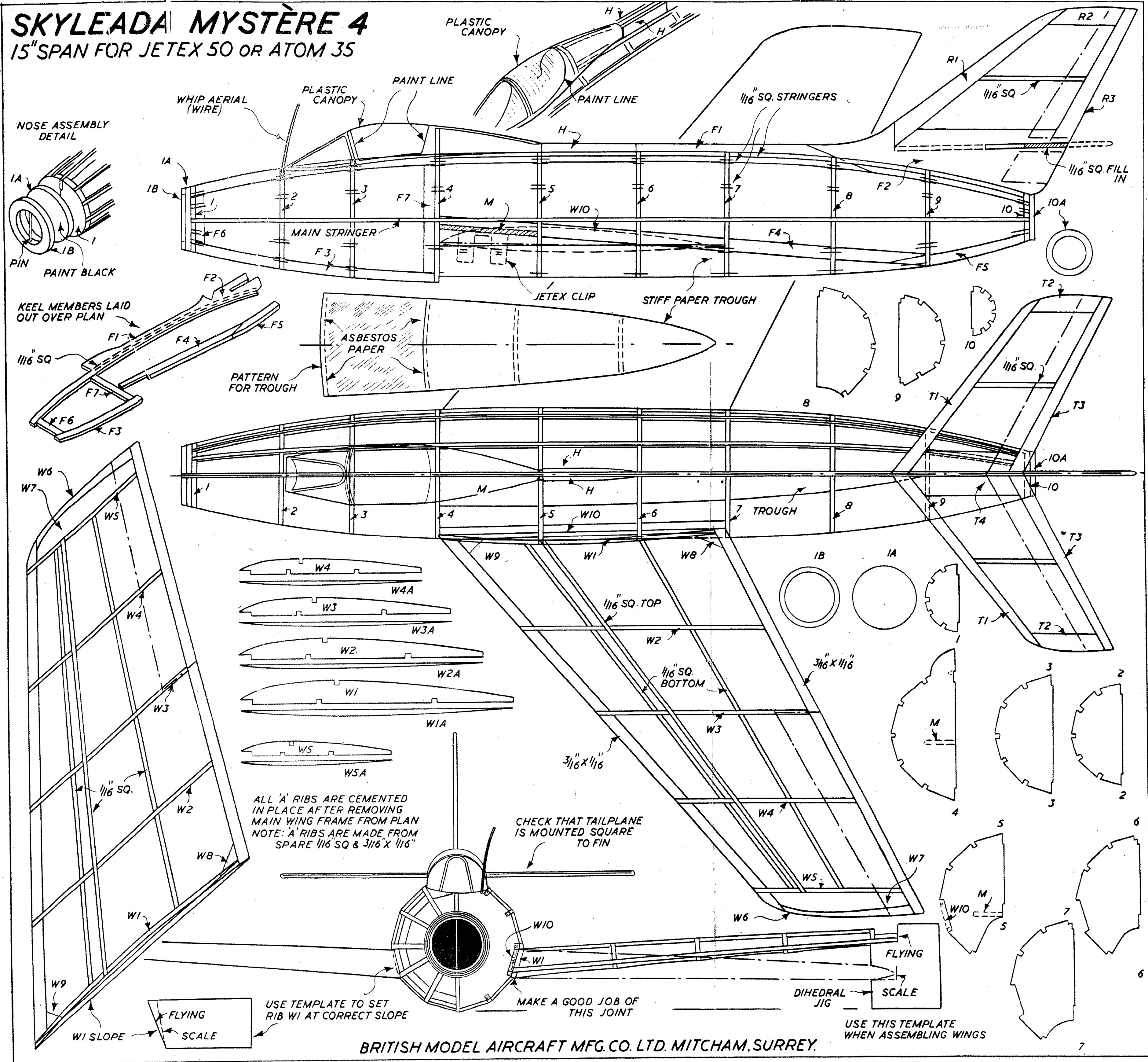


DASSAULT MYSTÈRE 4

SKYLEADA MYSTÈRE 4 15" SPAN FOR JETEX 50 OR ATOM 35



This is one of the most successful post-war French designs, capable of achieving supersonic flight in a dive. The Mystère 4 has been developed from the Ouragan, a straight wing jet fighter. The Mystère 2 was the Ouragan design with swept wings and tail surfaces. In the Mystère 4 the whole aircraft has been redesigned, with a greater angle of sweep.

