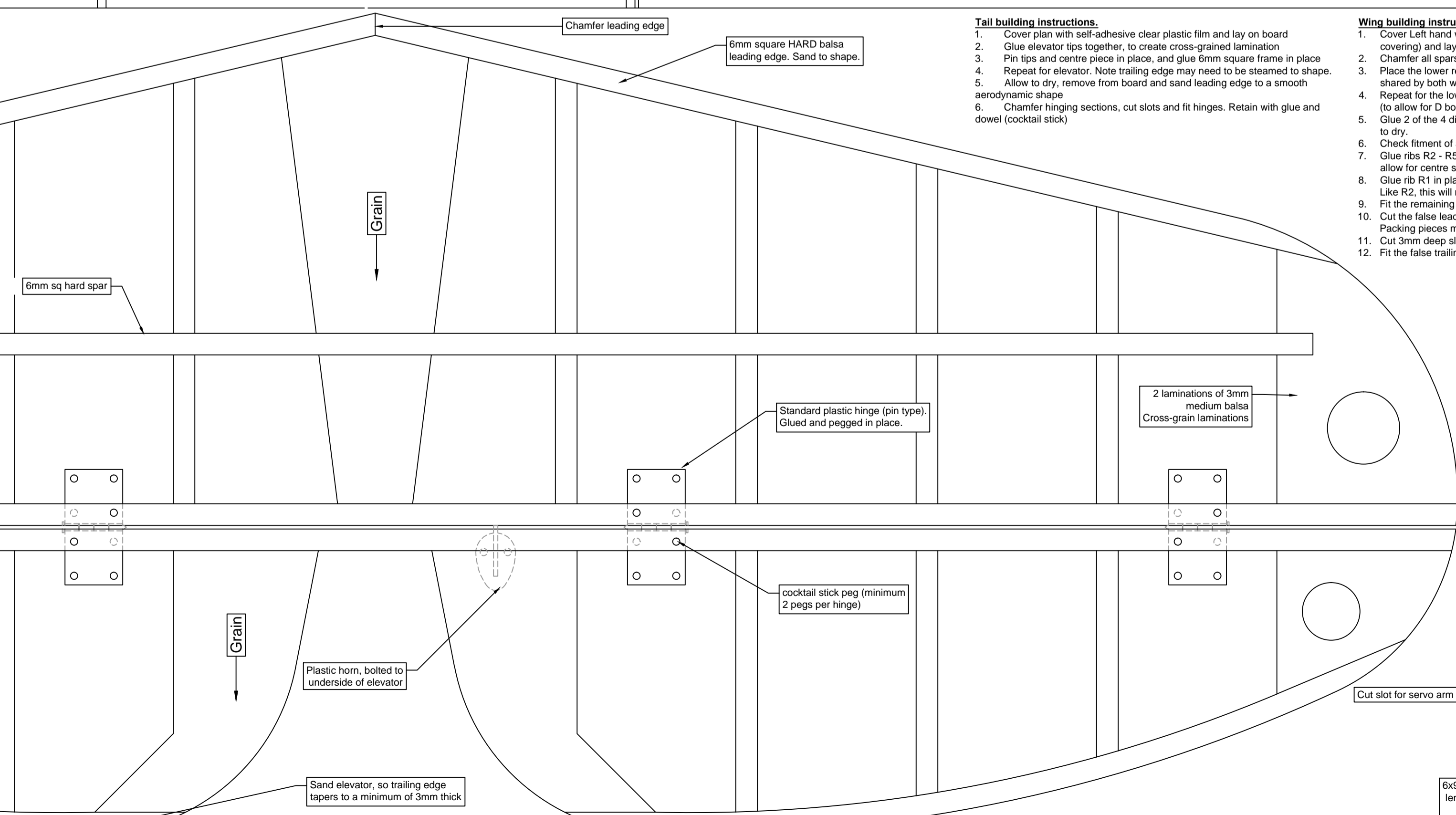
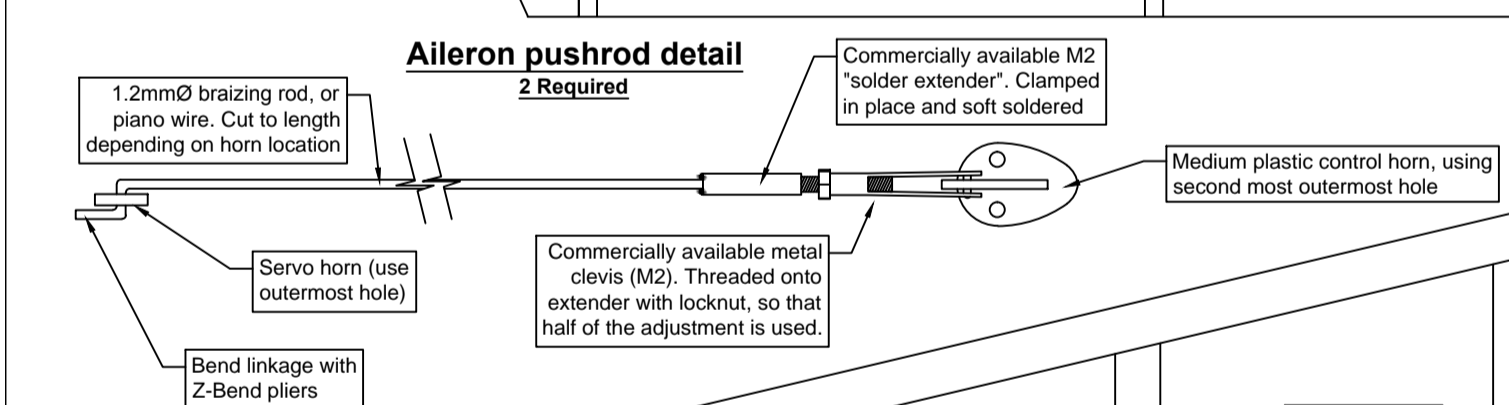


