

CHAPTER I

GENERAL INFORMATION

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Description

1. The Vampire and Sea Vampire are twin-boom monoplane fighter aircraft propelled by a single reaction turbine unit located at the rear of the fuselage behind the pilot. Mark 10 and 11 have two-seater fuselages, the earlier marks and the Sea Vampire being single-seaters. The monoplane wing is of all-metal construction and fully cantilever; the fuselage, of monocoque construction, comprises an inner and outer skin of birch plywood sandwiching balsa planking and is insulated from the turbine unit by a stainless steel fireproof bulkhead. The fins, rudders, tailplane and elevator are carried by the monocoque tail booms: all these components are constructed in light alloy. The tricycle alighting gear is fully retractable.

Mark 9 aircraft have refrigeration equipment installed with a ventilation duct fitted inboard of the air-intake. The fairing of this fitment is repairable, when damaged within the limitations shown in Table of definitions of negligible and repairable damage included in Chapter 6. The repair methods shown for this component also apply to the fairing. The difference in construction of the two- and single-seater type is shown in Chap. 4 and Chap. 7. The repair methods described and illustrated in the following chapters apply to all marks of Vampire aircraft except when specifically instructed for use on prescribed marks. Attention should be paid to the Notes on applicability of repairs included in the preliminary matter.

Support of structure

2. Before attempting any structural repair, consideration should be given to the effect on the structure caused by the removal of members; any extensive repair will require the provision of adequate support to prevent distortion.

Cracks in structure

3. Cracks in either metal or wooden members are liable to spread unless properly checked, and careful routine inspection must be made to detect such cracks. Guidance in methods to be used in discovery of cracks will be found in A.P.1464B, Vol. I, Part 2, Sect. 3, Chap. 3. Cracks in metal of a negligible nature must have $\frac{1}{8}$ in. dia. holes drilled at extremities, and cracks in wooden members which affect the fibres in any way must be repaired by the methods described later for the members concerned.

Corrosion and timber deterioration

4. Before commencing a repair to or re-assembling a structure after repair, search should be made for signs of corrosion or, with wooden members, for evidence of timber deterioration. Where the surface is covered with enamel a clue to surface corrosion will be found by the flaking of the paint under thumb pressure. Timber may show signs of discoloration or dampness, and repair or re-protective treatment must be effected. Appropriate protective treatments for the various members of the aircraft are set out in Table 1

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under the references "A" to "AG", which are explained in detail in Table 2. Reference may also be made to A.P.2662A, Chap. 13. After the completion of any repair as a result of which there are ply edges exposed to the weather, and with all external patch repairs to the fuselage, the surfaces must be treated as "O" (see Table 1) and then allowed to dry for at least 4 hours before doping a fabric patch over the repaired surfaces. This final treatment of repaired material must be regarded as important and should be effected with every care.

Gluing

5. Synthetic resin adhesive has been used for gluing wooden members in construction of the aircraft. This adhesive must also be used for all repairs, under the conditions, and using the methods described in A.P.2662A, Standard Repairs for Airframes, Sect. 3, Chap. 31.

Members glued together with synthetic resin glues cannot be removed in one piece, it being necessary to cut away to the glue line and subsequently remove the glue with a scraper or chisel. This preliminary treatment must be effected with care to avoid damaging adjacent material. When surfaces are being prepared for gluing, any protective material or old glue must be removed and the surfaces sanded properly, an indicator being used to confirm the sanding, before again gluing. Scarfed joints must be clamped and plywood secured by use of tacking strips as shown in fig. 1/1. When the clamping tool shown in fig. 1/2 is used to clamp a ply patch to the fuselage skin, excessive pressure must be avoided in screwing up the wing nuts, otherwise the balsa sandwich might suffer.

Glazing compound

6. In using "Bostik" glazing and sealing compound, the instructions laid down in A.P.1464B, Vol. I, Part 2, Sect. 4, Chap. 6, must be followed.

Preparation of plywood for patch repairing

7. Before a ply patch is offered up to a repair, the mating ply surfaces should be scraped clean (see para. 4 and 5) and sanded, an indicator being used to confirm uniformity of surface. When gluing large patches with casein glue, $\frac{1}{8}$ in. dia. holes should be drilled at 5.0 in. staggered pitch to permit the emission of surplus glue.

Scarf joints in wooden components

8. When making scarf joints the taper must be at least 1 in 15, unless there is a specific

instruction otherwise, on the drawing illustrating the repair. Wooden packing members should always be fixed behind any ply when cutting and making the joint to secure an even taper and a true edge.

Ply bending

9. When a plywood panel with a pronounced curvature has to be renewed it will be found difficult to bend a flat panel to shape. A former should be shaped to reproduce the requisite curvature and the panel should be bradded over the former after being steamed for a suitable period. It should be left on the former until perfectly dry. The use of plywood strips (see fig. 1/1), bradded through the panel to the former, will be found to assist in shaping.

Woodscrew holes

10. When old screw holes are picked up in securing a member the next larger size screws should be used, or screws $\frac{1}{4}$ in. longer. See fig. 1/3 for screwing data.

Drainage holes

11. Care should always be taken when repairing a wooden component lest an air-locked compartment be created. $\frac{3}{8}$ in. dia. holes should be drilled at the lowest corner in any compartment unavoidably created, and the edges of the holes should be treated as treatment "O" (see Table 1).

Bowed tubes

12. The limit of bowing in tubular members which can be considered negligible is 1 in 600. Tubes which are bowed to an extent of 1 in 15 or less need not be replaced if they can be straightened to an eccentricity of 1 in 600. When this is not possible, or when tubes develop cracks in straightening or remain bowed in excess of 1 in 600, the damaged tubes must be replaced. Bowed tubular members must be cold-straightened over properly shaped hardwood blocks.

Rivets

13. The rivets required for repairs will be found listed in Table 3. Light-alloy rivets to Specification D.T.D.327 do not require heat treatment before use, but for duralumin rivets or alclad sheet, the treatment set out in A.P.1464B/3 must be followed. All riveting must be effected with every care to secure a perfect joint. It must always be realised that the fitting of the rivet, its proper length and a correct formation of its head, are of the utmost importance when repairs are being effected to a high-speed aircraft.

