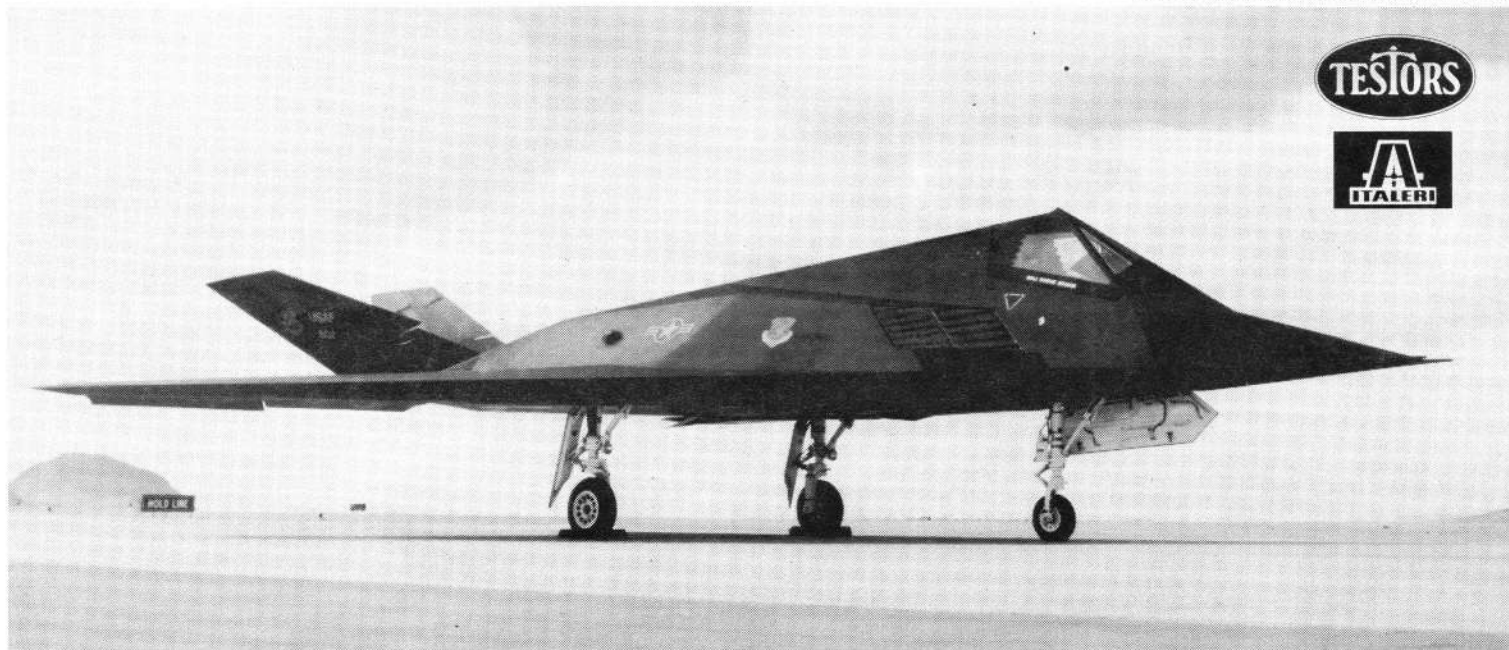


Eric Schutzing and Denny Lombard / Lockheed

**TESTORS****ITALERI**

HISTORY

The world's first operational stealth tactical fighter first flew on 18 June 1981. The Lockheed F-117A is unofficially called both the *Nighthawk* and *Black Jet*. Secret flight testing and initial operational pilot training took place at Area 51 at Groom Lake, NV.

Designed to be nearly invisible to both radar and infrared detection, the plane is uniquely shaped. Its faceted shape, radar absorbing skin, and advanced 2-dimensional high bypass exhaust system all contribute to its stealthiness.

All weapons are carried internally. The plane's prime offensive weapon is the 2,000 lb. Mk. 84 laser-guided bomb. The aircraft can also carry nuclear *shapes* and missiles.

The plane's officially-stated mission is to attack high value targets behind enemy lines in a role which can best be likened to the "Pathfinder" missions of both World War II and Vietnam. Unofficially, the aircraft's mission is said to be that of an aerial SWAT Team in special operations to remove "assets" from official or *unofficial* enemies.

The airplane is flown by the 37th Tactical Fighter Wing (TAC) and is based at Tonopah Test Range Airfield near Tonopah, Nevada. The unit and its aircraft are scheduled to move to Holloman AFB, New Mexico, beginning in 1991.

SPECIFICATIONS

| | |
|------------------|------------------------------------------------------------|
| Wingspan | 43' 4" |
| Length | 65' 11" |
| Height | 12' 5" |
| Max. Weight | 52,000 lbs |
| Max. Speed (est) | Mach .92 |
| Power | 2 General Electric F404-GE-F1D2 of 12,000 lbs. thrust each |
| Range | Unlimited with aerial refueling |
| Crew | One |
| Status | Operational since 1983 |

REFERENCES

Lockheed F-117 Fighter, AeroFax Extra
Jay Miller, AeroFax Inc., Arlington, TX
Lockheed F-117 Stealth Fighter - The History and Development of the F-117A,
Bill Sweetman and James C. Goodall,
Motorbooks International, Osceola, WI

BEFORE STARTING

1. Study the illustrations and sequence of assembly before beginning.
2. Decide how much detail you wish to add to your model and whether or not you intend to modify or "convert" the basic model in any way. Study carefully all available reference material before beginning to ensure an authentic model.
3. Due to the amount of parts in this kit, do not detach the parts from the runner of the parts tree until you need them. This helps avoid confusion and lost parts.
4. When cementing the parts together, check the way one part fits together with another. This assures a neat job with no surprises.
5. Always remember when working with plastic model cement and paint to keep your work area well ventilated. The fumes from plastic modeling products can be harmful if inhaled.

