

CHAPTER 4

FUSELAGE

4

Chapter 4 FUSELAGE

LIST OF CONTENTS

	Para.		Para.
<i>Description</i>	1	<i>Details of fuselage construction</i>	5
<i>Repair restrictions</i>	2	<i>Fabric repairs</i>	6
<i>Wear limits</i>	3	<i>Initial preparation for plywood skin repairs</i>	9
<i>Negligible and repairable damage definitions</i>	4		

LIST OF ILLUSTRATIONS

	Fig.		Fig.
Single-seater type		<i>Bulkhead No. 3</i>	4/15
<i>Fuselage diagram</i>	4/1	<i>Cockpit floor</i>	4/16
<i>Bulkhead rings No. 1 and 4</i>	4/2	<i>Cannon floor</i>	4/17
<i>Bulkhead No. 2</i>	4/3	<i>Nosewheel housing and cannon beam</i>	4/18
<i>Bulkhead No. 3</i>	4/4	<i>Cannon access doors</i>	4/19
<i>Access doors</i>	4/5	<i>Nosewheel and cannon fairing</i>	4/20
<i>Cockpit floor</i>	4/6	<i>Fuselage nose and access doors</i>	4/21
<i>Cannon floor</i>	4/7	<i>Firewall (Bulkhead No. 4) repairs</i>	4/22
<i>Nose wheel housing</i>	4/8	<i>Canopy diagram</i>	4/23
<i>Fixed nosing</i>	4/9	<i>Canopy sections</i>	4/24
<i>Detachable nosing</i>	4/10		
Two-seater type		Both types	
<i>Fuselage diagram, Two-seater N.F. Mk. 10</i>	4/11	<i>Fuselage skin, patch repairs</i>	4/25
<i>Fuselage skin, Two-seater N.F. Mk. 10</i>	4/12	<i>Fuselage skin, patch repairs</i>	4/26
<i>Fuselage diagram, Mk. 11</i>	4/12A	<i>Fuselage skin, patch repairs</i>	4/27
<i>Fuselage nose, Mk. 11</i>	4/12B	<i>Flange repairs</i>	4/28
<i>Fuselage skin, Mk. 11</i>	4/12C	<i>Balsa-ply structure, repairs</i>	4/29
<i>Canopy, Mk. 11</i>	4/12D	<i>Balsa-ply structure, patch repairs</i>	4/30
<i>Bulkhead rings No. 1 and 4</i>	4/13	<i>Balsa-ply structure, insertion</i>	4/31
<i>Bulkhead No. 2</i>	4/14	<i>Fuselage fittings, exploded view</i>	4/32
		<i>Fuselage fairings, patch repair</i>	4/33

LIST OF APPENDICES

	App.
<i>Fitting instructions for replacement components</i>	F

FUSELAGE Definitions of negligible and repairable damage

Component	Type of aircraft two or single seater	Definition of damage		Repair Fig. No.	Repair material Item No.	Key dia. Fig. No.	
		Negligible	Repairable				
FUSELAGE							
Skin	Single seater and two seater	Bruises one lamination deep 0.75 in. across and 2.0 in. along the grain 12.0 in. apart	0.6 in. × 1.8 in. 3.0 in. dia. 6.0 in. dia. 8.0 in. dia.	12.0 in. apart 12.0 in. apart 18.0 in. apart 24.0 in. apart	4/25 4/27 4/26 4/30	2, 71 2, 12, 72 2, 3, 12, 72 2, 3, 12, 72	4/1, 4/11 and 4/12A
Members	Single seater and two seater	Bruises 0.1 in. deep, 0.5 in. across and 2.0 in. along the grain 12.0 in. apart	Damage in excess of negligible		4/31	1, 2, 3, 9, 10, 72	4/2 and 4/12
BULKHEADS							
No. 1 and 4 Laminated rings	Both types	Bruises 0.05 in. deep, 0.5 in. across and 1.0 in. along the grain 12.0 in. apart	Damage in excess of negligible cannot be repaired with squadron equipment				4/2 and 4/33
Facing ply	Both types	Bruises one lamination deep, 0.5 in. across and 1.0 in. along the grain 10.0 in. apart	Damage in excess of negligible, insert new portion of ply with one in ten scarf			1, 3, 69, 73	
Diaphragms	Two seater	Dents 0.1 in. deep, 0.75 in. dia., 12.0 in. apart	Holes up to 3.0 in. dia.		4/33	37, 38, 39, 56, 16, 20	
Firewall	Two seater		Replacement of bottom segment		4/22	20a, 20b, 35, 38	4/13
No. 2 and 3 Skin	Single seater	Holes 0.5 in. dia. not involving a member 12.0 in. apart					
	Two seater	Bruises one lamination deep 0.75 in. across and 2.0 in. along the grain					
Spruce members	Both types	Bruises 0.1 in. deep, 0.5 in. across and 1.0 in. along the grain 12.0 in. apart					4/14 and 4/15
DOORS							
Nose door Skin	Both types	Bruises one lamination deep, 0.5 in. across and 1.0 in. along the grain 12.0 in. apart					
	Single seater		0.6 in. × 1.8 in. 3.0 in. dia.	12.0 in. apart 18.0 in. apart	4/25 4/27	2, 71 2, 71	4/1
	Two seater		Isolated holes 0.6 in. × 1.8 in. one only per door		4/29	1, 72	4/11 and 4/12A

Description

1. The fuselage construction is illustrated in fig. 4/1 for single-seater marks and in 4/11 and 4/12A for two-seater marks of the aircraft. Ply and balsa sandwiched between spruce members is used for the construction of both types with nose and wheel fairing of metal. Construction of bulkheads, doors and floors is illustrated in the various figures. Whilst the method of repair to be used in treating damage is mainly the same, there are exceptions and before adopting a repair, note should be made whether such a method is applicable for the mark of aircraft which has been damaged (*para. 4*).

Repair restrictions

2. The fuselage shell may be repaired only within the specified limits, in the areas shown shaded on fig. 4/1, 4/12 and 4/12C. In such

area repair cannot be undertaken where damaged involves an inter-skin member nor if the damage approaches a main member so closely that there is no room for the appropriate patch lap.

Wear limits

3. Wear limits for all male and female parts of the principal fittings in the fuselage are given in the table facing fig. 4/32 and reference should be made to Chap. 1, para. 14 for the method of application of the data shown.

Negligible and repairable damage definitions

4. The table opposite lists definitions negligible and repairable damage affecting the various members of the fuselage. References are also included to the pertinent figures illustrating repair procedures for the various sizes of damage specified in column 3 of the table.

FUSELAGE—cont.

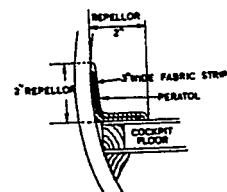
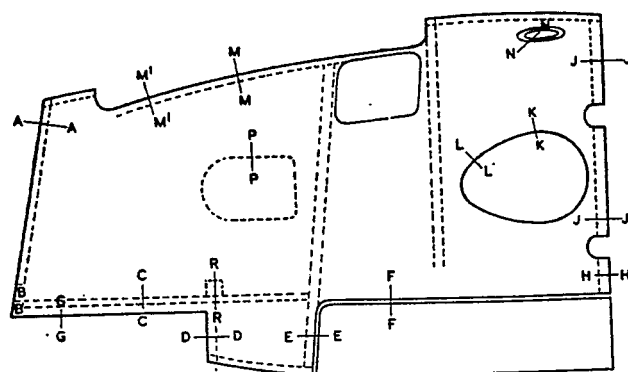
This leaf issued with A.L. No. 10, December, 1951

A.P. 4099 & 4269, Vol. 2, Part 3, Chap. 4

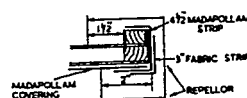
Component	Type of aircraft two or single seater	Definitions of damage		Repair Fig. No.	Repair material item number	Key diagram Fig. No.
		Negligible	Repairable			
DOORS—cont. Nose door—cont.						
Spruce members	Both types	Bruises 0·1 in. deep 0·5 in. across and 1·0 in. along the grain 12·0 in. apart	Minor damage	4/31	1, 2, 3, 72	4/14 and 4/15
Cannon door Skin	Two seater	Bruises 0·1 in. deep 0·5 in. across and 1·0 in. along the grain 12·0 in. apart	Isolated holes 0·6 in. × 1·8 in. no more than 3 per door 12·0 in. apart	4/29	1, 72	4/16 and 4/17
Members		Bruises 0·1 in. deep 1·0 in. dia.	3·0 in. dia. 12·0 in. apart Larger damage Minor damage	4/30 4/31 4/31	1, 3, 71 1, 2, 3, 72 1, 2, 3, 72	
COCKPIT and CANNON FLOORS Skin	Single seater	Bruises one lamination deep 0·75 in. across and 2·0 in. along the grain Holes 0·5 in. dia. 18·0 in. apart	0·6 in. × 1·8 in. 18·0 in. apart 3·0 in. dia. 18·0 in. apart 5·0 in. dia.	4/29 4/30 4/31	1, 72 1, 3, 71 1, 2, 3, 72	4/6 and 4/7
Members	Single seater	Bruises 0·1 in. deep 0·5 in. across and 1·0 in. along the grain 12·0 in. apart	Minor damage	4/31	1, 2, 3, 72	
METAL FAIRINGS and DOORS Skin	Both types	Dents 0·1 in. deep, 1·0 in. dia. 12·0 in. apart	Damage more than 0·5 in. dia. and less than 5·0 in. 18·0 in. apart	4/33	20a, 20b, 40, 41	
Stiffeners	Both types	Dents 0·1 in. deep, 0·75 in. long 8·0 in. apart	Flange and web 1·0 in. long, 0·5 in. deep in web 18·0 in. apart	4/28	24, 28, 29, 34, 35, 20a, 20b	

Note.—No damage to wooden members can be considered negligible if the fibres of the wood have been damaged. Only grade 'A' spruce and birch ply should be used in effecting repairs to components.

RESTRICTED

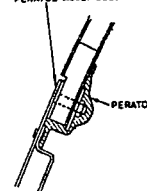


SECTION C-C

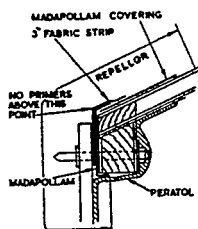


SECTION J-J

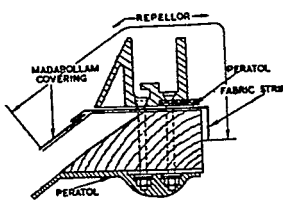
PERATOL ASSEMBLED WET



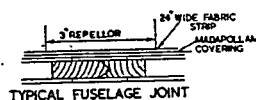
SECTION P-P



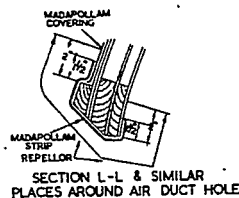
SECTION A-A



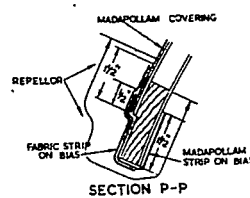
SECTION M-M



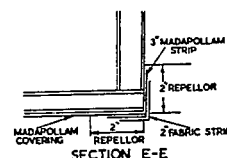
TYPICAL FUSELAGE JOINT



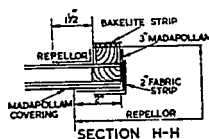
SECTION L-L & SIMILAR PLACES AROUND AIR DUCT HOLE



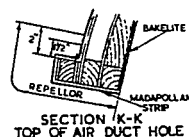
SECTION P-P



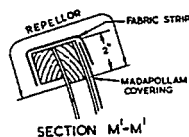
SECTION E-E



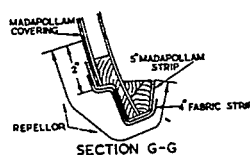
SECTION H-H



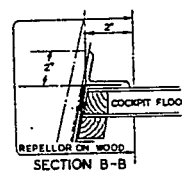
SECTION K-K TOP OF AIR DUCT HOLE



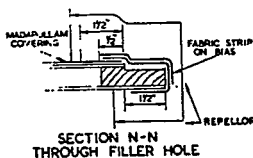
SECTION M'-M'



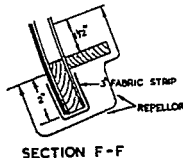
SECTION G-G



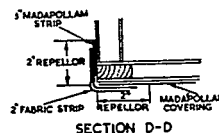
SECTION B-B



SECTION N-N THROUGH FILLER HOLE



SECTION F-F



SECTION D-D

Details of fuselage construction

5. Details of construction are shown above for the single-seater fuselage. In all cases the fuselage must be made good after repair with the detail construction of the section affected as originally produced. Where necessary, dimensions are shown but generally the essential parts must be replaced as originally fitted. Details for the two-seater fuselage are shown on fig. 4/24.

RESTRICTED

Fabric repairs

6. Madapollam fabric (D.T.D.343) is used on the fuselage as part of the external plywood protective treatment and any damage should be repaired as soon as possible to prevent secondary damage to the ply surface. A new method of adhesion (D.T.D.900/4479), which differs from that described in A.P.2662A (D.T.D.912A), has been used on later aircraft; therefore, before commencing a repair, identify the scheme used from the specification stencilled on the starboard side of the fuselage. Should there be a letter 'R' within a circle preceding the specification D.T.D.912A then refer to the aircraft log book to ascertain the location of a previous repair to the fabric (Note to para. 7 (12)).

7. Where the scheme to D.T.D.912A has been used initially, proceed as follows:—

- (1) Pull back sufficient of the fabric to clear the damaged area and trim it squarely with a sharp knife taking extreme care not to damage the plywood.
- (2) Remove all traces of paint and dope from the edges of the remaining fabric for a distance of 1.25 in. using paint remover to D.T.D.226A (Ref. No. 33B/927) and dope thinners to D.T.D. 843. Cut the fabric at 45 deg. at corners to allow the edges to be lifted away from the plywood and pin the fabric back.
- (3) Thoroughly clean the exposed ply skin to remove all traces of dope, and smooth the surface with fine sandpaper.
- (4) Cut a new piece of madapollam fabric to butt against the existing edges.
- (5) Prepare the necessary amount of serrated tape (Ref. No. 32B/751) to cover the butt-joints and mitre at 45 deg. at the corners; allow at these corners an overlap of 0.25 in. away from the direction of flight.
- (6) Prepare the adhesive by mixing ten parts adhesive F.1 (Chap. 1, Table 3) with approximately an equal volume of thinners F.T.1 to obtain the required viscosity (when taping, the adhesive should be more viscid), and then adding one part catalyst F.C.1. Stir thoroughly.

Note . . .

The pot life of the mixture is not more than four hours and thinning after this period is inadvisable.

F.S./3

- (7) Apply a brush coat of the mixed adhesive over the exposed area of the ply skinning and leave for a half an hour.
- (8) Brush a second coat of the adhesive over the same area, leave until tacky and smooth down the free edges of the existing fabric.
- (9) Lay on the new fabric starting at the top edge and spreading downward and fore and aft, ensuring that no creases or wrinkles are formed (the stretching of the fabric as the operation proceeds will probably eliminate this possibility). Cut and fit the fabric around projections, etc.
- (10) Apply a further coat of the adhesive over the new area, brushing it well into the fabric.

Note . . .

During this operation, and whilst taping (sub-para. 11), small blisters may be found where the fabric has lifted. These can be padded into position using a cloth dipped in the F.T.1 thinners.

- (11) As soon as possible after the operation given in sub-para. 10, brush a coat of adhesive over the area to be covered by tape, i.e., 1.25 in. on either side of the butt-joint, and spread the tape in position ensuring that the tapes are placed in the correct sequence in order to obtain the overlap at the mitred corners (sub-para. 5). Apply a further coat of the adhesive brushing it well into the tape.
- (12) Finally, leave the repair for 24 hours to allow the adhesive to cure before applying filler and the appropriate paint scheme.

Note . . .

When a partial replacement of the fabric has been carried out, the letter 'R' within a circle should be stencilled on the starboard side of the fuselage immediately in front of the specification D.T.D.912A, and the location of the repair entered in the aircraft log book. If the entire fabric covering has been renewed, the new specification D.T.D.900/4479 should replace D.T.D.912A. In each of the above, the stencil size should be as originally.

RESTRICTED

8. On fuselages where the scheme to D.T.D. 900/4479 has been used, the repair should be as follows:—

- (1) Remove all traces of paint from the area to be covered by the repair, i.e. the fabric insert and tape.
- (2) Mark out the area to be renewed by cutting with a sharp knife using just sufficient pressure to penetrate the weave and not damage the ply, and remove the fabric.

Note . . .

Due to the strong adhering qualities of this adhesive, difficulty may be found in removing the large areas of fabric; this could probably be overcome by pulling it off in narrow strips.

- (3) Prepare the madapollam fabric and tapes as in para. 7 (4) and (5) and the adhesive as in para. 7 (6). Continue the repair as detailed from para. 7 (8) onwards.

Note . . .

When a repair has been carried out on the fuselage plywood skin, it is only necessary to apply the first coat of adhesive (para. 7 (7)).

Initial preparation for plywood skin repairs

9. When cleaning out damage prior to repair, make a record of all construction details such as screw location, pitch, length and size; the dimensions, grain directions and relative positions of skins, packing and internal members should also be noted. When repairing areas of ply skin which have a 45 deg. grain direction, wastage can be avoided by using the correct sheet (*Chap. 1, Table 3*). These details may not be apparent from a study of the surrounding structure after the damage has been cleaned out and may not be illustrated in this volume. A sketch made during the process of removal of damaged material and incorporating construction details, will save time during the repair.

FUSELAGE—SINGLE-SEATER AIRCRAFT

Key to items shown on fig. No. 4/1

Assembly A.004006

Key No.	Part Number		Description
	L.H.	R.H.	
1	A.02592	A.002593	Fuselage shell halves
2	A.00237A	A.00238A	Assembly of bulkhead No. 1
3	A.004007	A.004008	Assembly of bulkhead No. 2
4	A.004029	A.004030	Assembly of bulkhead No. 3
5	A.0025A	A.0026A	Assembly of bulkhead No. 4
6	A.007	A.008	Arrangement of fuselage ply skinning
7	A.00172A		G.A. of top structure
8	A.00165A	A.00166A	Canopy rails and cockpit openings
9	A.00717A		Fixed nosing
10	A.00891A		Detachable nose panel
11	G.00297		Nose wheel fairing
12	G.00258		Nose wheel fixed fairing
13	A.001125		Nose wheel housing
14	S.00159A	S.00160A	Detachable panels
15	G.00253		Nose wheel door
16	A.001953-4		Cannon beam
17	A.002573	A.002574	Assembly of ammunition access doors
18	A.00333A	A.00334A	Assembly of cannon doors
19	A.002585	A.002585	Assembly of members for joint 'A'
20	A.002586	A.002587	Assembly of joint 'A'
21	A.002585	A.002585	Assembly of members for joint 'B'
22	A.002588	A.002589	Assembly of joint 'B'
23	A.00889A	A.00890A	Assembly of joint plates for joint 'C'
24	A.00753A	A.00754A	Assembly of joint 'C'
25	A.00397A	A.00398A	Bracing tube

RESTRICTED

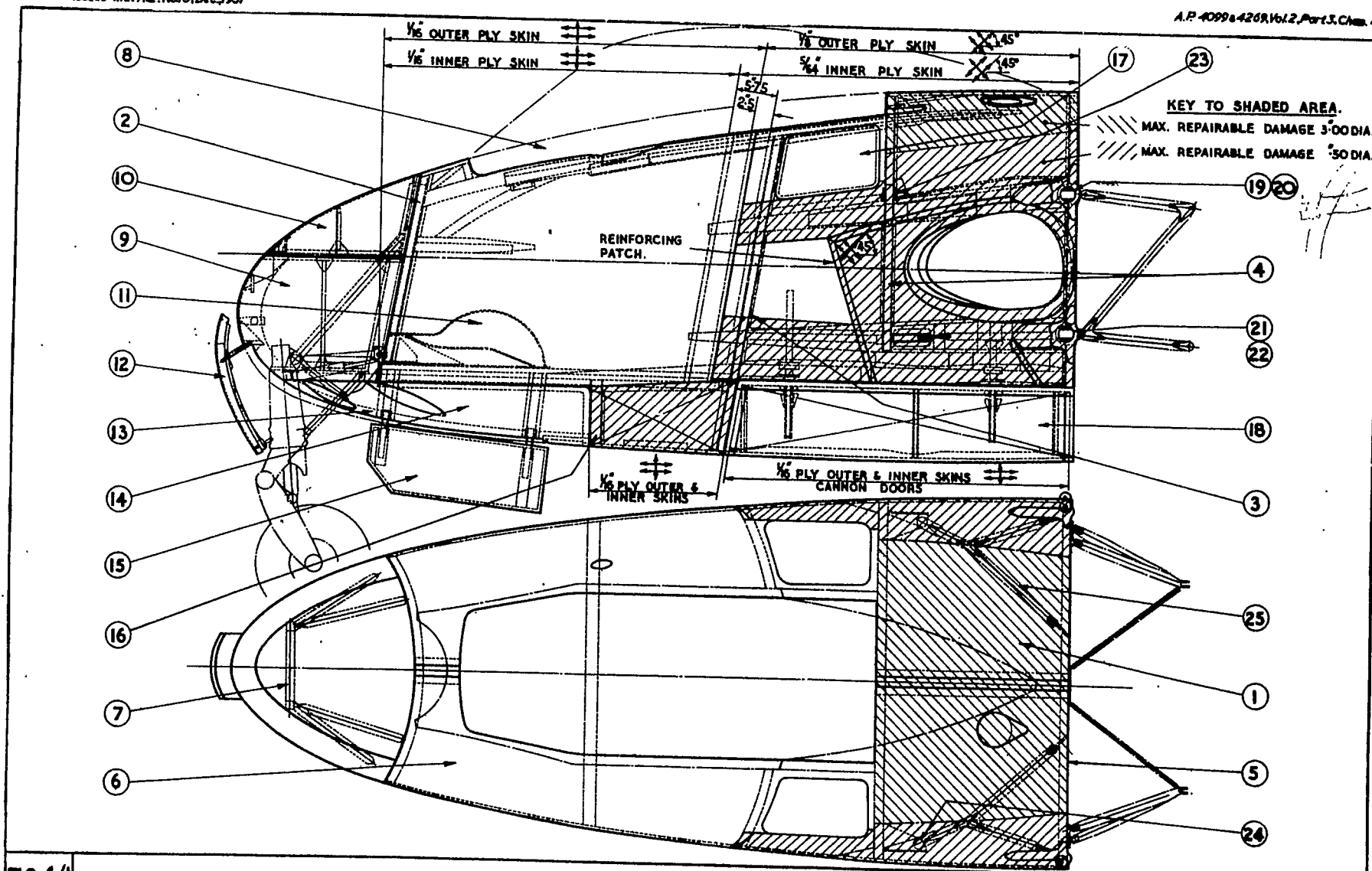


FIG. 4/1

FUSELAGE DIAGRAM.

FIG. 4/1

RESTRICTED

BULKHEAD RINGS, No. 1 and 4—Single-seater Aircraft

Key to items shown on fig. No. 4/2

RING No. 1, Assembly, A.00237-8A

Key No.	Part number		Material	Specification	Description
	L.H.	R.H.			
1	A.00479ND	A.00480ND	Spruce	D.T.D.36B	Laminated bend
2	A.00481ND	A.00482ND	$\frac{1}{16}$ in. birch ply	V3	Facing plies
3	A.00483ND	A.00484ND	$\frac{1}{16}$ in. birch ply	V3	Facing plies
4	A.00485ND	A.00486ND	$\frac{1}{8}$ in. birch ply	V3	Screwing strip
5	A.00487ND	A.00488ND	$\frac{1}{8}$ in. birch ply	V3	Screwing strip
6	A.00489ND	A.00490ND	Spruce	D.T.D.36B	Laminated bend
7	A.00491ND	A.00492ND	Spruce	D.T.D.36B	Laminated bend
8	A.00495	A.00496	Veneered Bakelite	D.H.A.32	Bakelite packing

RING No. 4, Assembly, A.0025-6A

1	A.00261ND	A.00262ND	$\frac{1}{16}$ in. birch ply	V3	Facing plies
2	A.00263ND	A.00264ND	$\frac{1}{16}$ in. birch ply	V3	Facing plies
3	A.00265ND	A.00266ND	$\frac{1}{16}$ in. birch ply	V3	Facing plies
4	A.00267ND	A.00268ND	$\frac{1}{16}$ in. spruce	D.T.D.36B	Laminated bend
5	A.00269ND	A.00270ND	Spruce	D.T.D.36B	Laminated bend
6	A.00271ND	A.00272ND	Spruce	D.T.D.36B	Laminated bend
7	A.00273ND	A.00274ND	Spruce	D.T.D.36B	Laminated bend
8	A.00275ND	A.00276ND	Spruce	D.T.D.36B	Laminated bend
9	A.00277ND	A.00278ND	$\frac{1}{8}$ in. birch ply	V3	Screwing strip
10	A.00279ND	A.00280ND	$\frac{1}{8}$ in. birch ply	V3	Screwing strip
11	A.00281ND	A.00282ND	$\frac{1}{8}$ in. birch ply	V3	Screwing strip
12	A.00285ND	A.00286ND	Veneered bakelite	D.H.A.32	Insert
13	A.00287ND	A.00288ND	Veneered bakelite	D.H.A.32	Insert
14	A.00289ND	A.00290ND	Veneered bakelite	D.H.A.32	Insert

RESTRICTED

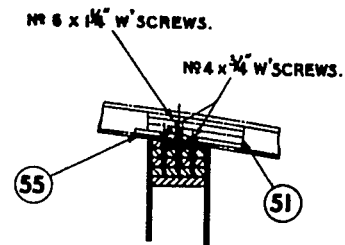
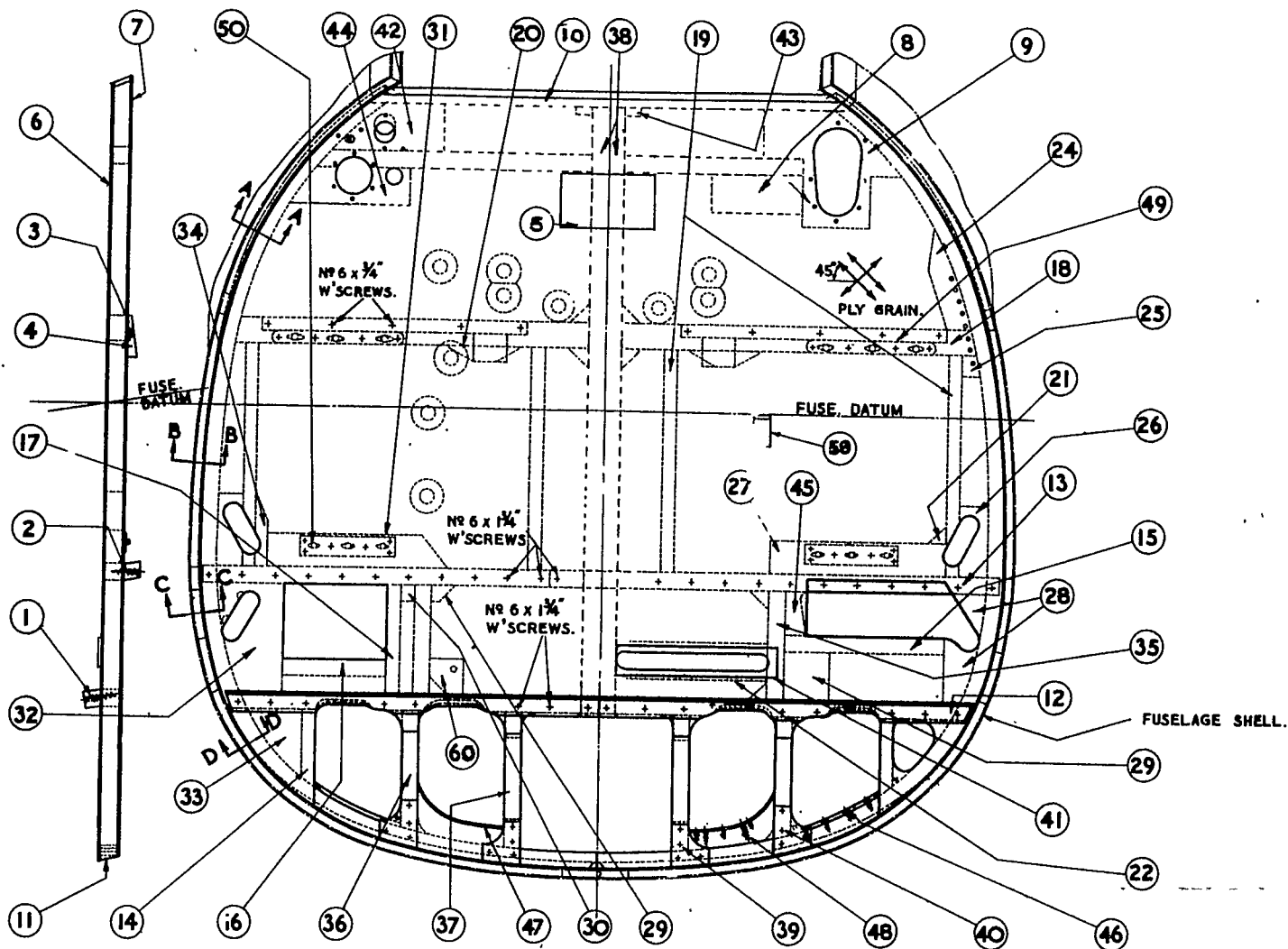
BULKHEAD No. 2—Single-seater Aircraft

