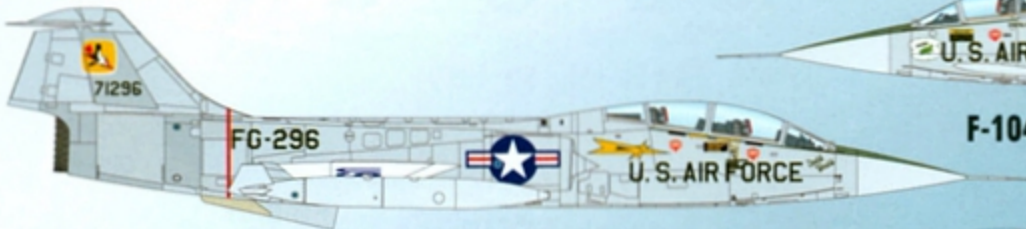


# USAF & NASA Starfighters

Recommended Kits: Hasegawa F-104C and F-104G

**VPD48005**  
 1:48 Scale Decal



**F-104B 337th Ftr-Intcp Sq 1960**



**F-104A 538th Ftr-Intcp Sq 1958**



**F-104C 436th Tac Ftr Sq, 479th Tac Ftr Wing 1960**



**F-104A 4760th Combat Crew Training Sq 1967**



**F-104D 479th Tac Ftr Wing 1963**



**F-104C 435th Tac Ftr Sq, 6252nd Tac Ftr Wing 1965**



**F-104D 198th Tac Ftr Sq, Puerto Rico ANG 1974**



**F-104C 435th Tac Ftr Sq, 8th Tac Ftr Wing 1966**



**NF-104A Aerospace Research Pilot School 1964**



**F-104A AF Flight Test Center 1959**



**QF-104A 3205th Drone Sq, ADTC 1970**



**QF-104A AF Flight Test Center 1961**



**F-104A NOTS China Lake 1960**



**YF-104A NASA Dryden Fit Research Ctr 1971**

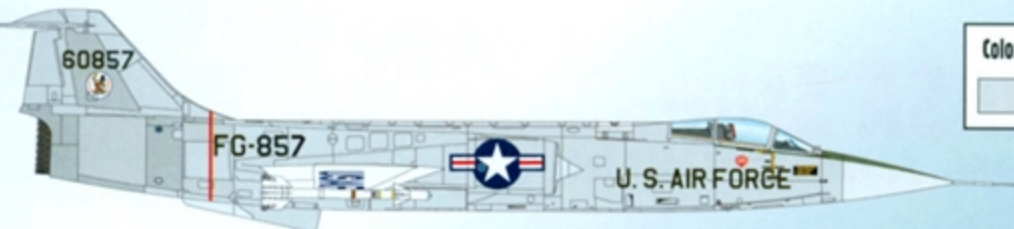


**F-104N NASA Dryden Fit Research Ctr 1966**

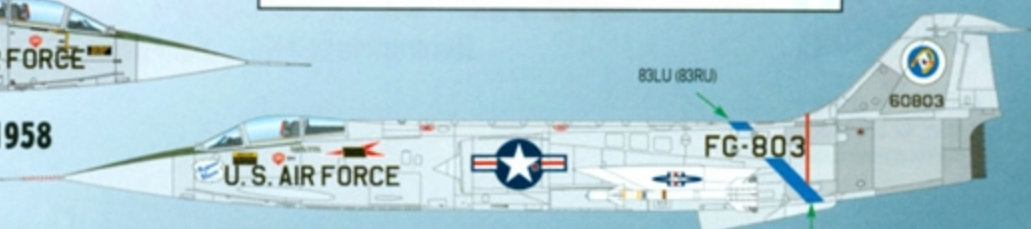
Color Key			
Natural Metal	Flat Black (FS 37034)	Fluorescent Orange (FS 38903)	Olive Green (FS 34102)
ADC Gray (FS 16473)	White (FS 17973)	Fluorescent Red (FS 38905)	Tan (FS 30218)
Olive Drab (FS 34087)	Light Blue (FS 15450)	Dark Green (FS 34079)	Light Gray (FS 34623)



Color Key	ADC Gray (FS 16473)	Flat Black (FS 37038)	White (FS 17975)
Natural Metal	Olive Drab (FS 34087)	Insignia Red (FS 11134)	Fluorescent Orange (FS 38942)



**F-104A 56th Ftr-Intcp Sq 1958**



**F-104A 83rd Ftr-Intcp Sq 1959**



**F-104A 337th Ftr-Intcp Sq 1959**



**F-104A 319th Ftr-Intcp Sq 1964**



**F-104A 331st Ftr-Intcp Sq 1964**



**F-104B 538th Ftr-Intcp Sq 1958**



**F-104A 151st Ftr-Intcp Sq, Tennessee ANG 1960**



**F-104A 4750th Test Sq 1959**



**F-104A 157th Ftr-Intcp Sq, S. Carolina ANG 1961**



**F-104A 151st Ftr-Intcp Sq, Tennessee ANG 1961**



**F-104A 157th Ftr-Intcp Sq, S. Carolina ANG 1963**



**F-104B 197th Ftr-Intcp Sq, Arizona ANG 1960**



**F-104B Sacramento ALC 1970**



**F-104C 434th Tac Ftr Sq, 479th Tac Ftr Wing 1959**



**F-104C 435th Tac Ftr Sq, 479th Tac Ftr Wing 1959**



**F-104C 476th Tac Ftr Sq, 479th Tac Ftr Wing 1959**



**F-104C 476th Tac Ftr Sq, 479th Tac Ftr Wing 1960**



**F-104D AF Flight Test Ctr 1959**



Color Key			
Natural Metal	Flat Black (FS 17040)	Fluorescent Orange (FS 34862)	Olive Green (FS 34182)
ADC Gray (FS 14470)	White (FS 17170)	Fluorescent Red (FS 34863)	Tan (FS 34010)
Olive Drab (FS 34487)	Light Blue (FS 15450)	Dark Green (FS 34070)	Light Gray (FS 34632)



**F-104A-1-LO 55-2969, 83rd FIS, Hamilton AFB CA, 1958**

The first Starfighters received by the 83rd FIS were preproduction YF-104s, which featured the M61 cannon installation, ventral fin and a downward ejection seat. Factory finish, natural metal overall, including the wings. Early markings included the large squadron badges on both sides of the fin. Z1 style buzz numbers, 8" radio call numbers and P1 pitot tube rings. Stencils: J1(left), H and J1 (right).



**F-104A-20-LO 56-769, 83rd FIS, Hamilton AFB CA, 1959**

After returning from Formosa in December, 1958, the 83rd FIS markings were changed to display the small squadron badge on the left side and a plain ADC shield on the right of the tail. Names were often carried and the red/black crew name block was retained as was the blue band on the rear fuselage. Downward ejection seat, markings: Q1, J1(left), R1, L1, C1, H2 and J1 (right). Buzz codes: Z1, pitot tube: P2.



**F-104A-20-LO 56-824, 331st FIS, Webb AFB TX, 1964**

56-824 "City of Kent" was not a "Sooner Boomer" but had a yellow roadrunner painted on the right nose. No Vulcan cannon installed but had the upward ejection seat and tail hook. Markings: R7, B5 and J4 (left); H5, Q6 and J4 (right); P6 pitot tube and Z2 buzz codes.



