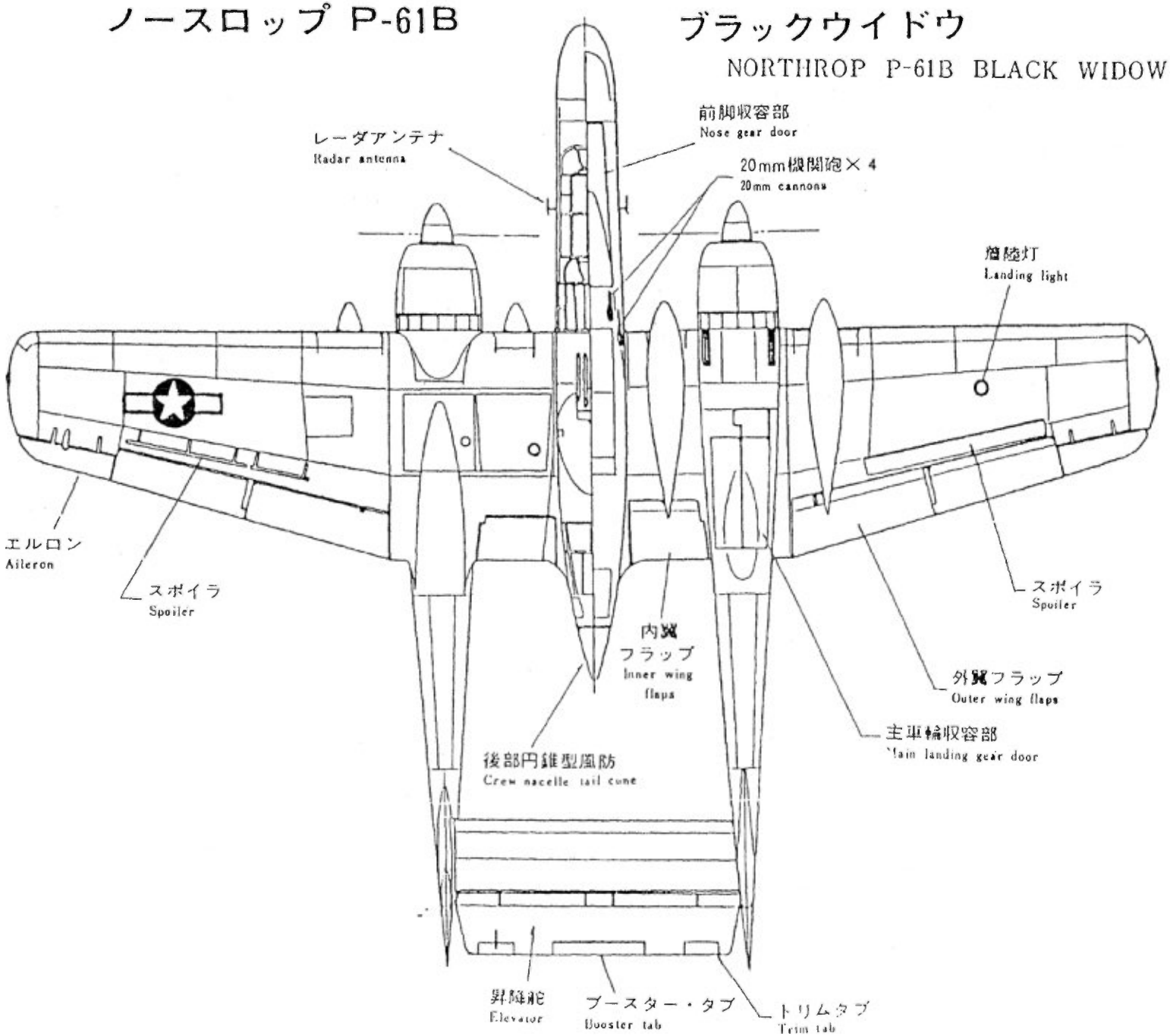
ノースロップ P-61B ブラックウイドウ

NORTHROP P-61B BLACK WIDOW



FOR

P-61-B BLACK WIDOW KIT

OCT/7/08

NORTHROP P-61 BLACK WIDOW

Start assembling after refering to the die cut balsa and plywood parts to the numbers on the plans.

Before Start Building:
For a better finish and flight performance, take time to read the building instructions and refer to the plans, and assemble in proper order correctly and carefully.
Cut off each part with cutter or razor blade avoiding damage, particularly on the joining cut slot.
If necessary trim the parts for an easier fit. When cementing use string, rubber band, pins, clothes, clips etc.
Be sure the glue is fully set, before removing pins etc, and cutting or sanding.

Remarks:

(E), (W), (P) and (S) denote following glue types.

(E): Use Epoxy Glue.

