

Chapter 1

ARRESTING-HOOK DAMPER

AIR BUFFER, Part No. FHS 528

DAMPER JACK, Part No. BH 11761

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Note.—Repair parts specified in this chapter are fully described in Sect. 1, Chap. 5

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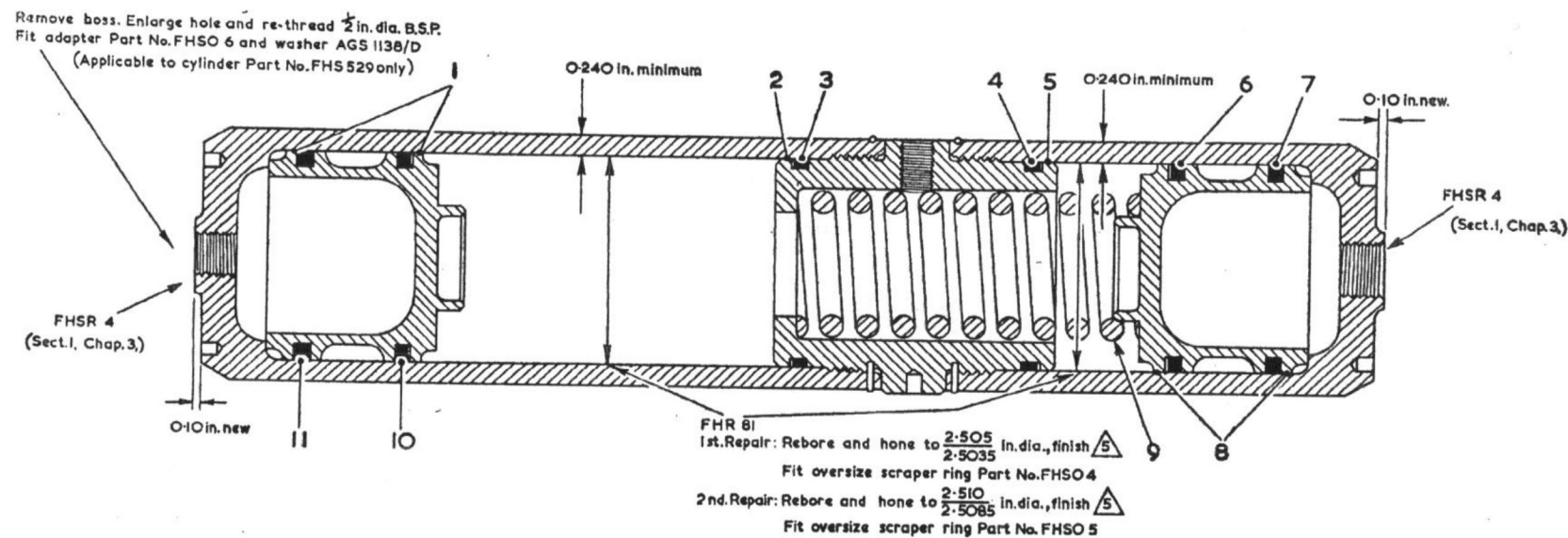


Diagram 1. Air buffer, FHS 528

SCHEDULE I

AIR BUFFER, FHS 528

Ref. No. on Diagram 1 (1)	Parts and Description (2)			Dimension New (3)	Permissible Worn Dimension		Clearance New (6)	Permissible Worn Clearance (7)	Remarks (8)
					Interchangeable Assembly (4)	Selective Assembly (5)			
1	PISTON IN LONG CYLINDER	Piston (FHS 597)	o/d	$\frac{2.4970}{2.4960}$	2.4960	2.4940	$\frac{0.0050}{0.0025}$	0.0070	
		Cylinder (FHS 529)	i/d	$\frac{2.5010}{2.4995}$	2.5030	2.5030			
2	CENTRE SECTION IN LONG CYLINDER	Centre section (FHS 596)	o/d	$\frac{2.4990}{2.4980}$	2.4960	2.4940	$\frac{0.0030}{0.0005}$	0.0070	
		Cylinder (FHS 529)	i/d	$\frac{2.5010}{2.4995}$	2.5030	2.5030			

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SCHEDULE I (continued)

