

CHAPTER 2 FLYING CONTROLS

(Completely revised)

LIST OF CONTENTS

	Para.
General	1
Ball bearing assemblies	2

LIST OF ILLUSTRATIONS

Fig.	Fig.
Bearing location diagram - elevator and tailplane controls and hinges... 1	Bearing location diagram - aileron controls and hinges... 3
Details for elevator and tailplane controls and hinges... 1/1 to 1/18	Details for aileron controls and hinges... 3/1, 3/3 to 3/5
Bearing location diagram - rudder controls and hinges... 2	Bearing location diagram - flap controls and hinges... 4
Details for rudder controls and hinges ... 2/1 to 2/4	Details for flap controls and hinges ... 4/1 to 4/7

LIST OF SCHEDULES

Schedule	Schedule
Wear limits for elevator and tailplane controls and hinges ... 1/1 to 1/18	Wear limits for aileron controls and hinges ... 3/1 to 3/5
Wear limits for rudder controls and hinges ... 2/1 to 2/4	Wear limits for flap controls and hinges ... 4/1 to 4/7

General

1. Wear limits for flying controls may be found in the accompanying schedules. Obviously if all the moving parts were worn to give the maximum permissible worn clearances it would result in an unacceptable backlash on the control surface concerned, therefore the worn tolerances may only be applied where the limits given for the movement of control surfaces in Section 3, Chapter 4 of the appropriate Volume 1 have not been exceeded. Where an unacceptable amount of movement is

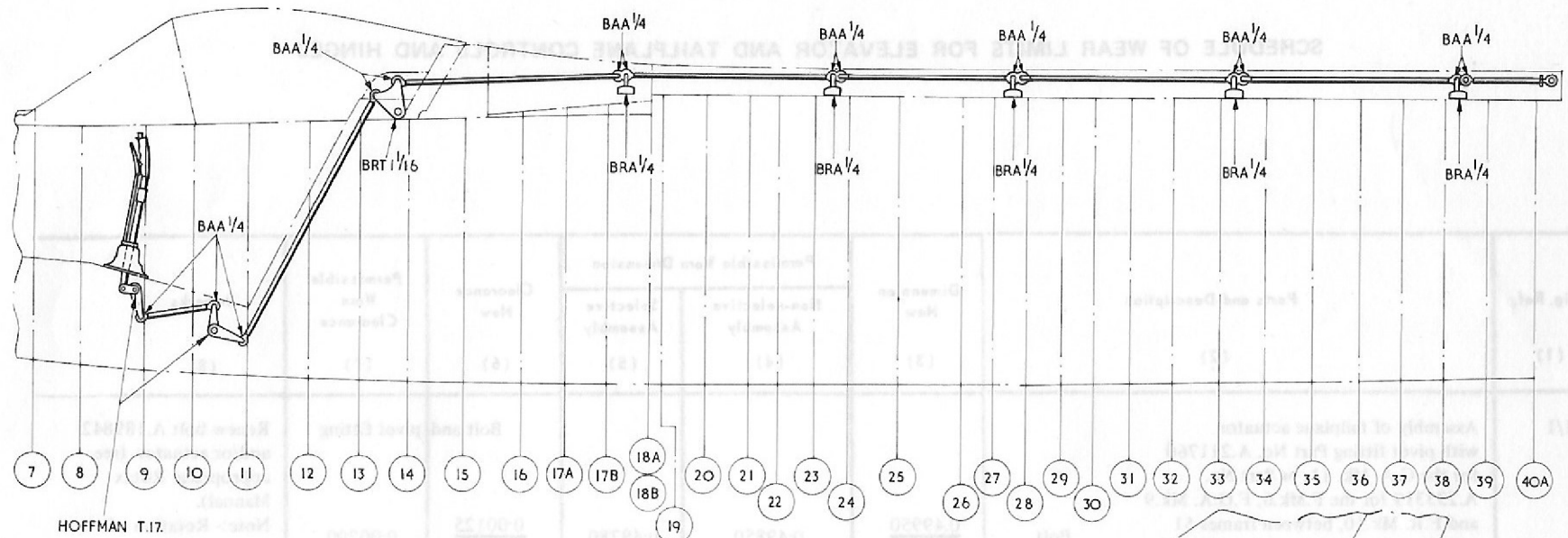
found due to wear a sufficient number of worn parts should be renewed to bring the movement to an acceptable figure even though the maximum worn dimensions may not have been exceeded.

Ball bearing assemblies

2. All references on the bearing location diagrams, other than those which are cross referred to the schedules, are to ball bearing assemblies details of permissible wear to which may be found in Chapter 1.

TABLE 2 ALTERNATIVE PART NUMBERS FOR BEARINGS

B.S.S. SYMBOL	MANUFACTURERS CODE NUMBER					U.S. EQUIVALENT
	FISCHER	HOFFMAN	POLLARD	R & M	SKEFCO	
Rigid single row ball journal bearings						
BRL 5/8	S 7	LS 7	LS 7	LJ 5/8	RLS 5	
BRE 1/2	EE 4	S 5	SC 5	KLNJ 1/2	EE 4	155-8428
BRE 5/8	EE 5	S 7	SC 7	KLNJ 5/8	EE 5	-
-	T 17	T 17	-	CA 1.1/16	TTS 8.1/2	142-4330
-	T 21	T 21	-	CA 1.5/16	TTS 10.1/2	142-4332
-	T 29	T 29	-	CA 1.13/16	TTS 14.1/2	142-4337
BRA 1/4	-	CS 1	-	CK 1/4 A	CBS 2	-
BRA 3/8	-	CS 3	-	CK 3/8 A	CBS 3	-
BRA 1/2	-	CS 5	-	CK 1/2 A	CBS 4	-
BRA 5/8	-	CS 7	-	CK 5/8	CBS 5	-
Single row angular contact bearings						
ACL 5/8	ACL 7	LS 7 ACD	-	LJT 5/8	ALS 5A	-
Self-aligning single row ball journal bearings						
BAA 1/4	-	CA 1	-	CD 1/4	CBA 2	142-4314
BAA 5/16 B	-	N 3113	-	CD 5/16 B	1.132499	-
BAA 3/8	-	CA 3	-	CD 3/8	CBA 3	142-4317
Self-aligning double row ball journal bearings						
BAL 020	P 204	U 120	-	NLJ 20	1204	156-5055
BAL 025	P 205	U 125	P 205	NLJ 25	1205	156-5060



NOTES

1. NUMBERS SHOWN THUS 12 REFER TO FRAME DATUM LINES FOR MK.4 AIRCRAFT. ALL FLYING CONTROLS FOR OTHER MKS. ARE SIMILAR, BUT FRAME DATUM LINES ARE IN SOME INSTANCES DIFFERENTLY LOCATED TO THOSE ILLUSTRATED.

2. NUMBERS SHOWN THUS 2 ARE REF NUMBERS FOR THE ACCOMPANYING SCHEDULES.

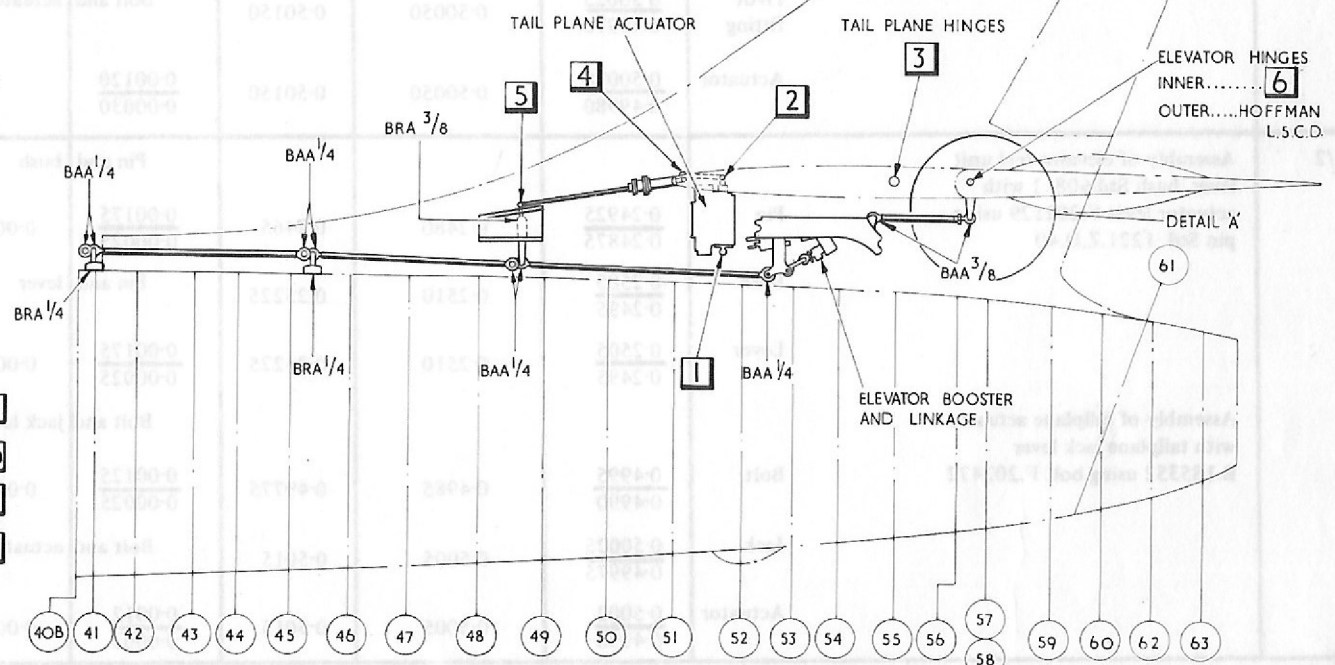
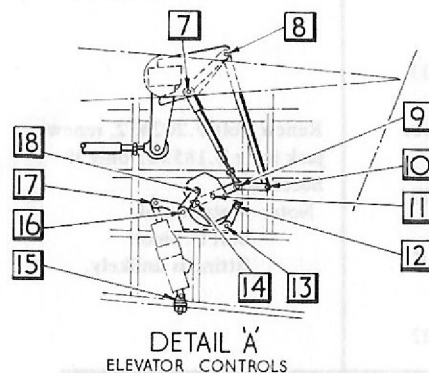