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Canopy

14. Repairs to the canopy (Perspex and frame) must on no account be attempted. Any damage will necessitate the fitting of a complete new canopy.

Wear limits

15. In the course of a major inspection it may be found that bolts or holes have become worn. Permissible wear limits for the male and female parts of the principal fittings on the aircraft are given in the appropriate chapters of this publication. Any parts which are worn in excess of the limits given must be considered unserviceable. The illustrations show exploded views of the various parts, with each hole and bolt referenced to the key table (which will be found facing its relevant illustration), where the part numbers and details of limits are listed. The wear limits given are to be applied directly to the nominal diameter and not on top of the existing limits. An example of the application of the information included in a table is shown below. From the table it will be seen that the original maximum

diameter of key No. 2 and 3 is 0.4379 in. (0.4375 in. + 0.0004); the maximum diameter to which the parts may wear before renewal is necessary is 0.4395 in. (0.4375 in. + 0.002) in both cases. In the case of key No. 1 the original minimum diameter is 0.4363 in. (0.4375 in. — 0.0012) and the minimum diameter to which it may wear before renewal is necessary is 0.4350 in. (0.4375 in. — 0.0025). It is shown that plug gauge "YB" is used for checking the holes. If bushes are used on any particular fitting the part number of the appropriate bush will be found noted in the description column indicating that the hole to be checked is in the bush and that, in the event of the wear limit of the hole being exceeded a new bush is to be fitted. Plug gauges are indicated by a symbol of two letters—as example "YB"—the first letter denotes the plug gauge and is engraved on the handle; the second letter denotes the plug diameter and is engraved, with the diameter, on the flat of the plug. Thus plug "YB" is part No. R00Y4 and the plug diameter is 0.4395 in. (see fig. 1/4).

Key No.	Part No.	Description	Nominal Dia.	Female high or male low limit	Maximum wear limit	Gauge
1	L.00559	Engine mounting pick-up bolt	0.4375	—0.0012	—0.0025	Micrometer
2	A.00802	Eye bolt	0.4375	+0.0004	+0.002	YB
3	L.00150-1	Side frame—R.H. and L.H.	0.4375	+0.0004	+0.002	YB

Protective treatment

16. Protective treatment of this aircraft is of primary importance and a complete table of the approved treatments used is given in Table 1

whilst a description of the application is given in Table 2 and the supplementary notes which follow in para. 17.

TABLE 1
Protective treatment of various assemblies

Component	Position	Treatment (see Table 2)
Fuselage		
In cockpit forward of seat armour	Internal (non-pressurised) Internal (pressurised) External	C
Elsewhere		B
Cockpit		D.O.I.9223
Elsewhere		B
Wings		
General	Internal	R and E
Inside tank bays	External	D
Inside wheel wells		Z003557 and E
		A
		D (see note 1)

TABLE I—continued

Component	Position	Treatment (see Table 2)
Aerofoils		
Elevator	{ Internal External	D Z003557 and E (see note 1)
Aileron		
Fin		
Split flaps and air brakes		
Rudder		
Wing tip		
Metal fuel tanks (except drop tanks) and non-metal fuel tanks as specified on drawings	{ Internal External	None None if self-sealed, D otherwise
Cowlings		
Engine and general	{ Internal External Internal External	D Z003557 and E
Chassis		D Z003557 and E (see note 5)
Flexible cables		Lanolin D.T.D.121 (dipped)
Chassis structure		D (see note 5)
Accumulator stowage and parts which may be affected by spray from the batteries		J over existing treatment
Light-alloy stampings, forgings and parts made from bar		G after machining, with paint where suitable
Steel stampings, forgings and parts made from bar		H after machining, with paint where suitable as note 5
Magnesium-alloy castings or bar		I and note 3
Fittings made from steel plate		As note 5 with U
Fittings made from dural plate		G with paint as note 1
Steel tubing, excepting chassis	{ Internal External External	F As note 5 with U
Hydraulic units		As note 5 with D
Water tank (drinking)	{ Internal External	G and S G and A
Interior of boxed light-alloy structures (except where stated otherwise in this table) e.g., wheel doors, flap box, etc.		D unless other paint is called for on drawing (Z.003557). See also note 1
Steel springs (except stainless)		H (no paint required)
Light-alloy castings in D.T.D.298, 300, 304, 424 or L.331 (N.B.—Omit paint from parts in fuel, oil and hydraulic systems where in contact with the fluid)		G D finish after machining
Copper, brass, or bronze parts (including bushes and screws) in contact with aluminium, magnesium (including alloys) or steel		H
Ammunition box interior		Phenoglaize lacquer to Drg. No. Z.001201
Dural tubing	{ Internal External	F G with paint, see note 1
Mild steel tubing used in piping services for fuel, mineral oil or air		AG
Steel airframe gun parts subject to abrasion, e.g. ammunition feeds, empty case or link chutes		AB, see note 4

Table 2
List of protective treatments

Symbol	Process specification	Treatment—description	Number of coats
A	D.T.D.902 (metal) or D.T.D.912 (wood) D.T.D.63A, white	Cleaning Primer Cellulose enamel, white pigmented	1 1
B	D.T.D.902 (metal) or D.T.D.912 (wood) D.T.D.751-5, grey-green	Cleaning Primer Cellulose enamel, grey-green pigmented	1 1
C	D.T.D.902 (metal) or D.T.D.912 (wood) D.T.D.751-5, black (night)	Cleaning Primer Cellulose enamel. black (night) pigmented	1 1
D	D.T.D.902 (metal) or D.T.D.912 (wood) D.T.D.63A, aluminium	Cleaning Primer Cellulose enamel. aluminium pigmented	1 1
E	D.T.D.902 (metal) D.T.D.517 To finish and marking drawing	Cleaning Primer Exterior finish and marking as necessary	1
F	D.T.D.902 D.T.D.279	Cleaning Pigmented resin—hardened lanoline	
G	D.H.A.302 (Hatfield process) D.T.D.901 and 910, Part III	Anodic treatment See note 1	
H	D.H.A.331 or D.T.D.904	Cadmium plating	
I	Hatfield process D or D.T.D.911 D.T.D.235	Chromating Primer U.P.4 Low temperature stove enamel, black, unless otherwise stated	1 1
J	D.T.D.912 B.S.X.19	Cleaning Acid resisting paint	
O	Waterproofing	Paint 342/202, Reference No. 33B/596	As necessary
R	As instructed on drg. No. Z.003558. Z.001233	Madapolam covering—weather-proofing and doping scheme (see O)	
S	D.T.D.909 D.T.D.234	Cleaning Varnish	2
U	D.T.D.902 (metal) or D.T.D.912 (wood) D.T.D.314, grey-green	Cleaning Primer Matt oil varnish. grey-green pigmented	1
V	Hatfield process K	Cleaning of hydraulic pipes (aluminium)	

