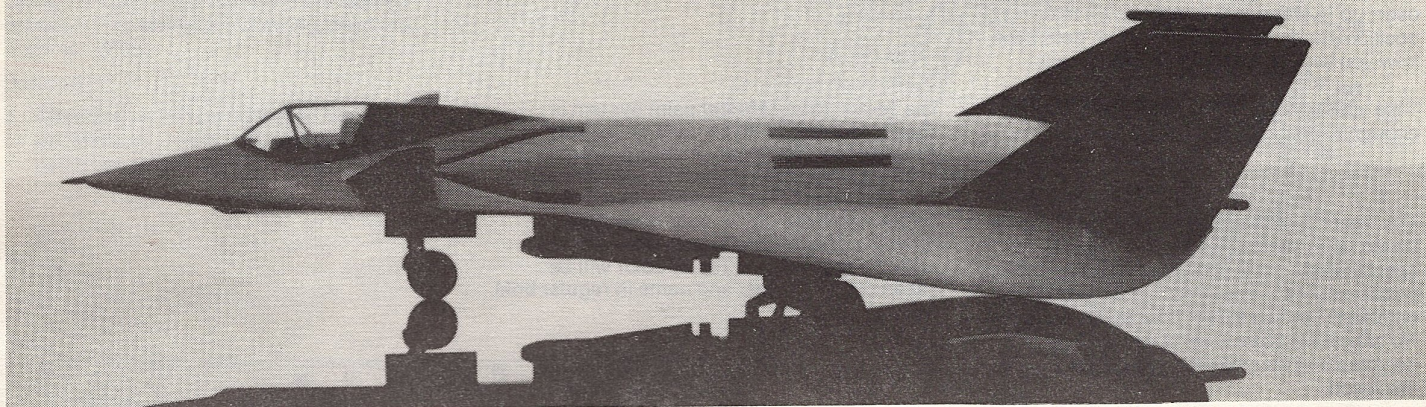


F-19 STEALTH

No. 595

TESTORS



The ability to detect objects in the sky by bouncing radio waves off the object reached a high level of reliability early in World War II. By the end of the war aircraft were finding other aircraft in the blackness of night and the obscurity of bad weather. And with the success of radar also came the need for radar countermeasures, more commonly known as ECM - Electronic Countermeasures.

The ultimate countermeasure, of course, would be an airplane that did not bounce radar back to the radar source. Because the high frequency radar waves act very much like light, radar can be reflected away and can also be absorbed - just as light is absorbed by a dull black surface.

The shape of stealth is important. Its edges are sharp and its surfaces covered with difficult to manufacture skins which absorb radar in a multi-layered structure filled with bubbles and tiny fibres in predictable alignments, spacing and density. The manufacturing techniques for this material is, perhaps, the most secret element of stealth technology.

A number of U.S. aircraft have flown with stealth technology and for years. Lockheed's U-2, A-12, SR-71 and D-12 drone all utilized techniques which gave small amounts of radar countermeasure success. The successes were important enough to cause specialized development to take place and by 1977-'78 actual stealth aircraft were flying. While Lockheed appears to have been most successful with its design(s), it is common knowledge designs of a number of manufacturer's have flown.

SPECIFICATIONS

Power	2 General Electric F404-HB special engines
Weight	30,000 lbs. max
Span	24' - 0"
Length	48' - 6"
Max. Speed	1.4 Mach
Cruise Speed	.92 Mach
Armament	Maverick missiles or "smart" bombs

REFERENCES

High-Loss Dielectrics Microwave Absorbers; Emerson & Cuming, (W.R. Grace & Co.)

Radar Cross Section Handbook; Vol. 1 & 2, Editor, George T. Ruck, (Plenum Press - 1970)

Stealth Aircraft; Sweetman, (Motor Books International)

U.S. Patent No. 2,822,539; E.B. McMillan, 1958, (U.S. Patent Office)

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 runners (sprue) until you need them. This helps avoid confusion and lost parts.
4. When cementing the parts together, check the way in which one part fits together with another. This ensures a neat job.
5. Always remember, when working with plastic model cement and paint, make sure your work is well-ventilated. The fumes from plastic modeling products can be harmful if inhaled.

PREPARATION OF PARTS

1. Never tear parts off the runners (sprue). Use a Testor Hobby Knife, nail clippers, or small wire cutters.
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 enamels. Detailed descriptions of type of paint and color are included throughout 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 keep your brushes clean and soft by cleaning in Testor thinner, washing in soap and water, and storing flat or with bristles up when not in use.

Wash plastic parts before detaching them from the sprue. Warm water and liquid detergent 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 automotive centers) to remove dust and lint.

