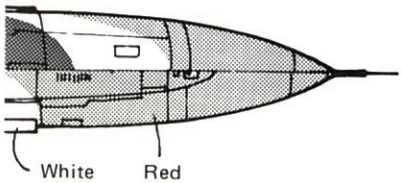
1970 third oak leaf cluster to OUA ribbon

early 1972 flag panel—48 flags

GANN

Thunderbirds' F-4E "Lizards" in the diamond. Tail tip scallops and intake numbers are all that separate these aircraft from stock F-4Es . . . and, perhaps, the formation.



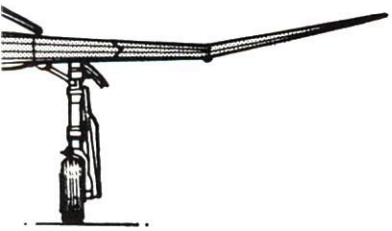
F-4E-MC (no. 1) 1972
Lt. Col. Tom Swalm/Leader

Crew blocks on both sides;
pilot forward, crew chief aft.

Lt. Col. Tom Swalm

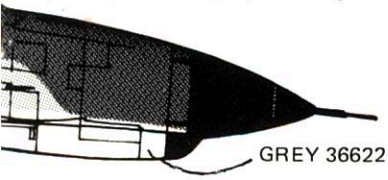
Panel was blue with red and white end scallops; lettering was white in a Roman style (Ancient Egyptian)

TSGT G. WETHERINGTON/
Crew Chief for Lt. Col. Swalm

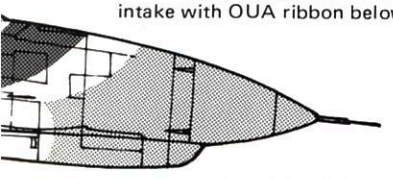


Dummy missiles house smoke oil

F-4E-33-MC (66-382/no. 2) 1969
Maj. Mack Angel /Left Wing

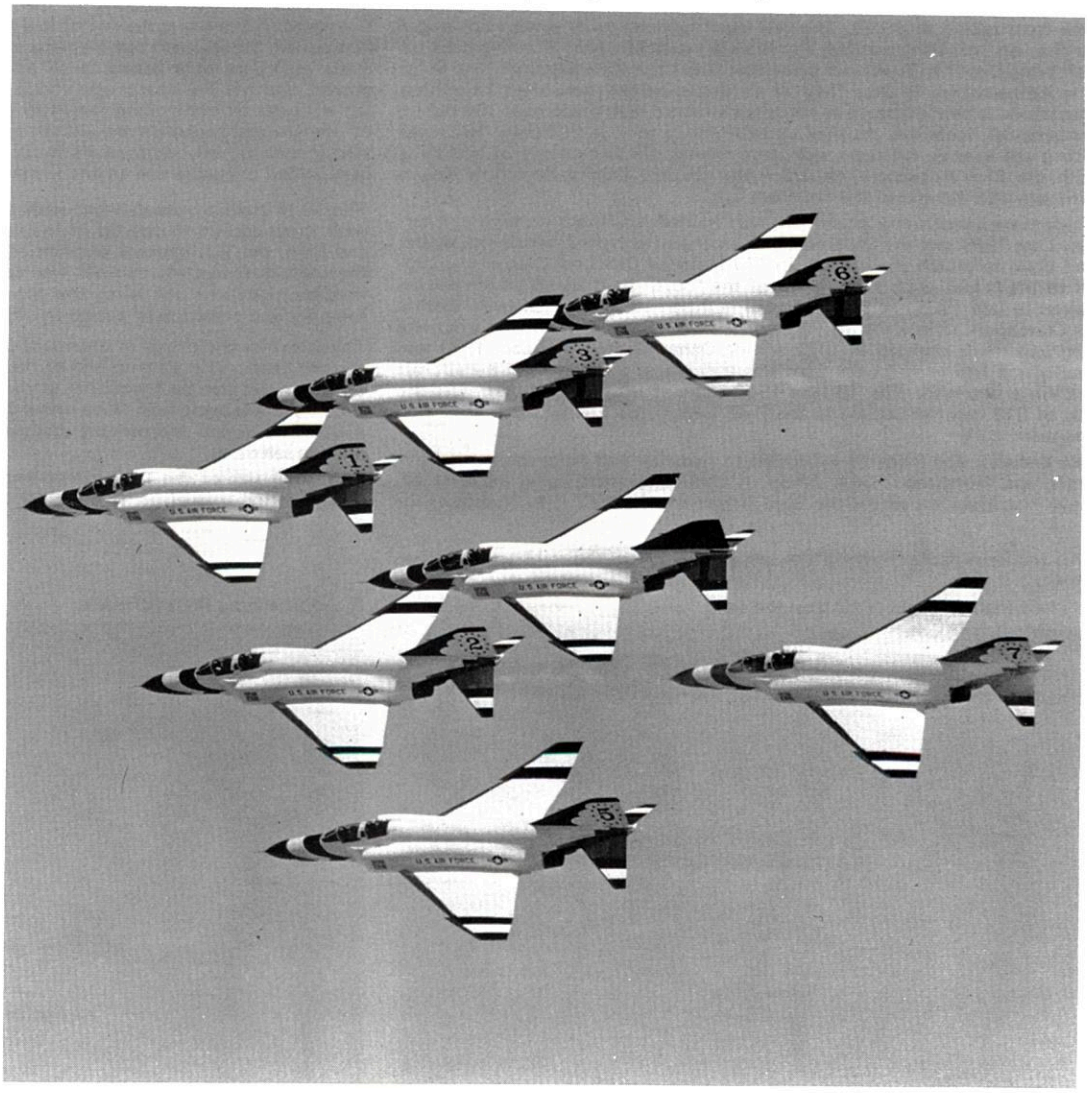


Thunderbird insignia on right intake with OUA ribbon below



External tank is white with red, white and blue nose scallops.

The Seven-ship Stinger, a most impressive formation (especially for the slot man). *USAF*



The Arrowhead formation. The slot aircraft's tail is cleaned right up to the juncture of the fin and fuselage. These are the post-1971 markings with Clarendon numerals. Note the characteristic bare metal areas in the exhaust area and the inboard halves of the stabilizers; and the absence of markings on wing surfaces (other than striping). *USAF*

the Solo. A 30 day tour of the European continent broke all previous European attendance marks as the Thunderbirds in one day at Paris equaled the entire attendance record of the 1967 tour. The team performed 114 shows, 7 short of the 1965 record and had 9 shows cancelled because of weather.

1972 - the end of the second Thunderbird decade - saw LtCol Tom Swalm, still the Commander/Leader. Maj Howard and Capt Dwelle retained their positions. Maj Nels Running now flew the Left Wing and Capt Jerry Bolt took the Slot. The team was well received by the communications media and had over 75 radio and TV interviews.

The 'beginning of the third Thunderbird decade' saw an almost completely new team taking to the air. The new Commander/Leader was Lt Col Roger Parrish, on Left Wing was Maj Rip Blaisdell with Maj Nels Running back on Left Wing, Capt Tim Roels was in the Slot and Capt Kirk Brimmer flew Solo. The Ambassadors In Blue flew 97 air shows before more than 12 million spectators, a new single year attendance record, and made over 350 public appearances, including another Latin America tour, in 200 days. 1973 was also a sad year as the team saw some friends die in a couple of accidents with the Blue Angels and the US Army Golden Knights Parachute Team. This was also the end of the Phantom Era.

There were some minor changes in the Phantom markings through this period. Late 1969 saw the underside of the wing outer halves striped red, white, and blue, to match the uppers. In 1970, a third Oak Leaf Cluster was added to the O.U.A. ribbon in honor of the fourth such award which was received in late 1969. In 1971, the tail numbers were changed from Gothic to Clarendon style lettering, the small nose numbers following suit. The flag panel was changed in 1972 adding Denmark and Morocco. 1973 was one of the few years in the team's history where no changes in the aircraft markings occurred. The 10 Nov 1973 show at New Orleans, La., was the last of 518 demonstrations in the F-4E before the Energy Crisis grounded the team.

The decision was made to transition to a smaller and more economical aircraft, the Northrop T-38A Talon. A similar decision being made at US Navy Headquarters where the Blue Angels traded their F-4J Phantoms for Douglas A-4 Skyhawks. The T-38 would be the 7th demonstration aircraft the Thunderbirds would fly.

The transition to the T-38A Talon took place in 1974. The team that did the transition was LtCol Parrish - Commander/Leader, Capt Gil Mook/Left Wing, Capt Doug Roach/Right Wing, Capt Tim Roels/Slot, and Capt Kirk Brimmer/Solo. Modifications to the aircraft to make them suitable for Thunderbird use were; the dorsal fuel tank used for smoke oil, the VHF radios added, Slot aircraft had stainless steel tips added to their vertical stabs, stress recorders were added to all aircraft, the aft control sticks were removed, and the T-2 heater was added to 'fool' the engine at rapidly changing altitudes by controlling fuel flow with the outside temperature (sensed by the chrome probe on the aircraft spine). As the T-38s have no cartridge start provision, air compressors must be used. A crossover start valve has been added to enable one engine to start the other.

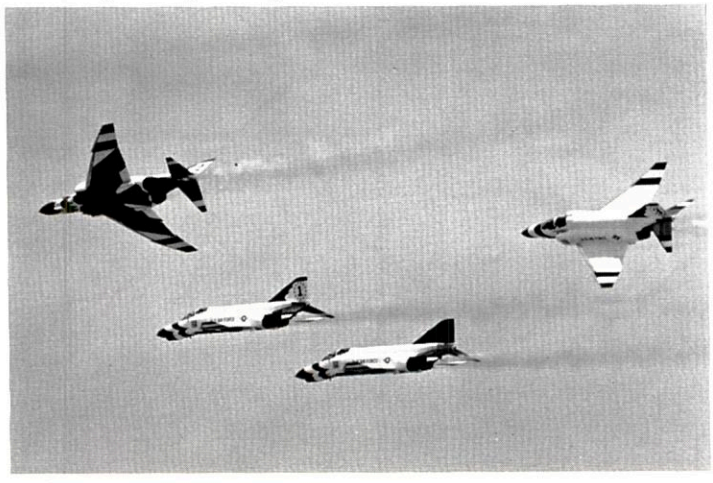
The 1974 training season began with the T-38s in standard USAF markings with these additions: the tip of the vertical stab was scalloped red, white, and blue, the Thunderbird emblem adorned both sides of the vertical fin, the individual aircraft number was carried inside a black circle, on both fuselage sides over the wing, and the canopy rails were painted blue with the pilot and crew chiefs' names in white.

The selection and design of the final T-38 paint scheme was a major problem for the team. The scheme had to have beauty, without being garish. The scheme must also be functional as visibility of the T-38 was a big problem. Finally, the scheme had to be unmistakably Thunderbird. To illustrate the process by which the present scheme was derived, we'll review the T-38 scheme selection.

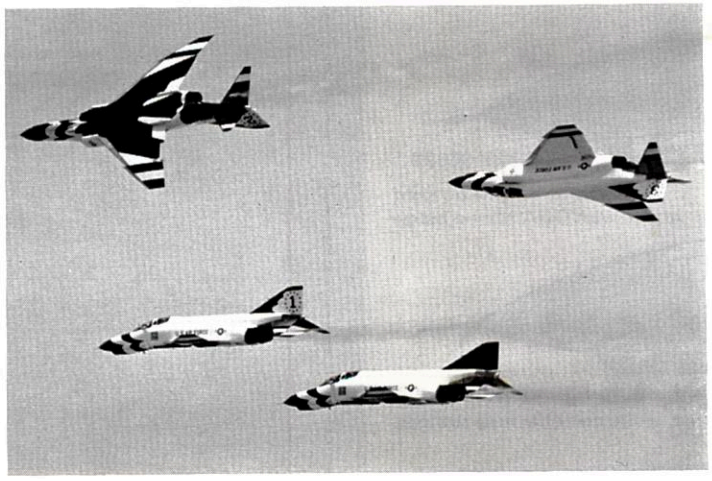
The small size of the T-38 placed important emphasis on visibility. Much consideration was given to optically increasing the size of the airplane to

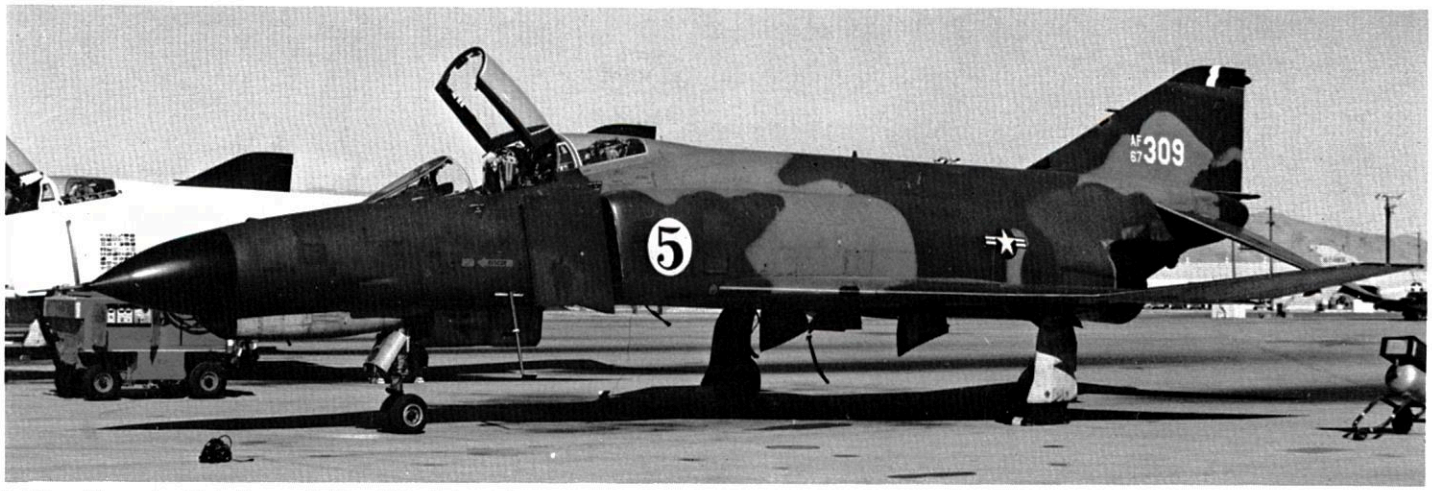
This sequence reads from right to left and illustrates the roll-back to arrowhead.