**F-104C-5-LO 56-929, 198th FIS, Muniz ANGB, San Juan PR, 1972**

56-929 of the 198th TFS, based at Muniz ANGB, Puerto Rico, carried the round Air National Guard emblem and the flag of Puerto Rico on both sides of the tail. Camouflage in accordance with T.O. 1-1-4. Tail numbers were white stencil style and 6" high, although some F-104Cs carried black tail numbers. IFR probes were generally fitted.



**QF-104A-5-LO 56-741, 3205th Drone Sq, Eglin AFB FL, 1967**

QF-104A 56-741 was dayglo orange overall with white wings and flat black anti glare panel. The inboard halves of the wing tanks were also flat black as was the turbine warning stripe. The AF Systems Command emblem was on the left fuselage and the APGC emblem on the right side. The vertical red tail bar was applied to both sides of the tail. Note the 9" high radio call number preceded by "0-". Upward ejection seat, markings: R7, B5 and J3 (left) and Q2, H4 and J3 (right). P5 pitot tube stripes.



**F-104N 812, NASA Dryden Flight Test Center, Edwards AFB CA, 1966**

NASA 011 and 012 were renumbered 811 and 812 in late 1966 but otherwise retained the NASA high-visibility markings on the fuselage, wings and tail. Stencil markings R10, D1, B5 and J2 (left) and H6, Q3 and J2 (right).



**F-104N 811, NASA Dryden Flight Test Center, Edwards AFB CA, 1979**

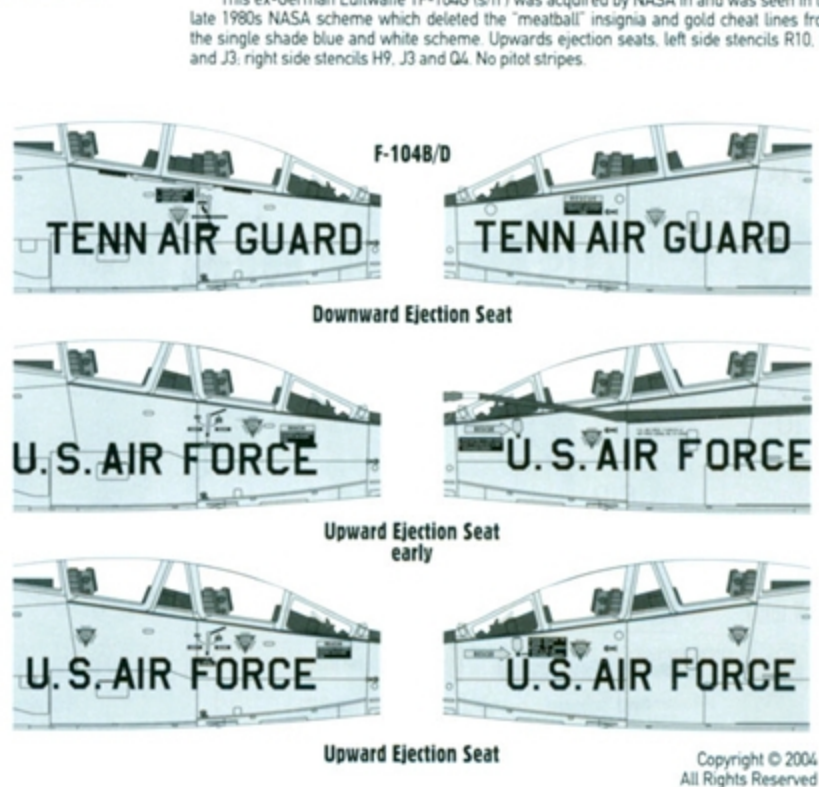
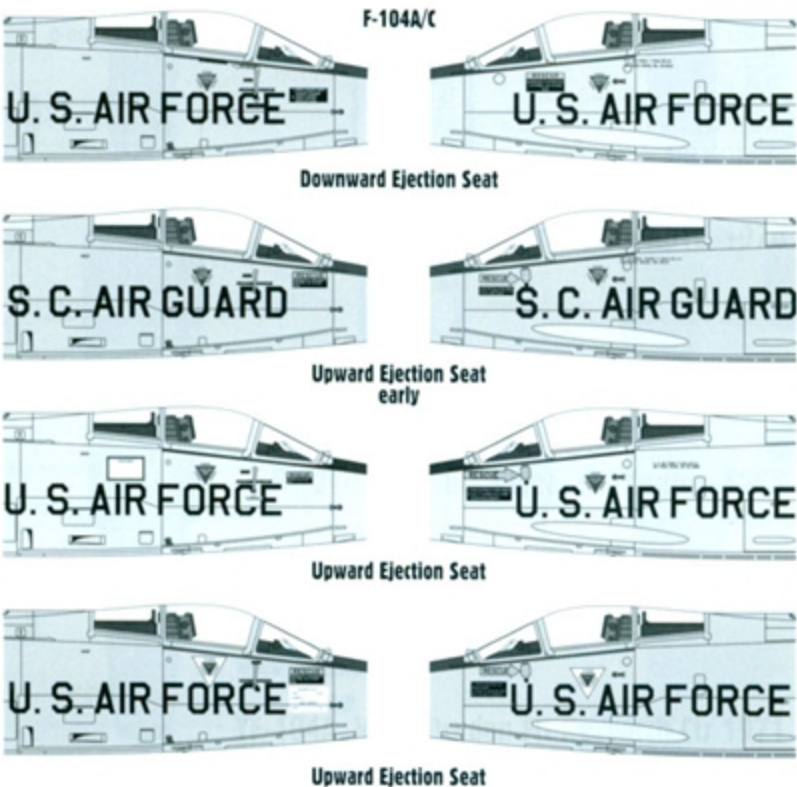
In the late 1970s, NASA modified its color scheme for the F-104, changing the light blue undersides to white, but retaining the gold cheat lines and full NASA markings: ML on the left inlet, MR on the right. White N-numbers on the rear fuselage. Upwards ejection seat, left side stencils R10, B6 and J3; right side stencils H9, J3 and Q4. No pitot stripes.



**F-104N 825, NASA Dryden Flight Test Center, Edwards AFB CA, 1987**

This ex-German Luftwaffe TF-104G (s/n ) was acquired by NASA in and was seen in the late 1980s NASA scheme which deleted the "meatball" insignia and gold cheat lines from the single shade blue and white scheme. Upwards ejection seats, left side stencils R10, B6 and J3; right side stencils H9, J3 and Q4. No pitot stripes.