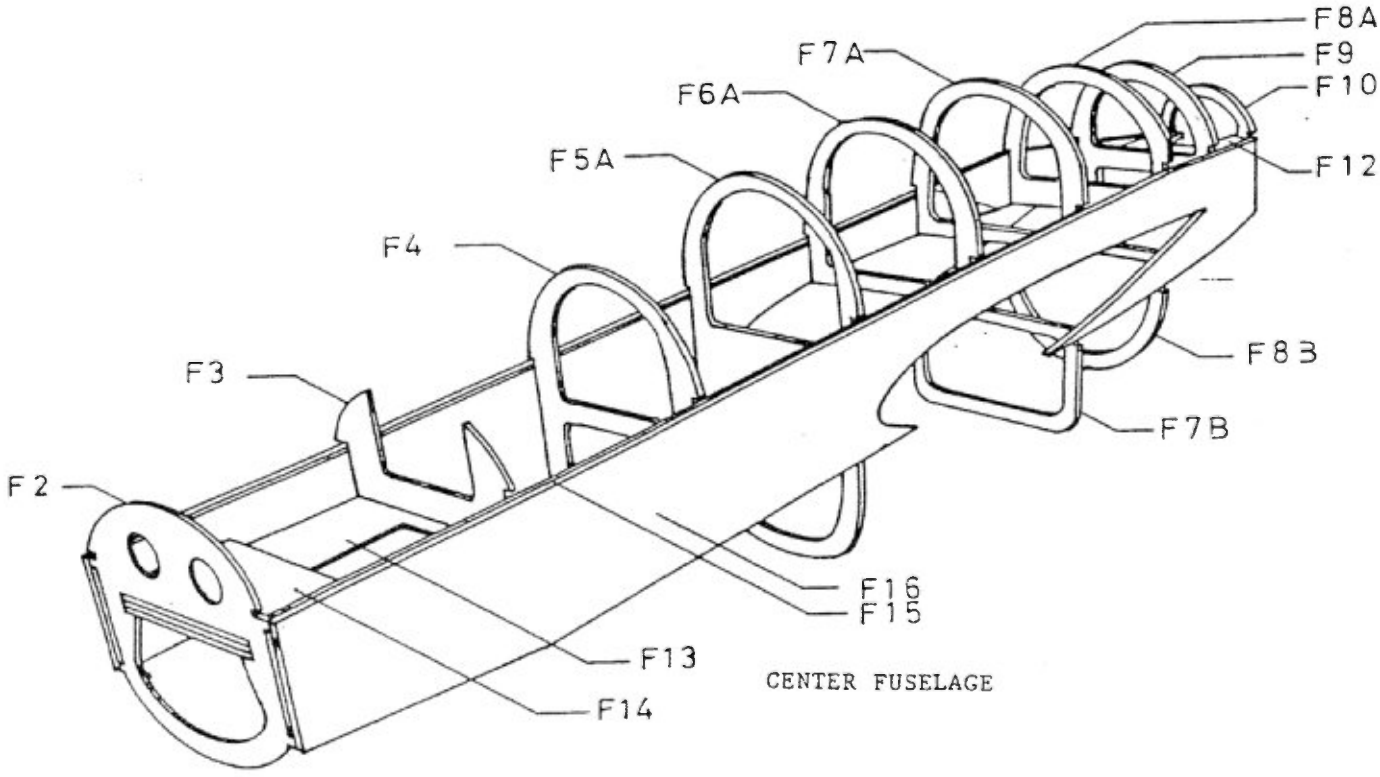
(W): Use Wood Glue.

(P): Use Adhesive for Plastic.

(S): Use Instant Adhesive.

Use wood glue where glue type is unspecified.

CENTER FUSELAGE CONSTRUCTION



CENTER FUSELAGE

1. Glue (W) F15 to F16 beforehand.

2. Assemble (E) the fuselage with F2 through F16.
   (Glue F6B and F11 later. After deciding whether you will install fixed gear or you will install retractable gear, glue F14 refering to the plan.)

3. Make F20s by cutting 3x5mm balsa stringers proper size and glue.
   Then glue F17 and F24.

4. Plank the area of F18 by cutting and gluing 3x80mm balsa sheet.

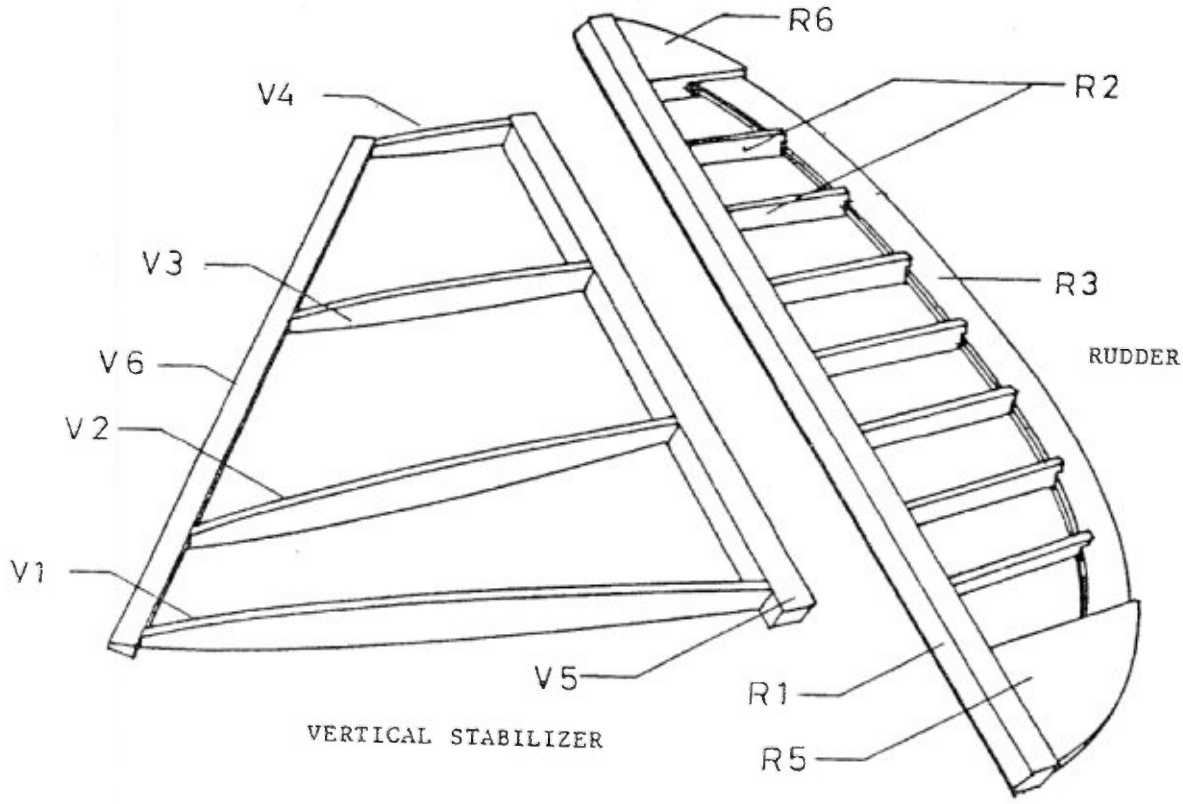
5. Glue F19 paralell to F16.