Most small parts are best painted while still attached to the sprue or they may be detached and held with tweezers or "magic" type transparent tape. Paint in one direction only. If your paint is the correct consistency, brush strokes will disappear as the color dries. If the paint seems too thick, thin it with Testor Paint Thinner. Wheels may be detached from the sprue and fit onto toothpicks or matchsticks for painting. Then just hold the paintbrush against the edge of the wheel and rotate the wheel to obtain a neat clean finish.

Let the paint dry completely before handling. When the parts are dry, assemble the model, following the directions closely. Remember cement will not stick to painted surfaces. Using your Testor Hobby Knife, carefully remove paint from all surfaces to be cemented. After you have assembled your model you may touch up areas where cement has marred the finish.

HELPFUL HINTS

The F-19 model has several building options and you should become familiar with them. Two paint schemes are shown. Page 7 shows a night mission aircraft while page 8 shows a day mission craft. 2 types of canopies are included - one for training flights, the other (flat sides - part 13c) for "hot" secret missions. You can build your model with canopies open or closed, landing gear down or with doors faired over for flight (display model on thread hanging from a ceiling), and with weapons exposed or faired over; up in weapon's bay or down in firing position. Study the instructions and determine how you wish to custom build your model.

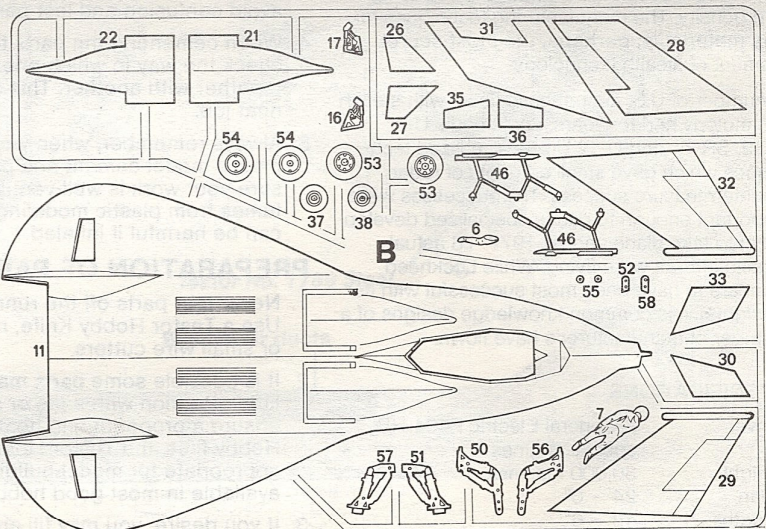
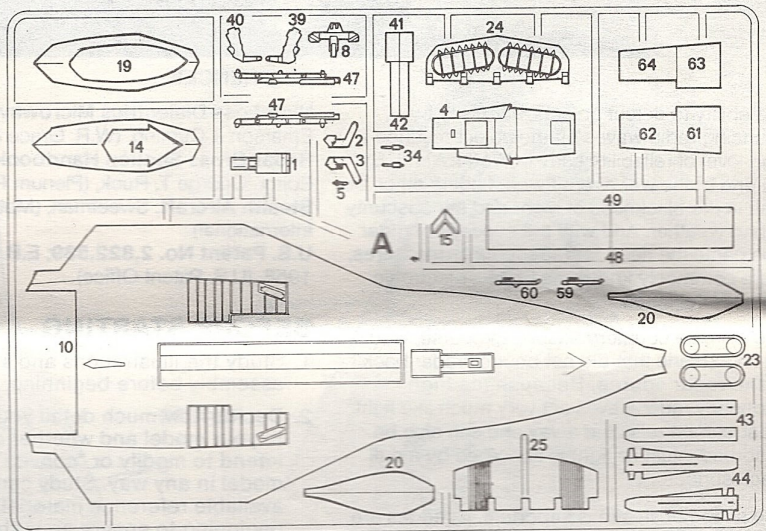
Take your time and allow the glue to dry long enough to ensure solid construction.

The Testor 1/48th scale F-19 Stealth fighter is based upon years of extensive research. All specifications were obtained from unrestricted public sources. Because it is a model only commonly known stealth concepts are shown. No critical full scale internal components are depicted and no classified systems are disclosed.

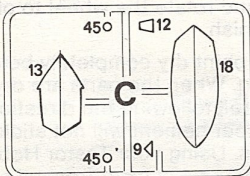
Liquid cement, Testor #3502, is recommended for construction since it can produce the neatest, quickest, and strongest glue joints. Apply small amounts of cement, using the tip of a 00 brush, to the surfaces to be joined while holding the parts in place. Do **not** use large amounts of cement.

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

The Testor **Model Master** paint system is specially designed to be used on military models. The **Preliminary Painting** instructions in this sheet indicate which **Model Master** colors to use by FS number and name. 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**.



