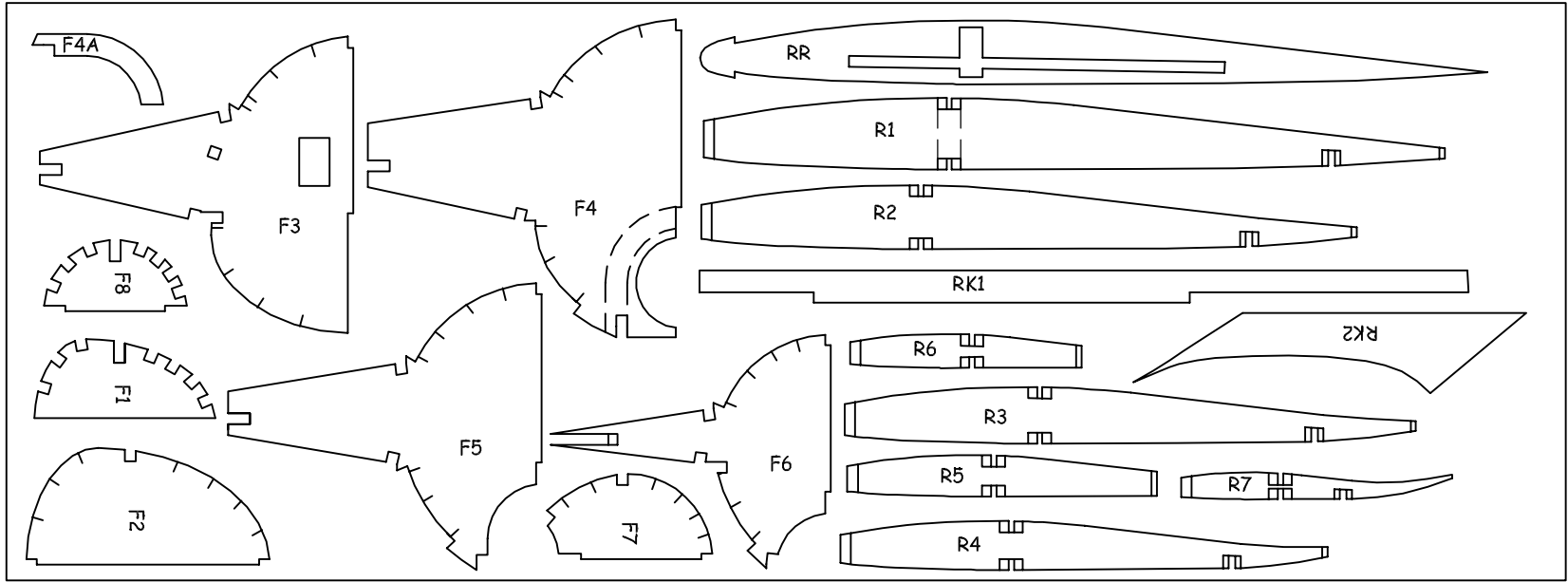


2 OFF THIS SHEET REQUIRED - FROM SOFT 1.5mm Balsa



METRIC TO IMPERIAL COVERSION:  
(FOR THE OLDTIMERS!)

0.8mm	= 1/32"
1.5mm	= 1/16"
3mm	= 1/8"
4.5mm	= 3/16"
6mm	= 1/4"

**Background to the DH 108 plan for Rapier L2 (R J Simmonds, [www.Jetex.org](http://www.Jetex.org))**

D P Golding's lovely DH 108 "Swallow" for Jetex 100 was published in the *Aeromodeller*, July 1952. This looked superb to a small boy, well, this small boy anyway, though Golding had taken care not to make things too easy, as the motor was mounted internally without augments tube. I bought the plan, but the fuselage, which is of 'hollow log' construction (which was a particular dislike of mine), put me off.



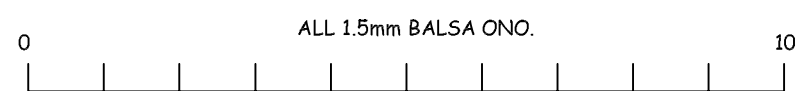
However, I never forgot this design, and when I returned to flying small model jets this was my first attempt at an "own design" after learning the basics with a MiG 15. A brief description of the conversion of the DH 108 Swallow to Rapier L2 power may encourage others to try this update of a real classic.

I had the original plan long ago, but managed to get a copy of the relevant *Aeromodeller*. The main modification was to reduce the span to 15.5" and change the fuselage (9.5" long) to a keel, former and stringer construction. Wing roots were covered with 1/32" balsa sheet. The motor was mounted just forward of the CG in a deep trough. The fin and wing construction (and airfoil) of the original were retained but provision was made for moveable elevons to enable trimming for a variety of conditions and motor specifications. Other changes were made, e.g. to the wing leading edge, but in general the plan, which was for the second prototype, was followed. I really like the bulky canopy and large air intakes of this second prototype, but Steve's plan also shows the third prototype. It was tissue covered, doped, and sprayed silver.

Trimming proceeded by first reflexing the elevons to about 8° 'up' and adding enough lead to "stop the model flipping over on its back" from a hand launch. This is best done over a double bed to start with, but be sure to remove cats, wives, etc. first. The model now weighed 35g, which is quite reasonable for the L2. The elevons were then finely adjusted for a flat straight glide without motor (on the flying field), whereupon, I was pleased to note, they matched the reflexed tip rib of the original plan.

