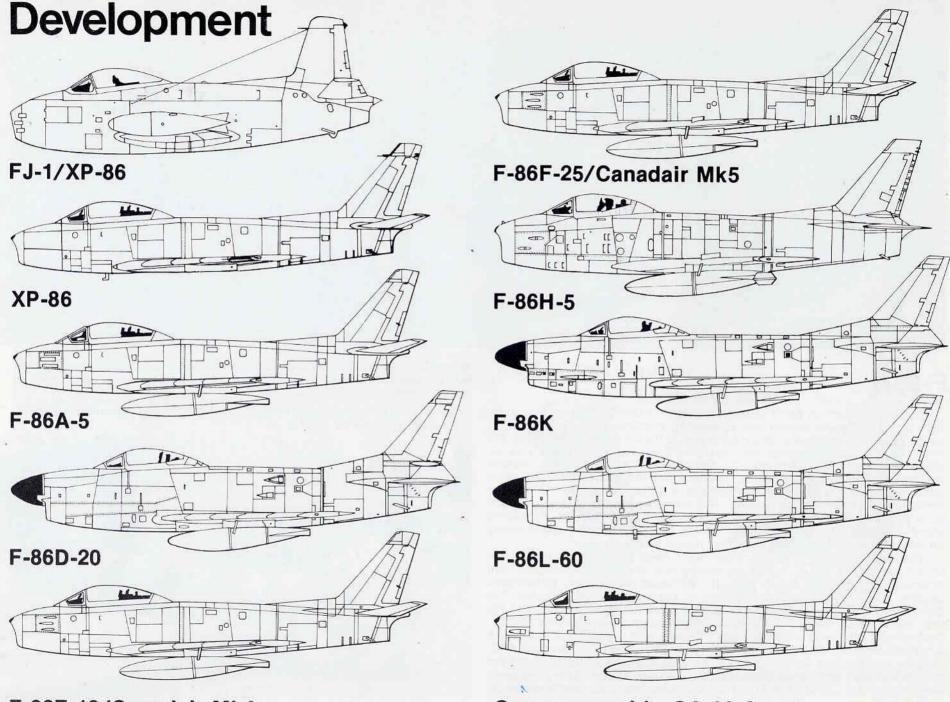
The fact that the Germans had been able to produce so advanced a fighter well before similar American projects bore fruit came as a profound jolt to US Army Air Force strategy. The Bell P-59 Airacomet was already flying, and the Lockheed XP-80 was almost ready for testing, but obviously plans had to be made to counter the logical next-generation of German (or if necessary, Russian) jet fighters. In November 1944, North American Aviation initiated a design study for a high performance fighter aircraft, to be powered by a turbojet engine. The design was submitted to Army Air Force Hotrs, and on May 18, 1945, 10 days after VE Day, a letter contract for three XP-86 aircraft

was approved.

On June 20, 1945, a mockup of the XP-86 was unveiled. Quite similar to the US Navy XFJ-1 Fury, the XP-86 had the straight wing and stabilizer planform of the P-51 Mustang. It differed from the Fury in that the fuselage was longer and the wing were thinner, making the XP-86 a much sleeker aircraft. But with the available engine, a General Electric J35 axial flow turbojet, the XP-86 could not meet the Army Air Force requirement of a 600 mph top speed. In September 1945, it was decided to investigate use of swept wings on the basic XP-86 airframe. Captured German studies of swept wings showed a definite advantage and a marked increase in top speed. It was this decision that would ultimately create one of the greatest weapons in aerial combat history - the F-86 Sabre. No less than 31 Air Forces would use the F-86 in one of its 11 major variants.

In November 1945, the swept wing XP-86 proposal was accepted by the Army Air Force. Many problems were created by the swept wing design, the greatest being poor low speed characteristics created by wing tip stall. An indepth study of the use of leading edge slats, as used on the Me 262, was conducted. It was determined through wind tunnel testing that installation of leading edge slats that responded automatically to the aerodynamic forces on the wing eliminated the poor low speed characteristics of the swept wing. It should be noted that North American Aviation's Los Angeles plant had the only wind tunnel capable of conducting these tests anywhere in America.

On August 8, 1947, the first XP-86, #45-59597, rolled out of the North American's Inglewood, California plant. On October 1, 1947, George "Wheaties" Welch, chief test pilot for North American, lifted the XP-86 off the Muroc Army Air Base runway for the first time. It also was almost the last time as the nose gear failed to extend. But after repairs, testing continued. On April 26, 1948, Welch dove the XP-86 and broke Mach One for the first time in a production aircraft. In fact, it was only the second time any aircraft had attained Mach One - Chuck Yeager had done it in the Bell XS-1 in October 1947. Except for the GE J35 engine and a lack of armament, the XP-86 was virtually identical to production F-86s. Three XP-86s were built, #-597, 598, and 599. #597 crashed in September 1952, but #598 and #599 continued in test programs until retired in April 1953.



F-86E-10/Canadair Mk4 Commonwealth CA-32 Sabre



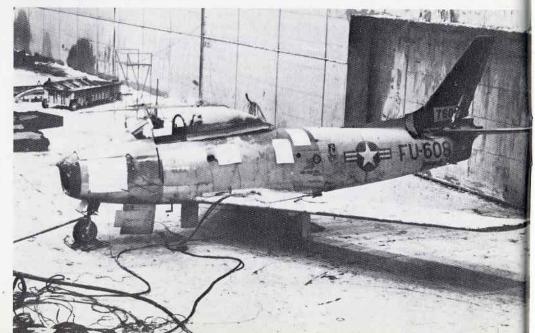
F-86A

The first production Sabre variant, the F-86A-1 #47-605, made its first flight on May 20, 1948. The aircraft was powered by the General Electric J47-GE-1, which produced 5200 lbs. of thrust compared to the 4000 lbs. output of the J35 in the XP-86s. North American and the US Air Force decided to make a try for the official world speed record. On September 5, 1948, at the Cleveland National Air Races, Major Robert L. Johnson flew the F-86A-1, #47-611 to an unofficial record of 669.480 mph. Problems with the timers and the weather prevented the record from standing. But on September 15, Major Johnson again put #47-611 through its paces over Muroc Dry Lake. This time the record stood - 670.981 mph. North American officials bragged that every Sabre rolling off the assembly line could break that record at any time.

There were 33 F-86A-1s built, most being used in tests. The next major variant was the F-86A-5. It was equipped with the J47-GE-7 engine, and otherwise differed from the A-1s by its V-Shaped windscreen, jettisonable canopy, and internal modifications such as heated gun compartments. The 94th Fighter Squadron of the 1st Fighter Group, at March AFB, Calif. was the first unit in the US Air Force to put the F-86A Sabres into operational service. Coincidently, the 94th was the unit charged with defense of the North American facilities at Inglewood. The 4th Fighter Group at Langley AFB, Virginia, and the 81st Fighter Group at Kirtland AFB, New Mexico, were the next two units to receive the Sabre. The 4th FGp was assigned the defense of Washington D.C., while the 81st FGp defended the atom bomb plants at Alamogordo.

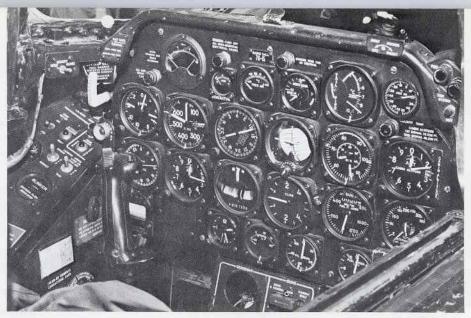
Major Robt. Johnson talks to North American engineers Tony Weissenberger [3rd from left] and Raymond Rice [extreme right] prior to setting the world speed record in F-86A-1 #47-611, Sept. 15, 1948. [NAA]

47-608, an F-86A-1 in the Climatic Hanger at Eglin AFB, Florida. Temperature is -65 $^{\circ}$ F. Note Artic paint scheme. [USAF]









F-86A-1 instrument panel from the world record holder. Cockpit color for all As was black. [USAF]



Pilots of the 94th Fighter Squadron, 1st Fighter Group, are shown receiving the first operational F-86A Sabres. 94th was based at March AFB, Calif., and defended the North American plant. [NAA]







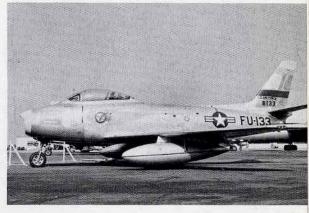


[Center Left & Above] 49-1131 was used by Air Training Command to test use of 5 inch rockets for ground support role, firing rockets, showing the launchers. [NAA]

[Top Left] F-86A-5#49-1172, was fitted with a refueling recepticle in the nose where the radar gear would have been. Tests were successful but installation was never incorporated in Sabre design. [NAA]

Boresighting the six .50 calibre machine guns. [AFM]





48-133 flew with the 27th FS at March AFB. Fuselage flash and upper tail stripe are yellow, lower stripe is red. Note the 206 gallon ferry tanks. [M/Sgt. David Menard]