AIR BUFFER, FHS 528

Ref. No. on Diagram 1 (1)	Parts and Description (2)			Dimension New (3)	Permissible Worn Dimension		Clearance New (6)	Permissible Worn Clearance (7)	Remarks (8)
					Interchangeable Assembly (4)	Selective Assembly (5)			
3	SEAL IN LONG CYLINDER	Seal (fitted) (FHS 8/36)	o/d	$\frac{2.5300}{2.5160}$	—	—	$\frac{-0.0150}{-0.0305}$ (int.)	-0.0030 (int.) minimum	
		Cylinder (FHS 529)	i/d	$\frac{2.5010}{2.4995}$	2.5030	2.5030			
4	SEAL IN SHORT CYLINDER	Seal (fitted) (FHS 8/36)	o/d	$\frac{2.5300}{2.5160}$	—	—	$\frac{-0.0150}{-0.0305}$ (int.)	-0.0030 (int.) minimum	
		Cylinder (FHS 530)	i/d	$\frac{2.5010}{2.4995}$	2.5030	2.5030			
5	CENTRE SECTION IN SHORT CYLINDER	Centre section (FHS 596)	o/d	$\frac{2.4990}{2.4980}$	2.4960	2.4940	$\frac{0.0030}{0.0005}$	0.0070	
		Cylinder (FHS 530)	i/d	$\frac{2.5010}{2.4995}$	2.5030	2.5030			
6	SEAL IN SHORT CYLINDER	Seal (fitted) (FHS 7/33)	o/d	$\frac{2.5260}{2.5140}$	—	—	$\frac{-0.0130}{-0.0265}$ (int.)	-0.0030 (int.) minimum	
		Cylinder (FHS 530)	i/d	$\frac{2.5010}{2.4995}$	2.5030	2.5030			
7	SCRAPER RING IN SHORT CYLINDER	Scraper ring (fitted) (FHS 533)	o/d	$\frac{2.5040}{2.5030}$	2.5030	2.5030	$\frac{-0.0020}{-0.0045}$ (int.)	0.0000	
		Cylinder (FHS 530)	i/d	$\frac{2.5010}{2.4995}$	2.5030	2.5030			

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SCHEDULE I (continued)

AIR BUFFER, FHS 528

Ref. No. on Diagram 1	Parts and Description			Dimension New	Permissible Worn Dimension		Clearance New	Permissible Worn Clearance	Remarks
					Interchangeable Assembly	Selective Assembly			
(1)	(2)			(3)	(4)	(5)	(6)	(7)	(8)
8	PISTON IN SHORT CYLINDER	Piston (FHS 597)	o/d	$\frac{2.4970}{2.4960}$	2.4960	2.4940	$\frac{0.0050}{0.0025}$	0.0070	
		Cylinder (FHS 530)	i/d	$\frac{2.5010}{2.4995}$	2.5030	2.5030			
9	SPRING	(FHS 594)		When spring is compressed to 4.00 in. spring effort must be within					
								$\frac{210 \text{ lb.}}{180 \text{ lb.}}$	
10	SEAL IN LONG CYLINDER	Seal (fitted) (FHS 7/33)	o/d	$\frac{2.5260}{2.5140}$	—	—	$\frac{—0.0130}{—0.0265}$	$\frac{—0.0030}{\text{(int.)}}$	
		Cylinder (FHS 529)	i/d	$\frac{2.5010}{2.4995}$	2.5030	2.5030	(int.)	minimum	
11	SCRAPER RING IN LONG CYLINDER	Scraper ring (fitted) (FHS 533)	o/d	$\frac{2.5040}{2.5030}$	2.5030	2.5030	$\frac{—0.0020}{—0.0045}$	0.0000	
		Cylinder (FHS 529)	i/d	$\frac{2.5010}{2.4995}$	2.5030	2.5030	(int.)		

