GROUP C MAIN PLANES

LIST OF CONTENTS

4. The following repair material will be required:-

Ref.No.	Part No.	Description	Size	Specification	Remarks
26FX/4988	D.177502	Rear spar, outer portion, port	-	-	For item 5
26FX/4989	D.177503	Rear spar, outer portion, stbd.	-	-	For item 4
30A/2290		Sheet, stainless steel	16 s.w.g.	S.520	For item 2
30A/2291		Sheet, stainless steel	20 s.w.g.	S.520	For item 1
30B/1756		Sheet, aluminium alloy	14 s.w.g.	L.73	For items 11, 12, 13 and 14
30B/1726		Sheet, aluminium alloy	14 s.w.g.	L.72	For items 7, 8, 9 and 10
30B/1730		Sheet, aluminium alloy	18 s.w.g.	L.72	For items 5 and 6
28Q/1660	A.S.156/405	Rivets, sn/hd.	1/8 in. dia.	L.37	
28Q/1691	A.S.156/508	Rivets, sn/hd.	5/32 in. dia.	L.37	
28Q/1692	A.S.156/608	Rivets, sn/hd.	3/16 in. dia.	L.37	
28Q/6134	A.S.161/505	Rivets, csk/hd.	5/32 in. dia.	L.37	
28Q/6135	A.S.161/506	Rivets, csk/hd.	5/32 in. dia.	L.37	
28Q/6449	A.S.161/507	Rivets, csk/hd.	5/32 in. dia.	L.37	
28Q/6136	A.S.161/508	Rivets, csk/hd.	5/32 in. dia.	L.37	
28Q/5993	A.S.161/606	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/5994	A.S.161/607	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/14500	A.S.161/609	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/7656	A.S.164/405	Rivets, csk/hd.	1/8 in. dia.	L.37	

MAIN PLANES

STRUCTURE AND SKIN

Repair to outboard end of wing

1. Where the underside of the wing and aileron have been damaged, as in the case of a "one wheel up" landing, the affected areas may be repaired as shown in this leaflet. The damaged aileron should be removed and sent back to the contractor for repair. The following repair drawing will be required:-

RD.337 - REPAIR TO OUTBOARD END OF WING.

It should be noted that if any of the following operations involve undamaged parts, then the relevant operation should be omitted. Unless otherwise stated, item numbers referred to are on RD.337. The abbreviations "P" for port, and "S" for starboard are used throughout.

2. The recommended sequence of operations for removal of damaged components and preparation for repair are as follows:-

(1) Remove the wing tip and damaged aileron.

(2) Cut the damaged skins and remove the damaged portions from the wing.

(3) Remove the outer portion of the aileron shroud.

(4) If the rear spar and outer rib are damaged they should be cut and the damaged portions removed as shown on RD.337.

(5) Remove any other damaged structure from the wing.

(6) From 20 s.w.g. stainless steel to specification S.520 make the shroud bracket, item 1, (P. and S.) which will replace Part No. A.181934.

(7) From 16 s.w.g. stainless steel to specification S.520 make the joint channel, item 2 (P and S).

(8) From a new outer portion of spar Part No.D.177502 (P), D.177503 (S), cut the replacement portion of spar item 3 (P), item 4 (S).

(9) From 18 s.w.g. light alloy to specification L.72, make the flanged reinforcing plate, item 5 (P), item 6 (S), to replace the existing reinforcing plate on the outer rib.

(10) From 14 s.w.g. light alloy to specification L.72 make the replacement portion of the lower shroud skin, item 7 (P), item 8 (S); and butt strap, item 9 (P), item 10 (S).

(11) From 14 s.w.g. light alloy to specification L.73 make the replacement portion of wing skin, item 11 (P), item 12 (P); and the butt strap item 13 (P), item 14 (S).

3. Repair the wing as follows, replacing damaged components by new parts where no repair is given on RD.337.

(1) Offer up the flanged reinforcing plate, item 5, (P), item 6 (S) to the outer rib. Drill the appropriate holes and insert the rivets.

(2) Offer up the replacement portion of wing skin, drill the appropriate holes from the outer rib, and remove skin.

(3) Offer up the replacement portion of rear spar, item 3 (P), item 4 (S); the joint channel, item 2; and the shroud angle, item 1. Drill the required holes and insert the appropriate rivets.

(4) Using an undamaged aileron locate the aileron outer hinge fitting on the outer rib assembly. Drill any necessary holes and insert the appropriate fixings. Care must be taken to see that the aileron hinge bearings are not forced out of alignment during this operation. Remove the aileron after assembly.

(5) Offer up the replacement portion of wing skin, item 3 (P), item 4 (S), drill the necessary holes and insert the appropriate rivets.

(6) Replace the outer portion of the aileron shroud and rivet in position.

(7) Offer up the replacement portion of aileron shroud skin, item 7 (P), item 8 (S); and the butt strap, item 9 (P), item 10 (S). Drill the necessary holes and insert the appropriate rivets.

(8) Replace the aileron and wing tip, new components being used where the existing ones have been damaged.

MAIN PLANES

STRUCTURE AND SKIN

Repair to top wing skin

1. Where damage has occurred to top wing skin, the affected area may be repaired as shown in this leaflet. The following repair drawings will be required:-

RD.340 - REPAIR TO TOP WING SKIN
RD.409 - MODIFICATION TO INTERSPAR RIB 'F'.

2. The recommended sequence of operations is as follows:-

(1) Clean out the damage to the skin as detailed on RD.340.

(2) Remove all rivets from front spar and interspar rib 'F' in the area of the repair.

(3) Remove from interspar rib 'F' and discard mounting bracket Part No. A.188413 (port only) and reinforcing plate Part No. A.204910 (port) or A.204911 (stbd). Angle Part No. F.196738 (port) or F.196739 (stbd.) should be removed and retained for re-assembly later.

(4) Cut and remove the forward portion of the top boom of interspar rib 'F' as indicated on RD.409.

(5) From 20 s.w.g. stainless steel sheet to specification S.520, manufacture the reinforcing RD.409 item 1 (port) or item 2 (stbd.).

(6) From 20 s.w.g. light alloy to specification L.72, manufacture mounting bracket RD.409 item 5 (port only).

(7) From 16 s.w.g. light alloy, to specification L.72, manufacture packing RD.409 item 6.

(8) Offer up the packing and the reinforcing angle together with the mounting angle (port only) and drill all the rivet holes as shown on RD.409 Mark out the portion of web to be trimmed and remove the items from the rib.

(9) Trim the web and modify the reinforcing plate Part No. F.195530 (port) or F.195531 (stbd.) to become RD.409 item 3 or 4. This may be carried out without removing the reinforcing plate.

(10) Assemble the reinforcing plate, packing, angle Part No. F.196738 or 9, and mounting bracket RD.409 item 5 (port only), and insert the appropriate rivets. On the port rib the countersunk rivet under the forward flange of the mounting bracket must be inserted before the mounting bracket is positioned.

(11) From light alloy bar, to specification L.65C, manufacture the reinforcing strap RD.340 item 2 (port) or item 3 (stbd.).

(12) From 10 s.w.g. light alloy, to specification L.73, manufacture the replacement portion of skin RD.340 item 1.

(13) Replace the three rivets in the front spar which will be in the way of the extremities of the reinforcing strap with rivets AS.161/611 countersunk flush in the skin and the underside of the spar boom.

(14) Offer up the reinforcing strap and the replacement portion of skin, drill the holes and insert the appropriate rivets.

3. The following repair materials will be required:-

Ref.No.	*Part No.*	*Description*	*Size*	*Specification*	*Remarks*
30B/NIV ·		Bar, aluminium alloy		L.65.C	For RD.340 items 2 and 3
30B/1754		Sheet, aluminium alloy	10 s.w.g.	L.73	For RD.340 item 1

Ref.No.	Part No.	Description	Size	Specn.	Remarks
30A/2291		Sheet, stainless steel	20 s.w.g.	S.520	For RD.409 items 1 and 2
30B/1732		Sheet, aluminium alloy	20 s.w.g.	L.72	For RD.409 item 5
30B/1728		Sheet, aluminium alloy	16 s.w.g.	L.72	For RD.409 item 6
28M/10218	A.G.S.2008.E.1	Stiffnuts	1/4 in. B.S.F.		
28Q/9035	A.S.164/408	Rivets, csk/hd.	1/8 in. dia.	L.37	
28Q/5995	A.S.161/608	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/14500	A.S.161/609	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/5996	A.S.161/610	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/14501	A.S.161/611	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/5998	A.S.161/614	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/5999	A.S.161/616	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/7755	A.S.164/305	Rivets, csk/hd.	3/32 in dia.	L.37	
28Q/1660	A.S.156/405	Rivets, sn/hd.	1 8 in. dia.	L.37	
28Q/1680	A.S.156/407	Rivets, sn/hd.	1/8 in. dia.	L.37	
28Q/1671	A.S.156/506	Rivets, sn/hd.	5/32 in. dia.	L.37	
28Q/8149	A.S.164/506	Rivets, csk/hd.	5/32 in. dia.	L.37	
28Q/1681	A.S.156/507	Rivets, sn/hd.	5/32 in. dia.	L.37	
28Q/1691	A.S.156/508	Rivets, sn/hd.	5/32 in. dia.	L.37	

(Cancelled pending the introduction of Mod.H.964)

MAIN PLANES

STRUCTURE AND SKIN

Repairs to top and bottom wing skin - starboard side

NOTE:-

These repairs may only be carried out in wing repair jigs.