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



1

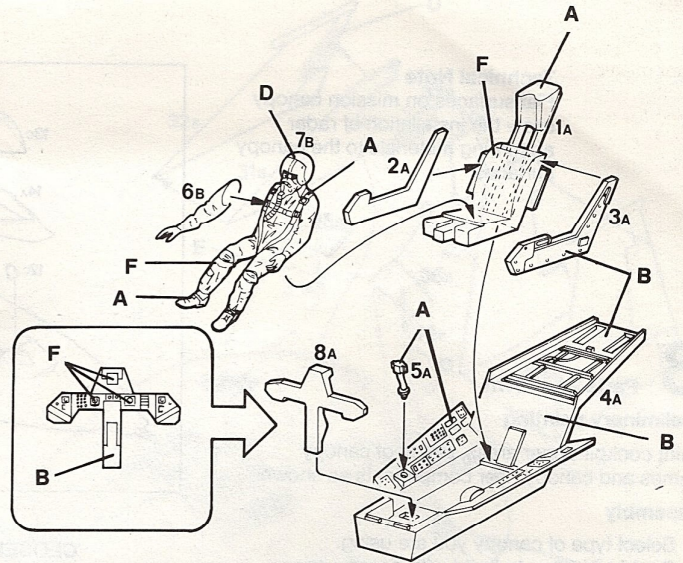
Parts as shown

Preliminary painting

Using the Paint Code chart and the lettered guides on the instruction drawing, paint the parts as shown.

Assembly

1. Assemble as shown beginning with the ejection seat – parts 1, 2, and 3. The pilot figure can be left out if you wish.



PAINT CODE

- A FS 37038 Flat Black
- B FS 36231 Dark Gull Gray
- C FS 17875 Insignia White
- D FS 31136 Insignia Red
- E FS 17178 Chrome Silver
- F FS 34079 Dark Green
- G FS 16440 Gloss Gull Gray
- H FS 33538 Insignia Yellow
- I Testor No. 1789 Steel

2

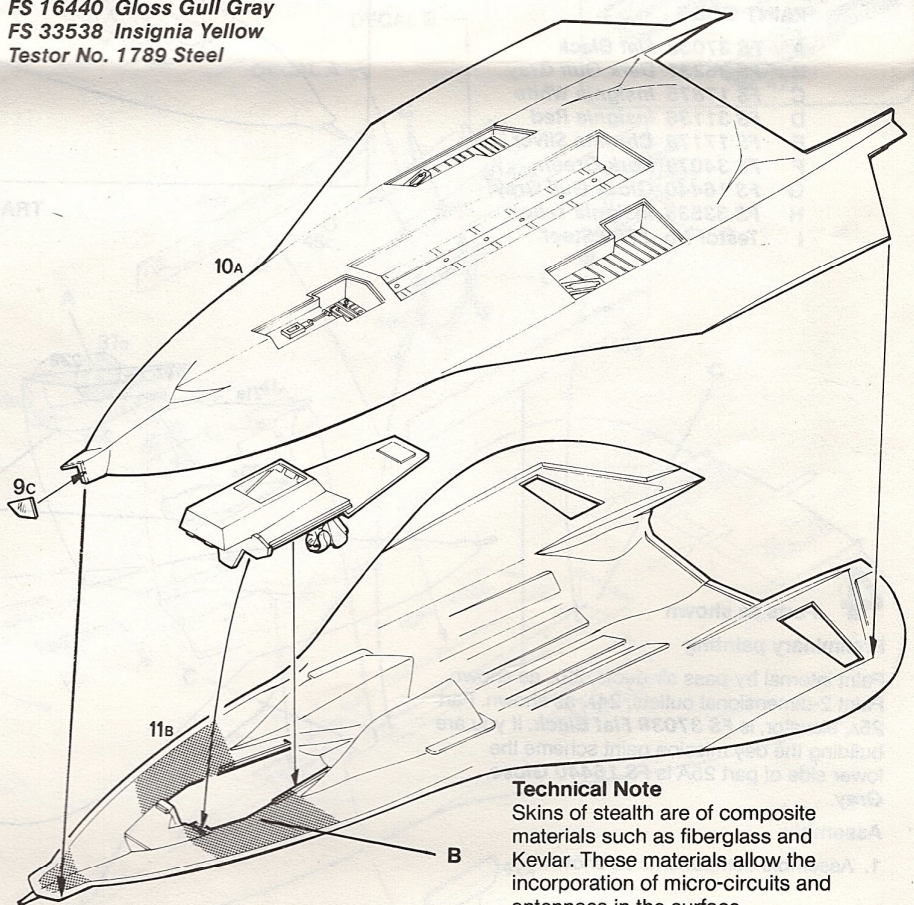
Parts as shown

Preliminary painting

Paint LASER designator area FS 34079 Dark Green - inside of fuselage halves, 10, 11.