PREPARATION OF PARTS

1. Never tear parts off the runner (parts tree). Use a Testor Hobby Knife, fingernail clippers, or a small wire cutters to remove the parts from the tree.
2. It is possible some parts may require a little attention with a file or sandpaper to ensure a proper fit and neat appearance. Hobby files and Testor Hobby Sandpaper appropriate for model building are available in most good hobby shops.
3. If you desire you may fill any seams (where parts go together) or imperfections with Testor Contour Putty for Plastic Models which is also available at good hobby shops.

PAINTING

You can obtain an excellent finish on your model using Testor finish preparation products and paints. Detailed descriptions of paint types and color are included on the pages that follow.

Good brushes are essential for proper detailing. Testor *Model Master* brushes are recommended and available at good hobby stores. Be sure you have the entire selection for all your modeling needs. Always clean them in Testor thinner, wash in soap and water, and store with bristles upward when not in use.

Wash plastic parts before detaching them from the parts tree. Warm water and liquid dishwashing detergent will remove the oils left from the manufacturing process. Let the parts dry and avoid excessive handling. Immediately before painting, wipe the parts with a "tac rag" (available at auto parts stores) to remove dust and lint.

Most small parts are best painted while still attached to the parts tree. You can also detach them and hold with tweezers or "magic" tape while painting. Paint in one direction only. If your paint is the correct thickness brush strokes will disappear as the color dries. If the paint seems too thick, thin with Testor Paint Thinner. Wheels may be detached from the parts tree and fit onto toothpicks or matchsticks for painting. Just hold the paintbrush against the edge of the wheel and rotate the stick and wheel to obtain a neat finish.

Let the paint dry completely before handling. When the parts are dry, assemble the model, following the directions closely. Remember cement will not hold strongly to painted surfaces. Use your Testor Hobby Knife to carefully remove paint from all surfaces to be cemented. After you have assembled the model you can touchup areas where cement might have marred the finish.

Tweezers will be useful in assembling the many small parts in this kit. The type used by postage stamp collectors is recommended.

Liquid cement, Testor #3502, is recommended for construction since it can produce the neatest, quickest, and strongest glue joints. Apply small amounts of cement, using the tip of a Testor **Model Master** No. 2 brush, to the surfaces to be joined while holding the parts in place. **Do not** use large amounts of cement.

The Testor **Model Master** paint system is specially designed to be used on military models. The **Preliminary Painting** instructions on this sheet indicate which **Model Master** colors to use as indicated by name and Federal Standard (FS) number. These colors are called out by **bold italic type**. Wherever **Model Master** colors are not applicable the required Testor color will be called out by number and name in **regular bold type**.

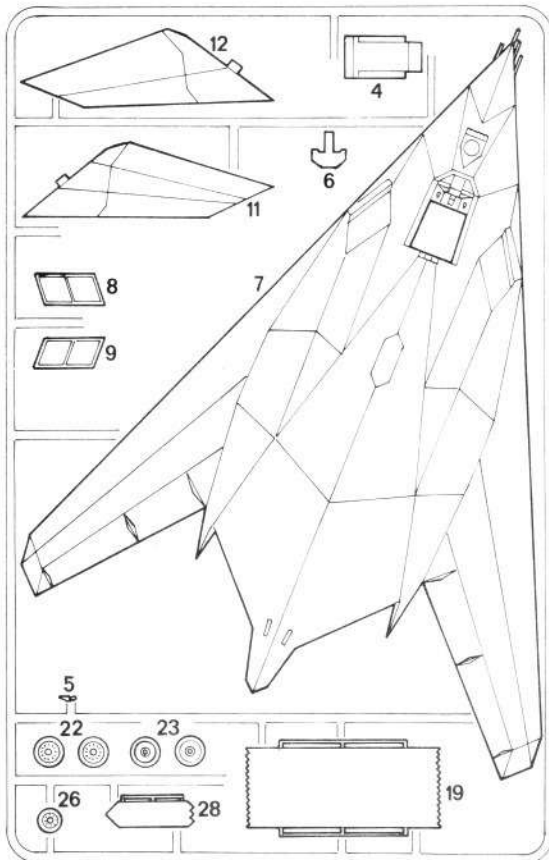
Dedication

This kit is dedicated to Major Ross E. Mulhare who lost his life in an F-117 accident in the early hours of 11 July 1986 near Bakersfield, California. Major Mulhare was an experienced and aggressive fighter pilot and was noted for his skill in tactics development. An F-15 Instructor Pilot before flying the F-117, Major Mulhare was cited many times for leadership and skill with both the F-4 and F-15. Major Mulhare is typical of the professionalism of all the people associated with the *Senior Trend* program. Fittingly, for this airplane and its very special mission, Major Ross Mulhare was, actually, born on the 4th of July. We remember him and we salute all the people associated with this very important program.

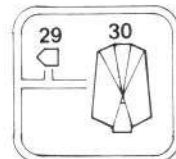
Thanks...