A 94th FS F-86A-1 after delivery in 1949. Note open ammo bay door used as a step, and gun 'doors' used on early As. [NAA]

48-151 on the ramp at March AFB, where she served with the 71st FS. Light colored area are natural fiberglass, not 'day-glo' paint. [NAA]

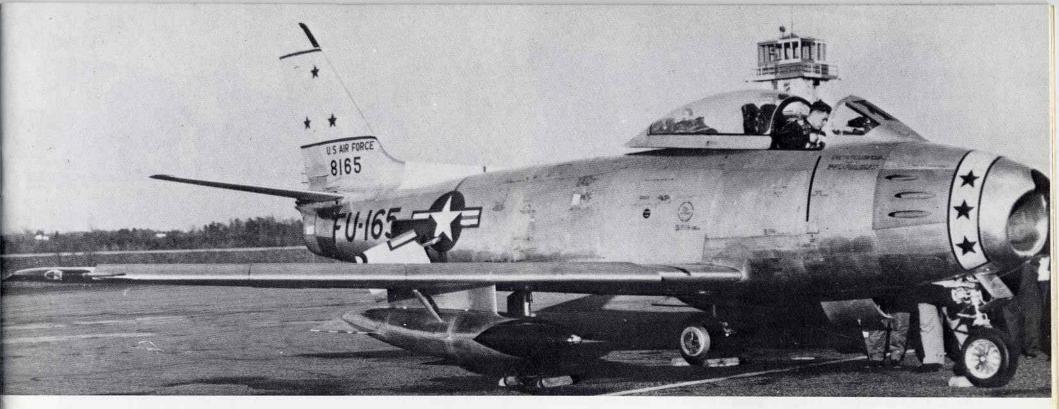




'Cadillac Flight'
was part of the
Fighter School
at Las Vegas
AFB, later NeIlis AFB [NAA].



The 4th FG at Langley AFB, Virginia, also had a team, the 'Silver Sabres'. Note the yellow bands on upper wing and stablizer surfaces, which is the 335th FS color. [USAF]

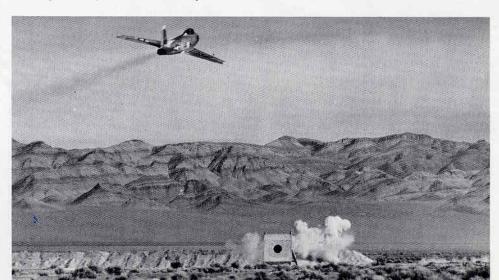




The 27th FIS flew F-86A-5s such as 48-165 out of Griffis AFB in 1951. Nose and tail colors are yellow with black stars. [Dorr via Isham]

The 'Sabre Dancers' an aerobatic team from the 94th FS. [USAF]

An F-86A-5 from the 335th FS completes a firing pass at the 1949 Las Vegas AFB Gunnery Meet. [Col. Albert Evans]



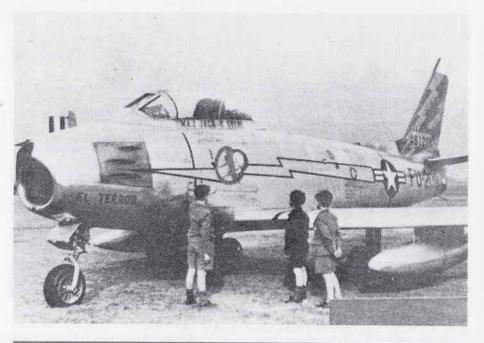




The 61st FIS, of the 56th FG, manned the alert facilities at O'Hare International Airport with F-86A-5s such as 49-1028. Doors on 'alert barns' would swing open in 30 seconds. 61st FIS colors were yellow with black stars. [USAF]

49-1293 was the squadron COs aircraft of the 93rd FIS based at Kirtland AFB, New Mexico. Stripes are red and white. [USAF via Beale]









The 81st FIG was the first USAF unit stationed in Great Britain after World War II. [Above Left] 49-1209 "El Terror", was from the 92nd FIS based at Bentwaters RAF base. [Below Left] 49-1081 carries the later markings of the 81st FIW, a red nose band and yellow and black stripes on tail and wings. [Below] Col. Harrison Thyng flew 49-1122 when he was CO of the 33rd FIW at Otis AFB. [USAF, Picciani Aircraft Slides, USAF via Isham]





The F-86C/YF-93A in its original configuration with the flush intakes. [USAF]

F-86B&C

The F-86B was a 'still-born' variant that was to have met a USAF requirement for larger tires on the F-86. That would have meant an additional 7 inches in the width of the fuselage. Fortunately, tire and brake improvements in 1949 permitted a return to the original tire size. The F-86Bs were then replaced with 188 additional F-86A-5s and two F-86Cs. The F-86C was to have been a long range escort fighter, powered by the Pratt & Whitney J48 engine with afterburner. It would have had intake ducts on the fuselage sides, 6 20mm cannon, and a nose full of radar. The J48-P-1 with afterburner and 8000 lbs. thrust would have pushed the F-86C, much larger than the F-86A, to a top speed of 708 mph. Later designated the YF-93, the two prototypes were used by NACA in test programs. Production of the F-86C/F-93 was cancelled in 1949 in favor of more bombers for USAF.



The first YF-86D, #50-577, on rollout from the North American plant in Los Angeles. Note the F-86A canopy and windscreen. [NAA]

50-574, an F-86D-15, lets loose a barrage of 2.75 inch Mighty Mouse rockets. [USAF]



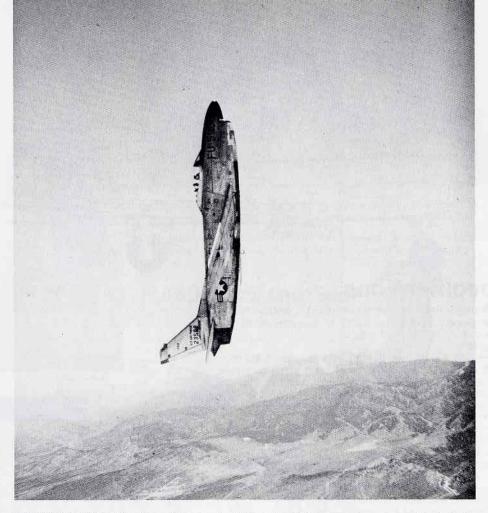
F-86D

1949 saw North American initiate a design study into the feasibility of using the F-86 basic design as an all-weather intercepter. The USAF was immediately interested and given the impetus of the Soviets exploding their first Atom Bomb, a contract for 2 YF-86Ds and 122 F-86Ds was let. The YF-86Ds, #50-577 and 50-578, were actually converted F-86As. The fuselage was lengthened and deepened to accomodate the J47-GE-17 engine with afterburner. But the wings, V-shaped windscreen and canopy were straight from the F-86A. A large (30 inch) plastic radome was added to the nose to cover the AN-APG-36 search radar. This necessitated lowering and widening the intake. Armament was to be 24 2.75 inch rockets in a retractible tray in the fuselage bottom.

Now designated the F-95A, the interceptor Sabre was very radical with its 'single man interceptor' concept. All previous interceptors had, by necessity, two man crews; one flew the airplane and one handled the intercept. The pilot of the F-95A/F-86D would do both. That is, the pilot and the computers. A completely computerized engine control system would monitor the J47 while the autopilot flew the airplane. This left the 'man pilot' free to handle the problems involved in the intercept. He would work with the highly sophisticated Hughes Aircraft Corp. E-4 Fire Control System to make an almost sure kill with the 2.75" Mighty Mouse Rockets. The 'single man interceptor' concept was here and North American officials would say that the next step would be completely electronic interception with no pilot at all. At this time, the US Air Force decided it was much easier to get the US Congress to appropriate money to "develop an already proven design" than for an entirely new aircraft design. Therefore, on July 24, 1950, the F-95A designation was reverted back to F-86D, even though only 25% of the original design remained.