Key to items shown on fig. No. 4/3

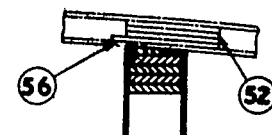
Assembly, A.004007

Key No.	Part number		Material	Specification	Description
	L.H.	R.H.			
1	A.00741ND	A.00742ND	Spruce	D.T.D.36B	Member
2	A.00935ND	A.00936ND	Spruce	D.T.D.36B	Member
3	A.001364ND		Spruce	D.T.D.36B	Taper packing
4	A.001365ND		Spruce	D.T.D.36B	Taper packing
5	A.004092A		—	—	Packing block
6	A.002100ND	A.002101ND	1/16 in. birch ply	V.3	Front ply
7	A.002097ND	A.002098ND	1/16 in. birch ply	V.3	Rear ply
8	A.002785ND		Spruce	D.T.D.36B	Insert
9	A.002765ND		Spruce	D.T.D.36B	Insert
10	A.002090ND	A.002090ND	Spruce	D.T.D.36B	Insert
11	A.001379ND	A.001380ND	Spruce	D.T.D.36B	Laminated bend
12	A.001381ND	A.001382ND	Spruce	D.T.D.36B	Insert
13	A.001383ND		Spruce	D.T.D.36B	Insert
14	A.001385ND	A.001385ND	Spruce	D.T.D.36B	Insert
15	A.001386ND		Spruce	D.T.D.36B	Insert
16		A.001387ND	Spruce	D.T.D.36B	Insert
17		A.001388ND	Spruce	D.T.D.36B	Insert
18	A.001389ND		Spruce	D.T.D.36B	Insert
19	A.001384ND	A.001384ND	Spruce	D.T.D.36B	Insert
20	A.001391ND	A.001391ND	Spruce	D.T.D.36B	Insert
21	A.001392ND		Spruce	D.T.D.36B	Insert block
22	A.001393ND		Spruce	D.T.D.36B	Insert block
23	A.001394ND		Spruce	D.T.D.36B	Insert
24	A.001395ND		Spruce	D.T.D.36B	Insert
25	A.001396ND		Spruce	D.T.D.36B	Insert
26	A.001397ND	A.001397ND	Spruce	D.T.D.36B	Insert
27	A.001398ND		Spruce	D.T.D.36B	Insert block
28	A.001399ND		Spruce	D.T.D.36B	Insert block
29		A.001400ND	Spruce	D.T.D.36B	Insert block
30		A.001401ND	Spruce	D.T.D.36B	Insert block
31		A.001402ND	Spruce	D.T.D.36B	Insert block
32		A.001403ND	Spruce	D.T.D.36B	Insert
33		A.001404ND	Spruce	D.T.D.36B	Insert block
34		A.001405ND	Spruce	D.T.D.36B	Insert
35	A.001406ND	A.001406ND	Spruce	D.T.D.36B	Insert
36	A.001407ND	A.001407ND	Spruce	D.T.D.36B	Insert
37	A.001408ND	A.001408ND	Spruce	D.T.D.36B	Insert
38	A.001409ND	A.001409ND	Spruce	D.T.D.36B	Insert
39	A.001410ND	A.001410ND	Spruce	D.T.D.36B	Insert
40	A.001411ND	A.001411ND	1/16 in. birch ply	V.3	Gusset
41	A.001412ND		1/16 in. birch ply	V.3	Gusset
42		A.002766ND	5/64 in. birch ply	V.3	Ply patch
43	A.002269ND	A.002269ND	Spruce	D.T.D.36B	Insert
44		A.004009ND	Spruce	D.T.D.36B	Insert
45	A.001436ND		Spruce	D.T.D.36B	Insert
46	A.001461ND	A.001461ND	Bakelite	D.T.D.36B	Insert block
47	A.001462ND	A.001462ND	Bakelite	L.F.S.23	Strip
48	A.001463ND	A.001463ND	Spruce	L.F.S.23	Strip
49	A.001456ND	A.001456ND	Alclad, 16 s.w.g.	D.T.D.36B	Block
50	A.001458ND	A.001458ND	Alclad, 16 s.w.g.	D.T.D.390	Plate
51	A.00615ND	A.00616ND	Spruce	D.T.D.36B	Bend
52	A.00617ND	A.00618ND	Spruce	D.T.D.36B	Bend
53	A.00619ND	A.00620ND	Spruce	D.T.D.36B	Bend
54	A.00621ND	A.00622ND	Spruce	D.T.D.36B	Bend
55	A.00623ND	A.00624ND	1/8 in. birch ply	V.3	Screwing strip
56	A.00625ND	A.00626ND	1/8 in. birch ply	V.3	Screwing strip
57	A.00627ND	A.00628ND	1/8 in. birch ply	V.3	Screwing strip
58	A.00629ND	A.00630ND	1/8 in. birch ply	V.3	Screwing strip
59	A.001610ND		Walnut		Datum block
60		A.001609ND	Spruce	D.T.D.36B	Insert block

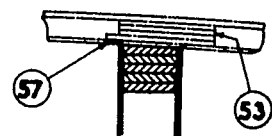
RESTRICTED



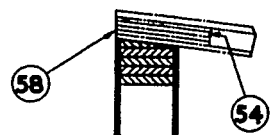
SECTION 'A-A'.



SECTION 'B-B'.



SECTION 'C-C'.



SECTION 'D-D'.

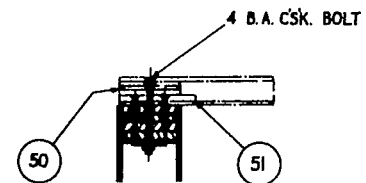
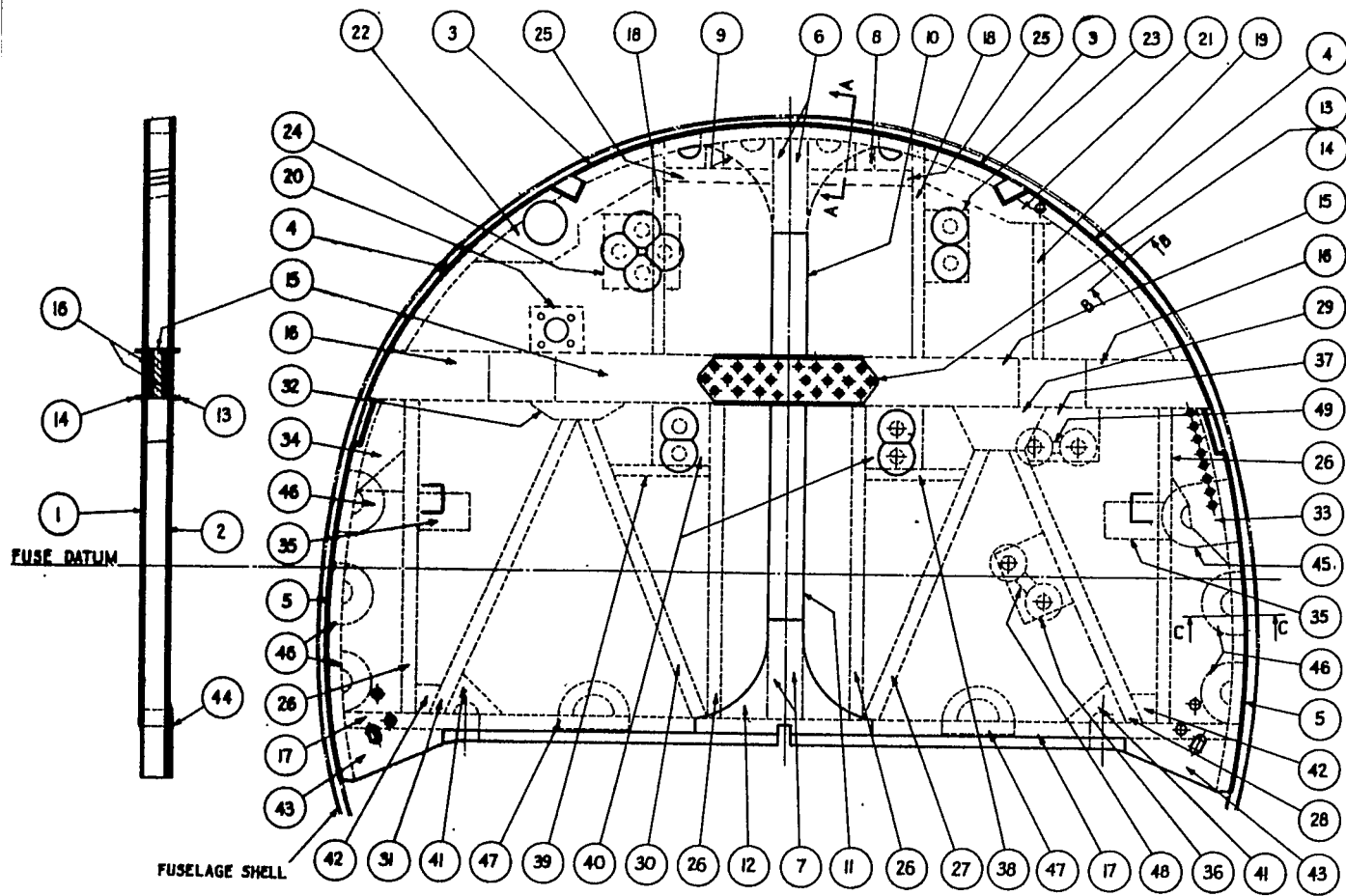
BULKHEAD No. 3—Single-seater Aircraft

Key to items shown on fig. No. 4/4

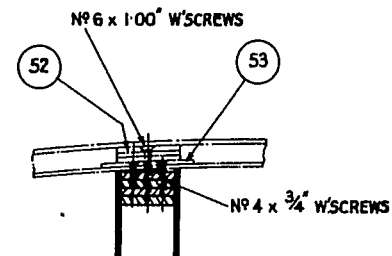
Assembly, A.004029-30

Key No.	Part number		Material	Specification	Description
	L.H.	R.H.			
1	A.002237ND	A.002238ND	2 mm. birch ply	V.3	Front ply
2	A.002239ND	A.002240ND	2 mm. birch ply	V.3	Rear ply
3	A.002242ND	A.002243ND	Laminated spruce	D.T.D.36B	Bend—top
4	A.002241ND	A.002242ND	Laminated spruce	D.T.D.36B	Bend—centre
5	A.00187ND	A.00190ND	Laminated spruce	D.T.D.36B	Bend—bottom
6	A.00191ND	A.00191ND	Spruce	D.T.D.36B	Member 1-00 in. × 1-12 in.
7	A.00192ND	A.00192ND	Spruce	D.T.D.36B	Member 1-00 in. × 1-12 in.
8	A.002135ND		2 mm. birch ply	V.3	Front lap strip
9	A.00173ND		2 mm. birch ply	V.3	Rear lap strip
10	A.00174ND		3 mm. birch ply	V.3	Lap strip
11	A.00175ND		3 mm. birch ply	V.3	Lap strip
12	A.00176ND		2 mm. birch ply	V.3	Lap strip
13	A.001663		Alclad, 12 s.w.g.	D.T.D.390	Joint plate
14	A.001664		Alclad, 12 s.w.g.	D.T.D.390	Joint plate
15	A.00177ND	A.00177ND	Douglas fir	D.T.D.469	Member 2-75 in. × 1-12 in.
16	A.001661	A.001662	$\frac{3}{8}$ in. laminated fabric with birch ply facing	D.H.A.27	Packing block
17	A.00199ND	A.00199ND	Spruce	D.T.D.36B	Member 0-90 in. × 1-12 in.
18	A.00193ND	A.00193ND	Spruce	D.T.D.36B	Member 0-62 in. × 1-12 in.
19	A.002133ND		Spruce	D.T.D.36B	Member 0-62 in. × 1-12 in.
20		A.002136ND	Spruce	D.T.D.36B	Member 0-62 in. × 1-12 in.
21	A.002137ND		Spruce	D.T.D.36B	Block 1-12 in. thick
22		A.002138ND	Spruce	D.T.D.36B	Block 1-12 in. thick
23	A.001579ND		Spruce	D.T.D.36B	Block 1-12 in. thick
24		A.002136ND	Spruce	D.T.D.36B	Block 1-12 in. thick
25	A.002134ND	A.002134ND	2 mm. birch ply	V.3	Reinforcing patch, 1-0 in. × 1-12 in.
26	A.00198ND	A.00198ND	Spruce		Member 0-75 in. × 1-12 in.
27	A.00990ND		Spruce	D.T.D.36B	Member 0-75 in. × 1-12 in.
28	A.00991ND		Spruce	D.T.D.36B	Member 0-75 in. × 1-12 in.
29	A.00989ND		Spruce	D.T.D.36B	Block 1-12 in. thick
30		A.00196ND	Spruce	D.T.D.36B	Member 0-75 in. × 1-12 in.
31		A.00197ND	Spruce	D.T.D.36B	Member 0-75 in. × 1-12 in.
32		A.00201ND	Spruce	D.T.D.36B	Block 1-12 in. thick
33	A.002803ND		Spruce	D.T.D.36B	Block 1-12 in. thick
34		A.004936ND	Spruce	D.T.D.36B	Block 1-12 in. thick
35	A.00998ND	A.00998ND	Spruce	D.T.D.36B	Block 1-12 in. thick
36	A.001588ND		Spruce	D.T.D.36B	Block 1-12 in. thick
37	A.001589ND		Spruce	D.T.D.36B	Block 1-12 in. thick
38	A.001505ND		Spruce	D.T.D.36B	Member 0-62 in. × 1-12 in.
39		A.001572ND	Spruce	D.T.D.36B	Member 0-62 in. × 1-12 in.
40	A.001573ND	A.001573ND	Spruce	D.T.D.36B	Block 1-12 in. thick
41	A.001705ND	A.001705ND	Spruce	D.T.D.36B	Block 1-12 in. thick
42	A.00203ND	A.00203ND	Spruce	D.T.D.36B	Block 1-12 in. thick
43	A.00202ND	A.00202ND	Spruce	D.T.D.36B	Block 1-12 in. thick
44	A.00207	A.00208	Veneered bakelite	D.H.A.32	Packing
45	A.004036ND		2 mm. birch ply	V.3	Reinforcing patch
46	A.001191ND	A.001191ND	2 mm. birch ply	V.3	Reinforcing patch
47	A.00978ND	A.00978ND	2 mm. birch ply	V.3	Reinforcing plate
48	A.001590ND		2 mm. birch ply	V.3	Packing
49	A.001591ND		2 mm. birch ply	V.3	Packing
50	A.00497ND	A.00498ND	Lamd. spruce	D.T.D.36B	Insert bend
51	A.00503ND	A.00504ND	$\frac{1}{8}$ in. birch ply	V.3	Screwing strip
52	A.00499ND	A.00500ND	Lamd. spruce	D.T.D.36B	Insert bend
53	A.00505ND	A.00506ND	$\frac{1}{8}$ in. birch ply	V.3	Screwing strip
54	A.00501ND	A.00502ND	Lamd. spruce	D.T.D.36B	Insert bend
55	A.00507ND	A.00508ND	$\frac{1}{8}$ in. birch ply	V.3	Screwing strip

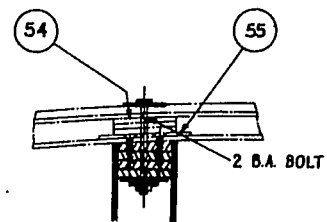
RESTRICTED



SECTION 'A-A'



SECTION 'B-B'



SECTION 'C-C'

BULKHEAD No.3.

FIG4/4

FIG4/4

RESTRICTED

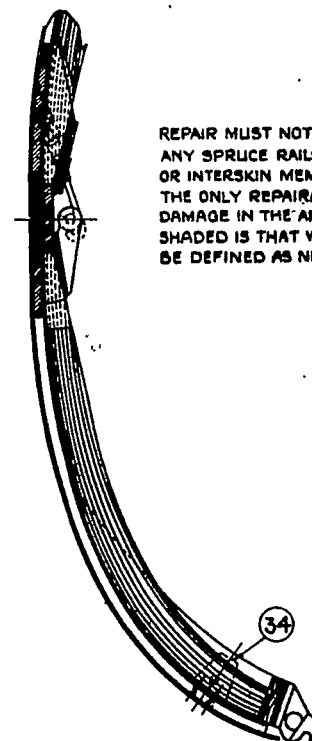
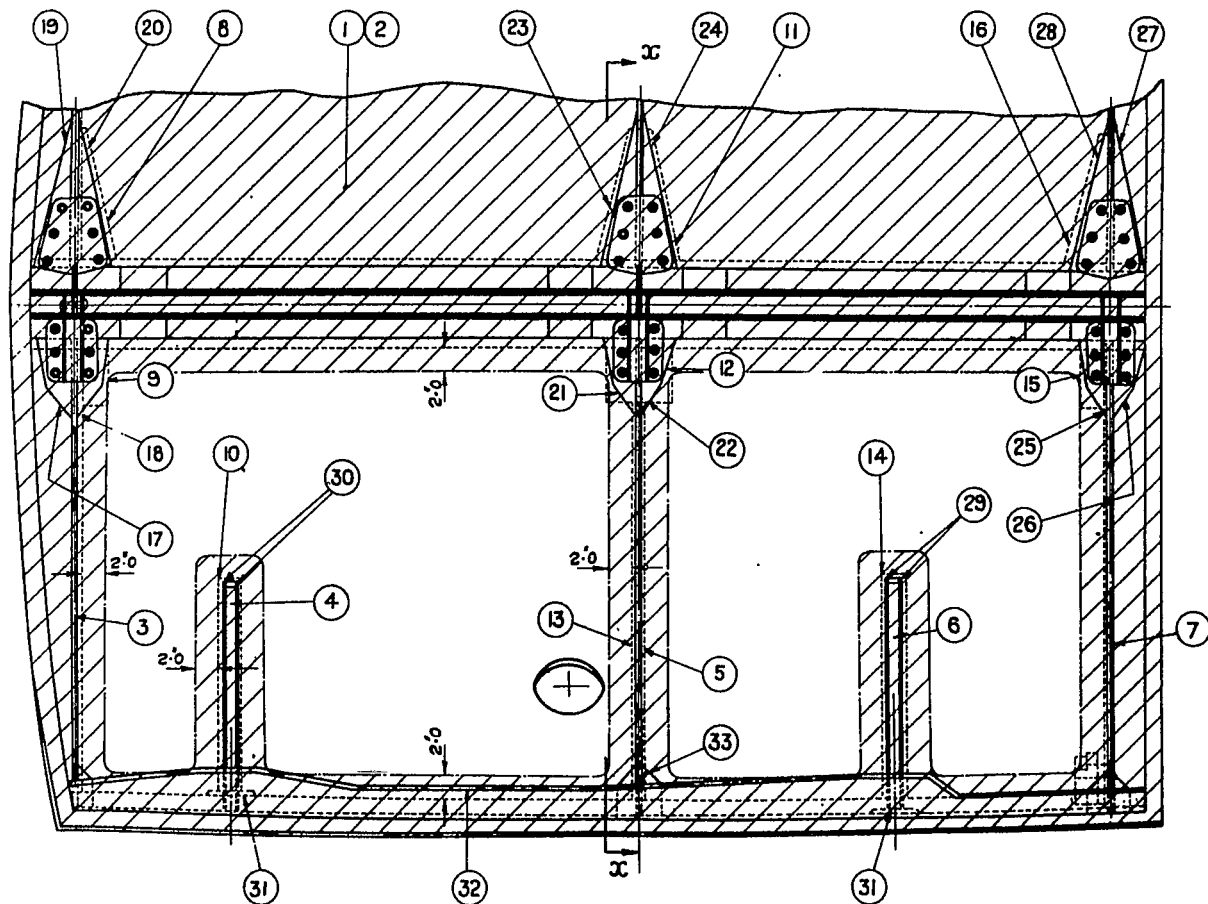
ACCESS DOORS—Single-seater Aircraft

Key to items shown on fig. No. 4/5

Assembly, A.00333-4

Key No.	Part number		Material	Specification	Description
	L.H.	R.H.			
1	A.00233ND	A.00234ND	$\frac{1}{8}$ in. birch ply	V.3	Inner skin
2	A.00235ND	A.00236ND	$\frac{1}{8}$ in. birch ply	V.3	Outer skin
3	A.00349ND	A.00350ND	Spruce	D.T.D.36B	Laminated member
4	A.00351ND	A.00352ND	Spruce	D.T.D.36B	Member
5	A.00353ND	A.00354ND	Spruce	D.T.D.36B	Laminated member
6	A.00355ND	A.00356ND	Spruce	D.T.D.36B	Member
7	A.00357ND	A.00358ND	Spruce	D.T.D.36B	Laminated member
8		A.00369ND	Spruce	D.T.D.36B	Block
9	A.00370ND		Spruce	D.T.D.36B	Block
10	A.00371ND		Spruce	D.T.D.36B	Laminated member
11		A.00372ND	Spruce	D.T.D.36B	Insert
12	A.00373ND		Spruce	D.T.D.36B	Block
13	A.00374ND	A.00374AD	Spruce	D.T.D.36B	Laminated member
14	A.00375ND	A.00375ND	Spruce	D.T.D.36B	Laminated member
15	A.00376ND		Spruce	D.T.D.36B	Block
16		A.00377ND	Spruce	D.T.D.36B	Block
17	A.00379ND		Spruce	D.T.D.36B	Block
18	A.00380ND		Spruce	D.T.D.36B	Block
19		A.00381ND	Spruce	D.T.D.36B	Block
20		A.00382ND	Spruce	D.T.D.36B	Block
21	A.00383ND		Spruce	D.T.D.36B	Block
22	A.00384ND		Spruce	D.T.D.36B	Block
23		A.00385ND	Spruce	D.T.D.36B	Corner block
24		A.00386ND	Spruce	D.T.D.36B	Corner block
25	A.00387ND		Spruce	D.T.D.36B	Block
26	A.00388ND		Spruce	D.T.D.36B	Block
27		A.00389ND	Spruce	D.T.D.36B	Block
28		A.00390ND	Spruce	D.T.D.36B	Block
29	A.00395ND	A.00395ND	$1\frac{1}{2}$ mm. ply		Strips
30	A.00396ND	A.00396ND	$1\frac{1}{2}$ mm. ply		Strips
31	A.00436ND	A.00436ND	Spruce	D.T.D.36B	Block
32	A.00359ND	A.00360ND	Spruce	D.T.D.36B	Member
33	A.001068ND	A.001068ND	Spruce	D.T.D.36B	Block
34	A.001137	A.001137	Spruce	D.T.D.36B	Block

RESTRICTED



REPAIR MUST NOT INVOLVE ANY SPRUCE RAILS OR RIBS OR INTERSKIN MEMBERS. THE ONLY REPAIRABLE DAMAGE IN THE AREA SHOWN SHADED IS THAT WHICH MAY BE DEFINED AS NEGLIGIBLE.