Thanks are due to many people who played a part in the long-time coming of age of this kit. Some of the people mentioned made it difficult; others assisted. We understand and appreciate the difference: they were doing their respective jobs as tasked and as a result added an intellectual zest to the model development program: Ben Rich, Eric Schulzinger and Denny Lombard at Lockheed; Col. Leo Olsen (deceased), Col. Barry Hennessey and Pete Eames of AFOSI; Col. 'Tony' Tolin and Sgt. Bobby Shelton of the 37th TFW; Jim Stevenson, Jay Miller, Jim Goodall, Tony Landis and Bob Koch - each dedicated researchers and photographers. And, as always in projects of this type, there are a limited few who must remain nameless. To all of the above we say "**Thank you!**" and we wish you well in future endeavors.

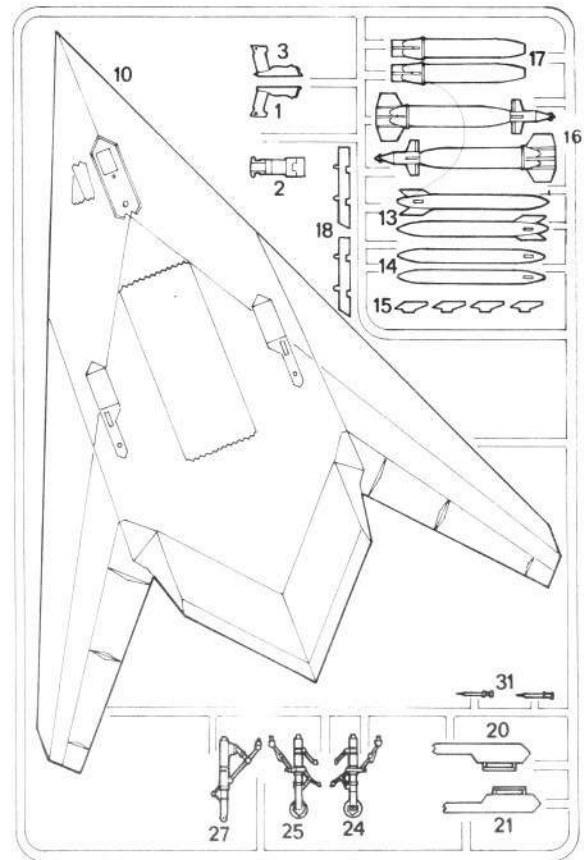
Use the drawings of the complete parts trees as a part locating reference while building the model.



A Parts



C Parts



B Parts

1 SEAT/ COCKPIT TUB

Preliminary Painting

Paint parts as indicated by letter callouts using the **COLOR KEY** on this page.

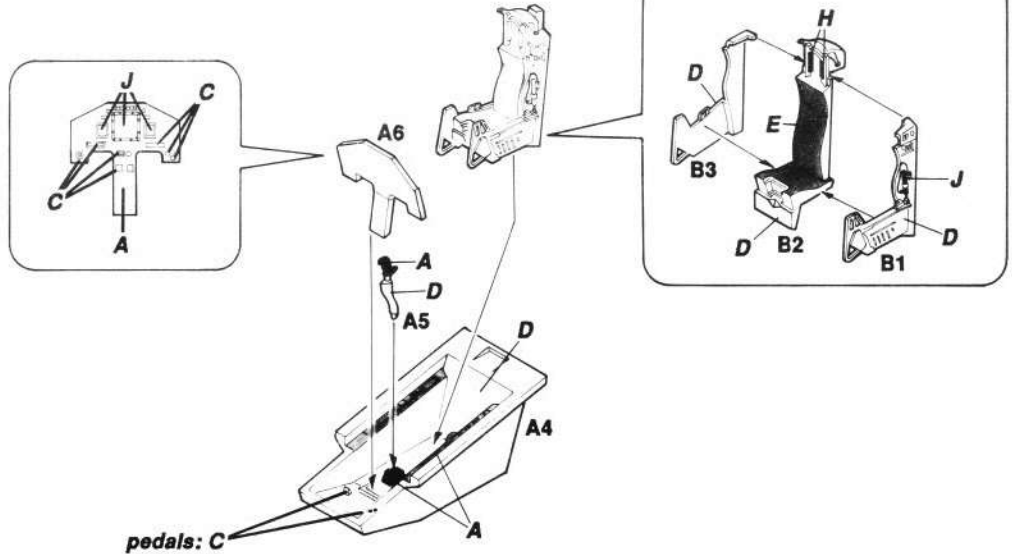
Assembly

1. Refer to **Figure A**. Glue seat left and right sides **B1** and **B3** to seat back **B2**.
2. Cement control stick **A5** to cockpit tub **A4**. Now glue seat and then instrument panel **A6** into place. Let parts dry thoroughly.

Technical Note

Many of the components of the F-117 are off-the-shelf having been designed for other operational aircraft before being used in the F-117. The seat is an ACES II from the F-15. Many cockpit units are from the F-18.

Figure A



COLOR KEY

- A FS 37038 Flat Black
- B FS 17875 Insignia White
- C FS 17178 Chrome Silver
- D FS 36231 Dark Gull Gray
- E FS 34087 Olive Drab
- F FS 36495 Light Gray
- G No. 1169 Flat Yellow
- H No. 1103 Red
- J No. 1124 Green

Technical Note

The F-117 is an aluminum-structured airplane with RAM (*Radar Absorbing Material*) applied in flat sections called facets. Special tapes and putties are used to smooth all edges.