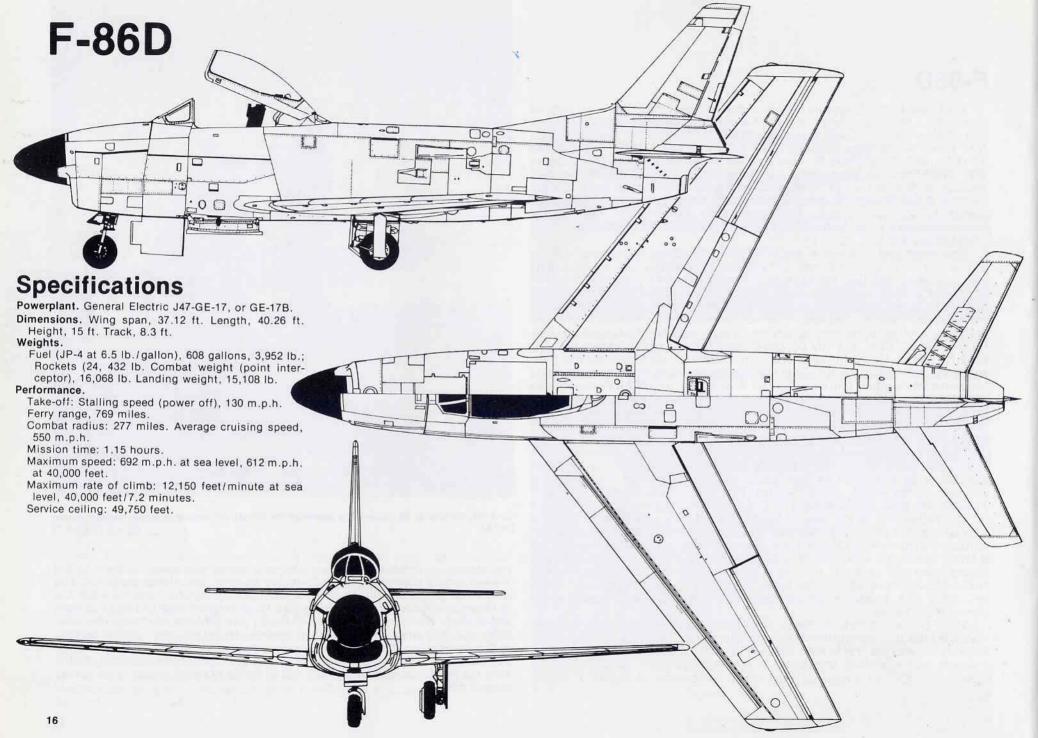
For an airplane weighing some 2500 lbs. more than its predecessor the F-86A, the 'Sabre Dogs' were extremely fast. Fast enough that the Air Force decided to try and break its own world speed record, then held by Major Johnson in the F-86A. On November 19, 1952, Capt. Slade Nash lifted F-86D-20 #51-2945 off the runway at El Centro Naval Air Station, and headed for the Salton Sea, a dry lake in Southern California. It was here that-a 3 kilometer speed course had been set up for his attempt on the record. At an altitude of slightly over 100 feet, Capt. Nash went over the course the required 4 times. End result - 698.505 mph, a new world record by some 28 mph. The record stood only 8 months. On July 17, 1953, Lt. Col. Wm. F. Barnes flew the first F-86D-35, #51-6145, over the same Salton Sea course at an average speed of 715.697 mph. It marked the third consecutive absolute world speed record for the F-86 Sabres.

The F-86D was constantly being modified throughout its career. Advances in electronics and more efficient powerplants being the usual modifications. The F-86D-5 was the first to have the E-4 Fire Control System. D-10 introduced a power rudder without trim tabs. D-15 had single-point ground refueling capacity. D-25s had droppable wing tanks for combat missions. The D-30



52-3598, the first D-40, shows the power of its J47-GE-17 engine in a near vertical climb. [NAA]

introduced an automatic approach control, along with reverting back to the manual rudder with trim tabs. D-35 added an omni-directional range set. The D-40s were powered with the new J47-GE-17B engine, which put out 7500 lbs. of thrust in afterburner. D-45s were the first to employ drag chutes, and from #52-4136 on, were powered by the J47-GE-33 with 7650 lbs. of thrust. The D-50, D-55, and D-60 were all quite similar, having internal electronic modifications. In September 1955, the last F-86D was accepted by Air Defense Command. To say that the Air Force was happy with the D is a great understatement. At the time the last D was accepted, ADC had 30 wings of interceptors - 20 of which were F-86Ds.





Closeup showing the rocket tray and nose gear. [Smithsonian]

Open inverter bays and radar show the electronic guts of 'one-man interceptor' concept. Interior areas are painted dark green. [Dave Wilder]







51-2945, after setting the world record at 698 mph. [NAA]

Capt. Slade Nash enters the Salton Sea speed trap at an altitude of 100 feet, on the way to the World Speed Record. [NAA]



51-6145, the F-86D-35 that Lt. Col. Wm. Barnes flew to a 715 mph world record in July, 1953. Note that the aircraft has 'wing fences', a device never used on production Ds. [NAA]





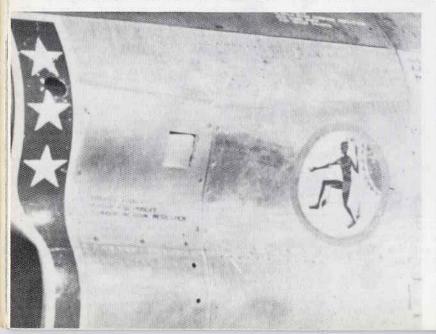


[Right] Insignia of the 496th FIS, a tan dog riding a red rocket, was carried on both sides of the tail. [Dave Wilder]

[Below Right] 'Triple Zilch', 52-4000, was a D-45 that flew with the 4th FIS from Misawa AB, Japan. [Brewer via Menard]

The 'Skinny Indian' emblem was worn on both sides of the nose of 37th FIS Ds. [Isham]



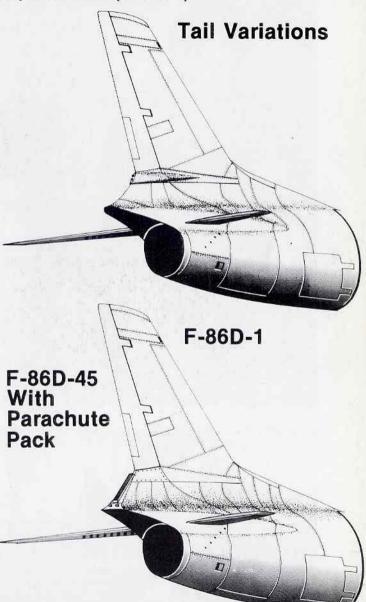








The 496th FIS flew F-86D-45s as part of the NATO defense of Europe. 52-3927 was the squadron COs aircraft. The stripes are yellow and black. [Dave Wilder]



One of the wilder schemes on a D is on 51-8473 from the 497th FIS at Geiger Field, Washington, circa 1956. All flashes and stripes are black and white. [Smithsonian]



51-3013, a D-20 from the 331st FIS, is as immaculate as you can get for an operational aircraft. Day-Glo markings are typical for this time period-1959. [Fitzgibbon via Isham]



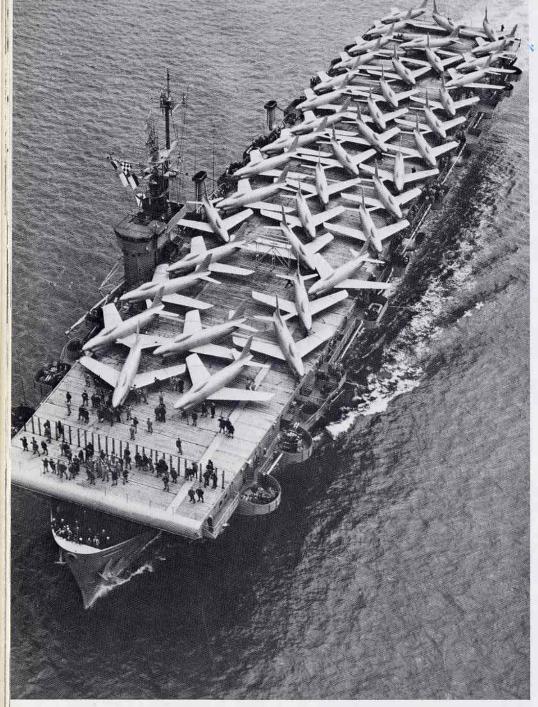
53-4087 is a 329th FG F-86L out of Steward AFB, NY circa 1957. Note ADC 'victory flags' on nose. Tail band is red/black with a white Eagle. [USAF via Isham]

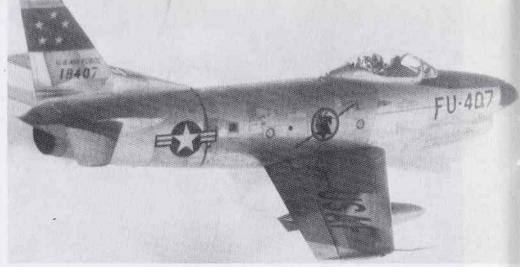




Fine in flight shot of 51-8437, a D-35 from the 13th FIS. [Buchanen via Isham]

51-3106 flew with the 71st FIS as part of the 56th FG. 56th tail markings are a white star, trailing white and red flash, outlined in blue. [Dorr via Isham]





51-8407, a D-35 from the 2nd FIS. Tail band is red with white stars. [Dorr via Isham]

Without inflight refueling, Sabres that were stationed outside the ZI [Zone of Interior] usually were shipped on carriers. This is the 440th FIS and 496th FIS aboard the USS Tripoli bound for Europe in June 1954. All the aircraft have anti-corrosion covering on them. [Wilder]

51-6244 in flight over the Pacific Ocean near Japan. The black and white checkertail indicates she is from the 51st FIW. Nose stripes and tail tip are blue and white, the colors of the 16th FIS. [Picciani Aircraft Slide]