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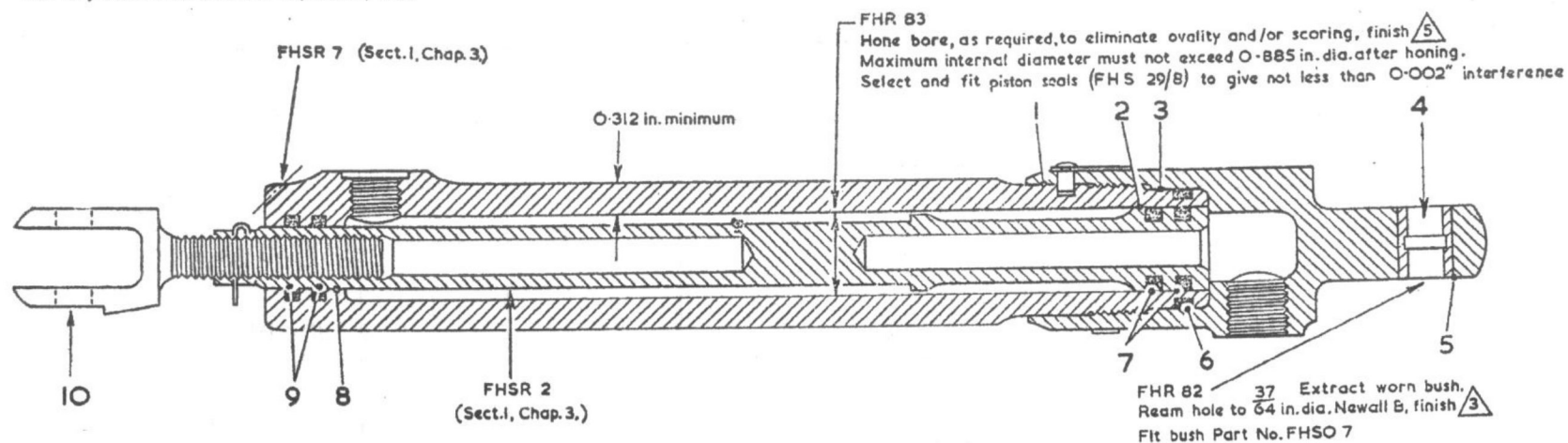


Diagram 2. Damper jack, BH 11761

SCHEDULE 2

DAMPER JACK, BH 11761

Ref. No. on Diagram 2 (1)	Parts and Description (2)			Dimension New (3)	Permissible Worn Dimension		Clearance New (6)	Permissible Worn Clearance (7)	Remarks (8)
					Interchangeable Assembly (4)	Selective Assembly (5)			
1	JACK BODY (Major dia.) IN END CAP	Body (BH 11763)	o/d	$\frac{1.3750}{1.3730}$	1.3710	1.3690	$\frac{0.0060}{0.0020}$	0.0100	
		End cap (BH 11765)	i/d	$\frac{1.3790}{1.3770}$	1.3810	1.3830			
2	PISTON (HEAD) IN JACK BODY	Piston (BH 11767)	o/d	$\frac{0.8730}{0.8720}$	0.8700	0.86775	$\frac{0.00375}{0.00150}$	0.0080	
		Body (BH 11763)	i/d	$\frac{0.87575}{0.87450}$	0.8780	0.8780			
3	JACK BODY (Minor dia.) IN END CAP	Body (BH 11763)	o/d	$\frac{1.2490}{1.2480}$	1.2470	1.2460	$\frac{0.0030}{0.0005}$	0.0050	
		End cap (BH 11765)	i/d	$\frac{1.2510}{1.2495}$	1.2520	1.2530			

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SCHEDULE 2 (continued)