6. Glue (E) F21 and also glue (E) 3mm washer and nut onto F21 beforehand.

7. Make holes in ABS gun turret cover and F23 for installation of 4mm pipes, then assemble (E) gun turret with F22, F23, ABS gun turret cover and 4mm pipes.

8. Glue each plastic part to the center fuselage after assembling the entire fuselage.

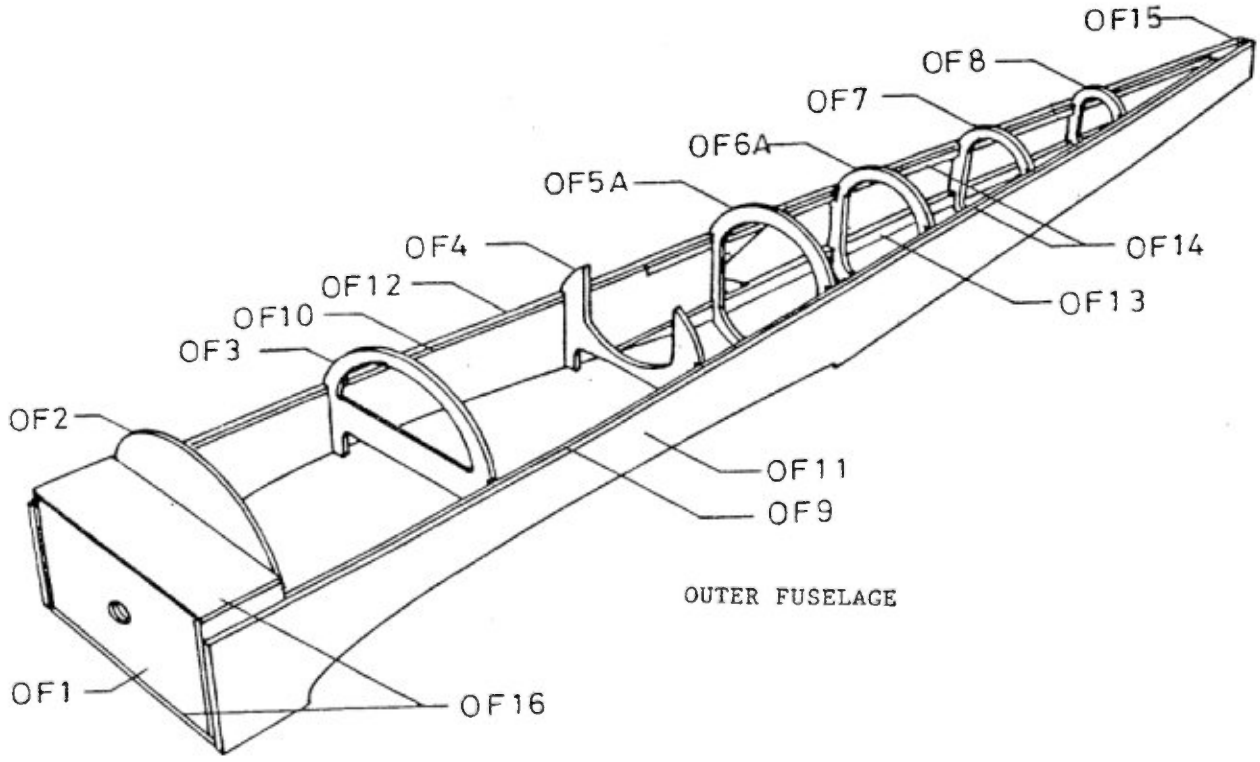
VERTICAL STABILIZER AND RUDDER CONSTRUCTION



VERTICAL STABILIZER

1. Construct (S) the frame of vertical stabilizer out of V1 through V6.
2. Plank the area of V7 by using 2x80mm balsa sheet.
3. Glue V8 and V9, then temporarily install the assembly of vertical stabilizer to the fuselage and sand to shape.
4. Over the plane table build (S) rudder out of R1 through R6. (Laminate two R3s beforehand. When building rudder, put bases 5mm high under the R3.)
5. Sand to shape rudder in order for the contour of rudder to fit the contour of vertical stabilizer.

