



WEILAND Sabre Jet Classics

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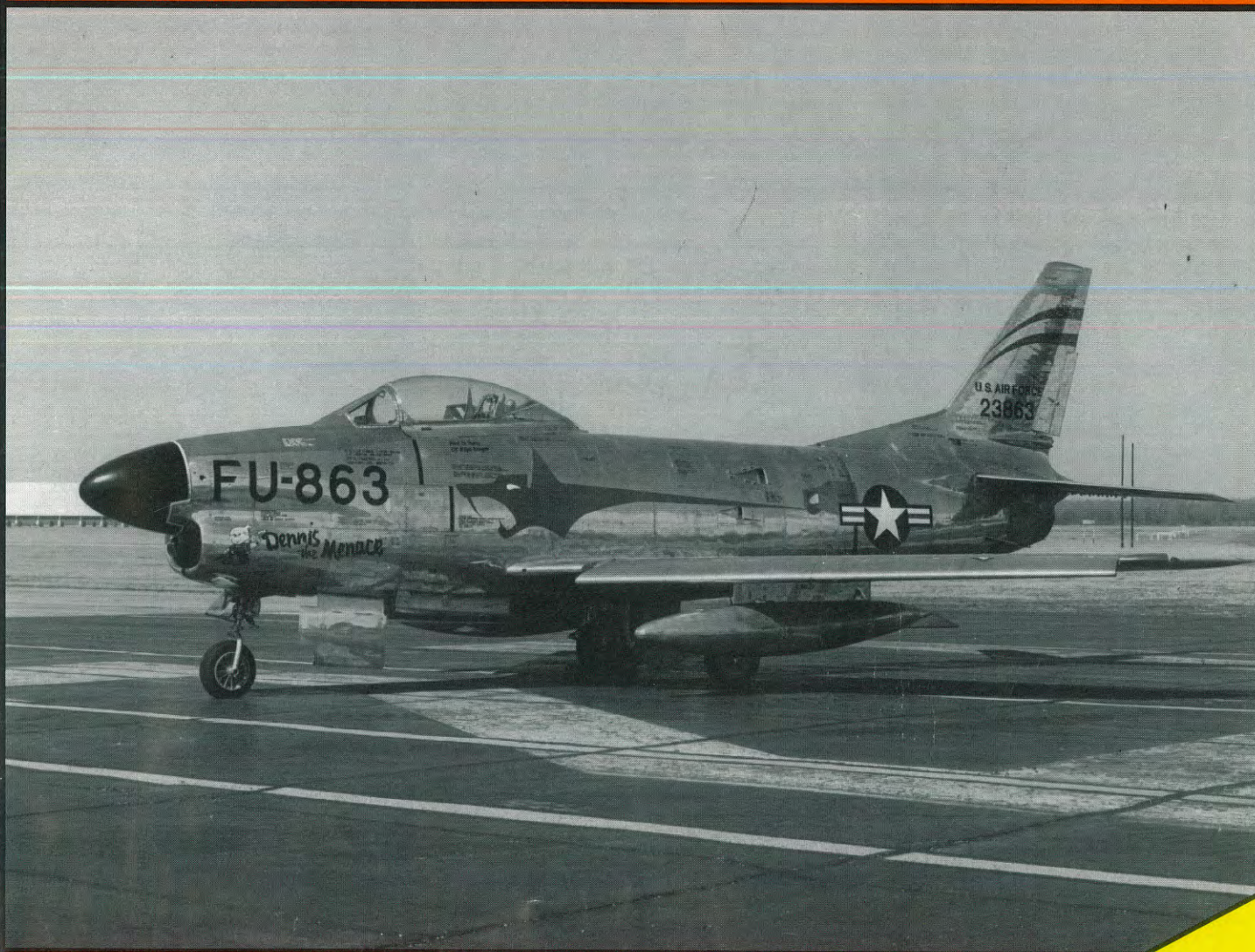
The feature publication of the Sabre Jet Historical Society



WEILAND

A TRIBUTE TO THE F-86D "SABRE DOG"

**We Interview Bob Baldwin On The F-86D • An F-86H Is Reborn
Six Dog Tales • Cheers! • Bulletin Board • And Much More!**

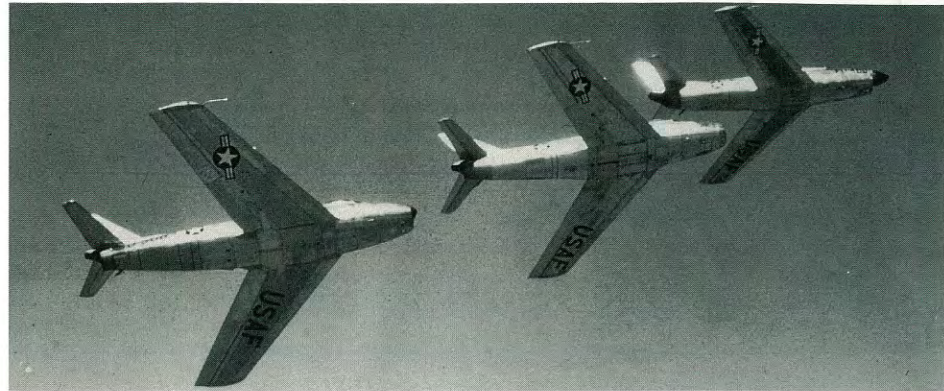


The Air Force Museum's F-86D

Photo Credit: Courtesy of the Air Force Museum via Dave Menard

16 PAGES!

Flight Lines



Interesting company photo of an F-86D followed by an "E" and an "F". Note the different locations for **USAF** on each Sabre.
Photo courtesy of North American Aviation (Rockwell International)

A TRIBUTE TO THE F-86D

Your editor was very fortunate to be invited to attend the **F-86 Sabre Pilots Association's** convention held this past April in Las Vegas, and did I ever have a great time! It was truly a pleasure meeting so many of their members in person who are also **our** members. What a super group! My special thanks to their extremely outgoing president, Hank Buttelmann, and so many others who made me feel very much at home. **Thank you all!** I had a terrific time. Please keep me on your mailing list for 1994!

Developing this expanded, 16-page special edition of **Sabre Jet Classics** presented a challenge: how to write an interesting issue on a not-so-popular model of the Sabre, the F-86D, and have **every** member enjoy it! One member told me the F-86D was nicknamed the Sabre **Dog** appropriately, while others said they outright hated the "D". As for myself, an aviation historian who has made a commitment to each member to pre-

sent **all phases** of the Sabre's history **fairly**, the F-86D, too, was a **relevant contributor** to military aviation's past, although probably not the **most loved** aircraft assembled by North American Aviation.

We have done our best to develop all aspects of the F-86D's history in a balanced presentation. You will see the good **and the not-so-good** aspects of the "D". But with all due respect, the F-86D was **not** a black sheep in the Sabre family. For many years, it countered the threat (along with the F-89 and F-94) of enemy bombers attacking the United States and other friendly nations until improved all-weather interceptors were developed, such as the F-101B, the F-102 and the F-106. Although a stop-gap interceptor at best and truly a hybrid design, the F-86D did the job it was assigned, and **did it well**. And for that accomplishment, we proudly present the F-86D's story in this issue. The "D" was the world's first single-seat, all-weather interceptor, and it **deserves** to be remembered for its relevant role in preserving this nation's freedom.

Here then is our special F-86D Sabre issue . . .



SUPPORT SERVICES

- Help in answering questions or problems is always available for free provided a stamped return envelope is included with your request.
- Back issues of **Sabre Jet Classics** are available while they last at \$3.00 each which includes shipping charges.
- If you receive any form of reminder letter from the Society, you are **urged** to follow up promptly in answering the request, which is only to ask for additional information. Remember, incomplete or

- inaccurate information hurts **everyone** in the Society. *Please don't put off a request!*
- **Sabre Jet Classics** welcomes Sabre-related photographs and articles. All pictures will be taken care of and **returned after use**. If needed, we will work with you to polish your article and publish it. You will be credited in our magazine for your photos or articles, however, because we are an all-volunteer organization, there is no monetary reimbursement for submitted materials.

Sabre Jet Classics

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Address all correspondence to: **Sabre Jet Historical Society**, 428 Madingley Road, Linthicum, Maryland 21090, USA. The group may also be referred to as the **Sabre Society**. **Sabre Jet Classics** is published quarterly by **FIGHTER PROJECTS**. Annual dues are \$12.00. All memberships expire as of December 31 each year. Each paid member will receive a complete set of four issues of **Sabre Jet Classics** by that date. All payments are to be made payable to the **Sabre Jet Historical Society**. All mailings are sent first class. **Sabre Jet Classics** is published solely for the private use of its members. No portion of **Sabre Jet Classics** may be used or reprinted elsewhere without **written permission** from the editor. **Sabre Jet Classics** is expertly printed by Mr. Donald Dailey and Mr. John Palmer and their fine staff at Minuteman Press, 10 Aquahart Road, Glen Burnie, Maryland 21061. The **Sabre Society** is an independent, civilian administered, non-profit organization, not directly affiliated with the United States Air Force, North American Aviation or Rockwell International. The views expressed in this publication are not necessarily those of these other organizations. The **Sabre Society** is dedicated to the history and future of all American F-86s and foreign-built Sabre variants. **Our goal is to promote the F-86 Sabre.**

Photo Album



Would you like to have your personal Sabre photos published in a future issue of **Sabre Jet Classics**? You bet! Let us know what you have to loan for our consideration in a future issue.

