NOTE TO READERS

The subject matter of this publication may be affected by Air Ministry Orders, or by "General Orders and Modifications" leaflets in this A.P., in the associated publications listed below, or even in some others. If possible, Amendment Lists are issued to correct this publication accordingly, but it is not always practicable to do so. When an Order or leaflet contradicts any portion of this publication, the Order or leaflet is to be taken as the overriding authority.

Each leaf bears the date of issue and, when applicable, the number of the Amendment List with which it was issued. New or amended technical information on new leaves which are inserted when this publication is amended will be indicated by a vertical line in the margin. This line merely denotes a change and is not a mark of emphasis. When a Schedule is issued in a completely revised form, the line will not appear.

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LIST OF ASSOCIATED PUBLICATIONS

	A.P.
Fuel system components for gas-turbine aero-engines	
General	4282
Lucas...	4282A
Starting systems for aero-engines	1181

124 M45152/G4451 200 4.52 B.B.Ltd. Gp. 539

APPLICATION OF SCHEDULE

Introduction

1. The fits and clearance data are given under the following headings:—

Dimension, new

Permissible worn dimension

Clearance, new

Permissible worn clearance

2. Dimensions are given in inches and decimals of an inch.

3. A key diagram of the component is given with each schedule, and the points at which wear is likely to occur are numbered on the diagram; the numbers also appear in the first column of the schedule against the data appropriate to the point of wear.

Dimension, new

4. The figures given in this column are the maximum and minimum drawing sizes to which new parts are made. The difference between the two dimensions is the manufacturing tolerance and is an expression of the accuracy and quality of workmanship required by the design.

Clearance, new

5. The figures given in this column are the maximum and minimum clearances which result from mating two new parts. Normally an interference fit is indicated by a minus (—) sign but sometimes it may be indicated by the word TIGHT, in which case a clearance is indicated by the word CLEAR or SLACK. Where used, the word SIZE indicates zero clearance.

Permissible worn clearance

6. This is the maximum clearance permitted between two mating parts which are assembled to undergo a further full period of service.

Permissible worn dimension

7. The figure given in this column is the limiting dimension to which the part may wear and still be refitted for a further full period of service, provided that its mating part is selected so that the PERMISSIBLE WORN CLEARANCE is not exceeded.

8. A part worn to the PERMISSIBLE WORN DIMENSION quoted will necessitate the use of a new mating part. This new part will, in the extreme, have to be to the limiting DIMENSION, NEW, i.e. a low limit hole for a worn pin, and a high limit pin for a worn hole.

9. Sometimes technical considerations, e.g. depth of nitriding, thickness of cylinder walls, will considerably reduce the amount of wear that can be allowed.

10. A part worn beyond the PERMISSIBLE WORN DIMENSION quoted, must be classified as unserviceable unless it can be restored to a serviceable condition by an approved repair scheme.

LIST OF SCHEDULES

Ref. No. on Diagram (1)	Part and Description (2)		Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
1	FRONT ROLLER BEARING ON SHAFT	Bearing—bore	3·7497 3·7502	—	Tight 0·00030 0·00045 Clear	—	Pre-AS 4
		Shaft—dia.	3·74975 3·75000				
		Bearing—bore	3·7947 3·7502	—	Tight 0·00080 0·00005 Tight	—	AS 4
		Shaft—dia.	3·75025 3·75050				
2	FRONT ROLLER BEARING	Clearance on diameter between rollers and outer race	—	—	0·003 0·004	0·006	
3	FRONT ROLLER BEARING OUTER RACE IN LINER AND GLAND	Liner and gland—bore	5·24840 5·24865	—	Tight 0·00030 0·00045 Clear	—	
		Outer race—dia.	5·2482 5·2487				
4	LINER AND GLAND IN FRONT BEARING HOUSING	Housing—bore	5·4500 5·4505	—	0·0008 0·0018	—	
		Liner and gland—dia.	5·4487 5·4492				
5	INLET GUIDE SWIRL VANES IN SUPPORT RING	Support ring—bore	0·500 0·501	0·504	0·001 0·003	0·005	Pre-AS 4
		Vane—dia.	0·498 0·499	0·495			
		Support ring—bore	0·500 0·501	0·5035	0·0015 0·0035	0·005	AS 4
		Vane—dia.	0·4975 0·4985	0·4950			