FIG.1. BEARING LOCATION DIAGRAM - ELEVATOR AND TAIL PLANE CONTROLS AND HINGES

SCHEDULE OF WEAR LIMITS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

Fig. Ref. (1)	Parts and Description (2)	Dimension New (3)	Permissible Worn Dimension		Clearance New (6)	Permissible Worn Clearance (7)	Remarks (8)
			Non-selective Assembly (4)	Selective Assembly (5)			
1/1	Assembly of tailplane actuator with pivot fitting Part No. A.211760 for the G.A. Mk. 11, or Part No. A.233319 for the F.Mk.6, F.G.A. Mk.9 and F.R. Mk.10, between frames 51 and 52, using bolt Part No. A.189842	Bolt	$\frac{0.49950}{0.49900}$	0.49850	0.49780	Bolt and pivot fitting	Renew bolt A.189842 and/or actuator (see appropriate Rotax Manual). Note:- Rotation of bolt in pivot fitting is unlikely.
		Pivot fitting	$\frac{0.50025}{0.49975}$	0.50050	0.50150	Bolt and actuator	
		Actuator	$\frac{0.50020}{0.49980}$	0.50050	0.50150	$\frac{0.00120}{0.00030}$	
1/2	Assembly of elevator feel unit lever, bush Std.608. 1 with actuator lever F.202129 using pin Std. 1221.Z.D.40	Pin	$\frac{0.24925}{0.24875}$	0.2480	0.2465	Pin and bush	Renew pin Std.1221.Z.D.40 and/or bush Std.608. 1 and if necessary renew lever F.202129
		Bush	$\frac{0.2505}{0.2495}$	0.2510	0.25225	Pin and lever	
		Lever	$\frac{0.2505}{0.2495}$	0.2510	0.25225	$\frac{0.00175}{0.00025}$	
	Assembly of tailplane actuator with tailplane jack lever B.185352 using bolt F.202472	Bolt	$\frac{0.4995}{0.4990}$	0.4985	0.49775	Bolt and jack lever	Renew bolt F.202472, renew jack lever B.185352 only if necessary. Note:- Rotation of bolt in pivot fitting is unlikely.
		Jack	$\frac{0.50025}{0.49975}$	0.5005	0.5015	Bolt and actuator	
		Actuator	$\frac{0.5002}{0.4998}$	0.5005	0.5015	$\frac{0.0012}{0.0003}$	

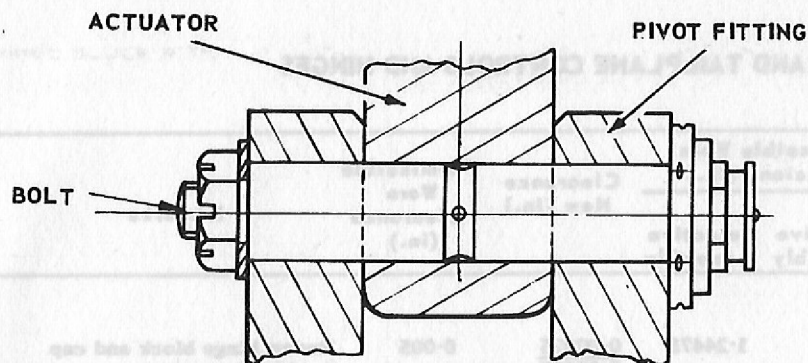


FIG. 1/1

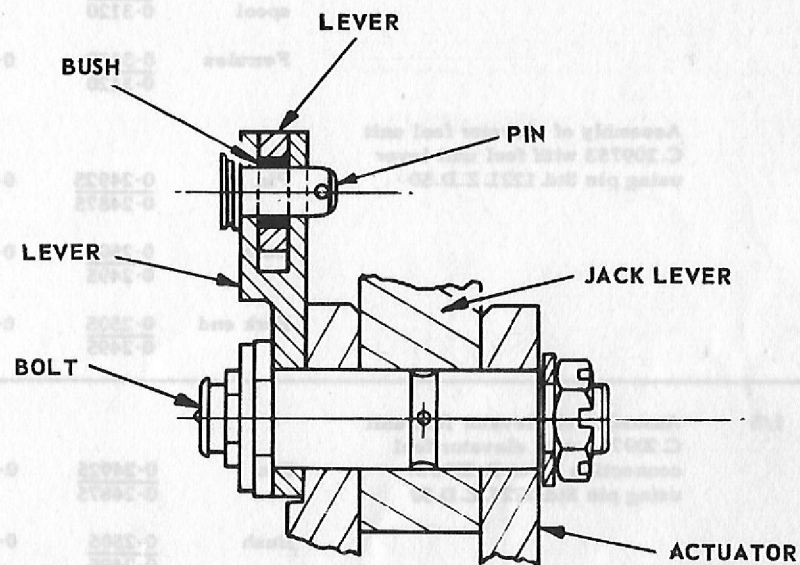


FIG. 1/2

DETAILS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

SCHEDULE OF WEAR LIMITS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

Ref.No. on Diagram	Part and Description		Dimension New (in.)	Permissible Worn Dimensions (in.)		Clearance New (in.)	Permissible Worn Clearance (in.)	Remarks
				Non- Selective Assembly	Selective Assembly			
1/3	Assembly of tailplane hinge block A.185667 with tailplane attach- ment fitting C.177119 at frame 55 (port and starboard)	Attachment fitting	$\frac{1.2487}{1.2475}$	1.246	1.24475	$\frac{0.00325}{0.00105}$	0.005	Renew hinge block and cap A.185667 together.
		Hinge block	$\frac{1.25075}{1.24975}$	1.251	1.2537			Renew attachment fitting C.177119 only if necessary
1/4	Assembly of elevator feel unit lever A.202126 with bearing brackets A.209654 and 5 using bolt Std.325.222	Bolt	$\frac{0.3125}{0.3095}$	0.3090	0.3070	$\frac{0.0035}{-0.0005}$	0.005	Renew bolt Std.325.222 and/or bushes Std.608.4 in lever spool. Renew ferrules Std.1357.61 in bearing bracket only if necessary
		Lever spool	$\frac{0.3130}{0.3120}$	0.3140	0.3175		Bolt and bracket	
		Ferrules	$\frac{0.3130}{0.3120}$	0.3140	0.3175	$\frac{0.0035}{-0.0005}$	0.005	
	Assembly of elevator feel unit C.209753 with feel unit lever using pin Std.1221. Z.D.50	Pin	$\frac{0.24925}{0.24875}$	0.2480	0.2465	$\frac{0.00175}{0.00025}$	0.003	Renew pin Std.1221. Z.D.50. and/or bush Std.608.1 in lever. Renew fork and A.209685 item 1 only if necessary
		Bush	$\frac{0.2505}{0.2495}$	0.2510	0.25225		Pin and fork end	
		Fork end	$\frac{0.2505}{0.2495}$	0.2510	0.25225	$\frac{0.00175}{0.00025}$	0.003	
1/5	Assembly of elevator feel unit C.209753 with elevator feel connection lever B.209637 using pin Std.1221. Z.D.50	Pin	$\frac{0.24925}{0.24875}$	0.2480	0.2465	$\frac{0.00175}{0.00025}$	0.003	Renew pin Std.1221. Z.D.50. and/ or lever bush Std.608/1 Renew feel unit fork end F.208972 only if necessary
		Bush	$\frac{0.2505}{0.2495}$	0.2510	0.25225		Pin and fork end	
		Fork end	$\frac{0.25025}{0.24975}$	0.2510	0.25225	$\frac{0.0015}{0.0005}$	0.003	