Rib No.	Material	Count (Total)
1	3mm Liteply	1
2	2.4mm Balsa	2
3	2.4mm Balsa	12
4	2.4mm Balsa	4
5	2.4mm Hard Balsa	2



- Tail building instructions.**
1. Cover plan with self-adhesive clear plastic film and lay on board
 2. Glue elevator tips together, to create cross-grained lamination
 3. Pin tips and centre piece in place, and glue 6mm square frame in place
 4. Repeat for elevator. Note trailing edge may need to be steamed to shape.
 5. Allow to dry, remove from board and sand leading edge to a smooth aerodynamic shape
 6. Chamfer hinging sections, cut slots and fit hinges. Retain with glue and dowel (cocktail stick)

- Wing building instructions.**
1. Cover Left hand wing plan with self-adhesive clear plastic film (used for map and book covering) and lay on flat building board
 2. Chamfer all spars at the root, with a 5° angle (for dihedral).
 3. Place the lower rear spar flat on the plan, so the end face is at the middle of R1 (R1 is shared by both wings and spars). Hold down with pins.
 4. Repeat for the lower main spar, but place 0.8mm spacing blocks between spar and board (to allow for D box sheeting)
 5. Glue 2 of the 4 dihedral braces, to the front of the 2 lower spars. Clamp in place and allow to dry.
 6. Check fitment of all ribs, and adjust if necessary.
 7. Glue ribs R2 - R5 in place, vertically. R2 Ribs will need 0.8mm packing underneath, to allow for centre sheeting. Hold with pins.
 8. Glue rib R1 in place, giving a 5° angle (for dihedral). Use the dihedral guide, as shown. Like R2, this will need packing.
 9. Fit the remaining 2 spars, and dihedral braces
 10. Cut the false leading edge from 2.4mm sheet. Chamfer as per the spars. Glue in place. Packing pieces may be useful here.
 11. Cut 3mm deep slots into the trailing edge, and glue/pin in place.
 12. Fit the false trailing edge. Glue in place, hold with pins.

13. Assemble the aileron servo bay as shown. Use pieces of 3mm scrap wood to offset the mounts correctly. The hatch is made later
14. Allow the wing to dry, then remove from board and pin R1 on the second plan (RH wing). Pack up the wing tip to ensure the dihedral braces are level to the board.
15. Repeat the above steps for the right hand wing.
16. Note, for both wings, ensure the spars, leading and trailing edges all meet at the centre of R1, with a good chamfer and glue joint.
17. remove wing from board, and add D-Box sheeting. At the root, the sheeting will need to be sanded to a slightly elliptical shape, to allow a close fit. The sheeting is held in place with tape whilst the glue dries. The D box sheeting should extend back and overhang 1.5mm from the rear of the mainspar (to allow for the spar webs)
18. Add plywood centre sheeting, top and bottom.
19. Once sheeting is dry, remove all tape and pins, and sand down the front of the sheeting, so it is perfectly flush with the false L.E
20. Glue the leading edge in place and sand to section shown.
21. Cut and fit spar webs, avoiding gaps where they meet the ribs
22. Shape tips from block balsa, and glue in place.
23. Sand trailing edge and upper rear spar. Avoid excessive sanding to D box sheeting.
24. Fit extra plywood sheeting to root area of D box sheeting, to resist crushing from rubber bands.
25. Cut slots in false leading edge for aileron hinge
26. Make aileron as per the plan, chamfer the front edge for the hinge.
27. Give the wing 2 coats of dope, applied by spraying. Gently sand D-box, leading edge and trailing edge, with 1000 grit sand paper
28. Fit servo extension leads. Cover the wing with Solarfilm and fit aileron hinges.
29. Assemble servo hatch, fit aileron horn, linkage and servo.

B	Final Wing - Ailerons redesigned, spar increased, rib spacing and sheeting. More dihedral	2016
	Prototype	January 2016
No.	Revision/Issue	Date

Refer to revision schedule on fuselage plan

BMFA Payload Challenge - Quantity

Q.01 - University of South Wales

Wing and Tail Plan		
Date	Scale	Rev Number
March 2016	© A1 1:1	A - Final