Assembly

1. Cement cockpit unit to upper fuselage as shown.
2. Cement lower fuselage to upper fuselage.
3. Cement LASER designator protective window to nose. Be neat.



Technical Note

Skins of stealth are of composite materials such as fiberglass and Kevlar. These materials allow the incorporation of micro-circuits and antennae in the surface.

Technical Note

Flat surfaces on mission canopy allow the installation of radar absorbing materials to the canopy surfaces

3

Parts as shown

Preliminary painting

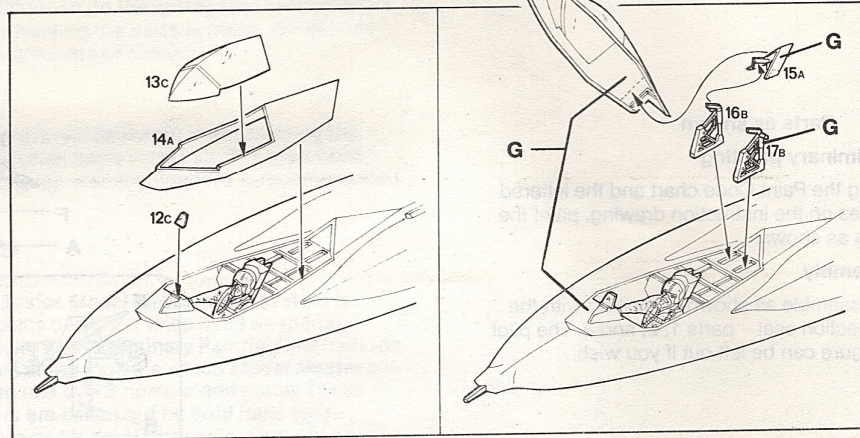
Paint cockpit upper areas, inside of canopy frames and canopy riser components as shown.

Assembly

1. Select type of canopy you are using.
2. Decide whether to build with canopy open or closed.
3. Cement "head-up" display reflector, 12c, into place.
4. Cement components into position as shown.

PAINT CODE

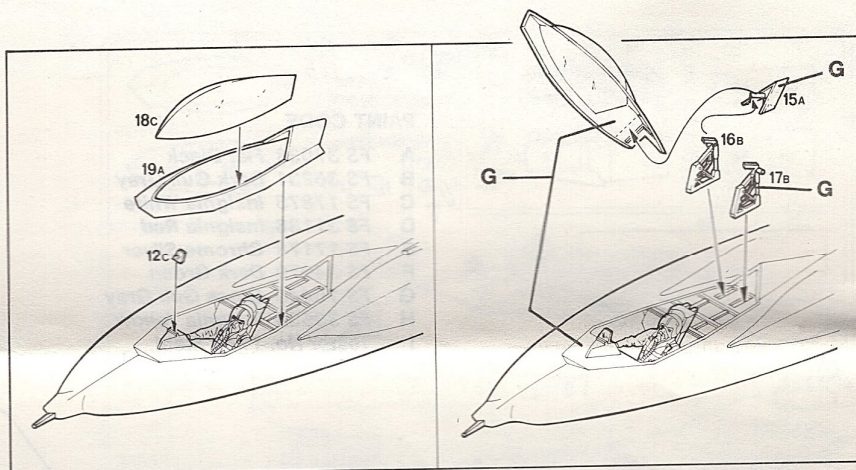
- A FS 37038 Flat Black
- B FS 36231 Dark Gull Gray
- C FS 17875 Insignia White
- D FS 31136 Insignia Red
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- G FS 16440 Gloss Gull Gray
- H FS 33538 Insignia Yellow
- I Testor No. 1789 Steel