RESTRICTED

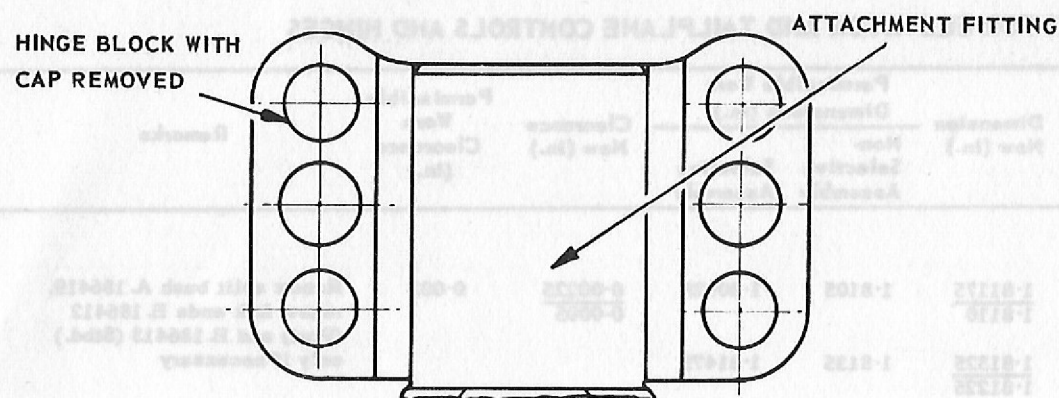


FIG.1/3

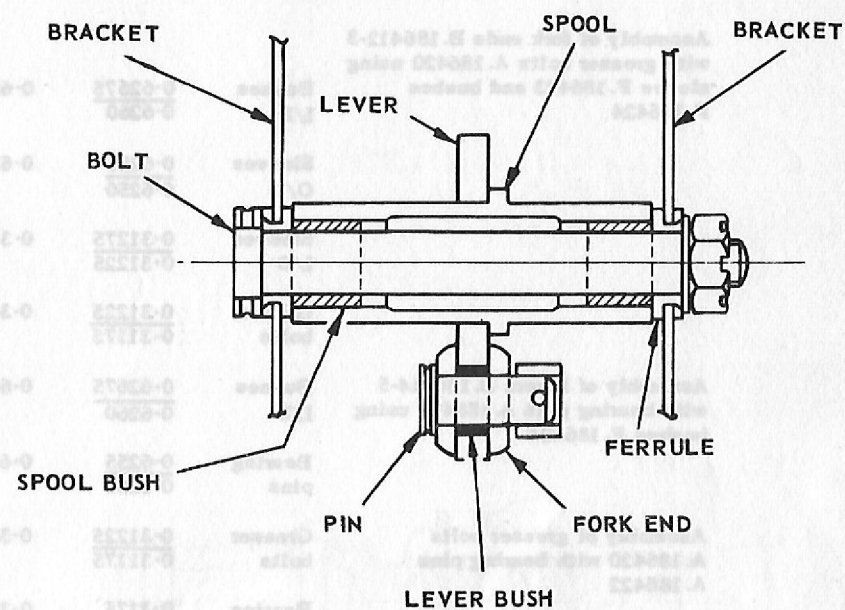


FIG.1/4

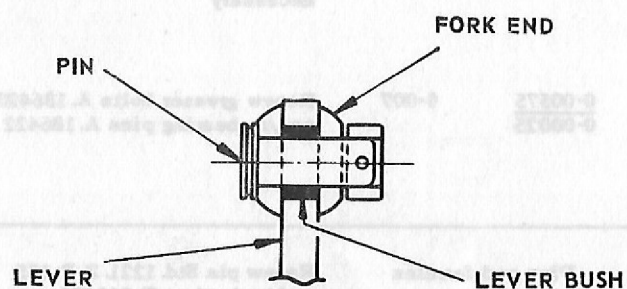


FIG.1/5

DETAILS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

SCHEDULE OF WEAR LIMITS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

Ref.No. on Diagram	Part and Description	Dimension New (in.)	Permissible Worn Dimensions (in.)		Clearance New (in.)	Permissible Worn Clearance (in.)	Remarks	
			Non- Selective Assembly	Selective Assembly				
1/6	Assembly of fork ends B.186412-3 with inner hinge bearing assemblies. Using split bushes A.186419	Fork ends	$\frac{1.81175}{1.8110}$	1.8105	1.80925	$\frac{0.00225}{0.0005}$	0.003	Renew split bush A.186419, renew fork ends B.186412 (Port) and B.186413 (Stbd.) only if necessary
		Split bush	$\frac{1.81325}{1.81225}$	1.8135	1.81475			
	Assembly of fork ends B.186412-3 with greaser bolts A.186420 using sleeve F.186423 and bushes F.186424	Bushes I/D	$\frac{0.62675}{0.6260}$	0.6270	0.6285	$\frac{0.00175}{0.0005}$	0.003	Renew bushes F.186424, renew sleeves F.186423 and greaser bolts A.186420 only if necessary
		Sleeves O/D	$\frac{0.6255}{0.6250}$	0.6240	0.6230	Sleeves and greaser bolts		
		Sleeves I/D	$\frac{0.31275}{0.31225}$	0.3135	0.31425	$\frac{0.001}{0.000}$	0.002	
		Greaser bolts	$\frac{0.31225}{0.31175}$	0.3115	0.31025			
	Assembly of levers B.186414-5 with bearing pins A.186422 using bushes F.186424	Bushes I/D	$\frac{0.62675}{0.6260}$	0.6270	0.6285	$\frac{0.00175}{0.0005}$	0.003	Renew bushes F.186424, renew bearing pins A.186422 only if necessary
		Bearing pins	$\frac{0.6255}{0.6250}$	0.6240	0.6230			
	Assembly of greaser bolts A.186420 with bearing pins A.186422	Greaser bolts	$\frac{0.31225}{0.31175}$	0.3110	0.3055	$\frac{0.00575}{0.00025}$	0.007	Renew greaser bolts A.186420 and/or bearing pins A.186422
		Bearing pins	$\frac{0.3175}{0.3125}$	0.3180	0.31925			
1/7	Assembly of spring unit B.211414 with flying tail linkage lever B.211413 using pin Std.1221. Z.D.135					Pins and ferrules		Renew pin Std.1221. Z.D.135 and/or bushes F.211401. Renew ferrules Std.1357/22 only if necessary
		Pin	$\frac{0.24925}{0.24875}$	0.2485	0.24675	$\frac{0.00175}{0.00025}$	0.003	
		Ferrules	$\frac{0.2505}{0.2495}$	0.2515	0.25225	Pin and bushes		
		Bushes	$\frac{0.25025}{0.24975}$	0.2515	0.25225	$\frac{0.0015}{0.0005}$	0.003	

RESTRICTED

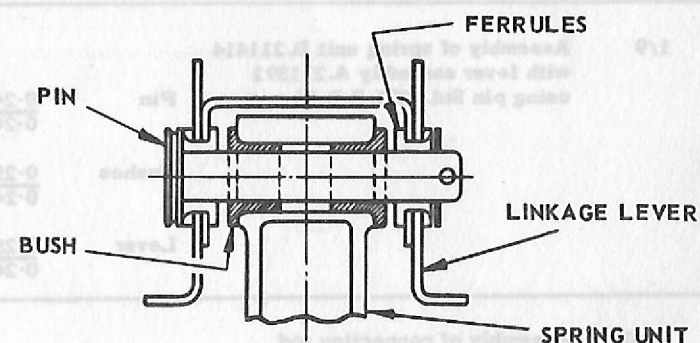
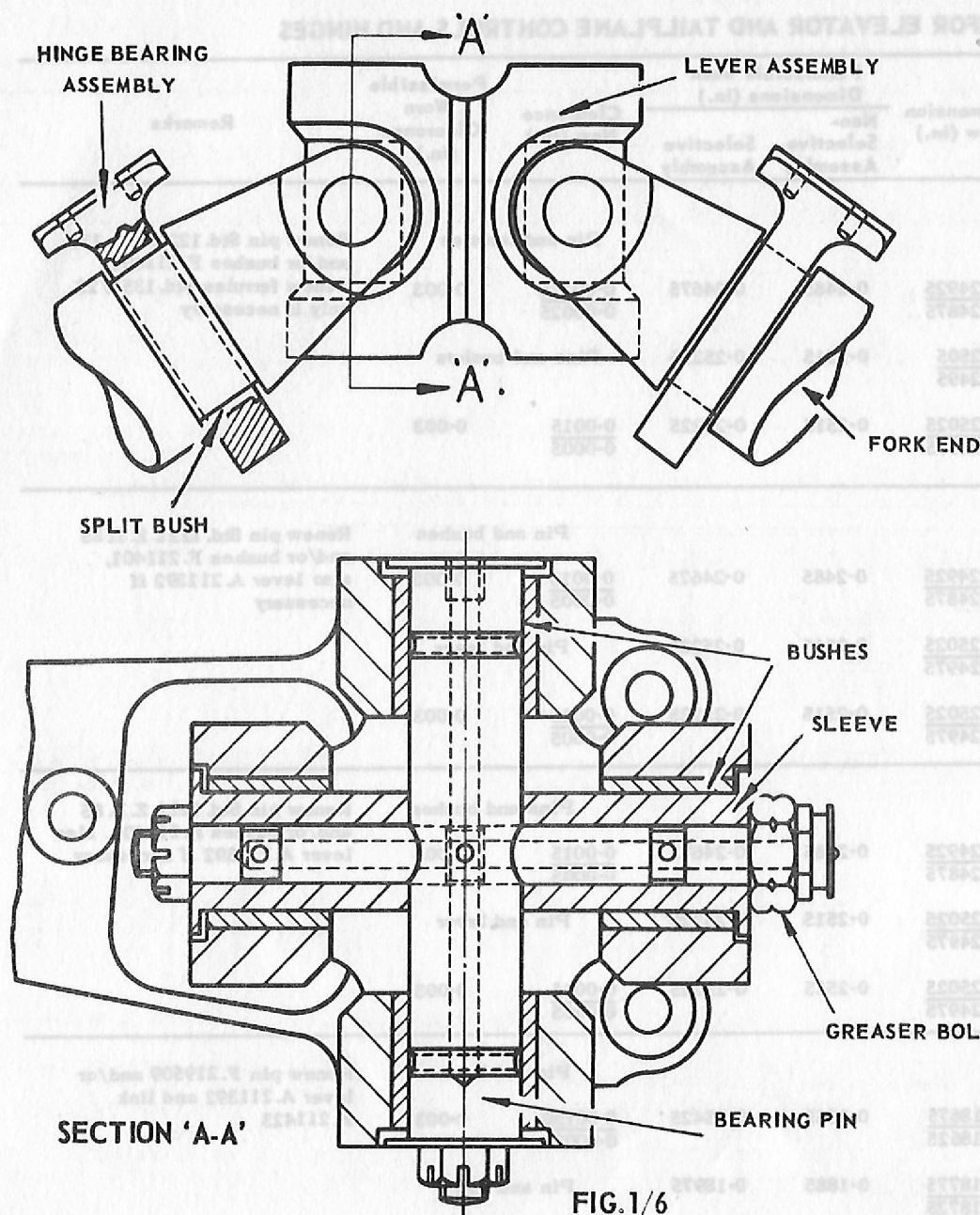


FIG.1/7

DETAILS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

SCHEDULE OF WEAR LIMITS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

Ref.No. on Diagram	Part and Description	Dimension New (in.)	Permissible Worn Dimensions (in.)		Clearance New (in.)	Permissible Worn Clearance (in.)	Remarks
			Non- Selective Assembly	Selective Assembly			
1/8	Assembly of connecting rod A.211409 with flying tail linkage lever B.211413 using pin Std.1221.Z.D.135	Pin	<u>0.24925</u> 0.24875	0.2485	0.24675	0.00175 0.00025	Pin and ferrules Renew pin Std. 1221. Z. D. 135 and/or bushes F.211401. Renew ferrules Std. 1357/22 only if necessary
		Ferrules	<u>0.2505</u> 0.2495	0.2515	0.25225		Pins and bushes
		Bushes	<u>0.25025</u> 0.24975	0.2515	0.25225	0.0015 0.0005	0.003
1/9	Assembly of spring unit B.211414 with lever assembly A.211392 using pin Std. 1221. Z. D. 85	Pin	<u>0.24925</u> 0.24875	0.2485	0.24675	0.0015 0.0005	Pin and bushes Renew pin Std. 1221. Z. D. 85 and/or bushes F.211401, also lever A.211392 if necessary
		Bushes	<u>0.25025</u> 0.24975	0.2515	0.25225		Pin and lever
		Lever	<u>0.25025</u> 0.24975	0.2515	0.25225	0.0015 0.0005	0.003
1/10	Assembly of connecting rod A.211409 with lever assembly A.211392 using pin Std. 1221. Z. D. 85	Pin	<u>0.24925</u> 0.24875	0.2485	0.24675	0.0015 0.0005	Pins and bushes Renew pin Std. 1221. Z. D. 85 and/or bushes F.211401, also lever A.211392 if necessary
		Bushes	<u>0.25025</u> 0.24975	0.2515	0.25225		Pin and lever
		Lever	<u>0.25025</u> 0.24975	0.2515	0.25225	0.0015 0.0005	0.003
1/11	Assembly of lever A.211392 with assembly of micro switch mounting plates A.220794 and link F.211423 using pin F.219509	Pin	<u>0.18675</u> 0.18625	0.1855	0.18425	0.00150 0.0005	Pin and lever Renew pin F.219509 and/or lever A.211392 and link F.211423
		Lever	<u>0.18775</u> 0.18725	0.1885	0.18975		Pin and link
		Link	<u>0.18775</u> 0.18725	0.1885	0.18975	0.00150 0.0005	0.003