**TYPICAL PLACARD PLACEMENT**

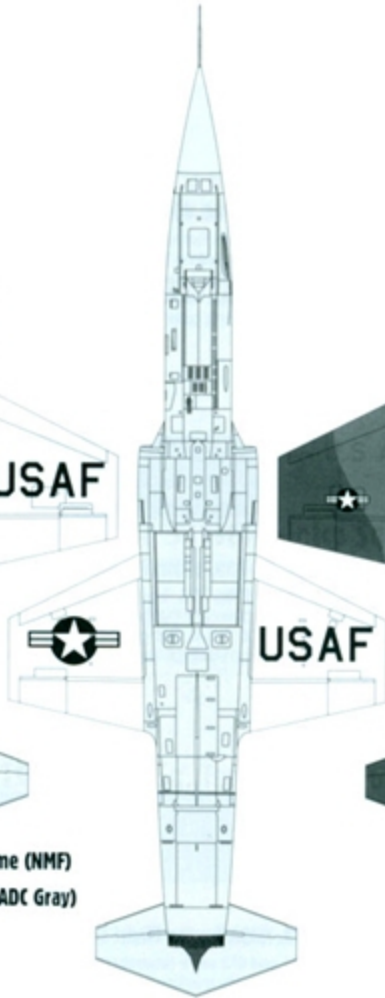




Color Key			



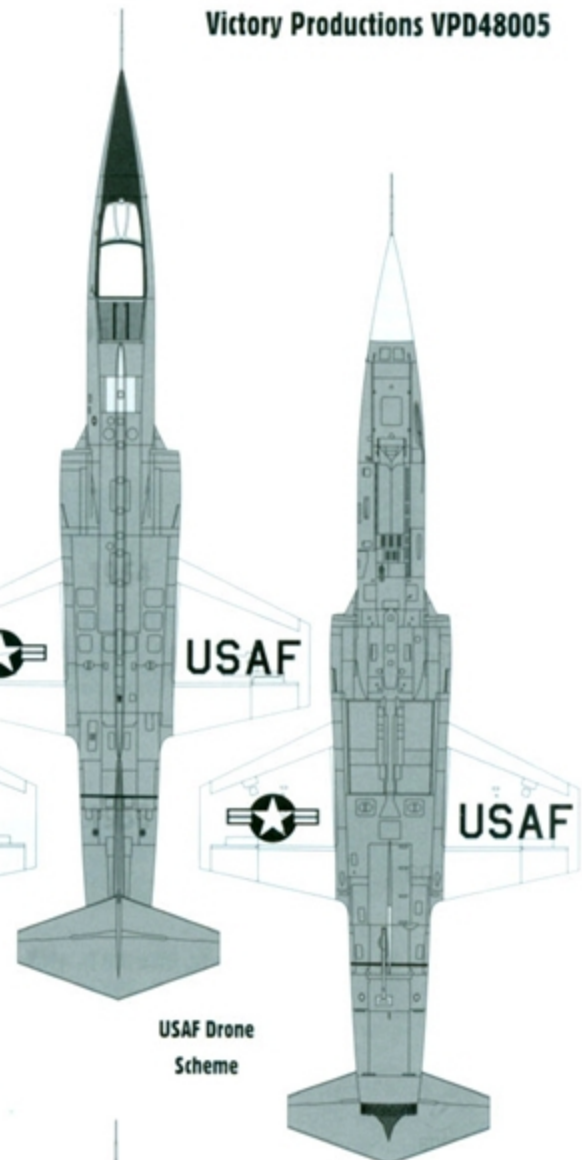
Factory Scheme (NMF)  
ADC Scheme (ADC Gray)



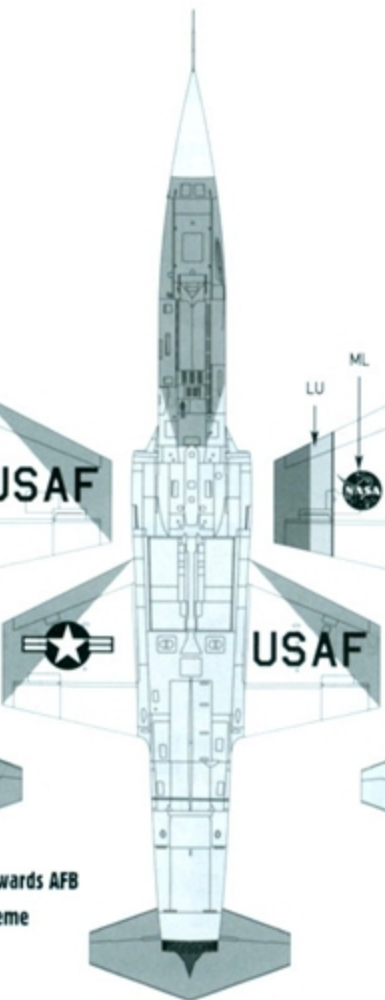
USAF T.O.1-1-4  
Camouflage Scheme



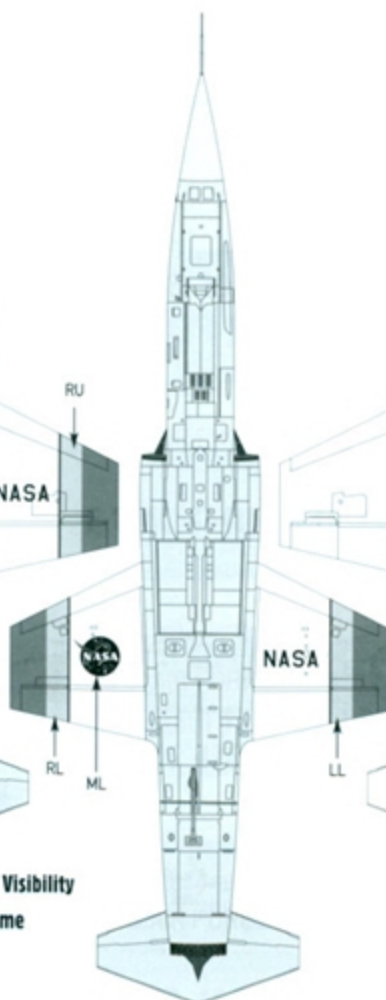
USAF Drone  
Scheme



ARDC/AFTC Edwards AFB  
Test Scheme



NASA High Visibility  
Scheme



NASA Blue and White  
Scheme



Thank you for purchasing this Victory Productions decal. We aim to bring you interesting and offbeat subjects, so if you like this one, let us know what else you want to see. And if you have in your possession, or know where to get, good reference material on cool and interesting stuff, we are always interested. Free decals await those whose reference material gets used for decal production!

## General Notes:

As we said in our Luftwaffe Starfighter sheet (VPD 48003) Hasegawa has come up with a superb series of state of the art 1/48 scale kits of the F-104 family. There isn't much to be said - they are quite simply gorgeous. If you really must have something to nitpick, our choice would be the masses of countersunk rivets which for some strange reason Hasegawa put all over the airframe. Real F-104s were very smooth, and in fact the wing skins were machined and did not even have rivets! Get out the putty...

The F-104A Starfighter was developed as an interceptor for the USAF Air Defense Command (ADC) by Kelly Johnson's team at the Lockheed Skunk Works in the early 1950s. Impressed by the Starfighter's outstanding performance, the Tactical Air Command ordered its own nuclear-capable version, the F-104C. Two-seat training versions, the F-104B and F-104D for ADC and TAC, respectively, were also produced. A total of 296 Starfighters was delivered to the USAF: 2 XF-104, 17 YF-104A, 153 F-104A, 26 F-104B, 77 F-104C, and 21 F-104D. An additional quantity of 18 RF-104A reconnaissance fighters was canceled in 1957. Some 24 early F-104As were modified into QF-104 drones and three became NF-104 rocket boosted research vehicles. A number of upgraded F-104As were later exported to Taiwan, Jordan and Pakistan along with some F-104Bs. Some also became NASA F-104Ns.