1. Damage has occurred due to hydraulic accumulator failure in the region of interspar ribs E and F. This repair covers damage to top and bottom skins of a more extensive nature than that covered by Repair Leaflet C.1/2. The following repair drawings will be required:-

RD.361–REPAIR TO TOP AND BOTTOM WING SKIN - STARBOARD SIDE.
RD.362–MODIFICATION TO INTERSPAR RIB F - STARBOARD.
RD.366–MODIFICATION TO INTERSPAR RIB E - STARBOARD.

2. The recommended sequence of operations is as follows:-

(1) Release all services mounted or secured to interspar ribs E and F.

(2) Drill out all necessary rivets in butt straps, Part No. A.180102 and A.180103, and clean out damaged portion of top skin as shown on RD.361.

(3) Drill out all rivets necessary to release interspar ribs E and F.

(4) Release all rivets necessary in front spar in way of repair as shown on RD.361.

(5) Interspar ribs E and F have to be modified to accommodate the skin repair, and for details of new interspar ribs, reference should be made to RD.362 and RD.366.

(6) From 10 s.w.g. L.A. to specification L.73, manufacture both replacement portion of skin RD.361 item 1, and reinforcing plate RD.361 item 2.

(7) From L.A. bar to specification L.65.C. manufacture reinforcing strap RD.361 item 3.

(8) Offer up both modified interspar ribs together with reinforcing plate RD.361 item 2 and reinforcing strap RD.361 item 3; drill and secure with appropriate rivets.

(9) Offer up replacement portion of top skin RD.361 item 1, drill and secure with appropriate rivets.

(10) Remove and discard valve mounting block Part No. F.184236, together with stiffener Part No. F.211735, from bottom skin.

(11) Drill out all rivets necessary in front spar and clean out damaged portion of bottom skin.

(12) From L.A. bar to specification L.65.C., manufacture reinforcing plate RD.361 item 5.

(13) From 18 s.w.g. L.A. to specification L.72, manufacture valve mounting block R D.361 item 7, and stiffener RD.361 item 6.

(14) From 10 s.w.g. L.A. to specification L.73, manufacture replacement portion of skin RD.361 item 4.

(15) Offer up reinforcing plate item 5, and secure with appropriate rivets.

(16) Offer up replacement portion of bottom skin RD.361 item 4, together with valve mounting block and stiffener, RD.361 items 7 and 6 respectively. Drill and secure with appropriate rivets.

(17) Assemble all services back onto both interspar ribs E and F.

3. The following repair material will be required:-

Ref. No.	*Part No.*	*Description*	*Size*	*Specification*	*Remarks*
30B/NIV.		Bar, aluminium alloy		L.65C.	For RD.361 items 3 and 5

Ref. No.	Part No.	Description	Size	Specification	Remarks
30B/1754		Sheet, aluminium alloy	10 s.w.g.	L.73	RD.361 items 1, 2 and 4
30B/1730		Sheet, aluminium alloy	18 s.w.g.	L.72	For RD.361 items 6 and 7; RD.362 items 1, 5 and 6, and RD.366 items 1 and 3.
26FX/NIV.	Std.953	Extruded angle		L.65C	For RD.362 item 2 and RD.366 item 2.
26FX/NIV.	Std.550/B/18	Angle		L.72	For RD.366 item 4.
26AF/36336	Std.918	Extruded angle		L.65C	For RD.362 items 3 and 4.
30A/547		Mild steel plate	20 s.w.g.	S.510	For RD.366 item 5.
28Q/1650	A.S.156/404	Rivets, sn/hd.	1/8 in. dia.	L.37	
28Q/1660	A.S.156/405	Rivets, sn/hd.	1/8 in. dia.	L.37	
28Q/1670	A.S.156/406	Rivets, sn/hd.	1/8 in. dia.	L.37	
28Q/1680	A.S.156/407	Rivets, sn/hd.	1/8 in. dia.	L.37	
28Q/1661	A.S.156/505	Rivets, sn/hd.	5/32 in. dia.	L.37	
28Q/1671	A.S.156/506	Rivets, sn/hd.	5/32 in. dia.	L.37	
28Q/1681	A.S.156/507	Rivets, sn/hd.	5/32 in. dia.	L.37	
28Q/14500	A.S.161/609	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/5996	A.S.161/610	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/14501	A.S.161/611	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/5997	A.S.161/612	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/5998	A.S.161/614	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/5999	A.S.161/616	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/9035	A.S.164/408	Rivets, csk/hd.	1/8 in. dia.	L.37	
28Q/9036	A.S.164/410	Rivets, csk/hd.	1/8 in. dia.	L.37	

(Cancelled pending the introduction of Mod.H.964)

MAIN PLANES

STRUCTURE AND SKIN

Repair to complete break in stringers in tank bay

1. Where damage has occurred to stringers Part Nos.D.198239 to D.198242 in tank bays 1 and 4, the affected areas may be repaired as shown in this leaflet.

RD.316–REPAIR TO COMPLETE BREAK IN STRINGERS IN TANK BAY.

2. The recommended sequence of operations is as follows:-

(1) Remove fuel tank No.1 or 4 as shown in Vol.1, Section 4, Chapter 2.

(2) Remove the inner tank skin.

(3) Remove damaged portion of stringer.

(4) From repair section R.644 make block, item 1.

(5) From repair section R.645 cut angle, item 2 (2 off).

(6) Cut replacement portion of stringer RD.316 item 3, from new stringers Part Nos.D.198239 to D.198242 whichever is applicable.

(7) Offer up block, item 1, and locate in position.

(8) Offer up replacement portion of new stringers, item 3, and drill the required holes and insert the appropriate rivets.

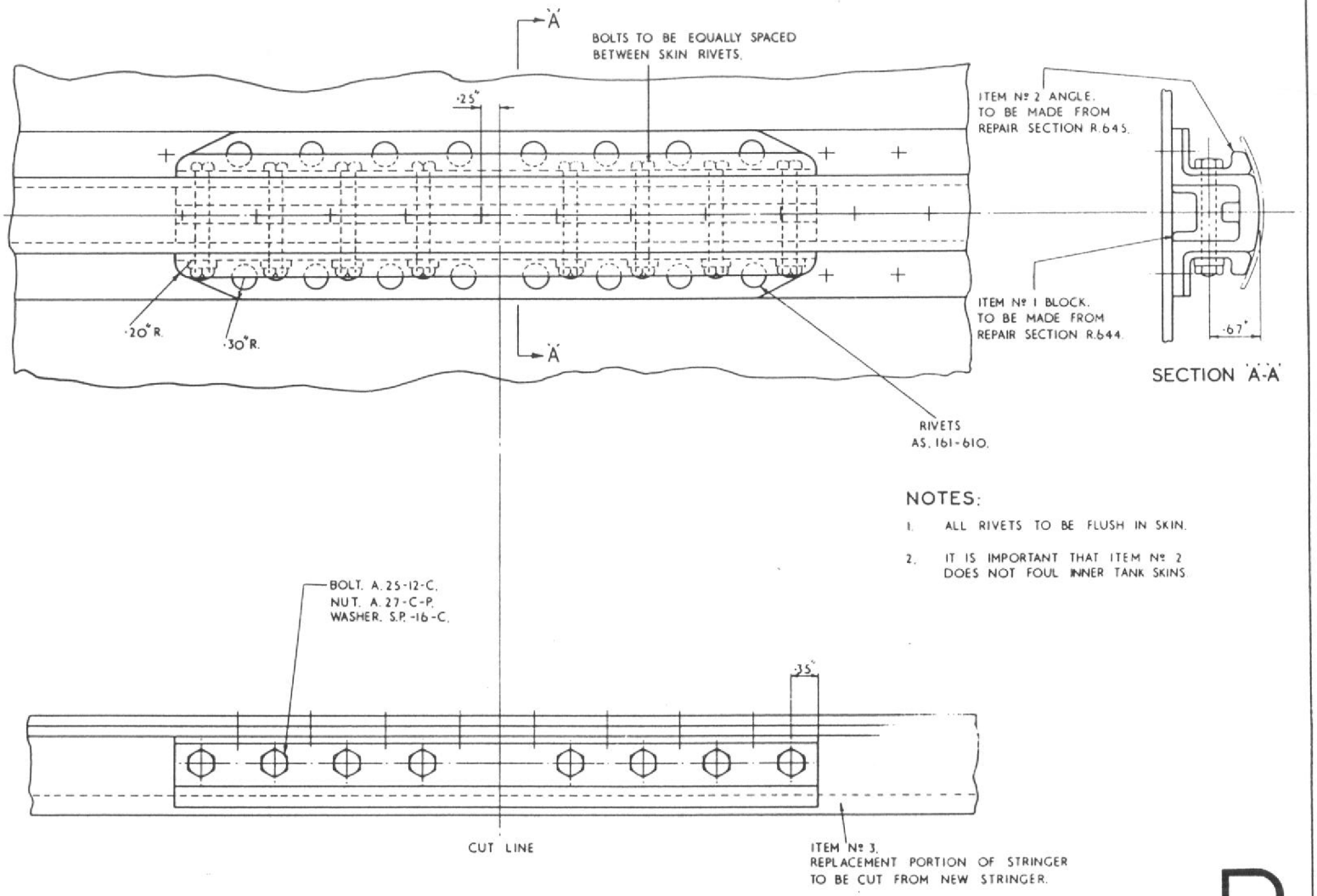
(9) Offer up angles, item 3 (2 off), and secure in position.