4. The wingmen begin closing on the slot.



3. Approaching the 270° mark.





A "lizard" on the flightline at Nellis AFB. "Lizards" were so stock that some even carried tail codes from their previous units (ie. GD 347 and GB 327 from the 479th TFW). *USAF*

the crowd. A design was sought to enhance the sleek lines of the T-38 and to complement the speed and maneuverability of the aircraft. A definite contrast in the design of the top and bottom was desired to obtain maximum impact and visibility of the fast roll rate of the T-38.

Design proposals were provided by the team graphics section, team members themselves, fans from all over the world, Northrop Corporation, and a Southern California art firm. The original design of the bottom had the traditional stylized bird. Unfortunately it soon became evident that it would be indistinguishable from the crowd viewpoint. The T-38s wingspan was less than that of the bird on the bottom of the F-4, and, when scale drawings were examined at 1500 scale feet (crowd line to show line distance), the design lost its impact. It became obvious that a variation of the traditional bird design was not workable on the T-38. After much deliberation, the present winged stinger design was born. Combining several proposals, the final scheme possessed solid, highly visible lines with the wide blue stripes/wing feathers covering the full wingspan. The lateral lines of the bottom contrasted with the longitudinal lines of the top, effectively providing the contrast desired to enhance the roll rate of the aircraft.

The shape of the vertical stab did not lend itself well to the standard tail scallop design and a modernistic, flowing scallop was designed to emphasize the sleekness of the T-38. The rear fuselage striping complemented the tail design. The end result was one of the most strikingly beautiful paint schemes ever to grace any aircraft. Public response was overwhelmingly enthusiastic and the design has proven one of the strong points of the Thunderbird airshow.

The aircraft were painted one at a time, so both schemes were present for a short period, never for a show, however. The basic scheme was similar to the F-4E, all white with red and blue trim. The original scheme had white canopy bows and windshield frames, but this was changed before the show season started. The standard 48 flag panel is carried on the port side and the Thunderbird emblem on the starboard side, without the O.U.A. ribbon.

Visible differences between Thunderbird T-38s and normal Air Force T-38s are the distinctive 'shark fin' VHF antenna on the fuselage back, the small chrome T-2 heater sensor probe just forward of the 'shark fin', and the 'slick tail' of slot aircraft. The T-tail of the other aircraft contain the VOR/ILS antenna, these being relocated on Slot aircraft. Slot aircraft are now kept clean instead of being allowed to 'blacken their tails' as on previous slot birds.

The T-38s are also painted in the polyurethane paint with lacquer based paint used for numbers and pilots' and crew chiefs' names. In the event of an abort before an airshow, the numbers and names on the 'spare' aircraft can be removed with lacquer thinner, without affecting the base paint, and new numbers and names added using precut stencils. To minimize paint chipping, 1975 saw the leading edges of the horizontal stabs left in natural metal.

One other, very minute, change was made which escapes all but the most diligent observer. The positions of the Greek and Mexican flags on the number One aircraft were switched in honor of the 1975 team's new commander/Leader, Major Chris Patterakis, who is of Greek ancestry. Major Patterakis is also of Thunderbird ancestry, having flown Left Wing on the 1966-67 team. Joining Major Patterakis were Capt Gil Mook/Left Wing, Capt Steve Mish/Right Wing, Capt Doug Roach/Slot, and Capt Jim Simons flying Solo.

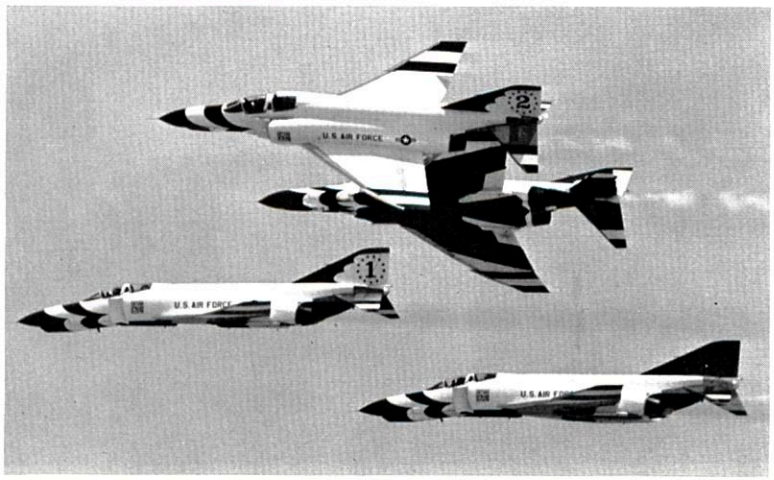
Comparing the T-38 and the F-4, we find the major disadvantage of the T-38 being its lack of inflight fueling capabilities. Its small size made it more difficult to pick up from the crowd's viewpoint. Although the T-38 flies a tighter diamond, from the crowdline it appears as if they are flying farther apart, this being due to the small size of the wing. The lower noise level of the J-85s may make for a less spectacular airshow, as the roar of F-4s twin J-79s definitely added something to the show, but the F.A.A. is quite pleased with that aspect of the T-38.

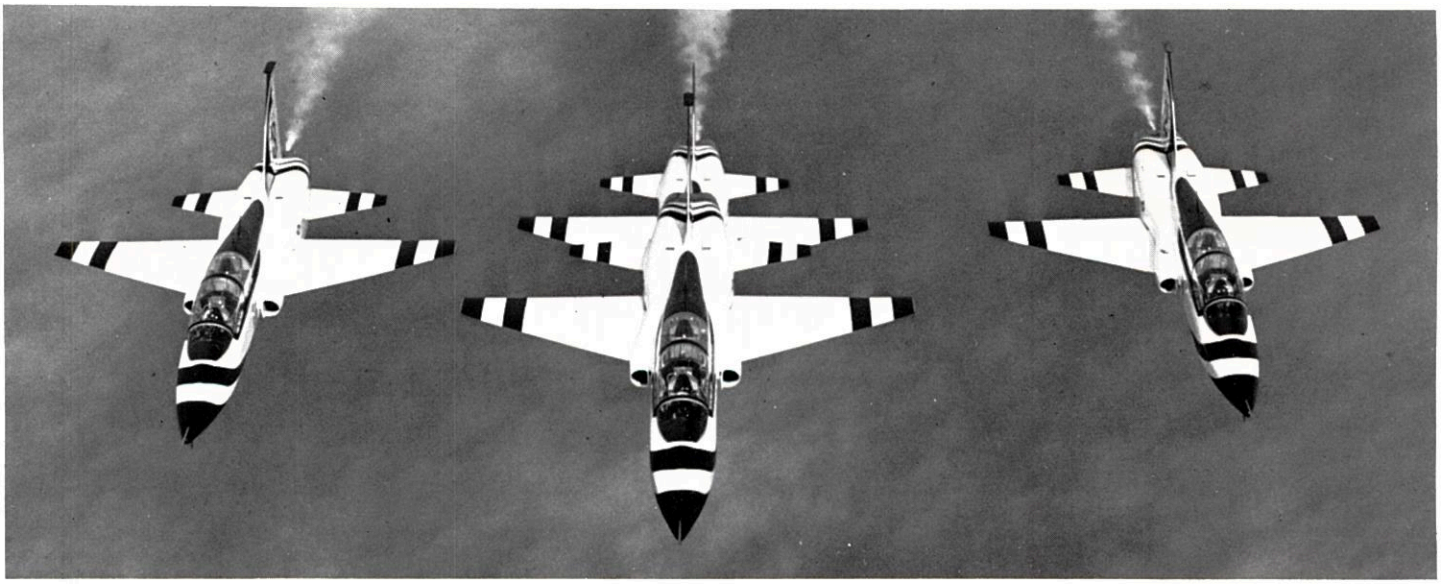
On the other hand, the T-38 has a number of advantages of its own. It is able to turn around between maneuvers much quicker and in less distance than the F-4, thus offsetting its small size somewhat. Less personnel and equipment are required to maintain the T-38s. Fuel economy is greatly increased, with the EPA folks rating 5 T-38s equal to one F-4E in the city test. But the one area that the T-38 excels in is maneuverability. Its roll rate is phenomenal and tailormade for maneuvers like the 'wing walk and

All photos/Gann

2. Approaching inverted, note spoiler deflection. *USAF*

1. Left wingman has just called the roll. *USAF*





An unusual view of the 1977 version of the diamond as it appeared from the rear of a C-130 on a special photo mission. *USAF by SSGT Ben Jones*

roll', solo vertical rolls, and maximum performance aileron rolls. The 'bon ton roulle', which was not flown in the F-4, was an ideal maneuver in the T-38. The 'behind the crowd' opener was reinstated after an absence of several years and as always, is still a crowd pleaser.

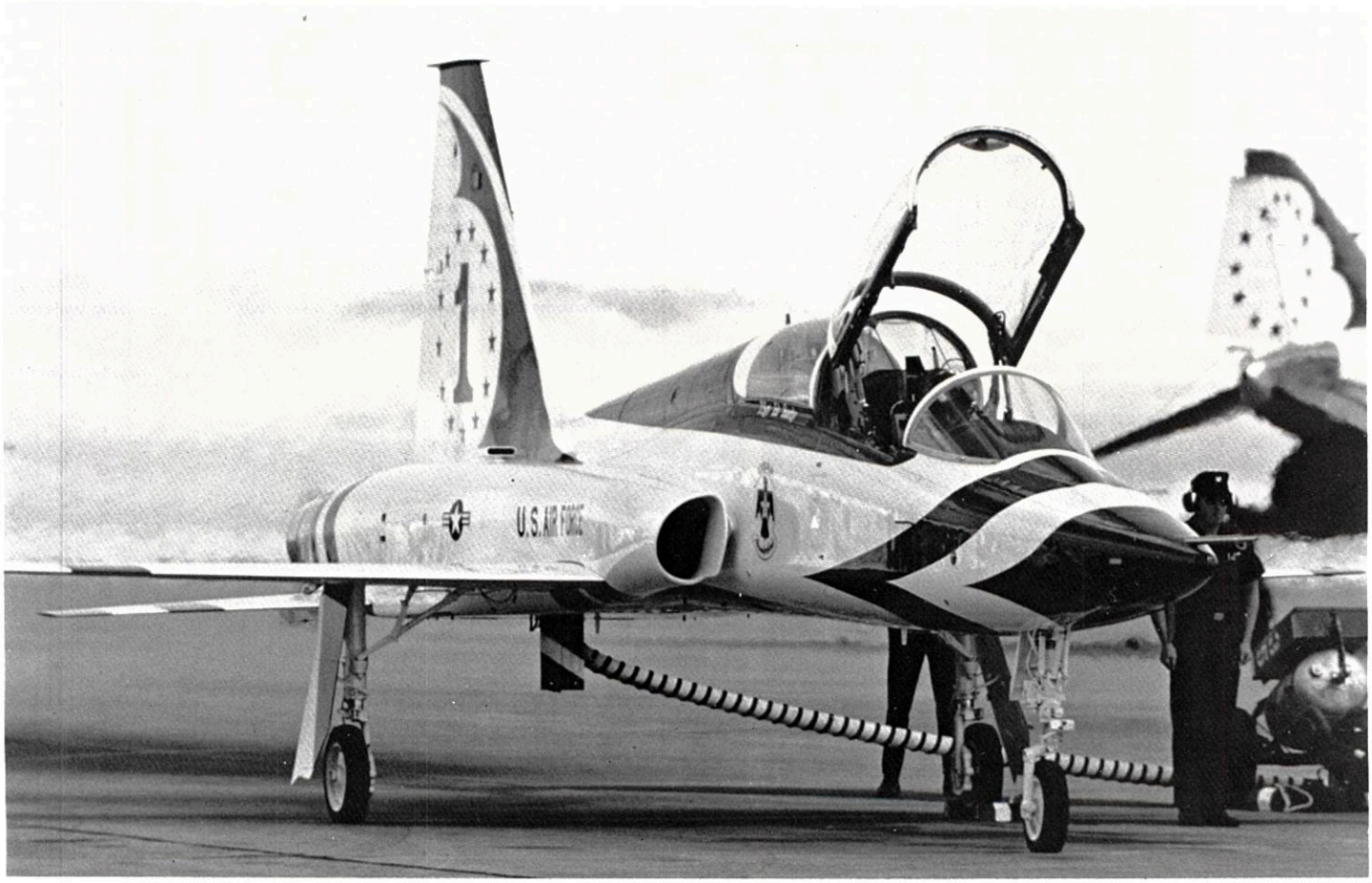
1976 was the birthday of the United States and the Thunderbirds were designated as an official United States Bicentennial Organization. It was the desire of the team to present the best possible program to the American public during the nation's 200th year. This desire resulted in the reinstatement of the second Solo after seven seasons absence.

The team for 1976 included: Major Chris Patterakis - Commander/Leader, Capt. John Lapointe - Left Wing, Capt. Steve Mish - Right Wing, Capt. Fig Newton - Slot, Capt. Jim Simons - 1st Solo and Capt. Lacy Veach - 2nd Solo. There were a number of markings changes to celebrate the Bicentennial. The aircraft numbers were moved with the 13 star circle down onto the fuselage just aft of the intakes, with the bicentennial symbol replacing the numbers and stars on the tail. In a year that saw the team fly their 2000th exhibition, they flew a total of 102 air shows before a total of just over seven and a half million spectators.