DAMPER JACK, BH 11761

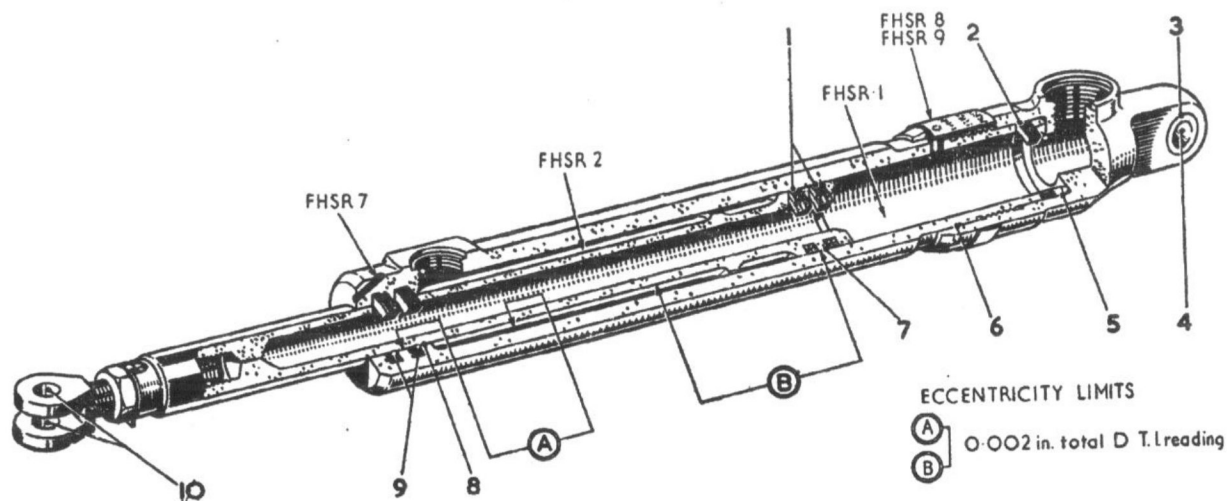
Ref. No. on Diagram 2 (1)	Parts and Description (2)			Dimension New (3)	Permissible Worn Dimension		Clearance New (6)	Permissible Worn Clearance (7)	Remarks (8)
					Interchangeable Assembly (4)	Selective Assembly (5)			
4	BUSH	(DH 11771)	i/d	<u>0.37525</u> 0.37475	0.37550	—	—	—	Pin is air- frame part
5	BUSH IN END CAP	Bush (DH 11771)	o/d	<u>0.56350</u> 0.56325	0.56325	0.56325	—	—	
		End cap (BH 11765)	i/d	<u>0.56325</u> 0.56200	0.56325	0.56325	<u>—0.0015</u> —0.0000 (int.)	0.0000	
6	SEAL IN END CAP	Seal (fitted) (FHS 8/16)	o/d	<u>1.2750</u> 1.2620	—	—	<u>—0.0110</u> —0.0255 (int.)	—0.0050 (int.) minimum	
		End cap (BH 11765)	i/d	<u>1.2510</u> 1.2495	1.2520	1.2530			
7	SEALS IN BODY	Seals (fitted) (FHS 29/8)	o/d	<u>0.8960</u> 0.8800	—	—	<u>—0.00425</u> —0.0215 (int.)	—0.0020 (int.) minimum	Seals fitted over seals Type FHS 8/8
		Body (BH 11763)	i/d	<u>0.87575</u> 0.87450	0.8780	0.8780			
8	PISTON (RAM) IN JACK BODY	Piston (BH 11767)	o/d	<u>0.6240</u> 0.6230	0.6220	0.6210	<u>0.00275</u> 0.0005	0.0050	
		Body (BH 11763)	i/d	<u>0.62575</u> 0.62450	0.6270	0.6280			
9	PISTON (RAM) IN SEAL	Piston (BH 11767)	o/d	<u>0.6240</u> 0.6230	0.6220	0.6210	<u>—0.0070</u> —0.0200 (int.)	—0.0050 (int.) minimum	
		Seal (fitted) (FHS 7/8)	i/d	<u>0.6160</u> 0.6040	—	—			
10	FORK END	Hole (CH 11769)	i/d	<u>0.3800</u> 0.3700	0.3695	—	—	—	Pin is air- frame part

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APPENDIX 1

DAMPER JACK

Part No. BH 13545



KEY TO REPAIRS

FHSR 1
 FHSR 2
 FHSR 7 } — Sect. 1, Chap. 3
 FHSR 8
 FHSR 9

ECCENTRICITY LIMITS

(A) 0.002 in. total D.T. reading
 (B)

Key diagram

JACK, Part No. BH 13545

JACK, Part No. BH 13545

Ref. No. on Key diagram (1)	Parts and description (2)			Dimension New (3)	Permissible worn dimension		Clearance New (6)	Permissible worn clearance (7)	Remarks (8)
					Interchangeable assembly (4)	Selective assembly (5)			
1	SEALS IN JACK BODY	Body (BH 13547)	i/d	0.93825	0.94025	0.94225	—0.00275 —0.02300	—0.00275 minimum	
				0.93700					
		Seals (fitted) (FHS 33/9)	o/d	0.9600	—	—			
				0.9410					

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(A.L. 29, June, 54)

JACK, Part No. BH 13545—cont.

JACK, Part No. BH 13545 Cont.