MISSION CANOPY

CLOSED CANOPY

OPEN CANOPY



TRAINING CANOPY

4

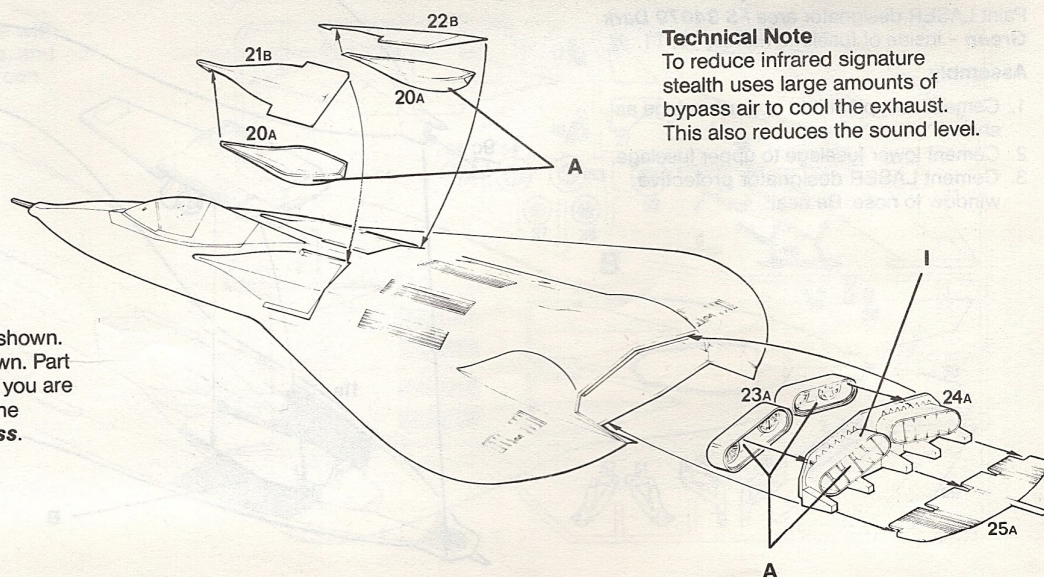
Parts as shown

Preliminary painting

Paint internal by-pass air ducts, 23A, as shown. Paint 2-dimensional outlets, 24A, as shown. Part 25A, elevator, is **FS 37038 Flat Black**. If you are building the day mission paint scheme the lower side of part 25A is **FS 16440 Gloss Gray**.

Assembly

1. Assemble components as shown.



Technical Note

To reduce infrared signature stealth uses large amounts of bypass air to cool the exhaust. This also reduces the sound level.

5

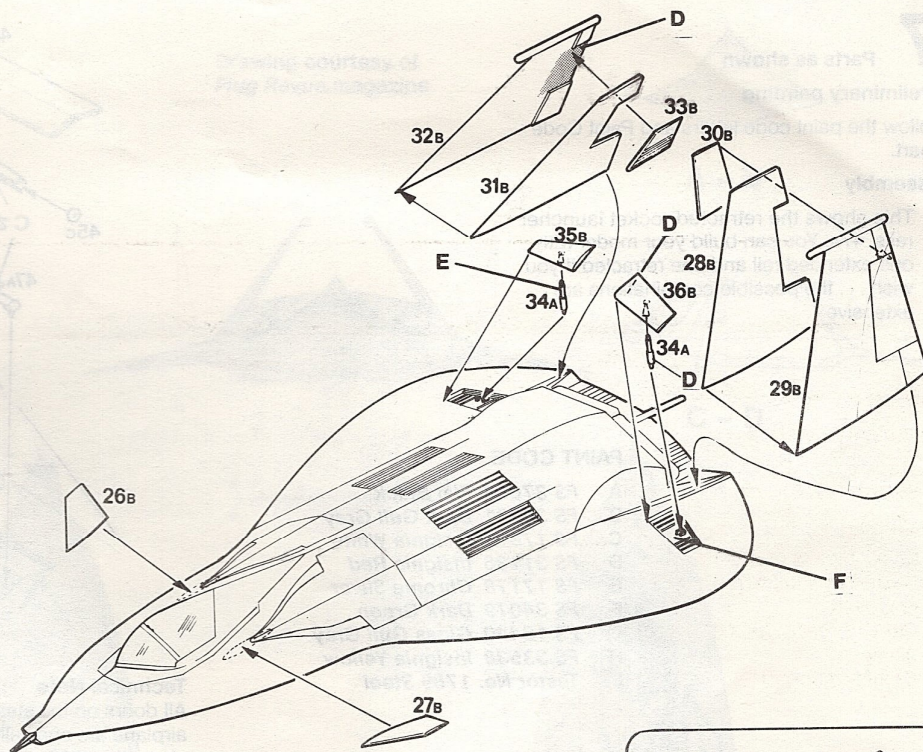
Parts as shown

Preliminary painting

Follow letter codes and Paint Code chart and paint as indicated.

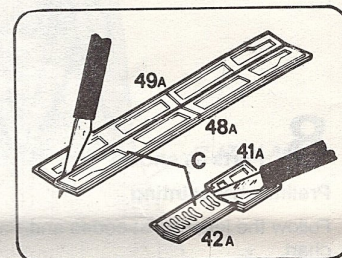
Assembly

1. Assemble tail surfaces, 32, 31, 28, 29, as shown.
2. The Speed Brake/Rudder parts, 33, 30, can be glued into place faired (as shown) or opened to Speed Brake - extended position (see dotted lines). The option is yours.
3. The spoilers, 35 and 36 can be cemented in place in three different positions: extended (shown); both faired flat with wing surface (do not use actuating cylinder, 34); or with one spoiler up and the other faired flat.
4. Cement the Impedance Loaded Flow Control vanes, 26, 27, into place as shown - see illustrations on page 7 and 8, especially front views.