SECTION X-X

FIG 4/5

ACCESS DOORS, FUSELAGE

FIG 4/5

RESTRICTED

COCKPIT FLOOR—Single-seater Aircraft

Key to items shown on fig. No. 4/6

Assembly, A.001501-2

Key No.	Part number		Material	Specification	Description
	L.H.	R.H.			
1	A.001506ND	A.001508ND	$\frac{3}{4}$ in. birch ply	V.3	Top ply
2	A.001507ND	A.001509ND	$\frac{1}{2}$ in. birch ply	V.3	Bottom ply
3	A.001475ND	A.001476ND	Laminated spruce	D.T.D.36B	Side member 1-0 in. $\times$ 0-88 in.
4		A.001477ND	Spruce	D.T.D.36B	Insert member 1-75 in. $\times$ 0-88 in.
5		A.001478ND	Spruce	D.T.D.36B	Insert member 0-75 in. $\times$ 0-88 in.
6	A.001510ND		Spruce	D.T.D.36B	Insert member 1-0 in. $\times$ 0-88 in.
7	A.002121ND	A.002121ND	Spruce	D.T.D.36B	Insert member 1-0 in. $\times$ 0-88 in.
8	A.001483ND	A.001484ND	Spruce	D.T.D.36B	Insert member 1-0 in. $\times$ 0-88 in.
9	A.001485ND	A.001486ND	Spruce	D.T.D.36B	Member 1-0 in. $\times$ 1-0 in.
10	A.002717ND	A.002719ND	Spruce	D.T.D.36B	Insert member 1-5 in. $\times$ 0-88 in.
11	A.001479ND	A.001480ND	Spruce	D.T.D.36B	Insert member 1-0 in. $\times$ 0-88 in.
12		A.001482ND	Spruce	D.T.D.36B	Insert member 0-75 in. $\times$ 0-88 in.
13	A.001492ND	A.001492ND	Spruce	D.T.D.36B	Block, 1-0 in. $\times$ 0-88 in.
14		A.001487ND	Spruce	D.T.D.36B	Block 2-5 in. $\times$ 0-88 in.
15	A.001488ND	A.001488ND	Spruce	D.T.D.36B	Corner block 0-88 in. thick
16	A.001491ND	A.001491ND	Spruce	D.T.D.36B	Block 1-7 in. $\times$ 0-88 in.
17	A.001494ND	A.001494ND	Spruce	D.T.D.36B	Block 0-88 in. thick
18	A.001495ND	A.001495ND	Spruce	D.T.D.36B	Block 0-88 in. thick
20	A.001195		Veneered bakelite	D.H.A.27	Rubbing strip
21	A.001497ND	A.001498ND	$\frac{1}{8}$ in. Birch ply	V.3	Packing
22	A.001499ND	A.001500ND	Veneered bakelite	D.H.A.27	Packing
23	A.001496ND	A.001496ND	$\frac{1}{8}$ in. birch	V.3	Packing
24	Z.00296		M.S. bar	S.1	Special stud

RESTRICTED

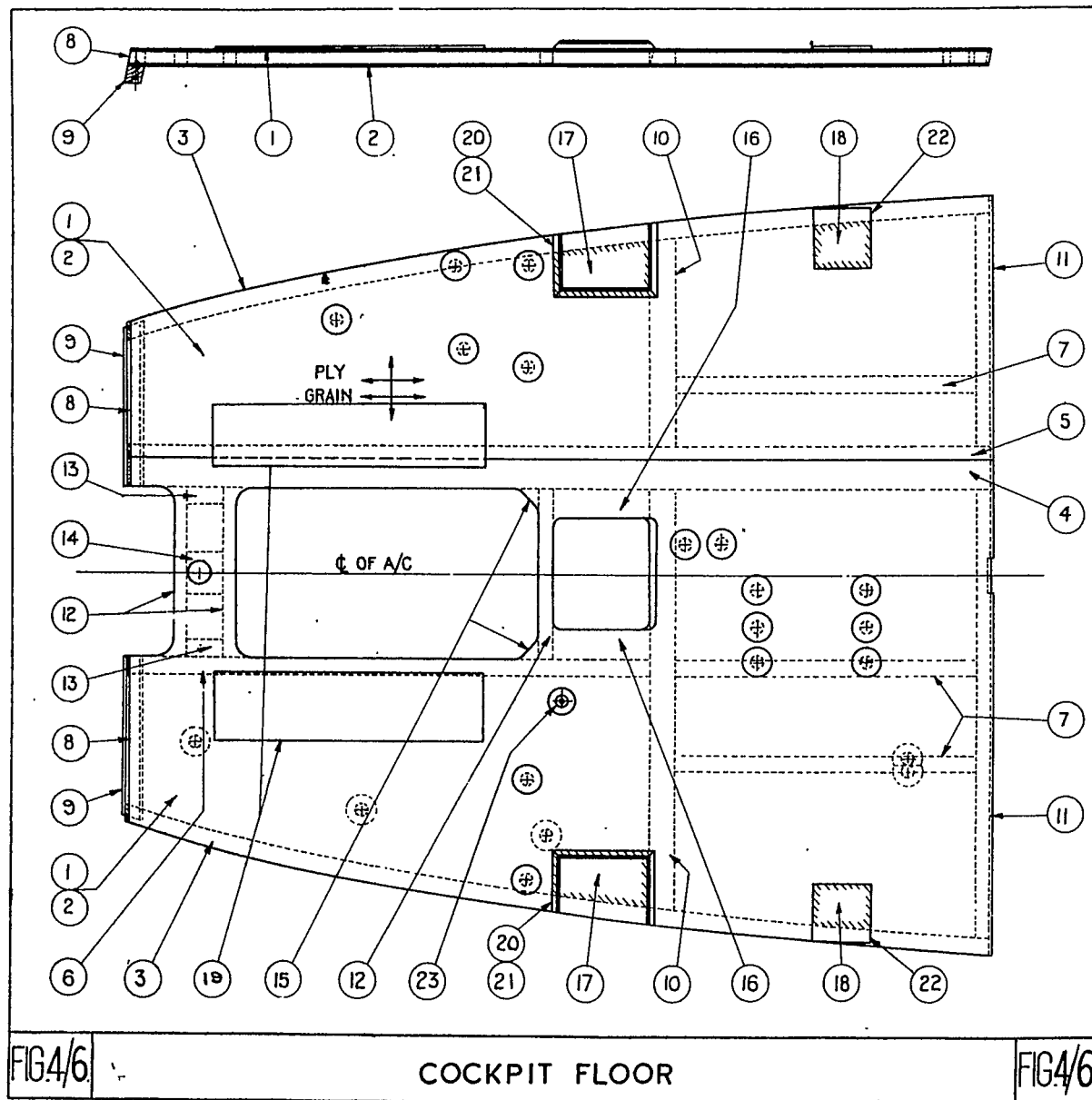


FIG4/6

COCKPIT FLOOR

FIG4/6

RESTRICTED

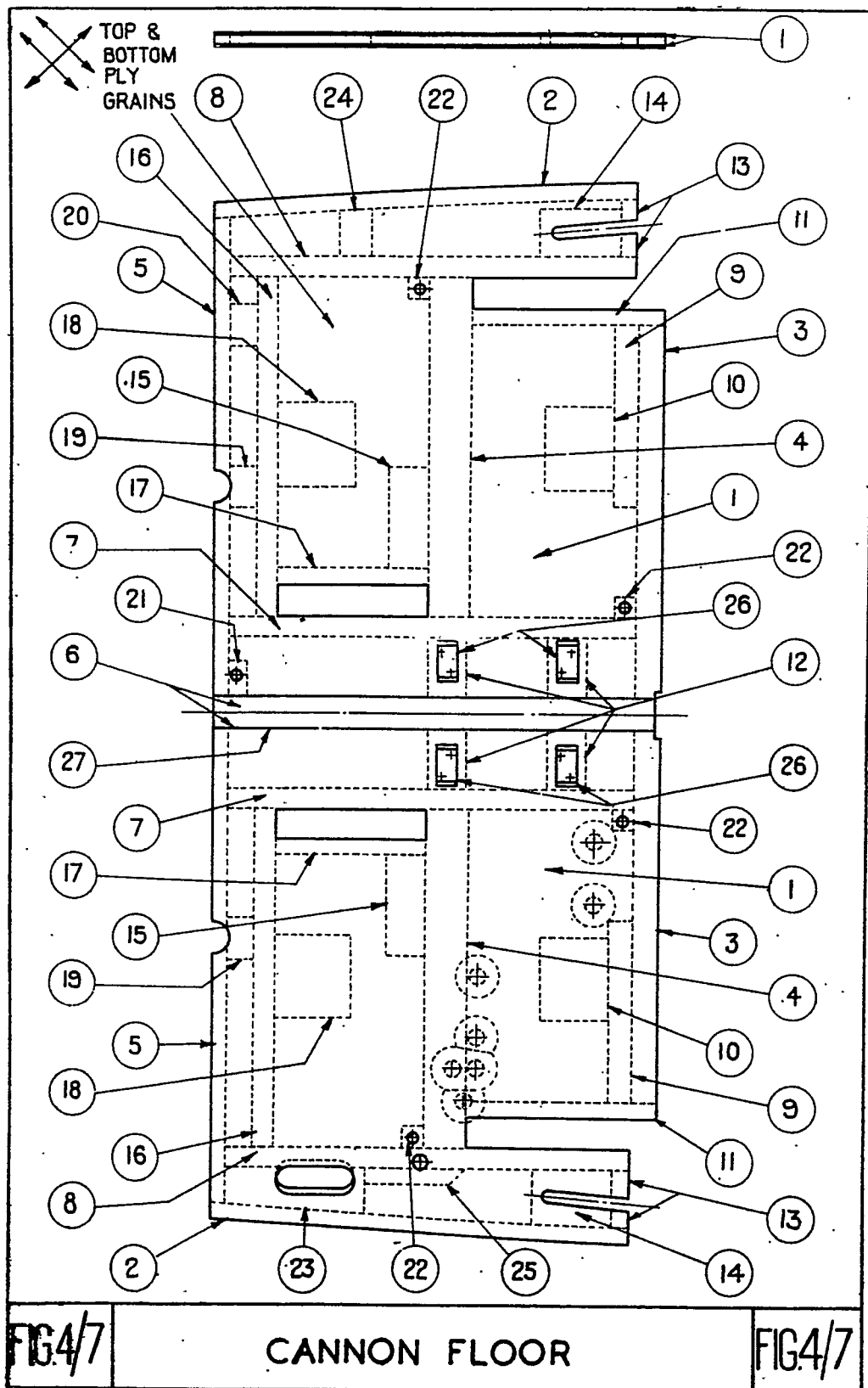
CANNON FLOOR—Single-seater Aircraft

Key to items shown on fig. No. 4/7

Assembly, A.0019A

Key No.	Part number		Material	Specification	Description
	L.H.	R.H.			
1	A.001535ND	A.001535ND	$\frac{1}{8}$ in. birch ply	V.3	Top and bottom plies
2	A.001552ND	A.001552ND	Laminated spruce	D.T.D.36B	Insert bend 0.75 in. × 0.48 in.
3	A.001553ND	A.001553ND	Spruce	D.T.D.36B	Insert member 1.2 in. × 0.48 in.
4	A.001541ND	A.001541ND	Spruce	D.T.D.36B	Insert block 1.95 in. × 0.48 in.
5	A.001536ND	A.001536ND	Spruce	D.T.D.36B	Insert member 0.75 in. × 0.48 in.
6	A.001556ND	A.001556ND	Spruce	D.T.D.36B	Insert member 0.75 in. × 0.48 in.
7	A.001557ND	A.001557ND	Spruce	D.T.D.36B	Insert member 0.95 in. × 0.48 in.
8	A.001548ND	A.001548ND	Spruce	D.T.D.36B	Insert member 0.95 in. × 0.48 in.
9	A.001555ND	A.001555ND	Spruce	D.T.D.36B	Insert member 0.95 in. × 0.48 in.
10	A.001540ND	A.001540ND	Spruce	D.T.D.36B	Insert block 1.12 in. × 0.48 in.
11	A.001550ND	A.001550ND	Spruce	D.T.D.36B	Insert block 4.0 in. × 3.2 in. × 0.48 in.
12	A.001560ND	A.001560ND	Spruce	D.T.D.36B	Insert member 0.75 in. × 0.48 in.
13	A.001554ND	A.001554ND	Spruce	D.T.D.36B	Insert block 1.85 in. × 0.48 in.
14	A.001551ND	A.001551ND	Spruce	D.T.D.36B	Insert member 0.75 in. × 0.48 in.
15	A.001543ND	A.001543ND	Spruce	D.T.D.36B	Insert block 2.38 in. × 0.48 in.
16	A.001537ND	A.001537ND	Spruce	D.T.D.36B	Insert block 1.85 in. × 0.48 in.
17	A.001545ND	A.001545ND	Spruce	D.T.D.36B	Insert member 0.95 in. × 0.48 in.
18	A.001539ND	A.001539ND	Spruce	D.T.D.36B	Insert member 0.75 in. × 0.48 in.
19	A.001538ND	A.001538ND	Spruce	D.T.D.36B	Insert block 3.6 in. × 0.48 in.
20		A.002028ND	Spruce	D.T.D.36B	Insert block 2.0 in. × 0.48 in.
21		A.001592ND	Spruce	D.T.D.36B	Insert block 2.0 in. × 0.48 in.
22	A.001544ND	A.001544ND	Spruce	D.T.D.36B	Insert block 0.85 in. × 0.48 in.
23	A.001546ND			D.T.D.36B	Insert block 1.0 in. × 1.0 in. × 0.48 in.
24		A.001547ND	Spruce	D.T.D.36B	Insert block 0.48 in. thick
25	A.001549ND		Spruce	D.T.D.36B	Insert block 1.5 in. × 0.48 in.
26	A.001533ND	A.001533ND	Spruce	D.T.D.36B	Insert block 0.75 in. × 0.48 in.
27	A.001558ND		2 mm.birch ply	V.3	Location blocks 0.25 in. thick Butt strap

RESTRICTED



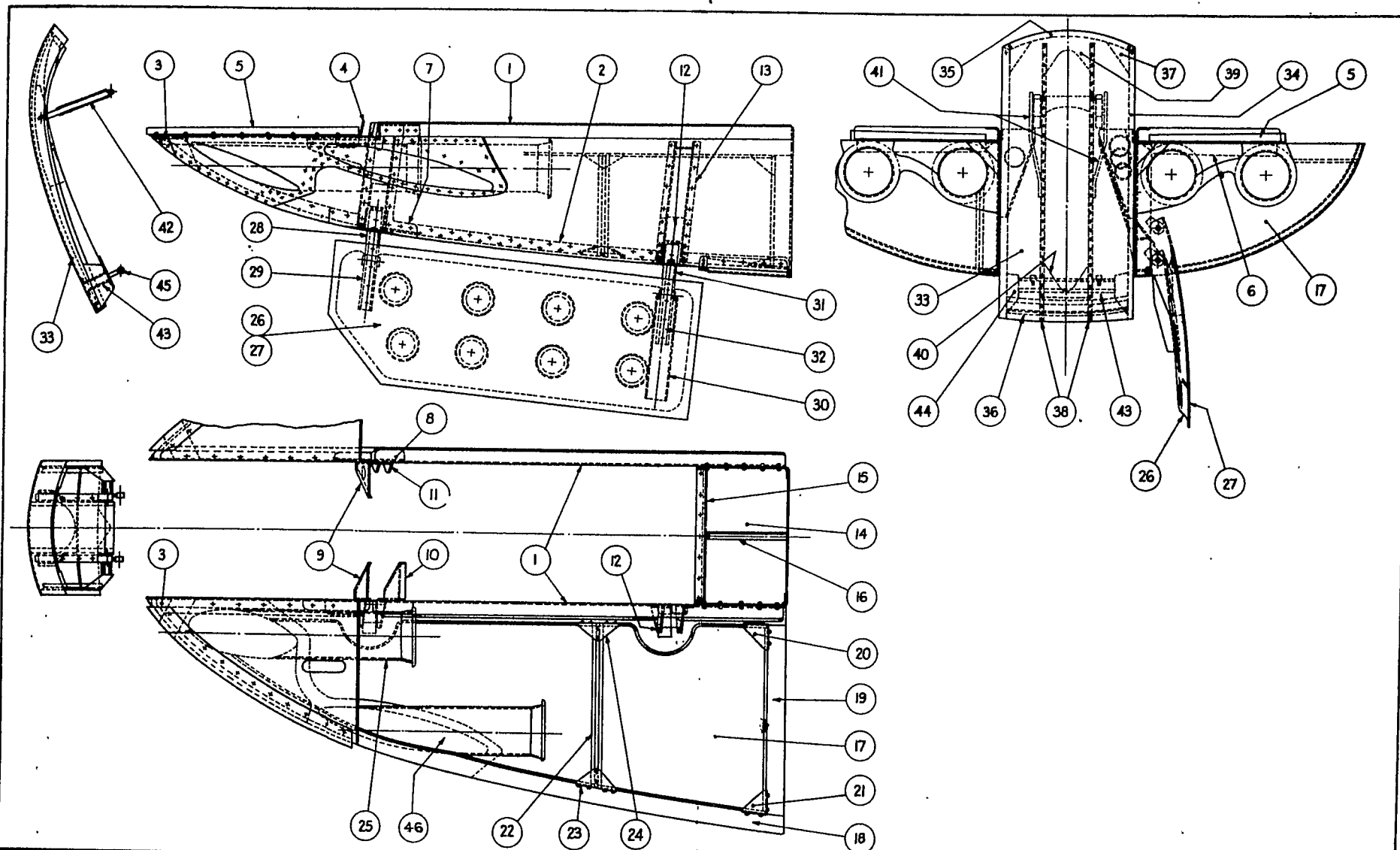
RESTRICTED

NOSE WHEEL HOUSING—Single-seater Aircraft

Key to items shown fig. No. 4/8

Key No.	Part number		Material	Specification	S.W.G.	Description
	L.H.	R.H.				
1	A.001081ND	A.001082ND	Alclad	D.T.D.390 or L.38	20	Side plate
2	A.001083ND	A.001084ND	M.S.P.	S.3 or D.H.A.28	18	Angle
3	A.001423ND	A.001422ND	M.S.P.	S.3	18	Fairing
4	A.00653ND	A.00654ND	Alclad	D.T.D.390 or L.38	20	Cover plate
5	A.00663ND	A.00664ND			20	Angle
6	A.001077ND	A.001078ND	Magnesium alloy	D.T.D.59A	18	Angle
7	A.001363				Casting	Front hinge bracket
8		A.001416	Alclad	D.T.D.390 or L.38	16	Bracket
9	A.00635	A.00636			16	Diaphragm
10	A.00634		M.S.P.	S.3 or D.T.D.124A	16	Diaphragm
11		A.00633			16	Link guide bracket
12	A.001124B				18	Rear hinge bracket
13	A.001123					Assembled on A.001124A
14	A.00661ND		Alclad	D.T.D.390 or L.38	20	Stiffener
15	A.00659ND				22	Fixed fairing
16	A.00660ND				20	Angle
17	S.00165ND	S.00166ND			20	Angle
18	S.00657ND	S.00658ND	M.S.P.	S.3	20	Fairing
19	S.00161ND	S.00162ND	M.S.P.	S.3	18	Stiffening member
20	S.00158ND	S.00158ND	Alclad	D.T.D.390	20	Stiffening member
21	S.00163ND	S.00164ND	Alclad	D.T.D.390	20	Gusset
22	S.00167ND	S.00168ND	Alclad	Section ZH311/20	20	Gusset
23	S.00169ND	S.00170ND			20	Stiffener
24	S.00175ND	S.00175ND	Alclad	D.T.D.390	20	Gusset
25	S.00163ND	S.00164ND	M.S.P.	D.T.D.171/B	18	Gusset
26	G.00253B		Alclad	D.T.D.390 or L.38	20	Cannon spouts
27	G.00253C		Alclad	D.T.D.390 or L.38	20	Inner plate
28	G.00514ND		Alum. alloy	D.T.D.298	Casting	Outer plate
29	G.00256		P/F. Lam. sheet	L.F.S.23		Front hinge. Assembled on G.00254A
30	G.00253ND		Alclad	D.T.D.390 or L.38	18	Packing
31	G.00515ND		Alum. alloy	D.T.D.298	Casting	Reinforcing plate
32	G.00257		P/F. Lam. sheet	L.F.S.23		Rear hinge. Assembled on G.00255A
33	G.00578					Packing
34	G.00585	G.00584			18	Fairing
35	G.00579				18	Side member
36	G.00592				18	Front member
37	G.00591	G.00590	Alclad	D.T.D.390 or L.38	18	Edge member
38	G.00583	G.00582			18	Cornet gusset
39	G.00588				18	Stiffener
40	G.00589				18	Fish plate
41	G.00587	G.00586			18	Fish plate
42	G.00267A				18	Stiffener
43	G.00259A					Assembly of bridge link
44	G.00266	G.00266	Alclad	D.T.D.390 or L.38	20	Assembly of rear member
45	G.00653	G.00653	M.S.	S.6 or S.1	Bar	Gusset plate
46	S.00165ND	S.00165ND	M.S.P.	D.T.D.171B	18	Eye-bolt
						Cannon spout

RESTRICTED



NOSE WHEEL HOUSING

FIG. 4/8

FIG. 4/8

RESTRICTED

FIXED NOSING—Single-seater Aircraft

Key to items shown on fig. No. 4/9

Assembly, A.00717A

Key No.	Part number		Material	Specification	S.W.G.	Description		
	L.H.	R.H.						
1	A.001011ND	A.001012ND	Alclad	D.T.D.390	20	Skin		
2	A.00718ND	A.00718ND			16	Butt strap		
3	A.001922	A.001922			20	Lap plate		
4	A.001894	A.001894			20	Front bracket		
5	A.001907	A.001908			20	Stiffening channel		
6	A.001903	A.001904			20	Mid stiffener		
7	A.001905	A.001906			20	Rear stiffener		
8	A.001897	A.001898			20	Bottom stiffener		
9	A.001911	A.001911			20	Gusset		
10	A.001912	A.001912			20	Gusset		
11	A.001913	A.001913			20	Gusset		
12	A.001914	A.001914			20	Gusset		
13	A.001915	A.001915			20	Gusset		
14	A.001916	A.001916			20	Gusset		
15	A.004088	A.004088			20	Gusset		
16	A.001923	A.001923			20	Angle		
17	A.001895	A.001896			20	Top channel		
18	A.00917A	A.00917A			20	Assembly of front peg		
19	A.001899	A.001900			20	Support brackets		
20	A.00927ND	A.00927ND			20	Packing strip		
21	A.001901	A.001902			20	Stiffening bracket		
22	A.004070	A.004070			Alum. alloy	D.T.D.213A	20	Assembly of seal for camera aperture
23	A.00757A	A.00757A	Alclad	D.T.D.390	16	Front attachment bracket		
24	A.00738A	A.00738A	Alclad	D.T.D.390	20	Assembly of inlet for cockpit ventilator duct		
25	A.00912A	A.00912A				Assembly of spring plunger		
26		A.001269ND				Frame		
27		A.001270ND			16	Cover plate		
28	A.004089ND	A.004084ND			Alclad	D.T.D.390	20	Stiffener
29	A.004083ND						20	Stiffener
30	A.004079ND						20	Stiffener
31	A.004081ND						20	Stiffener
32		B.001182ND	Lead	—		Ballast weight		
33	B.001184ND					Ballast weight		
34	B.001185ND					Ballast weight		
35	B.001183ND					Ballast weight		

Note . . . Items 32 to 35 are for Sea Vampire only

RESTRICTED

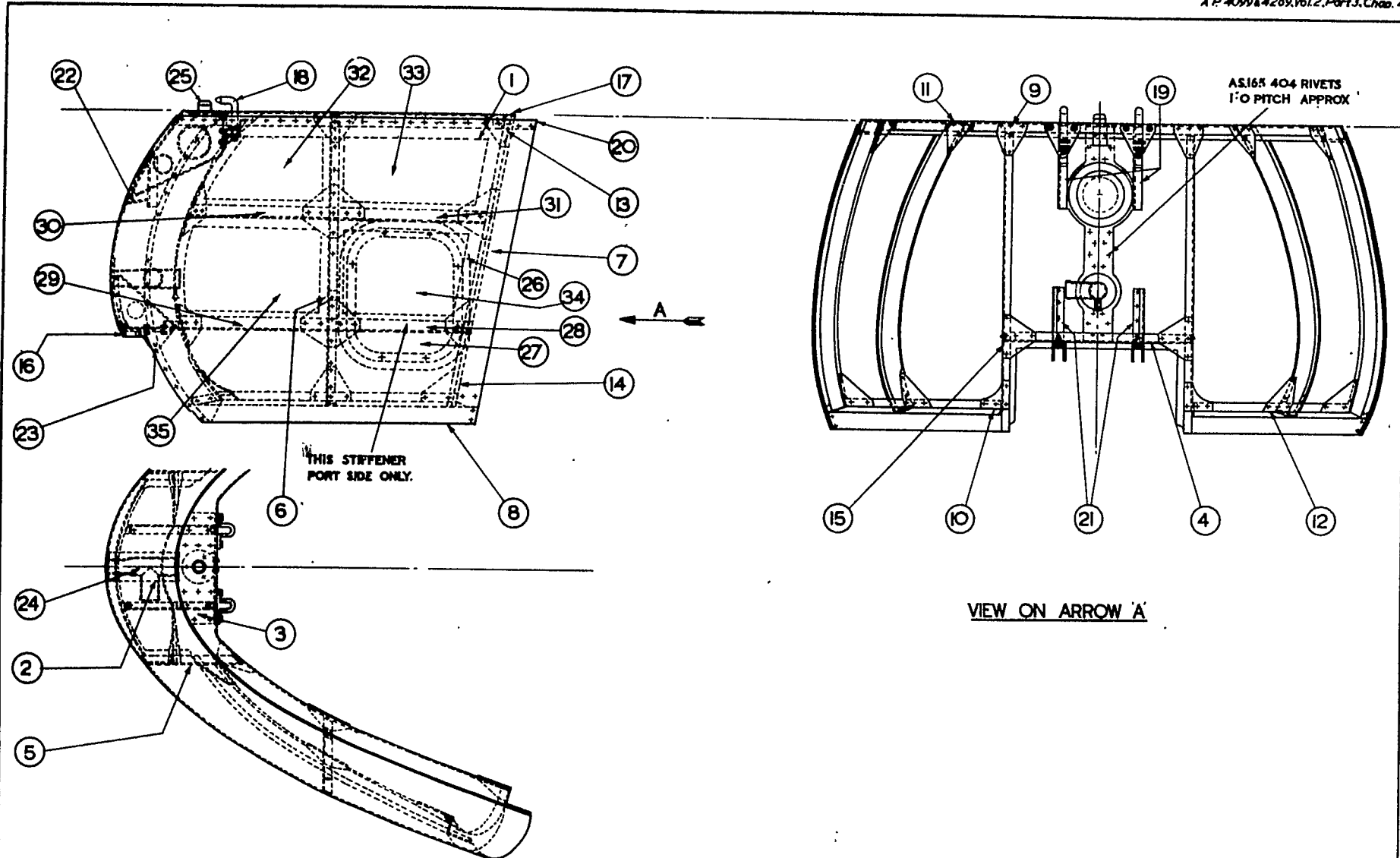
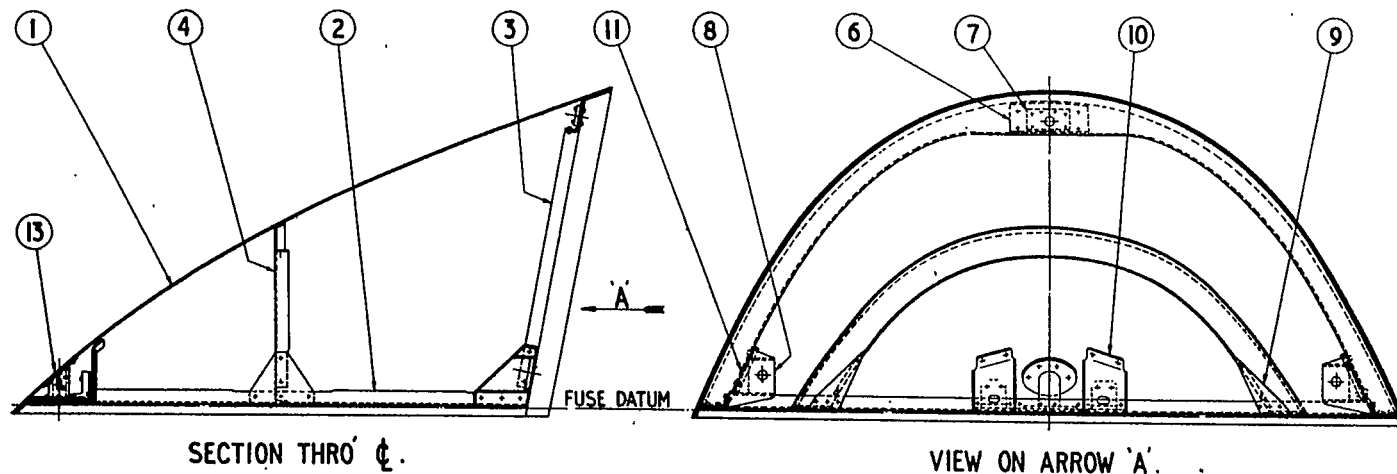