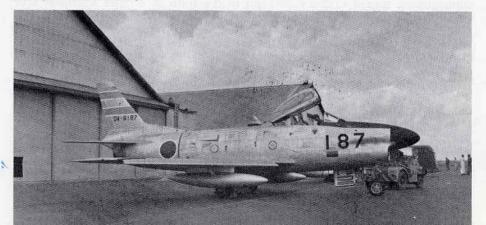


Ju-9.05, U.S. AIR FORCE

52-3840, a D-40, was a member of the famous 'Geiger Tigers', the 520th FIS. Unit later became the 498th FIS but retained its 'sharkmouth'. [USAF]

The red tail with pentagonal star design indicates that 53-905, a D-60, was from the 332nd FIS. Slats, gear doors, and dive brakes, all 'bled' down after engine shutdown. [USAF]

The Japanese Air Self Defense Force received some 100 ex-USAF F-86Ds in 1958. [M/Sgt. David Menard]





50-579 was the first F-86E. It is shown late in its life when it served as a chase plane for North American. Note the v-shape windscreen used on A-5s and early Es. [NAA]

F-86E&F

Throughout the period of development of the F-86D, North American and the Air Force continued striving to improve the basic 'day fighter' design - the F-86A. The result being the F-86E. When #50-579, the first F-86E, rolled out, it appeared to be exactly the same as the A. But on closer examination, a large fairing just below the vertical tail was evident. This fairing housed the controls for the power operated 'all flying tail' along with full hydraulic operation of the ailerons, resulted in greater control throughout the transonic speed range. Control reversal, where outside aerodynamic forces were transmitted back to the stick during combat maneuvers, was eliminated. This system was subsequently added to the F-86D but in the form of a 'slab stabilizer' and elevator. The 'all flying tail' was virtually the only change between the A and F-86E, although starting with the E-10, a new flat windscreen was installed. The F-86E-6 was nothing more than a standard Canadair Mk. 4 in USAF markings, 60 of which were ordered by USAF to help build up the Sabre inventory.

A simple engine change created the original F-86F. But later wing modifications would create the ultimate in day fighter designs, an aircraft capable of toting 2000 lbs of ordinance, plus external fuel tanks, bomb the target, then drop tanks and mix it up with the MiGs in a most successful manner. The F-86Fs would fight in four different wars and be successful against all types of MiGs, including the vaunted MiG 21. After some delays in engine procurement, the first F-86F-1, with J47-GE-27 engine rated at 5910 lbs thrust, took to the air on March 19, 1952. They were immediately rushed to

Korea. With the arrival of the F-86Fs, the fate of the MiGs was sealed.

The installation of the -27 engine raised performance figures to all time highs, top speed at sea level went to 693 mph, rate of climb rose over 2000 feet/minute - to 9300 ft/min. The F-86F-5 had strengthened underwing shackles which could handle 200 gallon drop tanks instead of the earlier 120 gallon type. This added 20 minutes 'loiter time' to the total mission time. The F-86F-10 added the new radar ranging A-4 gunsight and the F-15 had some internal control modifications. But further delays in procurement of the -27 engines resulted in 93 out of the 100 F-15s to be powered by the -13 engine of the F-86E. Subsequently, they were redesignated F-86E-15.

It was on the F-86F-25 and F-30 that the famed '6-3' wing came into being. The -25 and -30 originally differed from other Fs by the addition of another 'hardpoint' inboard of the normal position for the droptanks. This was the fighter-bomber Sabre. The additional hardpoint meant that 2-1000 lb bombs or 2-120 gallon drop tanks, plus the normal 200 gallon tanks on the outboard pylons, could be carried. In August, 1952, three F-86Fs were modified by extending the wing leading edges 6" at the root and 3" at the wingtip. Additionally, the slats were removed and a 5" wing 'fence' was added at 70% of the span. This modification delayed transonic buffet, increasing the pilots 'useable Gs'. The end result was tighter turning at high mach numbers and altitudes. The MiG 15's last advantage faded. There was one trouble area. With the slats removed, low speed characteristics suffered. Takeoff and landing stall speeds rose significantly. But the combat advantages were worth the price.

The '6-3' modification was carried out in two phases. First '6-3' kits were made up and sent to Korea where 50 F-86Fs were converted. Also, starting with the 171st F-25 and 200th F-30, all production aircraft were built equipped with the '6-3' wing. Eventually, all the Korean-based Fs, and even some Es, had the '6-3' kit added to the wing. The pilots in Korea lost no time in exploiting their newfound advantage. Surprised MiG drivers found that the 'hard wing' Sabres could turn inside them. The only way the MiGs could get away from the Sabres was to fly above 50,000 feet, where the F-86s couldn't go. Below that altitude, the MiGs were not only fair game, they were "duck soup!" So confident were the US pilots, that it was not unusual to have two experienced pilots tackle MiGs at odds up to 10-1!...And end up winners!

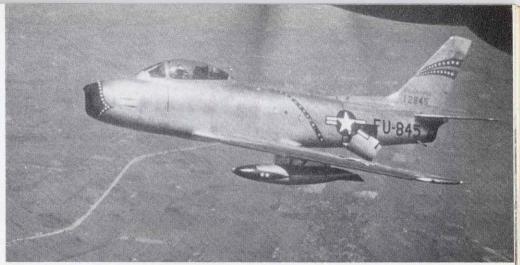
Further modifications were made to the F series but only one was significant - the F-86F-2 and F-3. Ten aircraft, 4 E-10s and 6 F-1s, were fitted with 4-20mm T-160 (i.e. M-39) cannon and designated F-86F-2. Two additional F-1s were fitted with Oerlikon 20mm cannon and designated F-86F-3. Testing them in Korea, USAF pilots found to their dismay that, when all 4-20mm cannon were fired, gun gas was sufficient to cause compressor stall or 'flame out.' The guns were modified so that only one pair would fire at any one time. During the 16 week test, even with only 2 guns firing, 6 MiGs were destroyed with 3 more 'probable'.

Several F-86F-30s were fitted with recon cameras and designated RF-86F-30. The F-86F-35 had a Low Altitude Bombing System (LABS) and was equipped to drop the Atom Bomb. The F-86F-40 had one foot added to each wingtip and was built initially for the Japan Air Self Defense Force. The lower stall speeds and shorter takeoff run of the extended wing F-40 led the US Air Force to convert all active Sabre wings to F-40 specs. In addition to the added length of the wingspan, leading edge slats were refitted. Finally, two F-8€F-30s, #52-5016 and 53-1228, were converted into dual control TF-86Fs.









Fine inflight study of 51-2845, an E-10 of the 62nd FIS. Colors are red with white stars. [Picciani Aircraft Slides]

Before the 327th FIW got its F-86Ds, the Sabre Knights team flew these F-86E-10s. Paint scheme is the same as was on their Ds. [NAA]

World record holding F-86E-10 which would later serve in Korea with the 51st FIW as "Lady Margaret". [AFM]









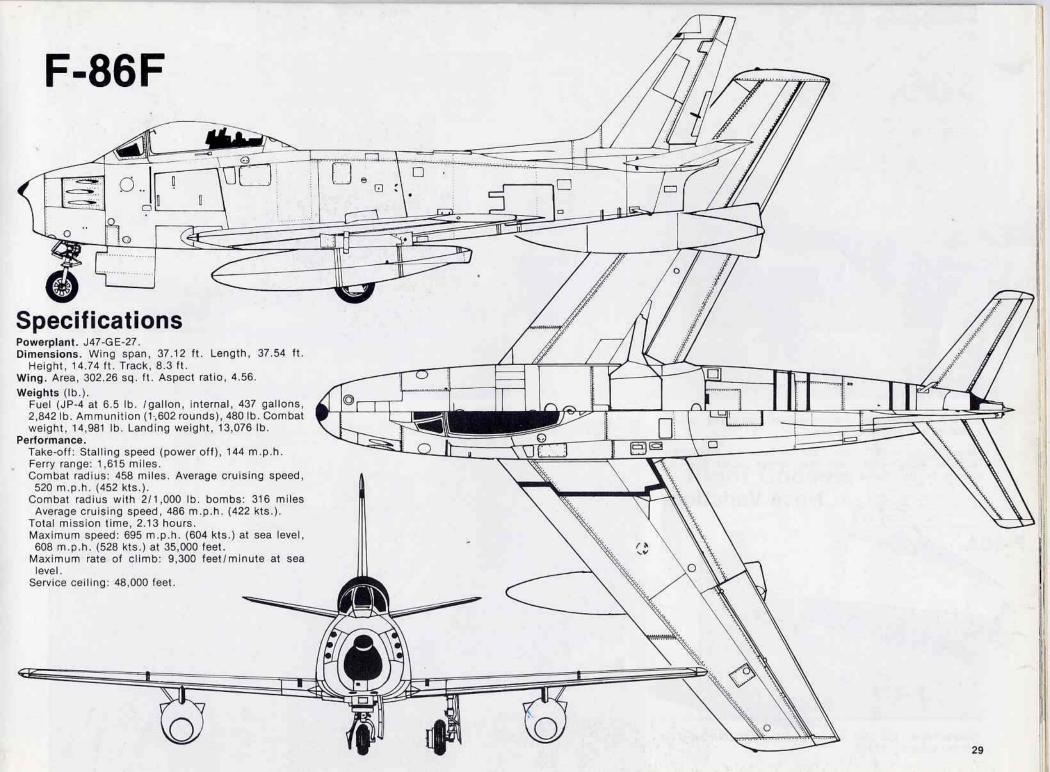
F-86E-1 assembly line at the Inglewood North American plant. [Smithsonian]