The Thunderbirds team for 1977 consisted of Capt. Lacy Veach (Solo), Capt. "Fig" Newton (Slot), Capt. John Lapointe (Left Wing), Capt. Walt Parker (from Narrator to Right Wing) and their new Commander/Leader, Lt. Col. Dan Cherry. The dual solo was noticeably absent in 1977.

Aircraft markings reverted back to the scheme used during the 1975 season with only slight changes. A slightly shorter season of 35 weeks allowed for *only* 80 shows. Official crowd figures revealed the team performed before 5,016,600 showgoers during 1977.

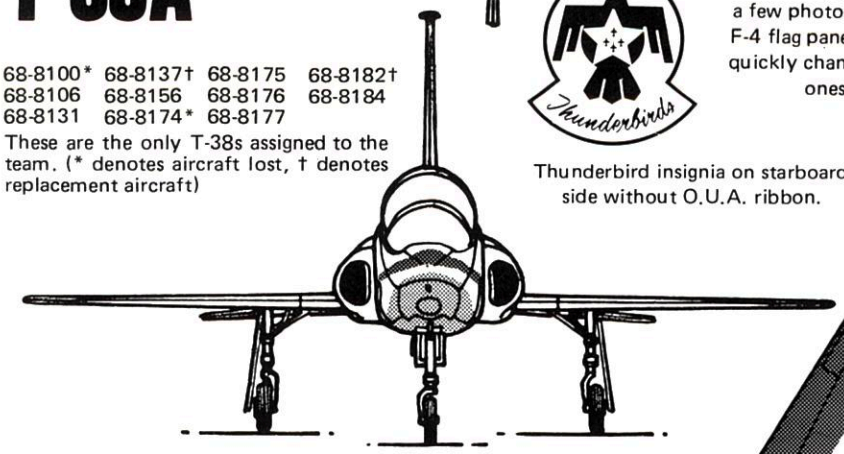
Starting engines. This photo was shot during the training season when the canopy frames were still white. Shark fin antenna has yet to be affixed. T-tail fin is quite apparent, as is the forlorn numberless F-4 in the background. *USAF*



T-38A (1974-present)

68-8100* 68-8137† 68-8175 68-8182†
68-8106 68-8156 68-8176 68-8184
68-8131 68-8174* 68-8177

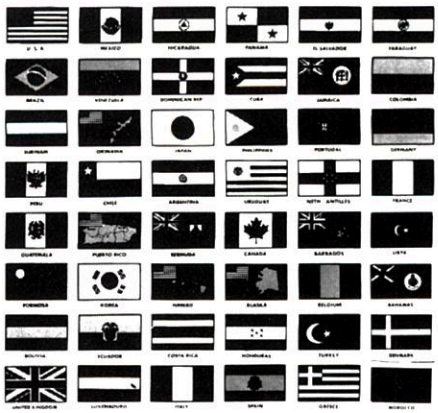
These are the only T-38s assigned to the team. (* denotes aircraft lost, † denotes replacement aircraft)



USAF Thunderbirds

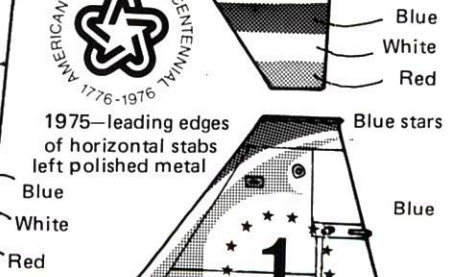
Thunderbird insignia on starboard side without O.U.A. ribbon.

1974 flag panel—48 flags
Flag panel on port side a few photos show T-38s with F-4 flag panels, but these were quickly changed as the smaller ones became available.



AMERICAN REVOLUTION BICENTENNIAL 1776-1976

1975—leading edges of horizontal stabs left polished metal



Crew names (pilot—front, crew chief—rear) in white Clarendon style on blue background (no box or panel)

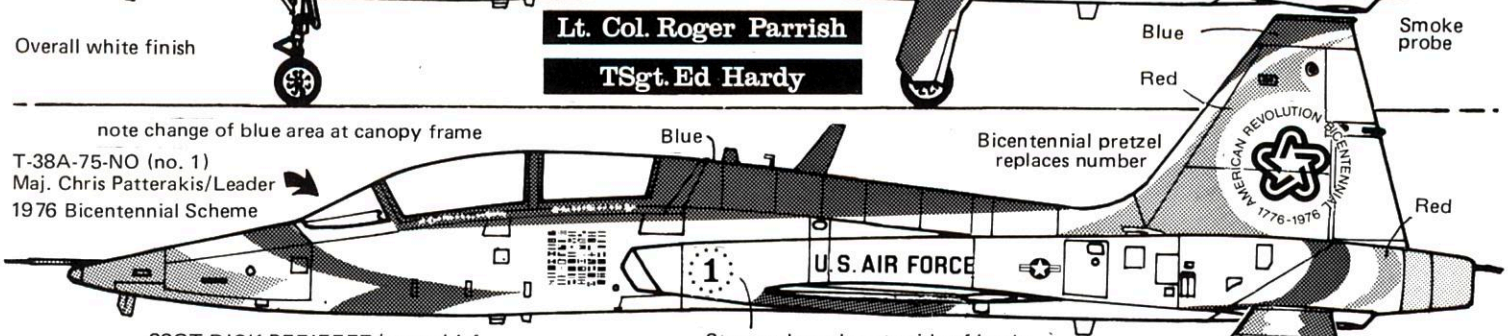
Chrome T-2 heater sensor probe.

Shark fin VHF antenna—blue

T-38A-75-NO (no. 1) 1974
Lt. Col. Roger Parrish/Leader

Overall white finish

Lt. Col. Roger Parrish
TSgt. Ed Hardy



note change of blue area at canopy frame

T-38A-75-NO (no. 1)
Maj. Chris Patterakis/Leader
1976 Bicentennial Scheme

Bicentennial pretzel replaces number

SSGT DICK PFEIFFER/crew chief

Stars and numbers to side of intake

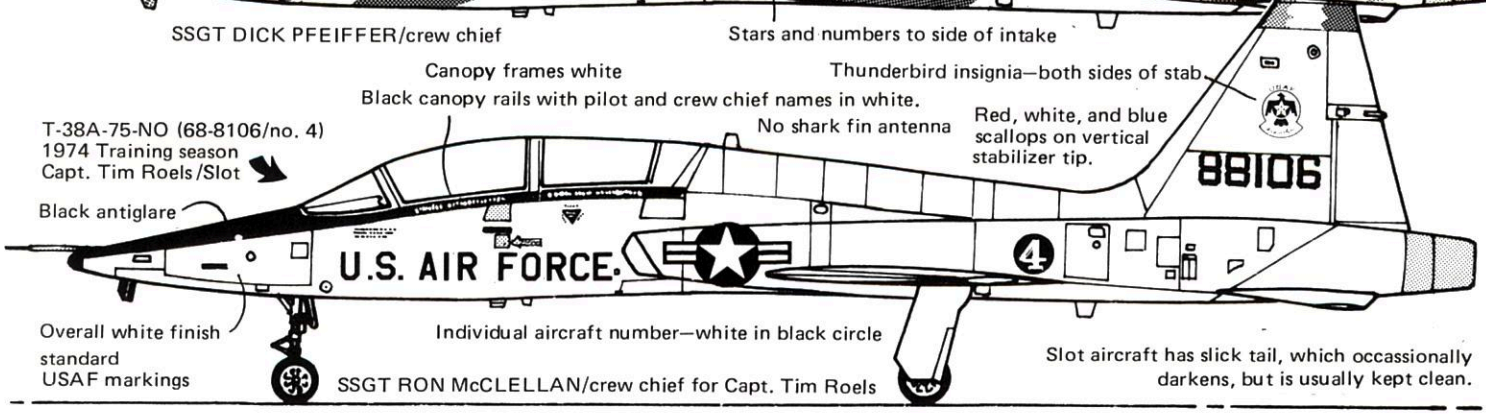
Canopy frames white

Black canopy rails with pilot and crew chief names in white.

Thunderbird insignia—both sides of stab

No shark fin antenna

Red, white, and blue scallops on vertical stabilizer tip.



T-38A-75-NO (68-8106/no. 4)
1974 Training season
Capt. Tim Roels/Slot

Black antiglare

Overall white finish standard USAF markings

Individual aircraft number—white in black circle

SSGT RON McCLELLAN/crew chief for Capt. Tim Roels

Slot aircraft has slick tail, which occassionally darkens, but is usually kept clean.

During 1978, the Thunderbirds - in their 26th season - continued to demonstrate Air Force excellence in 80 shows before five and a half million viewers. Fifteen of these airshows were flown before 100,000 or more persons; with the Chicago Lake Front air show drawing some 800,000 spectators.

There were several new members added to the flying team in 1978 including; Capt. Ron Maness (Left Wing), Capt. Jim Coziahr (Slot) and Capt. Gail Scarbrough (Solo). Capt. Scarbrough had been the Narrator for the 1977 season. Lt. Col. Cherry (Commander/Leader) and Maj. Walt Parker (Right Wing) rounded out the team. For the second year in a row the dual solo was not flown and aircraft markings remained the same.

The training season (1978-1979) saw more team changes than usual. Capt. Day McCoy was selected to fly the Slot and Lt. Col. Dan Taylor was picked as the new Commander/Leader. Capt McCoy suffered injuries in a training accident and Col. Taylor was promoted out of the job. As a result, the start of the 1979 season had to be delayed while selection and training went ahead to fill these vacancies. Major D.L. Smith was subsequently selected as the Commander/Leader for 1979; while Capt. John Latham took over the Right Wing position. Capt. Maness (Left Wing) and Capt. Coziahr (Slot) finished the Diamond. Capt. Scarbrough became Lead Solo and Capt. R.D. Evans (another new face) took on the job of Second Solo. The Thunderbirds had again received approval to reinstate the dual solo routine. Sixty shows were scheduled for the 1979 season - far fewer than the 102 flown during the Bicentennial.

By the end of 1979 the Thunderbirds will have performed some 2200 shows before a total *official* crowd attendance of over 140,000,000 people since their inception in 1953. Millions of others have watched from areas surrounding air show sites. The single largest crowd was 2,035,000 at Rio de Janiero in November, 1961. Largest United States crowd was at Chicago in July 1959, when 2,000,000 saw the team perform. At the other end of the scale the team performed before its smallest crowds ever in 1969 when 30 people saw the show at two different, remote sites in Alaska: Tatahena AFS and Clear AFS. Obviously for the moral of the troops, the team is as proud of these shows as any. The team won the MacKay Trophy in 1959, aviations highest honor. They have four Oak Leaf Clusters to their Outstanding Unit Award, the latest coming in January of 1975. They've performed before Presidents and Royalty over the entire globe. The Thunderbirds have been a source of joy and pride to many people. One smiling spectator put it perfectly: "Seeing these men make so many people happy makes me proud to be an American."

Available kits of Thunderbird aircraft 1/72nd scale

The F-84G is available in 1/72 scale through the efforts of Frog, Heller, and RarePlanes. The Frog kit is very old and hard to find, but its quite accurate in shape. Cockpit detailing is nil, but a little effort can produce a very nice F-84G. The RarePlanes effort, on the other hand, is of the finest quality. It is a vac-u-form kit, but rates as good as any injection-molded kit on the market. Accurate in all ways, it comes complete with full cockpit details, gear wells, very nice, raised scribing and full underwing stores. I highly recommend that you get at least one of these kits before they are 'sold out'. The Heller kit is excellent. While it's produced in France, it is widely available in the United States and reasonably priced.

With the F-84F you have a choice of two good kits, one has the better fuselage shape and the other has better detailing. Italaerei is the better shaped one of the two, but lacks cockpit and underwing detailing. Airfix/MPC has a much better cockpit and surface scribing. However, the canopy and fuselage spine are much too narrow. Choice—Italaerei basic kit with Airfix/MPC cockpit and underwing stores.

The F-100C is available from both Revell and IMC, (the IMC kit is boxed as a 'battle damaged' D model), but neither one is a 'true' 1/72 scale. The actual kits are quite similar in appearance and fairly crude by todays standards. Either kit could be saved but it would be better to convert a Hasegawa D model back to a C.

The Hasegawa F-100D is a tremendous kit. Very nicely scribed, with good detailing throughout, it will build up into a beaut of a Thunderbird F-100D or can easily be converted back to the C model or the two seat F model.

F-105B—a tough one. Revell and Monogram both have a kit of the F-105B. Both are rather poor in most respects although if I had to choose between them, I'd go for the Revell one. Hasegawa has a very nice F-105D kit but conversion back to the B model would be a bit tough since the radome area must be reduced not only in length, about two feet, but also in diameter. I've tried mating the Revell nose to the Hasegawa fuselage but that doesn't turn out quite right either. The choice here is yours.

F-4E—Their are quite a few kits of the F-4E available, Airfix/MPC, Revell, and Hasegawa, but only one that counts, Hasegawa. A truly beautiful Phantom can be built from this kit. It has good cockpit detail, great underwing stores, very finely scribed surface detail, the slatted stabs, and the most accurate canopy in any scale. The Revell kit is quite crude in comparison. The Airfix/MPC offering is better but still lacks the accuracy and detailing of the Hasegawa kit. Get the Airfix/MPC one for your Blue Angel F-4Js however.

T-38 Talon—The only kit of the T-38 is by Hasegawa. Not quite up to their Phantom kit, it has good external detail but a very basic cockpit. Make sure you change the wing planform as the kit is of the F-5B not the T-38A and add the intakes on top of the aft fuselage.

T-33A—Hasegawa again and with much better detailing throughout. A very nice little kit of the Lockheed trainer.