FIG 4/9

FIXED NOSING

RESTRICTED

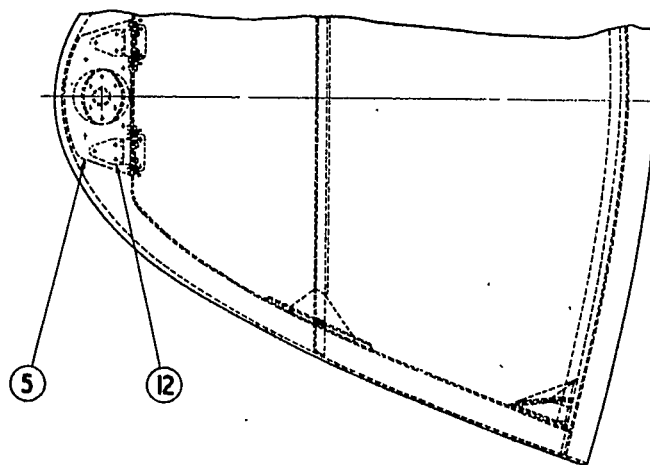
FIG 4/9



DETACHABLE NOSING

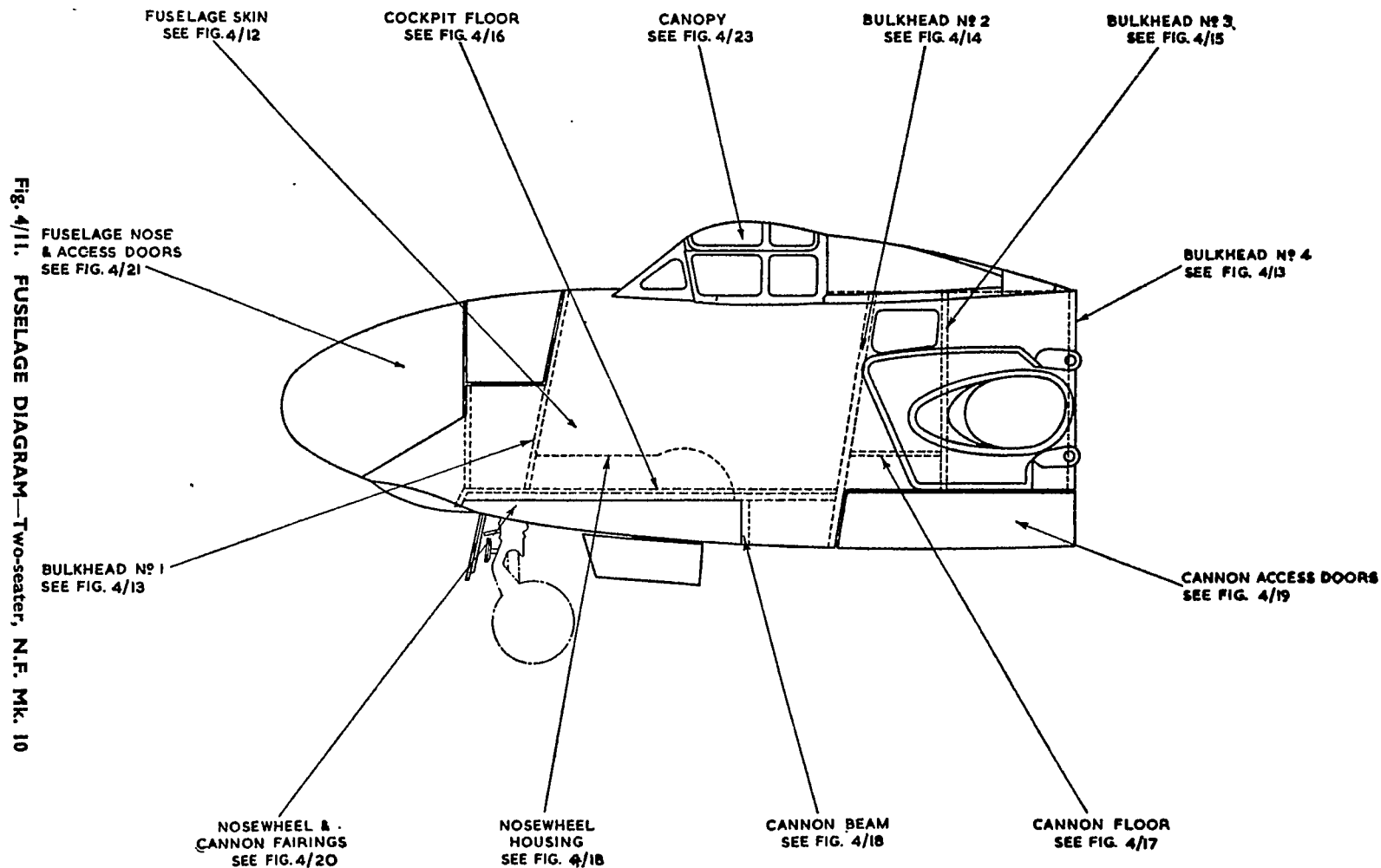
Key to items

Assembly, A.00891A



Key No.	Part number		Material	Specification	S.W.G.	Description
	L.H.	R.H.				
1	A.00892ND		Alclad	D.T.D.390 or L.38	20	Skin
2	A.001931	A.001932			20	Stiffener
3	A.001929	A.001930			20	Stiffener
4	A.002763		M.S.P.	S.3	20	Stiffener
5	A.002709				20	Front lap plate
6	A.002711				20	Lap plate
7	A.00900ND		Alclad	D.T.D.390 or L.38	10	Block
8	A.00901ND				10	Block
9	A.001935				20	Gusset
10	A.001925	A.001926	Aluminium alloy	L.1 or D.T.D.423	20	Front bracket
11	A.00905ND	A.00906ND			20	Rear bracket
12	A.00907					Cleat
13	A.00908					Cleat Nose panel lock assembly

FIG.4/10 DETACHABLE NOSING
RESTRICTED

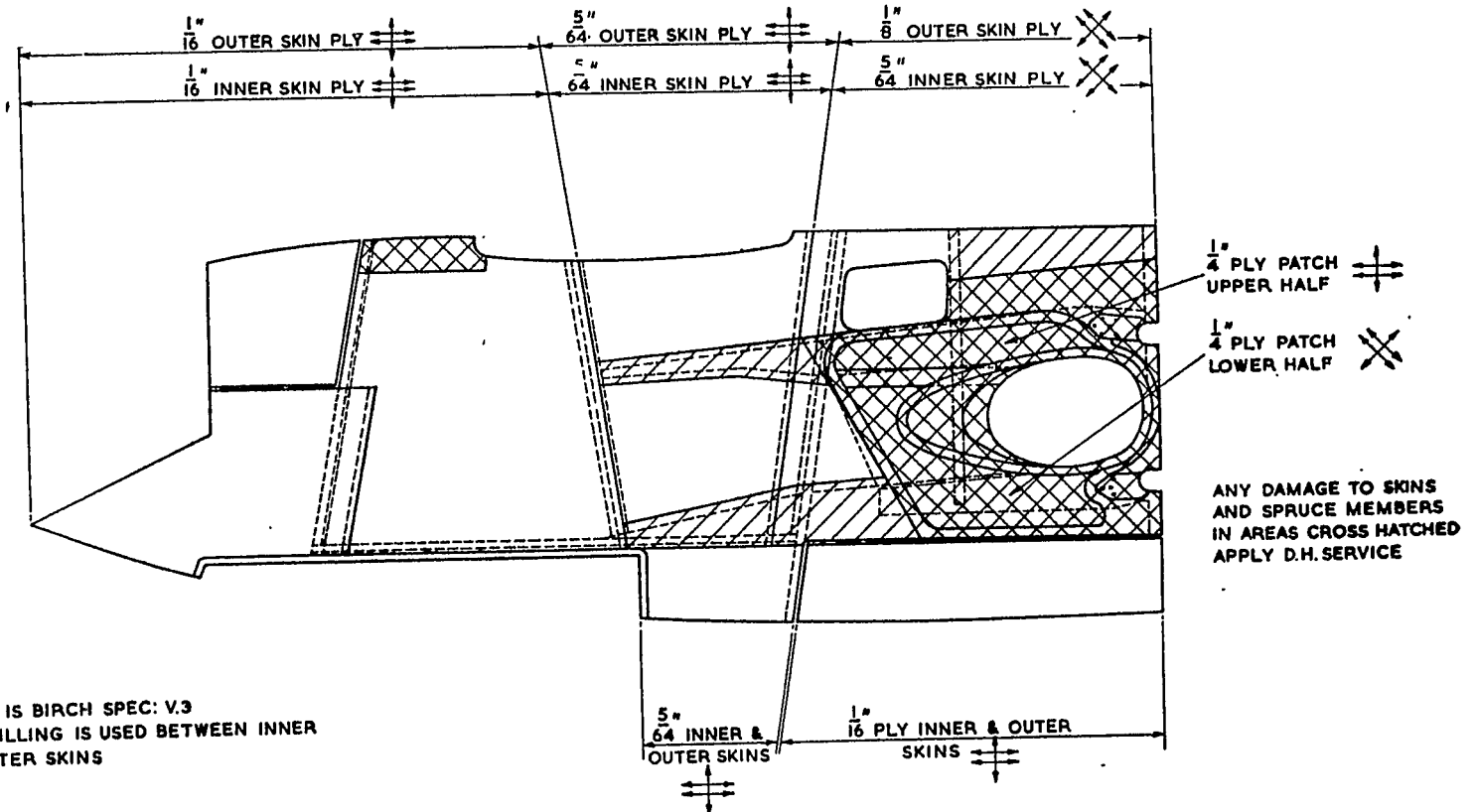


RESTRICTED

RESTRICTED

Fig. 4/12. FUSELAGE SKIN, Two-seater N.F. Mk. 10

ALL PLY IS BIRCH SPEC: V.3
BALSA FILLING IS USED BETWEEN INNER
AND OUTER SKINS



Definition of Negligible and Repairable Damage

Component	Definition of damage		Repair Fig No.
	Negligible	Repairable	
Skin	Bruises one lamination deep 0.75 in. across and 2.0 in. along the grain, 12.0 in. apart	Isolated holes 0.6 in. x 1.8 in., not more than 3 per fuselage	4/29(A)
		Groups of holes 0.6 in. x 1.8 in. not closer than 18.0 in. apart	4/29(B)
		Holes up to 8.0 in. dia., 24.0 in. apart	4/30 or A
		Damage in excess of above	4/31
Interskin Members	Bruises 0.1 in. deep, 0.5 in. across and 2.0 in. along the grain, 12.0 in. apart	Damage in excess of negligible	4/31

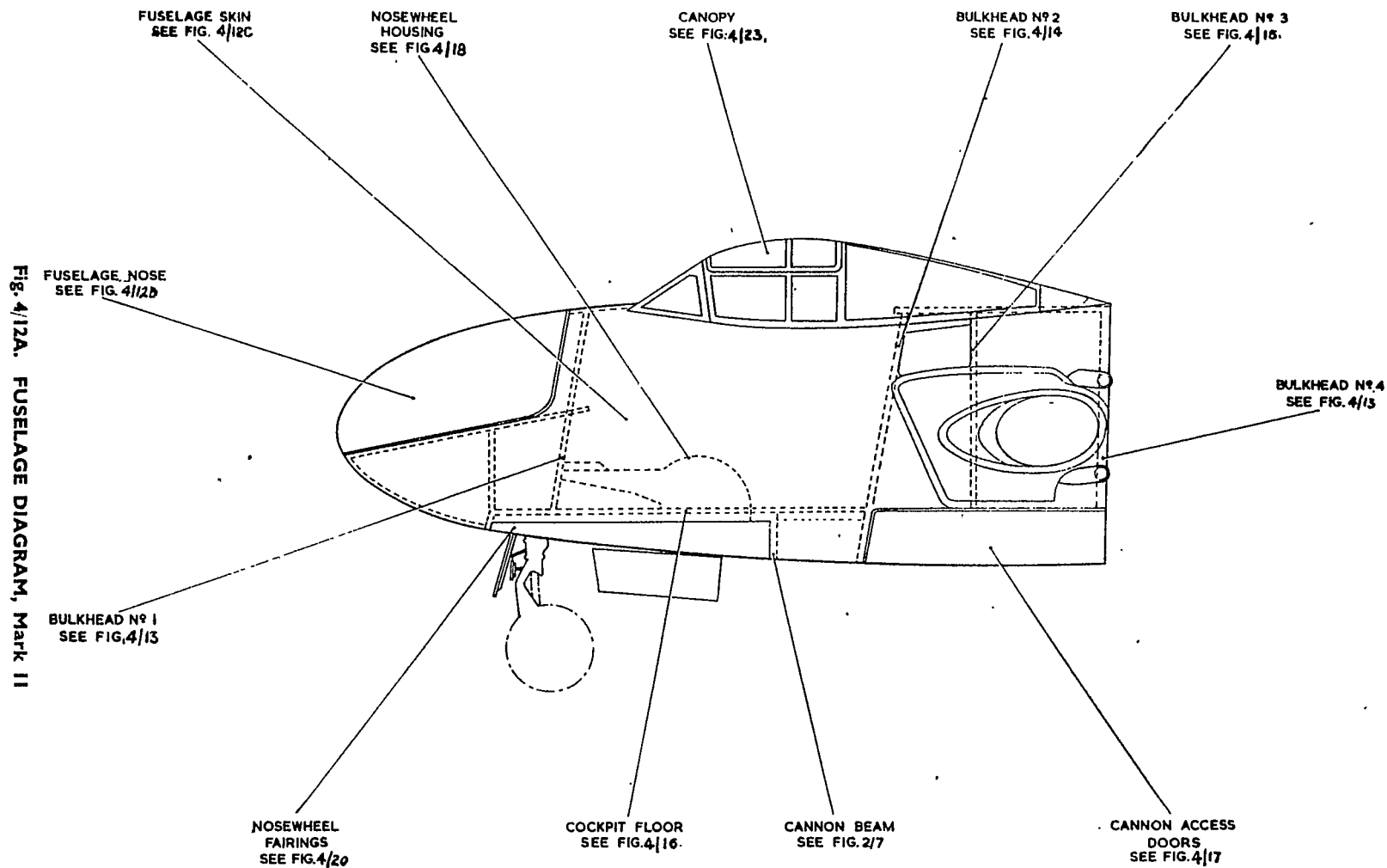
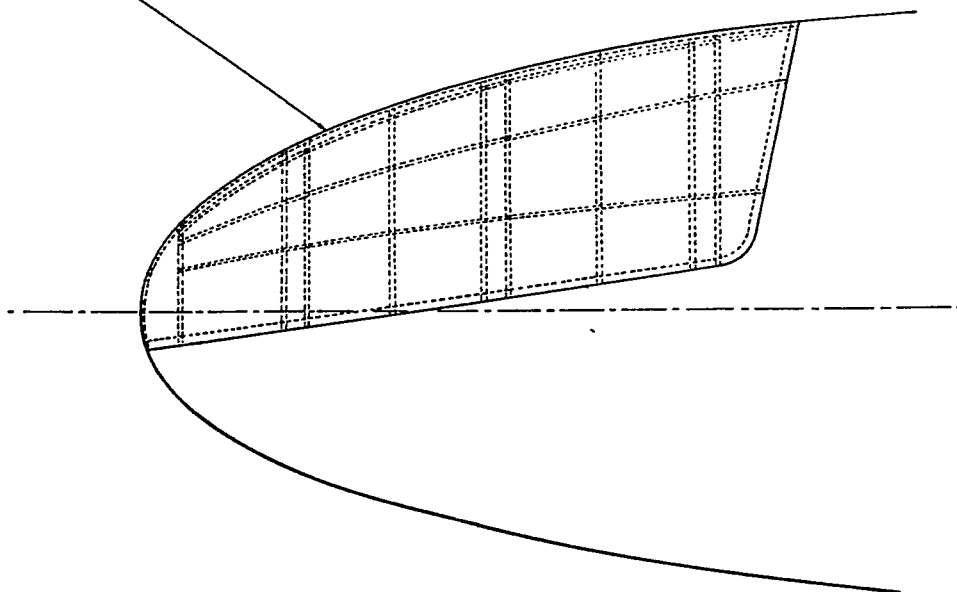


Fig. 4/12A. FUSELAGE DIAGRAM, Mark II

RESTRICTED

NOSE CAP 18 SWG. DTD.213



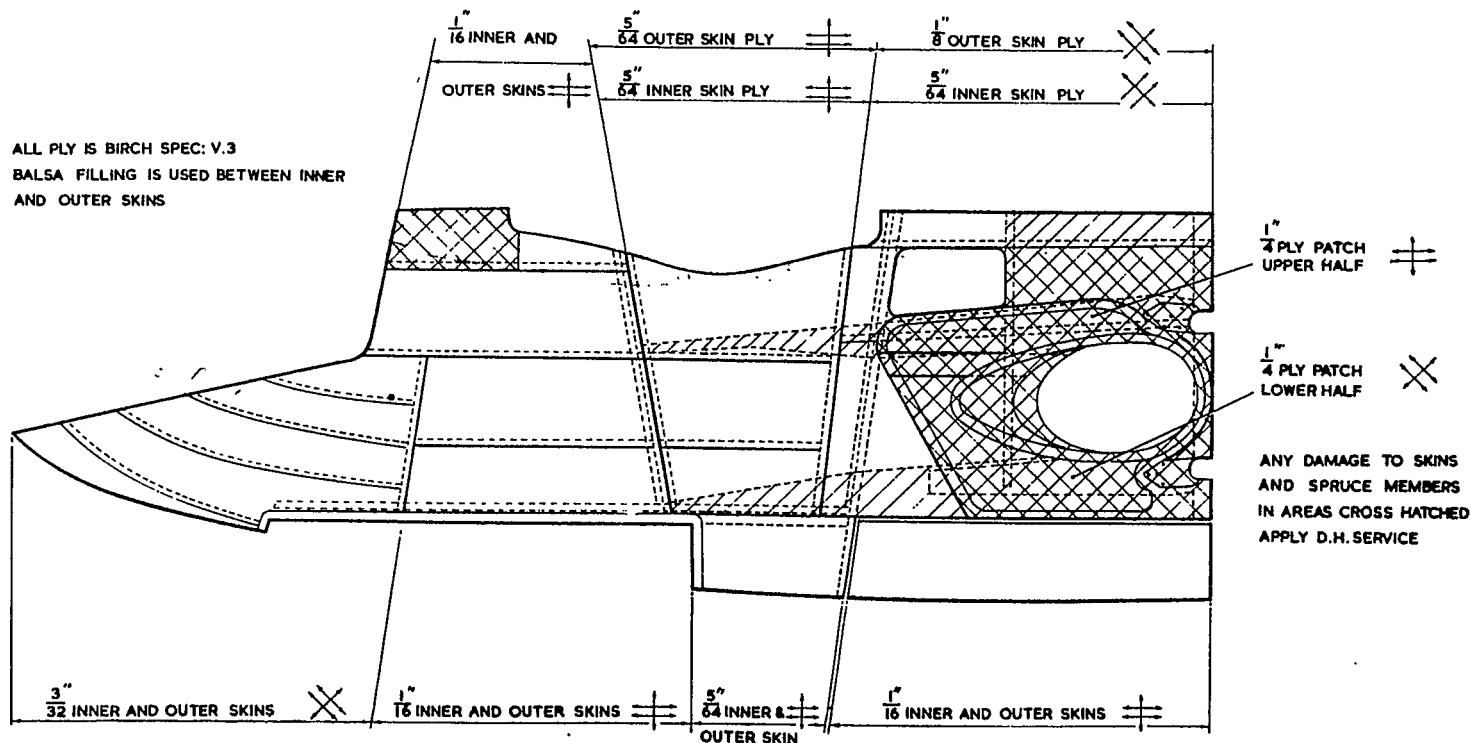
Definitions of negligible and repairable damage

Component	Definitions of damage		Repair Fig. No.	Repair material Item No.
	Negligible	Repairable		
Skin	Dents 0.1 in. deep, 1.0 in. dia., 12.0 in. apart	Dents or holes not affecting stiffeners, up to 4.0 in. dia.	4/33	20A, 20B, 40, 41
Stiffeners	Dents 0.1 in. deep, 0.75 in. long, 8.0 in. apart	When damaged in excess of negligible replace		

Fig. 4/12B. FUSELAGE NOSE, Mark II

RESTRICTED

Fig. 4/12C. FUSELAGE SKIN, Mark II



Definitions of Negligible and Repairable damage

Component	Definitions of damage		Repair Fig. No.	Repair material Item No.
	Negligible	Repairable		
Skin	Bruises one lamination deep, 0.75 in. across and 2.0 in. along the grain, 12.0 in. apart	Isolated holes 0.6 in. $\times$ 1.8 in., not more than three in a fuselage	4/29A	1, 72
		Groups of holes not more than 18.0 in. apart	4/29B	1, 71 or 72
		Holes 8.0 in. dia., 24.0 in. apart	4/30 or 4/31	1, 2, 3, 72
		Damage in excess of above	4/31	1, 2, 3, 72
Interskin members	Bruises 0.1 in. deep, 0.5 in. across, 2.0 in. along the grain and 12.0 in. apart	Damage in excess of negligible	4/31	1, 2, 3, 72

RESTRICTED

RESTRICTED

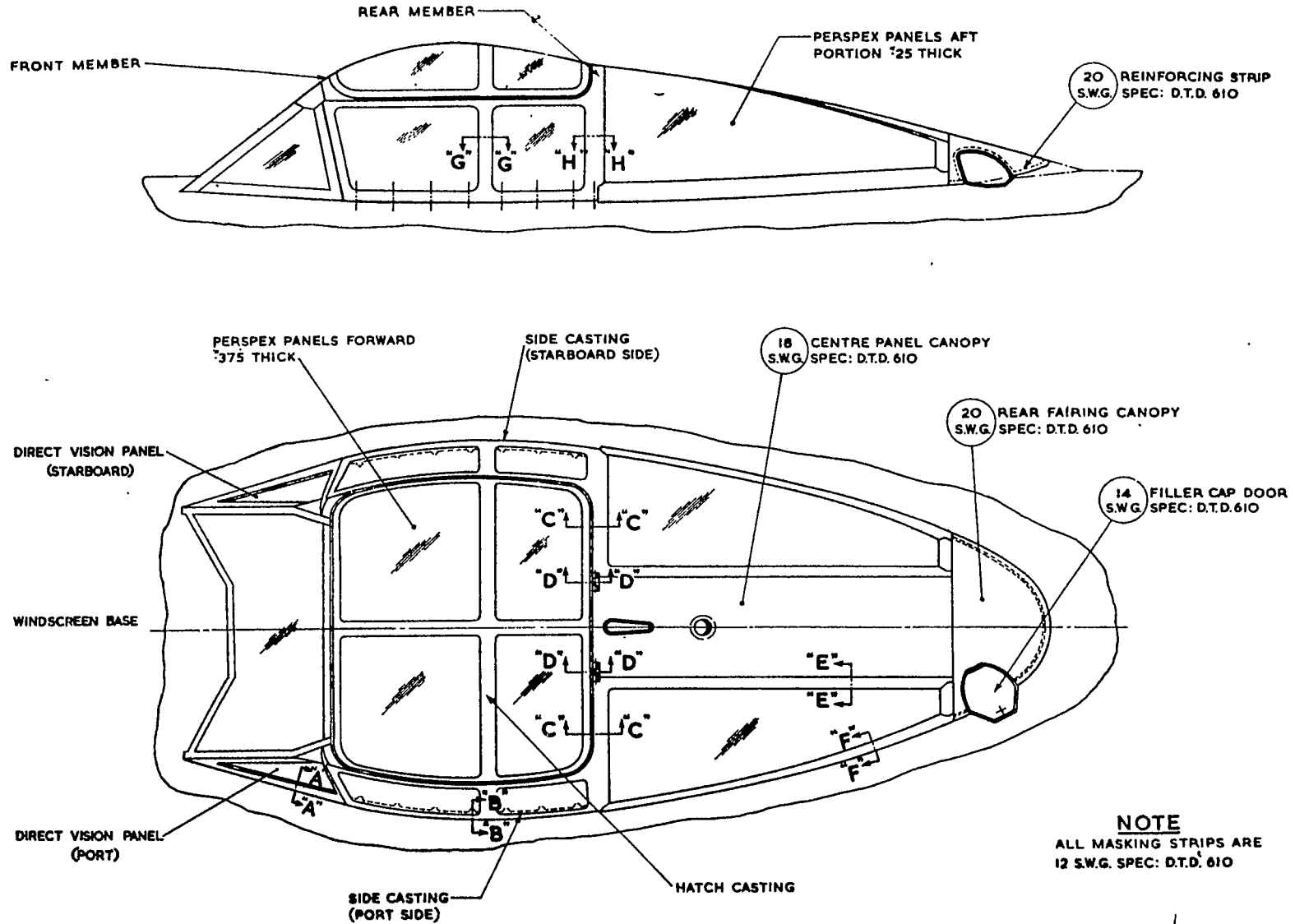
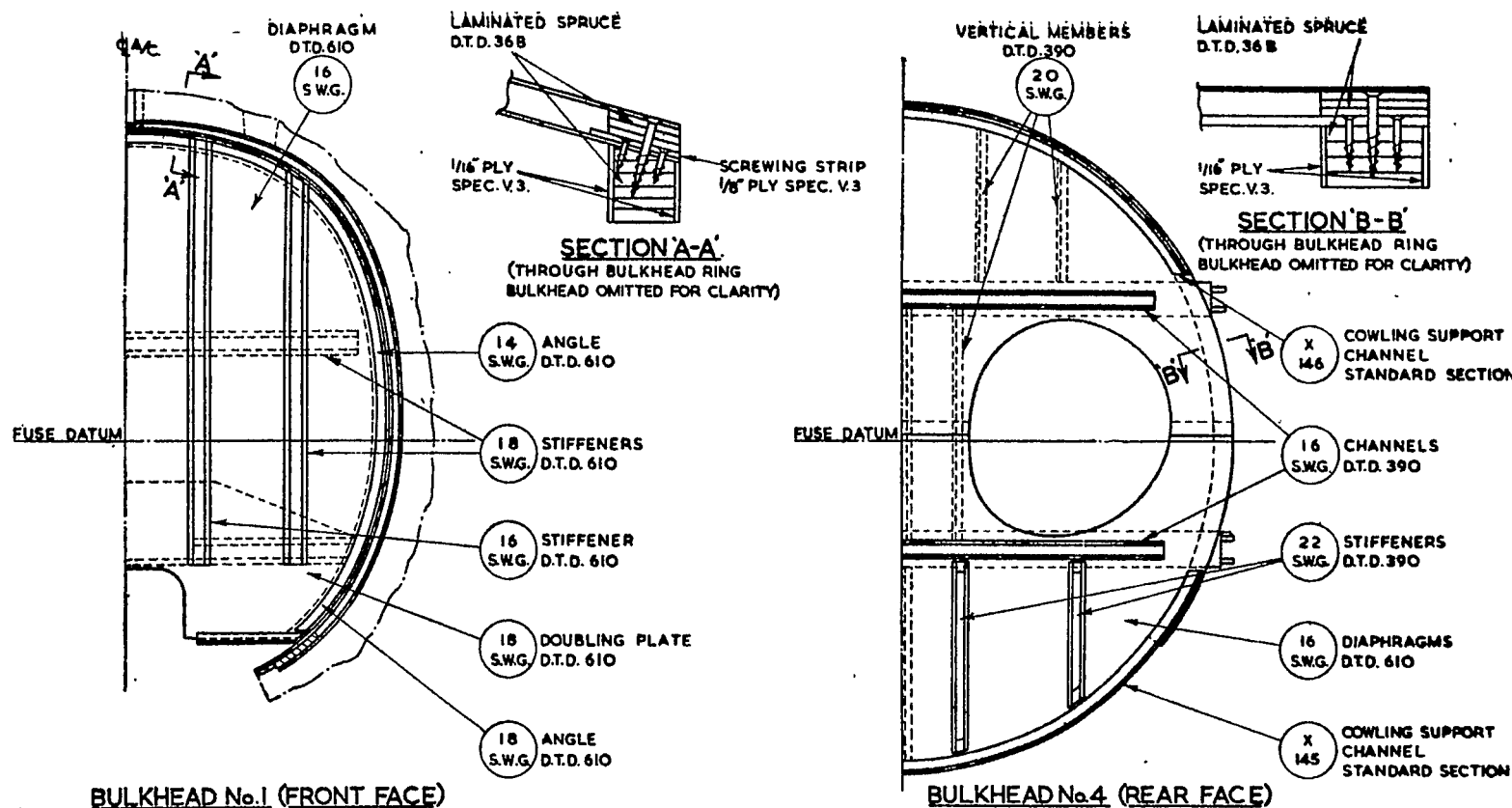


Fig. 4/12D. CANOPY, Mark II

P21665 67068/7847 2/53 1100 C & P Gp. 1

1 copy.