[Above Left] 51-2719 was the second E-10 and was modified with a 'glove' wing and new canopy. 'Gloved' wing was tested for its low speed characteristics. [NAA]

[Below Left] Closeup of the all-flying tail on the first F-86E, 50-579. [NAA]

Italian Air Force Sabre Mk. 4[F-86E]. Italian Sabres were all ex-RAF stock and carried NATO camouflage. [Italian Air Force]



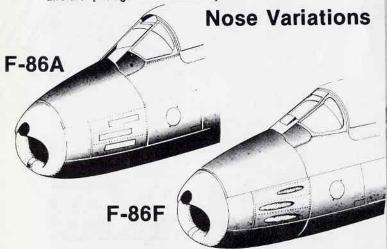






52-4347 demonstrates the 'dual-store' capability of the F-86F-25 and -30. [R.L. Lawson]

[Above Right] 51-13413, an F-86F-25 from the 479th FBW based at George AFB, Calif. Maj. James Jabara flew this aircraft. [M/Sgt. David Menard]



"Sara's Sabre", #52-5327, served with the 4th FDW. Note the inboard pylons. [AAHS]



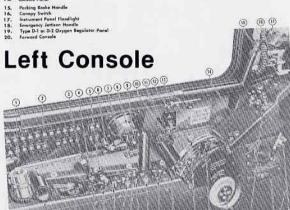
This view of F-86F-30 #52-4667. shows the '6-3' wing and fences. Anodized aluminum panel in wing center is common to all Sabres. [AFM]



F-86F Instrument Layout

- Circuit-breaker Panel
 Anomanition Compartment Heat Emergency Shutoff Handle
 Anomanition Compartment Overhead Warning Light
 All Outlet Selectic Leve
 Control Compartment Compartment Up to the Compartment Compartment Compa

- Side Air Ourliet
 Windshield Anni-ising Lever
 Theoriet
 Rodet Intervalamatiet
 Conapy and Windshield Auxiliary Defrost LavarInstrument Panal Floodlight and Extension Light
 Alternate Mounting
 Consolo Panal



- 21. Throttle Friction Wheel
 22. Wing Flop Leve
 23. Speed Book Einergency Lever
 24. Flight Contrel Switch
 25. Longitudenical Alternate Frim Switch
 27. Cackpit Pressure Control Switch
 28. Cackpit Pressure Control Switch
 29. Cackpit Pressure Schadule Selector Switch
 30. Cackpit Alternate Frim Switch
 31. Art Control
 31. Art Control
 32. Cackpit Air Temperature Control Switch
 33. Cackpit Pressure Shadule Selector Switch
 34. Estension Light
 34. Estension Light
 35. Cackpit Pressure Shadule Valve
 34. Estension Light

(11)

- 33 (1) (3) (3) (3)
- 2. Fuel fitter Ice Warning Light

- Hydrackis Pressure Goge
 Bath Instrument: Hinese-phose) Insurter Failure Warning Light
 Hydrackis Pressure Goge Selector Switch
 Main Radar; Kingle-phose] Insurer Failure Warning Light
 Alternate are Warning Light (Flight Control Alternate and Warning Light (Flight Control Alternate Alternate System)
 Directional Indicator (Shawel) Fost Staving Switch

- Turbometer Attitude Indicator
- 23. Cabin Pressure Altimeter 24. Fuel Quantity Gage
- (1) (1) Fuel Filter Dericing Button*

 Fuel Filter (ce Wanning Light*

 13. Oir Fessure Gage

 Acceleramete

 14. Takes off (from) Position Indicate Light

 Main Indicates (Iron Position Indicate Light

 Main Indicates (Iron Position Indicate Light

 Main Indicates (Iron Position Indicate Light

 Raine Warning Light)

 15. Each out Temperature Gage*

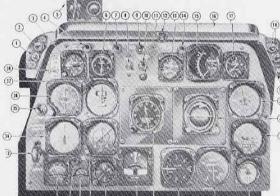
 16. Full Freeware Gage*

 16. Full Freeware Gage*

 16. Full Freeware Gage*

 - 19, Fire-warning Light Test Sutton
 - 22. Feel Flowmater and Tatalize
 - 25. Vertical Velocity Indicate

Main Panel



27 Turn-and-Slep Indicator

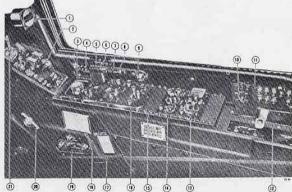
- 17 turn-and-sep recipies
 28 Cleck
 29 Altimater
 30 Leadmeter
 31 Generator Warning Light
 32 Voltmeter
 33 Landing Gear Handle

 - 34. Moch indicator * 35. Landing Gear Emergency-up Bulton 36. Radio Compass Indicator *
 - 37. Airspeed Indicator* 38. Emergency Fuel Switch

Right Console

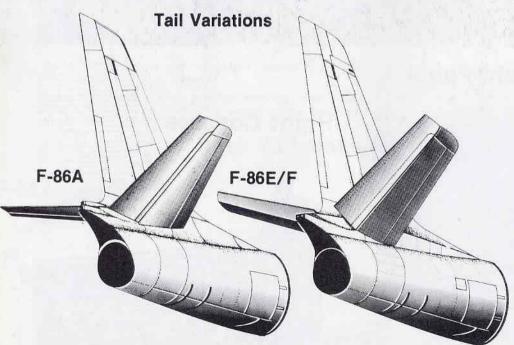
- 1. Stand-by Campass*
 2. Forward Console
 3. Sight Creward Teal Plug
 4. Spare Bulb Sterage
 4. Spare Bulb Sterage
 5. Instrument Prant Bloodlight
 7. Side Air Outlet Cantrel Volve
 8. Console Floodlight
 9. Linkstowned Fores Roodlight Alternale Maunti
 11. Circuit-treater Prant
 12. May Case
 12. If Control Prant
 13. May Case
 13. If Control Prant
 14. Cantrel
 15. And Cansole
 16. Radio Compass Control Prant
 17. Stand-by Compass Courted Inad
 18. Radio Frequency Card
 18. Radio Frequency Card
 19. English Control Prant
 10. Emergency Override Handle (Hight
 Control Mydraulis System)
 21. Canopy Alternale Emergency Jettison Handle







[Above & Right] These aircraft are the F-86F-2s that flew in Korea armed with 20mm cannon instead of machine guns. 'Minute Men' was the Oklahoma ANG aerobatic team. [M/Sgt. David Menard and Frank Crowley]





21997 U-997 (U.S. AIR FORCE)

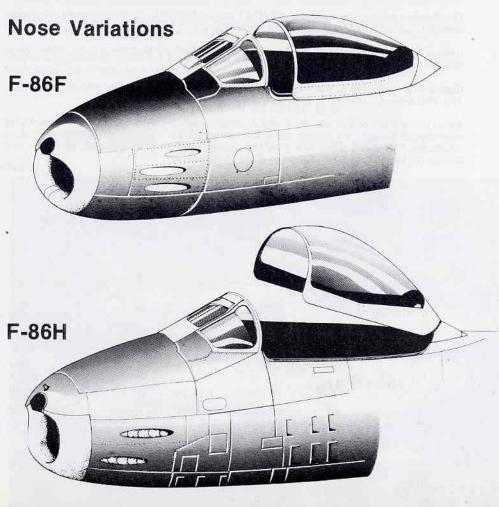
52-1997 is an F-86H-1 serving at Eglin AFB Armament Proving Center. H-1s had 6 .50 calibre machine guns instead of usual cannon armament. [USAF]

52-2092 typifies the F-86H-5 with four 20mm cannon and wing fences. Extra depth in H fuselage is readily apparent. [USAF]



F-86H

The F-86H was the only 'pure' fighter-bomber variant. By splicing 6 inches onto the depth of the fuselage, the 8920 lb.thrust GE J73 engine would fit. The F-86H would have all the improvements of all previous Sabres. The '6-3' dual store wing, LABS toss bombing system, Atomic Bomb capabilities, plus even greater range due to larger fuselage fuel tanks. Add to this the much more powerful J73 engine and you should have had the best in all departments. But the H never quite made it. The airframe itself, had reached its limitations and no amount of extra power could alter that fact. The H did set a few records, but is usually remembered as the aircraft Capt. Joseph McConnell, leading ace from Korea, was killed in. Initially three wings were equipped with the H, but they were rapidly replaced and relegated to Air National Guard duty. Some were still serving in this role in the 1970s.