C-119—Aurora's kit is 1/77 but will build into a fair C-119F. Removal of all the surface scribing is necessary and a basic cockpit and other details need to be added throughout. It is the only C-119 kit around So- - - -.

C-123—AirModel has a vac-u-form C-123 kit that can easily be obtained. It looks good except in the canopy area where something is not quite right. Vac-u-form kits are not for the beginner but can be built into some truly nice models if done properly and *carefully*. I haven't built mine yet but it will be in the Thunderbird scheme when I do.

C-54—Again a vac-u-form kit from RarePlanes, it is not due to be released until about March, 1976. If it is as good as their C-121 Constellation kit, it'll be tremendous.

C-130—Airfix/MPC has a great kit of the C-130. Details abound in the kit and it is just a shame that the Thunderbirds never did one of these in their 'Starduster' motiff.

Minicraft/Hasegawa has recently released a number of their kits with Thunderbirds markings and some reworking. Decals are very good - though they don't include a variety of markings for any of the aircraft - only those that are provided in this booklet and some markings diagrams that look *very familiar.*

Kits so marketed include an F-100D, an F-105B (they actually reworked their F-105D for this), an F-4, a T-33 and a T-38. These are, of course, all excellent kits as noted above.

1/48th scale available kits

The F-84G is available from Hawk. An early effort from this firm, it is nevertheless, a very nice kit. An accurate outline and nicely paneled surface detail are the good points. A total lack of cockpit is its bad point. The landing gear is quite nice and the kit is available both 'plated' and non-plated. The non-plated kits are the better as the plating has a tendency to rub off. An F-84F kit is available from Revell, circa 1956 and it shows it. About 1/53rd in scale, it is quite inaccurate in shape from all angles. A ton of reworking is required to make it right.

Hawk makes a pretty little T-33 in 1/48 scale, again in both 'plated' and non-plated versions. Adequate cockpit detail and overall niceness make recommendation of this kit quite easy.

A single C-54D was utilized by the Thunderbirds in the roles of airlift support and public relations orientation. Dubbed the "City of Las Vegas" in June 1960, this aircraft actually served from 1959 through April 1963 (F-100 years). Markings reflect those of the demonstration aircraft.
Ostrowski via Menard

An F-100 is still available from Lindberg in 1/48 scale. Rivets all over everything spoil this kit along with a lack of cockpit details and a too short tail. But it can be saved and is quite impressive when built. One version even has decals for the Thunderbirds but they are sloppy, off-register, with few details and even fewer correct details. Forget the decal sheet. A second F-100 kit is available from Scalecraft/ESCI. This is a D model and comes boxed with or without Thunderbird markings. This kit is a little crude, but somewhat superior in outline to the Lindberg offering.

There are no kits of the F-105B in 1/48, just rumors.

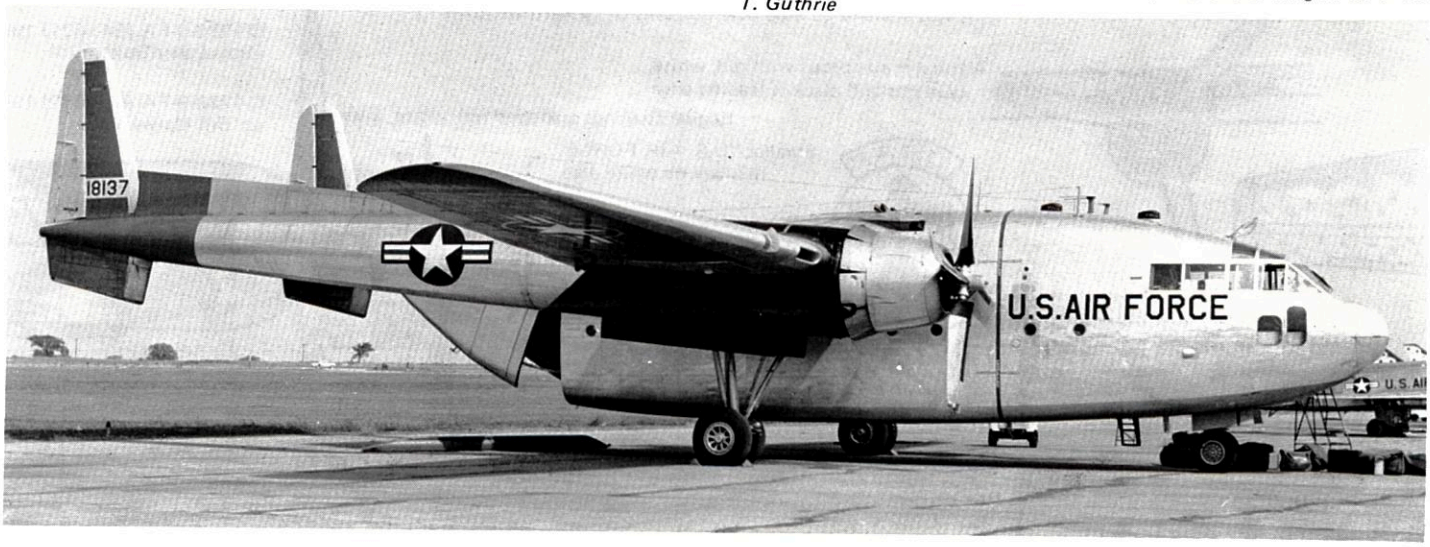
Fujimi's F-4E kit is a truly nice kit of the Phantom. Nicely paneled and detailed, it almost 'clicks' together. Cockpit detail is there, it's inaccurate but 'looks busy' when done. Few other wrongs in the kit, misshaped wing bulges, misplaced fuel dump vent, and a lack of leading edge slats on the stabilators being the most noticeable. A truly nice model can be built from the Fujimi kit. Revell also offers an F-4E kit - though it suffers from the same problems as their 1/32 scale version.

There is another F-4E kit available, this one from Fuji of Japan. Forget it for the E model but buy one to make your Blue Angels J model. The kit is similar to the Airfix 1/72 kit as it can be built as any of these versions, F-4B, C, D, E, or J.

Thunderbird C-119F in the "original" scheme. Note the F-84F demonstration aircraft behind; and in the background, the Blue Angels' F9Fs. *Menard Collection*

C-119F in later markings after move to Nellis AFB. Of special interest are the areas of white (above) and blue (below), the tiny nose scallops, and the propeller details. "U.S. AIR" in stencil style, "FORCE" in block style—left side only. *USAF*

The teams other C-119F, 51-8137, carried no distinctive paint scheme. It was finished in standard Air Force Markings with Day-glo recognition panels on the wing and tail surfaces. Dark area around nacelles in black. This aircraft was specially modified so it can carry the entire wing of an F-100. *T. Guthrie*



City of Las Vegas

Blue

C-54D (1959-1963)

C-54D-10-DC (42-72674)
1959-1960
Capt. John Donahoe/Pilot

SERIAL NUMBER
42-72674 Serial number appeared on the aircraft as 0-272674.

Appropriate flag panel on portside

Thunderbirds

Blue

Standard "USAF" and national insignia placement with natural metal surround in painted areas.

Thunderbird insignia with OUA ribbon on starboard side

Black

Red, white & blue scallops

Blue bordered white panels, pilot and crew chief names in blue Old English.

Capt. John Donohoe

Red, white, blue wingtip stripes (didn't cover ailerons)

'Bird motif on aircraft bottom was blue outlined white.

Capt. Larry Duke

Red-bordered, white panels with crew names in blue Old English—pilot on left, crew chief on right

Natural metal props with red, white, blue tips and black ¾ leading edge.

Thunderbird insignia above 1st cabin window on right starboard.

Nose scallop RWB

Red border

Appropriate flag panel on port side.

Natural metal overall

Props—natural metal with ¾ black leading edge and red, white, blue tips.

Appropriate flag panel on port side only, outlined red

Note remainder of anti-glare panel

Standard black walkways on top of wings and fuselage.

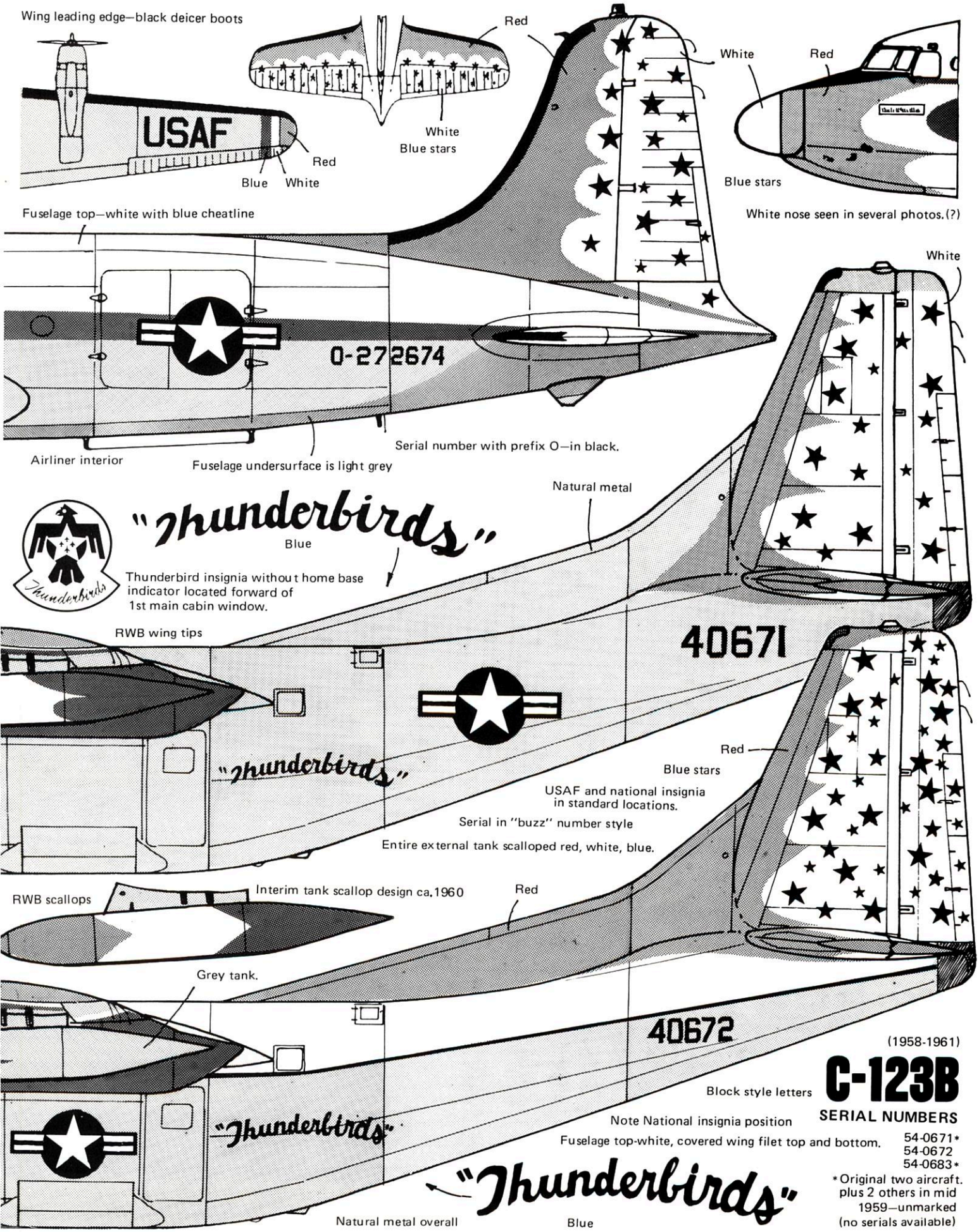
Red, white and blue nose scallops
Blue was actually painted over portions of forward windows

C-123B-9-FA (54-0671) 1958
Capt. Larry Duke/Pilot

C-123B-9-FA (54-0672) 1961
Lt. Bill Maxey/Pilot

Engine cowlings scalloped red, white, blue.

Smaller "U.S. AIR FORCE" in black on white area.



(1958-1961)

C-123B

SERIAL NUMBERS

54-0671*
54-0672
54-0683*

*Original two aircraft. plus 2 others in mid 1959—unmarked (no serials available)

C-119F (1954-1957, 1959)

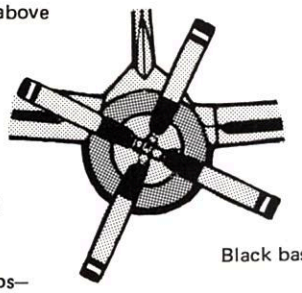
SERIAL NUMBERS

51-8120 *Original aircraft and only one painted in
51-8137 Thunderbird colors.
51-8146 * 8120 assigned for short period in mid 1959

Thunderbird emblem with "NELLIS" above

Note rounded shoulders on T-Bird

Blue Angel insignia



Black base

Props—
natural metal with red, white and blue tips.

Pilot Capt. H.G. Seilley
C/P T/Sgt. H.A. Schmidt

Crew names are on red-bordered, white blocks with names in blue.

Pilot and flight engineer on left

Prop spinners in red, white and blue.

