

DH-82 Tiger Moth

The Tiger Moth is a type known to all aviation enthusiasts. From a military training aircraft it has seen much use as a sports flier and spawned many variants. For us modellers, that means a whole range of colour schemes are available to suit the type.

GENERAL

As you'll see, the fuselage is built as two, separate structures that are joined once both front and rear are completed to basic box stage. Don't discount this technique as it is the easiest way of arriving at a straight, square, fuselage.

The note on the plan describes the easiest way of fitting the centre section struts; after the sheet decking is in place on the fuselage. They can, of course be built into the sides before the forward box is assembled but it's very difficult to accurately (and neatly) fit the decking around them. Just ensure that they align correctly and fit snugly against parts SD when you do fit. Use epoxy for this, rather than CA, but not so much that it prevents the struts butting against SD properly.

The locating dowels on the lower wing panels are not load bearing. They are only there to ensure that both panels glue to the fuselage sides at the same incidence angle. As such, it doesn't matter if they are glued into the wings first, or the fuselage sides. Either way will allow the panels to be quickly and accurately aligned.

Note how the top longeron is tapered at the tailplane seat. This is not an error on the drawing, but sets the tailplane at positive incidence to keep the tail up in flight. Using down elevator trim doesn't work in quite the same way.



FUSELAGE

Build the rear fuselage box in the time honoured manner of making two identical side frames and joining them over the plan using cross braces and part TS. Ensure everything is straight and square and allow to dry.

Begin the front (sheet sided) section by gluing parts UCD and SD to the inside of parts FS. Make sure you end up with one right side and one left side.

Drill M to suit the motor and bolt it in place, packed as mentioned on the plan. Now assemble F1, N, parts MA, MB and F2 ensuring that all angles are 90 degrees to adjoining parts. The accuracy of the laser cut parts should ensure this is the case. This section needs to be securely glued, so only use woodworking glue or epoxy for the joints.

Join the two parts FS using the previous assembly, UC and F4. Check for square and allow to dry. Now join the front and rear structures. Fit the 1/16 balsa sections between the sides, add the remaining formers and fit the sheet decking. Sand overall before proceeding.

It results in a neater finish if the lower fuselage, in the u/c area, is covered before the wire parts are bound in place and soldered up. Similarly, the decking around the c/s struts may also be covered at this point if desired.

Trim decking and front F3 to neatly clear the c/s strut assemblies and glue them to the fuselage.

Wrap the cowl formers with 1/64 ply as indicated on the plan and glue in place the bottom cowl block. The front block may be made removable for motor access but should be spot glued in place while the cowl is shaped and sanded.

WINGS

Essentially both upper and lower wings are built in the same manner, only parts TETA and DHG fitted to the top wings being the basic difference in basic structure.

So, pin down the leading edge, trailing edge piece(s) and WT, gluing as required. Notch and taper the spar as indicated on the plan and glue in place on WT. Glue in place all wing ribs except RT1/RB1 and allow to dry. Fit the scrap balsa pieces that form the strut sockets.

Pack up the wing panels for dihedral and glue in place RT1/RB1 at 90 degrees to the building board. Fit laminated parts DHG (top wings) and the root bay sheeting (lower wings)

Build the top wing c/s and glue in place the top wing panels at the indicated dihedral angle. Trim and sand overall, shaping parts TETA and the c/s trailing edge to blend into each other.

BOTTOM WINGS

Building the bottom wings really is very easy. Pin down the l.e., spars and laser cut t.e. and tip parts, notching, tapering and gluing as required. Now glue in the wing ribs except R1B and allow to dry. Remove from board, pack for dihedral and glue in R1B at 90 degrees to the building board. Glue in the joiner tubes. R1B and R2B will set them at the correct angle for dihedral when plugged onto the straight wire joiners. Fit the root bay sheeting.

Feed in the aileron cable tube and secure it at R4B. Ensure no kinks or sharp angle that might cause binding in operation. Add the scrap balsa to the opposite side of F4B to form the strut socket. Trim to shape and sand overall.

TAIL SURFACES

The tail surfaces are all pretty straightforward modelling. Laminate up the outlines, pin them over the plan and build up the structures using the laser cut parts and balsa strip. Allow to dry, sand overall, rounding off the edges, and join the elevators.

ASSEMBLY

I would suggest you cover and finish the individual components before assembling the model, but some people are able to cover a fully assembled model.

Glue (epoxy) the top wing accurately onto the c/s struts and use the interplane struts to set the lower wing dihedral as they are glued to the fuselage sides. Check for accurate alignment and allow to dry. Use this assembly as a guide to aligning the tail surfaces as they are glued in place.

FLYING

As designed, the model is not difficult to fly, but it is not a trainer by any means.

Ensure the model balances slightly nose down (very slightly) when supported at the point indicated on the plan.

A 2S battery pack is more than enough for this model (unless you built it heavy), so don't be tempted to try more cells. All you will achieve is to make the model heavier and more difficult to control. It's a model trainer and isn't supposed to fly at the speed of an F-16.

When taking off, don't be tempted to rush the model into the air. Deliberately hold it on the ground until plenty of speed has built up and the, once you stop holding it down, it should lift off of its' own accord.

Loops, 'interesting' flick rolls and stall-turns are all well within the scope of this model. It looks equally good just cruising gently around making low passes.

Additional items required

1/16 x 4" balsa sheet 1 off

1/8" sq medium/hard balsa 8 off

1/4 x 1/8" hard balsa 1 off

1/8 x 3/8" basswood spars - 5 off

3/16" sq balsa medium 5 off

1 length of 16 and 20swg music wire, small amount fo soft block or blue foam for cowl face.

2 inch balloon wheels

480 size (150 watt) brushless motor, 20 amp ESC, 1200mAh 2 cell lipoly and 2 off 9g servos. Builder to use their favorite covering and paint finish.



36 inch wingspan Scale 1.23"=1ft
Suitable for 480 size motors
3 sheet plan included
3 channel radio - ESC, Rudder & elevator



Designed by Peter Rake exclusively for



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