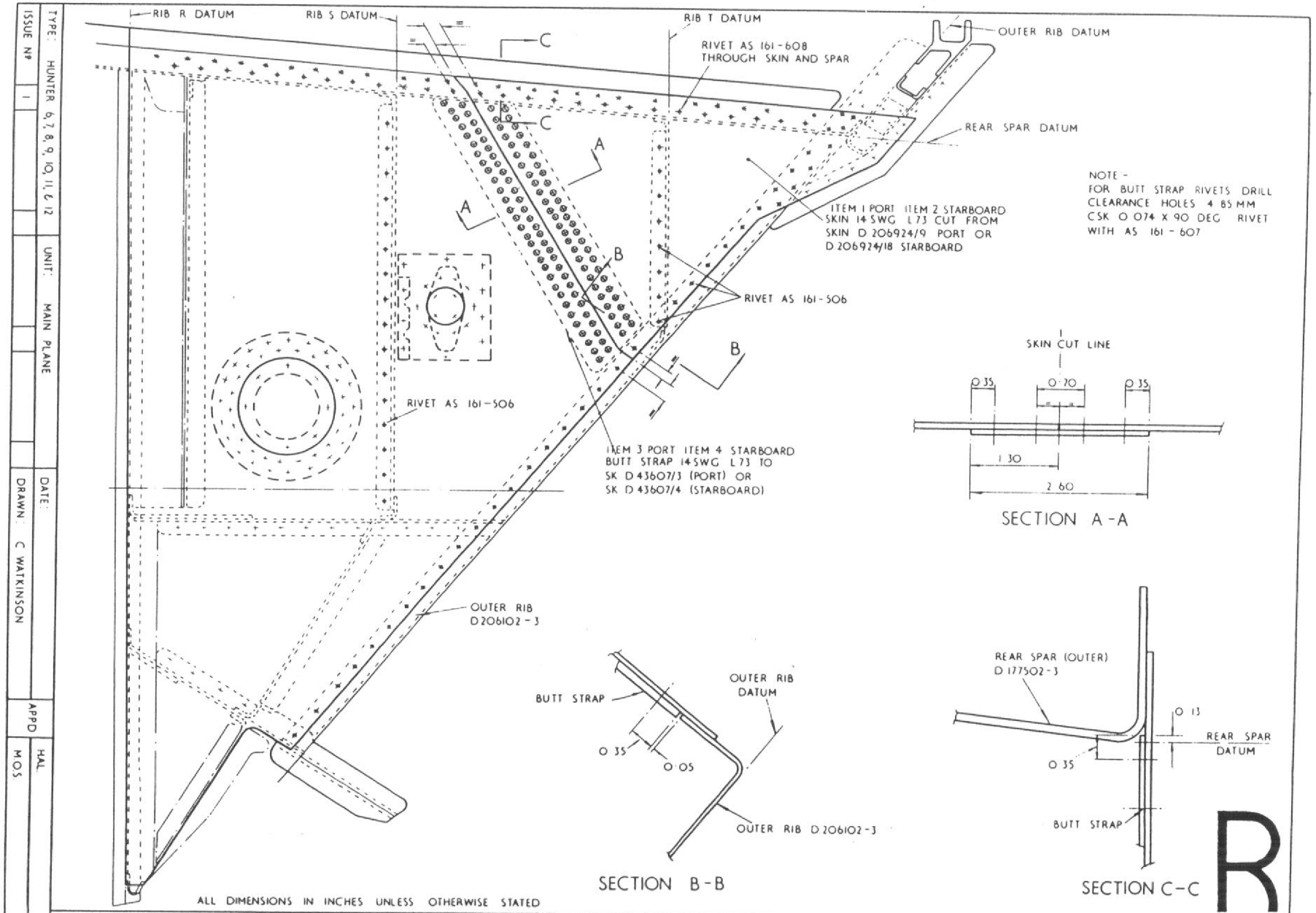
(10) Replace inner tank skin.

(11) Replace fuel tanks.

3. The following repair material will be required:-

Ref.No.	*Part No.*	*Description*	*Size*	*Specification*	*Remarks*
26FX/5675	D.198239	Stringer	–	–	For manufacture of replacement portion item 3 whichever is applicable.
26FX/5676	D.198240	Stringer	–	–	
26FX/5673	D.198241	Stringer	–	–	
26FX/5674	D.198242	Stringer	–	–	
26FX/NIV	R.644	Block	–	S.95B	
26FX/NIV	R.645	Angle	–	S.95B	
28D/9419397	A.25/12/C	Bolt, H.T.S.	2 B.A.	–	
28M/12929	A.27/C/P	Nuts, M.T.S.	2 B.A.	–	
28W/9419404	S.P.16/C	Washers, aluminium alloy	2 B.A.	–	
28Q/5996	A.S.161/610	Rivets, csk/hd.	3/16 in. dia.	L.37	

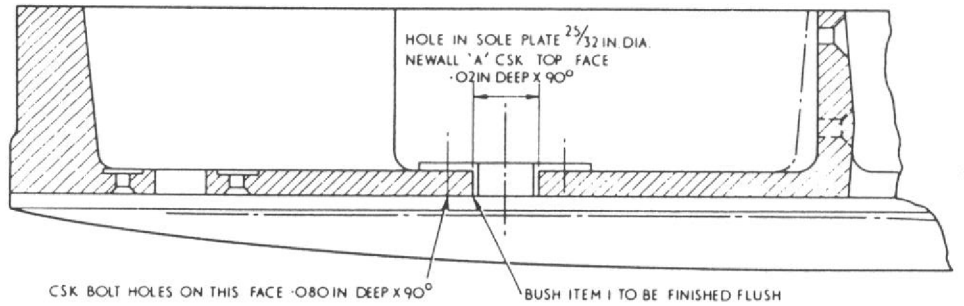

A
BOLTS TO BE EQUALLY SPACED BETWEEN SKIN RIVETS.
·25"
·20" R.
·30" R.
A
ITEM Nº 2 ANGLE. TO BE MADE FROM REPAIR SECTION R.645.
ITEM Nº 1 BLOCK. TO BE MADE FROM REPAIR SECTION R.644.
·67"
SECTION 'A-A'
RIVETS AS. 161-610.
NOTES:
1. ALL RIVETS TO BE FLUSH IN SKIN.
2. IT IS IMPORTANT THAT ITEM Nº 2 DOES NOT FOUL INNER TANK SKINS.
BOLT. A. 25-12-C.
NUT. A. 27-C-P.
WASHER. S.P. -16-C.
·35"
CUT LINE
ITEM Nº 3. REPLACEMENT PORTION OF STRINGER TO BE CUT FROM NEW STRINGER.
VIEW LOOKING AFT ON PORT SIDE.
R
REPAIR TO COMPLETE BREAK IN STRINGERS IN TANK BAY.
RD. 316.
ISSUE Nº 1
TYPE: HUNTER MK. 4,5,6,7 & 8
UNIT: WINGS.
DATE: 6-12-54.
DRAWN: A. LARGE.
APPD. H.A.L.
M.O.S.