LEFT & RIGHT OUTER FUSELAGE CONSTRUCTION



OUTER FUSELAGE

1. Because of diheadral of the wing, right doubler and left doubler of each outer fuselage is different in shape.

2. After checking up and being aware of the difference between right doubler and left doubler of each outer fuselage, glue OF9 to OF11 and glue OF10 to OF12.

3. Glue OF 13 and OF14 in place by cutting balsa stringers refering to the plans.

4. Assemble (E) the fuselage with OF1 through OF12 and OF15.

5. Install (E) OF16 and OF 17, then glue OF14s on the inside of assembly comprizing OF16 and OF17.

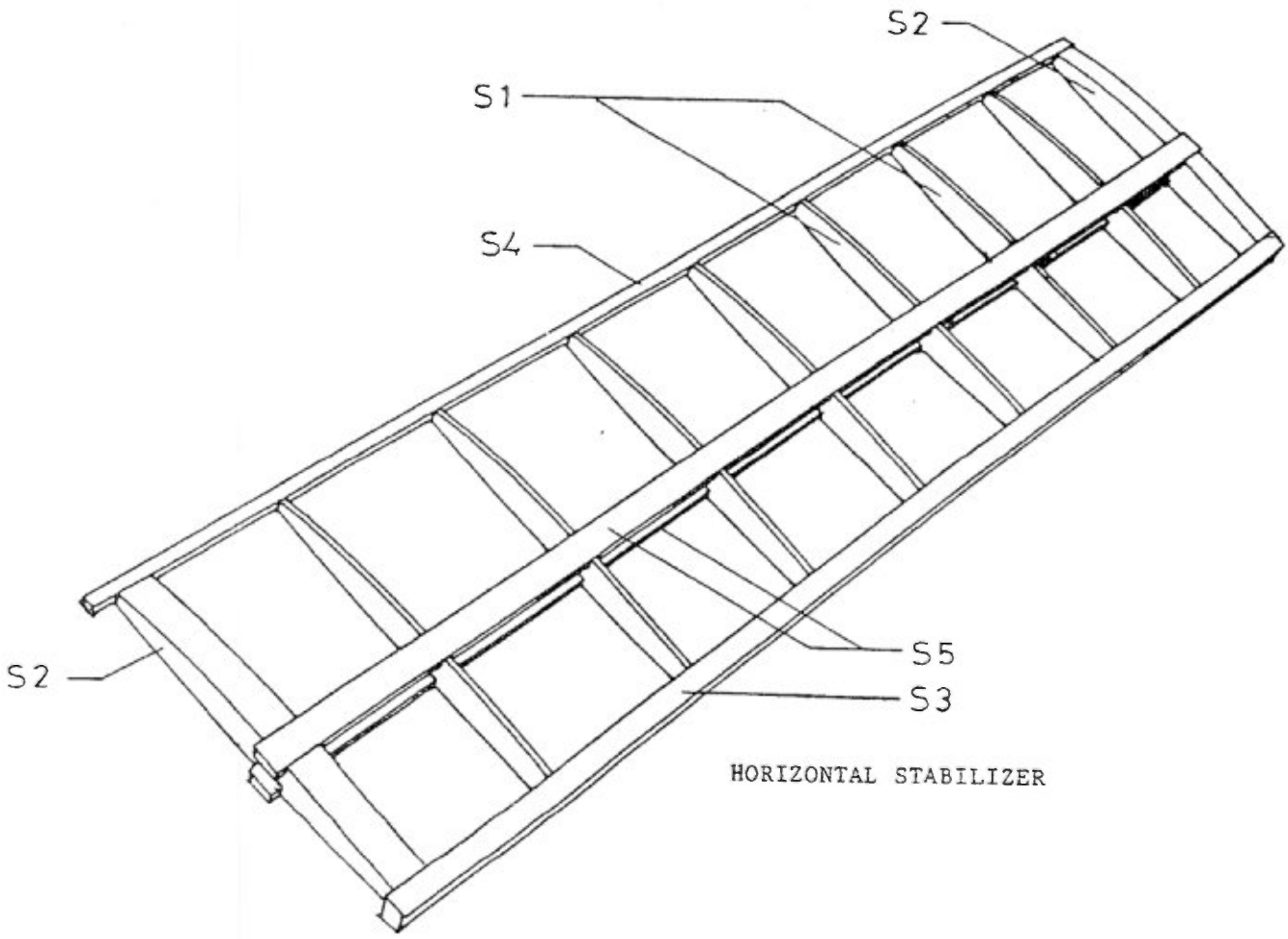
6. Plank (W) the areas of OF18 and OF19 by using 3x80mm balsa sheet.

7. Assemble (E) OF23, OF24 and OF25.
(Be sure that the linkage rods move smoothly without rattling.)

8. Make (E) the mount for main gear out of OF26, OF27, OF28 and OF29.
(Before installing OF27, cut and separate same in two at the position of OF4.)

