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Once shrouded in secrecy, the F117A Stealth Fighter was officially unveiled by the United States Air Force in early 1990. This public display at Nellis Air Force Base, on April 21, 1990, showed a most-unusual aircraft. Instead of smooth, flowing curves, the F117A was dead black and all flat-plate angles — even its airfoil had the flat-plate construction. Definitely ugly, and certainly not aerodynamic like the sleek jet fighters one is used to seeing.

Lockheed created the F117A at its famous Skunk Works. Long known for special aircraft, like the U-2 and SR-71 spy planes, the talents of the Skunk Works designers turned to producing an aircraft invisible to Radar. This design has all flat surfaces, with all set at carefully calculated angles to each other. Each surface is designed to bounce off Radar beams at angles, much like one can reflect the sun with a mirror. Other parts of the plane’s surface absorb the Radar signal. This makes the F117A invisible to Radar — if no signal is bounced back to the enemy Radar system’s antenna, no detection is possible.

Other Stealth tricks included shrouding the exhaust system to prevent Infra-Red (IR) detection of engine exhaust. And, the F117A doesn’t carry Radar. The Radar signal would be picked up as it approaches. Instead, flight-path data are from an inertial-navigation system (INS) and IR detectors.

It’s called a fighter, but the F117A is really a bomber. It is unarmed. The plane relies on it’s Stealth capability to approach and acquire a target, drop its ordnance and sneak away without detection. Its weapons system relies on Video/IR image data to guide smart bombs to their target. Target acquisition is from the nose-mounted Forward Looking Infra-Red (FLIR) system that projects a TV-like image for the pilot. A second system is mounted on the bottom of the F117A. This is the Downward-Looking Infra-Red (DLIR) system. Both systems are steerable, adjustable for wide- or narrow-angle view and can be used for flight or weapons guidance.

The F117A Stealth Fighter is rather large and carries just the pilot. The aircraft design required a computer-controlled flight system for stability. And, it’s a true fly-by-wire system — pilot inputs are to a computer, not directly to the control surfaces.

Generally accepted specifications are:

- Wingspan: 43 Feet 4 Inches
- Length: 65 Feet 11 Inches
- Height: 12 Feet 5 Inches
- Power: Two GE 10,600-lb Thrust F404-F1D2 Jet Engines
- Speed: 646 MPH
- Range: 1000 Miles - Extended Range
  With In-Flight Refueling

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**FUSELAGE CENTER SECTION**

**ASSEMBLY SEQUENCE:**
1. Glue Front Tabs To Bottom Of Fuselage. Make Sure The Center Section is Centered. Hold Until Dry.
2. DO NOT GLUE UNDERSIDE Of Wing Supports.
3. Glue Rear Tabs Of Center Section. Pull Sides Of Fuselage Bottom Inward. Hold Wings And Center Section In Alignment Until Glue Is Dry – Make Sure It Is Centered.
4. Glue Rear Tabs Of Fuselage Bottom, Slide Into Alignment With Back Of Center Section. Hold Until Dry.
6. Then, Glue Wing Tip Tabs.
7. NOTE: The Complex Geometry Of The F117A Is Computer Generated. Apparent Accuracy Can Be Off By Minor Errors In Scoring And Cutting. Trim To Fit At Wing Tips And Trailing Edge And At Back Of Fuselage Center Section.

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**MAIN LANDING GEAR**

**NOSE GEAR & DOOR**

**RIGHT SIDE JET INLET**

**LEFT SIDE JET INLET**

**NOSE "CON"E**

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**WING PANELS & BOTTOM**

**MAIN GEAR DOORS**

**FINS**

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**FOLD DOWN AND GLUE**
**ASSEMBLY SEQUENCE:**

2. DO NOT GLUE UNDERSIDE Of Wing Supports.
3. Glue Rear Tabs Of Center Section. Pull Sides Of Fuselage Bottom Inward. Hold Wings And Center Section In Alignment Until Glue Is Dry -- Make Sure It Is Centered.
5. Glue Trailing-Edge Wing Tabs. Align, Hold Until dry. Then, Glue Wing Tip Tabs.
6. NOTE: The Complex Geometry Of The F117A Is Computer Generated. Apparant Accuracy Can Be Off By Minor Errors In Scoring And Cutting. Trim To Fit At Wing Tips And Trailing Edge And At Back Of Fuselage Center Section.

**Stiffen Three Top Seams To Prevent "Oil Can" Bending**

**Trim And Glue Strip To Back Of Seams**
Lockheed F-117A Stealth Building Instructions

1. You Will Need:

- White Glue Or Household Cement
- Single-Edge Razor Blade Or Model Knife
- Metal-Edge Ruler Or Straight Edge
- Scissors
- White Glue Or Household Cement

2. AND, Tape And A Cutting Board:

- 7 Inches
- 11 Inches
- Two Layers Of Heavy Cardboard, Taped Together Around All Of The Edges.

3. Score Along All Dashed Lines Of Both Sheets With A Fine-Line Black Ball-Point Pen Or A Smooth-Edge Butter Knife.

4. NEXT, Cut Along The Ends Of The Assembly Tabs With A Model Knife.

5. AND, Cut Open All V-Slits On Fuselage And Jet Inlets.

6. THEN, Cut Along The Black Outlines Between Tab Cuts. Finish By Cutting Parts Free Along Remaining Outlines.

    *Dashed-Line Arrows Are Prior Tab Cuts*

7. From The Printed Side, Fold Down On All Dashed Lines You Scored. Turn Over, Then ...

8. Fold Down All Tabs On The Center Section. Read Assembly Instructions!

9. Glue The Center Section To The Bottom. Glue Nose, Wing Supports, Sides And Rear Bottom Tabs.

10. Assemble Fuselage Top. Glue Front Tab First. Pull Rear Seam Together And Glue Stiffener Underneath. Then, Glue Rear-Side Tabs.

11. Next, Stiffen The Three Top Folds Of The Fuselage To Prevent Bending.

12. Glue Completed Fuselage Top To The Bottom/Wing Assembly.

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1. You Will Need:
   - White Glue Or Household Cement
   - Single-Edge Razor Blade Or Model Knife
   - Scissors
   - Metal-Edge Ruler Or Straight Edge

2. AND, Tape And A Cutting Board:
   - 2 Inches
   - 11 Inches
   - 17 Inches
   - Tape
   - Single-Edge Razor Blade Or Model Knife
   - Scissors
   - Metal-Edge Ruler Or Straight Edge

3. Score Along All Dashed Lines Of Both Sheets With A Fine-Line Black Ball-Point Pen Or A Smooth-Edge Butter Knife.

4. NEXT, Cut Along The Ends Of The Assembly Tabs With A Model Knife.

5. AND, Cut Open All V-Slits On Fuselage And Jet Inlets.

6. THEN, Cut Along The Black Outlines Between Tab Cuts. Finish By Cutting Parts Free Along Remaining Outlines.
   - Dashed-Line Arrows Are Prior Tab Cuts

7. From The Printed Side, Fold Down On All Dashed Lines You Scored. Turn Over, Then ...

8. Fold Down All Tabs On The Center Section. Read Assembly Instructions!

9. Glue The Center Section To The Bottom. Glue Nose, Wing Supports, Sides And Rear Bottom Tabs.

10. Assemble Fuselage Top. Glue Front Tab First. Pull Rear Seam Together And Glue Stiffener Underneath. Then, Glue Rear-Side Tabs.

11. Next, Stiffen The Three Top Folds Of The Fuselage To Prevent Bending.

12. Glue Completed Fuselage Top To The Bottom/Wing Assembly.

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