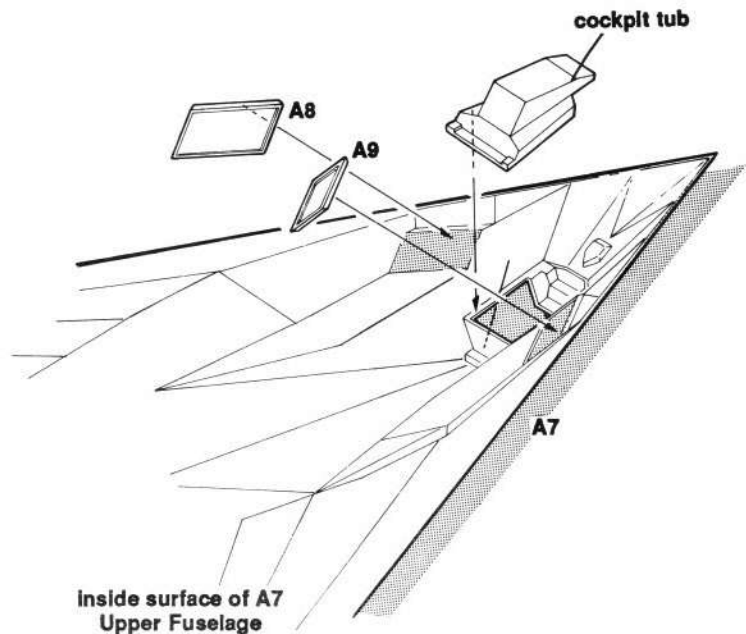
2 UPPER FUSELAGE

Preliminary Painting

Paint parts as indicated by letter callouts using the **COLOR KEY** above.

Assembly

1. Cement the **cockpit tub unit** into place as shown.
2. Glue the right inlet screen **A8** into place from the inside as shown. Now cement the left screen **A9** into position.



Historical Note

Subscale development stealth test airplanes were flying in 1977 under a program codenamed *Have Blue*.

Technical Note

Blow-in doors aft of the main inlets allow additional air to enter the ducts to prevent compressor stall and inlet wall collapse during low forward air speed and high engine power operation.

3 FUSELAGE

Preliminary Painting

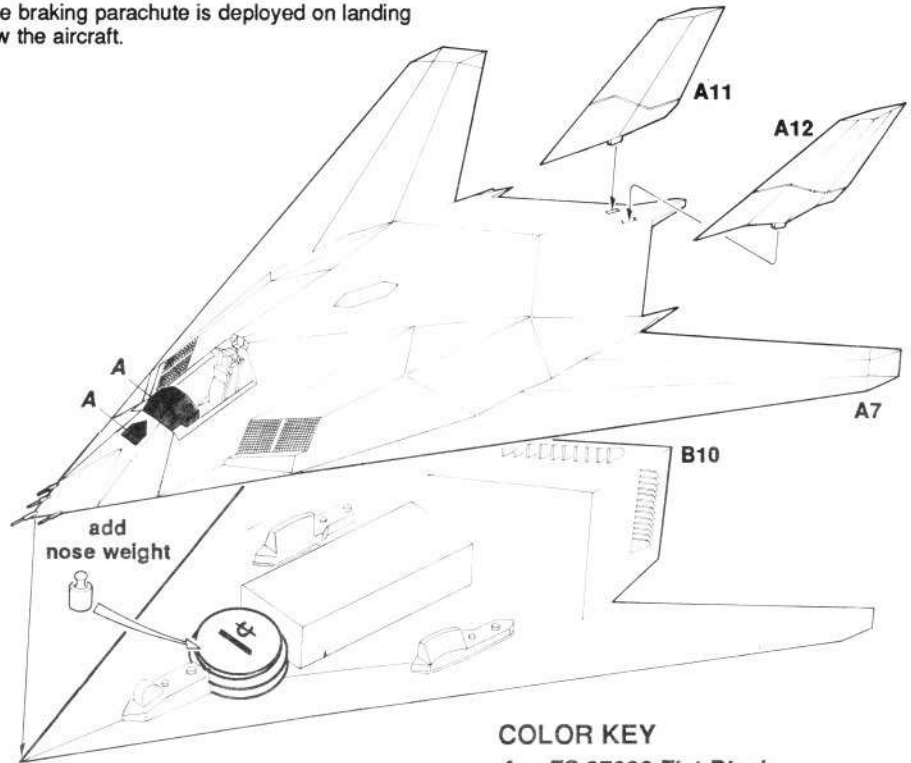
Paint parts as indicated by letter callouts using the **COLOR KEY** on this page.

Assembly

- Using white glue, modeling clay, or clear tape, secure 1 nickel and 1 copper penny or about 1/2 ounce of weight - small fishing weights are also good - in the nose. **DO NOT USE PLASTIC CEMENT!** Weight is not required if you plan to build your model in *flight configuration* with landing gear retracted and hung from a ceiling.
- Once the weight is securely in place *carefully* cement the upper fuselage half **A7** to the lower fuselage half **B10**.
- Cement the tail surfaces **A11** (right) and **A12** (left) into place as shown.
- Set **fuselage** aside to dry thoroughly.

Note: In order for this model to rest properly on its tricycle landing gear, weight must be added inside the nose before assembling the fuselage halves. Lead split shot as used in fishing is recommended. Lead weights should be held in place with modeling clay or epoxy...**do not use plastic cement!!**

Technical Note
A large braking parachute is deployed on landing to slow the aircraft.