RESTRICTED

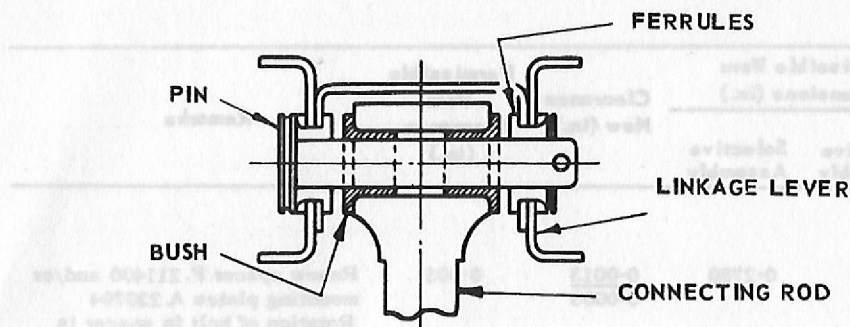


FIG.1/8

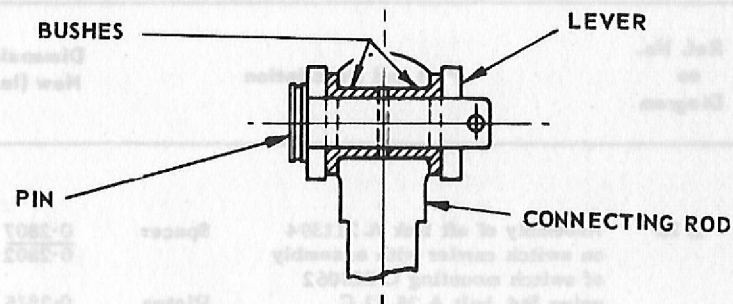


FIG.1/10

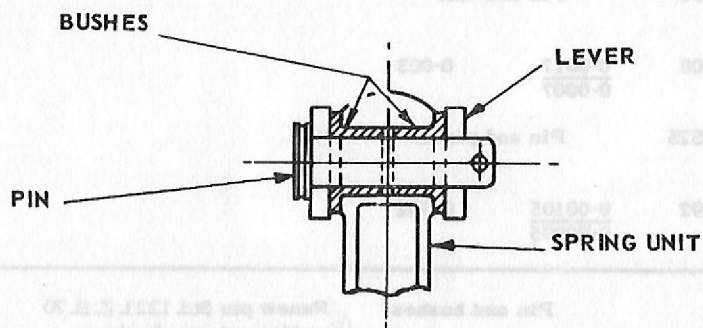


FIG.1/9

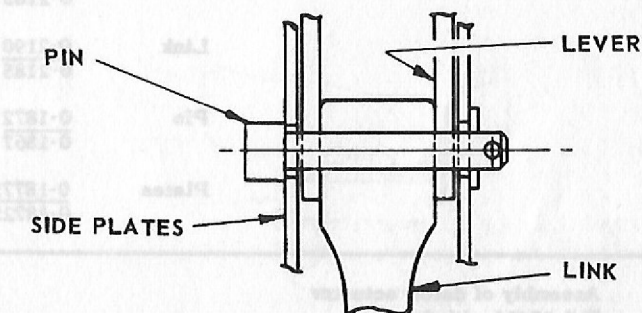


FIG.1/11

DETAILS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

SCHEDULE OF WEAR LIMITS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

Ref. No. on Diagram	Part and Description	Dimension New (in.)	Permissible Worn Dimensions (in.)		Clearance New (in.)	Permissible Worn Clearance (in.)	Remarks	
			Non - Selective Assembly	Selective Assembly				
1/12	Assembly of aft link A.211394 on switch carrier with assembly of switch mounting C.223062 using Std. bolt A.25.12.C	Spacer	$\frac{0.2807}{0.2802}$	0.280	0.2780	$\frac{0.0013}{0.0003}$	0.003	Renew spacer F.211400 and/or mounting plates A.220794 Rotation of bolt in spacer is unlikely
		Plates	$\frac{0.2815}{0.2810}$	0.283	0.2837			
1/13	Assembly of aft link A.211394 with mounting bracket A.211399 using bolt Std. 1551.1.165	Bolt	$\frac{0.2495}{0.2490}$	0.2485	0.24675	$\frac{0.00125}{0.00025}$	0.003	Renew bolt Std. 1551.1.165 and/or bushes F.211398
		Bushes	$\frac{0.25025}{0.24975}$	0.2515	0.2525			
1/14	Assembly of link F.211423 and lever F.211422 with switch mounting plates A.220794 using pin F.211421	Pin	$\frac{0.2178}{0.2173}$	0.2170	0.2155	$\frac{0.0017}{0.0007}$	0.003	Renew pin F.211421 and/or link F.211423 and lever F.211422. Renew mounting plates A.220794 only if necessary
		Lever	$\frac{0.2190}{0.2185}$	0.220	0.2208	Pin and link		
		Link	$\frac{0.2190}{0.2185}$	0.220	0.2208	$\frac{0.0017}{0.0007}$	0.003	
		Pin	$\frac{0.1872}{0.1867}$	0.1865	0.18525	Pin and plates		
		Plates	$\frac{0.18775}{0.18725}$	0.1885	0.1892	$\frac{0.00105}{0.00005}$	0.002	
1/15	Assembly of datum actuator E.A.25431 with fuselage eye bolt F.211395 using pin Std. 1221. Z. B. 70	Pin	$\frac{0.18675}{0.18625}$	0.186	0.18425	$\frac{0.0015}{0.0005}$	0.003	Renew pin Std. 1221. Z. B. 70 and/or actuator bushes, also eye bolt F.211395 if necessary
		Bushes	$\frac{0.18775}{0.18725}$	0.189	0.18975	Pin and eye bolt		
		Eye bolt	$\frac{0.18775}{0.18725}$	0.189	0.18975	$\frac{0.0015}{0.0005}$	0.003	

RESTRICTED

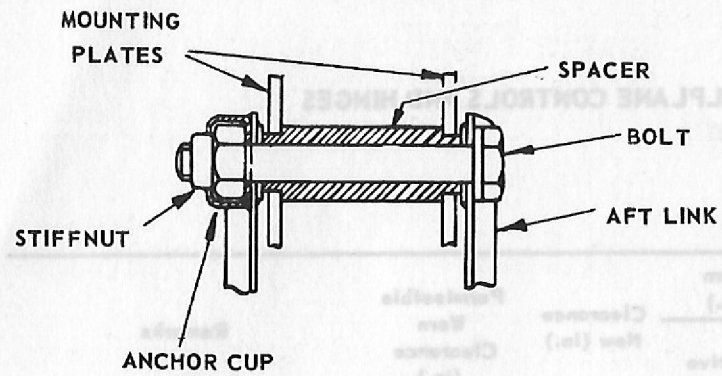


FIG. 1/12

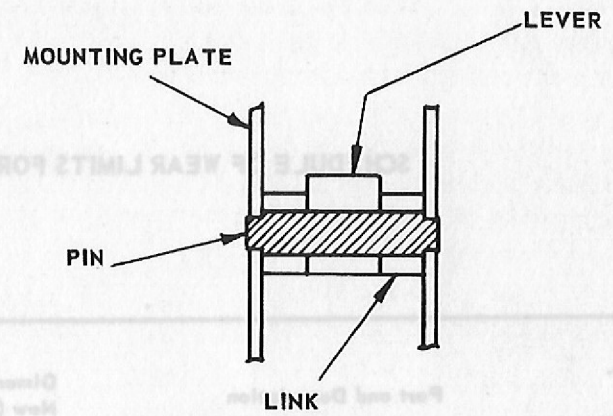


FIG. 1/14

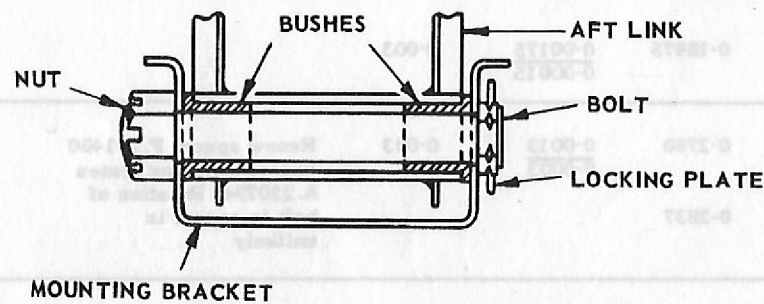


FIG. 1/13

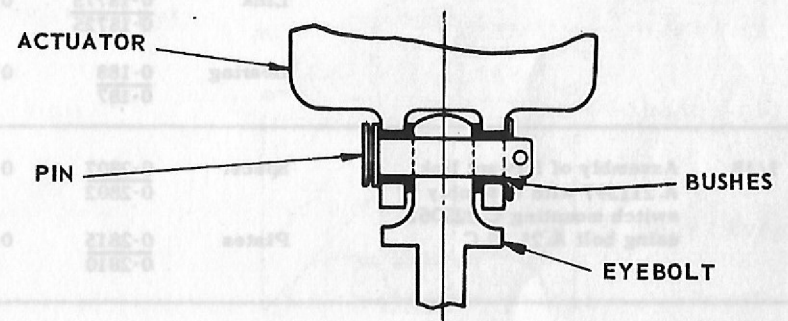


FIG. 1/15

DETAILS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

RESTRICTED

SCHEDULE OF WEAR LIMITS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

Ref.No. on Diagram	Part and Description	Dimension New (in.)	Permissible Worn Dimensions (in.)		Clearance New (in.)	Permissible Worn Clearance (in.)	Remarks
			Non- Selective Assembly	Selective Assembly			
1/ 16	Assembly of forward link A.211397 with mounting bracket A.211399 using bolt Std. 1551. 1. 165	Bolt	$\frac{0.2495}{0.2490}$	0.2485 0.24675	$\frac{0.00125}{0.00025}$	0.003	Renew bolt Std. 1551. 1. 165 and/or bushes F.211398
		Bushes	$\frac{0.25025}{0.24975}$	0.2515 0.2525			
1/ 17	Assembly of datum actuator E. A. 25321 with forward link A. 211397 using pin Std. 1221. Z. B. 45	Pin	$\frac{0.18675}{0.18625}$	0.186 0.184	$\frac{0.0015}{0.0005}$	0.003	Renew pin Std. 1221. Z. B. 45 and/or forward link A. 211397. If necessary renew self aligning bearing on actuator
		Link	$\frac{0.18775}{0.18725}$	0.189 0.18975	Pin and bearing		
		Bearing	$\frac{0.188}{0.187}$	0.189 0.18975	$\frac{0.00175}{0.00015}$	0.003	
1/ 18	Assembly of forward link A. 211397 with assembly of switch mounting C. 223062 using bolt A. 25. 12. C	Spacer	$\frac{0.2807}{0.2802}$	0.280 0.2780	$\frac{0.0013}{0.0003}$	0.003	Renew spacer F. 211400 and/or mounting plates A. 220794. Rotation of bolt in spacer is unlikely
		Plates	$\frac{0.2815}{0.2810}$	0.283 0.2837			