Ref. No. on Key diagram (1)	Parts and description (2)			Dimension New (3)	Permissible worn dimension		Clearance New (6)	Permissible worn clearance (7)	Remarks (8)
					Interchangeable assembly (4)	Selective assembly (5)			
2	SEAL IN END CAP	End cap i/d (CH 12033)	$\frac{1.2510}{1.2495}$	1.2530	1.2550	$\frac{-0.0040}{-0.0195}$	-0.0040 minimum		
		Seal (fitted) o/d (FHS 21/16)	$\frac{1.2690}{1.2550}$	—	—				
3	BUSH IN END CAP	End cap i/d (CH 13033)	$\frac{0.5005}{0.4995}$	0.50050	0.50075	$\frac{0.00025}{-0.0010}$	0.00025		
		Bush o/d (DH 12169)	$\frac{0.50050}{0.50025}$	0.50025	0.49925				
4	BUSH	Bush i/d (DH 12169)	$\frac{0.3130}{0.3120}$	0.3140	—	—	—	Pin is airframe part	
5	JACK BODY IN END CAP	End cap i/d (CH 13033)	$\frac{1.2510}{1.2495}$	1.2530	1.2550	$\frac{0.0030}{0.0005}$	0.0060		
		Body o/d (BH 13547)	$\frac{1.2490}{1.2480}$	1.2470	1.2435				
6	JACK BODY IN IN END CAP	End cap i/d (CH 13033)	$\frac{1.3790}{1.3770}$	1.3810	1.3850	$\frac{0.0060}{0.0020}$	0.0100		
		Body o/d (BH 13547)	$\frac{1.3750}{1.3730}$	1.3710	1.3670				
7	PISTON (HEAD) IN JACK BODY	Body i/d (BH 13547)	$\frac{0.93825}{0.93700}$	0.94025	0.94225	$\frac{0.00375}{0.00150}$	0.00675		
		Piston o/d (BH 13549)	$\frac{0.9355}{0.9345}$	0.93350	0.93025				

JACK, Part No. BH 13545—cont.

Parts and description (2)	Dimension New (3)	Permissible worn dimension		Clearance New (6)	Permissible worn clearance (7)	Remarks (8)
		Interchangeable assembly (4)	Selective assembly (5)			
PISTON (RAM) IN JACK BODY	Body i/d (BH 13547)	$\frac{0.75075}{0.74950}$	0.75175	0.75375	$\frac{0.00375}{0.00150}$	0.00575
	Piston o/d (BH 13549)	$\frac{0.7480}{0.7470}$	0.74600	0.74375		
PISTON (RAM) IN SEALS	Seals (fitted) i/d (FHS 20/10)	$\frac{0.7430}{0.7290}$	—	—	$\frac{-0.0040}{-0.0190}$	-0.0040 minimum
	Piston o/d (BH 13549)	$\frac{0.7480}{0.7470}$	0.7460	0.74375		
FORK END	Fork end i/d (DH 12153)	$\frac{0.3130}{0.3120}$	0.3140	—	—	Pin is airframe part

Chapter 2

ARRESTING HOOK—AIR BUFFERS

Part No. BH801, BH1345

ACTUATING JACKS

Part No. BH1089, BH1343

KEY TO REPAIRS

AIR BUFFERS

FHR 411 Para. 1
FHSR 1 }
FHSR 3 } Sect. 1, Chap. 3
FHSR 4 }

JACKS

FHR 390 Para. 2
FHSR 1 }
FHSR 2 }
FHSR 4 } Sect. 1, Chap. 3
FHSR 8 }
FHSR 9 }
FHSR 10 }

FHR 411

Repair to worn chromium bore

1. 1st Repair

Remove existing chrome deposit by an approved stripping process. Hone and

polish the bore to achieve a finish of $\sqrt{4}$
up to a maximum diameter of 3.2522 in.
Plate with controlled chromium deposit
0.0002—0.0004 in. thick to D.T.D. 916A.

2nd Repair

Carry out in accordance with FHSR 3
detailed in Sect. 1, Chap. 3.

FHR 390

Fitting oversize bush in extension end

2. 1st Repair

Ream hole in extension end to $\frac{31}{32}$ in. dia.
Newall 'B' 32/ (0.51513—0.51638) then