The pre-production F-104As carried the 20mm M61 rotary cannon which was to be installed in all subsequent production fighters. Problems with the gun jamming, however, prevented its inclusion in the production F-104As. The improved M61A1 cannon solved the jamming problems and was installed in the production F-104C and was retrofitted to many surviving ADC F-104As after 1963. For longer range missions, the USAF F-104s had a removable pylon under each wing which could carry an extra 192-gallon fuel tank. A small circular infrared sensor located at the bottom center of the windscreen appeared on all Starfighters but the prototypes.

The first F-104B had the same rudder as the F-104A but the second and all subsequent two-seaters had the larger boosted rudder which was standardized on the F-104G. All F-104Bs and all but the last six (Block 15) F-104Ds were built with the original two-piece canopy. A new three-piece canopy was installed starting with 57-1329 and this was retrofitted to all surviving F-104B and D models and also became standard on the F-104F and TF-104G.

Externally, the F-104C was virtually identical to the F-104A. Initially, the only visible difference was in the primary heat exchanger vents on the aft left fuselage. The A-model was produced with staggered (one low, one high) vents while the C-model (and the Bs and Ds) had two side-by-side heat exchanger vents. To meet its long endurance mission requirements, a removable inflight refueling probe was provided for all the F-104s delivered to TAC. These were not always carried by the F-104C and D and many "standard" reference books label F-104Cs without IFR probes as F-104As. Ds as Bs, and vice versa. Be careful! Model identification should be based on serial number and not on IFR capability or vents (late in their careers, F-104As received updated J79-GE-19 engines with F-104C-style heat exchanger vents). In addition to its nuclear capability, the F-104C had provisions for both centerline and wing pylons capable of carrying either ordnance or extra fuel. Fuselage-mounted Sidewinder launch rails similar to those on the F-104G were added late in the F-104C's service life.

All USAF F-104s were delivered with navigation lights centered on the inlet sides and with a downward ejection seat. Starting in 1960, these were replaced. Pressure relief doors, as seen on the F-104G, were retrofitted to the inlet sides, moving the navigation lights about 13 inches rearward where they could better be discerned in the white bars of the national insignia. The upward ejecting Lockheed C-2 rocket seat as provided by Hasegawa in most of their kits was introduced at about the same time. Later, NASA retrofitted the Martin-Baker GG7A seat of the F-104G into its Starfighters. Check your photo references to determine which seat your model should have.

Other detail improvements were incorporated into the Starfighter during its service life. After the USAF installed barriers at the ends of its runways to prevent overruns in the early 1960s, tailhooks were installed on all Starfighters in service from about 1963. Additional TACAN and UHF antennas appeared under the forward fuselage in the mid-to-late 1960s. Until the early 1970s, USAF F-104s lacked rotating anti-collision beacons above and below the aft fuselage. The profiles show the placement of these on those aircraft that carried them. The first QF-104A drones appeared in late 1960 and featured three circular flush antennas mounted around the nose radome and a UHF antenna located just aft of the cockpit. All QF-104As had C-2 upward ejection seats fitted for their manned missions.

Lockheed delivered the production F-104A, B, C, and D models in natural metal finish with gloss white (FS17875) wings and an olive drab (FS34087) anti glare panel forward of the windscreen. Nose radomes were gloss Aircraft (ADC) Gray (FS16473). The aft fuselage was covered in panels of several heat resistant metals which stood out from the aluminum skinning. Early deployments to Taiwan revealed the need for improved corrosion control and portions of the fuselage and empennage were painted gloss Aircraft Gray. Units based near the sea, such as the 319th FIS at Homestead AFB, had the entire fuselage, less the heat resistant panels, painted Aircraft Gray. In 1965, non-tactical F-104s started to appear in Aircraft Gray finish with flat black (FS37038) anti glare panels and white wings. TAC units painted their aircraft Corogard, a silvery paint, although some aircraft had sections in Aircraft Gray as well. Flat black anti glare panels were standard although some olive drab examples were still noted. The Vietnam War showed the need for tactical camouflage and, in 1966, TAC's F-104Cs and Ds were painted a four-color scheme with a disruptive pattern of tan (FS30219), dark green (FS34079), and olive green (FS34102) over light gray (FS36622) as specified in USAF Technical Order 1-1-4. This scheme was worn until the Starfighter was retired from the Air Guard in 1975.

As for improvements and additions to the 1/48 scale Hasegawa kits, we are aware of quite a few as of the time this is written in mid-2004. AiRes from the Czech Republic has done resin replacements for the cockpit, gear wells, and afterburner nozzle. Black Box has an outstanding cockpit and external detailing set, and Cutting Edge has done a number of very good sets for both the inside and outside of the models as well as an NF-104 conversion.

All single-seaters carried the AIM-9B Sidewinder missile found in Hasegawa's USAF weapons set. The wingtip launch rails are not included in the kit, although the F-104C fuselage launchers are. The most commonly used conventional ordnance included the M117 750-lb demolition bomb, the BLU-1/B napalm bomb, and the LAU-3/A 2.75" rocket launcher pod. All these can be found in Hasegawa's US weapons sets. On the nuclear side, a 1.48 Mk.43 weapon can be found in the Monogram B-58 Hustler kit, or use the Mk. 28 or Mk. 43 found in the Belcher Bits CF-104 detail set.

## Decal Notes:

This decal sheet will allow you to build almost any F-104A, F-104B, F-104C, F-104D, or F-104N in USAF, ANG, Navy or NASA service. Two full sets of national markings and other markings are provided to allow you to build several models. Full stencil data for USAF Starfighters appears on Victory Productions decal VPD48007. All known unit emblems are provided with some variations, although undoubtedly there were variations other those provided. Note that no generalized rule about aircraft camouflage and markings will apply in each and every case - here exceptions are the only rule! The profiles provided are all based on photographic evidence, but feel free to mix and match decals to replicate the markings found in any of the numerous reference works on the F-104.

Standard USAF F-104 markings were spelled out in T.O.1-1-4 and consisted of 30-inch stars on wings and fuselage, 30-inch high USAF lettering on the wings, 13-inch high U.S. AIR FORCE lettering on the fuselage, and 12-inch high radio call numbers on the vertical tail. Depending on the date and the unit markings, the radio call numbers were also seen in 8-, 9-, and 11-inch sizes, all included on this decal. All USAF Starfighters were delivered with 14-inch high buzz numbers on the aft fuselage but these were removed after the USAF abandoned the buzz number system in 1965. Again, two styles of buzz number were seen and both are included here. In 1966, the USAF reintroduced camouflage for its tactical forces in response to the war in Southeast Asia. Aircraft in the four color tactical camouflage carried simplified markings with 15-inch national stars and six-inch radio call numbers applied in either black or white and placards were applied in stencil form in red or yellow as well as black and white.

Markings are also included for research, development, and logistics support F-104 aircraft in USAF, US Navy, and NASA service. These provided the brightest plumage for the Starfighter as red and orange dayglow paints were the fashion of the day when the F-104 was undergoing test or being flown as a drone aircraft.