REPAIR TO TOP OUTER WING SKIN P & S

RD. 447

R



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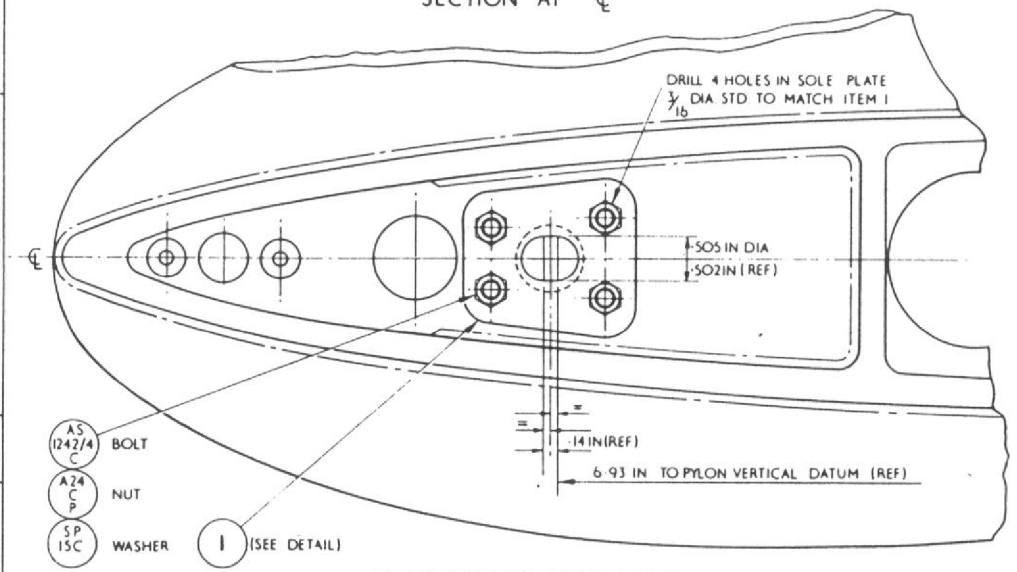
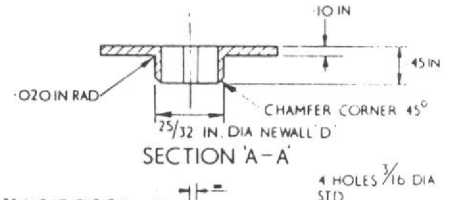


PLAN VIEW OF SOLE PLATE



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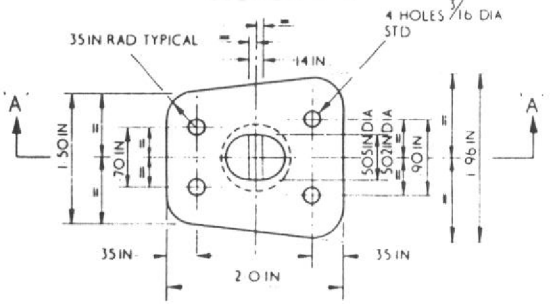


DETAIL OF ITEM 1
MATL M.S. BAR S.1.B or 92

NOTES.

1. REMOVE SHARP EDGES
2. FINISH TO STD 1000
3. FOR ALL OTHER DETAILS SEE DRG No E 206878
4. FOR ALL UNSPECIFIED LIMITS SEE STD 1600
5. PEEN LOCK BOLTS

ISSUE No A | TYPE – HUNTER MK 6,7,8,9,10,11 | UNIT – OUTBOARD PYLON | DATE – 29-8-69 | DRAWN J TRETHOWAN | APPD. | H A L R S DABBS 3 9 69

REPAIR TO ENLARGED HOLE IN SOLE PLATE

RD449

MAIN PLANES

STRUCTURE AND SKIN

Repair to enlarged hole in outboard pylon sole plate.

1. When wear has occurred in the outboard pylon sole plate underwing store, spigots locating hole, it may be repaired as shown in this leaflet. It is assumed that the pylon has been removed from the main plane. The following repair drawing is included with this leaflet.

RD.449 REPAIR TO ENLARGED HOLE IN SOLE PLATE.

2. The recommended sequence of operation is as follows:

(1) Manufacture bush (item 1) from mild steel bar S92 or S.I.B., as detailed in RD.449.

(2) Enlarge hole in sole plate to $^{25}/_{32}$" dia. Newall 'A', and countersink upper surface 0.02" deep x 90°.

(3) Offer up bush to sole plate as shown in RD 449, and mark off positions of 4 bolt holes in sole plate, using bush (item 1) as template.

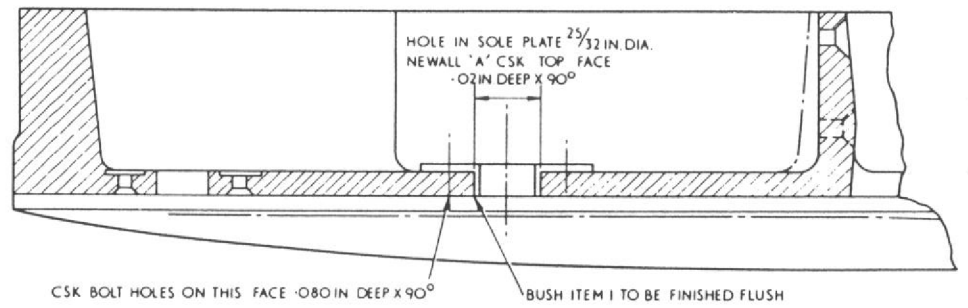
(4) Drill 4 holes in sole plate $^{3}/_{16}$" dia. STD 1600 and countersink lower surface 0.08" deep x 90°.

(5) Attach bush (item 1) to sole plate using bolts AS 1242/4C, nuts A24 CP and washers SP 15C and peen lock.

3. The following repair materials will be required:

Ref. No.	*Part No.*	*Description*	*Size*	*Specification*	*Remarks*
30A/NIV		Bar mild steel		S92 or S.I.B.	For item 1
28D/1007976	AS 1242/4C	Bolts cks	2BA x 0.85"	High tensile steel cadmium plated	
28M/1010996	A24 CP	Nuts	2BA		
28W/9419475	SP 15C	Washers	2BA		

ISSUE No	TYPE – HUNTER MK 6,7,8,9,10 & 11
A	UNIT – OUTBOARD PYLON
	DATE – 29-8-69
DRAWN J TRETHOWAN	APPD.
	H A L R.5 DABBS 3 9 69



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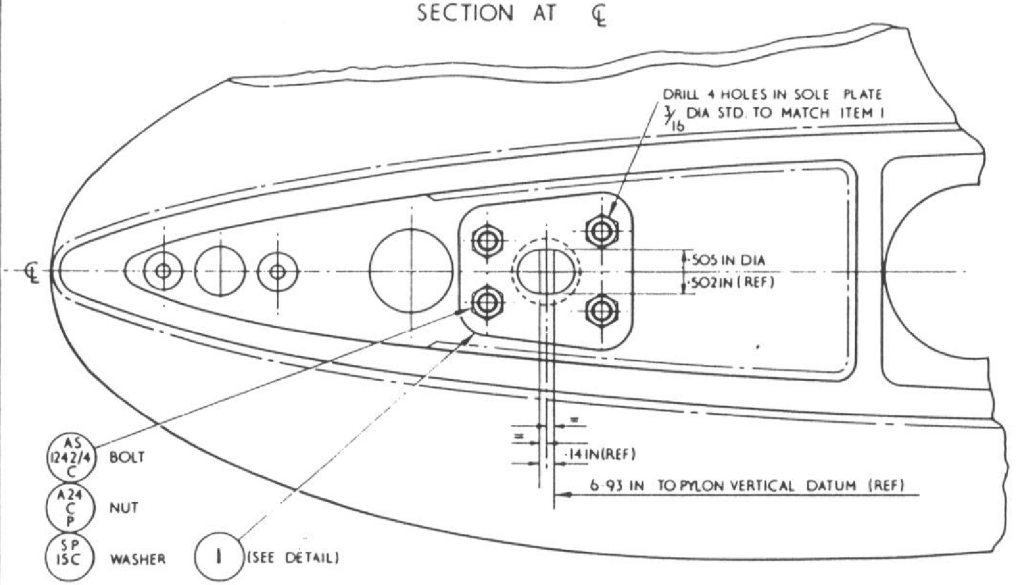
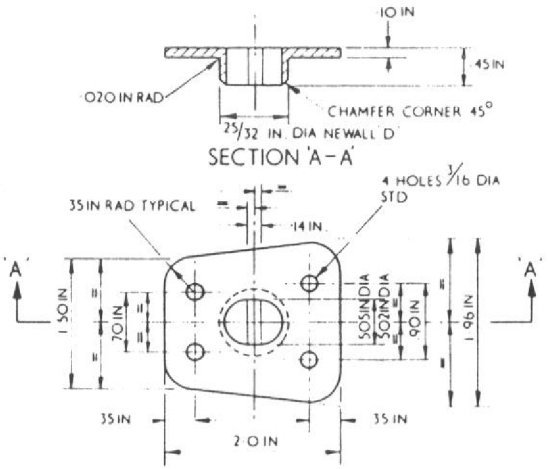


PLAN VIEW OF SOLE PLATE



DETAIL OF ITEM 1
MATL M.S. BAR S.I.B or 92

NOTES.

1 REMOVE SHARP EDGES
2 FINISH TO STD 1000
3 FOR ALL OTHER DETAILS SEE DRG No E 206878
4 FOR ALL UNSPECIFIED LIMITS SEE STD 1600
5 PEEN LOCK BOLTS

REPAIR TO ENLARGED HOLE IN SOLE PLATE

RD449

MAIN PLANES

HEAVY LANDING

Scheme for the replacement of the undercarriage pivot bracket

1. Due to a heavy landing of the aircraft, the nuts on the top of the undercarriage pivot bracket may be damaged. It will therefore be necessary to remove the pivot bracket to renew these nuts, and also to inspect the pivot bracket for damage. However, in the case of either of the forward nuts only being damaged, they may be renewed by driving the old nut out of its cage with a screwed rod from underneath and fitting a new nut into the cage through the lightening hole in the top web of the pivot bracket. In the event of the above method being impracticable due to the cage being clenched excessively, or where the rear nuts are damaged, removal of the pivot bracket will be necessary. This scheme assumes that after inspection the existing pivot bracket is still serviceable, and applies to both port and starboard wings. The following repair drawing will be required:-

RD.363–SCHEME FOR THE REPLACEMENT OF THE UNDERCARRIAGE PIVOT BRACKET.