PAINT CODE

- A FS 37038 Flat Black
- B FS 36231 Dark Gull Gray
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- E FS 17178 Chrome Silver
- F FS 34079 Dark Green
- G FS 16440 Gloss Gull Gray
- H FS 33538 Insignia Yellow
- I Testor No. 1789 Steel



6

Parts as shown

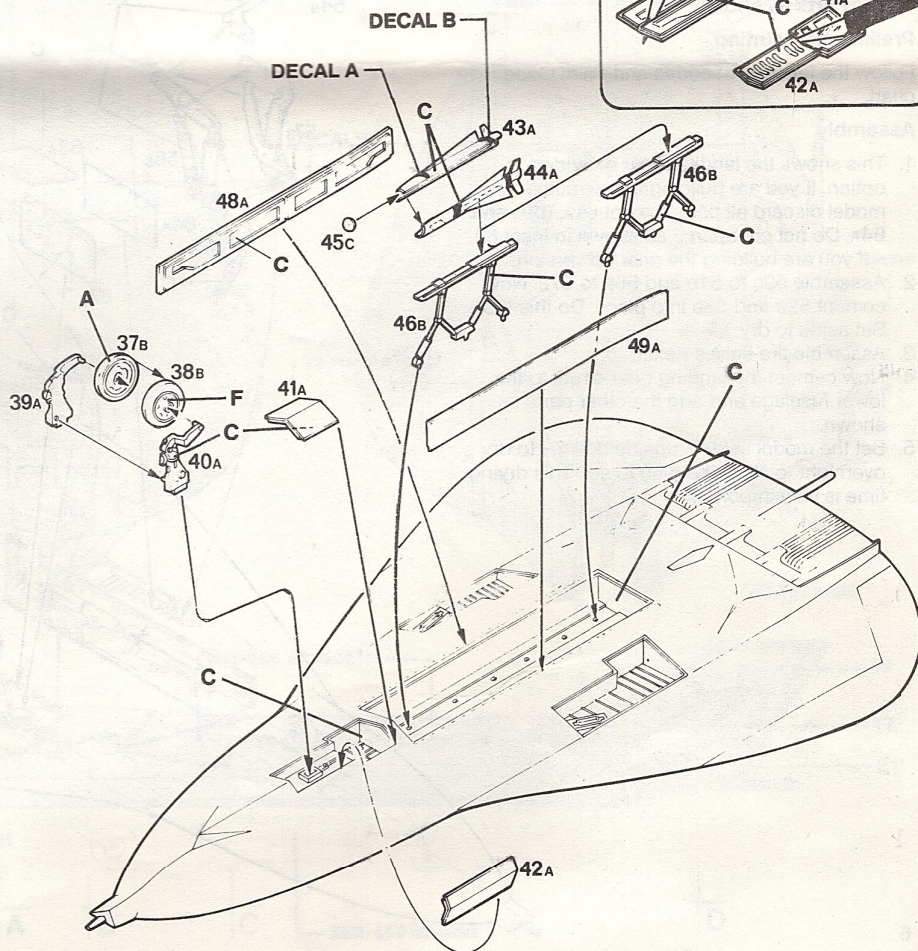
This step shows the extended launcher rails, 46B, and extended landing gear, 37B, 38B, 39A, 40A. If you are building the model in a flying configuration those parts are not needed.

Preliminary painting

Follow the letter paint codes and Paint Code chart.

Assembly

1. Cement wheel halves together first.
2. If you are building the model with its landing gear down and armament bay open you must first cut the doors apart as shown in Inset 6A.
3. If you want your model in a gear up/doors closed situation simply cement the nosegear unit, 41A/42A, into place. Now add the armament bay doors unit, 48A/49A.
4. If building the model as discussed in Assembly note 2 above, cement parts into place as shown.
5. Before cementing the Maverick missiles into place add the decal stripes A and B as shown.



7

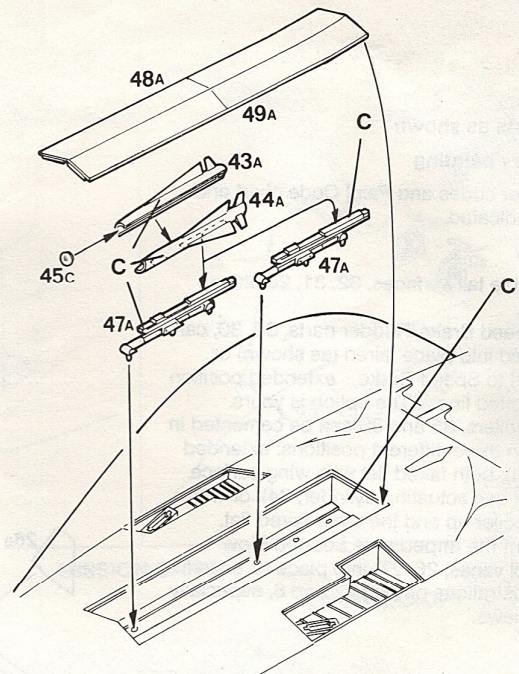
Parts as shown

Preliminary painting

Follow the paint code letters and Paint Code chart.