Various versions are flying. The 4A has a Hispano Turbomecane engine of 7,200 lb. thrust. The 4B has a Hispano Avon of 9,500 lb. thrust. There is also a two-seat all-weather night fighter version known as the Mystère 4N. Span of the Mystère 4 is 33 ft. Performance figures have not been published, but top speed is of the order of 650-720 m.p.h., depending on the power unit.

BUILDING INSTRUCTIONS

Study the plan and printed sheets carefully before starting construction. Printed sheet parts are readily identified by their code letters and/or numbers. It is a good idea to cut all the printed sheet parts out first, stacking them over appropriate parts of the plan. Straight line cuts on the printed sheet should be made using a metal rule as a guide. Do not attempt to cut these lines freehand. The slots can be cut with a sharp razor blade or with a 1/32" thick flat file.

Start by identifying parts F.1 to F.7, inclusive, and lay in place over the side view drawing. Check that they fit accurately. Cement the top 1/16" sq. member along F.1 and F.2 as indicated. To prevent parts sticking to the paper it is a good idea to rub over the drawing with a candle.

Once the keel is laid out a complete set of half formers 1 to 10 inclusive should be cemented in place, taking care to erect these truly vertical. Block up, if necessary, while the cement is setting. Then add the main side stringer of 1/16" sq. strip. The remaining stringers can then be cemented in place in their respective notches. Slight out-of-alignment can be corrected by enlarging the appropriate slot in the former, as necessary. Slight inaccuracies of this nature may creep in, depending on the accuracy with which you cut the original printed sheet parts.

Now trim part W.10 to fit snugly in place between adjacent stringers. W.10 extends between formers 4 and 7 and is the part which will eventually carry the wing, so make sure that it is properly fitted and well cemented in place. Before removing the half shell from the plan the fin parts can be added.

When the half shell assembly has set, remove from the drawing, turn over and cement all the remaining half formers in place. Then add the root of the stringers, starting with the main stringer, and finally trim and fit part W.10 for this side.

It will be noticed that the bottom of the fuselage forms a sort of hollow well. Piece M cements between formers 4 and 5, positions the cut-out in F.4. The Jetex mounting clip is cemented, sewn or screwed to M, after first covering the underside of M with asbestos paper, as supplied with each Jetex unit. It is a good idea to fit the Jetex clip to M before cementing this piece in the fuselage.

The remainder of the "well" between former 5 and former 9 is then fitted with a semi-circular trough made from stiff paper. Cartridge paper or Bristol board is ideal for this. Cut to the exact pattern shown when you should find that it will fit in place neatly when curved to shape. Cement securely in the fuselage. The front of the jet trough, between formers 5 and 6, is lined with asbestos paper to prevent charring.

The fuselage structure is then completed by adding formers 1A, 1B and 10A. Sand the whole frame down lightly ready to take the tissue covering. It is an advantage to hollow away the formers slightly between the stringers so that the covering lies on tight and smooth without the edges of the formers showing as ridges.

Before covering, trim the plastic cockpit canopy to fit and lay in place temporarily. Now add the two pieces H on either side of the backbone just behind the cockpit cover and trim to fair in with the lines of the canopy. Remove the canopy and then set about covering the fuselage.

You should find it possible to cover the fuselage in four separate strips. The fin is covered each side with separate pieces. Pull the tissue as taut as possible and be sure to eliminate all wrinkles. Photo paste is excellent for attaching the tissue. The covering may be tautened by spraying or painting with water and leaving to dry again. This will null the tissue up quite taut, after which it can be done to waterproof and add strength.