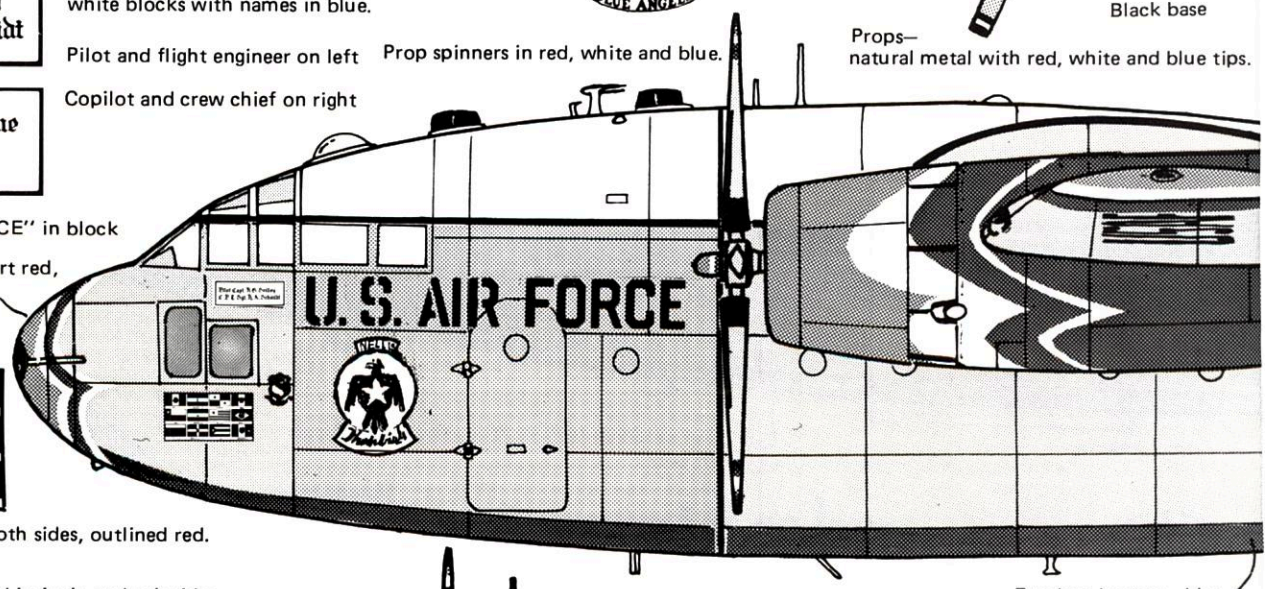
C/P 1/Lt. E.L. Secondine
E.S/Sgt. H.J. Morris

Copilot and crew chief on right

"U.S. AIR" in stencil, "FORCE" in block

1956—nose painted with short red, white, blue, white scallops

Appropriate flag panel on both sides, outlined red.



Thunderbird insignia on both sides, outlined red

Natural metal spinners

Natural metal overall

Fuselage bottom—blue

Blue White

P. I/LT. R. W. MEAD
C/E T/SGT. K. A. SCHMIDT

Red border

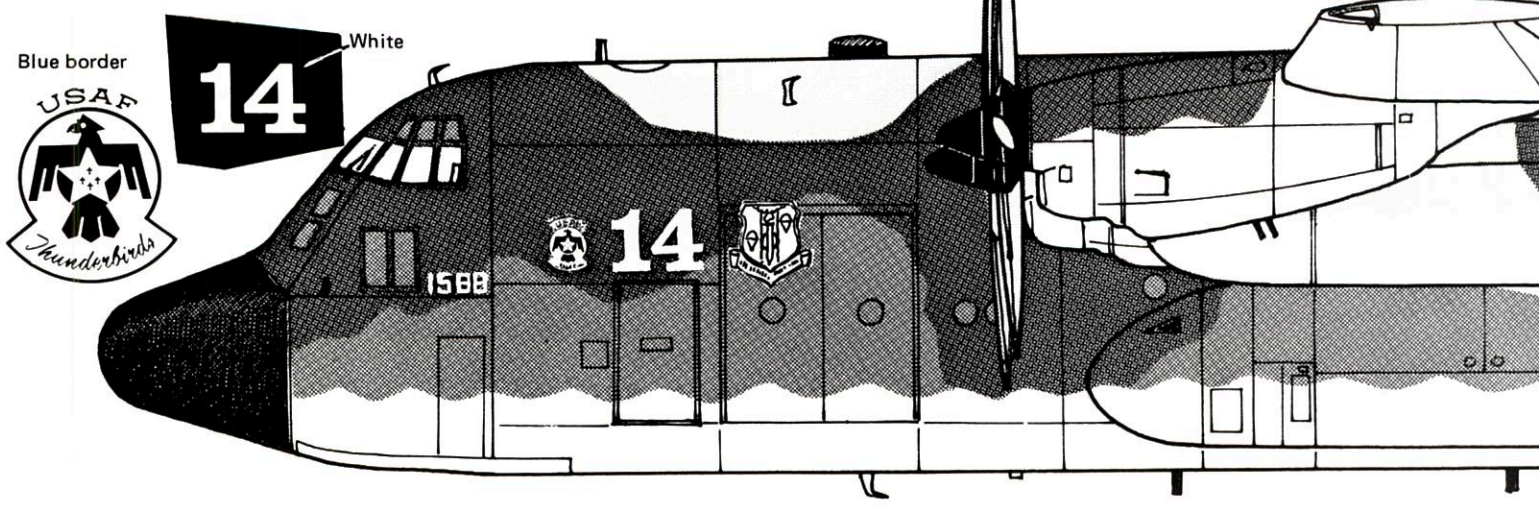
Markings conform to F-84G

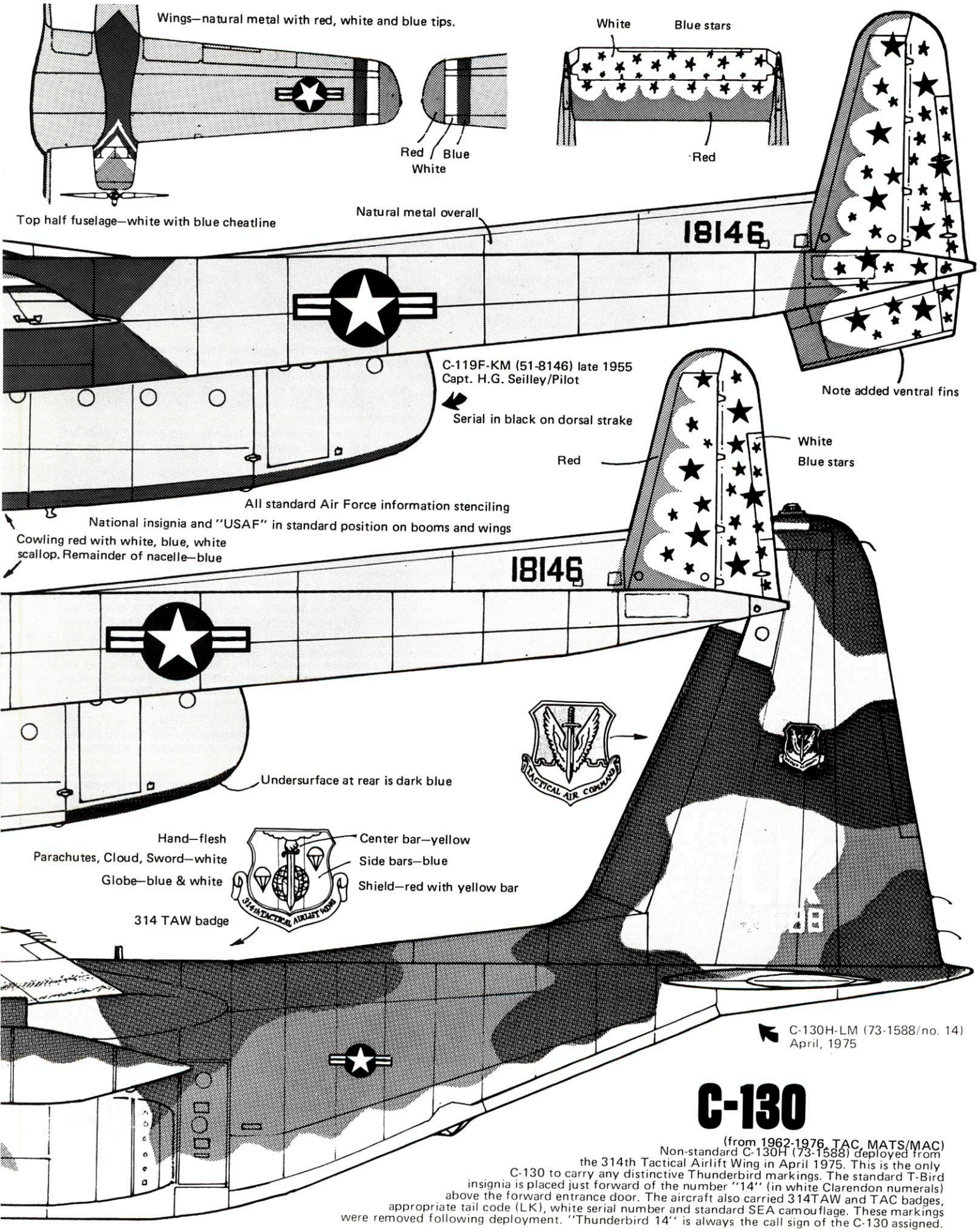
"U.S. AIR FORCE" in black block style

C-119F-KM (51-8146) 1955
1Lt. R.W. Mead/Pilot

Blue border

White





C-130

(from 1962-1976, TAC, MATS/MAC)

Non-standard C-130H (73-1588) deployed from the 314th Tactical Airlift Wing in April 1975. This is the only C-130 to carry any distinctive Thunderbird markings. The standard T-Bird insignia is placed just forward of the number "14" (in white Clarendon numerals) above the forward entrance door. The aircraft also carried 314TAW and TAC badges, appropriate tail code (LK), white serial number and standard SEA camouflage. These markings were removed following deployment. "Thunderbird 14" is always the call sign of the C-130 assigned.

In 1960 "U.S. AIR FORCE" was moved forward on the fuselage. Letters were outlined white where they crossed the blue scallop. Note also that the engine scallops have been removed and the entire dorsal strake has been painted red. *USAF*

The Fujimi T-38 kit lacks everything that recommends the F-4E kit. It is slightly inaccurate throughout the entire nose area and has raised rivets on the surface along with poor detailing in the cockpit area. Removal of the rivets, reshaping the nose, and 'cross-breeding' of parts between a Hawk F-5A and the Fujimi T-38 will result in a very nice replica. The latest kit comes complete with decals for the Thunderbird T-38s. Although of fair quality, the colors are done poorly. The red is almost a maroon and the blue being a little too grey. There are no details on the flag panel at all, just a large blob of multi-colored squares. The Thunderbird emblem is quite nice. Watch out for the pilot/crew chiefs names as they have printed two right sides and no left side on the sheet.

1/32nd scale available kits

In 1/32 scale, all we have is the Revell F-4E kit and no Thunderbird decal sheet at all. The kit is a monstrosity and needs quite a bit of accurizing, to say nothing for strengthening every joint that you have. But when it's done, nothing will touch it for impressiveness. I know, I struggled with one for two months, building a 'right' cockpit, detailing gear wells, adding scoops and re-shaping panels, this just to make an F-4E. Then I painted the scallops and the 'bird' on the bottom, handpainted a flag panel (all 48 of 'em) and Thunderbird emblem, and waxed the multi-coats of white acrylic lacquer to a high gloss finish. End result—one nervous breakdown and first place at the 1975 IPMS Nationals. It was worth it.

1/72 scale available Thunderbird decal sheets.

Microscale, Revell, Hasegawa, and AeroDecal all have decal sheets for Thunderbird aircraft. The difference between the best sheets and the worst is usually in the detailing and of course, the price.

The MPC/Airfix F-84F Thunderbird decals are practically unusable as well as being incomplete.

Revell has a set of four F-4Es in one box and a very nice, at first glance, Thunderbirds decal sheet to do all four aircraft. The colors are good but the red has a white base that doesn't quite go to the edges, result—the reds are two-toned. The flag panel has no detailing at all and is quite undersized. Pilot and crew chief name plates all have the same scribbling which is not legible at all. The Thunderbird emblem is pretty good when 'on register', but the O. U. A. ribbon is useless.

Hasegawa gives you the bare essentials for Thunderbird F-4Es in their kit, the sheet containing flag panel, emblem, and star circle with numbers. Hasegawa aircraft numbers are for the early F-4E scheme, whereas the Revell sheet is for the later scheme. The Thunderbird emblem is very nicely done but the flag panel is little more than 50 squares of color with the Japanese flag appearing twice. No pilot or crew chief name panels are included. You must use both sheets to come up with the correct markings for a Thunderbird F-4E.

AeroDecals has an outstanding sheet for the 1967 Thunderbird F-100D. From what I can discern, the sheet is almost perfect. Coloring is correct, registration is right on, and detail is there. The only inaccuracies that I can find are the flag panel has only 42 flags where it should have 45, and some of the pilots names are done in the given version instead of the nicknames they had, example being "Capt Merrill A. McPeak" where it should read "Capt Tony McPeak". And that's all that I can find wrong. The flag panel detail is excellent, as is the Thunderbird emblem. All the numbers are 'spelled' and all aircraft on the team are given, from no.1 through no.9, but they do not specify which one was the F model. The only trouble is that you will have to paint the "bird" on the bottom. This is truly a beautiful sheet as is their other sheet for F-100Ds of the SkyBlazers. Get them both.

And that brings us to the MicroScale sheets . They cover the Thunderbirds in their F-84Gs, F-84Fs, T-33s, F-100Ds, and T-38As. All are typical MicroScale quality, thin, with good detailing and color, and usually correct. They are also quite complete with all the scallops, stars, and stenciling. But

Taken in early 1958, this photo illustrates the original scheme. Thunderbird insignia was moved, in the final scheme, to a position above the first cabin window. The dorsal strake is natural aluminum. The large intake on top of the fuselage at the propeller warning line is black. *Fairchild*

quality control is sometimes found lacking and registration sometimes suffers.

The F-84G sheet is fairly accurate, although certain problems do exist, such as the ATC insignia - which should have yellow-gold wings, and the blue of the markings (scallops, insignia, lettering, etc.) - which is not dark enough. There are no crew names and only one aircraft number is provided - 116719 (see illustration in this booklet). This aircraft may be marked two ways - 1953 season or 1954-55 period. MicroScale recommends use of the Heller kit. As a bonus this sheet also contains markings for the Blue Angels F6Fs and F8Fs.