This issue we are pleased to present F-86D Sabre pictures from several members' collections.

Right: Bill Barns set an official world straightaway aircraft speed record of 715.7 mph on July 16, 1953 while flying over the Salton Sea in California in an F-86D.
Photo courtesy of Bill Barns

Below: Two F-86Ds approach the active runway during a scramble on an Air Defense Identification Zone (ADIZ) mission at George Air Force Base in California in 1953.
Official USAF photo via Bob Makinney



John Hume's F-86D while he was with the 525th Fighter Interceptor Squadron of the 86th Fighter-Bomber Group based at Landstuhl Air Base (now Ramstein) in Germany.
Picture taken approximately 1954.
Photo courtesy of John Hume



Two armorers load 2.75-inch air-to-air rockets into an F-86D at George Air Force Base in 1953.
Official USAF photo via Bob Makinney



Another photo from John Hume that was taken while looking from Squadron Ops at Landstuhl Air Base in approximately 1954.
Photo courtesy of John Hume





Lon Walter, one of our technical advisors, located this picture of F-86A-5, "260" (third from right), while on the ramp with the 335th FIS at Suwon (K-13) during spring/summer 1951. This Sabre today is NASM's restored F-86A, as noted in our first issue of *Sabre Jet Classics*. Photo courtesy of Lon Walter

What's in a Name?

There is an interesting story concerning the F-86's nickname. Perhaps you are aware of it already. The "official" name given the airplane by North American Aviation was **Sabre**, rather than **Sabrejet** or **Sabre Jet**. My understanding is that because Republic Aviation's F-84 had the name **Thunderjet**, some members of the news media during the Korean War years tacked the "jet" onto the Sabre, and onto the Navy's F9F **Panther** as well. Maybe they thought it sounded flashier. At any rate, the name stuck and has been used ever since.

Richard B. Keener, former president of the **F-86 Sabre Pilots Association** Look for some of Dick's excellent 35mm Korean War F-86F pictures in a future issue of *Sabre Jet Classics*. —Ed.

About Our First Issue

Congratulations on the birth of a new publication. I believe it will go well and it should. Ivan Hickman, author of *Operation Pinball*

Fine effort. Very professional.

Richard R. Hefton

Obviously many hours of planning went into this publication, and it shows in the overall quality. DFWI.

Thomas A. Dwyer

Thanks for sending me the first issue of *Sabre Jet Classics*. Looks good!! (We are) wishing you all the best in your Sabre Jet efforts.

Bob Richards, Public Relations, **P-47 Thunderbolt Pilots Association, Ltd.**



The Christmas card referred to in Charlie Arnet's letter.

Photo courtesy of Charlie Arnet

Cheers!

Our readers write to Sabre Jet Classics . . .

tell the artists (that) the F-86 pilots have a story to tell. They have forgotten us.

Tom Slee

We agree, and that was one more reason to create *Sabre Jet Classics* in the first place. We also know there is a need to balance the material we present, and we are constantly striving towards that end, but resource material and pictures are not always available on all Sabre-related topics. As a result, we wrote to all members in January who were former Korean-era, fighter-bomber Sabre pilots and requested information. There is also an ad in this issue requesting information. Look for a fighter-bomber article in a future issue of *Sabre Jet Classics*. —Ed.

I also enjoyed your *Sabre Jet Classics*. The only thing I can offer by way of a suggestion is that you carry a "Swap and Sell" column for the benefit of those readers possessed of or in need of F-86 parts, documents, memorabilia, etc.

Ed Buerckholtz, President, SPIRIT FIGHTERS, Inc.

See our new column, **Bulletin Board**, in this issue, created to answer this need. —Ed.

And Finally . . .

Currently the company I work for (Corporate Jets, Inc.) is under contract to USAFE to tow aerial gunnery targets for U.S. Air Force fighters stationed in Europe. At the present time, we are flying out of Soesterberg Air Base, NL. Our aircraft are Canadair CL-13 Sabres with Orenda 14 engines. During the middle Fifties, I flew F-86 "Dogs" and "L" models at George Air Force Base at Victorville, California.

The enclosed Christmas card was made from a photo which was taken near Decimomannu Air Base, Sardinia, Italy a couple of summers ago.

Charlie Arnet, APO AE

Do you have a comment about a Sabre-related topic? Write to "Cheers!", c/o *Sabre Jet Classics*, 428 Madingley Road, Linthicum, Maryland 21090, USA and identify your letter for consideration in our letters column. Letters should be brief and to the point. *Sabre Jet Classics* reserves the right to edit or delete any letter for length or style. Unsigned letters will not be considered. Photographs may be published with your letter, depending upon relevancy and space limitations. Cheers!

Q&A

Colonel Robert P. Baldwin received his wings in 1940 and soon undertook a multi-faceted career with the Air Force in both engineering and flight test as well as combat flying. He flew P-40s before the Second World War. During the war, after being an instructor and working in flight test, Colonel Baldwin flew P-38s over Germany and Austria on air-to-ground and bomber escort missions as the commander of the 71st Fighter Squadron. He was flying F-80s with the 56th Fighter Group by 1950. He first flew F-86As at March Field. In 1952 he was transferred to the Air Defense Command in Colorado Springs as an operations officer. Colonel Baldwin was transferred to Korea in December 1952 and became the group commander of the 51st Fighter Group where he flew the F-86E and "F". On June 22, 1953, he shot down his fifth and final MiG-15 to become the 35th jet ace of the Korean War.

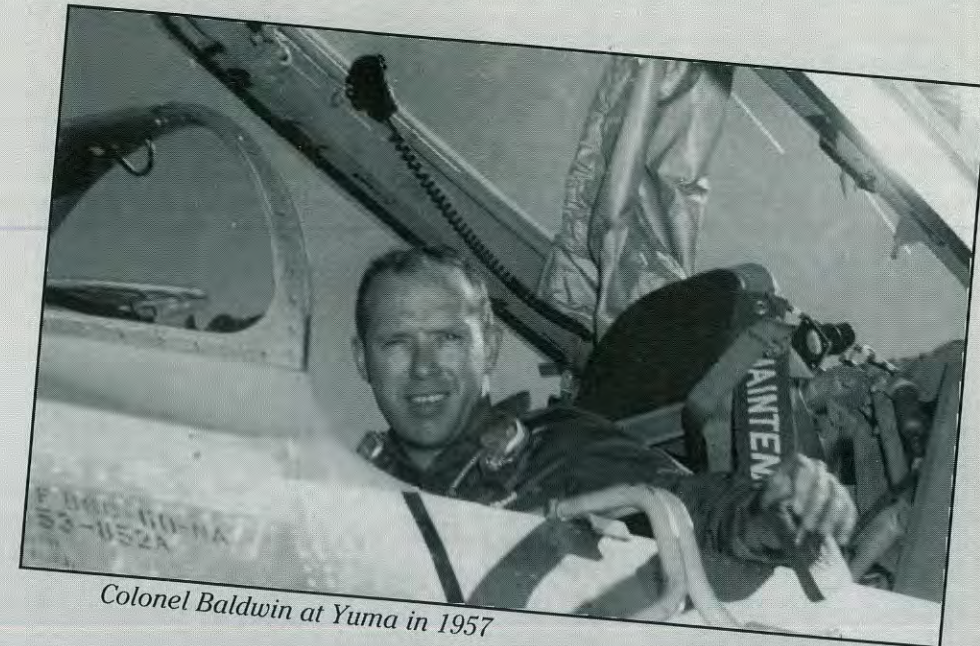
Sabre Jet Classics interviewed Bob Baldwin on two occasions about his Sabre experiences. Our first discussion about flying the day fighter Sabres and becoming an ace will be presented in a future issue. Colonel Baldwin was later interviewed about his F-86D flying days, both during and after the war. Here we present our second discussion with him about his experience with the all-weather F-86D Sabre . . .

Q: In an earlier interview, we discussed your Sabre experiences in Korea, but I understand you had more flying time in the F-86D than the "E" or the "F". Did you fly the earliest F-86Ds at Edwards Air Force Base?

A: Yes. I was assigned to headquarters at Colorado Springs, Colorado in 1952 when this occurred. These were testbed F-86Ds. It was a developmental effort. The aircraft was recently out of factory flight test. We were doing operational testing for the requirements of the Air Defense Command.

Q: When did you fly a production F-86D after the Korean War?