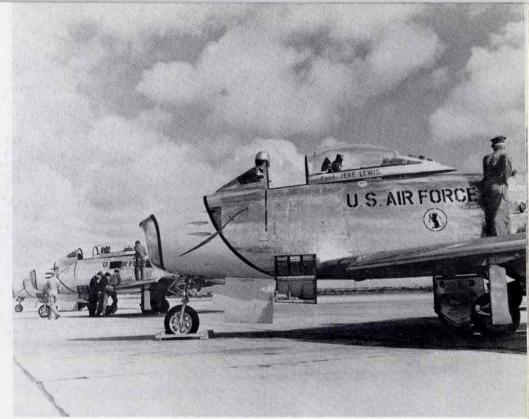
F-86F-30 #52-5111 was from the Nellis AFB Fighter School. A legend on the port side read "Over 500 MiGs" with 100 red stars. Color bands are, from front - black/yellow checks, blue, red, black, yellow, and orange, repeated on wings. ATC emblem is bordered by black/yellow checks with red bands. [USAF]

[Above Right] The 84th FIS was one of the 8 squadrons in Air Defense Command to fly the F-86F. Nose is yellow with black edge and red Sabre. [USAF]

[Below Right] The 366th FBW from Alexandria AFB, flew some of the most colorful Sabres. 52-4850 carries the blue and white stripes of the 390th FBS. 389th FBS had red/white, while 384th FBS had yellow/black stripes. [Balogh via Menard]

53-1147 was the 21st FBG Group Commander's aircraft, seen here at Wheelus AFB, Libya. Nose is yellow/black stars while tail stripes are, from top, yellow/black star, red/white stars, blue/white stars. [Picciani Aircraft Slide]

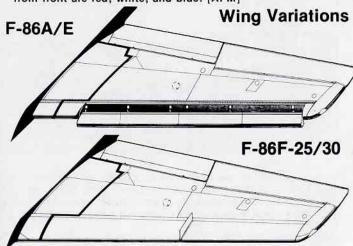








52-5092 seen on the ramp at the Air Force Academy. Colors from front are red, white, and blue. [AFM]



[Below Left & Below] 52-5496 from the 723rd FBS, red nose and tail with white diamonds. 52-4696 of the 531st FBS on the ground at Eielson AFB, Alaska. Colors are red with yellow stars and borders. [USAF]







During the Formosa Crisis of 1955, USAF again beefed up its Sabre forces in the Far East. To fool the Soviets into thinking we had more Sabres than we actually had, dummy F-86s like this one at Wiesbaden, Germany, were built. [USAF]



53-1228, the second TF-86F, served at Edwards AFB as a chase aircraft for seven years. TF-86 was cancelled in favor of the TF-100. [NAA]

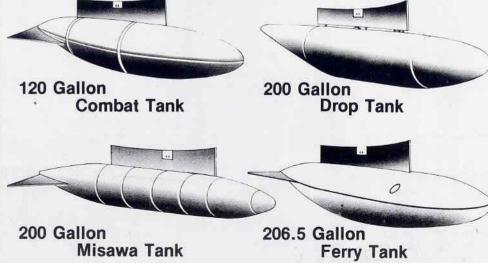




55-3834 in camouflage paint at Eglin AFB, Florida in 1971, probably for delivery to South Korea. Note the absence of national insignia. [Picciani Aircraft Slide]

[Above Left] 52-4608 carried a Rocketdyne AR2-3 rocket motor under the aft fuselage. With 6000 lbs thrust, she could climb to 30,000 feet in 24 seconds! [AFM]

Drop Tank Variations



52-5149 served the squadron commander of the 720th FDS at Elmendorf AFB, Alaska. Nose scallops, wingtips, and tail are Artic Red, while stripes on fuselage are, from front, red, white, and yellow, edged in black. [USAF]



The famous tulip-nose markings of JG-71 on a Sabre Mk. 6. The German Air Force received 225 Mk. 6s. [M/Sgt. David Menard]

[Above Right] Venezuelan F-86Fs going through IRAN at McClellan AFB, Calif. Note 'dual stores capability'. [USAF]

[Below Right] 52-4546 at the 'Flying Brothers' Gunnery Meet held in 1960 at Clark AFB, The Philippines. [USAF]

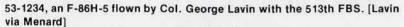
A four plane flight of Spanish Air Force F-86Fs [called C-5 by the Spanish] is seen flying over rugged terrain. All planes carry the badge of the 1st Fighter Wing and a Blue noseband. The Ejercito del Aire flew the Sabres until they were placed by F-5As and Mirage IIIs in the mid-60s. [Salvador Mafe' Huertas]

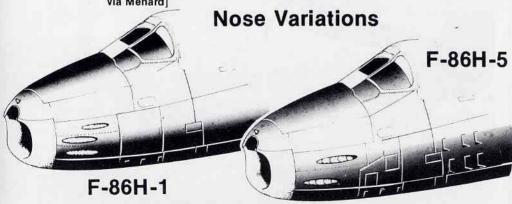












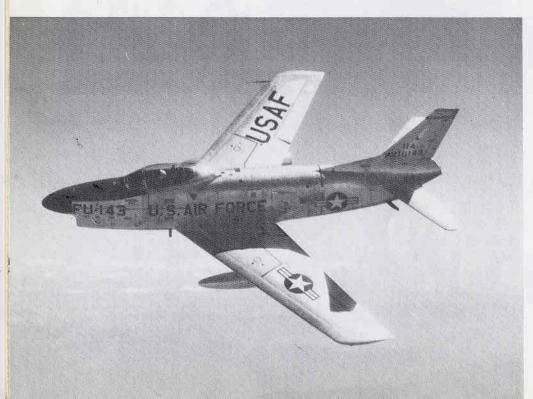
53-1403 was converted to QF-86H specs for the US Navy. About 20 ex-Air Guard Hs have been converted to drones. [Roth]





Rollout of the first F-86K. Ks had 6 inches added to fuselage length in the gunbay area. [Smithsonian]

52-10143 is an F-86L-50. Note the SAGE antenna jutting from the fuselage bottom in front of wing. [NAA]

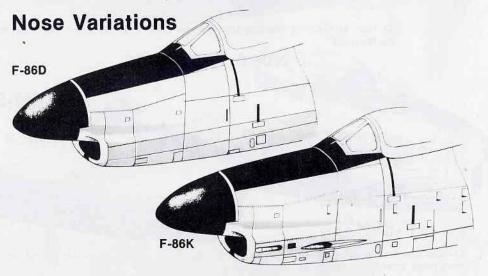


Final Variants

The final two variants of the Sabre were actually modified F-86Ds. They were the F-86K and F-86L. The K was eventually put into production in both the USA and Italy. All F-86Ls were modified from existing F-86D airframes. Modifications that made a D into an L included addition of the SAGE (Semi Automatic Ground Environment) System, a computerized link between the ground controller and the pilot. This equipment gave the pilot instantaneously the correct heading, speed, altitude, bearing, and range of the target. Between the SAGE System and the E-4 Fire Control, the interceptor was automatically directed to a proper lead-collision attack. Again much electronic equipment was replaced with more modern gear. But the other item that made an L was the addition of the F-40 extended wing.

The F-86K was a project to equip NATO squadrons with a capable interceptor, based on the F-86D, but simpler to maintain. Plans were developed to have both North American and Fiat in Italy produce the K. The K, powered by the J47-GE-17B, was 6 inches longer than the D. It was armed with 4 M-24-A-1 20mm cannon and used the MG-4 fire control system. First flight of a North American YF-86K was on July 15, 1954, while first flight of a Fiat-built K wasn't until May 23, 1955. The all-weather capabilities of the K were especially appreciated by the Norwegian Air Force. It seems that Norway's weather is so bad that 50% of the time, the Norwegian Air Force flies on instruments. The final batch of Ks had the '6-3' and extended wingtip of the F-86L. Ultimately, all the Ks were so modified. Some Ks were later modified to use the Sidewinder air to air missile. NATO air forces flying the K included Italy, France, West Germany, The Netherlands, Norway, and Belgium.

The line of the Sabre was complete. Day fighter, carrier fighter, interceptor, fighter bomber. Capable of record breaking feats and then meeting and beating the MiGs or dropping an Atom Bomb, all are included in the Sabre Saga. There was one final step in the Sabre development - the NA-140 or "Sabre 45' project. This would lead to one of the finest fighter-bombers in history, with a name that tells its true ancestry, the "Super Sabre, F-100".