Fig. 4/13. BULKHEADS No. 1 and 4

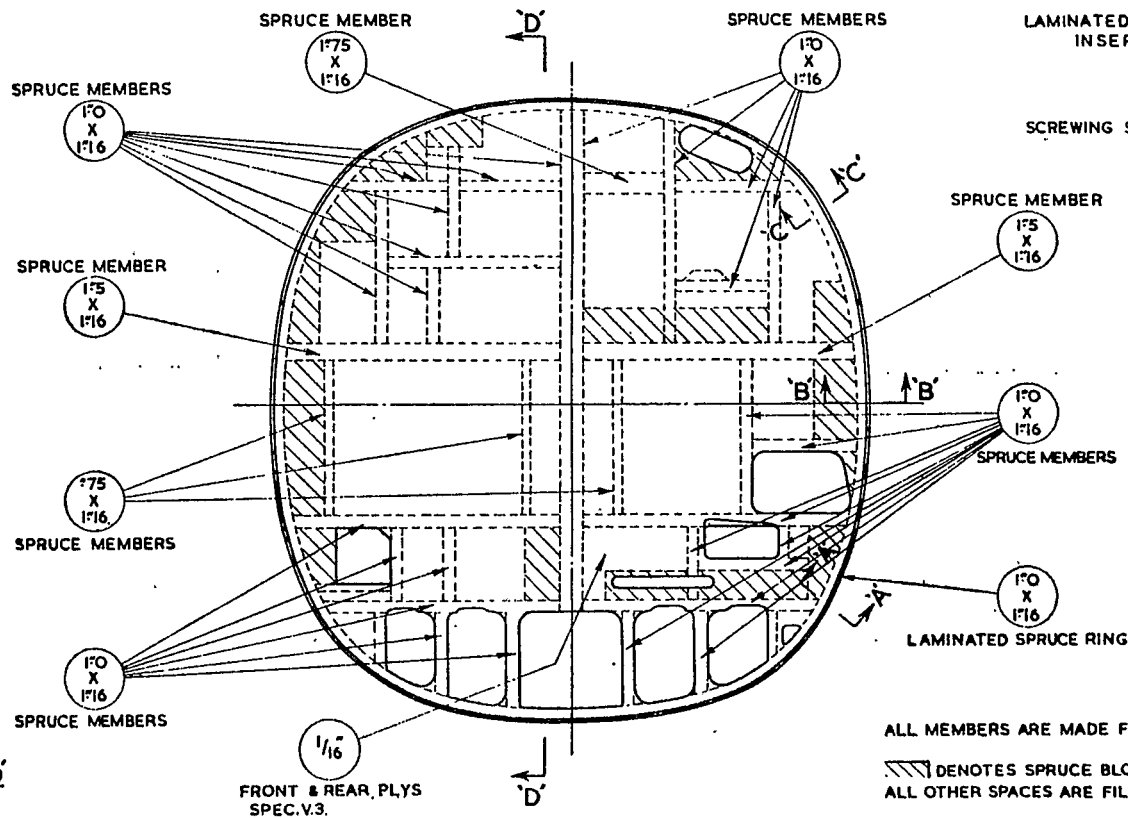
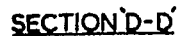


Definition of Negligible and Repairable Damage

Component	Definition of damage		Repair Fig. No.
	Negligible	Repairable	
Laminated Rings	Bruises 0.05 in. deep, 0.5 in. across and 1.0 in. along the grain, 12.0 in. apart	Damage in excess of negligible	4/33 4/22
Facing ply	Bruises one lamination deep, 0.5 in. across and 1.0 in. along the grain 10.0 in. apart	Damage in excess of negligible insert new portion with 10/1 scarf	
Diaphragms 1 and 4	Dents 0.1 in. deep, 0.75 in. dia. 12.0 in. apart	Up to 3.0 in. dia. Replacement of Bottom Segment of bulkhead 4 Damage in excess of above	

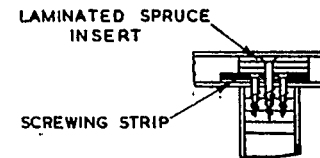
RESTRICTED

D

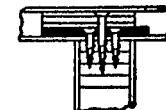


ALL MEMBERS ARE MADE FROM SPRUCE D.T.D. 36B

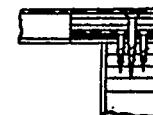
 DENOTES SPRUCE BLOCKS SPEC. AS ABOVE
ALL OTHER SPACES ARE FILLED WITH BALSA 1/8 THICK



SECTION C-C'



SECTION 'B-B'



SECTION 'A-A'

↓
D

Component	Negligible	Repairable
Ply Skin	Bruises one lamination deep, 0.75 in. across and 2.0 in. along the grain	Damage in excess of negligible necessitates a major repair and reference should be made to Repair Leaflets issued with Part 4
Spruce Members	Bruises 0.1 in. deep, 0.5 in. across and 1.0 in. along the grain, 12.0 in. apart	

100/100

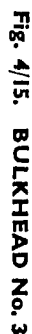
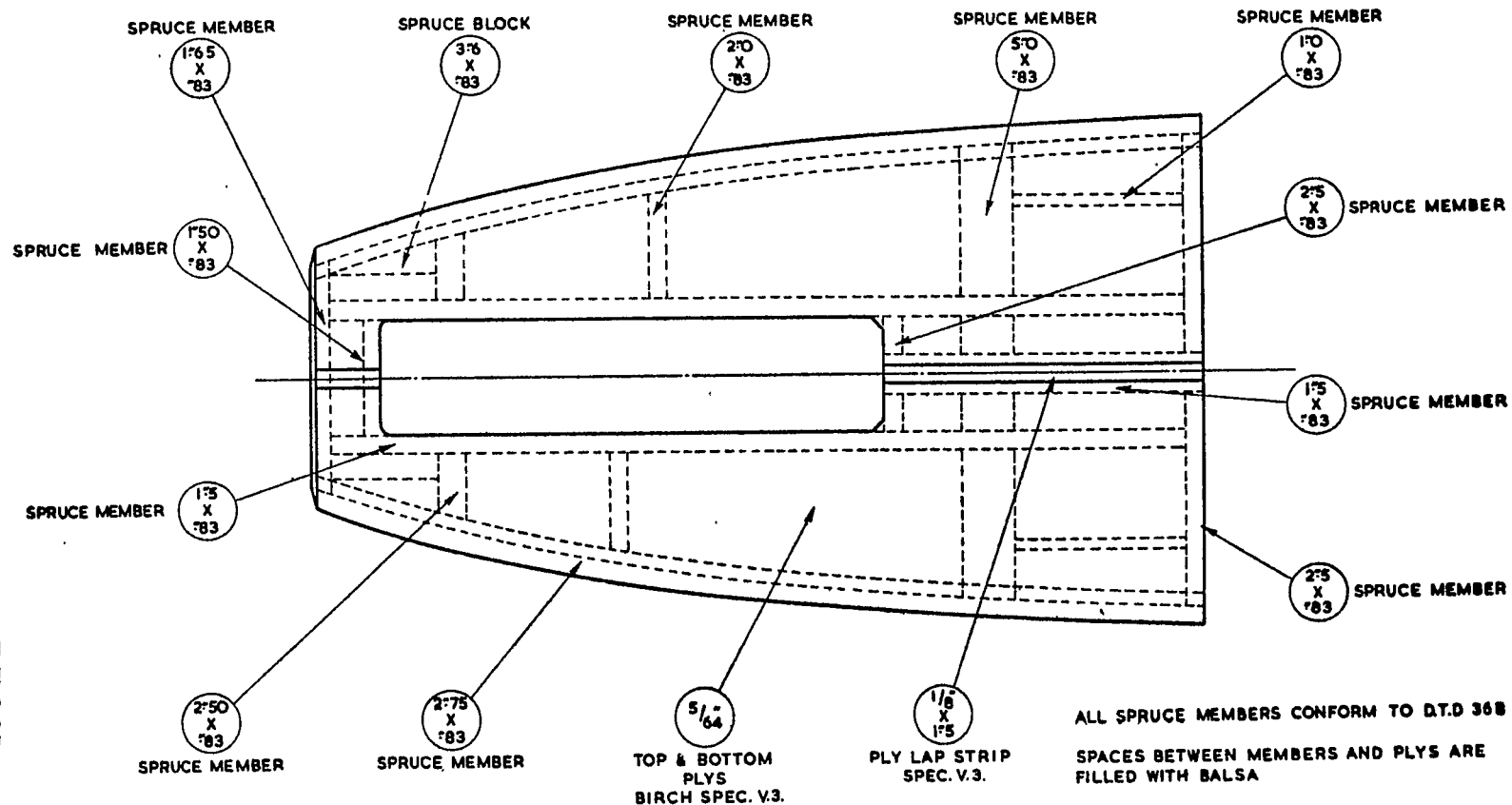


Fig. 4/15. BULKHEAD No. 3

Component	Definition of damage	
	Negligible	Repairable
Skin	Bruises one lamination deep, 0.75 in. across and 2.0 in. along the grain	Damage in excess of above necessitates a major repair and reference should be made to Repair Leaflets issued with Part 4
Spruce Members	Bruises 0.1 in. deep, 0.5 in. across and 1.0 in. along the grain, 12.0 in. apart	

RESTRICTED

Fig. 4/16. COCKPIT FLOOR

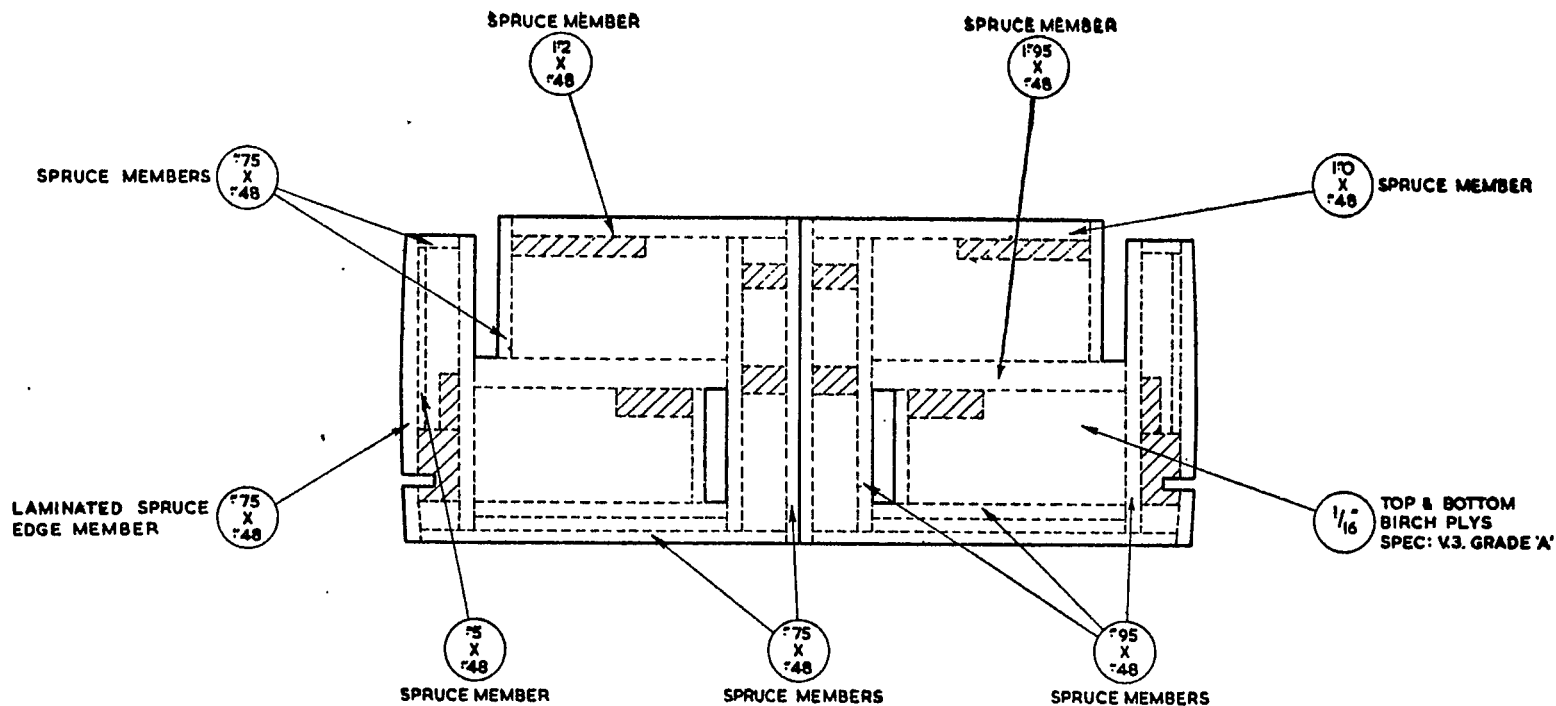


Definitions of Negligible and Repairable Damage

Component	Definition of damage		Repair Fig. No.
	Negligible	Repairable	
Skin	Bruises one lamination deep 0.75 in. across and 2.0 in. along the grain	Groups of holes 0.6 in. x 1.8 in. not closer than 18.0 in. apart Up to 3.0 in. dia., 18.0 in. apart Damage in excess of above	4/29(A) 4/30 4/31
Spruce Members	Bruises 0.1 in. deep, 0.5 in. across and 1.0 in. along the grain, 12.0 in. apart	Damage in excess of negligible	4/31

Copy

Fig. 4/17. CANNON FLOOR



ALL SPRUCE IS TO SPEC. D.T.D. 36 B
 // DENOTES SPRUCE BLOCKS SPEC. AS ABOVE,
 SPACES BETWEEN SPRUCE MEMBERS, BLOCKS AND
 PLYS ARE FILLED WITH Balsa 1/48 THICK

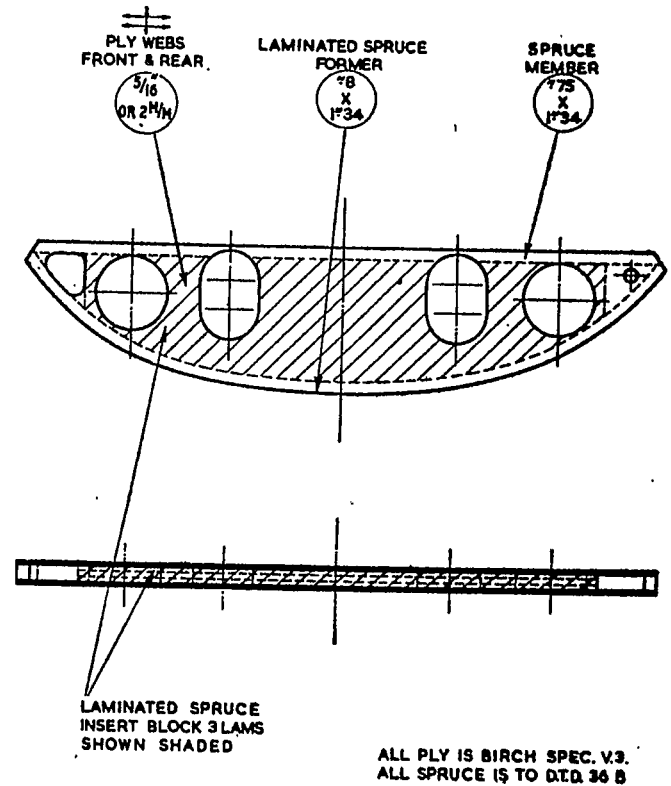
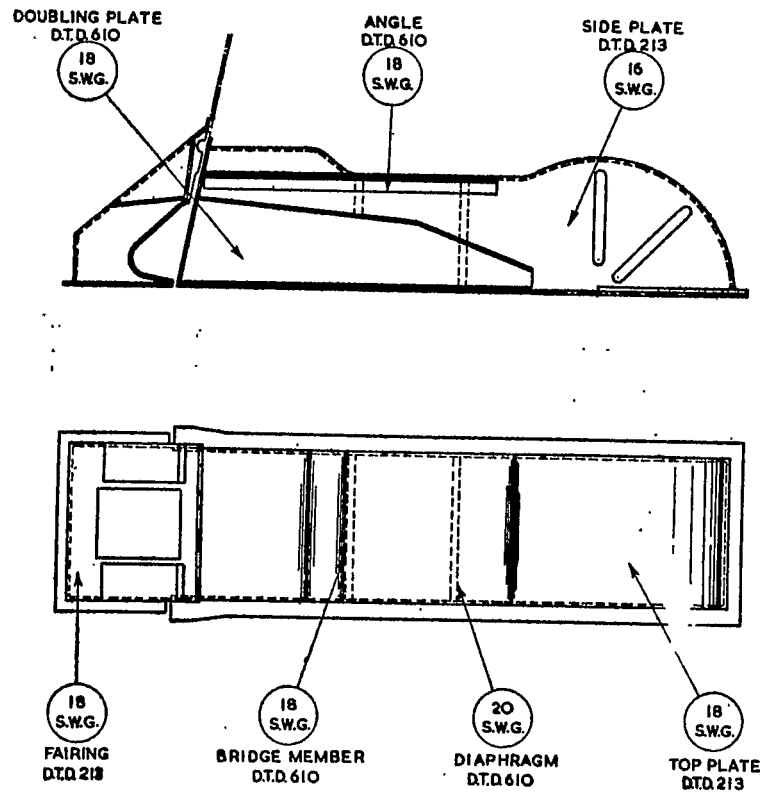
Definitions of Negligible and Repairable Damage

Component	Definition of damage		Repair Fig. No.
	Negligible	Repairable	
Skin	Bruises one lamination deep, 0.75 in. across and 2.0 in. along the grain	Groups of holes 0.6 in. x 1.8 in. not closer than 18.0 in. apart Up to 3.0 in. dia., 18.0 in. apart Damage in excess of above.	4/29(B) 4/30 4/31 4/31
Spruce Members	Bruises 0.1 in. deep, 0.5 in. across and 1.0 in. along the grain, 12.0 in. apart	Damage in excess of negligible	

RESTRICTED

RESTRICTED

Fig. 4/18. NOSEWHEEL HOUSING AND CANNON BEAM



Definitions of Negligible and Repairable Damage

Component	Definition of damage		Repair Fig. No.
	Negligible	Repairable	
Skin	Dents 0.1 in. deep, 1.0 in. dia.	0.5 in. dia. to 5.0 in. dia., 18.0 in. apart	4/33
Cannon Beam		Damage in excess of negligible, refer to Part 4	

1 copy.

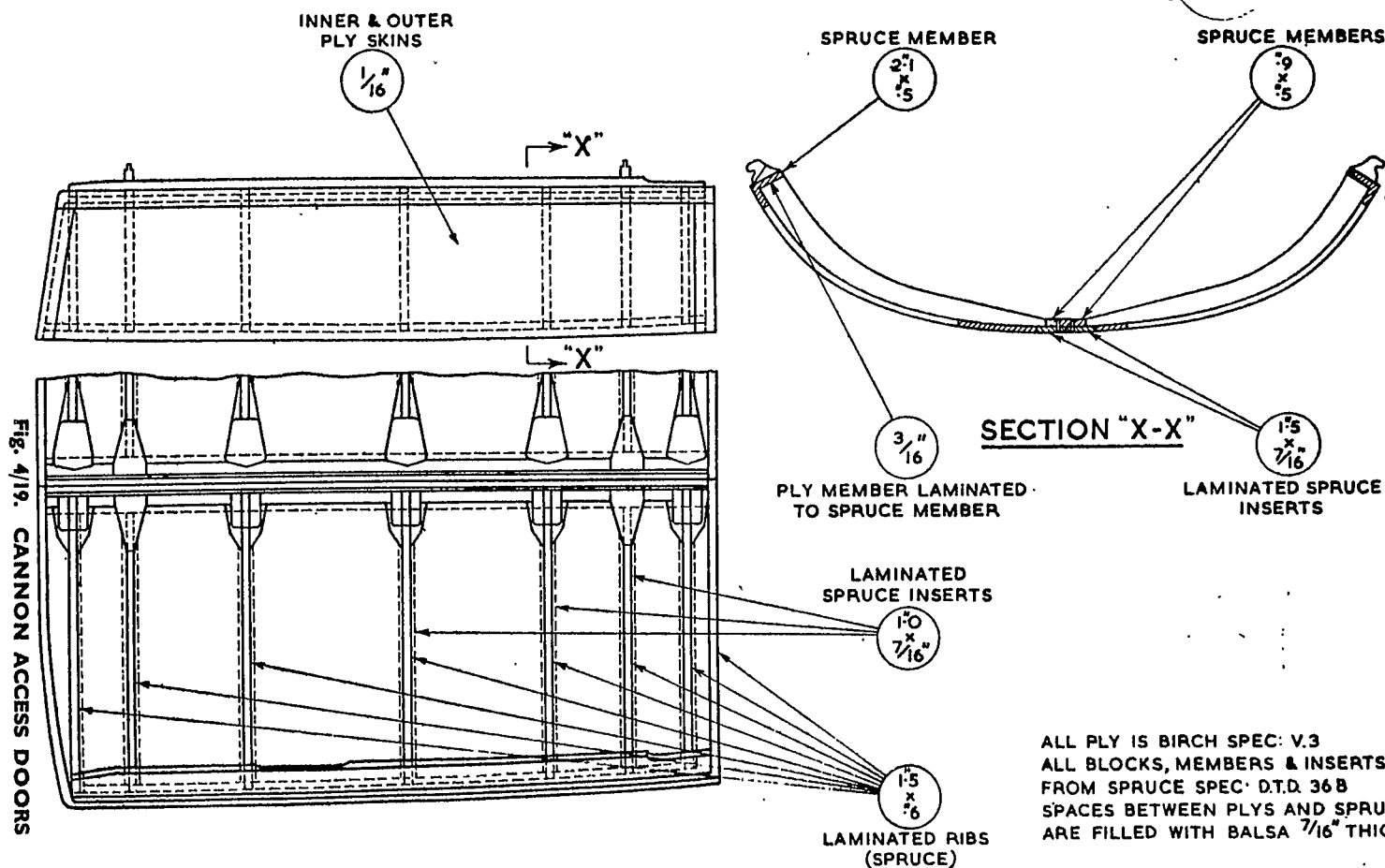
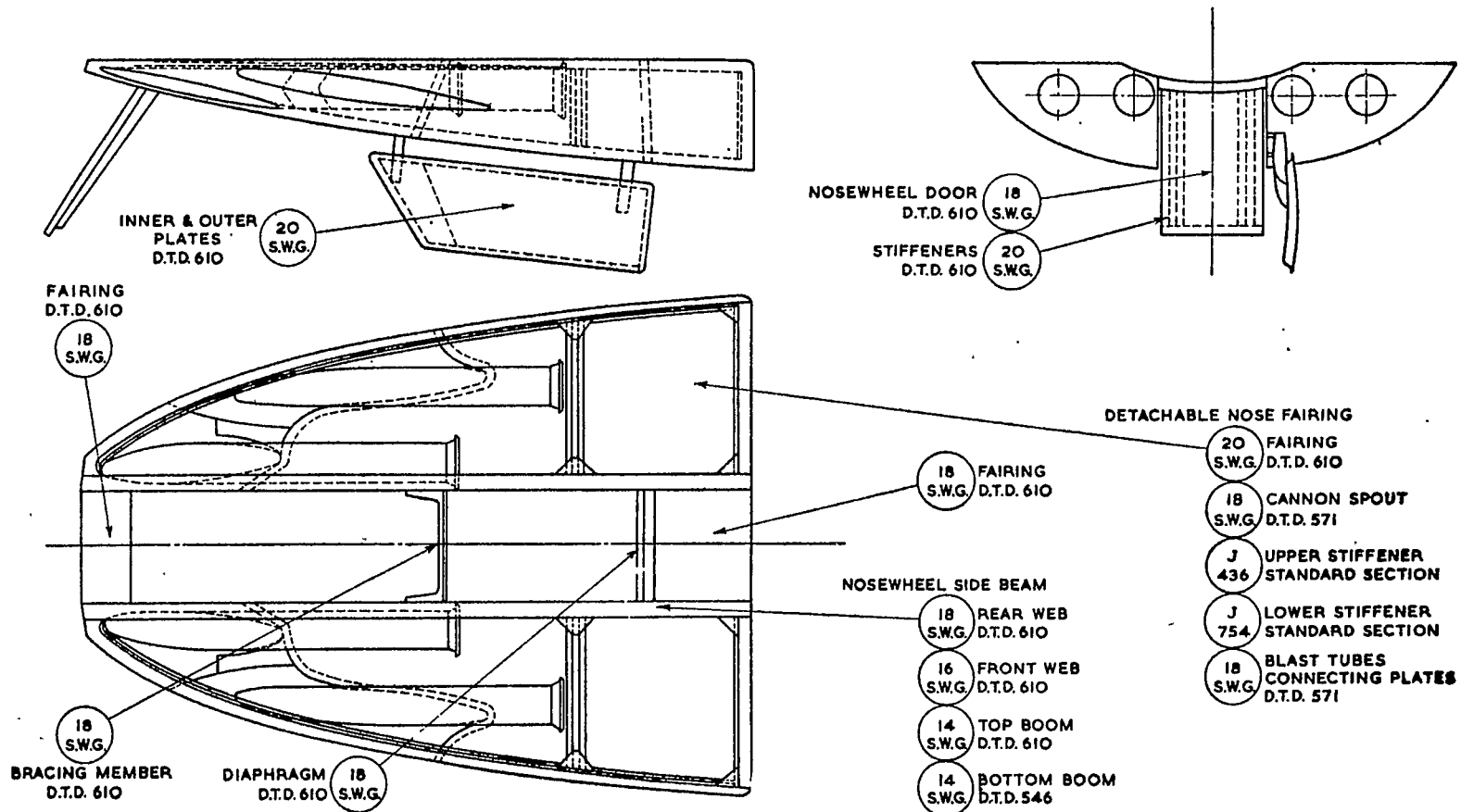


Fig. 4/19. CANNON ACCESS DOORS

Definition of Negligible and Repairable Damage

Component	Definition of damage		Repair Fig. No.
	Negligible	Repairable	
Skin	Bruises one lamination deep, 0.75 in. across and 1.0 in. along the grain, 12.0 in. apart	Isolated holes 0.6 in. x 1.8 in., not more than 3 per door Groups of holes 0.6 in. x 1.8 in. not closer than 12.0 in. apart Up to 3.0 in. dia. 12.0 in. apart Damage in excess of above	4/29(A) 4/29(B) 4/30 4/31
Inter-skin Members	Bruises 0.1 in. deep, 0.5 in. across and 1.0 in. along the grain, 12.0 in. apart	Damage in excess of negligible	4/31

FIG. 4/20. NOSEWHEEL AND CANNON FAIRINGS



Definition of Negligible and Repairable Damage

Component	Definition of damage		Repair Fig. No.
	Negligible	Repairable	
Fairings	Dents 0.1 in. deep, 1.0 in. dia., 12.0 in. apart	0.5 in. dia. to 5.0 in. dia., 18.0 in. apart	4/33
Stiffeners and Side Beams	Dents 0.1 in. deep, 0.75 in. long, 8.0 in. apart	Flange and web, 1.0 in. long x 0.5 in. deep in web, 18.0 in. apart	4/28