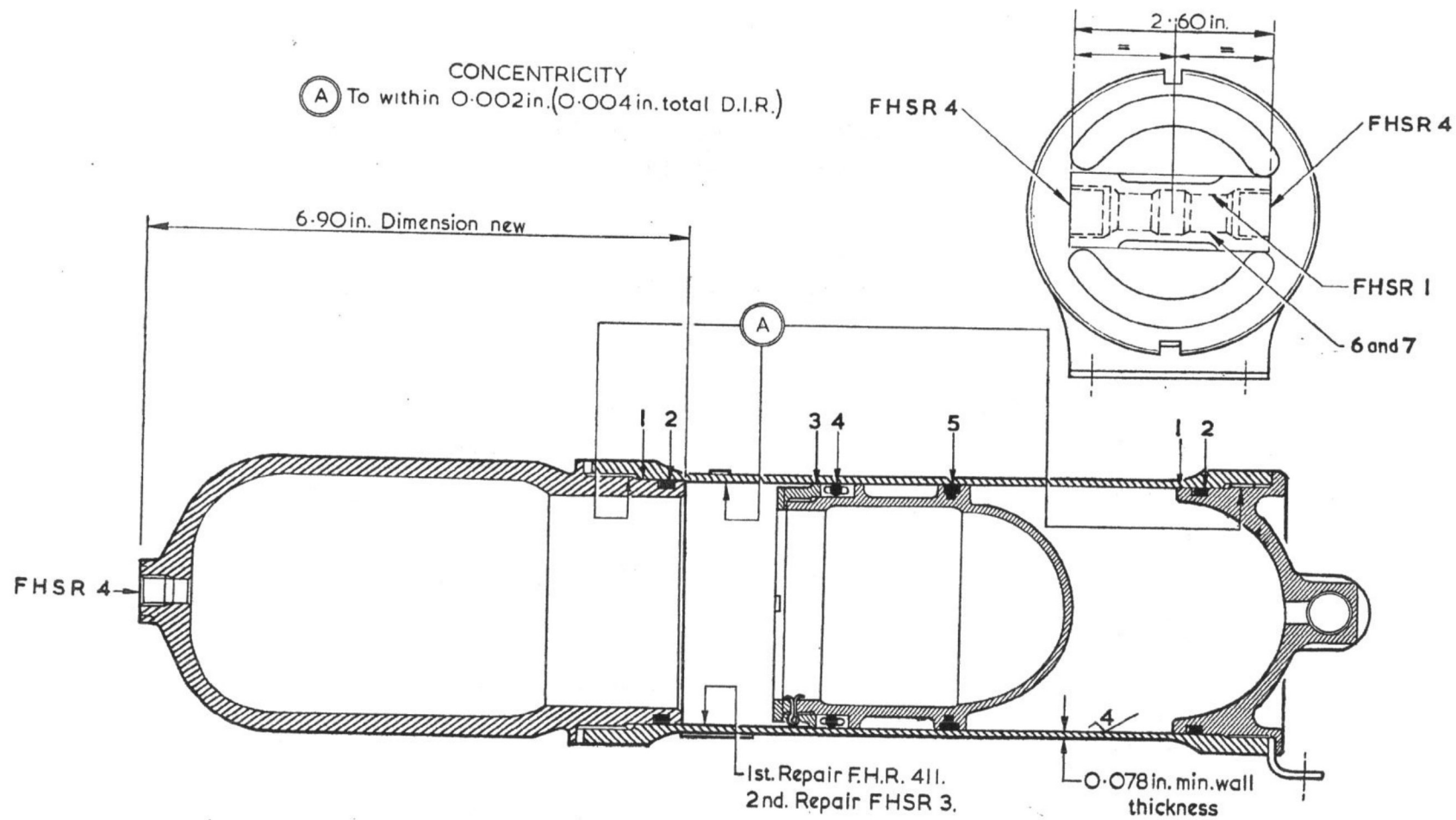
fit oversize bush FHSO 81A.

2nd Repair

Ream hole in extension end to $\frac{33}{32}$ in. dia.
Newall 'B' 32/ (0.53200—0.53075) then

fit oversize bush F.H.S.O. 81B.

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Key diagram (1)