A: I was reassigned to an air base in Japan at Kisarazu in 1953. One of our functions was to de-cocoon, flight test and deliver aircraft to the Far East that were too short-legged to fly the Pacific. This was prior to inflight



Colonel Baldwin at Yuma in 1957

An Interview with Colonel Robert P. Baldwin on the F-86D

refueling. One major aircraft we delivered to the Far East was the F-86D to SEATO (South East Asia Treaty Organization) countries as well as to our forces in the area. The factory had removed external pieces from the Sabres, such as fairings and antennas, and packed them inside. They then sealed the F-86Ds in a plastic cocoon. They sent the Sabres to Japan on the decks of aircraft carriers if they could not put them inside, or sometimes on large freighters. We took the plastic off and reassembled the minor parts that had been removed. We then flight tested and delivered them. I spent six to eight months delivering F-86Ds.

Q: Any memorable flights?

A: Yes. In fact, I flew the first F-86D reassembled at Kisarazu.

Q: Did you have more hours flying the F-86D than the day fighter models?

A: Yes. I flew the F-86D until 1958 in Yuma, Arizona. It was the basic instructional aircraft used at Yuma.

Q: What was the F-86D's mission?

A: Its purpose was to shoot bombers down. It used a highly organized attack. F-86Ds were under the direction of a ground controller. The pilots frequently never saw outside the canopy of the F-86D when flying. Our training was done under a hood, and the pilot flew on a mission guided by a ground radar controller. The pilot eventually picked the target up on his onboard radar and completed the

approach using his own equipment. The attack was a beam shot set up by a ground controller and completed by the F-86D's electronics. It was a one-pass attack, known as a "lead-collision course attack."

Q: To what extent did the F-86D follow its target?

A: The pilot followed his onboard radar well before he saw the target.

Q: Did the fire-control system control the firing of the rockets?

A: Yes.

Q: Did you have to lock-on to the target?

A: Yes. The pilot locked on by fixing the radar search mode on the target. He identified the target on his radar scope. There was a sighting "ring" on the radar scope. The pilot guided the F-86D to keep the target inside the ring. He steered left, right, up or down to give the fire control system the right information to fire. The pilot kept the target indicator inside the fire control ring. As he got closer, the ring shrank. When the ring got down to the target's blip, the system fired. When the system fired the unguided 2.75-inch rockets, it was like firing a shotgun. Once he fired the missiles, there was no guiding them. The fire control system fired the missiles automatically if the pilot did not give it too much of a problem. The system monitored everything the pilot did. If the tracking on the scope was too erratic, the system would not fire.

Q: Was flying the F-86D an easier or tougher assignment than the day fighter Sabres?

A: It was a tougher mission because we were at the mercy of the fire control system. If the pilot did not supply the right tracking parameters, it would not fire the missiles. In the day fighters, we aimed the aircraft, which also aimed our guns.

Q: Were you a smoother flying pilot with the F-86D?

A: Yes. We had to keep the tracking ring very smoothly around the target. If we let the target out of the ring, the system did not fire. It started about the size of a half dollar. As we got closer, it shrank to the size of a pencil eraser. If the target was not inside the ring, the missiles would not fire.

Q: How did you practice the F-86D's mission?

A: We had a ground control system at Yuma where the Air Defense squadrons practiced. We also had F-89s, F-94s and F-102s, but most of the Air Defense squadrons flew the F-86D. They flew a classic "blind" mission under the hood. We had a chase plane flying with each F-86D. The Sabre pilot took off. As soon as he got his wheels up and hit 500 feet of altitude, he pulled a hood over his head. Now he was on instruments. The chase plane was low and directly on his tail to advise the F-86D in an emergency so it avoided obstacles or other airplanes. The chase plane only went on the air to give evasive instructions and clearance to fire.

Q: Being "under the hood" was a means of practicing for flying in all forms of weather?

A: Yes, because the F-86D was an all-weather interceptor. As soon as the "D" got off the ground, the ground-controlled radar vectored the pilot. It saw both the target and the F-86D interceptor. They used a traffic pattern and sent the Sabre 30 or 40 miles out for a beam approach. The interceptor then turned toward the target. The ground controller steered the Sabre to the target until he locked-on with his onboard system. Then the ground controller went silent, and it was all given to the F-86D's pilot.

Q: How did you practice the last part of the training mission? Were there drones?

A: We had different targets. Initially we attacked a big metal-impregnated nylon banner, about six feet tall by thirty feet long, towed by another airplane. We used B-29s for towing and later B-45s and B-57s because they were faster and much more realistic as a target. The F-86D pilot was under the hood, following his scope. A chase plane followed the practicing pilot. The chase plane cleared the Sabre pilot to fire to be certain he was not locked onto the towing airplane. Both, however, showed on his scope as two blips, the tow airplane and the target. The chase plane gave the final approval to fire if the pilot was on the target. Then the pilot tracked the target until the system fired.

Q: How did the ventral rocket tray work?

A: It was controlled by the fire-control system. It dropped and fired the rockets. The timing for when the rack dropped out of the belly of the airplane, the rockets fired and the rack retracted was about three seconds.

Q: Was the ventral tray difficult to maintain?

A: No. It was electrically controlled but strictly mechanical. The fire-control system lowered the tray and ignited the squibs on the rear of the rockets, and away they went!

Q: Did the tray remain open only for as long as it took to fire the designated missiles?

A: Yes. Up, down and back up was three seconds.

Q: Did you fire them in blocks of six?

A: We dialed the number we wanted to shoot. We fired 6, 9, 18, or the whole 24.

Q: Could you single-shot the missiles?

A: No.

Q: Was this considered a good attacking system?

A: Yes. It was state of the art. We had not developed guided missiles. Later in 1957, we had infrared missiles. That was where my patented target on a tow reel came in. It put a target out on five miles of wire and recovered it. We used that system as a target for the infrared missiles because we did not want the missile seeking the wrong target. Prior to 1957, it was all 2.75-inch rockets, which were unguided. The Air Force started using those in World War Two.

Q: Prior to 1957, was the 2.75-inch rocket considered "state of the art"?

A: Yes. They were as good as it got. We later had a requirement at Air Defense Command to develop guided missiles, both radar and infrared. They came in 1957. Eventually, this led to the sophisticated missiles in use today, such as firing a long-range missile and never seeing the target.

Q: Was one hit by a 2.75-inch rocket sufficient to knock down a four-engine bomber?

A: Yes. The 2.75-inch rocket carried a heavy charge approaching the impact of a 75mm shell. It was lethal, and one hit would probably disable a bomber.

Q: Was the F-86D the first plane you flew with an afterburner?

A: Yes.

Q: Was there a tremendous kick when you added the afterburner?

A: Yes. The F-86D wide open without afterburner at 25,000 feet probably did .85 Mach.

Q: Were there any specific maintenance problems with the radar?

A: I do not recall any. We had a high level of talent at Yuma. Earlier in Korea, we had the radar-ranging gun-sight which was a combination of a gyro-stabilizer and radar-ranging. It was difficult to maintain because it was the first radar installation on fighters. When the "D" came, this was old hat and there were no serious problems maintaining the radar. But then with the "D", we did not do acrobatics. We were fairly delicate as far as the treatment of the radar system.

Q: Did the F-86D have more problems with fuel regulators than the day fighter Sabres?

A: Yes. That was a problem. I had one fail that put me down in the desert. There were a series of chronic problems with them for awhile. They went to a different contractor to solve the problem. The F-86D's regulator had the additional problem of providing fuel for the afterburner.

Q: Did you feel you were flying a different airplane when you flew the "D" from the "E" or the "F"?

A: Yes. It was heavier, but it was not a dogfighting airplane. It had an "F" model's basic wing, but it flew faster. It was not an aerobatic airplane.

Q: Were the F-86Ds nicknamed "Sabre Dogs" or "Dogships"?

A: I never heard them called anything but a "Sabre Dog"!

Q: Was it a term of affection?

A: Yes, but we called them mostly the "D model". I imagine the guys maintaining them called them all sorts of horrible things! Particularly in Yuma where they did not lay down their tools in the sun. It burned their hands! It was rough in the summer for a mechanic working with gloves because things got terribly hot.

Q: Did any of your "D"s use a dragchute?

A: Yes. Every one we had. Even the ones in Japan.

Q: Were they routine to service?

A: Yes. That was one area that caused no trouble.

Q: What was specifically excellent about the "D"?