Q-246 served in No. 700 Squadron. The Royal Netherlands Air Force received 62 F-86Ks. Note Sidewinder Missle armament. [Netherlands Air Force]

F-86K in service with the 1st Aerobrigata, Italian Air Force. [Italian Air Force]



TYPE	XP-86	F-86A-5	F-86D-20	F-86D-60	F-86E-10 CANADAIR MK 2 & 4	CA-27 SABRE AUSTRALIAN
LENGTH	37.54	37.54'	40.26	40.26	37.54	37.54
HEIGHT	14.74	14.74'	15'	15'	14.79	14.43'
SPAN	37.12'	37.12'	37.12'	37,12'	37.12'	37.12'
ENGINE & THRUST	J35-C-3 at 4000 lbs	J47-GE-13 at 5200 lbs	J47-GE-17 at 7500 lbs	J47-GE-33 at 7950 lbs	J47-GE-13 at 5200 lbs	Rolls Royce Avon 26 at 7500 lbs
MAXIMUM SPEED AT SEA LEVEL	599 mph	679 mph	692 mph	693 mph	679 mph	700 mph
SERVICE CEILING	41,300 ft	48,000 ft	49,750 ft	49,750 ft	47,200 ft	55,000 ft
RATE OF CLIMB	4,000/min	7,470/min	12,150/min	12,000/min	7,250/min	12,000/min
FERRY RANGE	NA	1,052 mi	769 mi	769 mi	1,022 mi	1,150 mi
COMBAT RADIUS	NA	330 mi	277 mi	270 mi	321 mi	300 mi
COMBAT WEIGHT	NA	13,791 lbs	16,068 lbs	15,956 lbs	14,255 lbs	14,500 lbs
TYPE	F-86F-1	F-86F-25	TF-86F	F-86H-10	F-86K	CANADAIR SABRE 6
TYPE LENGTH	F-86F-1 37.54'	F-86F-25 37,54'	TF-86F 42.75'	F-86H-10 38.84'	F-86K 40.93'	
	7 9990 2	N. 1994-1178	1747-1745			SABRE 6
LENGTH	37.54'	37.54'	42.75'	38.84'	40.93'	37.54'
LENGTH HEIGHT	37.54' 14.79'	37,54' 14.79'	42.75' 14.74'	38.84' 14.99'	40.93' 15'	37.54' 14.6'
LENGTH HEIGHT SPAN ENGINE &	37.54' 14.79' 37.12' J47-GE-27	37.54' 14.79' 37.12' J47-GE-27	42.75' 14.74' 37.12' J47-GE-27	38.84' 14.99' 39.12' J73-GE-3D	40.93' 15' 37.12' J47-GE-17B	37.54' 14.6' 37.12' Orenda 14
LENGTH HEIGHT SPAN ENGINE & THRUST MAXIMUM SPEED AT SEA LEVEL SERVICE	37.54' 14.79' 37.12' J47-GE-27 at 5910 lbs	37.54' 14.79' 37.12' J47-GE-27 at 5910 lbs	42.75' 14.74' 37.12' J47-GE-27 at 5910 lbs	38.84' 14.99' 39.12' J73-GE-3D at 8920 lbs	40.93' 15' 37.12' J47-GE-17B at 7500 lbs	37.54' 14.6' 37.12' Orenda 14 at 7275 lbs
LENGTH HEIGHT SPAN ENGINE & THRUST MAXIMUM SPEED AT	37.54' 14.79' 37.12' J47-GE-27 at 5910 lbs 688 mph	37.54' 14.79' 37.12' J47-GE-27 at 5910 lbs 695 mph	42.75' 14.74' 37.12' J47-GE-27 at 5910 lbs	38.84' 14.99' 39.12' J73-GE-3D at 8920 lbs 692 mph	40.93' 15' 37.12' J47-GE-17B at 7500 lbs	37.54' 14.6' 37.12' Orenda 14 at 7275 lbs 710 mph 54,000 ft
LENGTH HEIGHT SPAN ENGINE & THRUST MAXIMUM SPEED AT SEA LEVEL SERVICE CEILING RATE OF	37.54' 14.79' 37.12' J47-GE-27 at 5910 lbs 688 mph 48,000 ft	37.54' 14.79' 37.12' J47-GE-27 at 5910 lbs 695 mph 48,000 ft	42.75' 14.74' 37.12' J47-GE-27 at 5910 lbs 692 mph 50,500 ft	38.84' 14.99' 39.12' J73-GE-3D at 8920 lbs 692 mph 50.800 ft	40.93' 15' 37.12' J47-GE-17B at 7500 lbs 692 mph	37.54' 14.6' 37.12' Orenda 14 at 7275 lbs 710 mph
LENGTH HEIGHT SPAN ENGINE & THRUST MAXIMUM SPEED AT SEA LEVEL SERVICE CEILING RATE OF CLIMB FERRY	37.54' 14.79' 37.12' J47-GE-27 at 5910 lbs 688 mph 48,000 ft 9,300/min	37.54' 14.79' 37.12' J47-GE-27 at 5910 lbs 695 mph 48,000 ft	42.75' 14.74' 37.12' J47-GE-27 at 5910 lbs 692 mph 50,500 ft 10,300/min	38.84' 14.99' 39.12' J73-GE-3D at 8920 lbs 692 mph 50.800 ft 12,900/min	40.93' 15' 37.12' J47-GE-17B at 7500 lbs 692 mph 49,600 ft 12,000/min	37.54' 14.6' 37.12' Orenda 14 at 7275 lbs 710 mph 54,000 ft 11,800/min

US.AIR FORCE 9739

Two F-86As from the 4th FG, take off past an F-80C from the 51st FIW at K-14 [Kimpo], Spring 1951. [USAF]

A pair of A-5s 'on the prowl' in Mig Alley, Summer 1951. 4th FG/4th FIW would account for 54% of all MiG kills in Korea. [USAF]



Sabres over

At 0600 hours, Sunday June 25, 1950, North Korean tanks and troops crossed the 38th Parallel, an invisible line separating communist North Korea from democratic South Korea. It was the beginning of a war that would last slightly over 3 years. A see-saw war of the first nature, it would see the communists almost totally control all of Korea in the early months of the war. The Fall of 1950 would see the UN troops drive clear through North Korea, only to be driven back across the 38th Parallel when Chinese troops entered the war. It would then see-saw back and forth across the 38th for the next 2½ years, with neither side making any significant gains.

But the war in the air was a lopsided victory for the Far East Air Force (FEAF) right from the start. When Lt. William Hudson, 68th Fighter All Weather Squadron, flying a North American F-82 Twin Mustang, shot down a Yak fighter at noon on June 27, 1950, it was the first of an eventual 926 communist aircraft to fall before the guns of FEAF aircraft. Of this total, 814 would be shot down by F-86 Sabres: In air to air fighting, FEAF would lose 78 F-86s, a 10½ to 1 kill ratio in favor of the 86s. And the F-86s spent the first 6

months of the war on the sidelines.

When the war broke out, President Truman committed FEAF to Korean defense. It would be charged with obtaining air superiority and providing air support of the ground troops under UN command. FEAF committed its F-80C Shooting Stars and F-82 Twin Mustangs to the air superiority role, P-51s, A-26s, and SAC B-29s would handle the ground support duties. FEAF felt that the North Korean Air Force could be handled by this team of aircraft and crews. By November, 1950, UN forces had driven to the Yalu River and were looking into Manchuria. The North Korean skies were swept clean by FEAF fighters. The war would be over by Christmas, or so the newspapers said.

But the intervention of Chinese Communists troops and Russian MiG 15 jet fighters changed all that thinking. The Chinese ground troops drove the UN forces back down the Korean peninsula, across the 38th Parallel. The ground

fighting would stay in this general area for the next 21/2 years.

The MiG 15s, being much faster than anything in FEAF, were having a field day. The B-29s and P-51s on ground support sorties were being mauled. The F-80s clearly were no match for the MiGs. On November 8, 1950, one week after the MiGs entered the war, USAF committed the F-86 Sabre to combat in Korea. The famous 4th Fighter Group would bring its Sabres to Korea. The first detachment landed at Kimpo AB, outside of Seoul, on December 13, 1950. They brought with them a wealth of experience from combat in World War 2 that had resulted in over 1,000 German aircraft being downed. The 4th had had jets for some 5 years, including 1½ years in the F-86A Sabre. They were very good at their business and they knew it. Two days later, Lt. Col. Bruce Hinton.

Korea

CO of the 336th Squadron, made the first MiG kill by an F-86. Seven days after that, the Sabres scored their first 'big day' when 6 MiGs were shot down. The brief superiority of the MiGs in Korea was over.

May 20, 1950, saw the world's first jet ace crowned. Capt. James Jabara, who had had 4 kills since mid-April, got #5 and #6 this day. And he did it with one of his drop tanks 'hung'. The first 'double ace' was Major George Davis, CO of the 334th Squadron. He had two days, November 30 and December 13, 1951, on which he shot down 4 communist aircraft each day. Unfortunately, he was killed after his 14th victory. He was posthumously awarded the Medal of Honor for his courageous feats.

When the communists increased the number of MiGs in Korea, USAF countered by converting the 51st Fighter Interceptor Wing from F-80Cs to brand new F-86E Sabres. The 4th Fighter Interceptor Wing likewise began converting to F-86Es early in September 1951. The 51st FIW would supply the first triple jet ace in Capt. Joseph McConnell. After being shot down by the MiGs in February 1953, "Mac" promised to pay for his F-86 by shooting down 15 MiGs. He got 3 on May 18, 1953, to bring his total to 16. Major James Jabara, the first jet ace, returned to the 4th FIW with a vengeance. On July 15, 1953, Major Jabara shot down his 15th MiG. He and Capt. McConnell were the only two to make 'triple'.