2. The recommended sequence of operations is as follows:-

(1) Remove the main undercarriage as laid down in Sect.3, Chap.5 of the appropriate Vol.1.

(2) Remove the wing as laid down in Sect.3, Chap.2, of the appropriate Vol.1. The wing should then be placed in a repair wing jig, Part No. T.390157-8 JD or T.302418-9 JD before carrying out this scheme.

(3) Release rivets securing the bottom skin aft of the undercarriage girder and outboard of interspar rib E, as far as the rear spar and interspar rib M. This will enable the skin to be lifted to give access to the fixing bolts through the undercarriage girder and pivot bracket.

(4) To gain access to the fixing bolts through interspar rib G and the pivot bracket, remove interspar rib H by drilling out the skin rivets, (top and bottom), and releasing the end fixings. Access for this operation is obtained by removing the access door immediately outboard of the rib.

(5) To gain access to the fixing bolts through the front spar and pivot bracket, release the detachable nosing, Part No.D.198230, and remove fuel tank No.4, (between nose rib No.3 and nose rib G), as laid down in Sect.4, Chap.2 of the appropriate Vol.1. Remove packing, Part No. E.199052 item 6, and release the bolts securing the top and bottom attachment angles, Part Nos.C.198431-2, to the front spar. Release the pop rivets securing the tank skins to stringer No.1 and at lap joint between the forward and aft skins, top and bottom. Remove the aft tank skins complete with attachment angles.

(6) Grind or file off the peened ends of the bolts to prevent the holes from being scored, release the fixing bolts, and carefully remove the pivot bracket from the wing. It is advised that a long box spanner should be made to facilitate the removal of the bolts through the front spar.

(7) Remove the nut plates and the damaged nuts from the top of the pivot bracket.

(8) Carefully inspect the pivot bracket for damage by using an approved method of crack detection.

(9) If the pivot bracket is still serviceable renew the nuts and nut plates previously removed in sub-para.(7).

(10) Reassemble the pivot bracket using new fixing bolts as called for on RD.363. All bolts are to be peened over after assembly.

(11) Replace the aft tank skins, top and bottom, and renew packing, Part No. E.199052 item 6, using Bostik C adhesive to specification CS.2558. Replace fuel tank No.4 as laid down in Sect.4, Chap.2 of the appropriate Vol.1, and replace the detachable nosing.

(12) Reassemble interspar rib H.

(13) Rivet up the bottom skin previously released in sub-para.(3), using fixings called for on RD.363. Use should be made of any access doors to enable solid rivets to be used throughout.

(14) Replace the wing as laid down in Sect.3, Chap.2 of the appropriate Vol.1.

(15) Replace the main undercarriage as laid down in Sect.3, Chap.5 of the appropriate Vol.1. On reassembly of the bearing caps, any damaged items should be renewed.

3. The following repair material will be required:-

Ref. No.	Part No.	Description	Size	Specification	Remarks
26FX/1528	A.174347	Special bolt	-	-	For renewal of damaged parts
26FX/1529	A.174348	Sp[illegible]	-	-	
26FX/6905	F.179026	N[illegible]	-	-	
26FX/NIV	A.188728	Nut plate	-	-	
26FX/NIV	A.188729	Nut retaining plate	-	-	
26FX/1530	F.188730	Special tab washer	-	-	
26FX/87	F.192513	Bearing cap	-	-	
26FX/88	F.192514	Bearing cap	-	-	
26FX/NIV	F.196885	Locking plate	-	-	
26FX/5587	E.199052/6	Packing	-	-	
26FX/NIV	F.181274	Bolt	-	-	
26FX/6899	F.188968	Special bolt	-	-	
28Q/6135	A.S.161/506	Rivets, csk/hd.	5/32 in. dia.	L.37	
28Q/5995	A.S.161/608	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/14500	A.S.161/609	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/5996	A.S.161/610	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/14501	A.S.161/611	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/5997	A.S.161/612	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/14502	A.S.161/613	Rivets, csk/hd.	3/16 in. dia.	L.37	
28Q/9417203	A.G.S.2051/419	Rivets, pop, csk/hd.	1/8 in. dia.	D.T.D.10	For reassembly of tank skins
28Q/9417204	A.G.S.2051/424	Rivets, pop, csk/hd.	1/8 in. dia.	D.T.D.10	
28Q/9417206	A.G.S.2051/435	Rivets, pop, csk/hd.	1/8 in. dia.	D.T.D.10	
28Q/9417207	A.G.S.2051/440	Rivets, pop, csk/hd.	1/8 in. dia.	D.T.D.10	
28Q/9417219	A.G.S.2051/665	Rivets, pop, csk/hd.	3/16 in. dia.	D.T.D.10	
30A/3055	-	Wire, stainless steel	22 s.w.g.	D.T.D.189	Alternative specification
30A/2343	-	Wire, stainless steel	22 s.w.g.	D.T.D.161	
28P/9429653	S.P.9.G.12	Split pins	1/8 in. dia.	-	
28N/9796	S.P.21	Lubrication nipples	-	-	
26FX/NIV	Std.1551/3/295	Bolts, H.T.S.	5/16 in. B.S.F.	-	
26FX/NIV	Std.1551/4/105	Bolts, H.T.S.	3/8 in. B.S.F.	-	
26FX/NIV	Std.1553/E/75	Bolts, H.T.S.	1/4 in. B.S.F.	-	
26FX/NIV	Std.1553/G/55	Bolts, H.T.S.	5/16 in. B.S.F.	-	
26FX/NIV	Std.1553/G/65	Bolts, H.T.S.	5/16 in. B.S.F.	-	
26FX/NIV	Std.1553/G/70	Bolts, H.T.S.	5/16 in. B.S.F.	-	
26FX/NIV	Std.1553/G/75	Bolts, H.T.S.	5/16 in. B.S.F.	-	
26FX/NIV	Std.1553/G/80	Bolts, H.T.S.	5/16 in. B.S.F.	-	

Ref. No.	Part No.	Description	Size	Specification	Remarks
26FX/NIV	Std.1553/G/85	Bolts, H.T.S.	5/16 in. B.S.F.	-	
26FX/NIV	Std.1553/G/95	Bolts, H.T.S.	5/16 in. B.S.F.	-	
26FX/NIV	Std.1553/G/100	Bolts, H.T.S.	5/16 in. B.S.F.	-	
26FX/NIV	Std.1553/G/105	Bolts, H.T.S.	5/16 in. B.S.F.	-	
26FX/NIV	Std.1553/J/80	Bolts, H.T.S.	3/8 in. B.S.F.	-	
26FX/NIV	Std.1553/J/85	Bolts, H.T.S.	3/8 in. B.S.F.	-	
26FX/NIV	Std.1553/J/95	Bolts, H.T.S.	3/8 in. B.S.F.	-	
26FX/NIV	Std.1553/J/100	Bolts, H.T.S.	3/8 in. B.S.F.	-	
26AQ/1602	Std.1553/L/100	Bolts, H.T.S.	7/16 in. B.S.F.	-	
26AQ/3765	Std.1639/1/CX	Bolts, H.T.S.	2 B.A.	-	
28L/12931	A.27.E.T	Nuts, thin	1/4 in. B.S.F.	-	
28L/13326	A.27.G.T	Nuts, thin	5/16 in. B.S.F.	-	
28L/13028	A.27.J.T	Nuts, thin	3/8 in. B.S.F.	-	
28L/13641	A.27.L.T	Nuts, thin	7/16 in. B.S.F.	-	
28L/14533	A.27.Q.T	Nuts, thin	5/8 in. B.S.F.	-	
28M/13375	A.27.G.P	Nuts, plain	5/16 in. B.S.F.	-	
28M/13145	A.27.Q.S	Nuts, slotted	5/8 in. B.S.F.	-	
26AQ/490	Std.1556/1	Nuts, counterbored	2 B.A.	-	
28W/9419475	S.P.15.C	Washers	2 B.A.	-	
28W/9419405	S.P.15.E	Washers	1/4 in. dia.	-	
28W/9419477	S.P.15.J	Washers	3/8 in. dia.	-	
28W/9419478	S.P.15.L	Washers	7/16 in. dia.	-	
28W/9419481	S.P.15.Q	Washers	5/8 in. dia.	-	
28W/9419488	S.P.16.G	Washers	5/16 in. dia.	-	
28W/9419489	S.P.16.J	Washers	3/8 in. dia.	-	
28W/9419490	S.P.16.L	Washers	7/16 in. dia.	-	
26FX/NIV	Std.915/G/10	Washers	5/16 in. dia.	-	
26FX/NIV	Std.1549/36/12	Profile washers	5/16 in. dia.	-	

MAIN PLANES

UNDERCARRIAGE FAIRINGS

Renewal of anchor nuts in main undercarriage wheel doors

1. Instances have occurred where the anchor nuts which secure the front lock spigot have been stripped. These may be removed as shown in this leaflet. Reference should be made to the following repair drawing which accompanies this leaflet. -

RD.327–REPLACEMENT OF ANCHOR NUTS IN U/C WHEEL DOORS.