## Stencil/Placard Decal Notes:

There were numerous stencil markings applied to USAF Starfighters. This decal sheet provides the unique stencils for the subjects depicted. The most significant stencil variations were based on the model, the type of ejection seat fitted, the aircraft finish, and the date. Stencil decals are identified by a letter and a number. Numbers are assigned based on date of use and frequency of occurrence. For example, decal H1 appeared early and was the most commonly used. H10 appeared late in service and was the least frequently used. The specific aircraft notes below will call out the variations (where known) for that subject.

- F-104A/C with Downward Ejection Seats used: H1, H2, or H3, R1, R2 or R3, L1, J1, and C1, C2 or C3 on the right side under the canopy and E1, E2 or E3 and J1 on the left side.
- F-104B/D with Downward Ejection Seats used: H4, R4 or R5, L1, J1, and C1, C2 or C3 on the right side under the canopy and E1, E2 or E3 and J1 on the left side.

- Uncamouflaged F-104A/C with Upward Ejection Seats used: H, H1, H2, H3, H4, H5, H6, H7, or H8, Q1, Q2, Q3, Q4 or Q5, and J2, J3 or J4 on the right side under the canopy and R6 or R7 or R9 or R1 and D1, B1, B2, B3, B4, B5 or B6, and J2, J3 or J4 on the left side.
- Uncamouflaged F-104B/D with Upward Ejection Seats used: H, H1, H4, H5 or H6, Q1, Q2, Q3, Q4 or Q5, and J2, J3 or J4 on the right side under the canopy and R6 or R7 or R9 or R1 and D1, B1, B2, B3, B4, B5 or B6, and J2, J3 or J4 on the left side.
- Camouflaged F-104C used: H, H9 or H10, E4 or E5, and J5 or J6 on the right side under the canopy and R11, R12, R13 or R14, D3, D4, or D5, B7, B8, B9 or B10, and J5 or J6 on the left side.
- Camouflaged F-104D used: H, H9 or H10, E4 or E5, and J5 or J6 on the right side under the canopy and R11, R12, R13 or R14, D3, D4, or D5, B7, B8, B9 or B10, and J5 or J6 on the left side.
- Armament status placards were introduced in the early 1960s. These were initially carried on the right side of the nose, usually under the windscreen and then moved to under the rear canopy glazing. At first there was no standardization in application but by 1965 decals were available and relative uniformity was achieved. Placards A1, A2 and A3 were early examples. A4 and A5 were the standard decals used on uncamouflaged jets and A6, A7 and A8 were used on camouflaged TAC and PRANG F-104s.

## Notes on Specific Aircraft:

### F-104A-15-LO 56-773, 538th FIS, Larson AFB WA, 1958 "1404"

In June, 1958, the 538th at Larson AFB became the third F-104 interceptor unit and inherited some of its aircraft from the 83rd FIS. This aircraft set the world speed record at 1404.19 mph on 16 May 1958 while with the 83rd, as reflected by its nose art. It carries the wingtip AIM-9 Sidewinder rails in our profile and was in the standard early (factory) natural metal finish with 8" radio call numbers, Z1 style buzz number. The 538th FIS badge was carried on both sides of the vertical tail. Given the 104's notoriously short legs, aircraft carrying the wingtip Sidewinder rails sometimes carried external tanks under the wings. The nose art appears in a cloud background which, along with the red and black crew name block, was first used by the 83rd FIS and was later also found on some aircraft of the 197th FIS, Arizona ANG. Downward ejection seat, markings: Q1 and J1(left), H2, C1, J1, R1 and L1 (right). Pitot unpainted.

### F-104B-5-LO 57-1296, 337th FIS, Westover AFB MA, 1960 "Double Trouble"

"Double Trouble" was finished this way when the 337th FIS turned its aircraft over to the 151st FIS of the Tennessee ANG in April of 1960. Factory natural metal finish with standard markings except for the 9" radio call numbers, which are provided separately. Z1 style buzz number. In photos the aircraft is completely free of all external stores and pylons. Downward ejection seats, markings: Q1 and two J1 (left), H5, R4, V1, and two J1. Unpainted pitot.

### F-104A-25-LO 56-867, 4760th CCTS, Webb AFB TX, 1967

The 4760th Combat Crew Training Squadron was formed in March 1967 at Webb AFB to train Jordanian Air Force pilots to fly the Mach 2 Starfighter. Using assets drawn primarily from the recently inactivated 331st FIS at Webb, the unit existed for a mere eight months before it, too, was deactivated. The aircraft were finished in overall Aircraft Gray with flat black anti glare, white wings and bare metal aft fuselages. Unit markings were adapted from the 331st but with the tail flashes angled so that the centerline was parallel to the direction of flight. In its brief existence, the 4760th carried the 14th Air Force (Flying Tigers) emblem instead of a squadron badge on the left tail. Use the ADC badge on the right tail. Radio call numbers were 9" high, no buzz numbers. Upward ejection seat and Vulcan cannon installed. Seat markings: R7, B4 and J2 (left), and Q4, H8 and J2 (right). Pitot tube P5.

### F-104C-10-LO 57-912, 436th TFS, 479th TFW, George AFB CA, 1959

The most colorful markings carried by any USAF Starfighter outfit belonged to the 479th Tactical Fighter Wing based at George AFB, California. The longest lived of any operational Starfighter unit, the 479th flew the F-104C and D from 1958 to 1967. Initially, the tactical Starfighters were flown in the factory finish of natural metal with white wings. Aircraft Gray radomes, and olive drab anti glare panels. Note that the portion of the inflight refueling probe adjacent to the canopy was also painted olive drab. Each squadron of the 479th applied the Wing scheme to its aircraft in its squadron's color. The last squadron in the 479th TFW to receive its aircraft, the 436th TFS is the least documented of the wing's four squadrons. We were fortunate to be able to locate a color photo of one of its Starfighters complete with yellow squadron markings, the only one we've seen. As the 436th was still receiving its jets, TAC instituted its "plain vanilla" look and all distinctive squadron markings were removed. Radio call numbers were 12" high, Z1 style buzz number. Downward ejection seat, markings: Q1 and J1 (left) and H4, C3, R3, L1 and J1.

### F-104C-5-LO 56-886, 435th TFS, 6252nd TFW, Da Nang AB RVN, 1965 "Fannie"

By 1965, the war in Southeast Asia had heated up to the point where the threat of a North Vietnamese air incursion over the South was a real possibility. To counter this, the 435th TFS with F-104Cs was assigned to the 6252nd (later the 35th) TFW based at Da Nang from April, 1965. The fuselage was painted Corogard while the tail section was Aircraft Gray. Unit markings were still not the fashion in TAC and the command emblem and lightning bolt marking were carried on both sides of the tail. Radio call numbers 12" high. Nose art frequently appeared on the Da Nang-based Starfighters; 56-886 was named "Fannie." The 435th returned to George in November of 1965 only to deploy again in mid-summer 1966 to Udorn, Thailand. Upward ejection seat, markings: R6, D2, B1 and J2 (left) and H4, Q2 and J2 (right). Pitot tube P6.