Assembly

1. This shows the retracted rocket launcher rails, 47A. You can build your model with one extended rail and one retracted if you wish . . . the possible combinations are extensive.

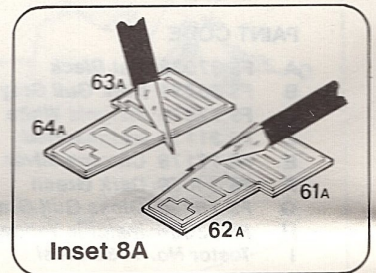


PAINT CODE

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- D FS 31136 Insignia Red
- E FS 17178 Chrome Silver
- F FS 34079 Dark Green
- G FS 16440 Gloss Gull Gray
- H FS 33538 Insignia Yellow
- I Testor No. 1789 Steel

Technical Note

All doors on the stealth airplane are specially shaped and fitted to ensure low radar return.



8

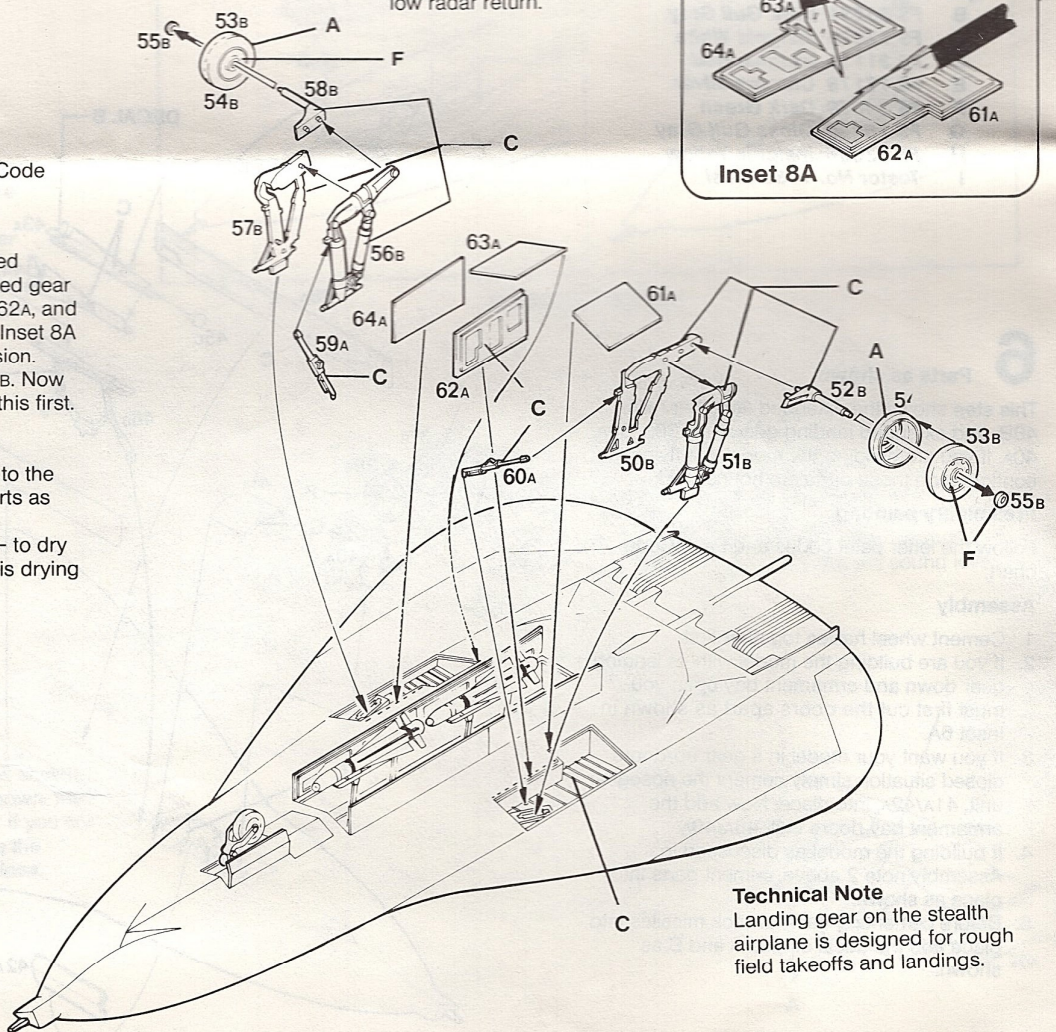
Parts as shown

Preliminary painting

Follow the letter paint codes and Paint Code chart.