2. The recommended sequence of operations is as follows:-

(1) Remove the lock spigot.

(2) Drill out all rivets in outer skin as shown on repair drawing RD.327 to enable the skin to be lifted to provide access.

(3) Drill out the 5/32 in. diameter rivets and remove former Part No.A.187478 port or A.187479 starboard. Former Part No.A.187476 port or A.187477 starboard, need not be removed.

(4) Remove the four anchor nuts from the formers and replace with new nuts as shown on repair drawing RD.327.

(5) Replace former Part No.A.187478 port or A.187479 starboard and rivet to structure.

(6) Replace the outer skin using the appropriate rivets as shown on RD.327.

(7) Replace the lock spigot.

3. The following repair materials will be required:-

Ref. No.	Part No.	Description	Size	Specification	Remarks
28M/11957	A.G.S.2007/C/1	Anchor nuts	2 B.A.	-	
28Q/7943	A.S.164/304	Rivets, csk/hd	3/32 in. dia.	L.37	
28Q/7755	A.S.164/305	Rivets, csk/hd.	3/32 in. dia.	L.37	
28Q/7656	A.S.164/405	Rivets, csk/hd.	1/8 in. dia.	L.37	
28Q/9035	A.S.164/408	Rivets, csk/hd.	1/8 in. dia.	L.37	
28Q/10098	A.S.164/409	Rivets, csk/hd.	1/8 in. dia	L.37	
28Q/9036	A.S.164/410	Rivets, csk/hd.	1/8 in. dia.	L.37	
28Q/1671	A.S.156/506	Rivets, csk/hd.	5/32 in. dia.	L.37	
28Q/14490	A.S.465/406	Rivets, csk/hd.	1/8 in. dia.	D.T.D.204/A	
28Q/9417209	A.G.S.2051/524	Rivets, pop, csk/hd.	5/32 in. dia.	D.T.D.10	
28Q/9417210	A.G.S.2051/530	Rivets, pop, csk/hd.	5/32 in. dia.	D.T.D.10	

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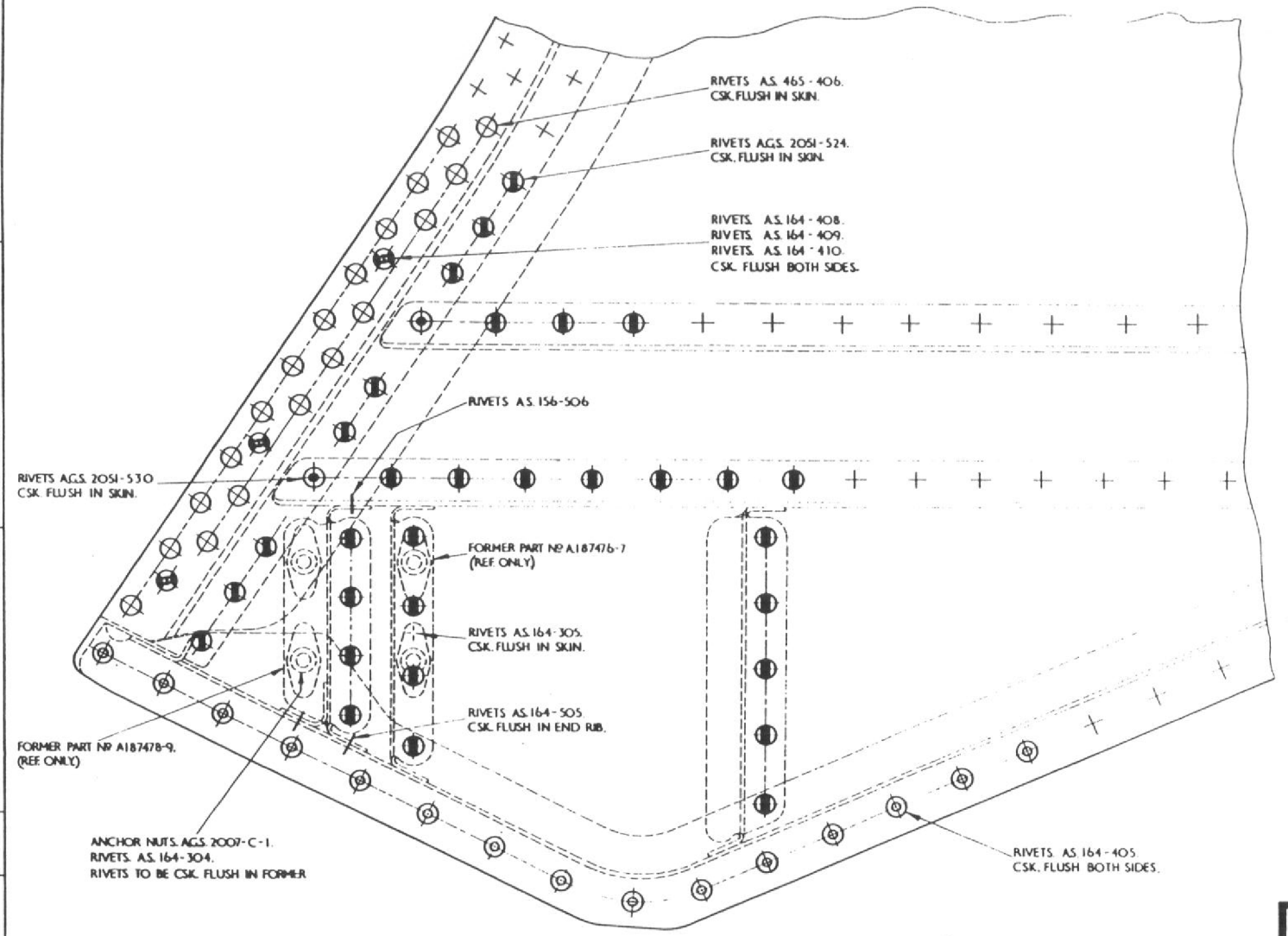

VIEW ON OUTER SKIN OF MAIN U/C WHEEL DOOR.

R

REPLACEMENT OF ANCHOR NUTS IN U/C WHEEL DOOR.

R.D. 327.

MAIN PLANES

Renewal of aileron skins

1. Experience has shown that in many cases damage to the aileron necessitates renewal of the main skins. The top skin is secured by solid or semi-tubular (BIF) rivets which are inserted before fitment of the bottom skins where 'pop' rivets are used. The renewal of skins can only be undertaken where the appropriate jigs and tools are available. On reskinning Mod.473, 518, 781, 903, 932 and 961 should be incorporated where not previously embodied. The following production drawing will be required:-

G.244300-1 - G.A. OF AILERON.

2. The basic sequence of operations recommended is as follows:-

(1) Dismantle top and bottom main skins, balance weights, tip skin, and the bottom nose skin. When drilling out rivets care should be taken not to elongate the holes, the use of a loose bush over the drill is recommended to avoid damage to the structure.

(2) Inspect the structure. The use of 1/8 in. dia. rivets where 3/32 in. dia. rivets have been removed is usually found to be necessary. Where holes are elongated beyond the 1/8 in. dia. size, up to four 5/32 in. dia. rivets may be fitted on the bottom flange of any rib, but where more than this number of holes are affected the rib should be renewed. A number of 5/32 in. dia. rivets are permitted in the spar, but large groups, or an excessive number are not recommended. Where further guidance is required a request should be made to the parent firm through the normal channels.

(3) Dismantle any damaged structure, and if Mod. 473 and/or Mod. 518 have not been embodied remove the structure necessary for the incorporation of these modifications. Mod.473 made the centre hinge block detachable for adjustment. The light alloy hinge block of Mod.473 has now been superseded by a steel hinge block introduced by Mod.932 which should be incorporated during repair. Malalignment of the hinges to the extent of the centre hinge being 0·007 in. forward or aft is satisfactory but where malalignment is in excess of this amount it should be corrected by adjustment of the packing introduced by the Mod. at the centre hinge.

(4) Replace the structure removed above using new parts where required.

(5) Inspect the structure for satisfactory assembly.

(6) Assemble the structure in jig T.344360-1 JD. If Mod.903 and/or Mod.961 have not been embodied the additional structure should be added at this stage.