The F-84F sheet suffers from a lack of proper researching. Only one aircraft is given, that of the leader aircraft, 6771. They easily could've printed the other numbers as that was the only change between aircraft schemes. Also, there is no flag panel at all nor any pilot/crew chief name blocks. The word 'Nellis' is missing from above the Thunderbird emblem.

The T-33 sheet suffers from the same lack of research. Again, no flag panel is offered, instead giving two Thunderbird emblems the same as they did on the F-84F sheet. Two 'Thunderbird' logos are given when it was only carried on the one fuselage side. They offer no serial number at all. Complete scalloping doesn't make up for these goofs. The sheet also contains Blue Angel and RCAF 'Golden Hawks' T-33s.

The sheet for the F-100D, MicroScale no. 158, is combined with markings for a 'Minute Men' F-80 and Blue Angels F-8F. All the scalloping is given along with the complete underside 'Bird'. Again only one aircraft is given no.1 and incorrect for that one. The name plate shows it to be for Major Fitzgerald, who was the leader in 1960 and in F-100Cs. The rest of the sheet is of Thunderbird F-100Ds from about 1966. Aircraft number is spelled out and the flag panel looks pretty decent and has 45 flags. The Thunderbird emblem is too small, off register, and lacks the O. U. A. ribbon. Now go back and read what I said about the AeroDecals F-100D sheet.

The MicroScale sheet for the T-38 is a definite improvement. Detailing of the flag panel and the Thunderbird emblem is quite nice, although the pilots/crew chiefs names are very sloppy and barely legible. Scallops and 'Bird' are nicely done with the colors looking pretty good. Markings are for no.1 through no.3 aircraft with only the no.1 aircrafts pilot/crew chief names. Everything in perspective, it is a nice sheet. It also contains markings for the Blue Angels A-4s.

One thing about all the scallops that most of these sheets give you, they usually never match up right when applied and sometimes do not cover the entire area that they're supposed to. That leaves one with the problem of trying to match a paint bought, say in Ohio, with a decal printed in California. 'Tis tuff to do. You're usually better off to just go ahead and paint them on.

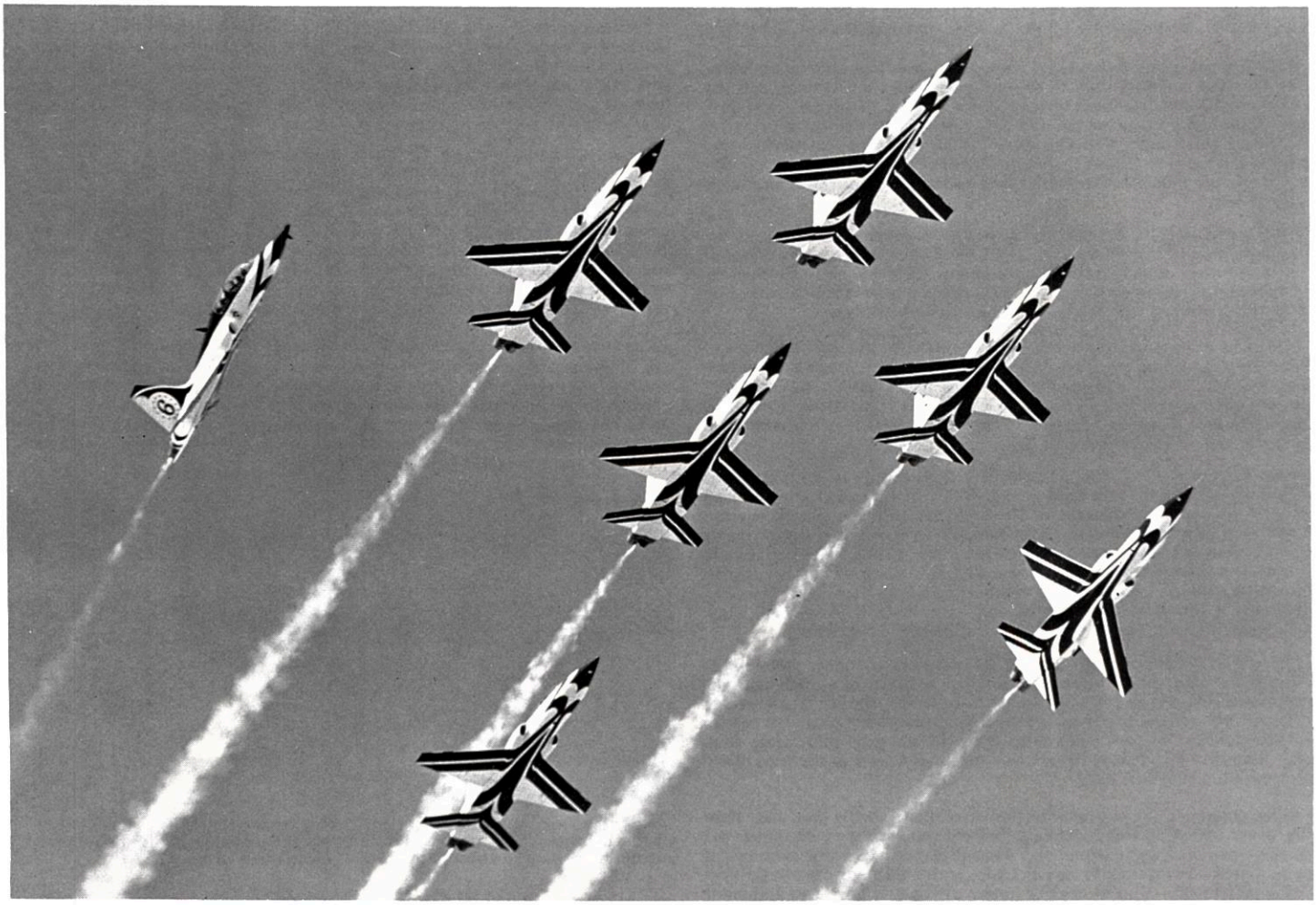
A method that I've used with considerable success is to apply the decal scallop to the model, lightly scribe around the scallop, and then take the decal scallop back off. When you're ready to paint, just mask off your scribing and, ouila, scallops. The other method is to 'sketch' the scallops on the fuselage and reshape them until they look right. Now mask off the sketched lines and paint.

The natural metal finish of Thunderbird aircraft is another tough thing to get to look right. You have three ways to go: silver paint, the new 'plate' paints, or foils. I've seen models in all three and although some painted models looked real good, when compared with a good foil job, they looked rather drab. To me, foil is the only way to go. I use combinations of 'BareMetal' and 'ScaleMetal' foils for the different 'tones' of natural metal aircraft. I haven't tried the new MicroScale Foil adhesive and regular kitchen foil bit yet, but I understand that it turns out well. Foil can also be used for really crisp, sharp masking. Try it, you'll like it.

As long as we are covering the different finishes for Thunderbird aircraft, I'll say a few words about the white finishes. Carefully applied white gloss enamel looks real good. I said carefully because of the inherent tendency of enamel to attract dust. Try painting with lacquer instead, it's tricky but turns out much better than enamel. Just make sure your plastic model is well sealed with a lacquer primer before applying the lacquer color coats. The most important thing is to take your time.

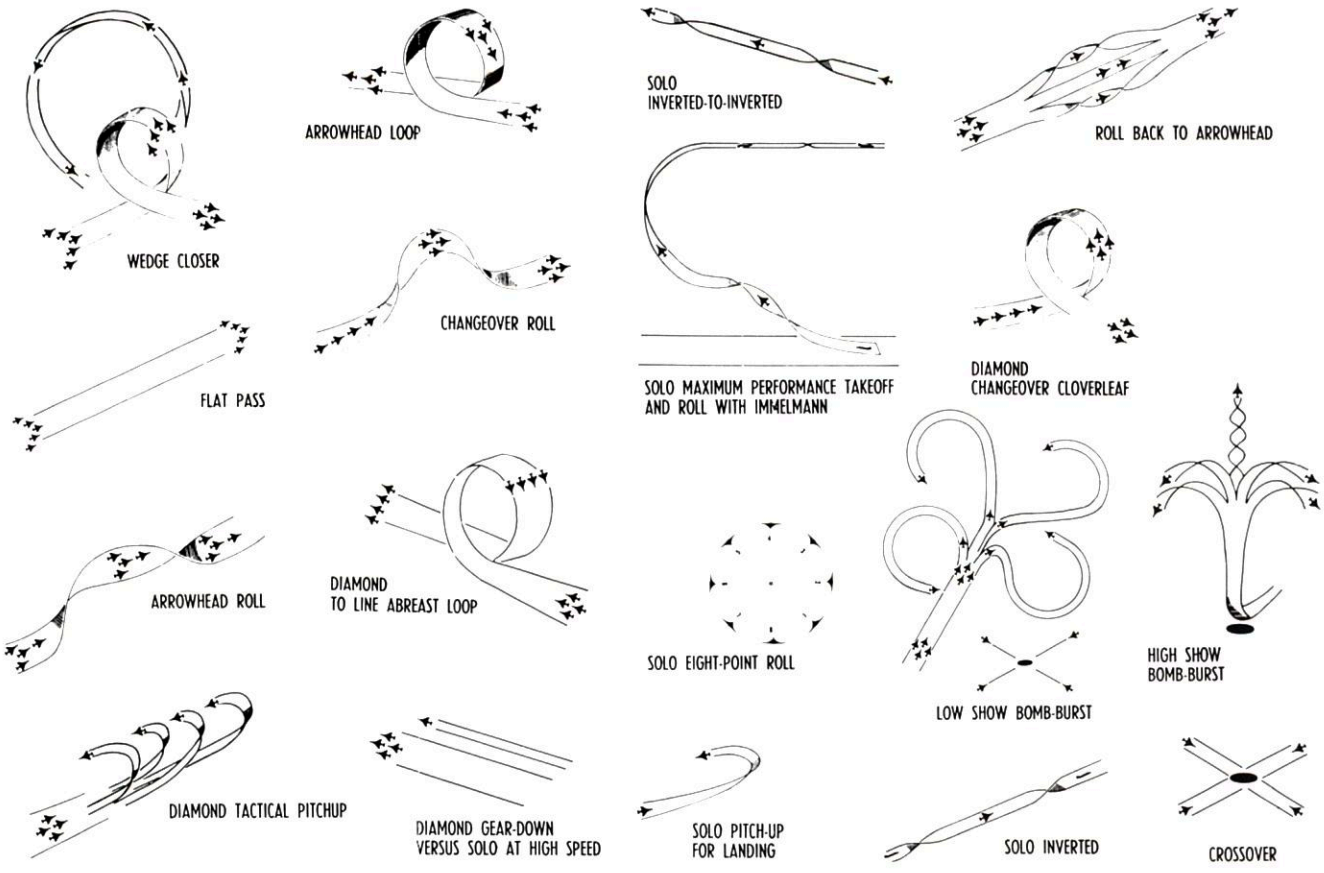
"And now, low and to your right." With smoke, yet. The final C-123 scheme carried a 'Bird motif on its lower surfaces, white wing fillet (top and bottom) and wingtip striping that didn't cross the ailerons. *USAF*

Another view of the final "Provider" scheme, this one showing all scalloping to good advantage. Notice also the Thunderbirds' C-54D in the background. *USAF*

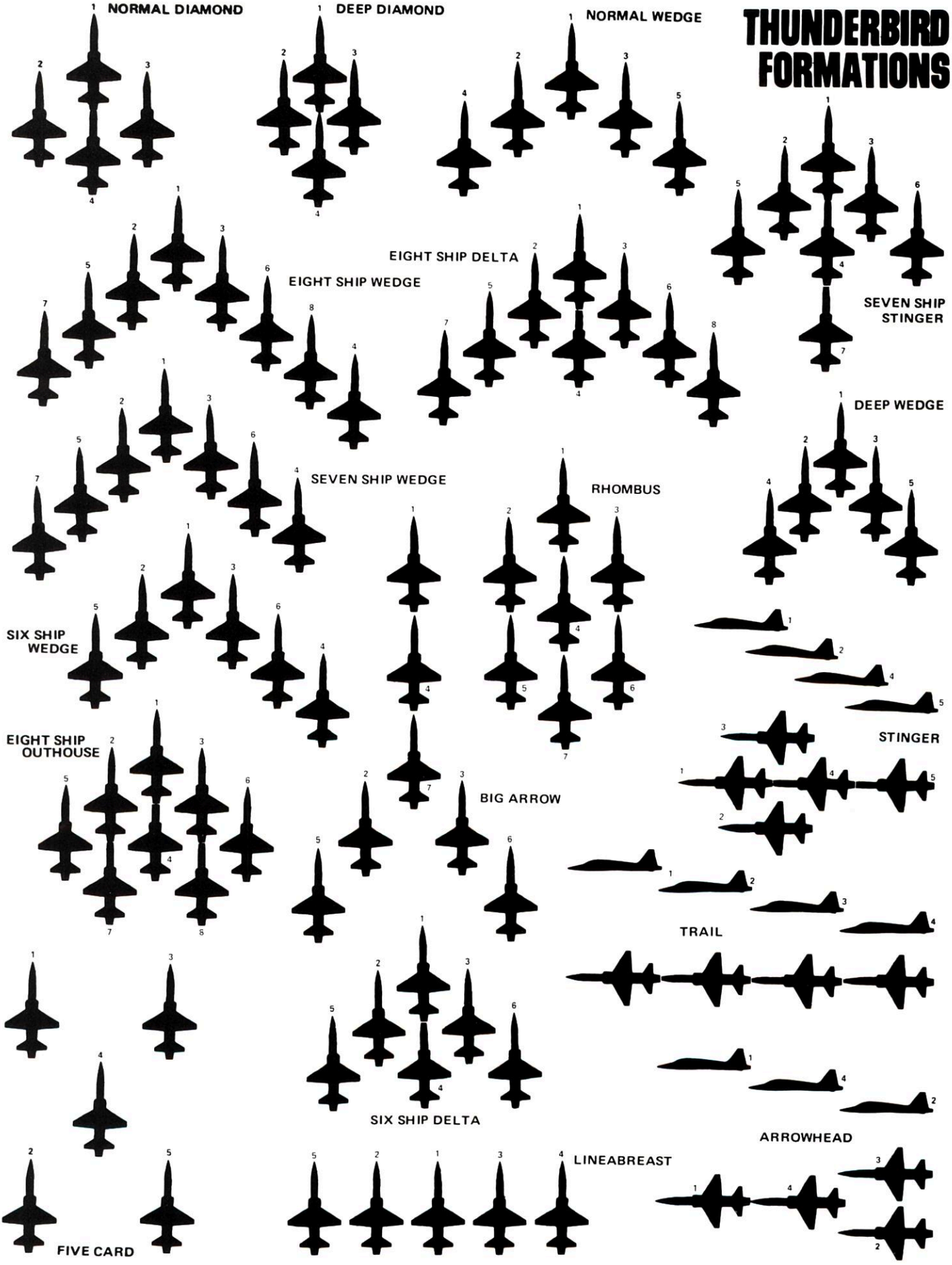


Arrival maneuvers feature the seven-ship stinger. *USAF by SSGT Ben Jones*

THUNDERBIRD MANEUVERS



THUNDERBIRD FORMATIONS



EVOLUTION OF THE THUNDERBIRD UNIFORM

As one might imagine, the Thunderbirds' style of dress has changed some over the years. The original flight suits were standard issue, dyed black. They retained all features including "U.S. Air Force" and the winged star on the left shoulder. At first there were no other markings, but as early as June 1953 the pilots first names began to showup—sewn in white script over the left chest pocket. Sometime during the 1954 season, the Thunderbird patch appeared on the right chest. There are indications that practice was flown in similarily marked undyed suits. By the time the 1955 season had begun, the pilot's position in the formation appeared in white script below the patch. This suit style was retained until 1957, when it was replaced by the first colored show suits.