A: It was a different machine designed and built for an entirely different purpose. With ground control, we started our attack a hundred miles from the target. The ground controller directed us to the target until we were close enough

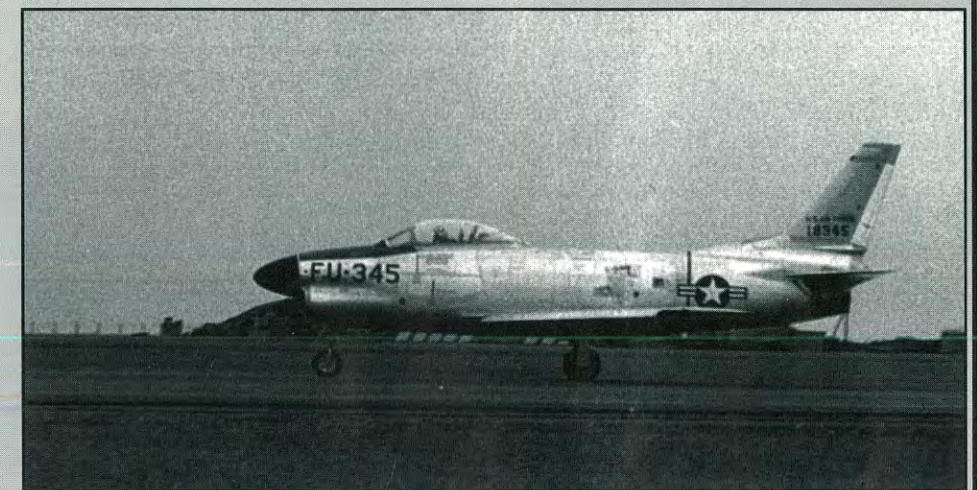
A: No.

Q: What did you fly after the F-86D?

A: In the Air Defense Command, we flew the F-102, F-104 and F-106. They were more sophisticated.

Q: Do you have a favorite F-86D Sabre story?

A: Yes. There was the time at Yuma I deadsticked an F-86D into the desert at an old abandoned air field which they said could not be done! I did not



The first F-86D test flight at Kisarazu Air Base on January 20, 1954 with Bob Baldwin at the controls.

Photo Credits for this interview: Official USAF photographs via Bob Baldwin

to lock-on with our onboard radar. The attack was straight and level. There was little maneuvering. If we did too much on the approach, we lost it. The fire-control system would say, "Tilt!"

Q: Was there a specific selection process for F-86D pilots as opposed to a day fighter Sabre pilot?

A: They all had a shot at the F-86D. Some pilots did not adapt to it because the pilot had more to do. The pilot not only flew on instruments, but also managed the information the fire-control system showed. That took more concentration. Some day pilots never adapted to flying a smooth interception under the hood.

Q: Did the pilots either love the F-86D or hate it because of that?

A: Yes. The ones that managed the F-86D loved it; the ones that could not hack it hated it. The F-86D was the forerunner of the single-place interceptors we now have, such as the F-15.

Q: Did you ever fly a "K" or an "L" which were similar to the F-86D?

realize that at the time! The F-86D was a very heavy airplane, but it had the advantage of a dragchute which got me safely into that place. I landed on a badly decomposed, abandoned air strip. It had 3,500 feet of runway, and I used it all!

Q: How did you get that airplane out?

A: We went back the next day. We burned some fuel off, removed the wing tanks, and I flew the Sabre out.

Q: Do you have any final thoughts on the F-86 in general?

A: It was a great airplane. It was easy to fly, maneuverable and very forgiving. It was a tough bird. I probably owe my life to it.

Thank you, Bob!



A preflight photo of personnel from Tachikawa Air Base and Kisarazu Air Base, along with various tech reps, before the first F-86D flight in Japan.

Equally as famous as the day fighter Sabres was the F-86D. No F-86Ds flew in the Korean War although the "D" was in the planning stages at the same time as the F-86A and F-86E. The F-86D was actually designed for a different mission and never intended for use in Korea. Its project engineers were Art Patch and Fred Prill at North American Aviation. The F-86D was also known as Air Force Weapons System 206A.

On March 28, 1949, North American's Advanced Engineering Section began design studies on the Sabre Jet to produce an all-weather, "single-crew" jet interceptor. On July 19, 1949, \$7 million was approved by the Secretary of the Air Force to convert the Sabre into an all-weather interceptor. Developing the F-86D, or Model NA-165, with only one individual controlling the functions of two crew members was a unique departure from previous all-weather interceptors, which had two-person crews: one to fly the aircraft and one to handle the enemy interception, and the Air Force at first was hesitant to support the concept. The Sabre's lone pilot was assisted by computers enabling its pilot to complete both functions. An AN/APA-84 computer provided electric engine control while an autopilot, a first in Sabre Jets, stabilized the F-86 while intercepting its target. The pilot was free to control the interception using an advanced Hughes Aircraft Corporation E-4 Fire Control System. The F-86D thus became the first one-person all-weather interceptor. It flew during daylight, at night, and during poor weather.

On October 7, 1949, the United States Air Force allocated \$79 million to order two service test YF-86Ds and 122 production Model NA-165 F-86Ds. The YF-86Ds were actually two converted F-86As, serial numbers 50-577 and 50-578. North American completed the conversions at its Inglewood factory. The new design used F-86A-5 wings which were strengthened, along with slats, canopies and forward V-shaped windcreens. The fuselages, however, were noticeably changed. They were extended and deepened to accept a J47-GE-17 jet engine developing 5,000 pounds of thrust with electronic fuel flow control, another new concept. The engine also had an afterburner which boosted to 6,650 pounds of thrust for short intervals (the -17 engine was later replaced by the improved -17B in production F-86Ds). The vertical tail was also increased in size, and small vortex generators were fitted to the tail section. The most obvious external difference in the F-86D's fuselage was a thirty-inch plastic radome placed on the forward fuselage to cover the eighteen-inch scanner on the new AN/APG-37 search radar. The air intake beneath the radome was correspond-

ingly lowered and widened.

To attack its enemy, the usual six .50 calibre fuselage machine guns were deleted (a first for single-place American fighters), and a rectangular shaped ventral tray was installed beneath the lower fuselage under the pilot. This tray (which extended and retracted rapidly during the firing process) housed twenty four 2.75-inch unguided air-to-air "Mighty Mouse" FFAR (Folding Fin Aerial Rockets) aimed by the Hughes E-4 system. Each rocket was forty eight inches long, weighed eighteen pounds, and had the explosive equivalent of a 75mm shell. The tray was extended only long enough for the missiles of fire and clear. The rockets were more than capable of shooting down enemy bombers. The

to its F-86D designation, despite the "D" being 2,500 pounds heavier (and many other differences) than the F-86A. The F-86D soon became the cornerstone of the United States Air Force's new interceptor force, developed as a deterrent to the Soviet Union's development of the atomic bomb and strategic bomber forces.

The F-86D comprised five North American Aviation models, the NA-165, NA-173, NA-177, NA-190 and NA-201. The last two were orders made in March 1952 and June 1953. F-86Ds used serial numbers 50-455 to 50-576, 50-704 to 50-734, 51-2944 to 51-3131, 51-5857 to 51-6262, 51-8274 to 51-8505, 52-3598 to 52-4304, 52-9983 to 52-10176, 53-557 to 53-1071, 53-3675 to 53-3710, and 53-4018

tail height increased to 15 feet.

The F-86D was equipped with full-power hydraulic aileron and horizontal tail controls with irreversible control. The artificial feel system in the ailerons and horizontal tail remained. Later "D"s used flat windcreens. The F-86D was the first Sabre using a clamshell-style canopy instead of the earlier sliding design. The clamshell canopy opened at a hinged point at its rear and was closed or opened from inside or outside the cockpit. The canopy electrically opened thirty two degrees, but could be manually operated. In an emergency, the canopy was fired up and aft of the Sabre. The seat could be ejected through the canopy if needed. Raising either armrest to the full up position fired a car-

perform correctly. It was not until April 1953 that properly equipped and fully functioning F-86D Sabres began serving with Air Defense Command squadrons. Even at that time, problems with the fuel systems caused additional engine problems, resulting in all F-86Ds being grounded by December 1953 for nearly two months. Additional effort was needed to correct these mounting problems. This was accomplished under *Project Pullout* beginning in March 1954. This program cost \$100 million and covered 1,128 F-86Ds which needed up to three hundred changes to correct *each aircraft*.

Following the F-86D-5, the D-10 had a powered rudder without trimtabs. The D-15 used a single-point refueling loca-

approach control but returned to a manually operated rudder with trimtabs. The D-35 added a VOR set.

On July 16, 1953, Lieutenant Colonel William F. Barns, who was assigned to North American, flew the first F-86D-35, serial number 51-6145, over the Salton Sea and set a *faster* world speed record at 715.7 miles per hour. His "D" was unique because it used wing fences that were not built onto production F-86Ds to control the air flow.

The F-86D-40 added the J47-GE-17B jet engine producing 7,500 pounds of thrust with afterburner allowing the F-86D to climb nearly vertically. The D-45 was the first to use a dragchute pack to slow the Sabre on its landing roll. The D-45 had a wider tail point beneath its rudder (but above the engine exhaust) for housing the parachute pack. D-45s from serial number 52-4136 used the J47-GE-33 engine, capable of pushing the F-86D at 693 miles per hour. The D-50, D-55 and D-60 were similar with several electronics modifications.