1 copy

NOSE FAIRING IS 0.1 THICK FIBRE-GLASS
MADE UP FROM '007 LAMINATIONS

INNER AND OUTER SKINS
1/16" BIRCH PLY. SPEC V.3

BALSA PACKING

EDGE MEMBERS
LAMINATED SPRUCE
D.T.D. 36B

FORMERS
1/16" BIRCH PLY FACINGS SPEC.V3
LAM. SPRUCE SPEC.36B

14
S.W.G.
CAP STRIP
D.T.D. 610

Fig. 4/21. FUSELAGE AND ACCESS DOORS

Definition of Negligible and Repairable Damage

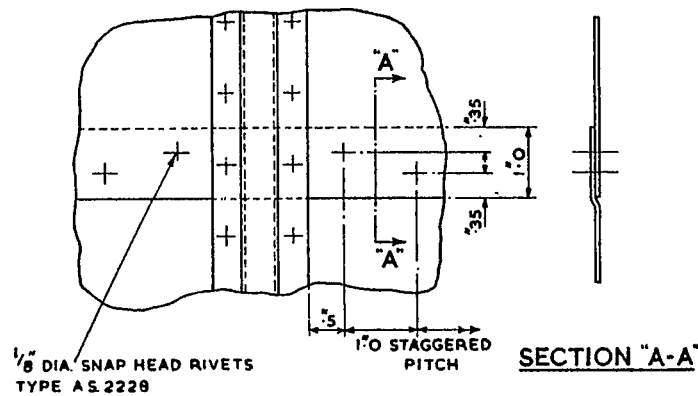
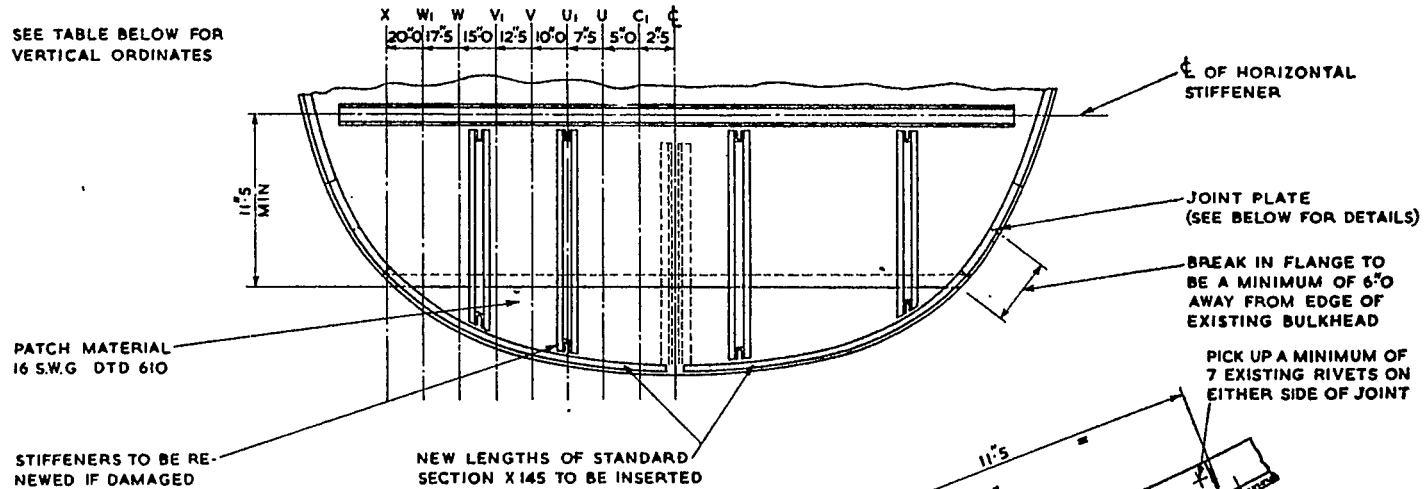
Component	Definition of damage		Repair Fig. No.
	Negligible	Repairable	
Nose Access Door Skin	Bruises one lamination deep 0.75 in. across and 2.0 in. along the grain, 12.0 in. apart	Isolated hole 0.6 in. x 1.8 in. Not more than 1 per door	4/29(A)
Inter-skin Members	Bruises 0.1 in. deep, 0.5 in. across and 1.0 in. along the grain 12.0 in. apart	Damage in excess of negligible	4/31

RESTRICTED

RESTRICTED

SEE TABLE BELOW FOR
VERTICAL ORDINATES

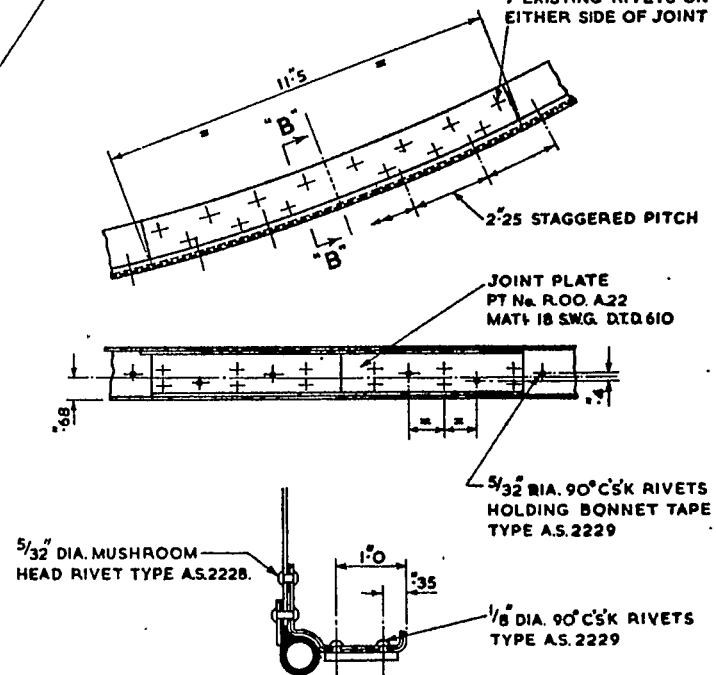
Fig. 4/22. FIREWALL REPAIR (BULKHEAD 4)



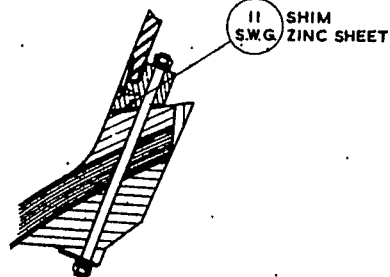
RIVETING DETAILS

$\bar{C}$	C ₁	U	U ₁	V	V ₁	W	W ₁	X
18"51	18"43	16"21	17"84	17"28	16"49	15"35	13"76	11"65

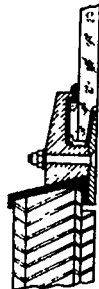
VERTICAL PROFILE ORDINATES MEASURED FROM
 $\bar{C}$ HORIZONTAL STIFFENER



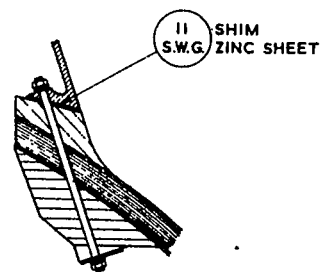
SECTION "B-B"



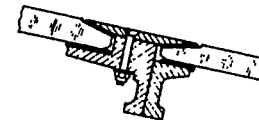
SECTION "A-A"
SHOWING ATTACHMENT OF
STARBOARD WINDSCREEN MEMBER
TO FUSELAGE



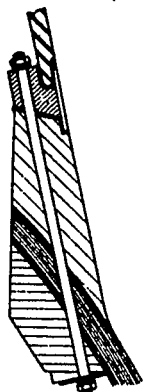
SECTION "B-B"



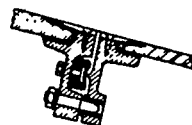
SECTION "C-C"
SHOWING ATTACHMENT OF
PORT WINDSCREEN MEMBER
TO FUSELAGE



SECTION "D-D"



SECTION "E-E"
SHOWING ATTACHMENT OF
SIDE PANEL



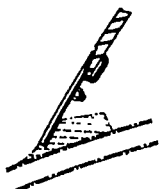
SECTION "F-F"



SECTION "G-G"



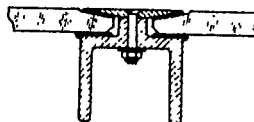
SECTION "H-H"



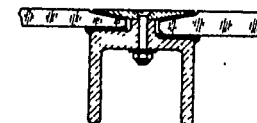
SECTION "J-J"



SECTION "K-K"



SECTION "L-L"



SECTION "M-M"

EDGES OF LAMINATED GLASS TO BE TREATED WITH THREE COATS OF SEAPLANE VARNISH.
ALL TRANSPARENT PANELS AND SCREENS TO BE BEDDED IN BOSTIK 1222 AND "A"
BEAD OF BOSTIK "B" TO BE FINALLY APPLIED TO ANGLE FORMED BY FRAME AND PANEL.

Fig 4/24 Canopy sections

RESTRICTED-

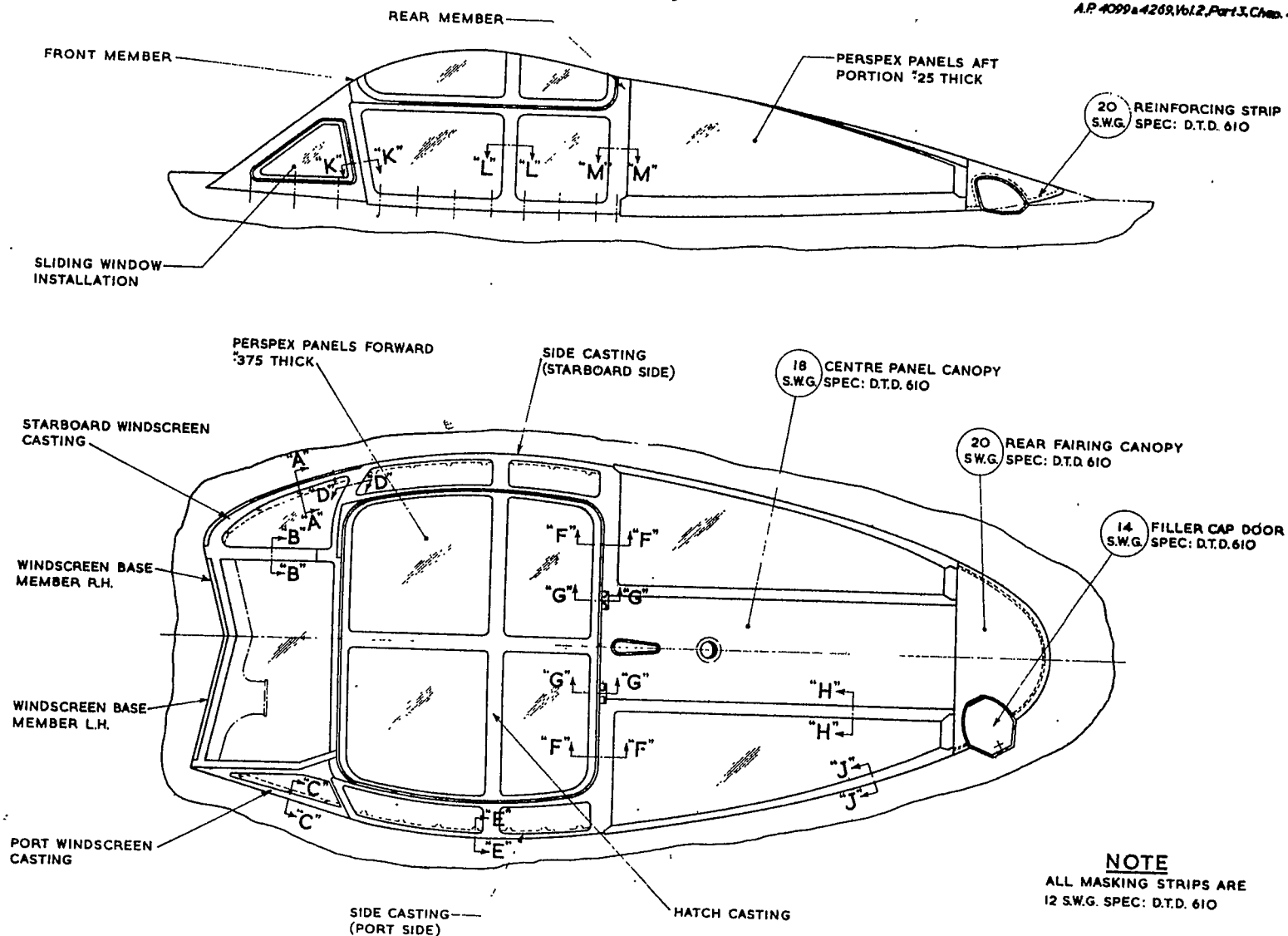
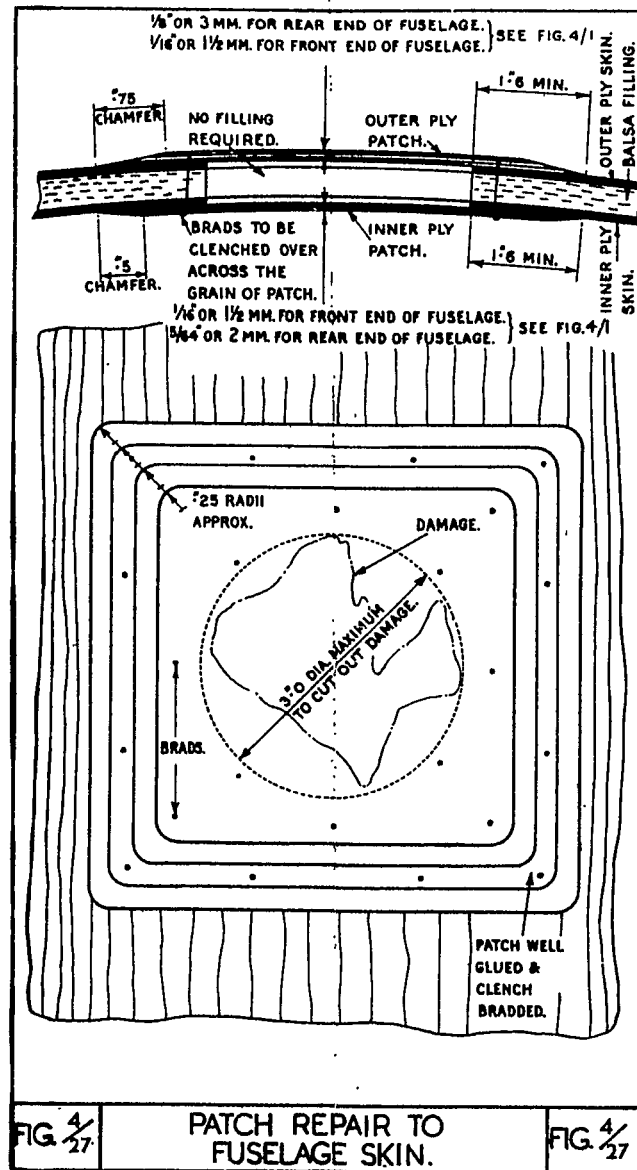
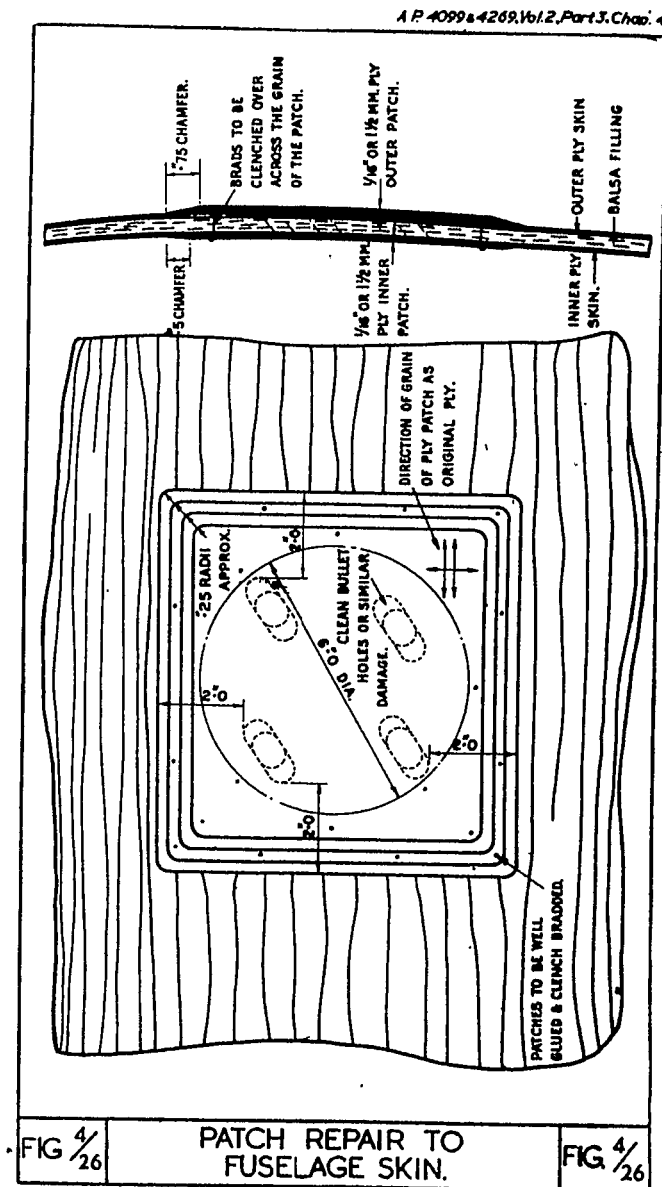
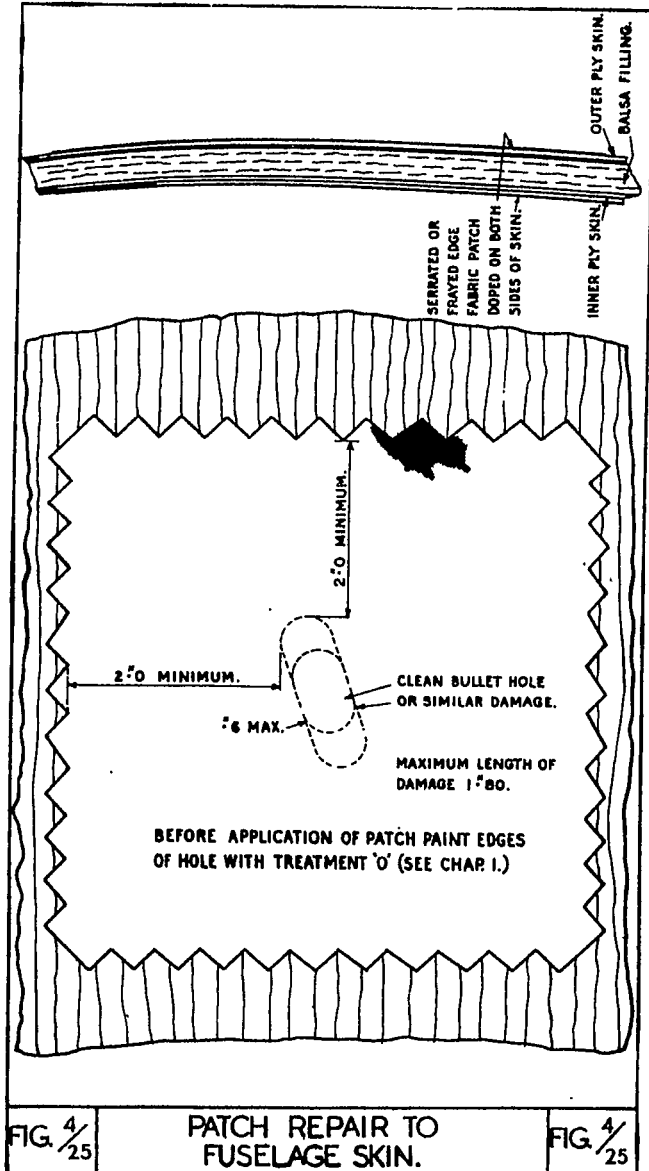
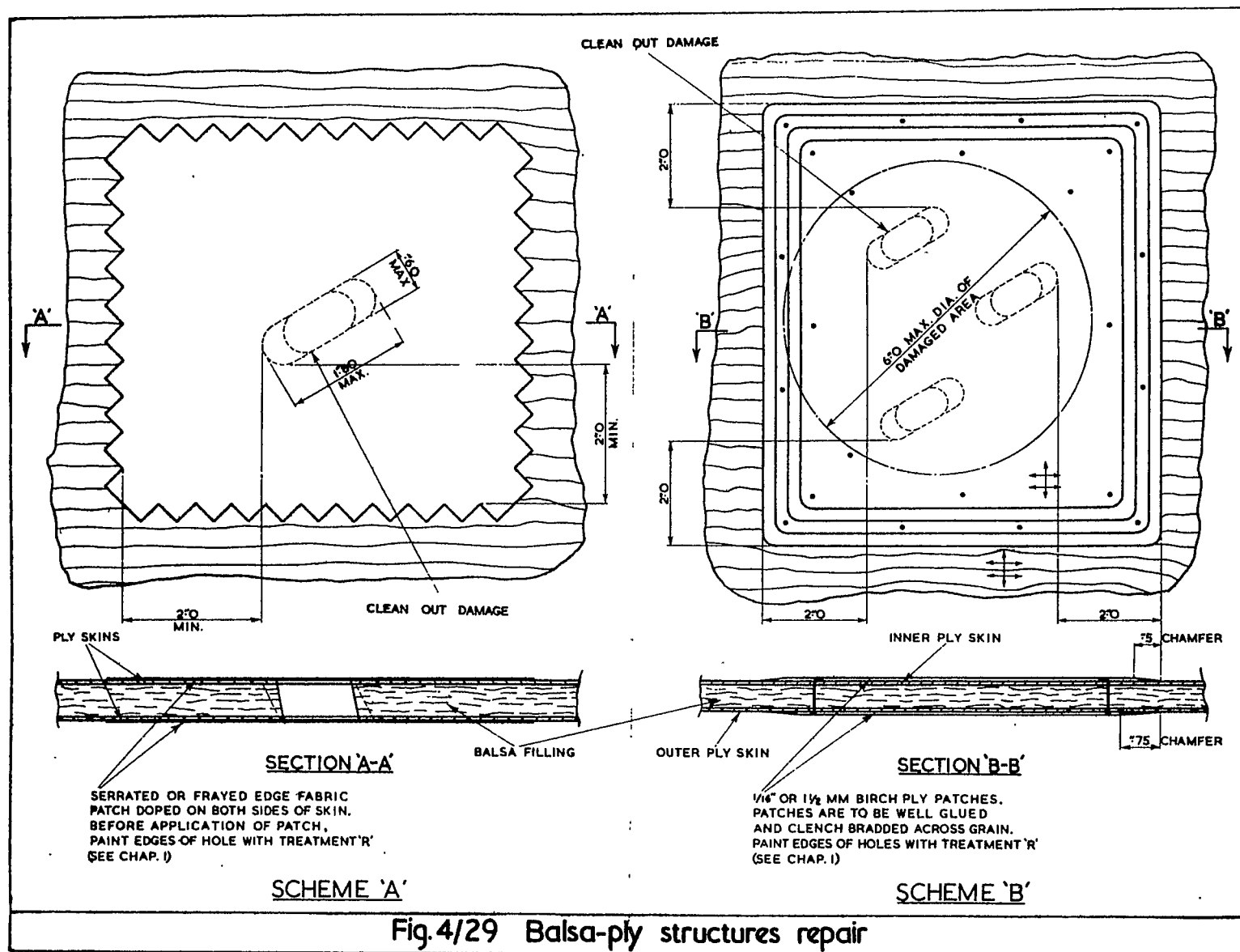


FIG. 4/23 CANOPY DIAGRAM
RESTRICTED



RESTRICTED





RESTRICTED

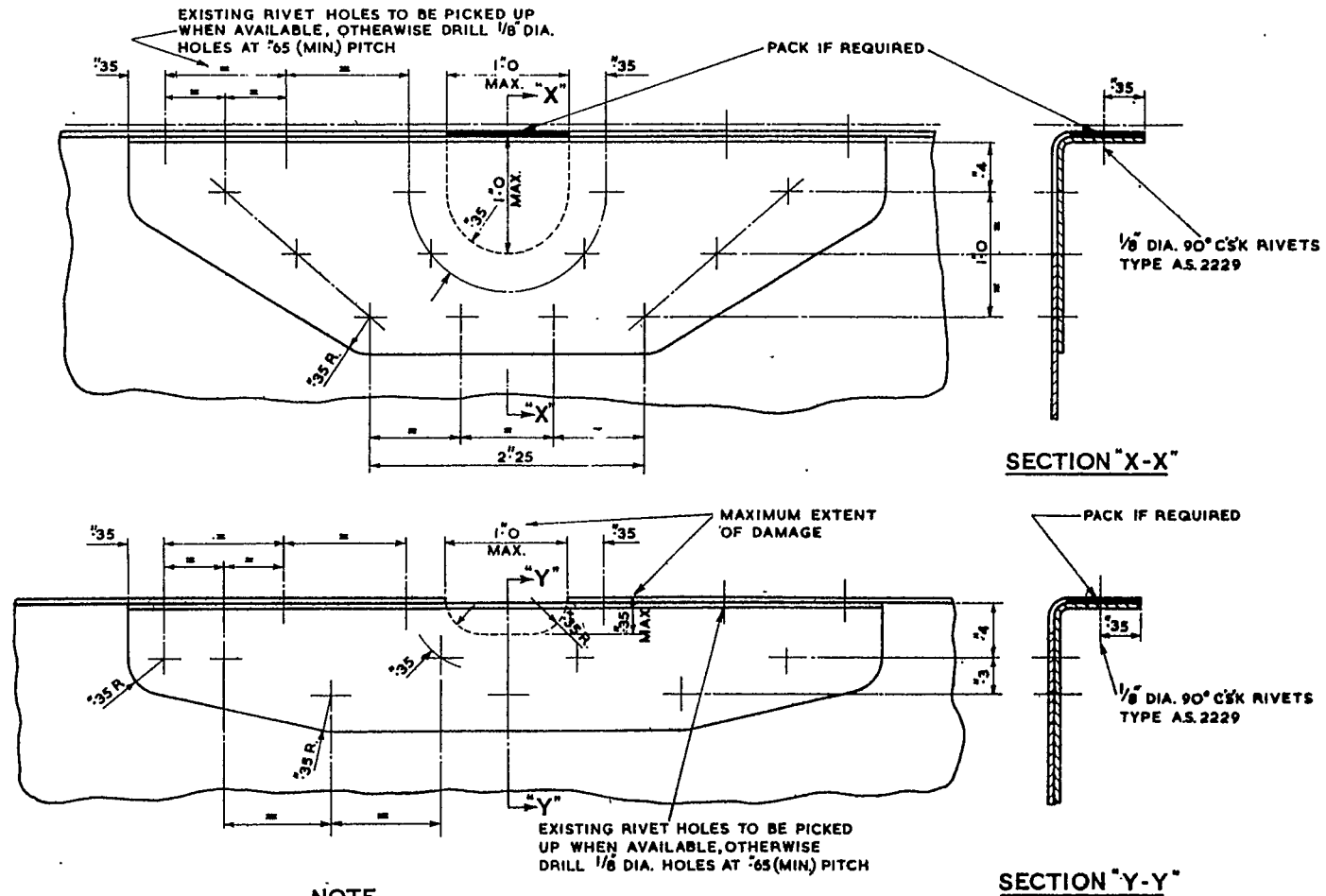
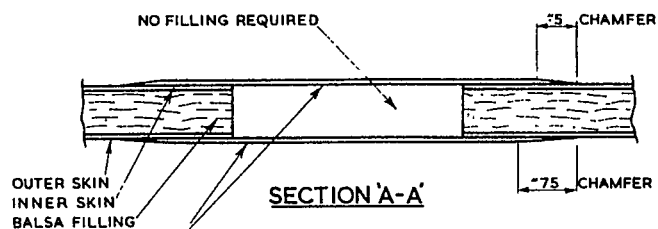
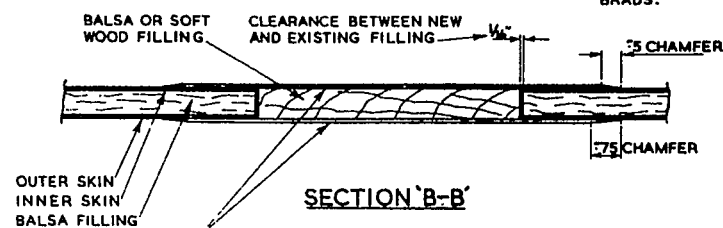