The team felt that the wrinkled and zippered flight suits failed to project the desired image at post show functions. The new suits had a more tailored look, a waist belt and a giant Thunderbird patch. Names, usually nicknames or first names, were embroidered horizontally over the left chest pocket with the pilot's formation position beneath. Plain neck scarves were common by this time. Our information is incomplete, but the suits seem to be blue with white scarves, and white with blue scarves.

The belts went out of style around 1962, replaced by buttoned waist straps. For individual identification pilots wore their wings and name tags pinned to the left chest. White ascots with the Thunderbird emblem were worn with blue and white suits. The suits retained zippered pockets on legs and left chest. Embroidered name tags returned in 1964.

No changes are apparent until 1966 when the suits were all snugly tailored, eliminating the button waist straps. This is the present form of the show suit . . . White ascots (with emblem) with suits in red, white, blue, black or grey. Gold was used in 1974, but has since been dropped.

Show suits are worn only for demonstrations. Practices and training sorties are flown in similarily marked, standard issue flight suits.

Capt. C.A. Patillo, a "charter member" of the Thunderbirds, is shown wearing the earliest style black suit and holding the original style helmet. Photo was taken 13 June, 1953. Aircraft is the F-84G. *USAF photo*

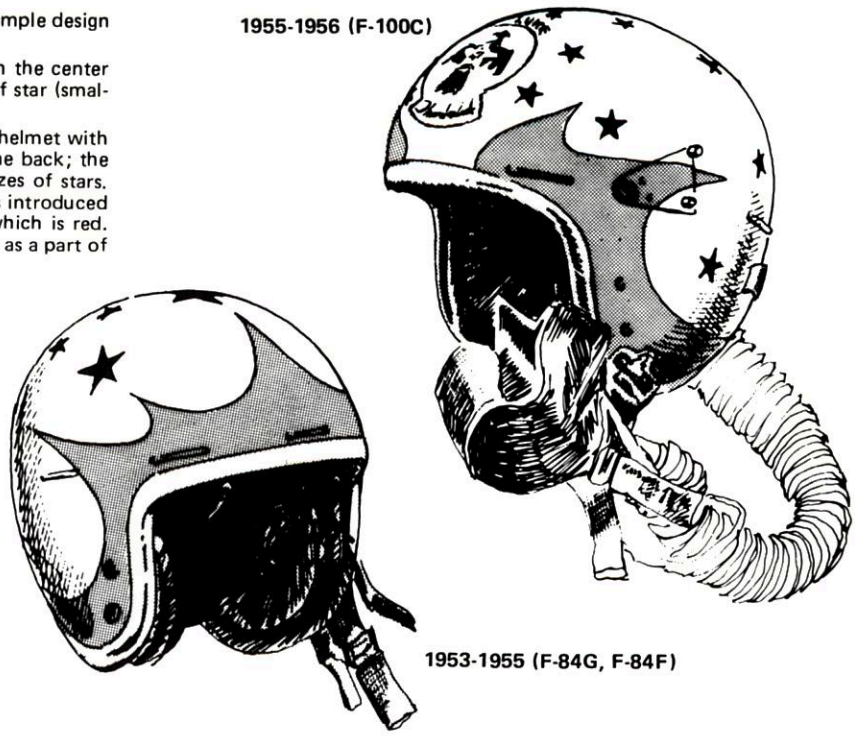
The "change of image" suit modeled here by Lt. Sam Johnson the Solo pilot at that time. This was the first colored suit. Circa 1957. *USAF photo*

This photograph of Lt. Col. Ralph Maglione/Commander, taken in 1966, illustrates the buttoned waist band and zippered pockets. Note the everpresent, highly-polished black boots. *USAF photo*

The early style helmet used in 1953, 54 and 55 carried a fairly simple design of red scallops and two sizes of dark blue stars on white.

A second helmet design exhibited the Thunderbird emblem in the center front, flanked by some rather awkward scallops and one size of star (smaller). This design was introduced in late 1955 or early 1956.

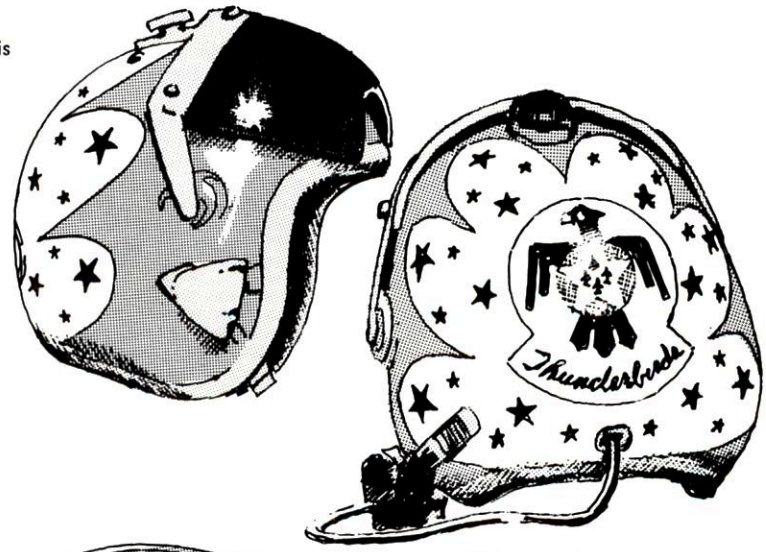
Another change was made in 1957. This one (on a new model helmet with attached visor) found the Thunderbird emblem centered on the back; the front scallops graceful and unbroken; and the use of three sizes of stars. This design was retained, even though a newer model helmet was introduced in 1964. The new helmet has a visor cover (for single lens) which is red. Note that the helmets are normally left in the aircraft at shows as a part of the equipment for which the crewchief is responsible.



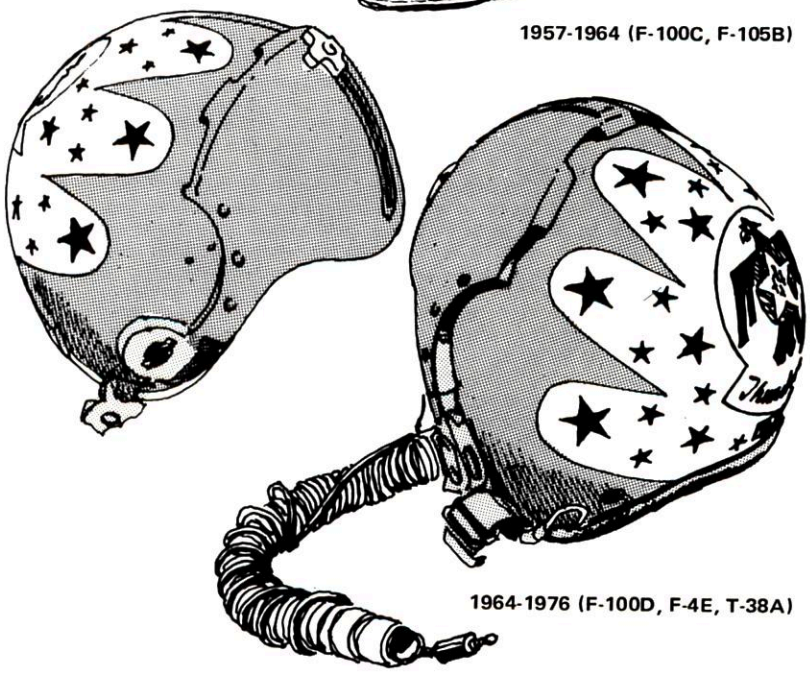
1955-1956 (F-100C)

1953-1955 (F-84G, F-84F)

Final form (to date) of the demonstration suit is nicely tailored. Pictured is Capt. Steve Dwelle the Solo pilot for the 1971 and 1972 seasons.
USAF photo



1957-1964 (F-100C, F-105B)



1964-1976 (F-100D, F-4E, T-38A)

Thunderbird Aircraft Performance Chart

	F-84G	F-84F	F-100C	F-100F	F-100D	F-105B	F-4E	T-38	T-33A	C-119F	C-123B	C-54D	C-130
Span (ft)	36'5"	33'7"	38'9"	38'9"	38'9"	34'11"	38'5"	25'3"	38'10"	109'3"	110'0"	117'6"	132'7"
Length (ft)	38'8"	43'5"	47'0"	50'0"	47'0"	64'0"	62'10"	46'5"	37'9"	86'6"	75'9"	93'10"	97'9"
Height (ft)	12'7"	14'5"	15'6"	16'3"	15'6"	19'8"	16'3"	12'10"	11'4"	26'6"	34'1"	27'6"	38'3"
Wing Area (Sq ft.)	260	325	385	400	400	385	530	170	238	1,447	1,223	1,460	1,745
Empty Weight (lbs)	11,095	19,340	19,270	21,000	20,000	27,500	30,425	7,164	8,084	39,800	29,900	37,000	72,892
Maximum Speed(mph)	622	695	880	840	864	1390	1500	820	543	281	245	265	384
Climb	9.4 min. to 35,000	8,200 ft/ min.	19,500 ft/ min.	15,000 ft/ min.	16,000 ft/ min.	34,500 ft/ min.	30,000 ft/ min.	33,600 ft/ min.	6.5 min. to 25,000	1,010 ft/ min.	1,150 ft/ min.	14.8 min. to 10,000	1830 ft/ min.
Service Ceiling ft.	40,500	46,000	42,500	38,500	45,500	52,000	62,000	53,600	47,500	23,900	29,000	22,000	23,000
Range (St. miles)	2,000	2,000	1,200	1,200	1,200	900	1,300	860	1,350	1,770	1,470	3,900	2,420
Power-Plant	1 Allison J35-A-29	1 Wright J65-W-3	1 P&W J57-P-21	1 P&W J57-P-21	1 P&W J57-P-21A	1 P&W J75-P-19W	2 GE J79-GE-15	2 GE J85-GE-5	1 Allison J33 A-35	2 P&W R-4360-20	2 P&W R-2800-99W	4 P&W R-2000-7	4 Allison T56-A-7A
hp Rating (s.t.)	5,600	7,220	10,200 16,000 ab	10,200 16,000 ab	10,200 16,000 ab	24,500	17,900 with reheat	3,850	4,600	3.500	2,300	1,290	4,050

The Selection Process

All Thunderbirds are volunteers and must compete for their positions against many other applicants with outstanding records. As can be expected, the competition is tough and spirited, for the number of positions available is limited. The actual size of the squadron may vary slightly from year to year due to the routine manpower adjustments the entire Air Force is subject to, and also to the aircraft the team flies. The number of people assigned is a direct reflection of the complexity of the aircraft; with the F-84G, there were 6 officers and 32 enlisted men, with the F-4E, 10 officers and 90 enlisted men, with the T-38A, 10 officers and 68 enlisted men.

The officer force consists of seven pilots and three support officers. Five of the pilots are demonstration pilots and the sixth and seventh are the logistics officer, who supervises the maintenance function and serves as the safety observer at each air demonstration, and the narrator, who narrates each show and advances the team to each site. The executive, information, and maintenance officers round out the complement. The normal tour of duty for Thunderbird officers is two years. The tours are staggered so that there are always experienced personnel assigned at a given time. In certain cases, a third year is served. The narrator, for example, normally narrates one year and serves two years as a demonstration pilot. The commander/leader serves six months in an executive position before assuming command for two years. All officers are limited to three years on the team. The normal tour for enlisted personnel is also two years. A third year extension is possible if approved by Hq USAF. Unlike officers, there is no set limit of time on the team for enlisted personnel, but once past the three year point they are very vulnerable for assignment and usually receive orders within several months of their tour expiration date.

In the early years of the team, men were selected from amoung the outstanding personnel stationed at Luke AFB and Nellis AFB. Later, all eligible Air Force personnel world-wide could apply and compete for positions. Each year, from January thru July, applications are accepted for the two or three pilots who will rotate that year and create vacancies. The applicants must be on unconditional flying status, have at least 1000 hours of rated jet fighter/jet trainer time, and have less than 10 years active commissioned service as of 31 December of the selection year. Every other year, from January thru April, applications are accepted for the commander/leader. Applications for his position must be on unconditional flying status with extensive fighter aircraft experience, hold the rank of major or lieutenant colonel, and have a minimum of 2500 hours total time, 2000 hours of which must be jet fighter aircraft time. Applications for the support officer positions are advertised and accepted when vacancies are projected.

