GENERAL DYNAMICS F-16 by B. A. Manners

THE GENERAL DYNAMICS F-16 fighter really hit the news when, following its appearance at the Paris Air Show, orders were placed by no less than four NATO countries – much to the annoyance of the European aircraft industry, the French in particular. No doubt this degree of publicity impressed the design in my mind, and when my eight-year-old son decided that he wanted a semi-scale model to make for his Cubs Hobbies badge, it seemed a good choice. Why? Politics apart, the F-16 is a really straightforward, compact design which easily lends itself to adaptation as a catapult-launched glider. Also, the bright colour scheme of the two prototype machines is most attractive and easily applied – important points when designing a model for youngsters, as is the fact that it is economical in the use of materials. Two models can be built for a cost of around £1.00.

Keen observers will note that the original design has been modified somewhat in the interests of simplicity and flyability – for example, a flat tailplane with an elevator is used instead of having two differential, all-moving, anhedralled ‘ailerons’, while belly fins and missiles have been left off before they get knocked off . . .

Construction

1. Measure the plan-form of the aircraft, then draw out parts 1, 2 and 3 twice full size onto a sheet of 3in wide 14in thick medium hard balsa as shown. Cut out with a sharp balsa knife, using a steel rule as a straight edge.

2. Assemble and glue parts 1 and 2 together.

3. Again, double up the dimensions of parts 4, 5, 6, 10 and 11 then draw onto a sheet of 14in balsa. Part numbers 7, 8 and 9 may be traced directly from the side elevation on the plan. Arrange on the sheet of balsa as shown, and cut out.

4. Shape outer wing to sections A1–A1 and A2–A2, then sand part 3 to section C–C.

5. Shape tailplane to sections B1–B1 and B2–B2. Cut along elevator hinge line and round off the edges, then rejoin with tape hinges.

6. Assemble and glue parts 3, 4, 5 and 6 to parts 1 and 2. Cover with polythene, then place weights (such as books etc) on top and leave until the glue has fully set. A PVA type of glue is recommended to prevent warps.

7. Assemble and glue fin parts 7, 8 and 9; use weights to keep it flat, and leave to dry.

8. Using tracing paper, draw out the shape of the complete fuselage, then transfer to the hard 1 in. sheet balsa, cutting out parts 12, 13 & 14, using the straight edges of the sheet for the straight edges of the parts.

9. Round off the leading and trailing edges of the fin assembly, then glue to fuselage (part 12).

10. Make four triangular gussets 9 in. long, from a strip of 1 in. x 1 in. balsa.

11. Glue fuselage top (13) and fin to wing/body/tail in the correct position, and add the top two 1 in. gussets, one on each side of the fuselage.

12. Bend 16 swg piano wire catapult hook to shape.

13. Complete lower fuselage by adding the catapult hook, covered by a piece of bandage, well cemented.

14. When wing/fuselage assembly is completely dry, add parts 10, 11, 13 and 14, plus the two remaining gussets.

15. Make the 1 in. ply elevator horn and cement in position, reinforcing the joint with balsa gussets.

16. Recess the nose and add a strip of lead, so that the model balances at the position shown on the plan. When satisfied, secure lead with a cemented bandage.

Finishing

Sand all surfaces smooth with fine glass paper wrapped around a sanding block. Dust off, and then apply a coat of thinned clear dope, to which talcum powder or French chalk has been added to act as a filler. When dry, rub down with fine wet and dry paper. If necessary, apply a second coat to fill the grain of the balsa wood, and rub down smooth once again. Now, using thin colour dope or enamel sparingly, apply the colour scheme as indicated on the plan.

Transfers can be used for the insignia, while the lettering may be applied with a brush, by transfers, or even with Letraset.

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