COLOR KEY

- A FS 37038 Flat Black
- B FS 17875 Insignia White
- C FS 17178 Chrome Silver
- D FS 36231 Dark Gull Gray
- E FS 34087 Olive Drab
- F FS 36495 Light Gray
- G No. 1169 Flat Yellow
- H No. 1103 Red
- J No. 1124 Green

Technical Note
The exhaust area is called the "platypus" because of its unique shape.

4 WEAPONS BAY

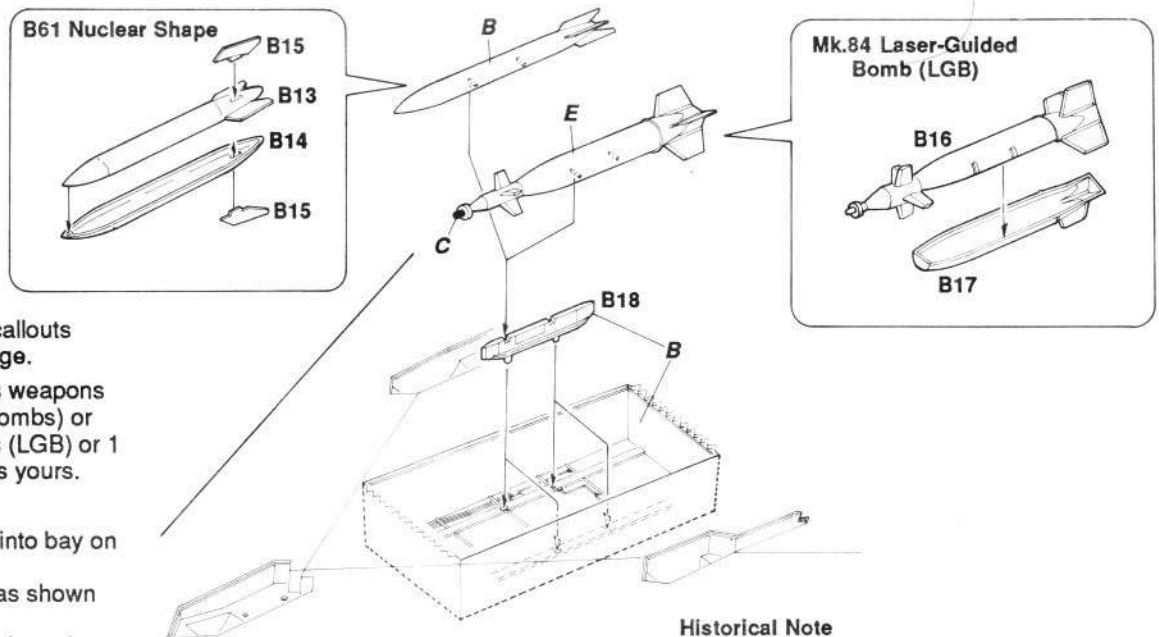
Preliminary Painting

Paint parts as indicated by letter callouts using the **COLOR KEY** on this page.

Note: You may equip the F-117's weapons bay with 2 nuclear shapes (B61 bombs) or with 2 Mk. 84 laser-guided bombs (LGB) or 1 nuclear and 1 laser. The choice is yours.

Assembly

- Cement weapon pylons **B18** into bay on underside of **fuselage**.
- Build the weapons you wish as shown above.
- Now cement the weapons to the pylons. Let parts dry thoroughly.



Historical Note

A very secret test facility at Groom Lake, Nevada, and known as Area 51, was the initial test and operations site for the stealth program. It was from here the original CIA U-2 and A-12 (CIA predecessor to the USAF SR-71) first flew. It is rumored an adjacent facility - S4 - is the location from which extraterrestrial UFOs are flown and are being reverse engineered in an effort to provide advanced technology to the United States.