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Table 2—continued

Symbol	Process specification	Treatment—description	Number of coats
Y	Hatfield process N	Cleaning of oxygen system pipes	
AB	Hatfield process V	Parkerise or phosphate treatment to D.O.I.9224	
AC	D.T.D.906	Metallising (aluminium spray)	
AG	D.H.A.340	Cleaning, protective treatment including black stove enamel	

Notes on protective treatment

17. The following brief notes supplement the information in Tables 1 and 2 showing, in some cases, permissible variations to the scheduled specification.

(1) All aluminium, aluminium-magnesium alloy or aluminium-manganese alloy must be anodised as G in addition to any other specified treatment but for parts made from alclad, pickling treatment to Specification D.T.D.915 or D.H.A.301 may be substituted for anodising. Parts which need drilling, punching or shearing must be anodised before this work, except when holes are not brought to final size until after assembly.

(2) All parts after assembly should be treated in common with surrounding structure: screw threads should be oiled and not painted. Interior treatment to fuel, oil and hydraulic systems is usually not necessary but all aluminium pipes in hydraulic systems should be treated as V.

(3) Where treatment I on magnesium alloy parts had been removed during fitting, local treatment with selenious acid as Specification D.T.D.911 must be used.

(4) Paint must not be used on the internal surfaces of ammunition feeds or ejection systems.

(5) Paint treatment is not sufficient on steel parts except for those listed at the end of this paragraph. One of H, AB or AC treatments must be applied before, and in addition to painting. AB or AC should not be used where parts treated are thinner than 22 s.w.g. Built-up laminated steel plate fittings should not be treated as H, steel tubes should not be treated with either H or AB if there is possibility of liquid being trapped inside. AB should only be used when H is not suitable.

Non-corrodible steels	} Paint treatment only is necessary
Internal parts of hydraulic systems	
Armour plate	
Airframe gun parts	

(6) Attachment bolts for fitting components are to be left unpainted and assembled with graphite anti-freeze grease, Specification D.T.D.582, or graphite anti-freeze oil (mineral oil content 80%, graphite 4%). Fittings, bolts, pins and screws which are sliding fits on or in other components are all painted after assembly in common with the surrounding structure.

(7) Aluminium and steel fittings bolted to wooden parts must be painted as O upon contact surfaces only before assembly.

(8) All brass screws or any other brass in contact with aluminium or aluminium alloys should be cadmium plated.

(9) One coat of duralac to Specification D.T.D.369A is used on all contacting surfaces of dissimilar metals.

(10) Bolt holes through wooden members are treated with lanoline as F.

(11) Instrument and electrical panels are finished as A.

(12) Pipes in oxygen systems are treated as Y.

(13) When magnesium alloy parts are attached to wood, a zinc shim should be used between the surfaces which should be coated with duralac and assembled wet.

Notes on tables

18. All dimensions shown anywhere in this Vol. 2, Part 3, are in inches unless stated to be otherwise. Assembly drawing numbers are included in brackets after descriptions of certain parts of components where such a reference is useful. All wood called up for repair or renewal of parts must be grade "A"

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and all plywood must be birch. Where there is little difference in design between a Vampire Mk. 3 components and that of a Sea Vampire Mk. 20, one table only is used for listing the parts of such a component. It should be remembered, however, that a part specifically noted for one mark of aircraft cannot be used for another. Whenever Specifications D.T.D.390 or 610 are quoted in structure illustrations, alclad sheet to Specification L.72 should be used for repair.

Test flying after repairs

19. Variation in the contour of the main plane in certain critical locations forward of the spar may affect the flying qualities of the aircraft even when the distortion is no greater than 0.005 in. In the event of repairs or renewals being necessary anywhere forward of the spar a test flight should be made to check that the work has not caused any alteration in the flying qualities of the aircraft.