F-86Ds equipped fighter-interceptor units in the United States beginning with the 97th Squadron in March 1951. The F-86D's assignment was the air defense of the United States, except for the 4th, 40th and 41st Squadrons which were based in Japan for several years. The last F-86D was delivered to the Air Force in September 1953. In its later years, many F-86Ds were modernized and redesignated F-86L. These aircraft retained the external appearance of the "D", but were improved in many respects. The "L" was the swan song for the F-86 Sabre as an interceptor for the United States Air Force. The F-86K, an export version, had four 20mm cannons and no rocket pod. Its fire control system was extensively changed to bring the cannons to bear. (Both the "L" and the "K" will be covered in future issues of *Sabre Jet Classics* in more detail.)

At its peak, Air Defense Command had twenty wings equipped with F-86Ds in the U.S., Europe and the Far East. By 1956, the 87th Squadron was the last to convert to the F-86D. Because none had inflight refueling, they were usually shipped onboard aircraft carriers to other countries while partially disassembled and cocooned in an anti-corrosion outer covering. By April 1958, all F-86Ds were removed from Air Defense Command, and some were transferred to the Air National Guard which flew them until June 1961. F-86Ds later equipped several foreign air forces, including Japan, Turkey, and Denmark.



The second F-86D, and F-86D-1, serial number 50-456, takes to the air.

The All-Weather F-86D

missiles could be fired six or twelve at a time, or all twenty-four at once. The rockets were usually fired within five hundred yards of the Sabre's target.

The F-86D was redesignated F-95A because only 25% of its parts were common to other Sabres. The first F-95A, serial number 50-577 (actually a YF-86D), flew on December 22, 1949 at the hands of Joseph Lynch after over one million engineering hours spent in development. The first production F-86D/F-95A flew on June 8, 1951 piloted by George Welch. It used an all-flying tail without dihedral for better control at higher speeds. The F-95A was redesignated again because it was easier to convince Congress to further develop a proven design than a seemingly new aircraft, and on July 24, 1950, the F-95A returned

to 53-4090. Later, 406 F-86D-45s with J47-GE-33 jet engines were briefly called F-86Gs. They were redesignated, however, and produced as F-86Ds. This jet engine developed 5,550 pounds of thrust or 7,650 pounds with afterburner. A total of 2,504 F-86Ds were produced, plus the two prototypes, at an average "fly away" cost of \$343,839.00 per Sabre.

The F-86D had a wingspan of 37 feet, 1 inch; an increased length to 40 feet, 3/4 inch; and an empty weight of 13,518 pounds. All "D"s had cockpits painted green. The F-86D could fly at 692 miles per hour at sea level. It cruised at 550 miles per hour. Its time to climb to 40,000 feet was 7.2 minutes. Its service ceiling improved to 49,750 feet with a range of 554 miles. Normal fuel capacity was 608 U.S. gallons, or 848 with droptanks. The

tridge that jettisoned the canopy. The canopy could not otherwise be opened at speeds over 50 knots.

F-86D production began in 1951, but problems with developing both the E-3 and E-4 onboard electronics led to production delays until spring 1953, although the first "D", serial number 50-455, was accepted in March 1951, and about thirty five early F-86D-1s were equipped with the less powerful Hughes E-3 system, a forerunner of the E-4 fire-control system. F-86Ds were constantly upgraded as newer electronics and better jet engines were developed, both of which had been far behind in development. The F-86D-5 was the first to use the E-4 system, which did not arrive at North American Aviation until December 1951, and which still did not

tion which allowed the inner fuel tanks to be refueled from one receptacle in about five minutes for rapid turnarounds.

F-86Ds were faster than the "A"s, despite the F-86D being heavier. On November 19, 1952, Captain Slade Nash flew an F-86D-20, serial number 51-2945, from El Centro Naval Air Station to the Salton Sea, a dry lake bed in southern California. His mission was to break the world speed record set by an F-86A. Captain Nash flew the required four passes over the three-kilometer course at just over one hundred feet setting a new world record at 698.5 miles per hour, breaking the F-86A's record.

The F-86D-25 could release its wing tanks in combat, as could other F-86 models. The D-30 added an automatic

MY FAVORITE SABRE DOG STORY . . .

by Selden Pile

After flying F-86As for four years and 1,000 hours with the 92nd Fighter Squadron of the 81st Fighter Group, I was assigned to the 15th Fighter Squadron in Tucson, Arizona. My new duties were to be the chief of maintenance as well as a squadron test pilot. After arriving there, I was amazed at the maintenance problems described to me about the F-86D by both the pilots and crew chiefs. The "D" did not sound like the F-86A I had been so much in love with before.

From a distance, the F-86D looked like any other F-86, with the exception of its nose radome. But as I got closer, I could see it was a different breed. It was enlarged around the middle to make room for its afterburner, and it had a dragchute compartment built into its aft section below the rudder. The lower rocket pod hanging behind the nose wheel looked like something that should not happen to any airplane! But I soon decided to "get with the program" and learn as much about the F-86D as I could. My first impression after flying the "D" was how *different* it was from the "A" model. But I thought, "Oh well, that's progress!"

I cannot remember every new system introduced on the F-86D because it has been so long ago, but a few stand out. First, the aircraft had electronic fuel control. This was intended to give our pilots automatic starts, control all engine performance up to 100% r.p.m., and add afterburner at all altitudes and airspeed ranges. I thought this was great, with no more worries about "hot" starts. But as I was informed by my instructor, this system had to be monitored very carefully when starting. If a fuel control amplifier malfunctioned, it could give us a hot start like nothing we had ever seen before! The engine in the "D", however, was the same J47 we had in the F-86A and other early models, but this Sabre was fitted with an afterburner that gave us considerably more thrust. I might add that if we had electronic fuel control problems in the air, a very good backup system was available. We could switch to manual control and still get home.

The second new feature, which was *the* most important in the F-86D,

was its Hughes E-4 fire control system. The F-86D's radar was equipped with a central data computer that allowed its pilot to acquire a target from about 30 miles out, track it, lock on, engage autopilot, and make a fully automatic firing run without the pilot taking his eyes off the radar scope. The retractable rocket pod carried 24 2.75-inch folding fin unguided missiles. The pod extended, fired rockets, and then retracted in only a few seconds. This was accomplished without upsetting the aircraft's trim. After making many hot firing runs at targets towed over Yuma, Arizona, we became very proficient using the F-86D's fire control system, and we had a lot of fun flying the bird.

The third system on the F-86D that the "A" did not have was its solid slab "all-flying" horizontal stabilizer. This gave our pilots very positive control, especially at higher speeds. The "D" had a slightly different feel than the "A". This was because of the positive action of the solid slab elevator that was combined with the artificial feel feature built into our control sticks. Because of this, some pilots, mostly newer or inexperienced, found themselves in a very frightening situation, usually on take off, called a "JC" maneuver. This was caused by the

pilot pulling the control stick back and forth during take off while getting the climb attitude established, and then quickly moving the stick to compensate for the landing gear's retraction. It was possible to over-control the "D" to the point where the stick seemed out of synchronization with the aircraft's response. Usually the pilot recovered by pulling the stick and holding it back while sucking in his breath and calling out the name of the Almighty, thus the meaning of the term, "JC" maneuver! Our North American tech reps, however, called it, "Pilot Induced Oscillation", caused by the pilot overcontrolling the F-86D.

By 1957, most F-86Ds went through a modification program and were redesignated F-86L. Several changes were made to the aircraft and its fire control system. These changes made the aircraft perform better and improved its turning capability at altitude. The F-86L was possibly a little faster, too, but not by much. By this time, however, the F-86D/L was fading into history as its air defense role was shifting to the F-101, the F-102 and the F-106.

The Sabre Jet was a fantastic aircraft. Our F-86 pilots and crews in Korea proved to the world how well it performed. Certainly the D/L models were not as glamorous as the day-fighter Sabres, but these all-weather models should be remembered along with the best aircraft of the United States Air Force's past.

The seventh F-86D on the ramp at North American Aviation. Sabre Society member Fred Wise, who was with North American from 1947 until 1975, is seen in the cockpit. The extended ventral tray is clearly seen in this photo.

Photo courtesy of Fred C. Wise



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Pilots of the 94th Fighter Interceptor Squadron run to their F-86Ds during an operational suitability test at George AFB. Official USAF photo courtesy of Bob Makinney

by Bob Makinney

It is an exciting event when a squadron receives the first of its newly assigned aircraft. Of course, considerable effort has already been expended in preparation for the *Big Day*, including receiving spare parts and implementing new training programs for both the maintenance and flying personnel.

The same was true for my squadron at George Air Force Base in early 1953 when our first F-86D arrived. Most of our pilots had been through the instrument flight training, and all had received instruction from the North American technical representatives on the systems in the "D". Each of us soon had our turn at our first transition ride in the new model Sabre.

As those with perceptive memories will recall, the F-86D was an advanced weapons system, but it was perhaps *too* advanced for its time. It featured an electronically-controlled turbojet with afterburner, a state of the art radar detection and fire control system, and armament consisting of 24 2.75-inch Mighty Mouse rockets. It was relatively difficult to maintain as well as being a complicated system for single-pilot operation. In total, the F-86D was a challenging entity in the Air Force's inventory.