### F-104D-10-LO 57-1329, 479th TFW, George AFB CA, 1963

57-1329 was the first F-104D delivered with the later three-piece canopy which was eventually retrofitted to all surviving USAF two-seat F-104s. In 1963, it was typical of the "plain vanilla" Starfighters of the Tactical Air Command, finished in natural metal with olive drab anti glare panel and white wings. Upward ejection seat, markings: R7, D1, B6 and one J2 (left) and H7, Q4 and one J2 (right). 12" radio call numbers, Z1 buzz number, and P5 pitot tube markings.

### F-104C-10-LO 57-928, 435th TFS, 8th TFW, Udorn RTAFB Thailand, 1966

In July 1966, the 435th TFS was assigned to the 8th TFW in Thailand. Because of the location of the threat, the Starfighters were based at Udorn rather than at Ubon, the Wolfpack's main base. This time, the F-104s were finished in the T.O. 1-1-4 camouflage scheme with black 6" high full stencil USAF and radio call numbers on the tail and yellow stencil placards: R11, D4, B6 and J5 (left), H10, E5, J5 and A4 (right). No unit codes were carried by the Starfighters but they did display the same blue and yellow flash on their rudders (435L and R) that was carried by the F-4C Phantoms at Ubon. In June 1967, the Starfighters were returned to the States and the 435th TFS went to Ubon, re-equipping with the F-4D Phantom. Note that '928 had been "zapped" by VMFA-115, a Marine Phantom unit based at Da Nang.

### F-104D-5-LO 57-1320, 198th FIS, Muniz ANGB, San Juan PR, 1974

In mid-1967, the Starfighters of the 479th TFW were either transferred to the 156th Tactical Fighter Group, Puerto Rico Air National Guard, or to the boneyard at Davis-Monthan AFB. Aircraft assigned to the 198th TFS, 156th TFG were based at Muniz ANGB, Puerto Rico, and generally carried the Air National Guard emblem and the flag of Puerto Rico on their tails. F-104D 57-1320 did not carry the ANG emblem while other Starfighters did not carry the flag, and still others carried only the radio call number. Because it was made to fit both on the F-104C and D, the Puerto Rico flag decal will have to be trimmed for proper fit on the F-104D. PRANG Starfighters were camouflaged in the standard T.O. 1-1-4 scheme throughout their service life. Tail numbers were generally white stencil style and 6" high, although some F-104s had black tail numbers. IFR probes were generally carried. Note the rotating beacons on the aft fuselage. Yellow emergency stencils R11 and B5 (left), and H10 and E5 (right). Ejection seat warning triangles were not carried on 57-1320. For the full PRANG markings, see the black & white drawing of F-104C 56-929.

### F-104A-10-LO 56-759, AF Flight Test Center, Edwards AFB CA, 1959

This Starfighter was assigned to the F-104 follow-on flight test program at Edwards AFB, California. Its natural metal finish was augmented by high visibility orange dayglo (FS38903) markings on the wings, nose, tail surfaces and tip tanks. It carried the emblems of both the Flight Test Center and its parent Air Research and Development Command (ARDC). Note that when the dayglo paint was fairly fresh, it actually was fluorescent, but it was subject to very heavy fading, often appearing more yellow than orange after only a few months. The wing national insignias and all USAF wing and fuselage markings were outlined in aluminum and provided as separate decals. Downward ejection seats but no rescue markings carried. Z2 style buzz number and P3 pitot tube stripes.

### NF-104A 56-760, Aerospace Research Pilot School, Edwards AFB, CA, 1963

Assigned to the Air Force's test pilot school at Edwards AFB, this was one of three highly modified F-104As used to train pilots in very high altitude, near-space flying. Its liquid rocket motor boosted it to speeds and altitudes where



its nose and wingtip reaction control system could be used. Natural metal finish overall, (including the former nose radome) with white wings and olive drab antiglare panels. The other NF-104 serials were 56-756 and 56-762, and all appear to have been similarly finished. It was in 56-762 that Col Chuck Yeager nearly lost his life on 10 December 1963. Radio call numbers were 12" high in black, buzz numbers used NF- codes. The AF Systems Command shield was carried on the left fuselage above the wings and the AF Flight Test Center shield in the same location on the right side. The small USAF ARPS badges on either side of the tail below the radio call number were applied only on 56-756 and 56-760. Upward ejection seats were installed, markings: R8, D1, B4 and J3 (left); Q4, H6 and J3 (right).

### QF-104A 55-2957, AF Flight Test Center, Edwards AFB, CA, 1960

One of the first drone Starfighters, 55-2957 was modified from a pre-production YF-104A. Its fuselage was painted bright dayglo red (FS38905) with white markings. It was flight tested in this scheme at Edwards AFB and later transferred to the 3205th Drone Squadron of the Air Proving Ground Center (APGC) at Eglin AFB where it was later repainted in dayglo orange with its markings applied in gloss black. Upward ejection seats: stencils: R7, B4 and J2 (left) and Q4, H2 and J2 (right). The separate white decal markings, including turbine warning stripe, are for 55-2957 while it was at Edwards.

### QF-104A-5-LO 56-747, 3205th Drone Sq, Eglin AFB FL, 1970

All the drone QF-104As were eventually assigned to the 3205th Drone Squadron at Eglin. 56-747 was one of the last surviving QF-104s, serving into the 1970s. Its dayglo orange scheme was heavily faded. Note the flat black antiglare panel and inboard halves of the wing tanks. Upward ejection seat fitted, markings: R7, B5 and J3 (left) and Q2, H4 and J3 (right). Black turbine warning stripe and A6 armament status panel on right nose. The AF Systems Command emblem was displayed on the left fuselage and the Armament Development and Test Center emblem on the right side. (In 1968, APGC became the ADTC.) The red and white "hippie headband" was introduced in 1970 and is carried by Eglin test aircraft today. Note the 9" high radio call number. Since the airframe was over ten years old, its radio call number was preceded by "0-". Included in this decal sheet are the APGC emblem and the vertical red tail bars used on Eglin drones from around 1964. See the black & white profiles to build an APGC QF-104A.

### F-104A-10-LO 56-757, Naval Ordnance Test Station, China Lake CA, 1961

56-757 was one of three F-104As transferred from the Air Force to the Navy for use in the development of the AIM-9 Sidewinder air-to-air missile. It flew in the original factory finish but because of its test role, had dayglo red (FS38905) stripes applied to its fuselage for high visibility. National insignia only on the wings and "NAVY" on the nose distinguished it. 56-757 was destroyed in an accident at China Lake on 7 April 1961. It was equipped with an upward ejection seat, markings: D1, B4 AND J2 (left); Q1, H1 and J2 (right); P4 pitot stripes.

### F-104D-5-LO 57-1318, AF Special Weapons Center, Kirtland AFB NM, 1965

The AF Special Weapons Center at Kirtland AFB, NM has the responsibility of developing nuclear weapons delivery capability for the USAF and F-104D 57-1318 was there to support the TAC nuclear mission. It was finished in silver Coroguard paint on the fuselage, gloss Aircraft Gray on the vertical tail and nose radome, white wings and flat black antiglare panel. Radio call numbers were 11" high in black. AFSWC aircraft carried red-white-blue horizontal striping on their vertical tails through the mid-1960s as well as the AFSC and AFSWC emblems on the left and right fuselage sides, respectively. Upward ejection seats and the later three-piece canopy retrofitted. Stencil markings: R10, D1, B5 and J2 (left) and H6, Q3 and J2 (right). Z1 style buzz codes and P4 pitot striping. No IFR probe.