(7) Offer up the top and bottom skins and drill holes from the existing holes in the structure. These skins are assembled under tension in the jig using the tension bars provided. The method of using these tension bars is to tighten the skins to remove all slack and then tighten further to apply a stretch of 0·02 in. to the skin. In order to limit the amount of stretch applied to each skin, spacing collars are provided which are placed between the tension bars and the end column of the jig. The length of these collars is determined during the repair of the first aileron after the installation of the jig. Having machined these collars to the correct length to provide for the 0·02 in. of stretch, all future skins are tensioned to the extent which the collars will allow.

(8) Remove the skins for dimpling and the assembly of the stringers which are BIF riveted by machine to the skins before assembly. Renewed structure details should be dimpled using hand toggle dimpling tool ST.777JD. (See Part 1, Chap.1, fig.1).

(9) Assemble the top skin. It will be found on drawing No. G.244300-1 that in certain areas the alternative of using BIF rivets or solid rivets is given. It has been found from experience that the insertion of BIF rivets using dollies ST.2697/1-4 JD is preferable.

(10) Assemble the bottom nose skin and bottom main skin. At all times during the reskinning of an aileron close watch must be kept on the trailing edge alignment. The repair jig provides a checking plate for this purpose and any adjustment found necessary should be carried out prior to completion of the bottom skin riveting.

(11) Check interior cleanliness.

(12) Assemble the tip skin.

(13) Remove aileron from the jig.

(14) Inspect the aileron for correct assembly, satisfactory riveting and ensure that it is free from distortion.

(15) Complete the out of jig work, such as fitment of the actuator and any other items removed during repair. Fit the balance weights and trim the leading edges if required.

(16) Paint the aileron.

(17) Check the mass balance of the completed aileron as shown on leaflet C.4/2.

(18) Final inspection. It should be ascertained that the aileron is complete, free from pants, dents and distortions and generally in an airworthy condition.

3. The following repair material is required for reskinning. Where replacement of the items of structure is found to be necessary the part numbers may be found on drawing No. G.244300-1.

Ref.No.	Part No.	Description	Size	Specification	Remarks
26FX/NIV	G.244300/1	Skin, top port	24 s.w.g.	L.72	
26FX/NIV	G.244300/2	Skin, btm. port	24 s.w.g.	L.72	
26FX/NIV	G.244301/1	Skin, top stbd.	24 s.w.g.	L.72	
26FX/NIV	G.244301/2	Skin, btm. stbd.	24 s.w.g.	L.72	
28Q/8077	A.S.164/303	Rivets, csk/hd.	3/32 in. dia.	L.37	
28Q/7943	A.S.164/304	Rivets, csk/hd.	3/32 in. dia.	L.37	
28Q/7755	A.S.164/305	Rivets, csk/hd.	3/32 in. dia.	L.37	
28Q/7655	A.S.164/404	Rivets, csk/hd.	1/8 in. dia.	L.37	
28Q/7656	A.S.164/405	Rivets, csk/hd.	1/8 in. dia.	L.37	
28Q/8147	A.S.164/406	Rivets, csk/hd.	1/8 in. dia.	L.37	
28Q/8148	A.S.164/407	Rivets, csk/hd.	1/8 in. dia.	L.37	
28Q/7657	A.S.164/505	Rivets, csk/hd.	5/32 in. dia.	L.37	Oversize rivets see para.2 (2)
28Q/8419	A.S.164/506	Rivets, csk/hd.	5/32 in. dia.	L.37	
28Q/9040	A.S.164/507	Rivets, csk/hd.	5/32 in. dia.	L.37	
28Q/9534	A.S.164/508	Rivets csk/hd.	5/32 in. dia.	L.37	
28Q/NIV	LAR.162/11	Rivets, semi-tubular	3/32 in. dia.	L.69	
28Q/NIV	LAR.162/13	Rivets, semi-tubular	3/32 in. dia.	L.69	
28Q/NIV	LAR.163/12	Rivets, semi-tubular	1/8 in. dia.	L.69	Oversize rivets see para.2 (2)
28Q/NIV	LAR.163/14	Rivets, semi-tubular	1/8 in. dia.	L.69	
28Q/9417224	A.G.S.2050/419	Rivets, pop, dm/hd.	1/8 in. dia.	D.T.D.10	
28Q/9417225	A.G.S.2050/424	Rivets, pop, dm/hd.	1/8 in. dia.	D.T.D.10	
28Q/9417226	A.G.S.2050/429	Rivets, pop, dm/hd.	1/8 in. dia.	D.T.D.10	
28Q/9417203	A.G.S.2051/419	Rivets, pop, csk/hd.	1/8 in. dia.	D.T.D.10	
28Q/9417204	A.G.S.2051/424	Rivets, pop, csk/hd.	1/8 in. dia.	D.T.D.10	
28Q/9417205	A.G.S.2051/429	Rivets, pop, csk/hd.	1/8 in. dia.	D.T.D.10	
28Q/9417206	A.G.S.2051/435	Rivets, pop, csk/hd.	1/8 in. dia.	D.T.D.10	
28Q/9417208	A.G.S.2051/519	Rivets, pop, csk/hd.	5/32 in. dia.	D.T.D.10	Oversize rivets see para.2 (2)
28Q/9417209	A.G.S.2051/524	Rivets, pop, csk/hd.	5/32 in. dia.	D.T.D.10	
28Q/9417210	A.G.S.2051/530	Rivets, pop, csk/hd.	5/32 in. dia.	D.T.D.10	
28Q/9417211	A.G.S.2051/537	Rivets, pop, csk/hd.	5/32 in. dia.	D.T.D.10	
28Q/1650	A.S.156/404	Rivets, sn/hd.	1/8 in. dia.	L.37	Used only for renewal of structure details
28Q/1660	A.S.156/405	Rivets, sn/hd.	1/8 in. dia.	L.37	
28Q/1670	A.S.156/406	Rivets, sn/hd.	1/8 in. dia.	L.37	
28Q/1680	A.S.156/407	Rivets, sn/hd.	1/8 in. dia.	L.37	
28Q/1690	A.S.156/408	Rivets, sn/hd.	1/8 in. dia.	L.37	
28Q/1671	A.S.156/506	Rivets, sn/hd.	5/32 in. dia.	L.37	
28Q/1681	A.S.156/507	Rivets, sn/hd.	5/32 in. dia.	L.37	
28Q/1682	A.S.156/607	Rivets, sn/hd.	3/16 in. dia.	L.37	
28Q/9595	A.S.156/611	Rivets, sn/hd.	3/16 in. dia.	L.37	

5. The balancing requirements are that the over-balance moment N must lie between 18% and 25% of the under-balance moment M.

Weight of fully painted aileron without external cable, inner hinge bearing and nut	*Minimum distance of 2 lb. weight aft of hinge line*	*Maximum distance of 2 lb. weight aft of hinge line*
PORT AILERON		
62 lb. 9 oz. to 63 lb. 0 oz.	12·4 in.	17·2 in.
63 lb. 1 oz. to 63 lb. 8 oz.	12·5 in.	17·3 in.
63 lb. 9 oz. to 64 lb. 0 oz.	12·6 in.	17·4 in.
64 lb. 1 oz. to 64 lb. 8 oz.	12·7 in.	17·6 in.
64 lb. 9 oz. to 65 lb. 0 oz.	12·8 in.	17·7 in.
65 lb. 1 oz. to 65 lb. 8 oz.	12·9 in.	17·9 in.
65 lb. 9 oz. to 66 lb. 0 oz.	13·0 in.	18·0 in.
66 lb. 1 oz. to 66 lb. 8 oz.	13·1 in.	18·1 in.
66 lb. 9 oz. to 67 lb. 0 oz.	13·2 in.	18·3 in.
67 lb. 1 oz. to 67 lb. 8 oz.	13·3 in.	18·4 in.
67 lb. 9 oz. to 68 lb. 0 oz.	13·4 in.	18·5 in.
68 lb. 1 oz. to 68 lb. 8 oz.	13·5 in.	18·7 in.
68 lb. 9 oz. to 69 lb. 0 oz.	13·6 in.	18·8 in.
69 lb. 1 oz. to 69 lb. 8 oz.	13·7 in.	18·9 in.
69 lb. 9 oz. to 70 lb. 0 oz.	13·8 in.	19·1 in.
70 lb. 1 oz. to 70 lb. 8 oz.	13·9 in.	19·2 in.
70 lb. 9 oz. to 71 lb. 0 oz.	14·0 in.	19·3 in.
71 lb. 1 oz. to 71 lb. 8 oz.	14·1 in.	19·5 in.
71 lb. 9 oz. to 72 lb. 0 oz.	14·2 in.	19·6 in.
72 lb. 1 oz. to 72 lb. 8 oz.	14·3 in.	19·8 in.
72 lb. 9 oz. to 73 lb. 0 oz.	14·4 in.	19·9 in.
73 lb. 1 oz. to 73 lb. 8 oz.	14·5 in.	20·0 in.
73 lb. 9 oz. to 74 lb. 0 oz.	14·6 in.	20·2 in.
74 lb. 1 oz. to 74 lb. 8 oz.	14·7 in.	20·3 in.
74 lb. 9 oz. to 75 lb. 0 oz.	14·8 in.	20·4 in.
75 lb. 1 oz. to 75 lb. 8 oz.	14·9 in.	20·6 in.
75 lb. 9 oz. to 76 lb. 0 oz.	15·0 in.	20·7 in.
76 lb. 1 oz. to 76 lb. 8 oz.	15·1 in.	20·8 in.
76 lb. 9 oz. to 77 lb. 0 oz.	15·2 in.	21·0 in.
77 lb. 1 oz. to 77 lb. 8 oz.	15·3 in.	21·1 in.
77 lb. 9 oz. to 78 lb. 0 oz.	15·4 in.	21·2 in.
78 lb. 1 oz. to 78 lb. 8 oz.	15·5 in.	21·4 in.
78 lb. 9 oz. to 79 lb. 0 oz.	15·6 in.	21·5 in.
79 lb. 1 oz. to 79 lb. 8 oz.	15·7 in.	21·6 in.
79 lb. 9 oz. to 80 lb. 0 oz.	15·8 in.	21·8 in.
80 lb. 1 oz. to 80 lb. 8 oz.	15·9 in.	21·9 in.
80 lb. 9 oz. to 81 lb. 0 oz.	16·0 in.	22·0 in.
81 lb. 1 oz. to 81 lb. 8 oz.	16·1 in.	22·2 in.
81 lb. 9 oz. to 82 lb. 0 oz.	16·2 in.	22·3 in.
82 lb. 1 oz. to 82 lb. 8 oz.	16·3 in.	22·5 in.