5 LANDING GEAR AND WEAPONS BAY DOORS

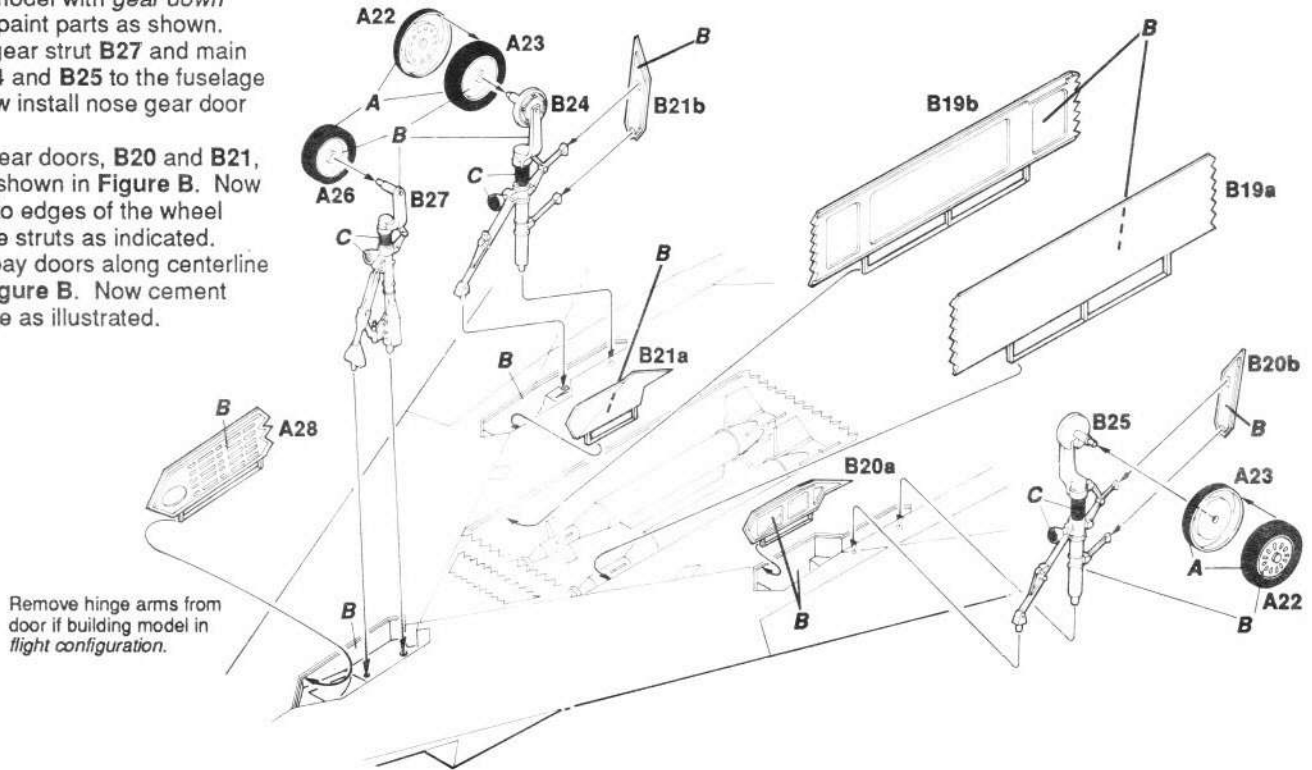
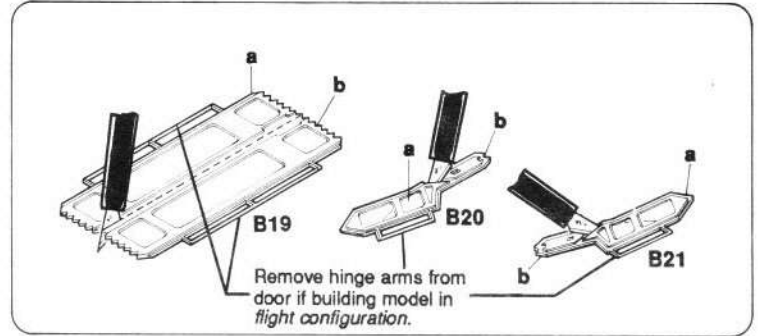
Preliminary Painting

Paint parts as indicated by letter callouts using the **COLOR KEY** on pg. 4.

Assembly

1. If building the model in *flight configuration* cut hinge arms off nose gear door **A28**, main gear doors **B20** and **B21**, and weapons bay door **A19**. Now cement the doors over their respective openings.
2. If building the model with *gear down* assemble and paint parts as shown. Cement nose gear strut **B27** and main gear struts **B24** and **B25** to the fuselage as shown. Now install nose gear door **A28**.
3. Cut the main gear doors, **B20** and **B21**, along lines as shown in **Figure B**. Now glue the parts to edges of the wheel wells and to the struts as indicated.
4. Cut weapons bay doors along centerline as shown in **Figure B**. Now cement doors into place as illustrated.

Figure B



Note: Clear parts are best glued in place with white glue. White glue will not mar the plastic and thus results in a better appearance than conventional model cement.

Technical Note

The cockpit glass panels are a very special laminate with chemical and gold coatings to lessen RADAR returns. The panels are very expensive to manufacture.

Technical Note

The canopy edges incorporate "dog-tooth" edges to lower RADAR returns.

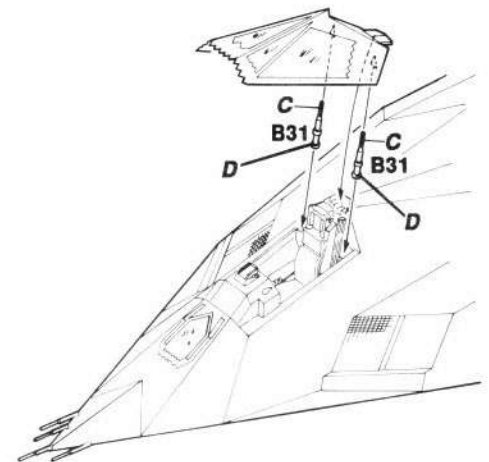
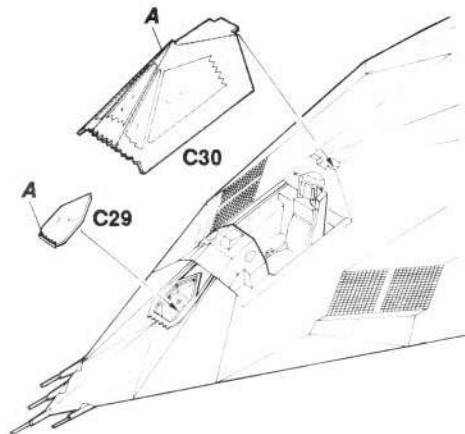
6 FINAL ASSEMBLY

Preliminary Painting

Paint parts as indicated by letter callouts using the **COLOR KEY** on pg. 4.