Table 3
Repair material

Repair material						
Item	Ref. No.	Part No.	Description	Size	Spec.	
Wood						
1	31A/27	}	Birch ply (grain at 90 deg.)	$\frac{1}{16}$ in.	V.3	
2	31A/83			2.0 mm.		
3	31A/29			$\frac{1}{8}$ in.		
3A	31A/153	}	Brick ply (grain at 45 deg.)	$\frac{1}{16}$ in.		
3B	31A/154			$\frac{3}{4}$ in.		
3C	31A/155			$\frac{1}{8}$ in.		
4	31A/141	}	Spruce, available in random widths and lengths up to 9.0 ft. Thicknesses greater than 1.5 in. must be made up in laminations	$\frac{1}{4}$ in. thick	V.37 Grade A	
5	31A/142			in thick		
6	31A/143			in thick		
7	31A/144			in. thick		
8	31A/145			in. thick		
9	31A/146			in. thick		
10	31A/147			1.0 in. thick		
11	31A/148			1.5 in. thick		
Metal sheet						
12	30B/904	}	Manganese aluminium alloy	18 s.w.g.	L.59	
13	30B/1723		Aluminium-coated aluminium alloy (Alclad) sheet	10 s.w.g.	L.72	
14	30B/1724			12 s.w.g.		
15	30B/1726			14 s.w.g.		
16	30B/1728			16 s.w.g.		
17	30B/1730			18 s.w.g.		
18	30B/1732			20 s.w.g.		
19	30B/1734			22 s.w.g.		
20	30B/1736			24 s.w.g.		
Special sections						
21	A.1154	}	Reynolds section stringer	D.H.		
22	X.124		Standard section			
23	7785		Special section stringer			
Rivets						
24	28Q/6638	AS.2227/404	Rivet, sn/hd.	$\frac{1}{8}$ in. dia.	L.69	
25	28Q/6639	AS.2227/405		$\frac{1}{16}$ in. dia.		
26	28Q/6667	AS.2227/406				
27	28Q/6668	AS.2227/408		$\frac{1}{8}$ in. dia.		
28	28Q/9608	AS.2227/504				
29	28Q/6672	AS.2227/506		$\frac{3}{16}$ in. dia.		
30	28Q/6673	AS.2227/508				
31	28Q/7556	AS.2227/604		$\frac{1}{4}$ in. dia.		
32	28Q/10404	AS.2227/606				
33	28Q/6827	AS.2227/608	Rivet, csk/hd., 90 deg.	$\frac{1}{8}$ in. dia.		
34	28Q/6640	AS.2229/404				
35	28Q/6870	AS.2229/406		$\frac{3}{16}$ in. dia.		
36	28Q/6680	AS.2229/408				
37	28Q/6797	AS.2229/504	Rivet, csk/hd., 90 deg.	$\frac{1}{2}$ in. dia.		
38	28Q/7017	AS.2229/506				
39	28Q/6831	AS.2229/508		$\frac{1}{16}$ in. dia.		
40	28Q/10411	AS.2229/606				
41	28Q/10564	AS.2229/608				

Table 3—continued

Item	Ref. No.	Part No.	Description	Size	Spec.
42	28Q/10412	AS.2230/404	Rivet, csk/hd., 120 deg.	$\frac{1}{8}$ in. dia.	L.69
43	28Q/10681	AS.2230/406		$\frac{3}{16}$ in. dia.	
44	28Q/10696	AS.2230/408		$\frac{1}{2}$ in. dia.	
45	28Q/10872	AS.2230/505		$\frac{1}{2}$ in. dia.	
46	28Q/10445	AS.2230/516	Rivet, Chobert, csk/hd.	$\frac{1}{2}$ in. dia.	
47	28Q/6651	A.G.S.2046/406		$\frac{1}{2}$ in. dia.	
48	28Q/6877	A.G.S.2046/408		$\frac{1}{2}$ in. dia.	
49	28Q/6881	A.G.S.2046/508		$\frac{1}{2}$ in. dia.	
50	28Q/6882	A.G.S.2046/510	Rivet, Chobert, sn/hd.	$\frac{1}{2}$ in. dia.	
51	28Q/9922	A.G.S.2046/522		$\frac{1}{2}$ in. dia.	
52	28Q/6886	A.G.S.2046/506		$\frac{1}{2}$ in. dia.	
53	28Q/6887	A.G.S.2046/508		$\frac{1}{2}$ in. dia.	
54	28Q/6982	A.G.S.2046/510			
55	28Q/9524	A.G.S.2041/508	Rivet, Chobert, csk/hd.	$\frac{3}{16}$ in. dia.	D.T.D.720
56	28Q/9525	A.G.S.2041/510		$\frac{3}{16}$ in. dia.	
57	28Q/10645	A.G.S.2041/609		for $\frac{1}{8}$ in. dia. rivet	
58	28Q/6248	A.G.S.2047/406		for $\frac{3}{16}$ in. dia. rivet	
59	28Q/6726	A.G.S.2047/408	Pin, sealing	for $\frac{1}{8}$ in. dia. rivet	D.T.D.423
60	28Q/6755	A.G.S.2047/506		for $\frac{3}{16}$ in. dia. rivet	
61	28Q/6725	A.G.S.2047/508		for $\frac{1}{8}$ in. dia. rivet	
62	28Q/6824	A.G.S.2047/510		for $\frac{3}{16}$ in. dia. rivet	
63	28Q/9923	A.G.S.2047/512		for $\frac{1}{8}$ in. dia. rivet	S.1
64	28Q/8051	A.G.S.2042/508		for $\frac{3}{16}$ in. dia. rivet	
65	28Q/9600	A.G.S.2042/510		for $\frac{1}{8}$ in. dia. rivet	
66	28Q/11841	A.G.S.2042/607		for $\frac{3}{16}$ in. dia. rivet	
Screws, washers, etc.					
67	28A/2863	A.G.S.245/22	Screw	4 B.A.	
68	28M/13479	A.29/BP	Nut		
69	28S/6520	A.G.S.250/1A	Woodscrew, brass	No. 3 $\times \frac{1}{4}$ in.	
70	29D/1135		Nail, brass, wire, flathead	$\frac{1}{2}$ in. $\times$ 20 s.w.g.	
71	29D/1137			$\frac{3}{4}$ in. $\times$ 20 s.w.g.	
72	29D/1138			1-0 in. $\times$ 20 s.w.g.	
73	29D/2103			$\frac{1}{2}$ in. $\times$ 18 s.w.g.	
74	29D/			$\frac{3}{4}$ in. $\times$ 18 s.w.g.	
75	29D,			1-0 in. $\times$ 18 s.w.g.	
Miscellaneous					
76			Washer, langite	$\frac{1}{16}$ in. thick	D.T.D.900/ 4479
77	33B/556		Madapollam		
78	31A/99/100		Balsa	$\frac{7}{16}$ in. thick	
79	{ 33C/972		Adhesive, synthetic resin		
	{ 33C/973		Hardner		
80	32B/751		Fabric strip, serrated	2 $\frac{1}{4}$ in. wide	
81	33C/1427		Adhesive F.1		
82	33C/1429		Thinners F.T.1		
83	33C/1428		Catalyst F.C.1		

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Special tools

20. In the following table are listed tools and gauges which may be required in effecting repairs described in Repair Leaflets issued in Part 4 of this Vol. 2.