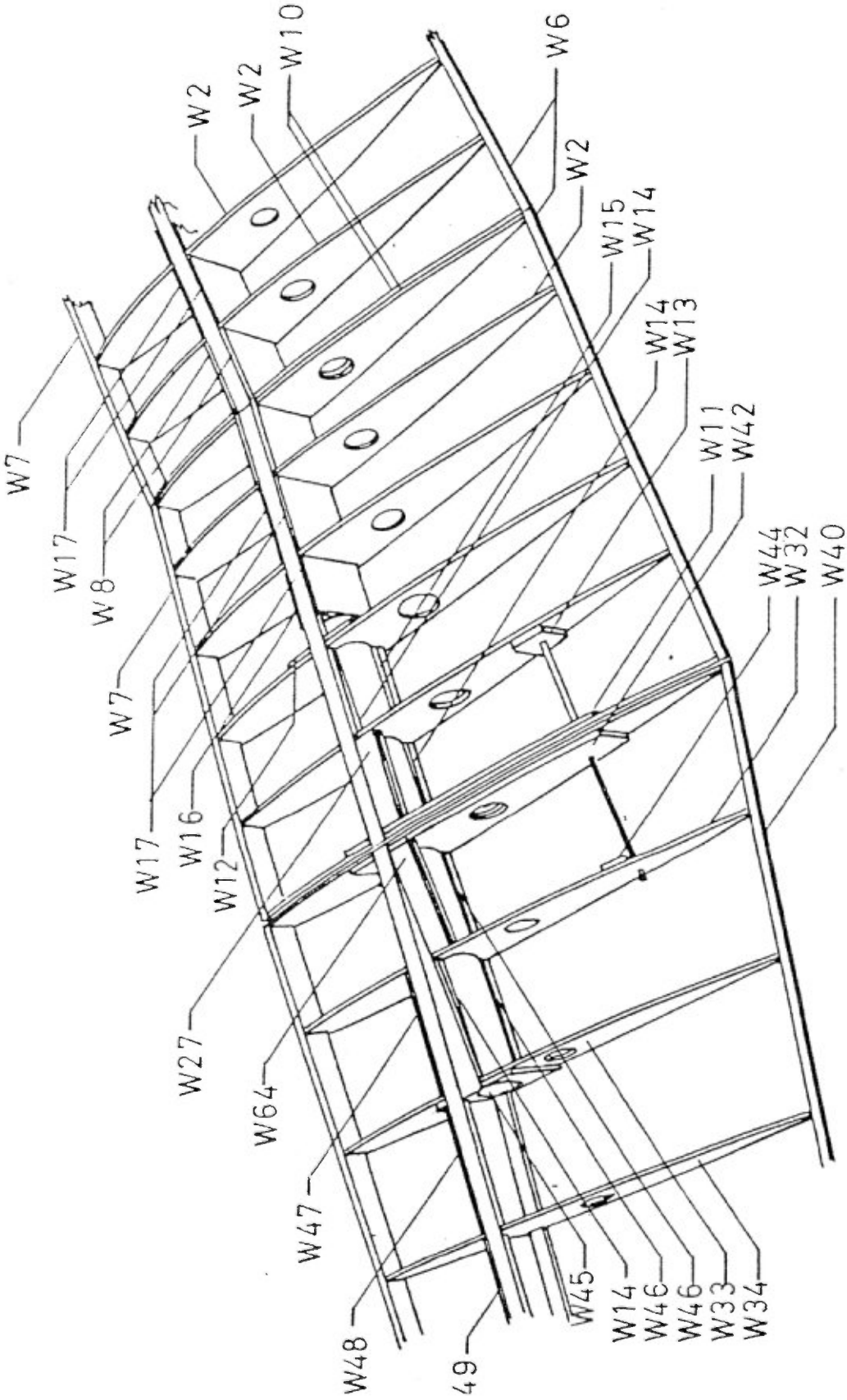
9. Glue each plastic part to the outer fuselages after assembling the

HORIZONTAL STABILIZER CONSTRUCTION



HORIZONTAL STABILIZER

1. Assemble (S) the frame out of S1 through S5.
2. Plank the area of S6 by using 2x80mm balsa sheet.
3. Carve and shape S2 to match the contour of vertical stabilizer, then sand to shape the entire horizontal stabilizer.
4. When connecting all assemblies, install (E) horizontal stabilizer to the left and right vertical stabilizers correctly.