SCHEDULE 1 *(continued)* **FRONT BEARING HOUSING, COMPRESSOR SHAFTS, ROTORS AND OUTLET CASING** **AVON Mk.1**

Ref. No. on Diagram (1)	Part and Description (2)		Dimension, New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
6	OPERATING INLET GUIDE SWIRL VANE IN HOUSING	Housing—bore	0·6406 / 0·6416	—	0·003 / 0·005	—	
		Vane—dia.	0·6366 / 0·6376				
7	OPERATING INLET GUIDE SWIRL VANE BEARINGS IN HOUSING	Housing—bore	1·37440 / 1·37465	—	Tight / 0·00030 / 0·00045 Clear	—	Pre Mod. 175
		Bearing—dia.	1·3742 / 1·3747				
		Housing—bore	1·3744 / 1·3749	—	Tight / 0·0003 / 0·0007 Clear	—	Mod. 175
		Bearing—dia.	1·3742 / 1·3747				
8	OPERATING INLET GUIDE SWIRL VANE BALL BEARINGS	End float between inner and outer races	—	—	0·0045	0·0075	Pre Mod. 175
			—	—	—	—	Mod. 175. Wear very light
9	OPERATING INLET GUIDE SWIRL VANE BEARINGS ON SHAFT AND SLEEVE	Bearing—bore	0·6247 / 0·6252	—	Tight / 0·00030 / 0·00045 Clear	—	
		Shaft and sleeve—dia	0·62475 / 0·62500				
10	OPERATING INLET GUIDE SWIRL VANE SLEEVE ON SHAFT	Sleeve—bore	0·50000 / 0·50025	0·5015	0·0005 / 0·0010	0·002	
		Shaft—dia.	0·49925 / 0·49950	0·4980			

Ref. No. on Diagram (1)	Part and Description (2)		Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
11	TRUNNION PIN IN ACTUATING RING	Ring—bore	0·5000 / 0·5005	—	0·004 / 0·005	—	Pre Mod. 935. The pin is made in a plastic material and may grow due to the effect of moisture absorption, thus reducing the stated clearance
		Pin—dia.	0·4955 / 0·4960				
		Ring—bore	0·5000 / 0·5005	—	0·0035 / 0·0050	—	Mod. 935
		Pin—dia.	0·4955 / 0·4965				
12	CONTROL LEVER PIN IN TRUNNION PIN	Trunnion pin—bore	0·2500 / 0·2505	—	0·0025 / 0·0035	—	Pre Mod. 935
		Lever pin—dia.	0·2470 / 0·2475				
		Trunnion pin—bore	0·2500 / 0·2510	—	0·0025 / 0·0040	—	Mod. 935
		Lever pin—dia.	0·2470 / 0·2475				
13	AXIAL CLEARANCE BETWEEN STAGE 1 ROTOR BLADES AND REAR SUPPORT RING		—	—	0·0605 / 0·1800	—	Minimum figure with rotor pressed forwards, maximum figure with rotor pressed rearwards.
14	RADIAL CLEARANCE BETWEEN ROTOR BLADE TIPS AND COMPRESSOR CASING	Stage 1	—	—	0·065 / 0·075	—	Pre Mod. 536
			—	—	0·052 / 0·062	—	Mod. 536
		Stages 2-8 (Not Stage 3)	—	—	0·065 / 0·075	—	
		Stage 3	—	—	0·0565 / 0·0665	—	Mod. 1089