RESTRICTED

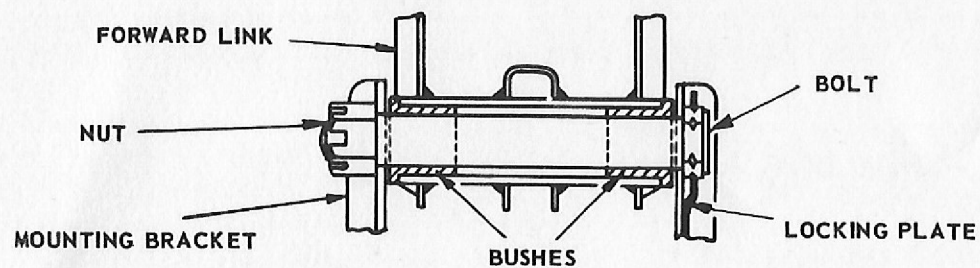


FIG. 1/16

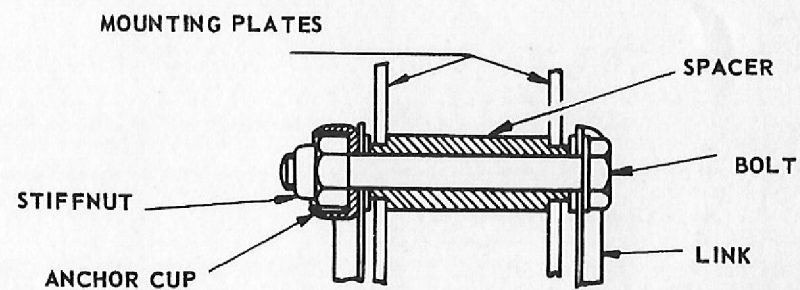


FIG. 1/18

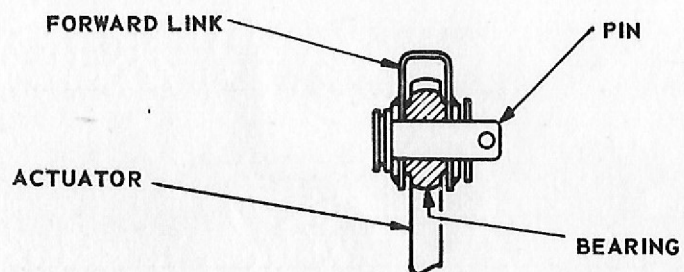


FIG. 1/17

DETAILS FOR ELEVATOR AND TAILPLANE CONTROLS AND HINGES

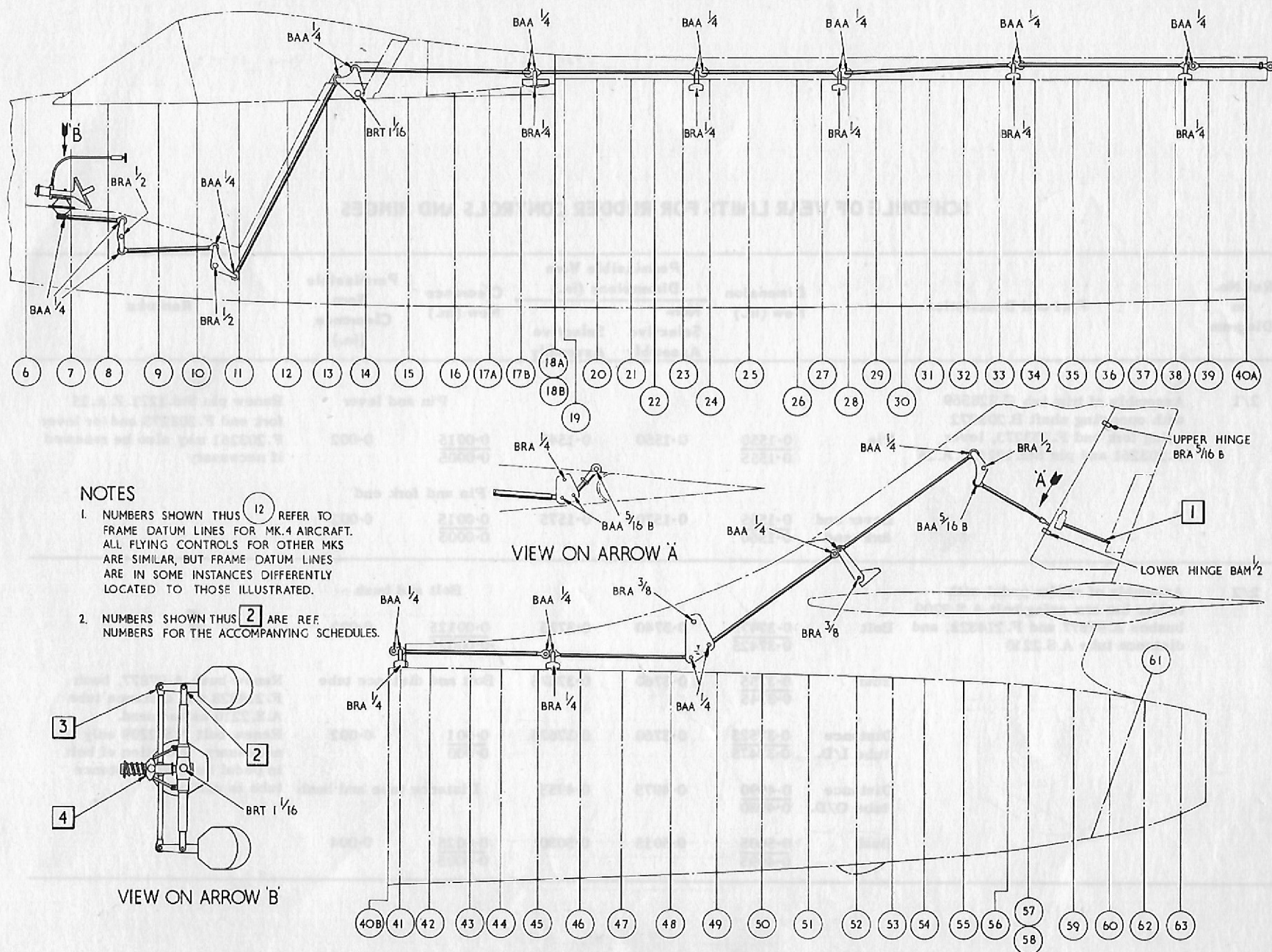


FIG.2. BEARING LOCATION DIAGRAM — RUDDER CONTROLS AND HINGES

RESTRICTED

SCHEDULE OF WEAR LIMITS FOR RUDDER CONTROLS AND HINGES

Ref.No. on Diagram	Part and Description	Dimension New (in.)	Permissible Worn Dimensions (in.)		Clearance New (in.)	Permissible Worn Clearance (in.)	Remarks	
			Non- Selective Assembly	Selective Assembly				
2/1	Assembly of trim tab C.228569 with operating shaft B.203272 using fork end F.203273, lever F.203261 and pin Std.1221.Z.A.25	Pin	$\frac{0.1550}{0.1555}$	0.1550	0.1540	$\frac{0.0015}{0.0005}$	0.002	Pin and lever Renew pin Std.1221.Z.A.25 fork end F.203273 and/or lever F.203261 may also be renewed if necessary
		Lever and fork end	$\frac{0.1565}{0.1560}$	0.1570	0.1575	$\frac{0.0015}{0.0005}$	0.002	Pin and fork end
2/2	Assembly of rudder pedal with rudder bar arm using bolt A.S.2209, bushes A.97877 and F.214828, and distance tube A.S.2210	Bolt	$\frac{0.37475}{0.37425}$	0.3740	0.3725	$\frac{0.00125}{-0.00025}$	0.002	Bolt and bush
		Bush	$\frac{0.3755}{0.3745}$	0.3760	0.37675	Bolt and distance tube		Renew bush A.97877, bush F.214828 and distance tube A.S.2210 as required.
		Distance tube I/D.	$\frac{0.37525}{0.37475}$	0.3760	0.37675	$\frac{0.001}{0.000}$	0.002	Renew bolt A.S.2209 only if necessary. Rotation of bolt in pedal bush and distance tube is unlikely
		Distance tube O/D.	$\frac{0.4990}{0.4980}$	0.4975	0.4955	Distance tube and bush		
		Bush	$\frac{0.5005}{0.4995}$	0.5015	0.5030	$\frac{0.0025}{0.0005}$	0.004	

RESTRICTED

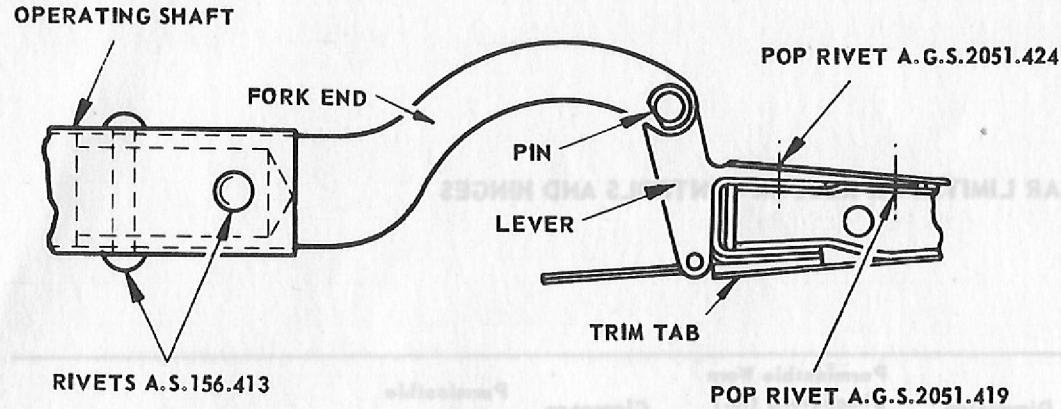


FIG. 2/1

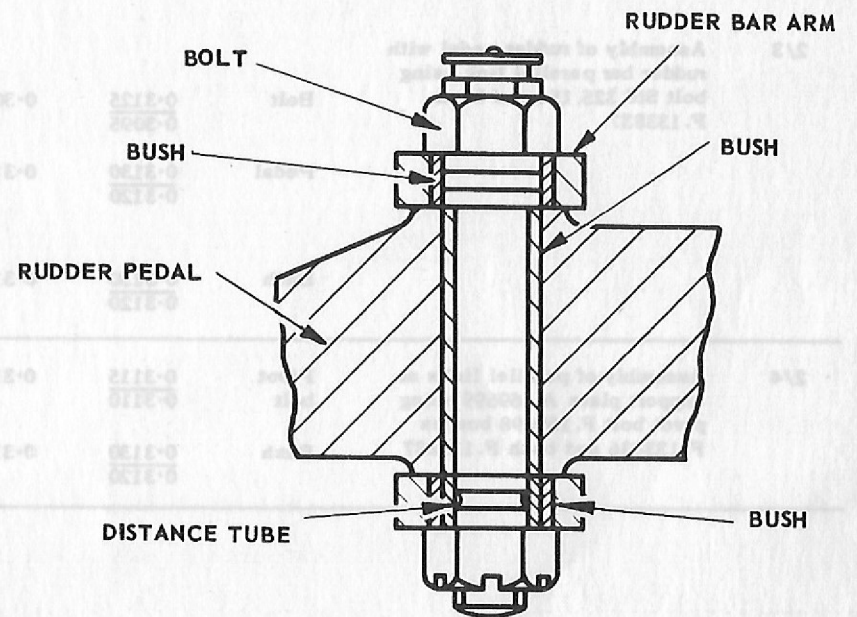


FIG. 2/2

DETAILS FOR RUDDER CONTROLS AND HINGES

SCHEDULE OF WEAR LIMITS FOR RUDDER CONTROLS AND HINGES

Ref.No. on Diagram	Part and Description	Dimension New (in.)	Permissible Worn Dimensions (in.)		Clearance New (in.)	Permissible Worn Clearance (in.)	Remarks	
			Non- Selective Assembly	Selective Assembly				
2/3	Assembly of rudder pedal with rudder bar parallel link using bolt Std.325.154 and bush F.133837	Bolt	$\frac{0.3125}{0.3095}$	0.3090	0.3070	$\frac{0.0035}{-0.0005}$	0.005	Renew bolt Std.325.154. Wear to pedal rectified by reaming pedal and bush to 11/32 in. dia. Newell 'B' (11/32 in. $\pm$.0005 in.) and fitting bolt Std.326.154. Where bush is worn and not the pedal, bush F.133837 should be renewed
		Pedal	$\frac{0.3130}{0.3120}$	0.3140	0.3175			
		Bush	$\frac{0.3130}{0.3120}$	0.3140	0.3175	$\frac{0.0005}{-0.0005}$	0.005	
2/4	Assembly of parallel links at support plate A.169699 using pivot bolt F.169698 bushes F.133836 and bush F.133837	Pivot bolt	$\frac{0.3115}{0.3110}$	0.3100	0.3080	$\frac{0.002}{0.0005}$	0.004	Renew bushes F.133836 and/or bush F.133837. Renew pivot bolt by renewing support plate A.169699 only if necessary
		Bush	$\frac{0.3130}{0.3120}$	0.3140	0.3155			