W10
W2
W2
W6
W2
W15
W14
W14
W13
W11
W42
W44
W32
W40
W7
W17
W8
W7
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W64
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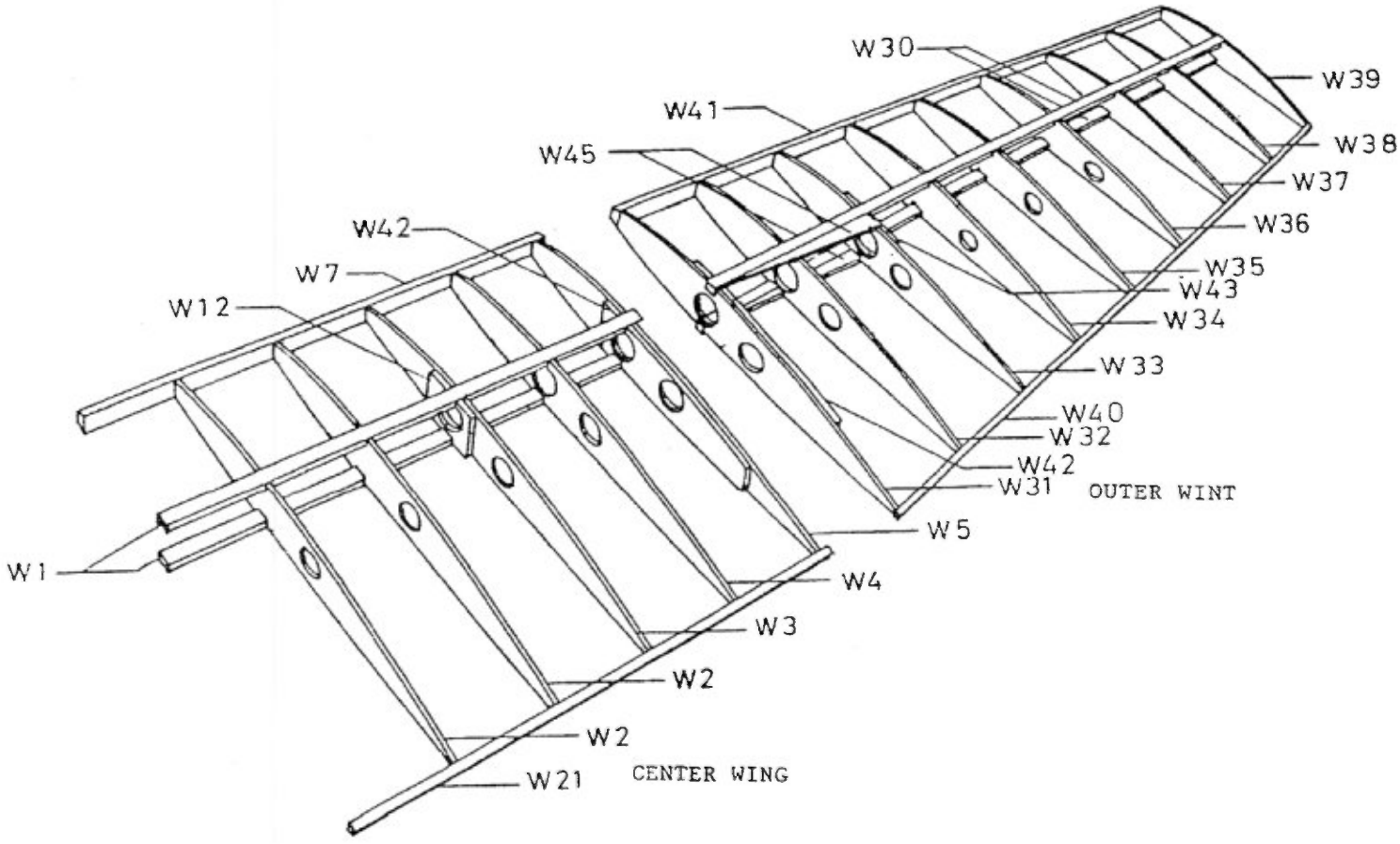
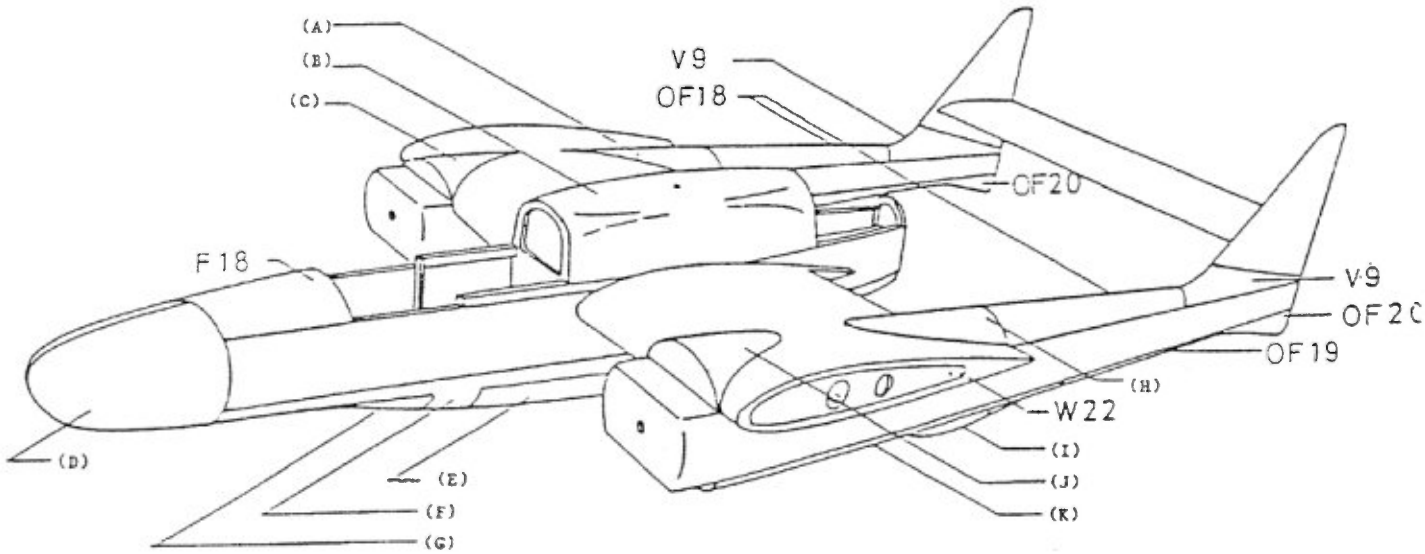
W46
W46
W33
W34