Fig. 4/28 Flange



NOTE

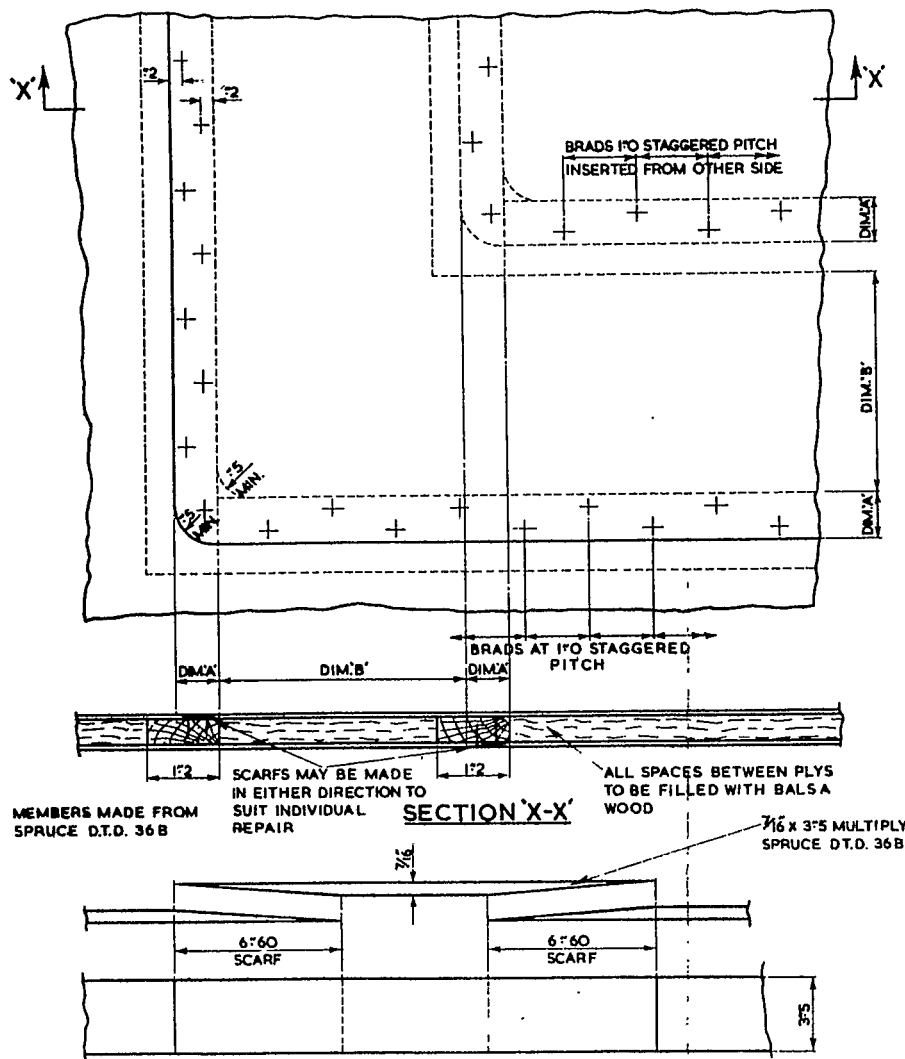
3M/M & 1 1/2 M/M PLY MAY BE USED IN
PLACE OF 1/8" & 1/16" PLY RESPECTIVELY
PATCHES ARE TO BE BIRCH PLY SPEC.V 3



1/16" INNER AND OUTER PLY PATCHES TO BE WELL
GLUED AND CLENCH BRADDED ACROSS GRAIN.
WHEN USING THIS PATCH IN THE RESTRICTED AREAS
OF THE FUSELAGE (SEE FIG. 4/12) MAXIMUM DIA
OF DAMAGE IS 5", ALSO 1/8" PLY PATCHES ARE
TO BE USED

Fig. 4/30 Balsa-ply structures patch repair

RESTRICTED



PROCEDURE FOR EFFECTING REPAIR

- 1 INSPECTION MUST BE MADE TO ENSURE THAT THE DAMAGE DOES NOT OCCUR IN THE PORTION OF THE SHELL CROSS HATCHED IN FIG. 4/12
- 2 IT SHOULD THEN BE DECIDED WHICH SIDE OF THE STRUCTURE TO WORK FROM. NORMALLY THIS WILL BE THE MOST DAMAGED SIDE
- 3 CUT AWAY DAMAGED PORTION OF ONE SKIN AND INSPECT FOR DAMAGED INTER-SKIN MEMBERS, ANY DAMAGE TO THESE MUST BE REMOVED. THE OTHER SKIN MUST NOW BE CUT BACK TO CLEAR DAMAGE
- 4 INSERT SCARFING MEMBERS AND SCARF IN NEW PORTION OF ONE SKIN
- 5 SCARF IN NEW PORTIONS OF ANY DAMAGED INTERNAL MEMBERS
- 6 ALL SPACES BETWEEN MEMBERS ARE TO BE FILLED WITH BALSA
- 7 SCARF IN NEW PORTION OF SKIN

NOTE

- 1 EXTREME CARE MUST BE TAKEN TO ENSURE THAT NO FURTHER DAMAGE IS CAUSED TO SKINS OR INTERNAL MEMBERS WHEN CUTTING BACK DAMAGE
- 2 ALL DAMAGED INTER-SKIN MEMBERS MUST BE REPLACED OR A NEW PORTION INSERTED WITH A 15:1 SCARF
- 3 REPAIR TO BE WELL GLUED AND BRADDED
- 4 3°0 MIN STAGGER MUST BE MAINTAINED BETWEEN EXISTING SCARFS AND NEW SCARF JOINTS
- 5 DIM. 'B' MUST BE INCREASED TO 6°0 WHEN THIS REPAIR IS USED IN AREAS SHOWN HATCHED ON FIG. 2/2

PLY THICKNESS	DIM. 'A'	DIM. 'B'
1/16"	°60	3°0 MIN.
5/16"	°80	3°0 MIN.*
1/8"	1°20	3°0 MIN.*

* SEE NOTE 5 ABOVE

TYPICAL SCARF FOR INTERSKIN MEMBERS

Fig. 4/31 Balsa-ply structures insertion repair

RESTRICTED

FUSELAGE FITTINGS

Limits of wear for items shown on fig. No. 4/32

Item No.	Part No.	Description of part	Nominal diameter	Female high or male low limit	Maximum wear limit	Plug gauge (See fig. No. 1/6)
1	G.00242	Eye-bolt	0.25	+0.0001	+0.0025	V B
2	G.00251	Operating lever	0.25	+0.0001	+0.0025	V B
3	G.00323 Mk. 4	Special pin	0.25	-0.0011	-0.002	Micrometer
4	G.00240	Fork end	0.1875	Drill	+0.0035	V A
5	SP4.B6	Standard pin	0.1875	-0.005	-0.007	Micrometer
6	G.00241	Fork end	0.1875	Drill	+0.0035	V A
7	A.00633	Pickup fitting	0.1875	+0.0003	+0.0035	V A
8	G.00245	Link guide	0.1875	+0.0003	+0.0035	V A
9	A.G.S.784/3	Standard pin	0.1875	-0.005	-0.007	Micrometer
10	G.00244	Link guide end (bush G.00325, Mk. 3)	0.25	+0.0001	+0.0025	V B
11	G.00321	Connecting plates	0.25	+0.0003	+0.0025	V B
12	A1/11E	Standard bolt	0.25	-0.0035	-0.0045	Micrometer
13	G.00323 Mk. 2	Special pin	0.25	-0.0011	-0.002	Micrometer
14	G.00247	Radius rod end	0.25	+0.0001	+0.0025	V B
15	G.00251	Operating lever (bush G.00325 Mk. 2)	0.25	+0.0001	+0.0025	V B
16	A1/11E	Standard bolt	0.25	-0.0035	-0.0045	Micrometer
17	G.00321	Connecting plates	0.25	+0.0003	+0.0025	V B
18	G.00251	Operating lever (Bush G.00325 Mk. 3)	0.25	+0.0001	+0.0025	V B
19	G.00128	Radius rod eye end	0.25	+0.0001	+0.0025	V B
20	G.00254	Rear door front hinge	0.25	+0.0001	+0.0025	V B
21	G.00323 Mk. 6	Special pin	0.25	-0.0011	-0.002	Micrometer
22	A.001363	Front hinge bracket	0.3125	+0.0004	+0.0035	W C
23	A1/14 G	Standard bolt	0.3125	-0.0035	-0.0045	Micrometer
24	A1/15 G	Standard bolt	0.3125	-0.0035	-0.0045	Micrometer
25	K.0052	Special pin	0.5	—	-0.001	Micrometer
26	K.0047	Control column (special bushes K.0053)	0.5	+0.001	+0.004	Y C
27	SP4Y H21	Standard pin	0.375	-0.005	-0.007	Micrometer
28	B.0037	Pickup bracket	0.375	+0.0004	+0.0035	Y A
29	B.0038	Seat link, rear	0.375	+0.0005	+0.0035	Y A
30	B.0038	Seat link, front	0.375	+0.0005	+0.0035	Y A
31	AS.2062	Seat frame	0.375	+0.0004	+0.0035	Y A
32	SP4Y H18	Standard pin	0.375	-0.005	-0.007	Micrometer
33	AS.2091	Main seat bracket (bush AS.2098)	0.5	+0.0025	+0.004	Y C
34	AS.2085	Spigot	0.5	-0.000	-0.002	Micrometer
35	AS.2063	Seat levers	0.875	+0.0005	+0.0035	X E
36	AS.2081	Bush (male)	0.875	-0.0027	-0.0045	Micrometer
37	AS.2062	Seat frame	0.875	+0.0005	+0.0035	X E
38	D.001254	Special bolt	0.625	-0.0014	-0.0025	Micrometer
39	A.001431-2	Joint, "C" fitting	0.625	+0.0005	+0.002	V D
40	D.00477	Special bolt	1.0	-0.002	-0.003	Micrometer
41	D.004241-2	Joint, "A" fitting	1.0	+0.0006	+0.002	Z B
42	D.004239-40	Joint, "B" fitting	1.0	+0.0006	+0.002	Z B
43	D.00478	Special bolt	1.0	-0.002	-0.003	Micrometer

RESTRICTED

FUSELAGE FITTINGS—cont.

Limits of wear for items shown on fig. No. 4/32—cont.

Item No.	Part No.	Description of part	Nominal diameter	Female high or male low limit	Maximum wear limit	Plug gauge (See fig. No. 1/6)
44	A.00801	Special bolt	0.375	—0.0035	—0.0045	Micrometer
45	A.00397-8	Bracing tube (rear outer)	0.390625	$\frac{23}{64}$ in. drill	+0.0035	X B
46	A.00457-8	Spar boom lug	0.390625	$\frac{23}{64}$ in. drill	+0.0035	X B
47	A15Y/8J	Standard bolt	0.375	—0.0035	—0.0045	Micrometer
48	A.00397-8	Bracing tube (rear inner)	0.390625	$\frac{23}{64}$ in. drill	+0.0035	X B
49	A.00397-8	Bracing tube (front)	0.453125	$\frac{23}{64}$ in. drill	+0.0035	X C
50	D.00469-70	Pickup fitting	0.453125	$\frac{23}{64}$ in. drill	+0.0035	X C
51	A15Y/10L	Standard bolt	0.4375	—0.0035	—0.0045	Micrometer
52	K.0086	Lug fitting	0.25	+0.0003	+0.0025	V B
53	A1/15E	Standard bolt	0.25	—0.0035	—0.0045	Micrometer
54	K.0084	Stay tube, fork	0.25	+0.0003	+0.0025	V B
55	K.0085	Stay tube, front	0.25	+0.0003	+0.0025	V B
56	K.00285	Special bolt	0.3125	+0.001	—0.001	Micrometer
57	K.00284	Special bolt	0.3125	+0.001	—0.001	Micrometer
58	K.00198	Special bolt	0.3125	—0.003	—0.0045	Micrometer
59	K.00169-70 Mk. II	Pedal casting	0.3125	+0.0004	+0.0035	W C
60	K.00187	Spigot, outer	0.3125	—0.002	—0.003	Micrometer
61	K.00186	Spigot, inner	0.3125	—0.002	—0.003	Micrometer
62	A1/7G	Standard bolt	0.3125	—0.0035	—0.0045	Micrometer
63	G.00381	Plug end	0.375	+0.0004	+0.0035	Y A
64	A15Y/9J	Standard bolt	0.375	—0.0035	—0.0045	Micrometer
65	G.00292 Mk. 3	Special bolt	0.3125	—0.0004	—0.002	Micrometer
66	G.00288	End fitting	0.3125	+0.0004	+0.0035	W C
67	G.00286-7	Pickup fitting	0.3125	+0.0004	+0.0035	W C
68	G.00293	Special bolt	0.25	—0.0003	—0.002	Micrometer
69	G.00301-2	Eye-bolt	0.25	+0.0004	+0.0025	V B
70	G.00279	Side strut, rear	0.25	+0.0003	+0.0025	V B
71	G.00286-7	Pickup fitting	0.3125	+0.0004	+0.0035	W C
72	G.00278	Lower strut rear, end plug	0.3125	+0.0001	+0.0035	W C
73	G.00292 Mk. 4	Special bolt	0.3125	—0.0004	—0.002	Micrometer
74	G.00279	Side strut front, end plug	0.3125	+0.0004	+0.0035	W C
75	G.00277	Lower strut front, end plug	0.3125	+0.0004	+0.0035	W C
76	G.00285	Front bracket	0.3125	+0.0004	+0.0035	W C
77	G.00292 Mk. 1	Special bolt	0.3125	—0.0004	—0.002	Micrometer
78	G.00292 Mk. 2	Special bolt	0.3125	—0.0004	—0.002	Micrometer
79	G.00295-6	Upper strut	0.3125	+0.0001	+0.0035	W C
80	G.00323 Mk. 3	Special pin	0.25	—0.0011	—0.002	Micrometer
81	G.00270	Eye-bolt	0.25	+0.0001	+0.0025	V B
82	G.00271	Pickup	0.25	+0.0001	+0.0025	V B
83	G.00323 Mk. 5	Special pin	0.25	—0.0011	—0.002	Micrometer
84	G.00269	Eye end	0.25	+0.0001	—0.0025	V B
85	G.00323 Mk. 1	Special pin	0.25	—0.0011	—0.002	Micrometer
86	G.00270	Link rod	0.25	+0.0001	+0.0025	V B
87	A.00757	Pickup	0.25	+0.0001	+0.0025	V B

RESTRICTED

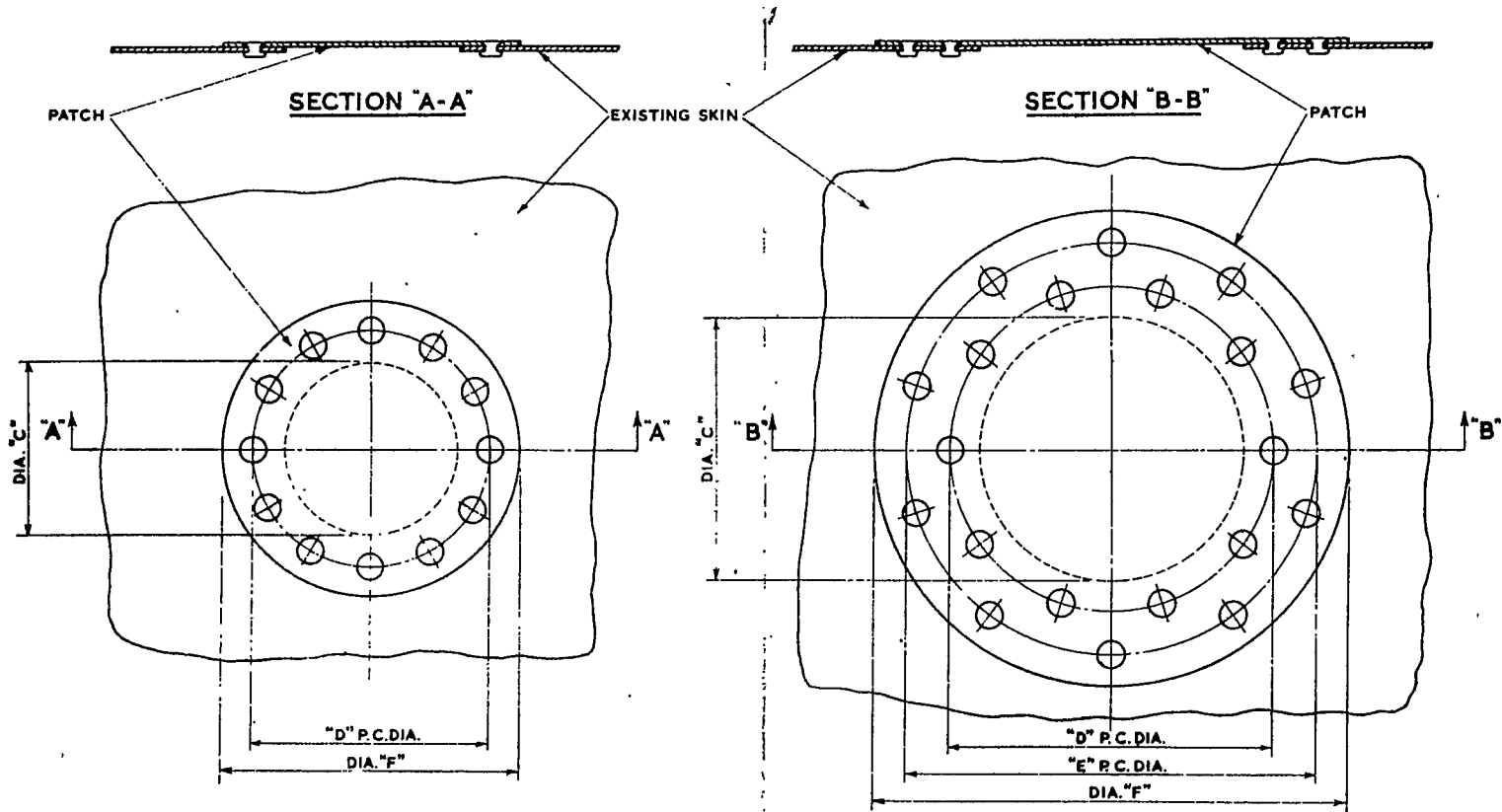


FIG. 1

FIG. 2

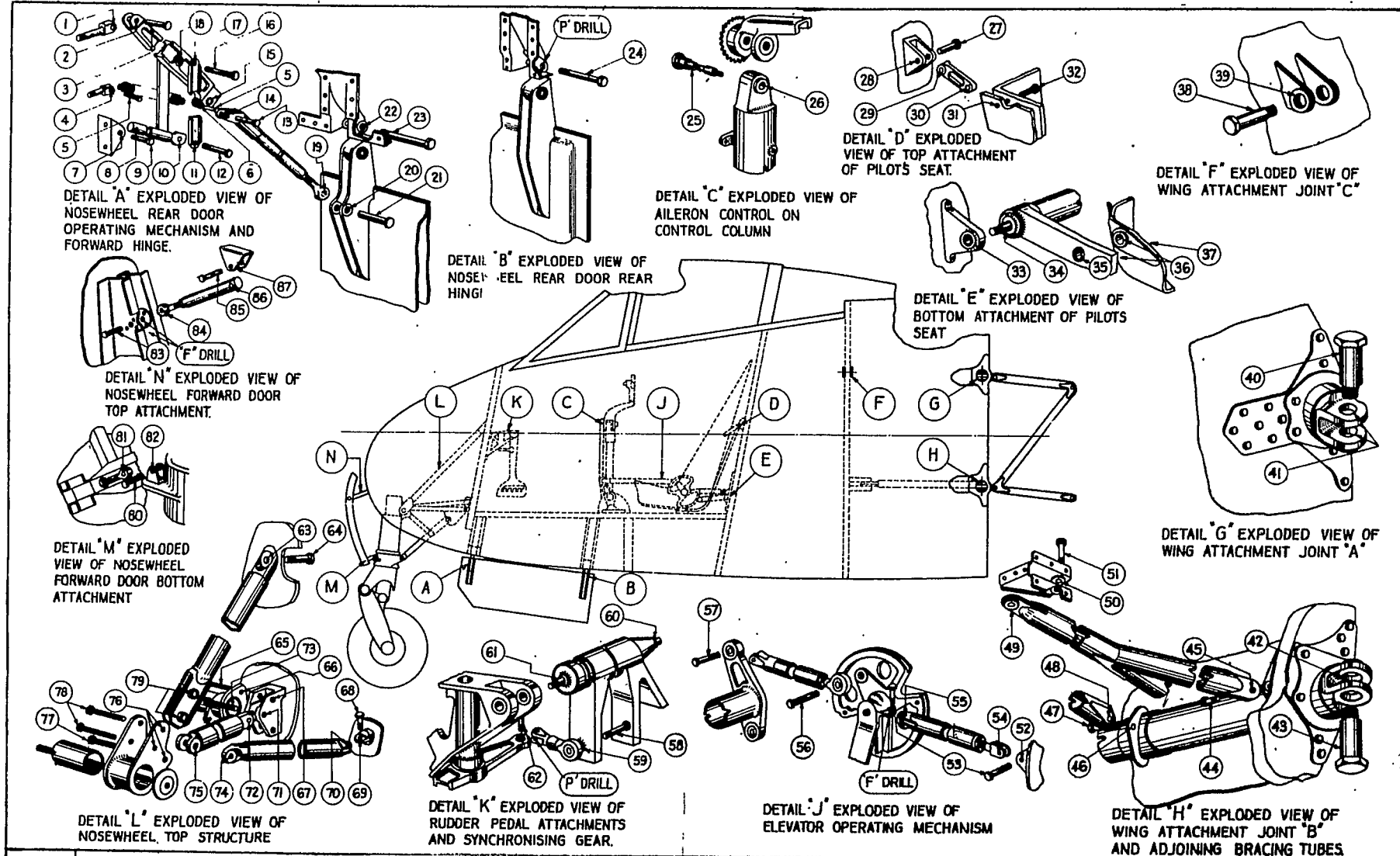
NOTES

RIVETS ARE TO BE EQUALLY SPACED AROUND P.C.DIA. IN THE LARGER SIZES OF PATCH, RIVETS ARE TO BE STAGGERED AND EACH ROW MUST HAVE AN EQUAL N° OF RIVETS.
 USE $\frac{5}{32}$ " DIA. 90° C'SK RIVETS, TYPE AS.2229 WHERE POSSIBLE, OTHERWISE 90° C'SK STEEL CHOBERT RIVETS PINNED.
 SKINS 20 S.W.G. AND UNDER MUST BE DIMPLED.
 PATCH TO BE SAME GAUGE AND SPECIFICATION AS ORIGINAL SKIN.
 THE "DIA. OF DAMAGE 'C'" REFERS TO THE MAXIMUM DIA. OF THE HOLE AFTER CLEANING OUT

DIA. OF DAMAGE "C"	FIG. N°	DIA. OF PATCH "F"	P.C. DIA. "D"	P.C. DIA. "E"	N° OF RIVETS IN PATCH
2.05	1	1.9	1.2	—	6
1.0	1	2.4	1.7	—	8
2.0	1	3.4	2.7	—	12
3.0	2	5.4	3.7	4.7	20
5.0	2	7.4	5.7	6.7	24

FIG.4/33 FUSELAGE FAIRING PATCH REPAIRS

RESTRICTED



APPENDIX F

CHAPTER 4

FUSELAGE

FITTING INSTRUCTIONS FOR REPLACEMENT COMPONENTS

APPENDIX F

Chapter 4

FITTING INSTRUCTIONS FOR REPLACEMENT COMPONENTS

List of Contents

	Para.		Para.
FITTING OF REPLACEMENT		Vampire T Mk.11	
CANOPY HATCHES		(pre-Mod.Vam.3151) ...	5
General	1	Vampire T Mk.11 and Sea	
Single seat Vampire and		Vampire T Mk.22	
Sea Vampire	2	(post-Mod. Vam.3151)	6
Vampire Mk.10		Front windscreen panel,	
(post-Mod.Vam.3150) ...	4	two-seater aircraft	8

Illustration

Fitting of replacement windscreens	Fig. 4/F1
---	-----------

FITTING OF REPLACEMENT CANOPY HATCHES

General

1 The instructions given in the following paragraphs supplement the assembly information in the relevant Vol.4 and basically apply to new hatches. When reconditioned hatches or those transferred from other aircraft are to be fitted, the full instructions will not apply as the hatches will have been trimmed when fitted to previous aircraft. Hence only limited trimming will be possible. If several similar hatches are available, much time and trouble will be saved by initial selection of the most suitable hatch for the aircraft concerned.

Single seat Vampire and Sea Vampire

2. The procedure for fitting a new canopy sliding hood is as follows:-

- (1) Ensure that the bottom flanges of the canopy retaining brackets (14 S.W.G., Spec.S.3 or S.84), attached to bulkhead No.3, are not deformed. If they are and cannot be straightened, fit new brackets.
- (2) Check that the bottom flange of the rear fairing diaphragm is not out of alignment. True up if necessary.
- (3) With the hood closed and locked, check that neither the perspex nor the metal fairing is rubbing against the

- fuselage skin. If there is contact, gently file the part to give clearance. After filing, thoroughly polish the perspex to remove all file marks.
- (4) With the hood still closed, locked and unpressurised, ensure that an even gap of 0.030 in. minimum, 0.1 in. maximum exists between the flanges of the retaining brackets and the diaphragm, and the overlap of these two flanges is 0.3 in. minimum.

Note.- It is essential that these dimensions are maintained as the canopy, if jettisoned, depends upon this fit to clear the tail plane. The fit may also affect safety during normal flight.

- (5) If the gap between the flanges exceeds the dimensions in (4) fit a new retaining bracket.
- (6) If the overlap is less than 0.3 in., pack out the retaining bracket to obtain this dimension. The flange must neither jam in the radius of the diaphragm flange nor butt in any way. If necessary, file the edge of the retaining bracket flange to give clearance.

Note.- The use of plasticine may be of an advantage when carrying out the above checks.

- (7) Check that the gaps between the seals and the beads on the hood, in the unpressurised condition, are as follows:-
- (a) Between hood and windscreen. - 0.12 in. along the top and 0.050 in. down the sides.
- (b) Along the sides adjacent to the rails. - 0.15 in. To obtain these dimensions it may be necessary to carefully dress the channel carrying the seal.

3. If the jettison mechanism is operated for any reason, it is essential that, when the jettison lever is pulled, a counter pressure is applied on the re-setting cable (Vol.1, Sect.5 of the relevant A.P.). Failure to do this may result in bowing of the connecting rods, bending or fracture of the adjusting screws with subsequent risk of inadvertent jettisoning of the canopy in flight. For this reason it is advisable to operate the mechanism as little as possible.

Vampire Mk.10 (post-Mod.Vam.3150)

4. Refer to A.P.4099H, Vol.1, Sect.3, Chap.1 for illustrations and phraseology. The canopy hatch should be fitted as follows:-

- (1) Ensure that the cartridge is removed from the hatch jettison gun.

RESTRICTED

- (2) Remove the two eccentric locating pins which are situated at the rear of the hatch and remove the existing shims fitted under the hatch hinge eyebolts.
- (3) Attach the hatch to the canopy hinges by holding both hinge rockers flush with the canopy contour and pushing the hook arm upwards and rearwards to lock the hatch hinges. Now connect up the hatch beam claw mechanism and lock in position by means of the push rod.
- (4) Open the hatch gently and check that the rear masking strip on the hatch does not foul the upper surface of the adjacent canopy masking strip when the hatch is opened to a position approximately at right-angles to the canopy. If necessary, file the hatch masking strip to obtain a slight clearance.
(See Note.-)

Note.- When fitting of the hatch is completed, the gap between the hatch masking strip and the canopy over the whole hatch periphery must be between the limits of 0.20 in. max. and 0.050 in. min. but should be as close as possible to the minimum limit of 0.050 in. Since this gap is altered each time the hatch hinge bolt shimming is adjusted (5), only enough metal should be filed from the hatch masking strip to remove the immediate foul. No specific attempt should be made to produce the minimum gap of 0.050 in. until the hatch is finally bedded in the symmetrical position.