### F-104N 013, NASA Dryden Flight Test Center, Edwards AFB CA, 1966

In addition to taking over some of the early YF-104As at Edwards AFB, NASA procured three F-104Ns for astronaut training. These had the broad-chord tail of the F-104G, upward ejection seats, and were numbered 011 through 013. They were delivered in standard factory natural metal finish but soon had unique NASA and high-visibility markings applied to the fuselage, wings and tail. Black inlet shock cone and lips. NASA emblems ML on wings and left fuselage. MR on the right fuselage. Stencil markings R8, D1, B5 and J2 (left) and H5, Q3 and J2 (right). NASA 013 was lost on 8 June 1966 with its NASA pilot, Joe Walker, when it was involved in a mid-air collision with the second XB-70A over Edwards AFB. See also the black & white profiles.

### YF-104A-LO N818NA, NASA Dryden Flight Test Center, Edwards AFB CA, 1971

The seventh pre-production YF-104A, 55-2961 became NASA's first Starfighter in August of 1956. After initially flying in a modified USAF scheme, NASA adopted a colorful white and two-tone blue paint job in the late 1960s. The lower blue was approximately FS15450. Note the flat black inlet cone and lips. It was in this scheme that N818NA was retired in 1975 for display at the National Air and Space Museum in Washington DC. Upwards ejection seat, left side stencils R8, B6 and J3, right side stencils H8, J3 and Q4. No pitot stripes. NASA emblems ML on the left fuselage, MR on the right. See the black and white profiles for other finishing options.

### F-104A-25-LO 56-857, 56th FIS, Wright-Patterson AFB OH, 1958

The 56th FIS was the fourth and last ADC squadron to get the Starfighter and the first to stand down, transferring most of its equipment to the 157th FIS of the South Carolina ANG. This aircraft was finished in the original factory natural metal finish. The squadron badge appeared on both sides of the fin below the aircraft's 12" high radio call number. As an interceptor unit, 56th FIS aircraft carried AIM-9B Sidewinders on their wingtip launchers. Tip tanks were carried for cross country and some training flights. The 56th FIS was assigned to the Detroit Air Defense Sector (DADS) of Air Defense Command. Downward ejection seat installed, markings: Q1, J1(left); R1, L1, C1, H1 and J1 (right). Buzz codes: Z1.

### F-104A-20-LO 56-803, 83rd FIS, Hamilton AFB CA, 1958 "Vociferous Viking"

The first ADC squadron to get the Starfighter, the 83rd FIS at Hamilton AFB, California, flew the F-104A and B from January 1958 until June of 1960. The squadron deployed to Formosa (Taiwan) from September to December of 1958. Finish was straight from the factory but with 8" radio call numbers (provided separately). Use the outlined squadron badge on the left side of the tail and the ADC shield in white circle in the same location on the right. The name "Vociferous Viking" and the red/black crew name block both appeared on the aircraft's left side. Some 83rd FIS Starfighters carried a blue band on their aft fuselage (83LU.83LL, 83RU, 83RR). Downward ejection seat, markings: Q1, J1(left); R1, L1, C1, H1 and J1 (right). Buzz codes: Z1, pitot tube: P2. See bonus profiles for other 83rd FIS subjects.

### F-104A-30-LO 56-882, 337th FIS, Westover AFB MA, 1959

The 337th FIS of the Boston Air Defense Sector (BADS) equipped with new production Starfighters in April of 1958. 882 carried the original factory finish with 8" high radio call numbers under the squadron badge on both sides of the fin. No evidence has surfaced that the 337th ever carried the ADC badge on the right side of the fin. The yellow star design appeared on both sides of the fuselage above the "U.S. AIR FORCE" lettering. The 337th stood down in April, 1960 and this aircraft, the last production F-104A, was turned over to the 151st FIS of the Tennessee ANG as depicted. Downward ejection seat, markings: Q1, J1(left); R1, L1, C1, H1 and J1 (right). Buzz codes: Z1.

### F-104A-20-LO 56-808, 319th FIS, Homestead AFB FL, 1964

After the Cuban Missile Crisis of October 1962, ADC reclaimed its Starfighters from the Air National Guard and established the 319th FIS at Homestead AFB Florida. The 319th's F-104As were the first of the type in ADC to carry the M61A1 cannon operationally. This aircraft was painted gloss ADC Gray overall and had a flat black antiglare panel. The wings remained gloss white. The 12" high radio call sign was carried low on the vertical tail under the squadron badge on the left side of the fin and under the ADC emblem in the same position on the right side. Note the tail hook and upward ejection seat. Stencil markings: R6, B1 and J3 (left) and H3, Q4 and J3 (right). Z1 buzz codes and P5 pitot tube stripes.

### F-104A-20-LO 56-821, 331st FIS, Webb AFB TX, 1964

Four Starfighters from the 331st FIS took part in the Federal Aviation Administration's 1964 sonic boom study, flying out of Tinker AFB, Oklahoma, as reflected in 56-821's "Sooner Boomer" patch. 331st FIS aircraft retained the standard F-104 natural metal finish with white wings. The ADC emblem was carried in the same location on the right tail. Many squadron aircraft were named for Texas cities. 56-821 was "City of Laredo" and also carried an individual marking on the right nose. Not every Starfighter in the 331st was equipped with the Vulcan cannon (56-821 was not) but all had upward ejection seats and tail hooks. Markings: R6, B5 and J4 (left); H7, Q4 and J4 (right); P5 pitot tube and Z2 buzz codes. Note the Medium Blue (FS15102) flight color on the yaw damper under the rudder and the Insignia Red shaft of the arrestor hook. See black & white profiles for 56-824/City of Kent.

### F-104B-5-LO 57-1301, 538th FIS, Larson AFB WA, 1958

Each Starfighter unit in ADC was equipped with four two-seat F-104Bs decorated with the same style of unit markings as the single seaters. The finish on 57-1301 was factory standard natural metal but with 9" radio call numbers. The squadron badge was carried on both sides of the tail. Note the early style two-piece canopy and downward ejection seats. Markings: Q2 and J1 (left); R4, H4, C1 and J1 (right). Z1 buzz codes and unpainted pitot tube.

### F-104A-25-LO 56-851, 151st FIS, McGhee-Tyson Airport, Knoxville TN, 1960

The 151st FIS, Tennessee ANG, received their initial complement of Starfighters from the 337th FIS in June, 1960. At first, the only markings change made was to substitute "TENN AIR GUARD" for "U.S. AIR FORCE." The unit retained some of its F-104s in these markings through the end of 1960. Some aircraft, like 56-851, had the "FG-" of the buzz number removed. Radio call numbers were 8" high. Initially, the Starfighters of the 151st came equipped with downward ejection seats, but these were replaced with the upward-firing C-2 seat by the end of 1960. 56-851 is shown with the original seat. Stencil markings were: Q1 and J1 (left) and R1, L1, H4, C1 and J1 (right); buzz codes: Z1.