1. Glue W12 to W3 and glue W11 to W5 in advance.
2. Make (W) the wing frame out of W1 through W7.
3. Laminate two W9s and laminate two W10s in advance.
   Joint the left and right wing frame by installing (E) W8s, then glue the W9s and W10s.
4. Glue W13 in place.
5. Insert the larger aluminum pipe between spars and glue (E) W14 and W15.
   At this time glue W27 also.
   (The place stated in this step No. 5 needs intensity, therefore construct firmly and carefully.)
6. Glue W16 and W17.
   Install (E) alignment pipe.
7. Plank the area of W20 by using 2x80㎜ balsa sheet.
8. Glue W21 and W22.
9. Check the plans for the area to be cut out for the flap, and then cut out same from the trailing edge. Complete the flap by gluing W23, W24 and W25.
10. After removing wood where W26 is to be installed, glue same.
    Install flap horn to the W26 and then plug the ditch with scrap balsa.

CONNECTING ALL ASSEMBLIES

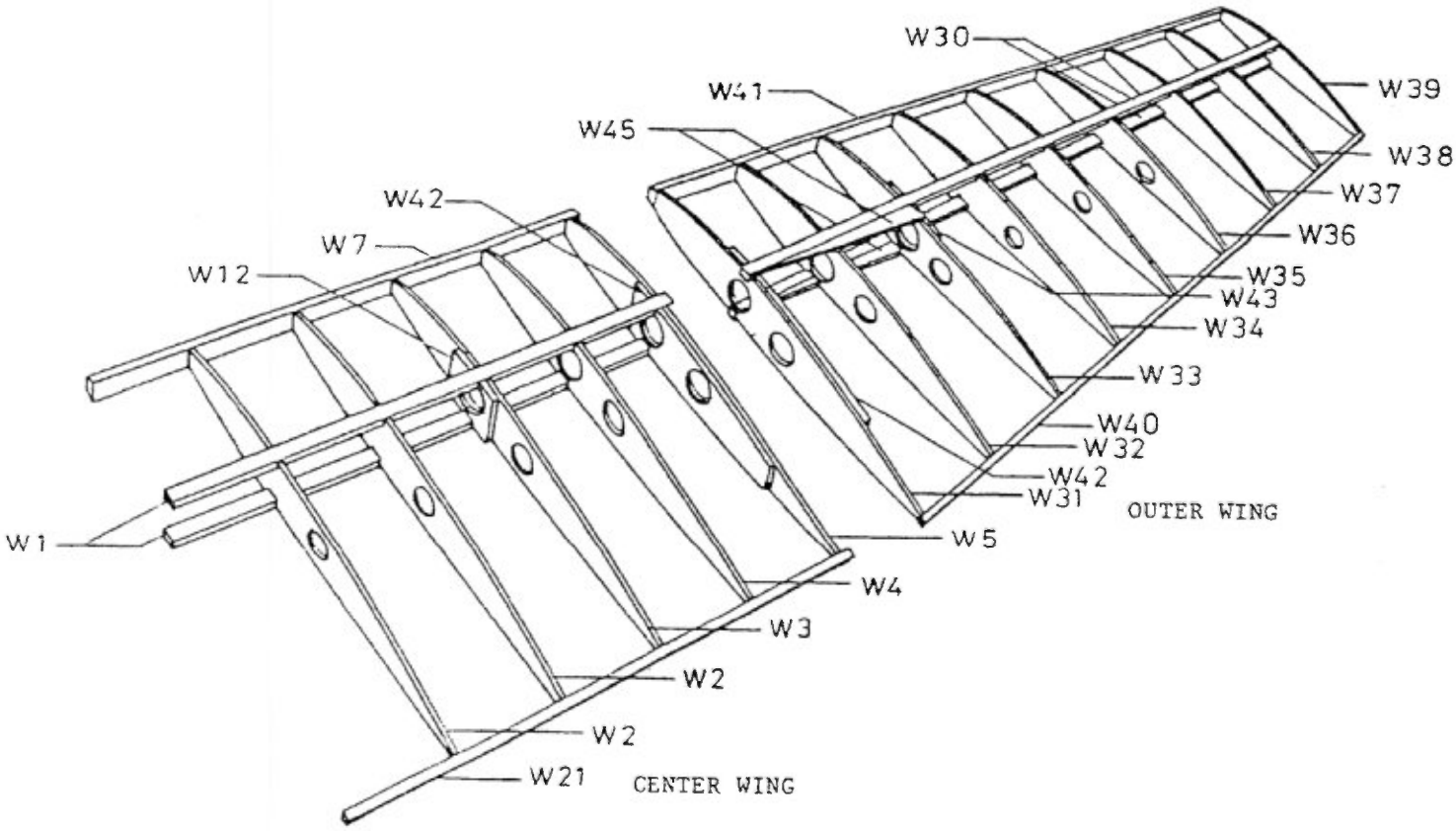
ABS PARTS: (A), (B), (C), (D), (F), (G), (H), (I), (J) & (K).