Assembly

1. *Carefully* glue Forward Looking InfraRed (FLIR) window **C29** into position as shown.
2. The canopy **C30** can be cemented in an opened or closed position. For an open canopy, first glue two parts **B31** into place as shown.
3. Construction of your model is now complete. It is now ready for application of decals and final finishing.



You can build the first public showing airplane as seen on 21 April 1990 at Nellis Air Force Base, Nevada. The tail number is **828**.

You can also build your choice of 3 other F-117 aircraft. All are historically significant. They are tail numbers **792**, **815** and **798**. The tail numbers are important and the key to the decals you will use on any of the four F-117A's you may select to build.

F-117 **792** was being flown by Major Ross Mulhare when he lost his life in a historic crash the morning of 11 July 1986 near Bakersfield, California. Major Michael Stewart lost his life in F-117 **815** on 14 October 1987. We include the markings for these airplanes as tributes to these two young men and their families. F-117 with tail number **798** is an operational aircraft in low visibility markings as are **792** and **815**. All F-117A aircraft are flat black finish. It has been said an F-117A, on the clandestine mission for which it was originally designed, would be unmarked and newly painted in dull black radar-absorbing paint.

Decal element numbers are clearly called out for all aircraft with the tail number in parentheses. Example: Decal 3 (792). Airplane **828** - the public rollout airplane - is the most colorful but not an operational marking. The airplane you choose to build is your decision.

APPLYING DECALS

1. Decals adhere best to a smooth and shiny surface. The decals will adhere well to the **FS 17038 Gloss Black** paint of this kit.
2. Use the Decal Location drawings this page and page 11 and cut out the decals you will use.
3. Work with one decal at a time, dip in clear water for no more than 5 seconds, remove, place on dry paper towel for 1 minute.
4. When decal slides easily on backing paper, slide it onto surface of the model with a soft paintbrush - the Testor **Model Master No. 2** brush is perfect for this. Remember: decals are thin and can be ripped. Work slowly and patiently.
5. When the decals are completely dry (usually overnight), apply a coat of Testor **Lusterless Flat No. 1960** to the entire model. This will give an authentic dull finish and protect the decals.

WEATHERING HINTS

The F-117A, being a relatively new aircraft in the inventory, has not had long years of hard service with the resultant wear that makes an interesting weathered model like so many other planes.

What the F-117 does have is a flat dull finish. The black color quickly changes to a very dark gray - near black - due to sun, weather and being brushed against or handled.

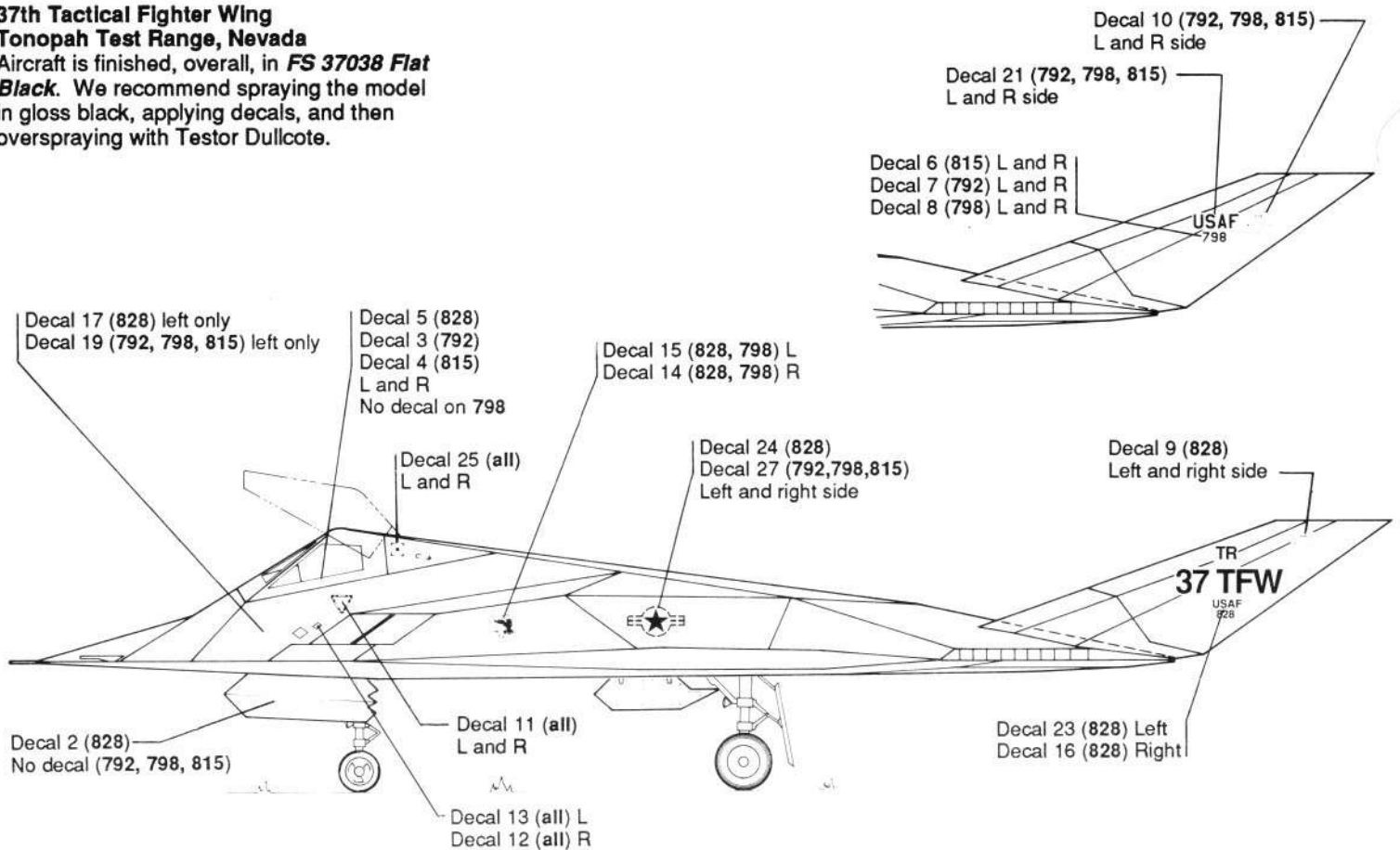
What we really see on the F-117 is a change in the surface texture. The finish goes from dull black to a semi-gloss black on particular panels.