Table 4
Special repair tools

Ref. No.	Part No.	Description	Application
26FK/1523	6703P	Extractor	Power plant retaining bolts
26BA/7253	9043	Spanner, hook	Jettison pipe
26BA/7254	9044	Spanner, hook	Jettison pipe
26BH/26172	6120P1	Spanner	Oil filter cap
26FK/1505	6755P1	Spanner, hook	Controls
26FK/1504	6757P1	Tool	U/c pin withdrawal
26BA/20320	R.S.18B	Block	For squeezers
26BH/20331	R.S.18D	Block	For squeezers
26BA/20301	R.S.18F	Block	For squeezers
26BA/20302	S.T.D.52/1A	Dolly	$\frac{3}{32}$ in. dia. snap-head rivets
26BA/20303	S.T.D.52/1B	Dolly	$\frac{1}{8}$ in. dia. " "
26BA/20304	S.T.D.52/1C	Dolly	$\frac{5}{32}$ in. dia. " "
26BA/20328	S.T.D.52/2A	Dolly, cranked	$\frac{3}{32}$ in. dia. " "
26BA/20305	S.T.D.52/2B	Dolly, cranked	$\frac{1}{8}$ in. dia. " "
26BA/20306	S.T.D.52/2C	Dolly, cranked	$\frac{5}{32}$ in. dia. " "
26BA/20329	S.T.D.52/3A	Dolly, cranked	$\frac{3}{32}$ in. dia. " "
26BA/20307	S.T.D.52/3B	Dolly, cranked	$\frac{1}{8}$ in. dia. " "
26BA/20308	S.T.D.52/3C	Dolly, cranked	$\frac{5}{32}$ in. dia. " "
26BA/20322	S.T.D.52/4A	Dolly, cranked	$\frac{3}{32}$ in. dia. " "
26BA/20309	S.T.D.52/4B	Dolly, cranked	$\frac{1}{8}$ in. dia. " "
26BA/20310	S.T.D.52/4C	Dolly, cranked	$\frac{5}{32}$ in. dia. " "
26BA/20311	S.T.D.52/5A	Dolly, cranked	$\frac{3}{32}$ in. dia. " "
26BA/20323	S.T.D.52/5B	Dolly, cranked	$\frac{1}{8}$ in. dia. " "
26BA/20312	S.T.D.52/5C	Dolly, cranked	$\frac{5}{32}$ in. dia. " "
26BA/20313	S.T.D.68	Dolly, cranked	Dome countersunk head rivets
			All sizes
26FK/1501	S.T.D.151/1	Dolly, stub	$\frac{3}{32}$ in. dia. mushroom head rivets
26FK/1502	S.T.D.151/2	Dolly, stub	$\frac{1}{8}$ in. dia. " " "
26FK/1503	S.T.D.151/3	Dolly, stub	$\frac{5}{32}$ in. dia. " " "
26BA/20522	S.T.D.20	Mandrel	$\frac{5}{32}$ in. dia. drift rivets
26BA/20319	R.S.18A	Snap	For squeezers. $\frac{3}{32}$ in. dia.
26BA/20332	R.S.18C	Snap	For squeezers. $\frac{1}{8}$ in. dia.
26BA/20321	R.S.18E	Snap	For squeezers. $\frac{5}{32}$ in. dia.

TABLE 4—continued

Stores Ref. No.	Part No.	Description	Application
26BA/20333	S.S.997	Snap, rivetting	De Berque. $\frac{1}{8}$ in. dia.
26BA/20335	S.S.998	Snap, rivetting	De Berque. $\frac{3}{32}$ in. dia.
26BA/20315	S.T.D.59A	Snap	$\frac{5}{32}$ in. dia. snap-head rivets
26BA/20324	S.T.D.59B	Snap	$\frac{1}{8}$ in. dia. " "
26BA/20316	S.T.D.59C	Snap	$\frac{5}{32}$ in. dia. " "
26BA/20325	S.T.D.63A	Snap, cranked	$\frac{5}{32}$ in. dia. " "
26BA/20326	S.T.D.63B	Snap, cranked	$\frac{1}{8}$ in. dia. " "
26BA/20336	S.T.D.63C	Snap, cranked	$\frac{5}{32}$ in. dia. " "
26BA/20317	R.S.18J	Squeezers	Solid rivets
26BA/20318	R.S.18P	Squeezers	Solid rivets
26BA/20337	S.T.D.54A	Tool, drawing-up	$\frac{3}{32}$ in. dia. dome countersunk head rivets
26BA/20338	S.T.D.54B	Tool, drawing-up	$\frac{1}{8}$ in. dia. dome countersunk head rivets
26BA/20339	S.T.D.54C	Tool, drawing-up	$\frac{5}{32}$ in. dia. dome countersunk head rivets
26BA/20314	S.T.D.56A	Tool, drawing-up	$\frac{3}{32}$ in. dia. snap-head rivets
26BA/20341	S.T.D.56B	Tool, drawing-up	$\frac{1}{8}$ in. dia. " "
26BA/20342	S.T.D.56C	Tool, drawing-up	$\frac{5}{32}$ in. dia. " "
26BA/20343	S.T.D.67A	Tool, drawing-up	$\frac{3}{32}$ in. dia. dome countersunk head rivets
26BA/20344	S.T.D.67B	Tool, drawing-up	$\frac{1}{8}$ in. dia. " "
26BA/20345	S.T.D.67C	Tool, drawing-up	$\frac{3}{32}$ in. dia. " "
26EW/2407	R3Y/10	Tool dimpling: set comprising	
	R3Y10/1		18
	R3Y10/3		20
	R3Y10/5	Punch	22
	R3Y10/7		Top skin $\frac{1}{8}$ in. dia. 90 degree 24
	R3Y10/2		18
	R3Y10/4		20
	R3Y10/6	Die	22
	R3Y10/8		24
26EW/2408	R3Y/11	Tool dimpling: set comprising	
	R3Y11/1		18
	R3Y11/3		20
	R3Y11/5	Punch	22
	R3Y11/7		Bottom skin $\frac{1}{8}$ in. dia. 90 degree 24
	R3Y11/2		18
	R3Y11/4		20
	R3Y11/6	Die	22
	R3Y11/8		24
26EW/2409	R3Y/12	Tool dimpling: set comprising	
	R3Y12/1		18
	R3Y12/3		20
	R3Y12/5	Punch	22
	R3Y12/7		Top skin $\frac{5}{32}$ in. dia. 24
	R3Y12/2		90 degree 18
	R3Y12/4		20
	R3Y12/6	Die	22
	R3Y12/8		24
26EW/2410	R3Y/13	Tool dimpling: set comprising	
	R3Y13/1		18
	R3Y13/3		20
	R3Y13/5	Punch	22
	R3Y13/7		Bottom skin $\frac{5}{32}$ in. dia. 24
	R3Y13/2		90 degree 18
	R3Y13/4		20
	R3Y13/6	Die	22
	R3Y13/8		24
26EW/2411	R3Y/14	Tool dimpling: set comprising	
	R3Y14/1		18
	R3Y14/3		20
	R3Y14/5	Punch	22
	R3Y14/7		Top skin $\frac{1}{8}$ in. dia. 24
	R3Y14/2		120 degree 18
	R3Y14/4		20
	R3Y14/6	Die	22
	R3Y14/8		24