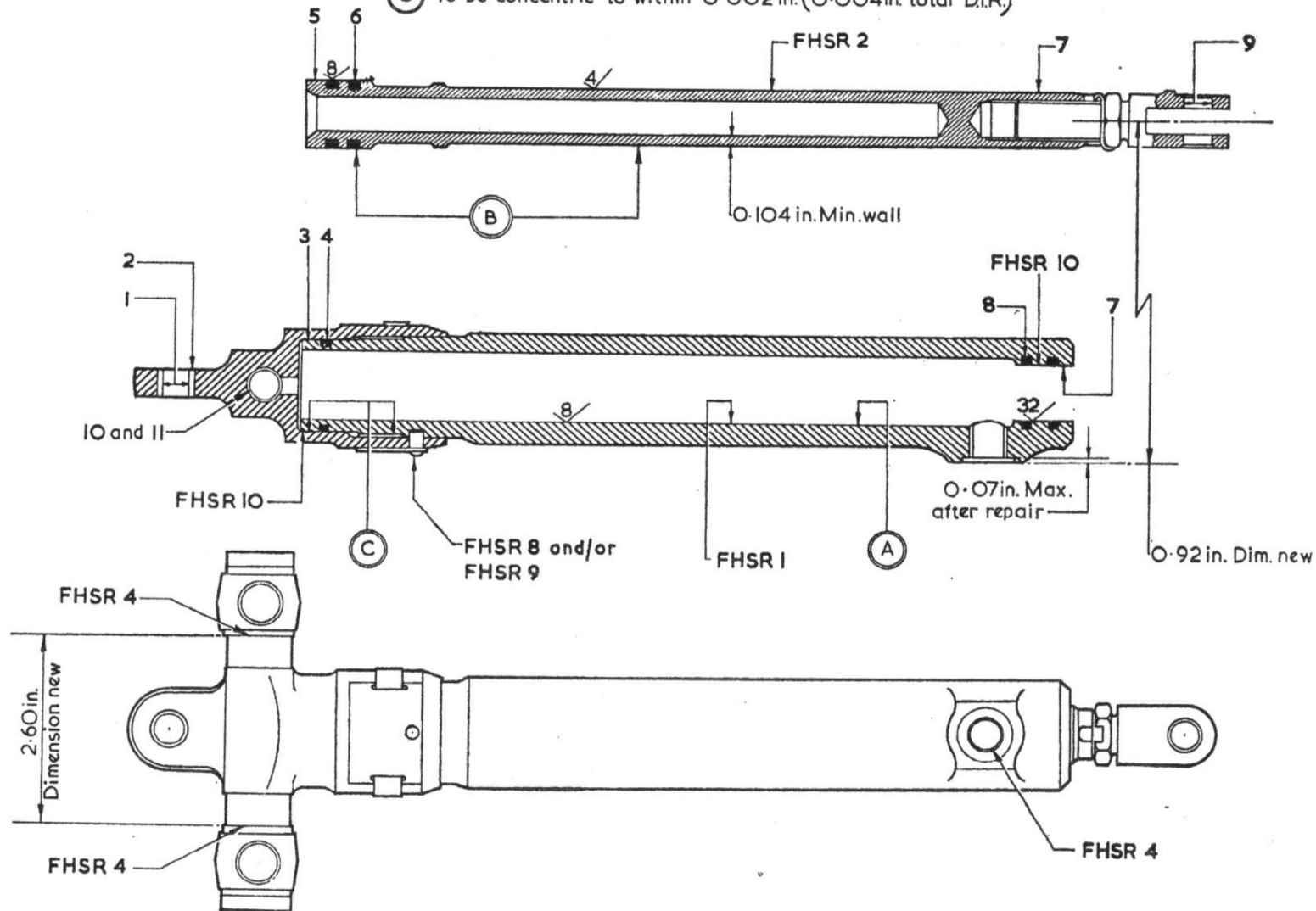
AIR BUFFERS Part No. BH801, BH1345

Ref. No. on Key diagram (1)	Parts and description (2)			Dimension New (3)	Permissible Worn Dimension		Clearance New (6)	Permissible Worn Clearance (7)	Remarks (8)
					Inter- changeable Assembly (4)	Selective Assembly (5)			
1	AIR END AND END CAP IN CYL.	Cyl.	i/d	$\frac{3.2516}{3.2492}$	3.2520*	3.2520*	$\frac{0.0046}{0.0007}$	0.0055	*Check for continuity of chromium plating
		Air end and end cap	o/d	$\frac{3.2485}{3.2470}$	3.2465	3.2432			
2	SEAL IN CYL. BORE	Cyl.	i/d	$\frac{3.2516}{3.2492}$	3.2520*	3.2520*	$\frac{-0.0042}{-0.0160}$	-0.0042	Fit new seal to provide not less than the interference quoted in Col. 7
		Seal	o/d	$\frac{3.2652}{3.2558}$	—	—			
3	SEAL RETAINER AND PISTON IN CYL.	Cyl.	i/d	$\frac{3.2516}{3.2492}$	3.2520*	3.2520*	$\frac{0.0131}{0.0092}$	0.0140	*As (1) above
		Retainer and piston	o/d	$\frac{3.2400}{3.2385}$	3.2380	3.2342			
4	SEAL IN CYL. BORE	Cyl.	i/d	$\frac{3.2516}{3.2492}$	3.2520*	3.2520*	$\frac{-0.0334}{-0.0578}$	-0.0334	Fit new seals to provide not less than the inter- ference quoted in Col. 7 *As (1) above
		Seals fitted	o/d	$\frac{3.3070}{3.2850}$	—	—			
5	SCRAPER RING SEAL IN CYL.	Cyl.	i/d	$\frac{3.2516}{3.2492}$	3.2520*	3.2520*	$\frac{0.0054}{-0.0278}$	-0.0050	Fit new seals to provide not less than the inter- ference quoted in Col. 7
		Seal	o/d	$\frac{3.2770}{3.2570}$	—	—			
6	SHUTTLE IN END CAP	End cap	i/d	$\frac{0.5005}{0.4995}$	0.5015	0.5025	$\frac{0.0040}{0.0020}$	0.0050	
		Shuttle	o/d	$\frac{0.4975}{0.4965}$	0.4965	0.4945			
7	SHUTTLE SEAL IN END CAP	End cap	i/d	$\frac{0.5005}{0.4995}$	0.5015	0.5025	$\frac{-0.0045}{-0.02350}$	0.0065	Fit new seal to provide not less than the interference quoted in Col. 7
		Seal	o/d	$\frac{0.5230}{0.5070}$	—	—			