Weight of fully painted aileron without inner hinge bearing and nut	*Minimum distance of 2 lb. weight aft of hinge line*	*Maximum distance of 2 lb. weight aft of hinge line*
STARBOARD AILERON		
58 lb. 9 oz. to 59 lb. 0 oz.	12·0 in.	16·7 in.
59 lb. 1 oz. to 59 lb. 8 oz.	12·2 in.	16·8 in.
59 lb. 9 oz. to 60 lb. 0 oz.	12·3 in.	16·9 in.
60 lb. 1 oz. to 60 lb. 8 oz.	12·4 in.	17·1 in.
60 lb. 9 oz. to 61 lb. 0 oz.	12·5 in.	17·2 in.
61 lb. 1 oz. to 61 lb. 8 oz.	12·6 in.	17·4 in.
61 lb. 9 oz. to 62 lb. 0 oz.	12·7 in.	17·5 in.
62 lb. 1 oz. to 62 lb. 8 oz.	12·8 in.	17·7 in.
62 lb. 9 oz. to 63 lb. 0 oz.	12·9 in.	17·8 in.
63 lb. 1 oz. to 63 lb. 8 oz.	13·0 in.	17·9 in.
63 lb. 9 oz. to 64 lb. 0 oz.	13·1 in.	18·1 in.
64 lb. 1 oz. to 64 lb. 8 oz.	13·2 in.	18·2 in.
64 lb. 9 oz. to 65 lb. 0 oz.	13·3 in.	18·4 in.
65 lb. 1 oz. to 65 lb. 8 oz.	13·4 in.	18·5 in.
65 lb. 9 oz. to 66 lb. 0 oz.	13·5 in.	18·7 in.
66 lb. 1 oz. to 66 lb. 8 oz.	13·6 in.	18·8 in.
66 lb. 9 oz. to 67 lb. 0 oz.	13·7 in.	18·9 in.
67 lb. 1 oz. to 67 lb. 8 oz.	13·8 in.	19·1 in.
67 lb. 9 oz. to 68 lb. 0 oz.	13·9 in.	19·2 in.
68 lb. 1 oz. to 68 lb. 8 oz.	14·0 in.	19·4 in.
68 lb. 9 oz. to 69 lb. 0 oz.	14·1 in.	19·5 in.
69 lb. 1 oz. to 69 lb. 8 oz.	14·2 in.	19·6 in.
69 lb. 9 oz. to 70 lb. 0 oz.	14·3 in.	19·8 in.
70 lb. 1 oz. to 70 lb. 8 oz.	14·4 in.	19·9 in.
70 lb. 9 oz. to 71 lb. 0 oz.	14·5 in.	20·0 in.
71 lb. 1 oz. to 71 lb. 8 oz.	14·6 in.	20·2 in.
71 lb. 9 oz. to 72 lb. 0 oz.	14·7 in.	20·4 in.
72 lb. 1 oz. to 72 lb. 8 oz.	14·9 in.	20·5 in.
72 lb. 9 oz. to 73 lb. 0 oz.	15·0 in.	20·6 in.
73 lb. 1 oz. to 73 lb. 8 oz.	15·1 in.	20·8 in.
73 lb. 9 oz. to 74 lb. 0 oz.	15·2 in.	20·9 in.
74 lb. 1 oz. to 74 lb. 8 oz.	15·3 in.	21·0 in.
74 lb. 9 oz. to 75 lb. 0 oz.	15·4 in.	21·2 in.
75 lb. 1 oz. to 75 lb. 8 oz.	15·5 in.	21·3 in.
75 lb. 9 oz. to 76 lb. 0 oz.	15·6 in.	21·5 in.
76 lb. 1 oz. to 76 lb. 8 oz.	15·7 in.	21·6 in.
76 lb. 9 oz. to 77 lb. 0 oz.	15·8 in.	21·8 in.

MAIN PLANES
AILERON

Mass balancing of ailerons

1. Full instructions for mass balancing an aileron are given in para.3 to 5, but it will be found that the information given in para.2 and the accompanying table is all that is normally required for a standard aileron with either 26 s.w.g. or 24 s.w.g. skins. In all cases the aileron must be complete and fully painted before mass balancing is attempted and the inner bearing should be removed to facilitate mounting on knife edge blocks. Suitable knife edge blocks and mounting brackets are Part No. Sk.C.20999. On port ailerons the external cable should be attached to the top surface of the aileron directly above the hinge line with masking tape.

2. The centre of gravity of a fully painted aileron must lie between the limits of 0·395 in. and 0·545 in. forward of the hinge line for a port aileron and between 0·410 in. and 0·565 in. for a starboard aileron. These limits, corresponding to the 18% to 25% over-balance required for the aileron apply to ailerons with either 26 s.w.g. or 24 s.w.g. skins. The procedure for balancing is as follows:-

(1) Ascertain the weight of the fully painted aileron without the external cable, hinge bearing and nut.

(2) Mount the aileron, with the external cable taped above the hinge centre line on port aileron, on knife edge blocks which should be clamped to a surface table.

(3) Place a 2 lb. weight on the top surface of the aileron and adjust its position fore and aft until the centre line is horizontal.

(4) Measure the distance of the centre of the 2 lb. weight aft of the hinge centre line (dimension d_2 in fig.2).

(5) Ensure that the distance measured lies between the limits given opposite the appropriate aileron weight in the accompanying table.

3. Where it is desired to do a complete mass balance check on the aileron the under-balance moment without balance weights may be measured as follows:-

(1) Remove the balance weights if fitted and mount the aileron on knife edge blocks which should be clamped to a surface table.

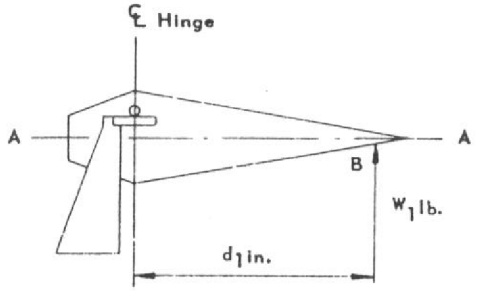

Fig.1

(2) Find the upward load (W_1lb.) at a point (B) near the trailing edge required to bring the centre line (A-A) on to a horizontal plane. Measure the distance ($d_1$in.) of this applied load aft of the hinge centre line.

(3) The under-balance moment (M) about the hinge line of a fully painted aileron without balance weights is as follows:-

$$M = (W_1 d_1) \text{ lb. in.}$$

4. The measurement of the over-balance moment with balance weights is as follows:-

(1) Mount the aileron, complete with balance weights, on knife edge blocks as before.

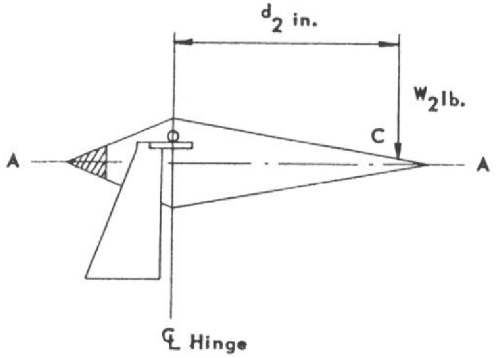

Fig.2

(2) Find the load (W_2lb.) at a point (C) near the trailing edge required to bring the centre line (A-A) on to a horizontal plane. Measure the distance ($d_2$in.) of this applied load aft of the hinge centre line.

(3) The over-balance moment (N) about the hinge line of a fully painted aileron with balance weights is as follows:-

$$N = (W_2 d_2) \text{ lb. in.}$$