The 24 rockets in the "D" were contained in a package within the fuselage between the main landing gear. When all firing parameters were met, the package extended down into the airstream, and the rockets were fired. The nose gear, which was located directly forward of the rocket package, had a microswitch installed as a safety measure. This prevented the package from extending when the nose gear was down and none of the aircraft's weight was on the strut. To load the 24 rockets, the armorers pulled the circuit breaker that pro-

hibited the package's deployment. Next they manually pumped the tray down. After following the loading procedure, the package was then pumped back up again, and the circuit breaker was reengaged.

One of the rewards for our being qualified in the F-86D was helping to satisfy the Air Force's commitment to deliver these new Sabres from the North American plant in Los Angeles to operational units following the aircraft's formal acceptance. I was selected to assist in this program. Delivering F-86Ds provided us an opportunity to escape the daily routine around our home base. It also required us to complete flight plans and check weather briefings in other parts of the country. In short, it was a welcome break from our usual chores. We quickly realized while ferrying these fighters, however, that the aircraft's designers ignored one thing: there was no baggage compartment! Where were we supposed to stow a civilian suit, a pair of shoes, a shaving kit and a change of underwear? There was only one way. With the rocket package in its down position, there was approximately a six inch area between the top of the rocket tray and the aircraft's fuselage. It was an area just large enough to lay a clothing bag without having to stuff our clothes among the new

Sabre's black boxes. To access the area, the crew chief pumped the rocket package down, carefully placed our clothing bag in between the top of the rocket package and the fuselage, and then pumped the package back up.

I eagerly received my first preflight briefing before my initial F-86D ferry mission out of LAX. I was to deliver a new Sabre to a squadron at Andrews Air Force Base in Maryland. After completing my preflight chores and inspections, I started my engine, closed the canopy, taxied to the active runway, and completed my pre-take off checklist. After being cleared into the take off position, I performed my emergency power check. I then informed the tower I was ready for take off. Los Angeles tower next replied that I was cleared to go.

I advanced my throttle into the afterburner. When I felt its surge of power, I released my brakes. The aircraft pulled forward nicely, and it rapidly accelerated to the nose wheel lift off speed. I then pulled back on the stick to get airborne. As my F-86D rotated to its initial climb angle, I felt a *deadening thump*. I checked my cockpit gauges, but everything was normal. I felt the Sabre continue to accelerate, and so I completed my take off and climbed out of the traffic. I next checked around the cockpit to see *what* had caused that loud thump?

I soon learned it was my *rocket package*. As my F-86D rotated to its climb attitude, its weight was removed from the nose gear's microswitch, and the circuit breaker that *should* have prevented the package from extending had *not* been reengaged. To my chagrin, the rocket package had dropped down into the windstream. This quickly scattered my clothes bag, shaving kit and my underwear all over the southern California countryside!

A crew chief assists a pilot strapping in to an F-86D at George Air Force Base in California during an operational suitability test in 1953.

Official USAF photo courtesy of Bob Makinney



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by Bill Dunbar

I flew 100 missions in F-86As and "E"s from Kimpo Air Base with the 336th Fighter Squadron, from May to October 1952, with one damaged MiG-15 credited. I next reported to Tyndall Air Force Base in Florida, after a month on leave, where I taught gunnery in F-80s for six months. I was then transferred to the F-86D All-Weather Interceptor program until I was discharged eighteen months later.

I was not very impressed with the performance of the "D". Maintenance was poor, and consequently we got little flying time as instructors. Most of our flying time was allocated to our students, and instead we flew in T-33 trainers as targets for them. I never fired rockets from a "D" as an instructor. That was reserved for our students.

Our F-86D cross-country trips were restricted to flying into F-86 bases because of the frequent problems we

was too low. I tried to raise it like the seats in the "A" and the "E", but it did not work. I decided that adding a little negative "g" would do the trick. I promptly unlocked the seat, and then I nudged the stick forward. My "D" immediately started on one of the infamous "JC" overcontrolling maneuvers, and the seat and I were thrown to the top of the seat rails! The slam threw my armrests up about four inches in the process, and that unlocked the canopy, which *instantly* departed. Remember that the right armrest is linked to the canopy locking lever, which is on the floor by the pilot's right foot. Pulling the armrests up releases the canopy and *cocks the ejection levers* in the armrest handles!

I quickly found myself half way out of the aircraft, with my right arm behind me pounding up and down on the fuselage. My helmet and face mask were gone. I could not see anything because

a no-radio initial approach. After parking and checking the Sabre, we found that the safety pins could not be inserted in the seat and canopy actuators, so ordnance specialists disarmed them. We also found that the headrest assembly on the seat was bent straight back! The Air Force later modified the ejection systems to prevent accidental unlocking of the canopy until the armrest was almost completely up to the ejection position, instead of in the first few inches of travel.

This episode occurred just southeast of Tyndall at Cape Sanblas, south of Port St. Joe, Florida. I was very fortunate to come through this with only a cut thumb and a badly bruised arm. That evening, I checked my eyes in the mirror and found a ring of dirt around each eyeball! Two weeks later, my helmet washed up on Mexico Beach, ten miles away. It was discovered by a couple who returned it to Base Ops.

When I was at Tyndall, the F-86D was a highly classified aircraft, and no

until October 1964. During those ten years, I flew F-80s for a year, F-86As for two years, and F-84Fs and RFs for seven years.

During my first two years in the Guard, I managed to "finagle" three flights in F-86Ds. In November 1955, one of my cadet classmates visited from Texas, and he let me fly his "D" for an hour. Next, when we received our F-86As in 1956, an Ops officer from the F-86D squadron at McGhee-Tyson Air Force Base, who had previous "A" time, was sent to Terre Haute to help us transition. He brought a "D" from Tyson once and let me fly it. Finally, we flew two "A"s to Tyson one weekend so he could check out a squadron mate in my "A". He sent me out with another pilot to fly a ground-controlled interception (GCI) mission in two F-86Ds. When we arrived in the practice area, the other pilot made one intercept on me but found his radar was out. He asked me if I would like to fly some intercepts rather than abort the mission, and of course, I wanted to. It had been eighteen months since I had run an intercept in a "D", and I was anxious to see how this would work. I selected 12 rockets on my missile selector. I reached down to the right side to push the fire control circuit breaker in so that I would get a pod drop if my run was perfect. It then occurred to me that this "D" was an *active* Air Defense airplane, and that it might be *loaded*! We always set our "D"s up for a pod drop at Tyndall as we were never loaded with rockets. I decided not to push the breaker in, and turned my rocket selector off. My first run was a perfect phase three, dot-on-the-line splash!

When we returned to Ops, I asked the other "D" pilot if our aircraft were loaded? His reply was, "Yes. We got them from the alert hangar. Your airplane is a rocket team airplane *with a peaked set*."

I never said a word.

I have mellowed over the years because I look back and am glad the F-86D was a part of my experience. My all-weather training and flying experiences helped me when I began flying for American Airlines in 1965. The "D" simulators were the finest in the business in 1953 and 1954. They prepared me for every simulator I encountered with American, and I flew the DC-6 and 7, the Boeing 707, 720 and 727, and the DC-10. I flew as a Captain on the 707, 727 and the DC-10 before retiring on December 27, 1989 at age 60.



An early F-86D, serial number 50-477, photographed in 1973.

Photo courtesy of interair

"DOG DAZE"

By Howard R. Ebersole

I was in the 18th Fighter-Bomber Wing in Korea when we converted from F-51s to F-86Fs. After Korea, I was assigned to Tyndall Air Force Base in Florida where I flew the "Dog" with the 3627th Training Squadron. Our job was to train replacement F-86D pilots for the Air Defense Command's mission.

The F-86D's "heyday" was in the mid-Fifties. The "Dog" was called an all-weather interceptor because of its E-4 weapon control system and a pod of 24 "Mighty Mouse" 2.75-inch folding fin aerial rockets. Each missile had a small warhead which relied upon a contact fuse to detonate. The 2.75-inch rocket was a lethal projectile, and firing all 24 at once covered an extensive area. It was interesting to watch a full batch of missiles fly enroute to their target. Of the 24, a significant few had minds of their own! Some spiralled wildly while others did crazy rolls or goofy loops. On the positive side, however, a good number *did* behave properly, and occasionally they hit their intended target, whether a towed object or a drone. That happened when all four folding fins opened correctly coming out of the rocket case. Then they flew fairly straight.

My own memorable "learning" experience in the "Dog" occurred once shortly after a take off. I *really* learned flying the "D" from that. My close encounter dealt with the autopilot.

It was a typical gulf coast winter day, with a low ceiling and visibility to match, and solid clouds up to eight to ten thousand feet. I was scrambled after a target that required continuous afterburner for my climb. With the afterburner on, that old "Dog" would really accelerate *rapidly*.