R E S T R I C T E D

TABLE 4—continued

Stores Ref. No.	Part No.	Description	Application	
26EW/2412	R3Y/15	Tool dimpling: set comprising	Bottom skin $\frac{1}{4}$ in. dia., 120 degree	
	R3Y15/1			
	R3Y15/3	Punch		18
	R3Y15/5			20
	R3Y15/7	Die		22
	R3Y15/2			24
	R3Y15/4			18
	R3Y15/6			20
26EW/2413	R3Y15/8	Tool dimpling: set comprising	Top skin $\frac{5}{32}$ in. dia., 120 degree	
	R3Y/16			
	R3Y16/1	Punch		22
	R3Y16/3			18
	R3Y16/5	Die		20
	R3Y16/7			22
	R3Y16/2			24
	R3Y16/4			18
26EW/2414	R3Y16/6	Tool dimpling: set comprising	Bottom skin $\frac{3}{32}$ in. dia. 120 degree	
	R3Y16/8			
	R3Y/17	Punch		20
	R3Y17/1			22
	R3Y17/3	Die		24
	R3Y17/5			18
	R3Y17/7			20
	R3Y17/2			22
26FE/1077 26FE/1078 26FE/1079 26FE/1080 26FE/1081	R3Y17/4	Tool dimpling: set comprising	Special gauges wear limit for engine mount- ing fittings, fuselage fittings, mainplane attachment fittings, con- trol fittings, fin, rudder and tail plane fittings, excavator fittings, main undercarriage and nose wheel fittings	
	R3Y17/6			
	R3Y17/8	Punch		20
	R.00.Y.1			22
	R.00.Y.2	Gauges, plug		24
	R.00.Y.3			18
26FE/1082	R.00.Y.4	Tool dimpling: set comprising	Main plane attachment fittings oversize	
	R.00.Y.5			
	R.00.Y.35A	Tool kit for main plane root end fittings, comprising:—		For use with reamers.
	R.00.Y.17			
	R.00.Y.18	Reamers, oversize		For main plane oversize attachment fitting
	R.00.Y.19			
	R.00.Y.20	Guide bush		For use with reamers
	R.00.Y.21			
	R.00.Y.10	Gauge, plug		For use with reamers
	R.00.Y.11			
	R.00.Y.12	Key, ratchet		
	R.00.Y.13			
	R.00.Y.30	Screwdriver, special		
	R.00.Y.34			
R.00.Y.39	Spanner, special			
R.OD.Y.48A				
26FE/1083	S.T.D.200/1	Adjustable countersinking tool set, comprising:—	$\frac{3}{32}$ in. dia. $\frac{1}{8}$ in. dia. $\frac{5}{32}$ in. dia. $\frac{7}{16}$ in. dia. $\frac{3}{16}$ in. dia. $\frac{1}{4}$ in. dia. $\frac{5}{16}$ in. dia. $\frac{3}{8}$ in. dia.	
	S.T.D.200/2			
	S.T.D.200/3	Tool, countersinking, 90 degree		
	S.T.D.200/4			
	S.T.D.200/5	Tool, countersinking 120 degree		
	S.T.D.200/6			
	S.T.D.200/7			
	S.T.D.200/8			