The tailplane is very simple to make. Simply pin out the outline pieces over the plan, cement in T.4 at the centre and the two 1/16" sq. ribs. When set, remove from the plan, clean up and sand smooth and cover on one side only with tissue. Try to draw the tissue covering tight enough so that it does not require water-treatment before doping. This will reduce the possibility of warping.

The wings are also quite straightforward. Each wing is built separately, covered and then cemented to the sides of the fuselage at the correct dihedral angle and incidence.

Start by pinning down the 1/16" x 1/16" leading and trailing edge spars over the plan. Cement W.6 in place at the tip and lay the two bottom spars in place over the plan. The individual ribs can then be cemented in place, one by one. Each rib will require a little trimming of the slots to fit since the spars are angled back sharply, but this is readily done by "cut-and-dry". Note that the root rib W.1 has to be cemented outwards at an angle, so use the template given on the plan to set this angle correctly. Pieces W.8 and W.9 can then be added to strengthen the root rib joint and the top spar cemented in place. Finally add the second tip piece W.7.

Each wing panel should then be turned over and the "A" ribs, cut from spare 1/16" sq. and 3/16" x 1/16" strips, cemented in place. These "A" ribs can be omitted, if you prefer.

Sand the wings down smooth before covering, taking special care with the tip. Cover each wing panel with two pieces of tissue—one for the upper surface and one for the lower surface. Water spray to tauten and give a single coat of weak clear dope.

The basic parts of the model can then be assembled. The tailplane cements in the slot cut in the fin, taking care to line this up at the correct incidence (as shown by the dotted line on F.2) and also to get it square with the fin. The wings cement to W.10 on each side of the fuselage, making sure that they line up accurately with the dotted line marked on these parts. Use a simple jig, too, to check the dihedral on each wing, as shown in the front view on the plan. Note that a flying model must have a definite dihedral whereas a true scale model, not intended for flying, should have a slight anhedral.

If you have some means of spraying on a dope finish, then the whole model may be given two or three light coats of silver dope to finish. Silver dope applied by brush is too heavy, however, for a flying model. If you have to use a brush finish, then two coats of clear dope all over is best. After doping the cockpit canopy can be fitted permanently, the neatest method being to run a line of dope all round the edge of the canopy, allow to get tacky and then press in place. The part of the fuselage covered by the canopy should first be painted light green. The canopy, once fitted, should be lined with silver, as shown on the plan, the rear part being completely blocked in.

IMPROVED PERFORMANCE—FLYING MODELS

Improved flying performance will come from the lightest possible model. No cut-outs are shown on the formers, as is commonly indicated on other plans, since the amount of material so removed is usually negligible, as far as weight saving is concerned. If you want to build a really light model the best way to lighten the formers is to punch holes in them, aiming to remove at least two-thirds of the amount of wood. A suitable punch can be made by sharpening the end of a short length of 1/2" diameter dural, brass or steel tube. Cut as many lightening holes as possible without unduly weakening the former. Similar lightening holes can also be cut in F.2.

FLYING

Test by installing an empty Jetex unit in the model and gliding over a suitable "cushiony" surface, such as long grass. A fairly flat, reasonably fast glide is the aim. If the model dives, weight must be added to the rear of the fuselage until the correct trim is established. On the other hand, if the model persists in rearing up into a stall, dropping the nose and swooping down again add weight to the front of the fuselage. Similar adjustments can be made to correct stalling or diving tendencies under power, although if the initial glide trim is correct these are not likely to appear. Under power, flight should be straight, or nearly straight. A sharp turn in one direction or another is almost certainly to be caused by a warped wing or tailplane, or the tailplane not being square with the wings. A moderate turning tendency can be corrected by warping the trailing edge of the fin in the opposite direction.