Shortly after I raised the gear and popped into the overcast, I nonchalantly flipped my autopilot switch on, when WOW! WHAM! \$\$\$#! happened! My head slammed against the canopy, and thank God for hard helmets and heads to match! My eight-ball altitude gyro was spinning, telling me I was doing the *fastest series of rolls* I had ever done, but I could not get my hand on the *autopilot disconnect*. I came out of burner and instinctively pulled back on the stick to gain altitude. Slowing the airspeed by coming out of afterburner helped a little. I *finally* disconnected the autopilot. Hoooooeeee!

By then, I popped out on top of a dazzling white undercast with clear blue sky above, but my head was *still* spinning! I called control and aborted my mission. I then returned for an uneventful but very welcome landing.

What had happened was a *full-over aileron* signal malfunction when I engaged my autopilot. This caused the rapid rolling. Of course, the faster I went, the wilder my ride; but when I came out of burner, things got a *little* more manageable. For a while, I had a *tiger by the tail*.

What did I learn, and what do I preach to this day? Just this: Never, *EVER*, engage the autopilot unless another finger is on the quick disconnect button. I have had other autopilot malfunctions since then, and in other birds and other scenes, but *always* with *NO* significant disturbances!



Left: First Lieutenant W. P. Dunbar, Jr., standing by an F-86D-55 or -60 at Hulman Air National Guard Base in Indiana in September 1955.

Right: Bill Dunbar near the time of his retirement from American Airlines.

Photos courtesy of Bill Dunbar



encountered. Only three of us took "D"s on weekend trips, and most of those were with -1s with their E-3 fire control systems removed. The -1s were used for transition flying only, as the later models had E-4 systems. My home was 90 miles east of Chanute Air Force Base in Illinois. Because that was an F-86 maintenance base, I was able to fly there several times in the "D". I managed to accumulate 180 hours flying the F-86D in my eighteen months. Frequently another pilot from the Chicago area would fly to Chanute with me, so we often had a two-ship flight. We stopped at McGhee-Tyson Air Force Base in Tennessee for fuel on the flight north, but usually we made it back non-stop (about 640 nautical miles).

The F-86D almost cost me my life once when I was going through transition training in June 1953. I had about eight hours in the aircraft before taking off on one particular training hop. I was climbing through 8,000 feet at 475 knots when I realized my seat position

of the rushing wind. Fortunately, my left hand was still inside, and I yanked the throttle out of afterburner and opened my speedbrakes. I next hunkered down as best I could and dragged my sore arm in behind me. I could not pull it around my side because of the wind. Once completely inside, I got down away from the force of the wind, and I could now see through the windscreen. What I saw was half sand and half water, which told me I was in a *vertical dive*. It looked too close to bail out, so I hauled back on the stick and levelled out at about 500 feet. The "D" continued to pick up speed even though I had the throttle back and my speedbrakes out. The wind poured over the windscreen and blew in from behind, flapping my ears until they hurt like they would be torn off.

As I slowed to 220 knots, I was finally able to get comfortable. I climbed back to 1,500 feet and next returned to base. With my helmet and mask gone, so was my microphone, and therefore I used

pictures were allowed. We worked six-day weeks without leave as the Air Force was on a crash program to train "D" pilots. They ordered 2,500 F-86Ds for the Air Defense Command and wanted enough pilots qualified to fly them. I had some excellent students in our F-86D program, and I enjoyed my work even though I thought the "D" was a pretty sorry airplane. It was, however, the world speed record holder at that time. I flew every model of the "D" we had at Tyndall, from the -1 to the -55. If I had stayed in the United States Air Force, I would have entered the Interceptor Weapons Instructors School, and I probably would have flown the F-102 and the F-106. But I needed a college degree, so I opted out.

In January 1955, I joined the 113th Fighter Interceptor Squadron of the Indiana Air National Guard at Terre Haute, and I returned to Purdue University. I graduated in January 1958 with a degree in Air Transportation and continued flying with the IANG

A Normal Day In The Life Of A "Dog" Pilot

by Neil Fossum

After being spoiled flying the F-86F Sabre at Nellis Air Force Base, I was assigned to Tyndall with the F-86 "Dog" in my future. It may not have been the "F", but its wings were "bent", and so I thought it could not be all that bad! But at the time, F-86Ds were falling out of the sky around Tyndall with *regularity* because their turbine buckets had a nasty habit of *leaving the airplane* prior to landing. At one point, three of my buddies had their backs in casts *at the same time* after ejecting from the beasts. On another occasion, during one dark night, my friend's "Dog" started burning so brightly while entering his initial landing approach that he lifted his wrist to see what time it would be *when he crashed!* We were all very much on the "alert" as there were always a few guys getting bitten by the "Dogs". This brings

me to the day I *thought* my F-86D bit me.

May 2, 1955 was a beautiful day in Florida. At 10:30 a.m., a two bird mission was scheduled, with me leading and Lieutenant Ken Hughey flying my wing. Our take off went normally from runway 31L out of Tyndall. As we changed to a tactical frequency, I glanced over and saw Ken neatly tucked in beside my Sabre. At that same moment, my Dog "exploded" and started vibrating my molars loose. All I could think was that my Sabre's turbine buckets must be flying apart, but all my gauges were still in the green. I switched back to the tower and yelled, "Mayday! Mayday! I've had an engine explosion, and I need the left runway." While turning on final, I thought I could hear my fuel burning, and I was sweating losing the hydraulic pressure to my elevator. But it all worked

out fine, and my barrier impact was at 100 knots.

I had my engine shut down and was sitting to the side of the runway smoking a cigarette when our Flying Safety Officer (FSO) arrived. He asked me, "Neil, what happened to your radar equipment cover on the nose?" I replied, "I don't know. The firemen must have removed it while checking for a fire." The FSO then informed me that *they did not do that!* After looking back at him, I thought, "Oh, shoot!" Then I said, "Well, that must have been the cause of the explosive sound and all that vibration in my aircraft (it's rough trying to be a hero!)"

As it turned out, my "Dog" had not *really* bitten me. Soon after, they put on some new gear doors and that missing radar equipment access cover, and we were *back in the air* that afternoon.



Preparing to load a 2.75-inch folding fin rocket. The end cap kept the fins folded into the rocket and was removed when the missile was loaded. These rockets have dummy heads.

Photo courtesy of Douglas Sturgeon and the Maryland Air National Guard

My Favorite Sabre Dog Story

by Jim Carter

I had a most unusual experience in the late 1950s while flying the Sabre Dog from Buckley Air National Guard Base with the 120th Fighter Interceptor Squadron of the Colorado Air National Guard.

We were flying south of Denver on a routine night interception training mission. It was a beautiful winter evening after a recent snowfall. I was the second Sabre of three, flying a "snake trail" formation with a five mile separation. The panoramic view with Denver's lights in the background made it difficult for me to concentrate on my radar scope and instruments.

As we passed through 10,000 feet and completed our climb check, there was a loud *BANG* in my aircraft, not unlike what a compressor stall sounds like in an F-100's J57 jet engine, something I

would later experience many times in the Super Sabre. I instinctively throttled my engine back and carefully checked my instruments. Everything was normal. I notified our flight leader about the problem. He called for a circling join up and instructed the third F-86D to visually check my Sabre. Number Three reported everything was normal, and so we resumed our mission and completed a simulated attack and re-attack on a T-33 target ship. After flying the intercepts, we returned to Buckley for an instrument approach and a few low approaches before landing.

While parking my Sabre, a crew chief frantically signalled me to *cut the engine*. After shutting down, I quickly joined a group of excited mechanics standing around the nose of my aircraft. To our surprise, there was a *perfectly formed*

hole, four inches in diameter, in the bottom lip of my F-86D's air intake! With its inward impact, however, the hole was very difficult to see unless viewed directly from the front. Further investigation showed that a bird strike, probably by a nighthawk, had also done extensive damage to the lower forward section of the fuselage, all the way back to my Sabre's nose wheel strut.

I know bird strikes occur frequently on low level routes and in traffic patterns, but a hit like this at night at 10,000 feet was something out of the ordinary! Fortunately, the strike did not take out my windscreen *and me with it*, or go into the air intake and damage the Sabre's rather fragile J47 jet engine.



The Canadair Sabre

BY LARRY MILBERRY

A grand book about a grand fighter. The Sabre was adopted by the RCAF in 1949 as its primary day fighter. *The Canadair Sabre* details the story from the first talks between Canada and the US, to training the first techs in California, and introducing the Sabre to RCAF pilots. Next comes start-up of production at Canadair, first flight in August 1950, then the most detailed look ever into the Sabre in action: formation of the NATO Air Division squadrons, overseas ferrying, all the details of squadron ops.

The Canadair Sabre also includes training at the OTU, RCAF pilots fighting MiGs in Korea, development of all marks to the legendary Mk.VI; Sabres in the Air Reserve; and aerobatics with the Fireballs, Sky Lancers and the incomparable Golden Hawks.

The Sabre era in the RAF and Luftwaffe is here, with plenty of photos and first-hand accounts, as are squadrons in Italy, Greece, Turkey and Yugoslavia. An intriguing section deals with the Sabre at war in the Pakistan Air Force and its successes against the Indian Air Force (even against the MiG-21), as well as Sabres with the South African Air Force and in the Congo and Honduras.