RESTRICTED

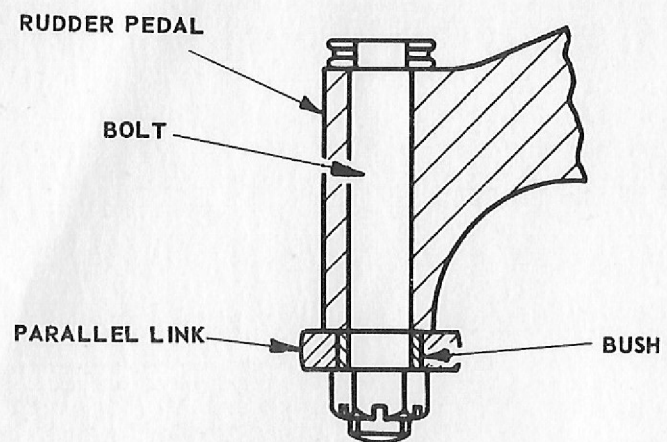


FIG.2/3

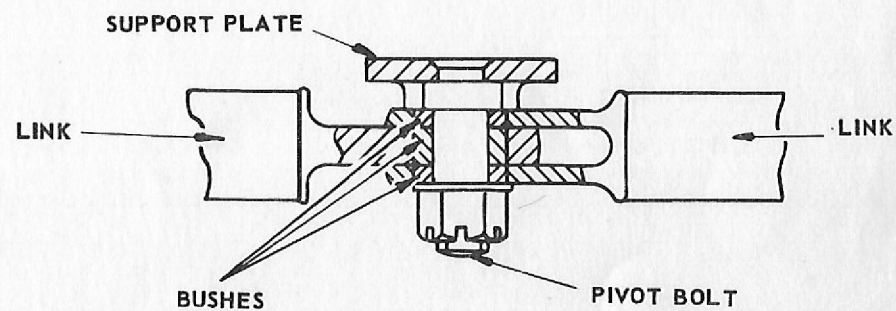


FIG.2/4

DETAILS FOR RUDDER CONTROLS AND HINGES

NOTES:-

- NOTES
1. NUMBERS SHOWN THUS **(12)** REFER TO FRAME DATUM LINES FOR MK4 AIRCRAFT. ALL FLYING CONTROLS FOR OTHER MKS. ARE SIMILAR, BUT FRAME DATUM LINES ARE IN SOME INSTANCES DIFFERENTLY LOCATED TO THOSE ILLUSTRATED.
 2. NUMBERS SHOWN THUS **[2]** ARE REF. NUMBERS FOR THE ACCOMPANYING SCHEDULES.

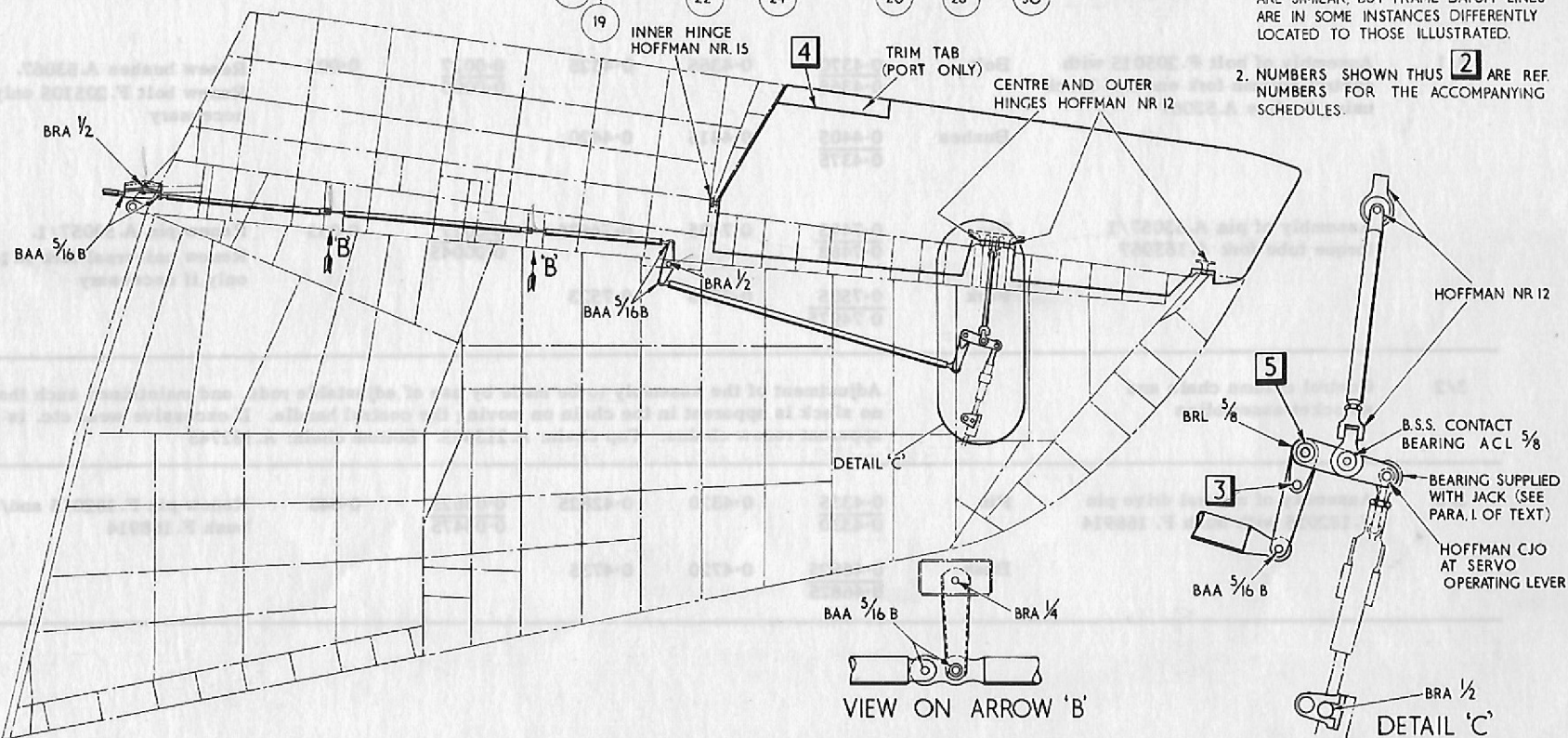
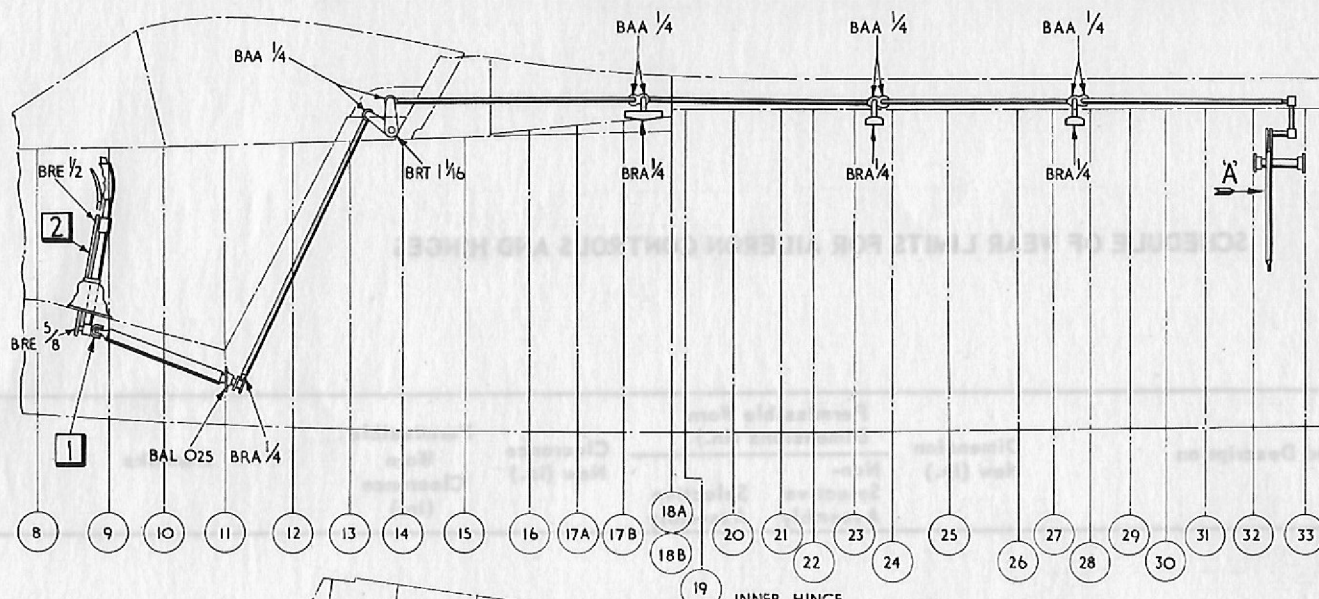