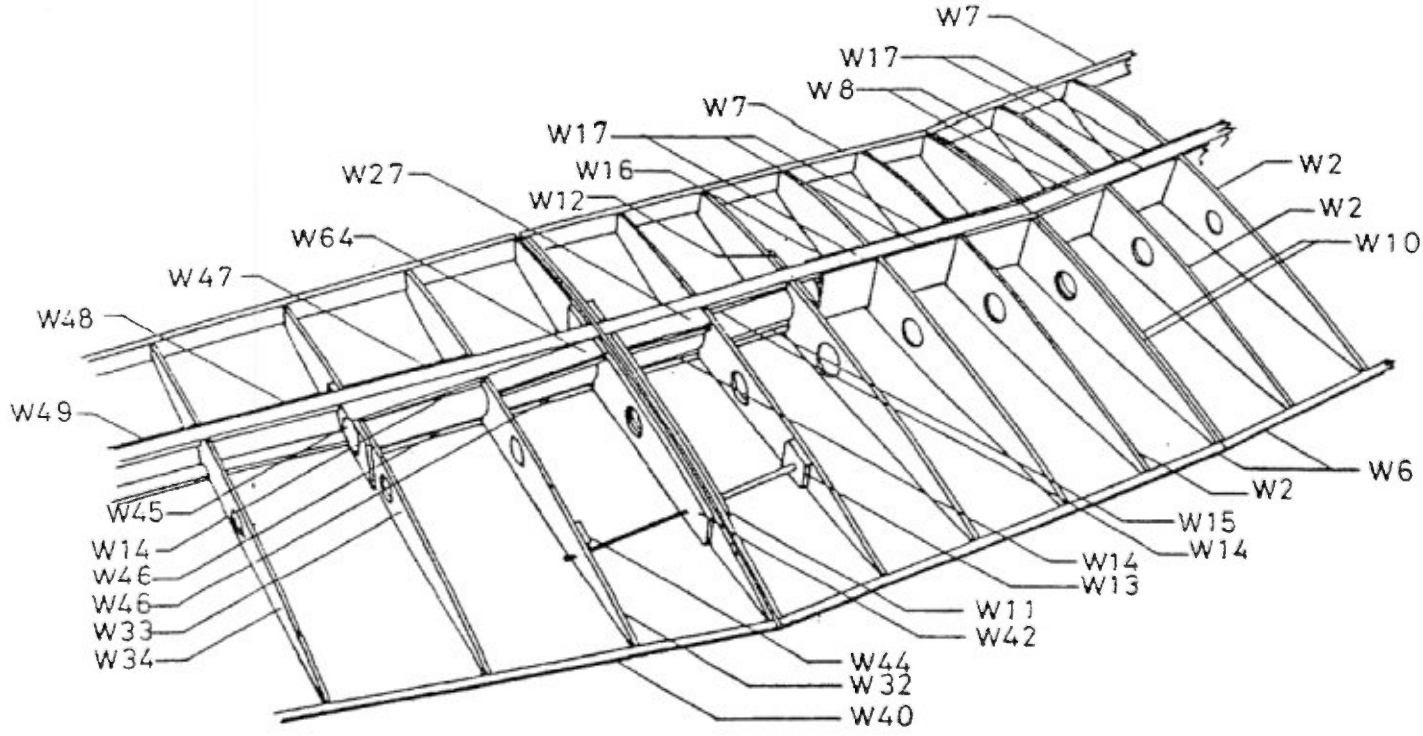


When connecting one assembly to another assembly, use (E) and be careful to get the correct angle also be careful not to induce warps.

ABS Plastic Parts: Cut out according to the perforated line and glue with (E) or (P).

Canopy: Cut out according to the perforated line and glue with (E).


W30
W41
W45
W39
W38
W37
W36
W35
W43
W34
W33
W40
W32
W42
W31
OUTER WING
W42
W7
W12
W1
W5
W4
W3
W2
W2
W21
CENTER WING


W7
W17
W8
W7
W17
W16
W27
W12
W64
W47
W48
W49
W45
W14
W46
W46
W33
W34
W2
W2
W10
W6
W2
W15
W14
W14
W13
W11
W42
W44
W32
W40

1. Glue W42 to W31, glue W44 to W32 and glue W43 to W33 beforehand.

2. Make the wing frame out of W30 through W41.

3. Glue W45 in place.
   Insert the smaller aluminum pipe and glue (E) W14, W15 and W46.
   At this time glue W64 also.
   (The place stated in this step No. 3 needs intensity, therefore construct firmly and carefully.)

4. Glue W47 through W53.
   Install alignment piano wire.

5. Plank the area of W54 by using 2x80mm balsa sheet.

6. Glue W55.

7. Check the plans for the area to be cut for the aileron and flap, and then cut out same from the trailing edge.
   Complete the aileron and flap by gluing W56, W57 and W58.

8. Glue W59 and W60, and then sand to shape the entire assembly.

9. After removing wood where W61 is to be installed, glue same.

10. At the prescribed location on the plan, mark the contour of servo compartment cover W63 on the balsa planking by putting W63 piece on the planking. Then cut out the balsa planking for installation of W63. Next glue W62 on the inside and secure W63 with tapping screws.