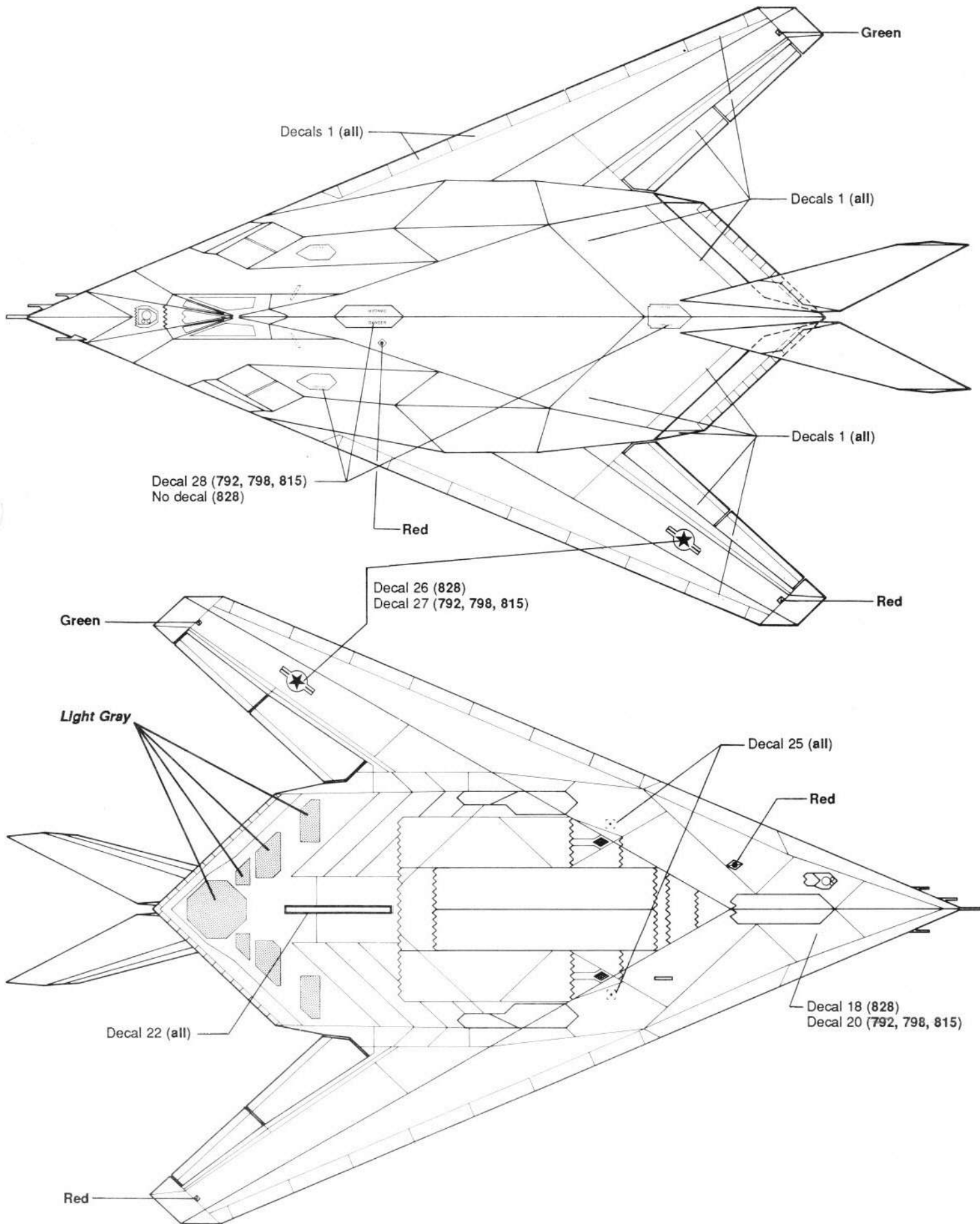
Get the books on the F-117A and study the photos. You can obtain a very realistic look by masking off various panels and carefully rubbing the surface of the model with paper towels or tissue. In very small areas you may wish to burnish - gently - with a rubber pencil eraser. Go slowly and easily - practicing as you go. You will be amazed how this simple little trick will improve the realism of the model.

F-117A Nighthawk

37th Tactical Fighter Wing Tonopah Test Range, Nevada

Aircraft is finished, overall, in **FS 37038 Flat Black**. We recommend spraying the model in gloss black, applying decals, and then overspraying with Testor Dullcote.





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MAJ ROSS MULHARE

MAJ MICHAEL STEWART

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MAJ MICHAEL STEWART

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