FIG.3. BEARING LOCATION DIAGRAM—AILERON CONTROLS AND HINGES

RESTRICTED

SCHEDULE OF WEAR LIMITS FOR AILERON CONTROLS AND HINGES

Ref.No. on Diagram	Part and Description	Dimension New (in.)	Permissible Worn Dimensions (in.)		Clearance New (in.)	Permissible Worn Clearance (in.)	Remarks	
			Non- Selective Assembly	Selective Assembly				
3/1	Assembly of bolt F.205015 with control column fork end and block using bushes A.53067	Bolt	$\frac{0.4370}{0.4368}$	0.4365	0.4325	$\frac{0.0037}{0.0005}$	0.005	Renew bushes A.53067. Renew bolt F.205105 only if necessary
		Bushes	$\frac{0.4405}{0.4375}$	0.4415	0.4420			
	Assembly of pin A.53057/1 torque tube fork A.165967	Pin	$\frac{0.7493}{0.7488}$	0.7485	0.74675	$\frac{0.0017}{0.00045}$	0.003	Renew pin A.53057/1. Renew universal fork A.165967 only if necessary
		Fork	$\frac{0.7505}{0.74975}$	0.7515	0.7523			
3/2	Control column chain and sprocket assemblies	Adjustment of the assembly to be made by use of adjustable rods, and maintained such that no slack is apparent in the chain on moving the control handle. If excessive wear etc. is apparent renew chains: Top chain: A.213425. Bottom chain: A.182743						
3/3	Assembly of manual drive pin F.182015 with bush F.168914	Pin	$\frac{0.4335}{0.4330}$	0.4320	0.42825	$\frac{0.03625}{0.03475}$	0.040	Renew pin F.182015 and/or bush F.168914
		Bush	$\frac{0.46925}{0.46825}$	0.4720	0.4735			

RESTRICTED

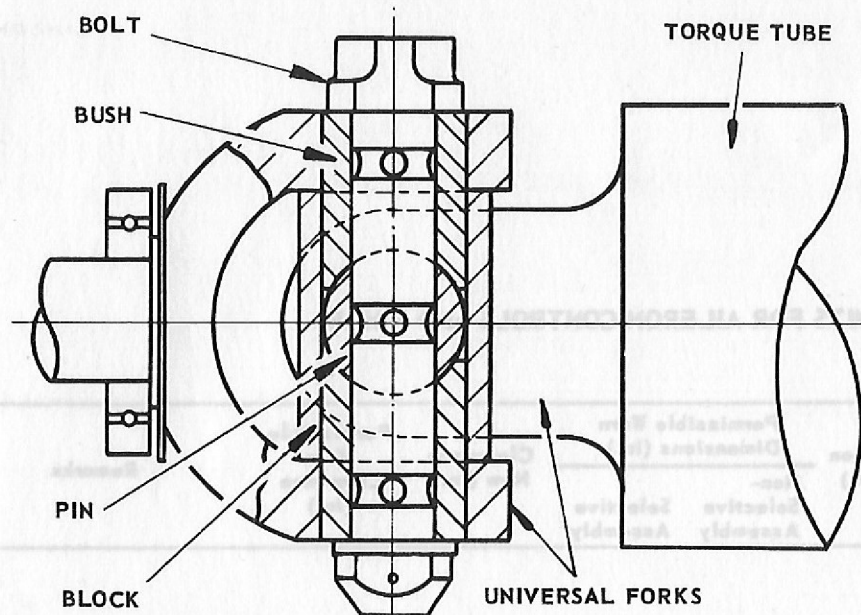


FIG.3/1

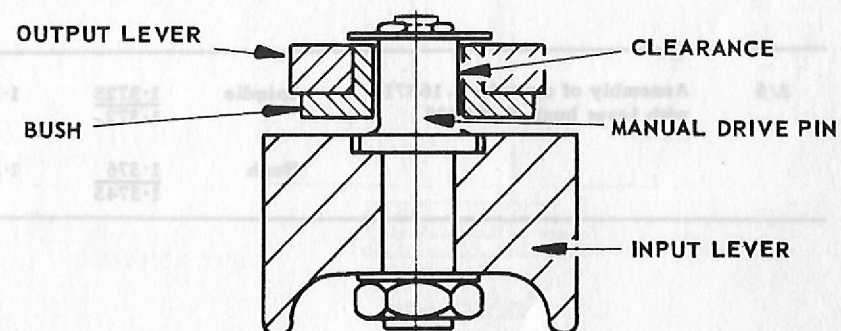


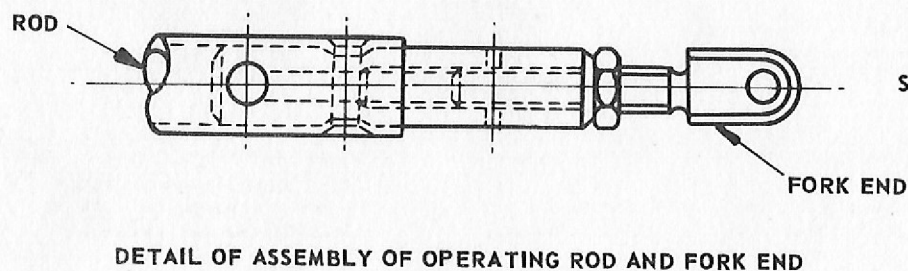
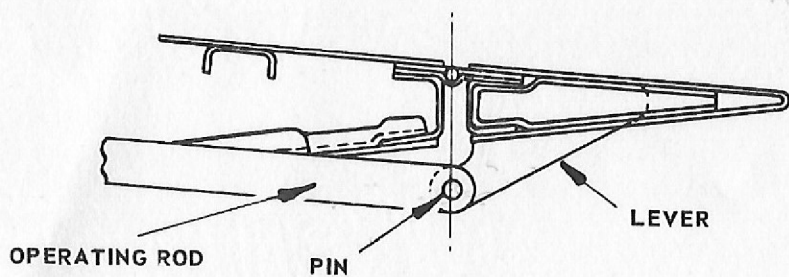
FIG.3/3

DETAILS FOR AILERON CONTROLS AND HINGES

SCHEDULE OF WEAR LIMITS FOR AILERON CONTROLS AND HINGES

Ref.No. on Diagram	Part and Description	Dimension New (in.)	Permissible Worn Dimensions (in.)		Clearance New (in.)	Permissible Worn Clearance (in.)	Remarks	
			Non- Selective Assembly	Selective Assembly				
3/4	Assembly of operating rod A.218102 with trim tab operating lever F.218083 using pin S.P.113.C.3½							
		Pin	$\frac{0.18675}{0.18625}$	0.1860	0.1840	$\frac{0.00175}{0.00025}$	0.003	Renew pin S.P.113.C.3½ and/or operating rod fork end F.218053. Wear to lever rectified by reaming fork end and lever to 7/32 in. dia. Newall 'B' (7/32 in. ± .0005 in.) and using pin Std.1221.Y.C.35. Permissible clearances unchanged
		Rod and lever	$\frac{0.1880}{0.1870}$	0.1890	0.18975	$\frac{0.00175}{0.00025}$	0.003	
3/5	Assembly of spindle F.168717 with lever bush F.202435	Spindle	$\frac{1.3725}{1.372}$	1.3715	1.3695	$\frac{0.004}{0.002}$	0.005	Renew bush F.202435 and/or spindle F.168717
		Bush	$\frac{1.376}{1.3745}$	1.3765	1.3775			