After the acceptance cut off date, all applications are reviewed by the team officers and usually 12 to 15 pilot semi-finalists are selected. Performance reports, recommendations, background and experience, and the applicant's own reasons and desires for applying are all considered. The semi-finalists are then scheduled in groups of 2—4 to meet the team on the road and travel to several show sites. This provides an opportunity for them to familiarize themselves with the team's operation in an air show environment, and also to get acquainted with team members and receive an inside orientation of the air show business. The semi-finalists are brought to Nellis AFB as a group for personal interviews. The field is then narrowed to 5 or 6 finalists. These officers are then scheduled for flying evaluation sorties in which basic two ship formation maneuvers are flown, observed by a third chase aircraft, to measure the ability and potential of the applicant. The finalists are then interviewed by a board of senior officers, including the 57th Fighter Weapons Wing Commander, and the Commander and Vice Commander of the USAF Tactical Fighter Weapons Center at Nellis AFB. The recommendations of the team leader and the board are forwarded to the Commander of Tactical Air Command for approval.

The new pilots generally report in October and November of each year. December, January and February comprise the training season, a period of intense activity and maximum effort. By March, they are "air show ready" and the new season is ready to begin.

The enlisted force comprises specialists and technicians in the fields of administration, information, graphics, photograph, aircraft maintenance, scheduling, supply, operations, life support, communications, weapons, avionics, airframe repair, corrosion control, jet engines, fuel systems, electrical systems, pneudraulics, environmental systems, egress, and ground equipment. Because of the number and variety of enlisted specialties, applications from eligible personnel, including women, are accepted year round. Each application is retained on file for a period of one year. When vacancies are projected during that year, all applications on file for that particular career field are reviewed by the key supervisors and officers of the squadron. Upon the approval of the commander/leader, assignment of the selected NCOs is requested, thru Tactical Air Command Headquarters at Langley AFB VA, from the Air Force Military Personnel Center at Randolph AFB TX.

The visibility and sensitivity of the mission requirements places a premium on technical experience and a broad, varied career background. The Thunderbird NCO must not only be a technical expert in his field, but a public relations representative as well, capable of fielding questions and presenting viewpoints to the American public, from the youngest child to congressmen, governors and businessmen. No Thunderbird is so foolish to think himself the absolute best man in the Air Force at his job, but takes confidence in the knowledge that he was selected from among the best and that the collective individual strengths of each man contributes to a team organization that is without equal.

The Training Season

The annual training season is the time that the new pilots learn the techniques and intricacies of aerial demonstration flying and the "veterans" become accustomed to flying with new wingmen. While an aggressive approach to demonstration acrobatic flying is conducted, the overriding concern and emphasis throughout the training program is on flying safety. Training is conducted in graduated steps beginning with basic maneuvers and two ship formations at relatively high altitudes, then progressing steadily to larger formations, lower altitudes and more complex maneuvers. Each level is begun only after a high degree of knowledge, skill, and judgment has been demonstrated.

A period of overlap occurs between the arrival of new pilots and the departure of the old, so that each new man receives extensive training and the benefit of experience from his predecessor. The initial training missions are designed to build confidence in the leader and the aircraft. Each new pilot is scheduled for several sorties with instructor pilots from the 64 Fighter Weapons Squadron at Nellis. The 64th is better known as the Air Force's "Aggressor" squadron, flying T-38s in a simulated enemy role in air-to-air combat training. As is the case with all pilots who teach combat maneuvers, the 64th's pilots are thoroughly familiar with the flight characteristics of their aircraft in all areas of its performance envelope. Flying in Aggressor T-38s, the new demonstration pilots undergo instruction in advanced handling techniques designed to familiarize them with the maximum performance capabilities of the airplane and to instill complete confidence about what it can and cannot do.

With this knowlege, domonstration flying begins. The pivotal factor in successful formation aerobatics for the diamond pilots is to overcome the natural tendency to look at the ground and devote total, absolute concentration on the leader's aircraft. Low altitude straight and level flight and shallow turns are flown to establish the "follow the leader" principle. The solo is always accompanied by a chase aircraft for critique and safety purposes; there are no single ship training sorties. At times during the training season, a chase aircraft may also accompany the diamond to observe training progress.

Training begins at Thunderbird Lake, a dry lake about 50 miles north of Nellis AFB. Once the basic maneuvers and techniques are mastered, training moves to Indian Springs Auxillary Field, approximately 40 miles northwest of Nellis. There the timing between the diamond and solo maneuvers is practiced. It also affords the narrator the opportunity to realistically practice the narration and allows each practice show to be video taped for critique purposes.

The first training sortie is a two ship formation takeoff, chandelles, lazy eights, inverted flight familiarization, level and turning maneuvers, and the tactical pitchup for landing. The diamond takeoff and solo roll on takeoff are not attempted until the seventh sortie. Five ship maneuvers commence with the 18th sortie. The complete show sequence begins with the 21st sortie.

The training season is predicated upon a minimum of 30 training sorties, but the new pilots usually fly at least twice that number. By the time he flies in his first official air show, every new pilot will have already flown 40—50 practice air shows. In addition to the normal air show training, each pilot will become proficient in formation landing, formation instrument practice, large formation flying and short field landing techniques.

Constant practice is the key to success in an aerial demonstration. Practice does not stop with the end of the training season; it continues all year long. Like any other skill, proficiency suffers if not continually exercised. To insure those skills are maintained, every takeoff is a diamond takeoff and every landing is from the pitchup, conditions permitting, so that they become second nature. Formation is flown everywhere, including enroute legs to show sites. When at Nellis between deployments, mid-week practices are scheduled to maintain the fine edge of precision. Arrival maneuvers are flown at every show site possible, not only to familiarize the team with the area and advertise their arrival, but also to provide additional practice for the diamond and solo.

The confidence and mental attitude that this practice brings is best illustrated by comparison with the professional athlete. You may often hear the professional hockey player or basketball star talk of the difficulty in getting "up" for 70—80 games a season, and poor performances or "slumps" are frequently attributed to this problem. The demonstration pilot, on the other hand, cannot afford such attitudes. He must be "up" for often as many as 100 air shows a year and there is little margin for error. Such a level of confidence and expertise can only be maintained by constant and dedicated practice.

The Deployment Schedule

Preparation for planning the Thunderbird show schedule for a given season actually begins during the previous year. Requests from Air Force bases are submitted to the Secretary of Air Force Office of Information (SAFOI) by the various major commands by September/October each year. Cities and civilian organizations desiring to sponsor an airshow with a military demonstration team performing submit their requests to the Department of Defense. In addition to the Thunderbirds, the Blue Angels, the Army's Golden Knights Parachute Team and the Silver Eagles Helicopter Team are also available. A prospective sponsor may indicate a preference for one team or no preference at all. The Golden Knights or Silver Eagles may perform with one of the jet teams, but the jets cannot perform at the same place within 90 days of each other in order to achieve maximum visibility of both. Acceptable applications are made available to the demonstration teams, after the application deadline, for planning purposes. Tentative schedules are then formulated in preparation for the annual DOD Scheduling Conference held in December of each year.

The conference itself includes representatives from all the demonstration teams. The military portion of the schedule is largely a function of the respective services, as would be expected, and the scheduling conference serves to integrate civilian requests with the military proposals into a single, comprehensive schedule for the entire season. Several considerations are made in formulating the schedule, with the team mission and its specific objectives serving as the guidelines. In the early days of the team, when instilling confidence in the jet fighter to the public and new pilots was the primary mission, emphasis was given to pilot training bases and those bases sponsoring ROTC encampments. In one year, 30 consecutive shows in one stretch were flown especially for pilot trainees and ROTC cadets. Emphasis was also given to bases with training missions and schools, and it was not at all unusual to see performances repeated during the year. In one year, for example, 7 shows were flown at Nellis AFB with its Fighter Weapons School and Tactical Fighter Weapons Center, in one year. Later years saw emphasis on international relations and goodwill, marking the team's greatest period of foreign activity. Today the emphasis is on recruiting and retention programs and on promoting and strengthening Air Force-Community relations. This results in emphasis on bases and show sites near sizeable population centers. Other factors to be considered in the scheduling process are the facilities available at the show site, the time of year requested, availability of maintenance equipment and jet fuel, potential crowd size, and suitability of the proposed demonstration area itself.

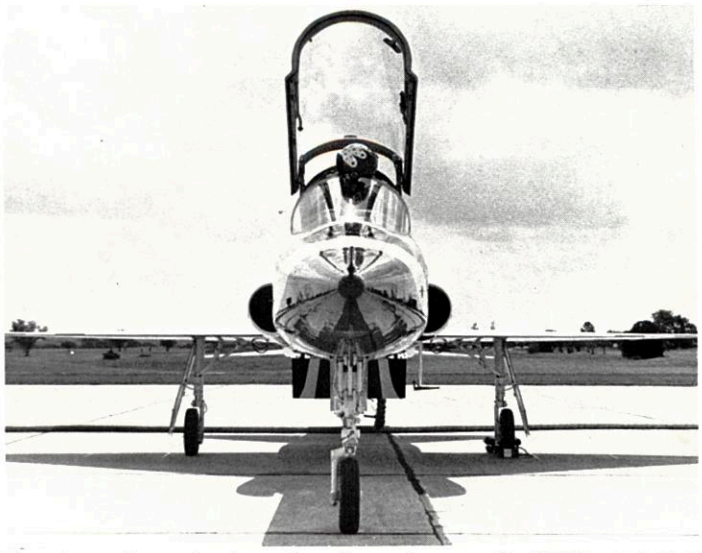
As the schedule begins to firm up, there may be occasions where both jet teams may desire to fly in the same location. Solutions must then be negotiated to the mutual satisfaction of both, and may include, for example, an exchange of one location for another or an agreement to fly the one location on alternate years. When the schedule is completed at the close of the conference, it is then coordinated through SAFOI and TAC before final approval is given by DOD, usually in January of the show year.

Once the schedule has been approved, preparation for the show season, usually running from March through November, begins in earnest. First contact with the individual show sponsor occurs about 90 days before the airshow. At this time, an informational support packet is sent out which defines the requirements of the team, and the maintenance support available is determined. A current aerial photograph of the show site is requested and the C-130 airlift support is scheduled. Preliminary flight planning commences 60 days before deployment and publicity material, including press news releases, TV film clips, posters and photographs, is provided to the show sponsor. Coordination also begins with the local FAA officials for an aerobatic waiver for the demonstration itself. Coordination of the show line, crowd line, and aircraft parking requirements is accomplished at the 45 day point. Thirty days prior to deployment is the deadline for the show site photo. Confirmation of maintenance support requirements and availability is made at this time. With 15 days remaining, final coordination of all support packet items is conducted. Maintenance details are completed at the 7 day mark and all public affairs committments and VIP presentations are finalized. Four days before deployment, the commander/leader is briefed on the details of the deployment. The day before departure, the narrator, who will advance the team to the show site and insure preparations are completed, is briefed and any last minute changes noted. The C-130 scheduled to provide airlift for the deployment arrives and loading commences.

On the day of deployment, the narrator usually departs about three hours before the rest of the team. The C-130 frequently departs before the jets, although on shorter deployments it may leave after launch. Each T-38 deploys with a crew chief in the back seat to assist in turning the airplane at enroute stops. Although they are aboard during arrival maneuvers, official demonstrations are flown with the pilot only. Approaching the show site, radio contact is established with the narrator who briefs the leader on weather conditions, verifies traffic conditions and obstructions or hazards, and designates the parking area. A short series of arrival maneuvers is then flown before landing. This is usually followed by press interviews at planeside. Shortly after this, the leader meets with the local FAA representative to insure all provisions of the aerobatic waiver are clearly specified and understood and to go over the demonstration sequence. Following this, the leader and solo make a survey flight of the demonstration area in a light plane or helicopter to verify all ground checkpoints and possible hazards. When the C-130 arrives, unloading commences immediately. Public affairs committments begin that evening. If the show is to be performed the same day as arrival, referred to as a "fly-show" day, the PA system and aircraft checks begin immediately after the Herk lands. The set up must be completed an hour and ten minutes prior to commencement of the pre-show activities. A short presentation ceremony for local dignitaries precedes the start of each demonstration.

Following the demonstration, the crowd is released to come forward to the aircraft and pilots for autographs and pictures, providing the most important element in the team's success - person to person contact. The public affairs activities that follow are designed to provide maximum exposure to the public in order to obtain the greatest possible impact in improving community relations and recruiting and retention effectiveness. These include chamber of commerce and civic group receptions, high school and college assemblies, hospital and orphanage visits, radio and television appearances, and parades.

Following every deployment, a detailed debriefing is held to review the activities, analyze their effectiveness, discuss problem areas, and improve future operations. Within 30 days of deployment completion, an after-action report on the show site is forwarded to higher headquarters. After 60 days, all material pertaining to the deployment is assimilated into a show site folder which is maintained in a comprehensive air show file for future reference. The immensity of the airshow coordination function can be better appreciated when it is considered that all the activities described here occur on the deployment, and that, at any given time, the Thunderbird information office is engaged in coordinating as many as 30 airshows simultaneously!



Though smaller and quieter than its predecessors the T-38's are just as beautiful as this nose-on shot illustrates. Taken at Randolph A.F.B. this aircraft exhibits the classic highly polished red-white and blue finish which is a hallmark of the Thunderbirds.

"Thunderbirds" is a specially revised reprint from the January 1976 issue of *Replica in Scale* - a journal of American military aviation and museum quality modeling. Back issues are available. For more information about *Replica in Scale* or *Aerophile*, its offspring, write to:

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