R E S T R I C T E D

TABLE 4—continued

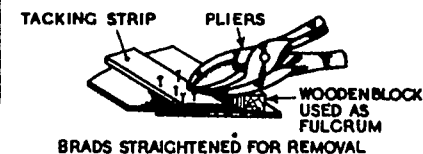
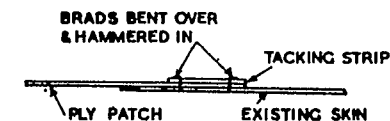
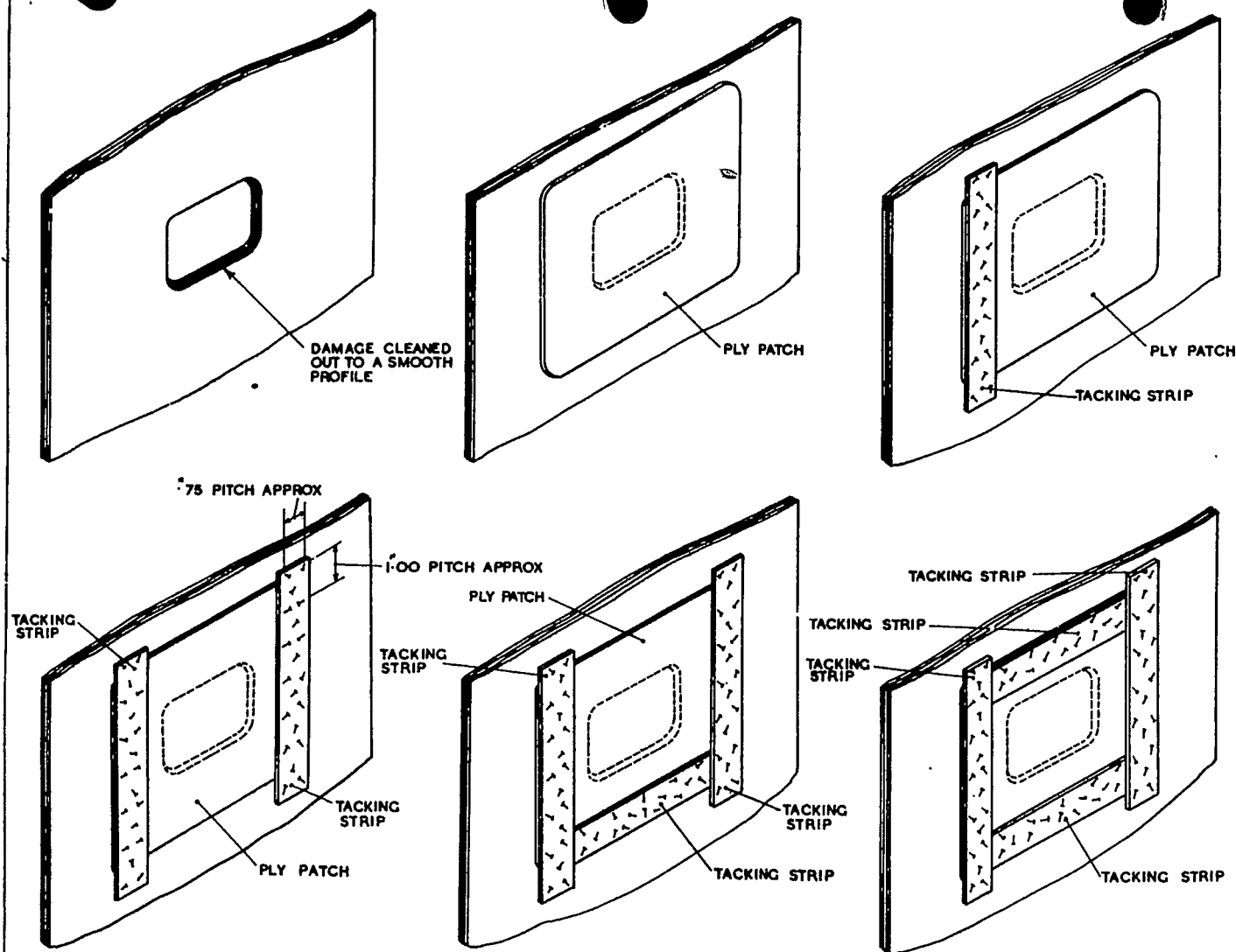
Stores Ref. No.	Part No.	Description	Application
	R.00D./118	Template, main plane rib No. 11	Fig. 6/57
	R.00D./119	Template, main plane rib No. 12	
	R.00D./120	Template, main plane rib No. 13	
	R.00D./121	Template, main plane rib No. 14	

Alternative bolts

21. Bolts having part numbers commencing A.1/- are no longer provisioned for replacement purposes and have been superseded by bolts with part numbers commencing A.25/-. Any references in this Volume to A.1/- bolts, e.g. in the wear limit table for Fig. 4/32, should be read as A.25/-. The suffix numbers and letters denoting lengths and diameters respectively remain as before. Hence a bolt shown as part number A.1/6G should be replaced by a bolt with part number A.25/6G.

Fitting instructions for replacement components

22. When replacement components, such as canopies, are not fully interchangeable and are supplied with trim allowances, etc. the fitting instructions may be beyond the scope of the usual *dismantling and assembly* instructions in the Vol. 1. When further fitting instructions are required, they will be incorporated in this Vol. 2, Part 3 in an APPENDIX F to the relevant chapter.



BRADS STRAIGHTENED FOR REMOVAL

THE TACKING STRIPS SHOULD BE MADE FROM 1/2 MM, 2 MM. OR 3 MM. PLYWOOD. THEY SHOULD BE BRADDED OVER THE EDGES OF THE PLY PATCH AS SHOWN. ON NO ACCOUNT MUST THESE STRIPS BE GLUED.

THE ADJOINING FACES OF THE TACKING STRIP & PLY PATCH SHOULD BE WELL WAXED TO PREVENT ADHESION.

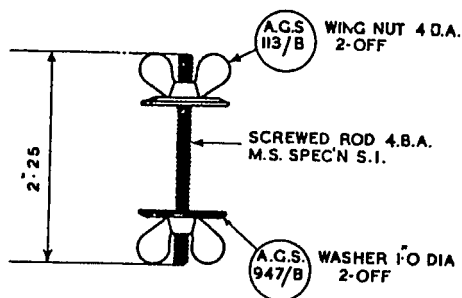
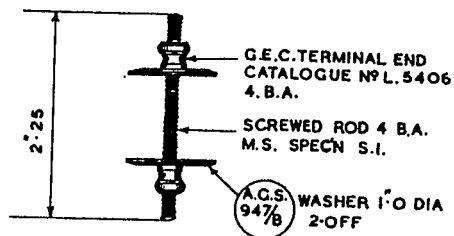
ALL BRADS SHOULD BE BENT OVER & HAMMERED IN AS SHOWN IN SKETCH "A" TO ENABLE THEM TO BE STRAIGHTENED FOR WITHDRAWAL, WITH PLIERS AS SHOWN IN SKETCH "B."