The first powered flight showed the need for some more 'up' for a steady climb and the second the need for a bit of trim tab to correct a slight turn. The simplicity of this procedure was very gratifying. The flight pattern remains exciting and not altogether predictable, and like most of these sorts of models, periodic and subtle retrimming seems to be required.

Steve Bage has brought the plan right up to date and made many detail improvements. It will be wonderful to see more examples of this classic design flying again. Happy rocketeering!



**DeHavilland DH108 'Swallow'**  
**394mm (15.5") SPAN FOR RAPIER L1/L2**  
**SHEET 1 OF 2** Drawn by Steve Bage

NOTE! TO GIVE REQUIRED WASHOUT  
PACK REAR SPAR 3mm AND MAIN SPAR  
1.5mm AT TIP, TYPICAL BOTH WINGS

LAMINATE NOZZLE FROM 2 x  
1.5mm Balsa RINGS

ELEVONS FROM 4.5mm SOFT  
SHEET. CARVE TO MATCH  
PROFILE OF R4 & R7. TO BE  
HINGED WITH SOFT WIRE  
OR THIN ALUMINIUM FROM  
DRINKS CAN

SHEET WING ROOTS 0.8mm TOP  
& BOTTOM (SHEETING PART  
REMOVED FOR CLARITY)

CHAMFER

WING TIP FROM  
Balsa BLOCK

WEB R2 TO R6 0.8mm, GRAIN VERT.

AFTER COMPLETION OF WING AND  
FUSELAGE STRUCTURE CUT SLOT  
THRU' R1, ROOT RIB AND RK1 TO  
ACCEPT STUB SPAR

GUSSETS FROM SCRAP Balsa

MAIN SPARS 1.5mm SQ. Balsa

L.E. FROM 3mm SHEET, 5.5mm DEEP AT  
ROOT, 3mm AT TIP, OR LAMINATE 2 x  
1.5mm (HARD AT FRONT, SOFT AT  
REAR)

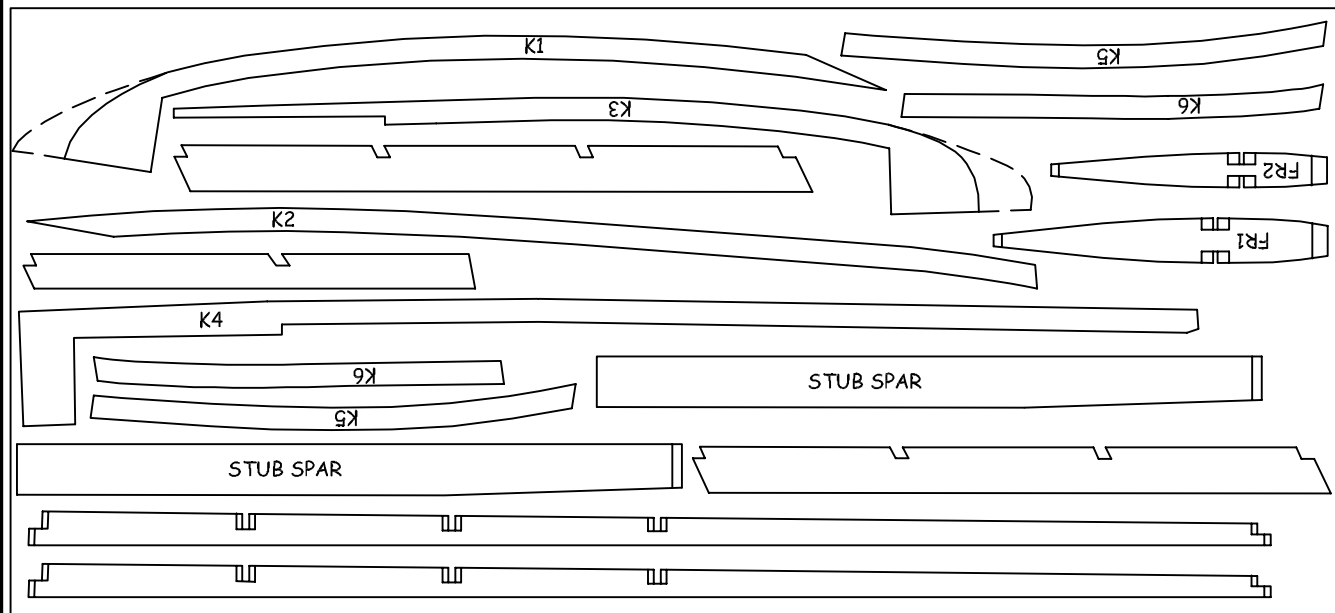
STUB SPAR

1 OFF THIS SHEET REQUIRED - FROM MEDIUM 1.5mm Balsa

CARVE INLETS FROM SOFT BLOCK

3rd PROTOTYPE CANOPY AND NOSE  
CONE OUTLINES DOTTED

ALL 1.5mm Balsa ONO.



**DeHavilland DH108 'Swallow'**  
394mm (15.5") SPAN FOR RAPIER L1/L2  
SHEET 2 OF 2 Drawn by Steve Bage