RESTRICTED



DETAIL OF ASSEMBLY OF OPERATING ROD AND FORK END

FIG.3/4

FIG.3/5

DETAILS FOR AILERON CONTROLS AND HINGES

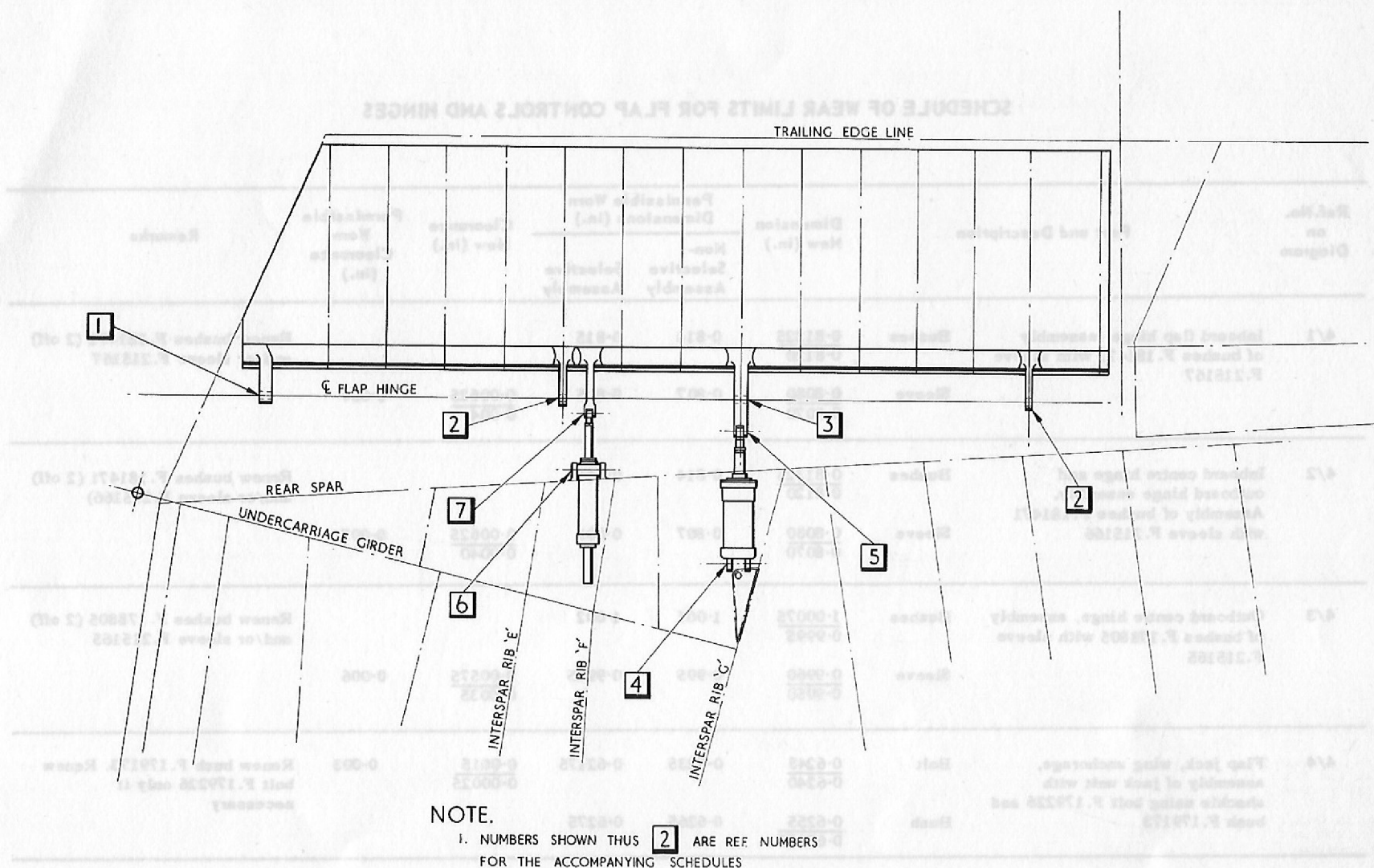


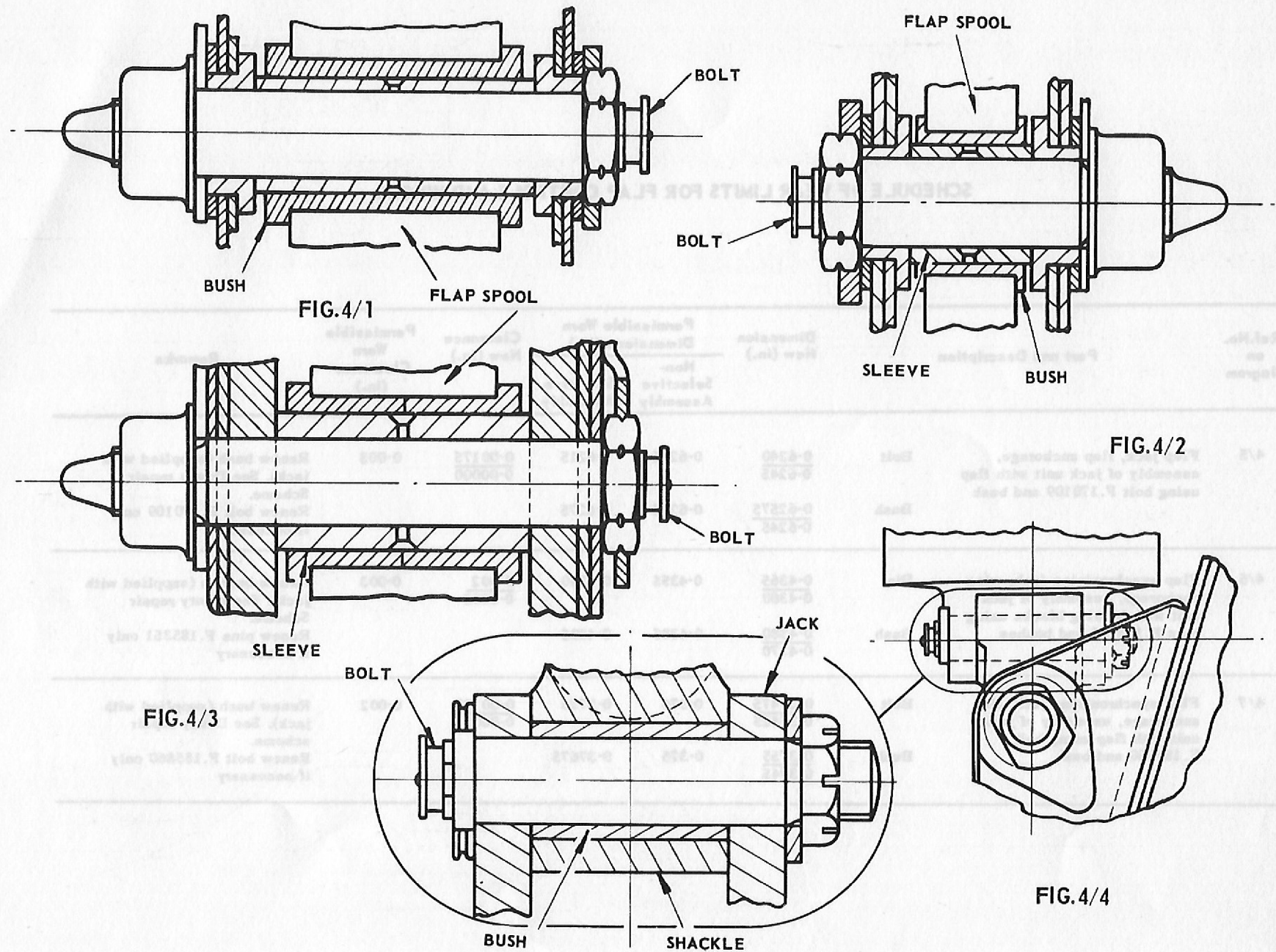
FIG.4.BEARING LOCATION DIAGRAM - FLAP CONTROLS AND HINGES

RESTRICTED

SCHEDULE OF WEAR LIMITS FOR FLAP CONTROLS AND HINGES

Ref.No. on Diagram	Part and Description	Dimension New (in.)	Permissible Worn Dimensions (in.)		Clearance New (in.)	Permissible Worn Clearance (in.)	Remarks
			Non- Selective Assembly	Selective Assembly			
4/1	Inboard flap hinge, assembly of bushes F.181472 with sleeve F.215167	Bushes	$\frac{0.81325}{0.8120}$	0.814	0.815		Renew bushes F.181472 (2 off) and/or sleeve F.215167
		Sleeve	$\frac{0.8080}{0.8070}$	0.807	0.805	$\frac{0.00625}{0.004}$	
4/2	Inboard centre hinge and outboard hinge assembly. Assembly of bushes F.181471 with sleeve F.215166	Bushes	$\frac{0.81325}{0.8120}$	0.814	0.815		Renew bushes F.181471 (2 off) and/or sleeve F.215166
		Sleeve	$\frac{0.8080}{0.8070}$	0.807	0.805	$\frac{0.00625}{0.0040}$	
4/3	Outboard centre hinge, assembly of bushes F.178805 with sleeve F.215165	Bushes	$\frac{1.00075}{0.9995}$	1.001	1.002		Renew bushes F.178805 (2 off) and/or sleeve F.215165
		Sleeve	$\frac{0.9960}{0.9950}$	0.995	0.9935	$\frac{0.00575}{0.0035}$	
4/4	Flap jack, wing anchorage, assembly of jack unit with shackle using bolt F.179226 and bush F.179173	Bolt	$\frac{0.6245}{0.6240}$	0.6235	0.62175	$\frac{0.0015}{0.00025}$	Renew bush F.179173. Renew bolt F.179226 only if necessary
		Bush	$\frac{0.6255}{0.62475}$	0.6265	0.6275		

RESTRICTED



DETAILS FOR FLAP CONTROLS AND HINGES

RESTRICTED

SCHEDULE OF WEAR LIMITS FOR FLAP CONTROLS AND HINGES

Ref.No. on Diagram	Part and Description	Dimension New (in.)	Permissible Worn Dimensions (in.)		Clearance New (in.)	Permissible Worn Clearance (in.)	Remarks
			Non- Selective Assembly	Selective Assembly			
4/5	Flap jack, flap anchorage, assembly of jack unit with flap using bolt F.170109 and bush	Bolt	<u>0.6240</u> 0.6245	0.6235	0.6215	<u>0.00175</u> 0.00000	Renew bush (supplied with jack). See Dowty repair Scheme. Renew bolt F.170109 only if necessary
		Bush	<u>0.62575</u> 0.6245	0.6265	0.6275		
4/6	Flap synchronising jack, wing anchorage, assembly of jack unit with bearing blocks using pins F.185351 and bushes	Pin	<u>0.4365</u> 0.4360	0.4355	0.4340	<u>0.002</u> 0.0005	Renew bushes (supplied with jack). See Dowty repair Scheme. Renew pins F.185351 only if necessary
		Bush	<u>0.4380</u> 0.4370	0.4385	0.4395		
4/7	Flap synchronising jack, flap anchorage, assembly of jack unit with flap using bolt F.185860 and bush	Bolt	<u>0.37475</u> 0.37425	0.374	0.3725	<u>0.00125</u> 0.00025	Renew bush (supplied with jack). See Dowty repair scheme. Renew bolt F.185860 only if necessary
		Bush	<u>0.3755</u> 0.3745	0.376	0.37675		

RESTRICTED

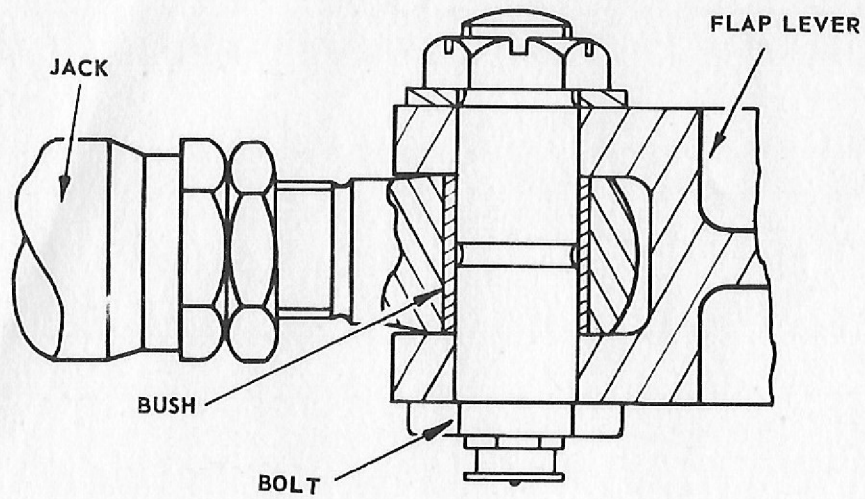


FIG.4/5

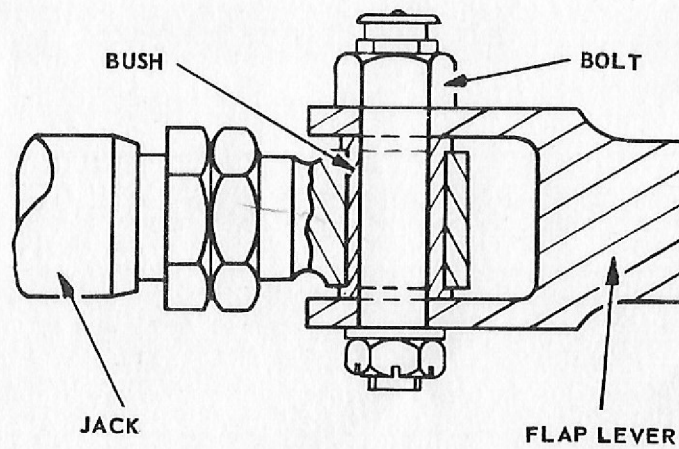


FIG.4/7

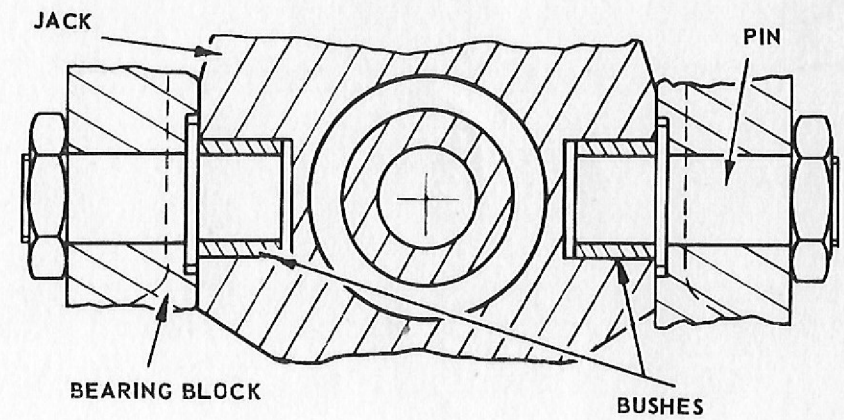


FIG.4/6

DETAILS FOR FLAP CONTROLS AND HINGES

This file was downloaded
from the RTFM Library.

Link: www.scottbouch.com/rtfm

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