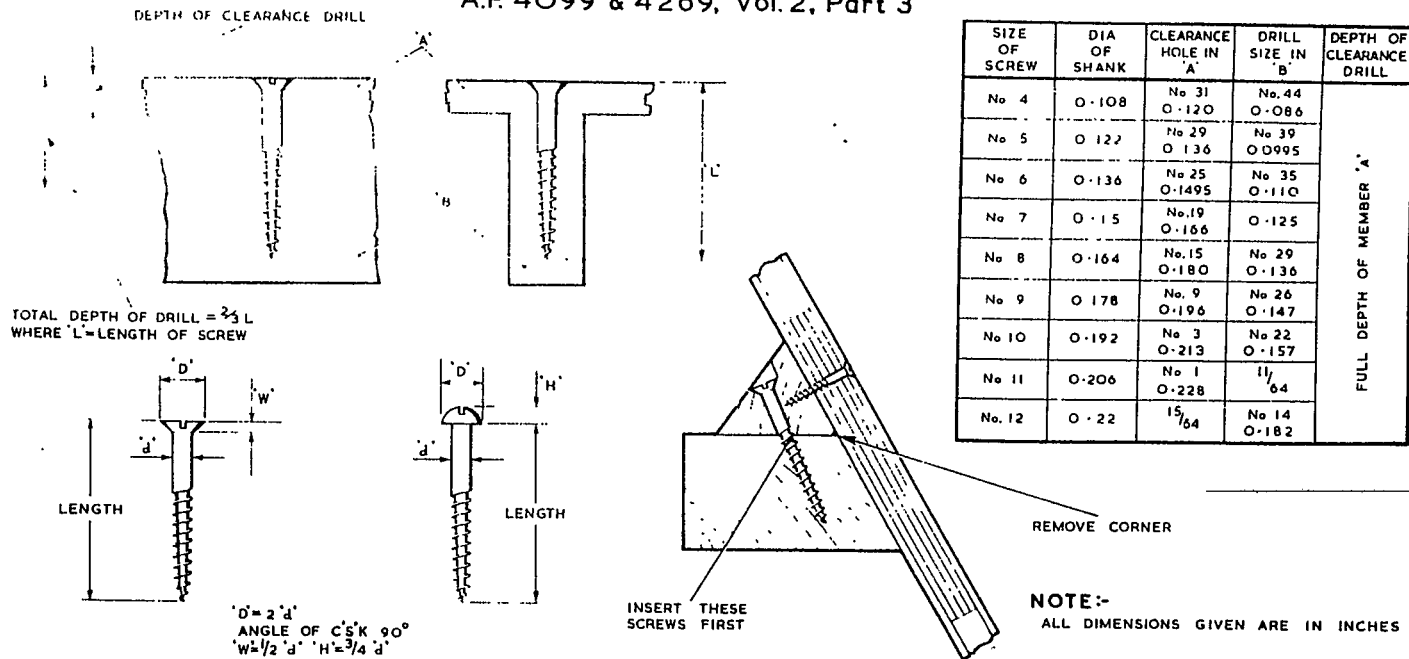
**TACKING STRIPS & BRADS TO BE REMOVED
AFTER GLUING TIME HAS ELAPSED.**

FIG 1/14

METHOD OF APPLYING TACKING STRIPS

FIG 1/



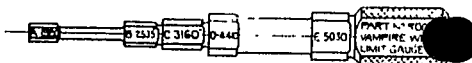


INSTRUCTIONS FOR GLUING & SCREWING JOINTS IN WOODEN MEMBERS

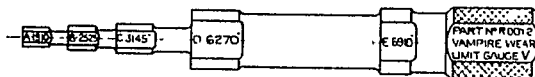
1. THE SURFACES TO BE JOINED, PARTICULARLY THE GLAZED SURFACES OF PLYWOOD, SHOULD BE SLIGHTLY ROUGHENED WITH GLASS PAPER BEFORE APPLYING GLUE
2. ANY DUST FORMED BY THE ROUGHENING PROCESS ON PLYWOOD SURFACES SHOULD BE REMOVED WITH A DAMP CLOTH AND THE PLYWOOD ALLOWED TO LIE UNTIL WATER STAINS DISAPPEAR
3. GLUE MUST NOT BE APPLIED TO A WET SURFACE
4. GLUE TO BE APPLIED IN ACCORDANCE WITH A.P. 2662, CHAP. 32
5. WOODSCREWS, WHERE CALLED FOR, ARE TO BE INSERTED WHILE GLUE IS WET. TACKING STRIPS, IF USED, SHOULD CONTAIN HOLES THROUGH WHICH THE SCREWS CAN BE INSERTED
6. WHERE CORNER STRENGTHENING BLOCKS ARE ADDED WITH WOODSCREWS AT DIFFERENT ANGLES, THOSE WITH GREATER WEDGING EFFECT MUST BE INSERTED FIRST (SEE ABOVE FIGURE)
7. WHERE PRESSURE IS APPLIED TO OBTAIN GLUED JOINT ON RIGHT-ANGLED SURFACES, SUCH AS SCARF JOINTS IN STRINGERS, CARE SHOULD BE TAKEN TO ENSURE THAT ONE SURFACE IS NOT CLAMPED OR SCREWED TO THE DETRIMENT OF THE OTHER
8. ANY SURPLUS FILLETS OF GLUE SHOULD BE REMOVED WHILE STILL WET AND MUST ON NO ACCOUNT BE REMOVED WITH A CHISEL WHEN DRY

Fig. 1/3

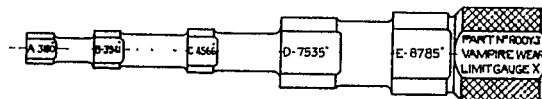
Fig. 1/3. Gluing and screwing data



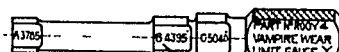
PART No. ROOY1.



PART No. ROOY2.



PART No. ROOY3.

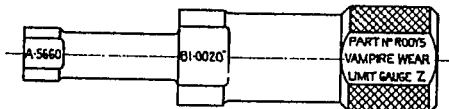


PART No. ROOY4.

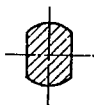
EXAMPLE
PLUG GAUGE 'Y' B'



PART No. ROOY54



PART No. ROOY5.



SCRAP VIEW.

NOTE:- PLUG GAUGES ARE MADE TO TOP LIMITS
i.e. NO GO, AND HAVE FLATS AS SHOWN
IN SCRAP VIEW. THIS IS TO ENABLE THE
OPERATOR TO FIND OUT IF THE HOLE IS
ELONGATED BY TRYING THE PLUG GAUGE
IN VARIOUS POSITIONS.

FIG. I/4 SPECIAL PLUG GAUGES

RESTRICTED

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