- (5) In conjunction with the trimming operations, it may be necessary to adjust the hatch position relative to the canopy by shimming under the hatch hinge bolts. Laminations of shim brass should be fitted under both bolts to obtain forward movement or under one bolt to obtain symmetry of the hatch about the aircraft centre-line. The maximum permissible thickness of shim under one or both bolts is 0.050 in. If the hatch is not symmetrical about the aircraft centre-line after the maximum shim adjustment has been used, change the hatch hinge bolts over and re-shim. This is likely to make a small difference because of the manufacturing tolerances on the bolts.
- (6) File round the hatch masking strip evenly on both sides, from the REAR TO THE FRONT, until the hatch seats squarely on the canopy.

(A.L.16, Dec. 55)

RESTRICTED

- (7) To ensure a good fit it may be necessary, in addition to filing the masking strip on the forward edge of the hatch, to file back the hatch casting to a maximum of 0.050 in. to prevent the hatch casting from fouling the front windscreen bedding strip in the nearly closed position. To do this, gently close the hatch from inside the cockpit, note any high spots on the hatch casting and file as necessary. At the same time ensure that the two front and centre rubbing pads, which are part of the hatch casting, do not foul the rubbing pads fitted to the side of the canopy rail. If a foul which causes the hatch to be thrown off centre does exist, remove the laminations of brass shim from under the canopy rail pads and re-shim to produce a clearance between the hatch rubbing pads and canopy rail pads of 0.002 in. max. in the hatch closed condition.
- (8) Check that the hatch locks correctly by closing the hatch and locking by means of the internal handle. This should only require application of a gentle load on the handle over the full range of travel from unlocked to fully locked position and no high spots should exist. If necessary, to relieve a friction load on the handle or to ensure that there is no clearance between the canopy latch pads and the latches, shim the front latch pads to a maximum of 0.062 in., using 0.003 in. thick laminations of brass shim to specification Attewell L.B.2. With the hatch closed and the latch pads correctly shimmed, it should be just possible to rotate the latch lock rollers.
- (9) Check that the hatch front casting is seating squarely on the sill of the front windscreen casting by placing a piece of paper in the region of each latch pad, closing the hatch and ensuring that the hatch firmly grips both pieces. If only one piece of paper is gripped, add shims to the latch pad (8) on the free side until satisfactory. If the shimming has been altered as a result of this check, re-check the adjustments of the latches and of hatch to canopy.
- (10) Close the hatch externally by means of the external handle, ensuring that the internal handle is in the fully locked position.

Note.- This does not include the positive engagement of the internal handle lock lever catch, which must be manually engaged to ensure completion of the hatch locking operation. If the external handle does not fully lock the hatch, adjust the connecting rods on the hatch centre beam until the hatch latches engage and disengage fully under the action of the handle.

RESTRICTED

- (11) With the hatch in the locked position, check externally with a set of feeler gauges that there is an all-round clearance of 0.010 in. to 0.090 in. between the hatch pressure seal and the canopy rail bedding strip. If the gap exceeds 0.090 in., insert hard rubber packing under the rubber pressure seal to reduce the gap to the required clearance and secure the pressure seal and rubber packing in position with Bostik 'C' adhesive.
- (12) Check the hatch contours relative to the canopy. At the forward end, the canopy must neither project more than 0.030 in. into the slipstream nor be recessed by more than 0.060 in. - At the aft end, the rear canopy arch must neither project nor be recessed more than 0.060 in.
- (13) Replace and adjust the hatch eccentric locating pins andpeen over the threads to lock.
- (14) Connect up the flexible tube to the union on the air valve.
- (15) Check that the hatch demisting pipes line up with the fixed canopy demisting pipes.
- (16) Conduct a pressure test as detailed in A.P.4099H, Vol.1, Sect.3, Chap.8, and re-check the canopy contour limits as in (12), when the cockpit is pressurised.
- (17) Clean out the cockpit and remove the protective rubber treatment from the hatch perspex panels.
- (18) Restore protective finishes as necessary. If the magnesium hatch casting has been filed, the affected areas should be treated in accordance with A.P.2662A, Scheme 1303.
- (19) Re-fit the canopy hatch jettison gun cartridge.

Vampire T Mk.11 (pre-Mod.Vam.3151)

5. Refer to A.P.4099J, Vol.1, Sect.3, Chap.1 for illustrations and phraseology. The canopy hatch should be fitted as follows:-

- (1) Remove the four latch bolts from the canopy, the two shear pins situated at the rear of the hatch and the two guide blocks (15.FC.1115), one on the port and one on the starboard side of the hatch.
- (2) Attach the hatch to the canopy by means of the two rear hinge bolts. Open the hatch gently and check that the rear masking strip on the hatch does not foul the adjacent canopy structure when the hatch is opened to a position approximately at right-angles to the canopy. If necessary file the

(A.L.16, Dec. 55)

RESTRICTED

hatch masking strip to obtain a slight clearance. (See Note.-).

Note.- When fitting of the hatch is completed, the gap between the hatch masking strip and the canopy over the whole hatch periphery must be between the limits of 0.20 in. max. and 0.050 in. min. but should be as close as possible to the minimum limit of 0.050 in. Since this gap is altered when the hinge bolt shimming is adjusted (3) and (6), only enough material should be filed from the masking strip to remove the immediate foul. No specific attempt should be made to produce the minimum gap of 0.050 in. until the hatch is finally bedded in the symmetrical position.

- (3) File round the hatch masking strip evenly on both sides, from the REAR TO THE FRONT, until the hatch seats squarely on the canopy.
- (4) In conjunction with the trimming operations it may be necessary to adjust the hatch position relative to the canopy by shimming under the hatch hinge bolts. Laminations of brass shim, up to a maximum thickness of 0.050 in., may be fitted under one or both hinge bolts to obtain symmetry of the hatch about the aircraft centre line, with a maximum gap of 0.020 in. between the four hatch feet bearers and the canopy latch bolt mountings.
- (5) Fit the two front latch bolts, lower the hatch on to them, and ensure that the latches do not foul the sides of their slots. To obtain a clearance, the latch bolts may be reduced in overall width to 0.45 in. by stoning, and the slots increased to 0.505 in. wide by filing.
- (6) In conjunction with (5) it may be necessary to adjust slightly the shimming behind the two hinge bolts to enable the hatch to ride over the latch bolts voluntarily.
- (7) Fit the centre latch bolts and repeat as for the front latches. The rear ends of the two centre slots in the hatch must be well radiused to allow free entry of the latch bolts, but such radiusing should not reduce the rear wall thickness below 0.050 in.
- (8) Reconnect the hatch strut and complete the assembly of the locking mechanism to the four latch bolts, ensuring that the centre line of the four latch bolts is symmetrical about the aircraft centre line when the hatch locking lever is in the fully open position. Fit the two modified eccentric shear pins (15.FC.1831) and the two eccentric

RESTRICTED

- bushes (15.FC.1833), in place of the existing bushes in the canopy. These eccentric bushes and shear pins give an overall tolerance of 0.040 in. eccentricity.
- (9) Lock the hatch and from the inside check the gap between the centre rim on the canopy extrusion and the deflated rubber pressure seal on the hatch, paying particular attention to the two rear corners. This gap should be between 0.175 in. and 0.30 in. If the gap exceeds 0.30 in., remove the Parker Kalon screws securing the seal to the hatch, insert hard rubber packing of thickness up to 0.25 in. under the seal and secure with new screws of the appropriate length. Close the hatch and re-check the gap.
 - (10) Refit the two guide blocks to the port and starboard side of the hatch and trim to give 0.010 in. clearance between the guide block and the locking mechanism rod.
 - (11) Connect the air pipe to the hatch pressure seal, close the hatch and check the pressure seal for inflation.
 - (12) Finally dress the masking strips to fair in with the contour of the canopy.

Vampire T Mk.11 and Sea Vampire T Mk.22 (post-Mod.Vam.3151)
6. Refer to Vol.1, Sect.3, Chap.1 of the relevant A.P. for illustrations and phraseology. When a canopy hatch has been jettisoned in flight a careful examination of the rear canopy should be made for signs of movement or distortion of the following parts:-

- (a) The rear arch including the female eccentric bushes.
- (b) The hinge attachment bolts for signs of looseness due to possible stretching.
- (c) The hatch stay tube attachment pins and their respective attachments.

7. The canopy hatch (Fabricated - 15.FC.1725A, Cast - 15.FC.3007A) should be fitted as follows:-

- (1) Remove the two locating rollers from the rear canopy arch, the two rear eccentric locating pins from the hatch, the quick release pin from the lower end of the adjustable jettison tie rod immediately aft of the hydraulic jack, and the two hinge jettison levers, Part No.15.FC.2181, from the hatch.
- (2) Assemble each jettison hinge lever to the canopy, ensuring that it is seating correctly and not fouling the canopy hinge

(A.L.16, Dec. 55)

RESTRICTED

- centre attachment bolt when engaged with the canopy hinge locking spindle. If a foul occurs, file the lever to clear checking that the depth from the centre of the hole to the filed surface is not less than 0.36 in. and forming a blended radius of 0.40 in. The lever should now be checked to ensure that with one rubber seal fitted, Part No.15.FC.3369 - introduced on Mod.3321, (the lipped type seal is now obsolete) there is a minimum clearance of 0.020 in. between the lever and the butt plate situated immediately behind the canopy hinge. If necessary, fit two rubber seals to obtain this clearance. On completion of this and any subsequent filing the lever should be treated with an etch primer, D.T.D.900/4125, followed by hardener, D.T.D.900/4126, and paint as background.
- (3) Attach the rubber seals to the hinge jettison lever with Bostik 'C' adhesive. The contact faces of the canopy and seal must form a leak-proof joint but must not stick together. Apply french chalk in the area where the seal contacts the rear canopy.
 - (4) Move the jettison tie rod to the jettison position and fit both hinge jettison levers. Pull the tie rod down, locking both levers in position by the jettison cams. The following chocks should now be made:-
 - (a) The engaging faces of the jettison lever lugs and the cams should overlap by 0.25 in. min., 0.30 in. max. To obtain this it may be necessary to adjust the shimming, which is nominally 0.060 in., under the jettison shaft torque tube mountings with 0.003 in. laminations Spec. Attewell L.A.3.
 - (b) Ensure that the toes of the jettison cams do not foul the arms of the levers in the release condition. This check can be made by operating the jettison tie rod whilst holding the levers hard down on to the canopy. If necessary, file the lever locally to remove the foul. The maximum thickness of material to be removed by filing is 0.030 in.
 - (5) With the hinge jettison levers held in position and the hydraulic jack fully retracted, fit the quick release pip pin to the lower end of the adjustable tie rod.
 - (6) Adjust the tie rod until the hinge release lever presses hard against the hydraulic jettison jack roller with the hinge jettison levers fully engaged by the jettison cams.
 - (7) Re-check the jettison cam engagement in relation to the hinge jettison lever lug, and wire lock the jettison tie rod barrel eye end securely to prevent it turning either way.

RESTRICTED

- (8) Remove the two hinge jettison levers from the canopy and assemble them to the hatch, securing with a countersunk-head rivet, AS.2229/30, lightly peened in position. Check the levers for freedom of movement.
- (9) Fit the hatch by attaching the hinge jettison levers to the canopy hinges and, with both levers pressed hard down, fit the quick release pip pin to the jettison tie rod.
- (10) Connect up the hatch support strut and, with the hatch in the open position, check that a clearance exists between the hatch hinge and the canopy hinge housing. To prevent a foul occurring, it may be found necessary to file a radius, not less than 0.46 in. from the hole centre, on one or each of the hatch hinges. After filing, the affected areas should be treated in accordance with A.P.2662A, Scheme 1303 for magnesium alloys.
- (11) Open the hatch gently and check that the rear masking strip on the hatch does not foul the upper surface of the adjacent canopy masking strip when the hatch is opened to a position approximately at right-angles to the canopy. If necessary, file the hatch masking strip to obtain a slight clearance. (See Note.-).

Note.- When fitting of the hatch is completed, the gap between the hatch masking strip and the canopy over the whole hatch periphery must be between the limits of 0.20 in. max. and 0.050 in. min. but should be as close as possible to 0.050 in. min. Since this gap can be altered by shimming the canopy housings (12), only enough metal should be filed from the hatch masking strip to remove the immediate foul. No specific attempt should be made to produce the minimum gap of 0.050 in. until the hatch is finally bedded in the symmetrical position.

- (12) In conjunction with the trimming operations, it may be necessary to adjust the hatch position relative to the canopy by shimming under the canopy hinge housings with a solid shim made from D.T.D.610 or D.T.D.546. The maximum permissible thickness of shim under either hinge housing is 0.032 in. and the shim must be properly bedded to the hinge housing assembly and arch. Laminated material must not be used.

(A.L.16, Dec. 55)

RESTRICTED

- (13) File round the hatch masking strip evenly on both sides, from the REAR TO THE FRONT, until the hatch seats squarely on the canopy.

Note.- It may be necessary to lightly dress back the pressure seal capping strip over the whole hatch periphery before it is possible to complete the operations (11), (12) and (13). The minimum gap between the seal capping strip and the canopy rail is 0.002 in. Care must be taken not to damage the pressure seal by the lip of the capping strip during dressing.

- (14) Gently close the hatch and from the inside of the cockpit, note any high spots on the pressure seal capping strips and dress as necessary. At the same time ensure that the two front and rear rubbing pads on the hatch casting do not foul the Redux ply shimmed pads fitted to the canopy rail. If a foul which causes the hatch to be thrown off centre does exist, remove the ply shim and re-shim to produce a clearance. The maximum permissible clearance is 0.10 in. for both the front and rear rubbing pads on a Fabricated Hatch and 0.080 in. for the front pads and 0.030 in. for the rear pads on a Cast Hatch.
- (15) With the hatch closed, check internally that the gap between the hatch casting (not the hatch seal) and the canopy structure, over the whole hatch periphery, is as follows:-
- (a) Fabricated Hatch - between 0.30 in. and 0.40 in.
At the rear arch only, the maximum value may be increased to 0.45 in. if essential but it is desirable that the gap should conform to the limits of 0.30 in. and 0.40 in.
 - (b) Cast Hatch - between 0.30 in. and 0.45 in. In this case, the maximum value may be increased to 0.50 in. at any point if essential but it is desirable that the value of 0.45 in. should not be exceeded.
- (16) Ensure that the external handle is in the closed position and check that the hatch locks correctly by closing the hatch and locking by means of the internal handle. This should only require application of a gentle load on the handle from the unlocked to the fully locked position with perhaps a little extra load over the last 1.0 in. of travel to ensure that the latches bite on the latch pads after the latch pads have been correctly shimmed. If necessary, to acquire the correct latch adjustment, shim the latch pads with 0.003 laminated brass shims, Specification Attewell

RESTRICTED

L.B.2, to a maximum of 0.125 in. thickness under one or both pads.

Note.- Under no circumstances should an external force be used when checking the latch adjustment. There should be a minimum of 0.30 in. overlap of latch over latch pad when the hatch is in the fully closed position.

- (17) Check that the hatch front casting is seating squarely on the sill of the front windscreen casting by placing a piece of paper approximately 3.0 in. long on each end of the sill, closing the hatch and ensuring that the hatch firmly grips both pieces. Further shimming of the latch pads (16) may be necessary to satisfy this requirement. If the shimming has been altered, re-check the adjustments of the latches and of the hatch to canopy. Lock the countersunk bolts securing the latch pads by centre popping the screw-driver slots.
- (18) Close the hatch externally by means of the external handle, ensuring that the internal handle is in the fully locked position.

Note.- This does not include the position engagement of the internal handle lock lever catch, which must be manually engaged to ensure completion of the hatch locking operation. If the external handle does not fully lock the hatch, adjust the connecting rods on the hatch centre beam until the hatch latches engage and disengage fully under the action of either release handle.

- (19) Check the hatch contours relative to the canopy. At the forward end, the hatch must neither project more than 0.050 in. into the slipstream nor be recessed by more than 0.10 in. At the aft end, the hatch must neither project nor be recessed more than 0.10 in.

Note.- These dimensions must be checked in conjunction with the rubbing pad clearances (14). For example, if the front hatch pad clearance is 0.080 in., the forward edge of the hatch must be 0.030 in. below the canopy to ensure that when the cabin pressure is applied, and the clearance between the rubbing pads is reduced to nil, the hatch is not more than 0.050 in. above the canopy.

(A.L.16, Dec. 55)

RESTRICTED

- (20) With the hatch in the open position, adjust the rear crank arm as follows:-
- (a) Move the internal locking handle to the locked position and ensure that the air seal operating lever (i.e. the internal locking handle safety catch) is correctly engaged.
 - (b) Operate the jettison operating lever and check visually that free movement of the crank arm occurs before the rear hatch connecting rod assembly starts moving rearwards. The crank arm can be adjusted by means of an adjustable stop bolt, situated inside the hatch centre beam, to give a maximum of 0.10 in. movement rearwards before operation of the rear connecting rod assembly commences. Lock the adjustable stop bolt on completion of the adjustment.
- (21) Close and lock the hatch from the inside and check that the clearance between the jettison operating arm and the jettison jack roller is 0.15 in. If this dimension is exceeded, remove the jack roller spindle bolt, unscrew the fork roller assembly from the hydraulic jack ram, and bush the assembly, under the jack roller, with a 0.50 in. o.d. x 14 s.w.g., Spec. T.45 distance tube of maximum length 0.625 in., trimmed to produce the 0.15 in. clearance.

Note.- Before removing the jack roller spindle bolt remove the quick release pin from the adjustable jettison tie rod, to facilitate adjustment of the jack roller. Should the hatch be raised with this release pin removed, ensure that the jettison hinge levers are held down to prevent the hatch becoming disengaged at its hinge attachments.

If the clearance, without bushing, is less than 0.15 in., lengthen the rear crank arm by adjusting the eye-piece just sufficiently to obtain the required value.

- (22) With the hatch in the closed position, adjust the pneumatic pressure seal valve so that the tappet striker depresses the valve 0.10 in. approximately in the fully locked position.
- (23) Connect up the flexible tube to the union on the air valve and check the operation of the pressure seal.
- (24) Replace the eccentric locating spigots and adjust in conjunction with their respective eccentric bushes. The gap between the spigot face and the bush face for either type of hatch must not exceed 0.10 in. If, after shimming as in (a) and (b) below, the gap still exceeds 0.10 in.,

RESTRICTED

fit steel shims below the head of the spigot bolt. The initial permissible shimming is as follows:-

- (a) Fabricated Hatch.- A maximum thickness of 0.05 in. laminated shim, Specification Attewell L.A.3, below the spigot bracket and shaped to suit the base.
- (b) Cast Hatch.- A maximum thickness of 0.030 in. laminated shim, Specification Attewell L.A.3, below the canopy rear arch eccentric bush mounting brackets and shaped to suit the base.

- (25) With the hatch open, re-assemble the two locating rollers to the rear canopy arch. Gently lower the hatch until contact is made between the roller and the hatch arms. Check that it is not possible to turn the roller under finger pressure with the hatch fully locked, and if necessary shim with 0.003 in. laminations, Spec. Attewell L.A.3, to a maximum thickness of 0.1 in. under the roller seats to obtain this fit.
- (26) Open the hatch and check that the hatch springs open approximately 3.0 in. of its own accord. This will ensure that the hatch opens freely. Repeat this operation using the external handle.
- (27) Check that the hatch de-misting pipes line up with the fixed canopy pipes and that the rubber seals are in position on the two hatch connecting pipes.
- (28) With the hatch closed, check the correct adjustment of the hatch damper jettison mechanism as follows:-
 - (a) With the damper strut release mechanism in the locked position, the jettison actuating lever must be so adjusted that it lightly contacts the jettison trip stud in the hatch fully closed condition.
 - (b) The actuating lever must engage with the stud 0.15 in. from its outboard end.
 - (c) Check that the inboard edge of the jettison guard is 0.15 in. from the outboard edge of the jettison stud with a 0.050 in. clearance between the guard and the stud.
- (29) Check that the air seal operating lever slot (this lever also functions as the internal locking handle safety catch)

(A.L.19, Oct. '56)

RESTRICTED

engages correctly with the spigot on the hatch handle and, at the same time, check the spring for correct tension. If adjustment has been made, ensure that the eccentric bolt assembly is secure.

- (30) When fitting a hatch of pre-Mod.3448 standard, ensure that the clearance between the air seal operating lever toe and the starboard front cut-away of the head guard mounted on the centre beam is 1.0 in. min., when the guard is in the fully forward position. If necessary, trim the guard and the rubber padding to obtain the minimum clearance. Ensure that there is no fore and aft movement of the head guard, and re-clinch the metal "wrap-overs" to the centre beam as necessary.
- (31) Restore protective finishes as necessary. If the magnesium hatch casting has been filed, the affected areas should be treated in accordance with A.P.2662A, Scheme 1303.
- (32) Clean out the cockpit, remove the protective rubber treatment from the hatch perspex panels and carry out a pressure test as detailed in the relevant Vol.1.

Front windscreen panel, two-seater aircraft

8. Remove the damaged panel, complete with seal and packings (if fitted), by detaching the four masking strips; it should be noted that on NF Mk.10 aircraft and T Mk.11 (pre-Mod.3151) aircraft, the lower masking strip is a welded assembly with the de-icer tube, and it will therefore be necessary to disconnect the de-icing system prior to removing this masking strip. Clean out the Boscoprene sealant from the windscreen casting recess without the use of solvents as traces of these may remain and subsequently de-laminate the replacement screen. Fit a new panel (fig.4/F1) in the following manner:-

- (1) Examine the replacement screen carefully for signs of damage, particularly around the edge of the front laminate.

Note.- If damage does exist and it is decided to continue to fit the screen, the fact should be noted for future reference should the screen eventually fail.

- (2) Protect both faces of the screen with cardboard (cut to within 0.75 in. from the edge of the screen) attached with masking tape (Stores Ref.32B/913).
- (3) Fit the new seal (if supplied separately) to the replacement screen with a thin film of sealant, Boscoprene 2100 (Stores Ref.33C/1281), ensuring that there is a tight fit between glass and seal.

- (4) Carefully insert the screen into the casting and, if possible, push it upwards so that it seats firmly in the top recess. If necessary, insert a piece of 0.4 in. wide natural rubber packing (approx. 40 Shore hardness) of the required thickness between the bottom edge of the screen and the casting to hold it in this position; in a similar manner, it may also be necessary to pack between the two side edges of the screen and the casting to position the screen centrally.
- (5) Temporarily bolt the masking strips in position as shown in fig.4/F1, ensuring that a gap of 0.05 in. min. to 0.1 in. max. exists between these and the outer glass laminate of the screen. If necessary, remove and file the strips to obtain this gap.

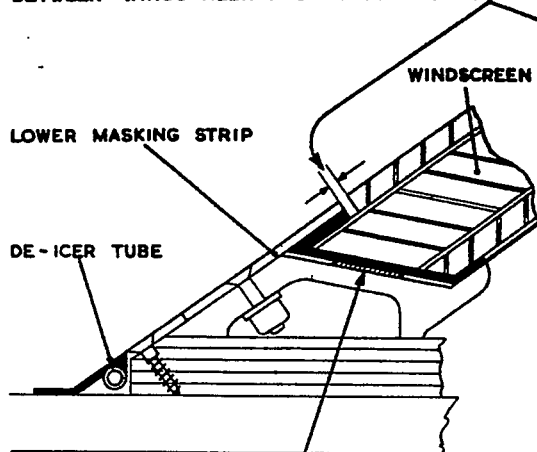
Note.- Throughout this operation, ensure that the glass does not move, and that the masking strips do not touch the edge of the front laminate causing perhaps a slight damage mark.

- (6) When the correct gaps have been obtained, remove the masking strips, windscreen and any packings. Apply a liberal coat of sealant, Boscoprene 2100 into the casting recess, over the packings and windscreen seal, and replace the windscreen.
- (7) Fit the lower masking strip and temporarily secure with bolts as shown, using sealant, Boscoprene 2100, over the area in contact with the windscreen.
- (8) Assemble the three remaining masking strips with further applications of the sealant adjacent to the windscreen, and bolt at the ends. Check the gaps as in (5), replace the remaining bolts in all the masking strips and, finally, tighten each one progressively, commencing at the centre of each masking strip and working outwards to the ends.
- (9) The windscreen should now be left for twenty-four hours to allow the sealant to cure, any surplus material then being removed without the use of solvents. Finally, carry out a pressure test as detailed in the relevant Vol.1.

(A.L.18, August '56)

RESTRICTED

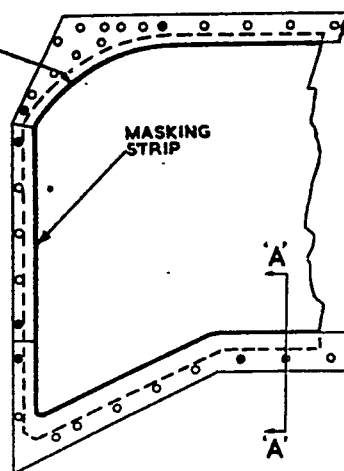
MAINTAIN GAP OF 0.05 IN. TO 0.1 IN.
BETWEEN WINDSCREEN AND MASKING STRIPS



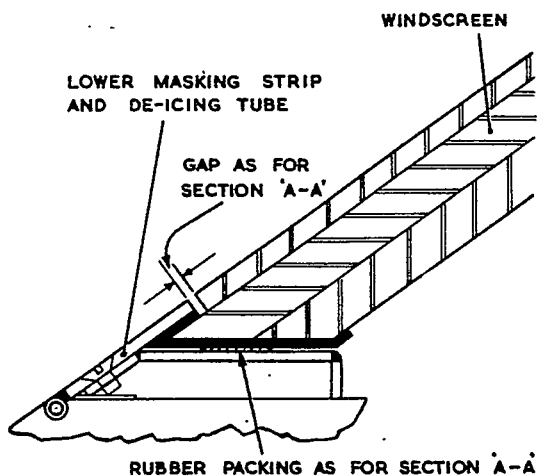
0.4 IN. WIDE RUBBER PACKING WHERE
NECESSARY (APPROX. 40 SHORE HARDNESS)

SECTION 'A-A'

MK. T11 AND T22 (POST-MOD. 3151)



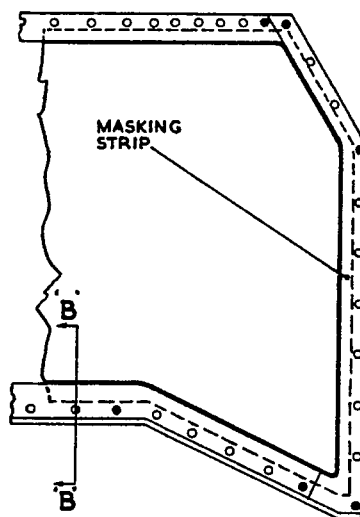
TEMPORARILY BOLT MASKING STRIPS
AT HOLES MARKED THUS:—●



RUBBER PACKING AS FOR SECTION 'A-A'

SECTION 'B-B'

MK. T11 AND T22 (PRE-MOD. 3151)
MK. 10 SIMILAR



WHEN FINALLY BOLTING DOWN COMMENCE
AT CENTRE OF THE MASKING STRIPS AND
WORK OUTWARDS TO THE ENDS.

Fig. 4/F1. Fitting of replacement windscreens

RESTRICTED

This file was downloaded
from the RTFM Library.

Link: www.scottbouch.com/rtfm

Please see site for usage terms,
and more aircraft documents.