Assembly

1. This shows the landing gear extended option. If you are building the retracted gear model discard all parts except 61A, 62A, and 64A. Do not cut apart - as shown in Inset 8A - if you are building the gear up version.
2. Assemble 50B to 51B and 56B to 57B. Now cement 52B and 58B into place. Do this first. Set aside to dry.
3. Assemble tire halves next.
4. Now cement the landing gear struts to the lower fuselage and add the other parts as shown.
5. Set the model aside - upside down - to dry overnight to allow the glue to set. This drying time is very important.




Technical Note

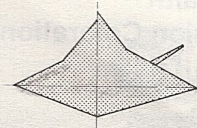
Landing gear on the stealth airplane is designed for rough field takeoffs and landings.

F-19 Stealth Night Mission Coloration

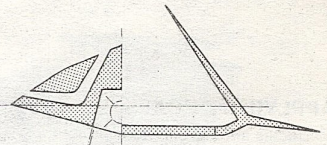
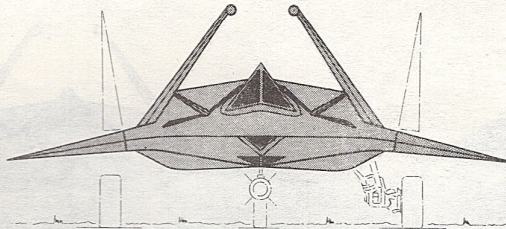
PAINTING

 FS 37038 Flat Black

Drawing courtesy of
Flug Revue magazine



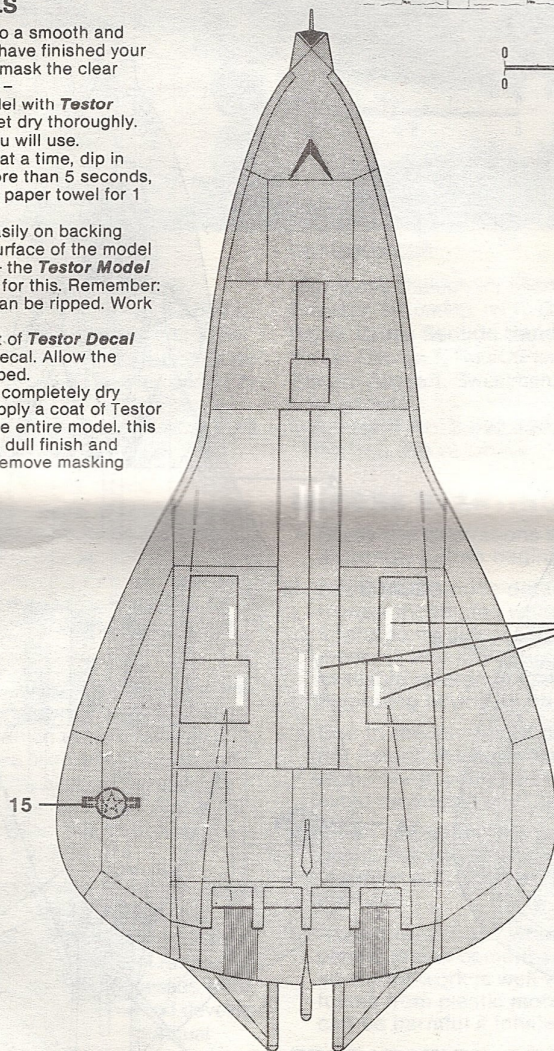
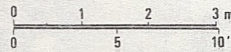
A - B



C - D

APPLYING DECALS

1. Decals adhere best to a smooth and shiny surface. If you have finished your model in a flat finish mask the clear areas - canopy glass - and spray entire model with **Testor Glosscote #1261**. Let dry thoroughly.
2. 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 soft paintbrush - the **Testor Model Master #2** is perfect for this. Remember: decals are thin and can be ripped. Work slowly and patiently.
5. Apply a small amount of **Testor Decal Set #8804** to each decal. Allow the decal to dry undisturbed.
6. When the decals are completely dry (usually overnight), apply a coat of **Testor Dullcote #1260** to the entire model. This will give an authentic dull finish and protect the decals. Remove masking from canopy.



DECALS

3 FLAT BLACK

1 Spoiler

5 ECM pods

11 on other side same location

9 Bypass air ducts

19

17

21

Laser sight

Laser designator


AGM-65 D Maverick

No. 595

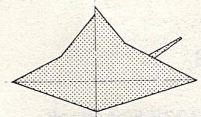
7

F-19 Stealth Day Mission Coloration

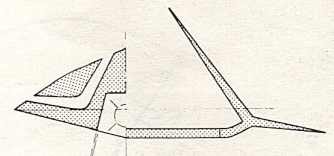
PAINTING

 FS 16440 Gloss Gull Gray

Drawing courtesy of
Flug Revue magazine



A - B



C - D

APPLYING DECALS

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