The book tells how many ex-RCAF Sabres were converted to target drones for the US Army and USAF. Others became target tugs (some are still at work in 1992).

The Canadair Sabre is in a class of its own—rarely has a book dealt so splendidly with an aircraft. Produced to the standards that have made CANAV books famous—well printed and bound, with a full-color jacket. Combine this with the subject matter (everyone's favorite jet fighter) and the result is a book few buffs will care to miss.

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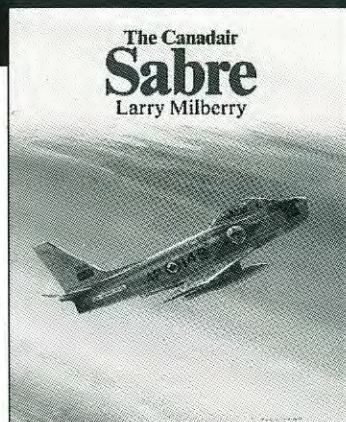
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Sabre Jet Classics



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We would like to obtain **pictures of F-86s** for framing. Can you help? David C. Castagno, 15175 N.W. Perimeter Drive, Beaverton, OR 97006

I am a volunteer with the San Diego AeroSpace Museum. I am presently **reconstructing the cockpit of an F-86F**, possibly for display, and there are a number of parts I am searching for. Kim H. Colwell, 7914 Normal Avenue, La Mesa, CA 91941

I have been looking for **serial numbers of Sabre Jets** in service with France, Taiwan, the Phillipines and Thailand and wonder if your society can offer some assistance. W. Yip, 535 Diana Place, Arroyo Grande, CA 93420

Did you fly the F-86? If so, then you should belong to the **F-86 Sabre Pilots Association** which exists to perpetuate the history of the F-86, the units to which it belonged, and the pilots who flew the Sabre. Write for an application to: F-86 Sabre Pilots Association, P.O. Box 97951, Las Vegas, NV 89193.

Your editor wants to develop feature articles about the **Fighter-Bomber Wings** that flew in Korea for **Sabre Jet Classics** in addition to the day fighter Sabre units. If you have unit histories and/or photos to loan, please contact Rick Mitchell immediately!

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Today's Sabres by Ed Buerckholtz

Editor's Note: The following story by Ed Buerckholtz, the president of Spirit Fighters, Inc. in Chesterfield, Missouri (near St. Louis), is the first of several articles discussing the refurbishing of their ultra-rare F-86H to flying status. **Sabre Jet Classics** will follow this story and watch as their Sabre, serial number 53-1250, progresses from a technical school training airframe back to a first-rate restored jet fighter.

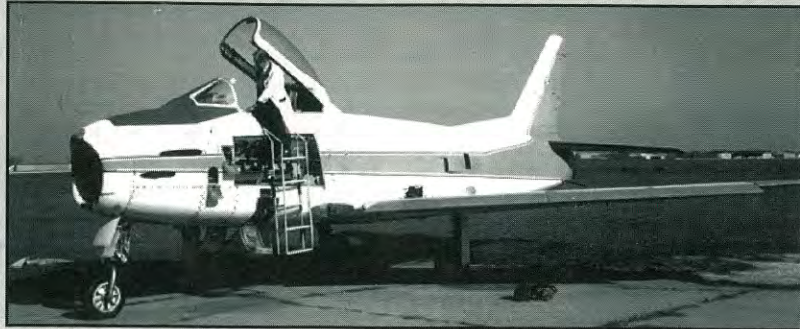
Some background on "250" is in order before Ed begins his discussion. 53-1250 last flew actively with the Maryland Air National Guard, which is based at Martin Airport in East Baltimore. In December 1957, Maryland's 104th Fighter Interceptor Squadron converted from F-86Es to F-86Hs, the ultimate fighter-bomber model of the Sabre Jet and the last of the Sabre line. Maryland eventually flew 68,482 hours in F-86H Sabres. In April 1970, Maryland began replacing its vintage Sabres with new A-37B Dragonfly fighter-bombers. By August 4, 1970, Maryland's last F-86H (and also the **active military's** last, incidentally) departed Martin Airport for retirement to gate guardian duties at Seymour Johnson Air Force Base in North Carolina.

53-1250 is one of the luckiest surviving F-86Hs. It was manufactured in 1953 but held in storage until January 1955 when it was accepted by the Air Force. It first served with the 117th Fighter Group at Atlantic City, New Jersey from 1955 to 1962. Until 1967, it was with the 156th Tactical Fighter Group in San Juan, Puerto Rico. In 1968, this F-86H received its last military assignment when it was transferred to Maryland's 175th Tactical Fighter Group at Martin Airport. Later that year, however, it was called to active duty at Cannon Air Force Base in Clovis, New Mexico with the 175th. In January 1969, it went home again to Baltimore when the unit returned.

On May 28, 1970, Lieutenant Colonel Joseph Radoci of the MD ANG flew 250 on its last mission, a one-way trip to the Greater Rockford Airport in Illinois. It had 2,765.6 airframe hours by this time. Soon after, 250 went on the inventory of the Rock Valley College's Department of Aviation Maintenance Technology as part of their aviation mechanic program.

By 1987, the college determined that 53-1250 was an excess aircraft, and they considered trading the rare Sabre for a newer, but preferably civilian, aircraft. And with this lengthy introduction completed, we now turn the story of 53-1250 over to Ed and his excellent restoration team at Spirit Fighters...

The airport at Rockford, Illinois is a breezy place most of the time, but as I skated down the slippery taxiway one cold and snow covered evening in the mid-Seventies in a wailing FH-227, the place looked like a corner of Siberia that had been rejected for lack of interest. I did note, however, a familiar shape softened by the snow and gloom off to the east side. I muttered to myself, "Geez, a Sabre! I wonder what idiot owns that?!" Little did I know that one day, I would be the "idiot" who would be involved in a tremendous undertaking aimed at bring-



Spirit Fighters' F-86H looked like this on the first day they saw the Sabre. Professor Jim Froemming is seen on the canopy rail. Photo courtesy of Ed Buerckholtz

AN F-86H IS REBORN

- PART ONE -

ing that very machine back to flying status.

Our adventure with the Rock Valley College Sabre began in earnest when Leroy Keener, a friend, pilot, mechanic and world traveler, saw the F-86H in 1989. He returned home and said, "I saw a pretty good looking Sabre at Rockford. It belongs to a tech school. Let's check it out!" I recalled the snowy lump I saw several years before, and so I remarked, "I've seen that thing, Lee. *Forget it!* You can't get *anything* like that from a school. It's impossible."

"You might say that," Lee rejoined, "and you may be right, but you won't really know unless you try!" And so Spirit Fighters began trying to obtain the forlorn F-86H.

We went to the college to see the airplane. Professor Jim Froemming was kind to us. He handed us a copy of the information package that the school had prepared for the half dozen "fools" who came every year looking for Sabre items. The data pack contained a Winter 1987 issue of *Warbirds International* that included a letter Jim had written describing their aircraft. Discouragingly prominent in his article was the outright statement, "It cannot be certified for flight." Jim, however, was sympathetic. "Too bad," he said, "we really don't use it much anymore, and the FAA is urging us to get something more modern."

To this I quickly responded, "What would you like to have instead?" Jim thought for a moment. Then he said, "Oh, a nice *King Air* would suit our needs. Yes, indeed!" We recovered well. We then thanked Jim, got on our horses and left town.

This event soon started a fascinating series of events. When I returned home, I told our story to several friends.

Most simply said, "I could have told you *that*. What a waste!" But one friend, Bob Morgenthaler, who has been very successful in aviation, said, "Sometimes you have to *motivate* people, *know what I mean?*!" Let's form a company and *buy a King Air*." That scared me! But then along came Butch Giessman, another successful aviation entrepreneur, and *we did just that*. Not long after, we were looking at a King Air 90 sitting on our ramp. It certainly lightened our hip pockets, if not our hearts!

Things began to happen in late 1990. We went to Rockford and brought some college officials back to St. Louis for lunch. On the ramp, we gestured casually over our shoulders to them and said, "There's *your* plane!" They looked at the King Air, and then us. We then said, "We bought it *for you*, and we want to *trade*." They looked at the King Air more closely this time as their feet were already walking in that direction.

It took another year, but the deal was completed. Obtaining the F-86H involved government agencies we had never dealt with, documents we had never heard of, members of Congress, administrators, and lawyers daunting in their numbers and requirements, but *we did it!* That alone is a story. And then finally, one day in March 1991, a trailer from Ben Nattress' Worldwide Aircraft Recovery arrived at our home field, the Spirit of St. Louis Airport. A new phase in the battle to fly 250 again was just beginning...

(To Be Continued)

Note: Spirit Fighters is always looking for F-86H parts. Some items are missing from their Sabre, but others have extras. If you can help, please call Spirit Fighters at (314) 532-2707, or Fax at (314) 532-1486.