Ref. No. on Diagram (1)	Part and Description (2)	Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
15	RADIAL CLEARANCE BETWEEN STAGES 9–12 ROTOR BLADE TIPS AND COMPRESSOR CASING	—	—	0·040 0·050	—	
16	RADIAL CLEARANCE BETWEEN STAGES 1–3 STATOR BLADES AND ROTOR WHEEL SPACERS	—	—	0·050 0·060	—	
17	RADIAL CLEARANCE BETWEEN STAGES 4–8 STATOR BLADES AND ROTOR WHEEL SPACERS	—	—	0·065 0·075	—	
18	RADIAL CLEARANCE BETWEEN STAGES 9–11 STATOR BLADES AND ROTOR WHEEL SPACERS	—	—	0·030 0·040	—	
19	AXIAL CLEARANCE BETWEEN STAGE 1 STATOR BLADES AND STAGE 2 ROTOR BLADES ALSO STAGE 2 STATOR BLADES AND STAGE 3 ROTOR BLADES MEASURED AT THE ROTOR BLADE TIPS	—	—	0·190 min.	—	
20	AXIAL CLEARANCE BETWEEN STAGE 3 STATOR BLADES AND STAGE 4 ROTOR BLADES ALSO STAGE 4 STATOR BLADES AND STAGE 5 ROTOR BLADES MEASURED AT THE ROTOR BLADE TIPS	—	—	0·150 min.	—	
21	AXIAL CLEARANCE BETWEEN REAR OF STATOR BLADES AND FRONT OF ROTOR BLADES FROM STAGE 5 STATOR BLADES ALSO STAGE 6 ROTOR BLADES TO STAGE 11 STATOR BLADES AND STAGE 12 ROTOR BLADES MEASURED AT THE ROTOR BLADE TIPS	—	—	0·090 min.	—	
22	AXIAL CLEARANCE BETWEEN REAR OF STAGE 1–5 ROTOR BLADES AND STATOR BLADES MEASURED AT THE STATOR TIPS	—	—	0·190 min.	—	
23	AXIAL CLEARANCE BETWEEN REAR OF STAGE 6–11 ROTOR BLADES AND STATOR BLADES MEASURED AT THE STATOR TIPS	—	—	0·110 min.	—	
24	AXIAL CLEARANCE BETWEEN FRONT OF STAGE 2–5 ROTOR BLADES AND STATOR BLADES MEASURED AT THE STATOR TIPS	—	—	0·150 min.	—	

Ref.No. on Diagram (1)	Part and Description (2)	Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
25	AXIAL CLEARANCE BETWEEN FRONT OF STAGE 6–12 ROTOR BLADES AND STATOR BLADES MEASURED AT THE STATOR TIPS	—	—	0·110 min.	—	
26	AXIAL CLEARANCE BETWEEN REAR OF STAGE 12 ROTOR BLADES AND SEAL HOUSING MEASURED AT THE BLADE ROOTS	—	—	0·100 0·122	—	Minimum figure with rotor pressed rearwards, maximum figure with rotor pressed forwards
27	RADIAL CLEARANCE BETWEEN STAGE 12 ROTOR WHEEL (REAR HALF) UNDERCUT DIAMETERS AND END LIP OF INNER AND OUTER SEALS	—	—	0·045 0·049	—	
28	RADIAL CLEARANCE BETWEEN STAGE 12 ROTOR WHEEL (REAR HALF) SEALING DIAMETERS AND END LIP OF INNER AND OUTER SEALS	—	—	0·0100 0·0125	—	
29	RADIAL CLEARANCE BETWEEN STAGE 12 ROTOR WHEEL (REAR HALF) SEALING DIAMETERS AND MAIN LIPS OF INNER AND OUTER SEALS	—	—	0·0400 0·0425	—	
30	RADIAL CLEARANCE BETWEEN BALANCE PISTON AND CORE DIAMETER OF OUTER SEAL	—	—	0·018 0·020	—	
31	RADIAL CLEARANCE BETWEEN BALANCE PISTON INNER SEAL SEALING DIAMETER AND MAIN LIPS OF INNER SEAL	—	—	0·013 0·015	—	
32	RADIAL CLEARANCE BETWEEN BALANCE PISTON INNER SEAL SEALING DIAMETER AND END LIP OF INNER SEAL	—	—	0·0095 0·0120	—	
33	RADIAL CLEARANCE BETWEEN BALANCE PISTON UNDERCUT DIAMETER AND END LIP OF INNER SEAL	—	—	0·019 0·023	—	

RESTRICTED

Ref. No. on Diagram (1)	Part and Description (2)		Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
34	RADIAL CLEARANCE BETWEEN CORE DIAMETER OF REAR LABYRINTH SEAL AND REAR HALF COMPRESSOR SHAFT		—	—	0·0085 0·0105	—	
35	RADIAL CLEARANCE BETWEEN CORE DIAMETER OF SEALING THREAD OF CENTRE BEARING HOUSING AND REAR HALF COMPRESSOR SHAFT		—	—	0·0055 0·0065	—	Pre AS 33
			—	—	0·008 0·009	—	AS 33
36	BALL BEARING IN HOUSING	Housing—bore	7·6240 7·6245	—	0·0003 0·0013	—	Pre AS 33
		Bearing—dia.	7·6232 7·6237				
		Housing—bore	7·6187 7·6192	—	Tight 0·005	—	AS 33
		Bearing—dia.	7·6232 7·6237		0·004 Tight		
37	BALL BEARING	End float between inner and outer races	—	—	0·017 0·020	0·023	Pre Mod. 95
			—	—	0·006 0·010	0·013	Mod. 95. Hoffman bearing Deleted Mod. 1009
			—	—	0·017 0·020	0·024	Mod. 550. Fischer bearing
			—	—	0·017 0·021	0·024	Mod. 550. Ransome and Marles bearing