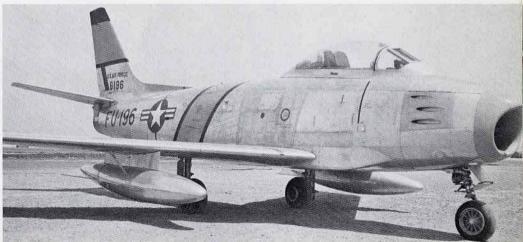
During the last year of the war, the MiGs went down at an ever increasing rate. The destruction reached its apex in May 1953, when 77 MiGs were shot down with no Sabre losses. From January 1, 1953 til the end of the war on July 27, 1953, 287 went down to a loss of 17 Sabres, a ratio of 17-1!! This was due to the introduction of the new F-86F with the 6-3 wing, inferior flying by the Red pilots, and the keen sense of competition in the FEAF pilot ranks. FEAF records show that there were 39 jet aces, including 9 double and 2 triple jet aces. The last MiG 15 was downed by Lt. Sam Young, of the 51st FIW on July 22nd. The last kill of the war would be an IL-12 transport which Capt. Ralph Paar claimed for his tenth victory on the last day of the war.

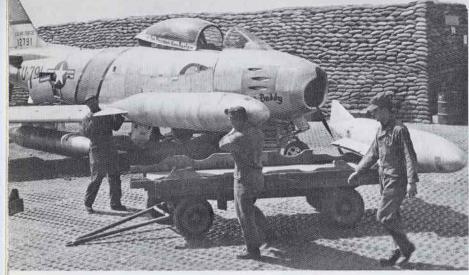
The Korean War ended as it had begun - with a North and South Korea separated by the 38th Parallel. But to both sides, it was quite apparent that the Far East Air Force had achieved total victory in the air. The credit went to the FEAF pilots and their fighting machine - the North American F-86 Sabrejet.

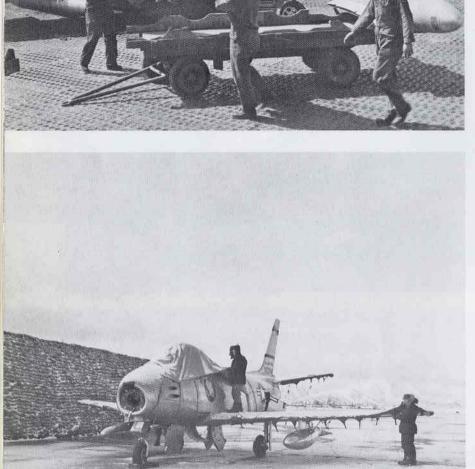
[Top] Five A-5s of the 4th FG at K-14 in May, 1951. ID stripes are black and white at this time. 236 and 276 were later shot down. [USAF]

[Right] 48-196 was converted to an RF-86A with cameras installed in the gun bay in place of the lower pair of guns. RF-86As flew with the 67th TRG from K-14. [AFM]





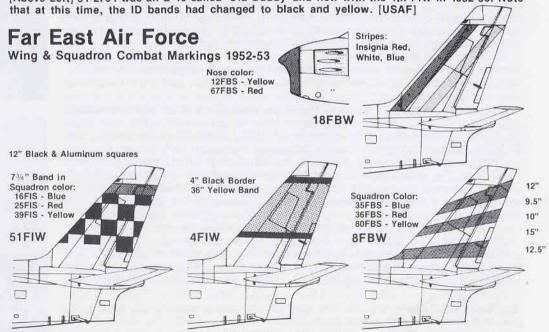






'Flying Jenny', 50-684 with the 4th FIW, at the maintenance shop at Kimpo. 'Jenny' was an early E as noted by the v-shaped windscreen. [Don Miller]

[Above Left] 51-2791 was an E-10 called 'Old Buddy' and flew with the 4th FIW in 1952-53. Note







'Little Chris', an F-1 of the 51st FIW at K-13 [Suwon AB]. Aircraft carries the pre-checkertail markings of the 51st. Capt. Joseph McConnell would eventually become a triple ace in 'Chris'.

[Above Right] 'Lady Margaret' of the 25th FIS, will be remembered as the E-10 that set a world speed record in 1951. [USAF]

'Nina', the cover aircraft of this book, was flown by the CO of the 51st FIW in 1952, Col. John Mitchell. [USAF]

'Peg O' May Heart', an E-1#50-675 from the 336th FIS at K-14, Fall 1952. [Don Miller]









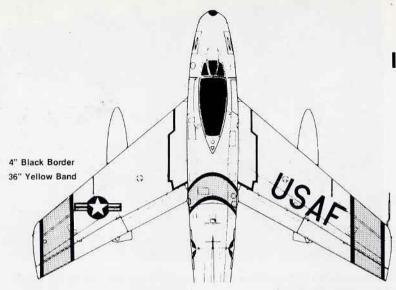
67th FBS mechanics install the new 'hard' leading edge and fences to 52-4350 at Osan AB, 1953. [Brown]

[Above Left] This F from the 4th FIW carries a mixed load of one 1000 lb. bomb and one 120 gallon drop tank. [USAF]

[Below Left] 'The Huff', a very colorful F-1. [Microscale]

'Rotten Crotch', an F-30 from the 67th FBS, has its guns charged prior to a mission. [Brown]



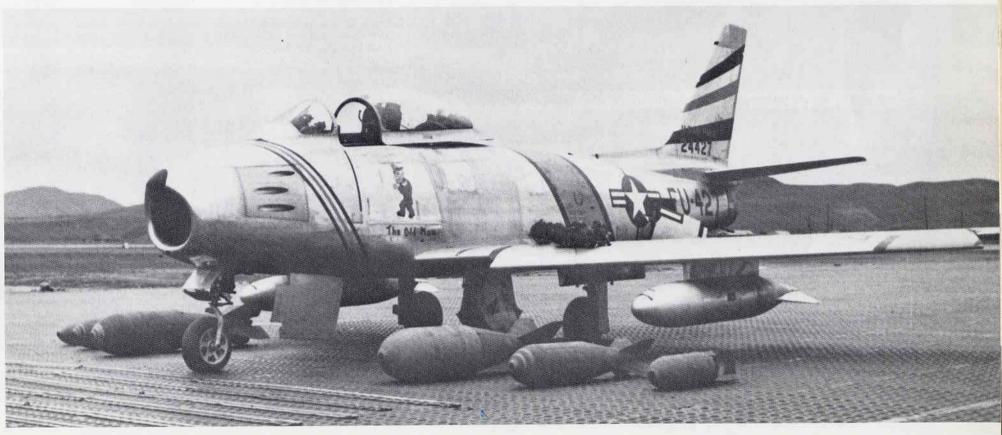


Far East Air Force Identification Markings

Combat ID Stripes from 1952

28" Yellow Band

52-4427 is rightfully named 'The Old Man' as it belongs to the commander of the 8th FBW, based at K-13 in 1953. Colors are, from front and tail tip down - red, yellow, and blue. Note modified F-80 'Misawa' drop tanks. [NAA]



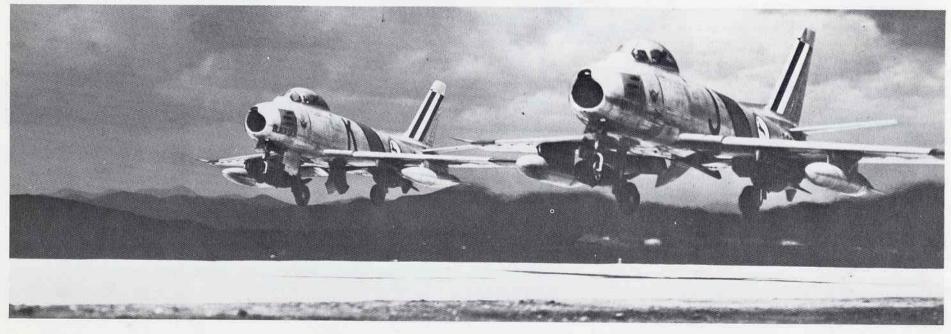




Sometimes the Sabres came out on the short end with the MiGs, but not very often. [Brown]

These are the early markings used by the 18th FBW Sabres, blue band with white stars and either yellow [12th FBS] or red [67th FBS] stripes on both borders. [Brown]

The 2nd Squadron, South African Air Force, operated F-86Fs with the 18th FBW in 1953. [USAF]









'Karens Kart' paired off with 'Lady Margaret' at K-13. 'Kart' was a squadron commanders aircraft. [USAF]

[Above Left] 'Barcus Carcus' was the personal aircraft of Brig General G.O. Barcus, commander of the 5th Air Force Fighter Command. He flew a dozen missions with the 51st FIW. [USAF]

[Below Left] 'Miss Jalopy II" an F-86F-30, 52-4332 from the 67th FBS, on the ramp on Formosa during the 1955 crisis. [USAF]

52-4625 of the 311th FBS 58th FBW. 58th FBW also went to Formosa during the 'crisis'. [Christensen/Menard]