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CONCENTRICITY

- (A) To be concentric to within 0.001 in. (0.002 in. total D.I.R.) (B) To be concentric to within 0.001 in. (0.002 in. total D.I.R.) (C) To be concentric to within 0.002 in. (0.004 in. total D.I.R.)



Key diagram (2)

JACKS Part No. BH1089, BH1343

Ref. No. on Key diagram (1)	Parts and description (2)		Dimension New (3)	Permissible Worn Dimension		Clearance New (6)	Permissible Worn Clearance (7)	Remarks (8)
				Inter- changeable Assembly (4)	Selective Assembly (5)			
1	BUSH		i/d $\frac{0.3755}{0.3745}$	0.3760	—	—	—	Pin is airframe part
2	BUSH IN END CAP	End cap	i/d $\frac{0.5005}{0.4995}$	0.5005	0.50075	$\frac{0.00025}{-0.0010}$	0.00025	
		Bush	o/d $\frac{0.5005}{0.50025}$	0.50025	0.49925			
3	BODY IN END CAP	End cap	i/d $\frac{1.2510}{1.2495}$	1.2620	1.2540	$\frac{0.0030}{0.0005}$	0.0050	
		Body	o/d $\frac{1.2490}{1.2480}$	1.2470	1.2445			
4	BODY SEAL IN END CAP	End cap	i/d $\frac{1.2510}{1.2495}$	1.2520	1.2540	$\frac{-0.009}{-0.0265}$	-0.0060	Fit new seal to provide not less than the interference quoted in Col. 7
5	PISTON HEAD IN BODY BORE	Body	i/d $\frac{0.93825}{0.93700}$	0.9395	0.9405	$\frac{0.00375}{0.0015}$	0.0050	
		Piston	o/d $\frac{0.9355}{0.9345}$	0.9345	0.9320			
6	PISTON SEALS IN BODY	Body	i/d $\frac{0.93825}{0.93700}$	0.9395	0.9405	$\frac{-0.00255}{-0.0172}$	-0.00255	Fit new seals to provide not less than the inter- ference quoted in Col. 7
		Seal fitted	o/d $\frac{0.9542}{0.9408}$	—	—			
7	RAM IN BODY	Body	i/d $\frac{0.75075}{0.74950}$	0.7510	0.7535	$\frac{0.00325}{0.0010}$	0.0050	*Check for continuity of chromium plating
		Ram	o/d $\frac{0.7485}{0.7475}$	0.7460	0.7445*			

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JACKS Part No. BH1089, BH1343—continued

Ref. No. on Key diagram	Parts and description			Dimension New	Permissible Worn Dimension		Clearance New	Permissible Worn Clearance	Remarks
					Inter- changeable Assembly (4)	Selective Assembly (5)			
(1)	(2)			(3)			(6)	(7)	(8)
8	RAM IN SEALS	Seal (fitted)	i/d	$\frac{0.7432}{0.7348}$	—	—	$\frac{-0.0043}{-0.1370}$	-0.0043	*As (7) above Fit new seal to provide not less than the interference quoted in Col. 7
		Ram	o/d	$\frac{0.7485}{0.7475}$	0.7460	0.7445*			
9	FORK END		i/d	$\frac{0.3755}{0.3745}$	0.3760	—	—	—	Pin is airframe part
10	SHUTTLE IN END CAP	End cap	i/d	$\frac{0.3755}{0.3745}$	0.3765	0.3775	$\frac{0.0030}{0.0010}$	0.0040	
		Shuttle	o/d	$\frac{0.3735}{0.3725}$	0.3725	0.3705			
11	SHUTTLE SEAL IN END CAP	End cap	i/d	$\frac{0.3755}{0.3745}$	0.3765	0.3775	$\frac{0.0125}{-0.0295}$	-0.0125	Fit new seal to provide not less than the interference quoted in Col. 7
		Seal (fitted)	o/d	$\frac{0.4040}{0.3880}$	—	—			