### F-104A-20-LO 56-789, 4750th Test Sq, Tyndall AFB, FL, 1959

The 4750th Test Squadron at Tyndall AFB, Florida, performed the combat suitability testing of the Starfighter and developed tactics and procedures for the F-104 in the air defense role. The finish was standard for 1959, natural metal with green antiglare panel, 12" radio call numbers, buzz numbers, and ADC emblem on the right side of the tail. A downward ejection seat was fitted. Stencil markings: Q1 and J1 (left); R1, L1, H4, C1 and J1 (right); Z1 buzz codes.

### F-104A-25-LO 56-857, 157th FIS, Congaree AB, Columbia SC, 1961

The 157th FIS of the South Carolina ANG received their F-104s primarily from the 56th FIS in May 1960. They flew in factory finish and without any distinctive unit markings during most of 1960 with only "S.C. AIR GUARD" substituted for "U.S. AIR FORCE" on the fuselage. In early 1961, a new squadron badge was applied to the vertical tails below the 12" high radio call number. The Berlin Crisis of 1961 resulted in the callup of all three ANG F-104 squadrons and the distinctive Guard markings were replaced with standard USAF markings. Note the upward ejection seat, markings: R8, B1 and J2 (left); H8, Q5 and J2 (right); Z2 buzz codes and P2 pitot tube striping.

### F-104A-20-LO 56-814, 151st FIS, McGhee-Tyson Airport, Knoxville TN, 1961

After flying with the markings of the 337th FIS, the 151st FIS replaced the 337th FIS emblem on the tail with their own squadron badge while keeping the arrow/star design on the forward fuselage. The 151st also applied 9" radio call numbers. These markings were kept only for a short time as the unit was called to active duty in November 1961. It operated from Ramstein AB, Germany, during the Berlin Crisis in full USAF markings. Upward ejection seat fitted. Stencils: R8, B6 and J2 (left); Q5, H8 and J2 (right). No buzz code letters or pitot stripes.

### F-104A-25-LO 56-856, 157th FIS, McEntyre ANGB, Columbia SC, 1963

South Carolina Air Guard Starfighters returning from their European tour of active duty in August/September 1962 retained the "U.S. AIR FORCE" logo on their natural metal finished jets but added the state name to the vertical tails above the 12" high radio call numbers. Upward ejection seat, markings: R6, D2, B6 and J2 (left); Q5, H4 and J2 (right); Z1 buzz codes and P7 pitot tube stripes. The last SCANG Starfighter left Columbia for active USAF service in February, 1963 as part of the air defense buildup in response to the Cuban Missile Crisis of October, 1962. Congaree AB was renamed McEntyre ANGB in honor of B/Gen Barnie McEntyre, commander of the SCANG, who was killed in the crash of an F-104 on 25 May 1961.

### F-104B-5-LO 57-1301, 197th FIS, Sky Harbor Airport, Phoenix, AZ, 1960 "Bumble"

The Arizona ANG received their jets from the West Coast ADC squadrons and, except for the "ARIZ. AIR GUARD" logo on the nose, had no special markings. A number of aircraft dispensed with their buzz numbers entirely and a variation of the state name (without the period) has also been seen. Some 197th FIS F-104s retained the cloud background aircraft names and red/black crew name blocks of their former units, but photo documentation on the Starfighters flown by the Arizona Guard is scarce. After being released from the Berlin Crisis callup, the 197th equipped with the F-100A. "Bumble" appears to have been typical of the unit's aircraft with black 9" radio call numbers and downward ejection seats. Stencils: Q4 and two J1 (left); R4, two L1, C2, H5 and two J1; P2 pitot striping. Why Bumble? Well, it is a "B".

### F-104B-10-LO 57-1304, Sacramento Air Logistics Ctr, McClellan AFB CA, 1970

F-104B 57-1304 was assigned to the Sacramento Air Logistics Center of Air Force Logistics Command, which was responsible for the technical and logistics support of the USAF and allied F-104 fleets. It featured a highly polished natural metal fuselage and wing tanks with white wings and tail surfaces and an Aircraft Gray nose radome. The antiglare panel was flat black and the tail carried the AFLC emblem and red/white/blue stripes on both sides above the 9" radio call numbers. Upward ejection seats, tail hook, and anti-collision beacons installed. Stencil and markings: R6, D1, B1 and one J2 (left); Q5, H7 and one J2 (right); P5 pitot stripes.

### F-104C-5-LO 56-906, 434th TFS, 479th TFW, George AFB CA, 1959

The second Starfighter squadron in TAC was the 434th TFS at George AFB. Their F-104Cs were in the factory finish of natural metal with white wings, Aircraft Gray radomes, and olive drab antiglare panels. The portion of the inflight refueling probe adjacent to the canopy was also painted olive drab. The red squadron markings distinguished the 434th TFS. Radio call numbers were 12" high and the aircraft was equipped with downward ejection seats. Stencil markings: Q1 and J1 (left); R2, L1, C3, H2 and J1. Z1 style buzz numbers.

### F-104C-5-LO 56-902, 435th TFS, 479th TFW, George AFB CA, 1959

The 435th TFS was the third squadron to receive the F-104C. It applied its markings in green. The balance of the aircraft is in accordance with the 479th TFW scheme. Downward ejection seats. Stencil markings: Q1 and J1 (left); R2, L1, C3, H2 and J1. Z1 style buzz numbers.

### F-104C-5-LO 56-896, 476th TFS, 479th TFW, George AFB CA, 1959

The 476th TFS, squadron color blue, received the first Starfighters delivered to the 479th TFW in September 1958. Its aircraft were in the factory finish with 12" high radio call numbers. In late 1959, the 476th deployed with its F-104Cs to Morón AB, Spain. Downward ejection seats fitted. Stencil markings: Q1 and J1 (left); R2, L1, C3, H2 and J1. Z1 style buzz numbers.

### F-104C-5-LO 56-897, 476th TFS, 479th TFW, George AFB CA, 1960

In 1960, TAC directed all its units to apply the new tail marking of the TAC emblem and a red and yellow lightning bolt. At least one F-104C in the 476th TFS adapted the new TAC markings to fit in with the 479th's tail markings. Needless to say, TAC did not approve and all 479th TFW Starfighters soon were displaying the "plain vanilla" look. Downward ejection seats. Stencil markings: Q1 and J1 (left); R2, L1, C3, H2 and J1. Z1 style buzz numbers.

### F-104D-5-LO 57-1315, AF Flight Test Center, Edwards AFB CA, 1959

This Starfighter spent its entire career assigned to Edwards as a test subject and, later, as a chase aircraft. In 1959 it flew in the factory scheme to which orange dayglo had been added on nose, wings, tail, and wing tanks. Its 11" radio call number was applied in a natural metal field on the tail. This is provided as a separate decal, as are the wing national insignias and all USAF wing and fuselage markings, all outlined in aluminum. The AFFTC badge was displayed on the tail while the Air Research and Development Command emblem was carried on both sides of the nose under the windscreens. Downward ejection seats, no IFR probe. Stencil markings: Q1 and one J1 (left); R4, two L1, C1, H5 and one J1. Z1 style buzz numbers.

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