Ref. No. on Diagram (1)	Part and Description (2)		Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
38	BALL BEARING INNER RACE ON SHAFT	Race—bore	4·7497 4·7502	—	Tight 0·00030 0·00045 Clear	—	Pre AS 4
		Shaft—dia.	4·74975 4·75000				
		Race—bore	4·7497 4·7502	—	Tight 0·00110 0·00035 Tight	—	AS 4
		Shaft—dia.	4·75055 4·75080				
39	REAR HALF COMPRESSOR SHAFT IN WHEEL CASE DRIVING PINION	Backlash	—	—	0·001 0·003	—	
40	BUSH IN PINION	Pinion—bore	4·5250 4·5255	—	Tight 0·0035 0·0025 Tight	—	Pre Mod. 124
		Bush—dia.	4·5280 4·5285				
		Pinion—bore	4·6875 4·6880	—	Tight 0·0035 0·0025 Tight	—	Mod. 124
		Bush—dia.	4·6905 4·6910				
41	BUSH ON REAR HALF COMPRESSOR SHAFT	Bush—bore	4·1250 4·1255	4·1275	0·0005 0·0015	0·003	
		Shaft—dia.	4·1240 4·1245	4·1220			

RESTRICTED

Ref. No. on Diagram (1)	Part and Description (2)		Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
42	TURBINE SHAFT LOCATING PEG IN REAR HALF COMPRESSOR SHAFT	Clearance on spherical diameter	—	—	0·0005 0·0015	0·002	
		Axial clearance	—	—	0·0007 0·0024	0·004	
43	RADIAL CLEARANCE BETWEEN CORE DIAMETER OF CENTRE BEARING REAR SEALING GLAND AND COUPLING SHAFT		—	—	0·0055 0·0065	—	Pre AS 31
			—	—	0·008 0·009	—	AS 31
44	BALANCE PISTON SMALL LOCATING DIAMETER ON REAR COMPRESSOR SHAFT	Piston—bore	7·775 7·776	—	0·0005 0·0025	—	
		Shaft—dia.	7·7735 7·7745				
45	BALANCE PISTON LARGE LOCATING DIAMETER ON REAR COMPRESSOR SHAFT	Piston—bore	8·375 8·376	—	0·001 0·003	—	
		Shaft—dia.	8·373 8·374				
46	FRONT HALF COMPRESSOR SHAFT IN REAR HALF COMPRESSOR SHAFT	Shaft (rear)—bore	9·150 9·151	—	0·0005 0·0025	—	Pre AS 3 and 4
		Shaft (front)—dia.	9·1485 9·1495				
		Shaft (rear)—bore	9·1485 9·1490	—	Tight 0·001 0·000	—	AS 3 and 4. Pre Mod. 126
		Shaft (front)—dia.	9·1490 9·1495				
		Shaft (rear)—bore	9·1500 9·1505	—	0·0005 0·0015	—	Mod. 126
		Shaft (front)—dia.	9·1490 9·1495				

Ref. No. on Diagram (1)	Part and Description (2)		Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
47	FRONT HALF COMPRESSOR SHAFT IN REAR HALF COMPRESSOR SHAFT	Backlash between gear teeth used as serrations	—	—	0·001 / 0·003	—	Pre Mod. 126
48	BLADE RETAINING PINS IN STAGE 12 ROTOR FRONT AND REAR HALF WHEELS AND BLADES	Wheel and blade—bore	0·2344 / 0·2349	—	0·002 / 0·003	—	Pre AS 54
		Pin—dia.	0·2319 / 0·2324				
		Wheel—bore	0·2344 / 0·2354	—	0·0020 / 0·0035	—	AS 54
		Pin—dia.	0·2319 / 0·2324				
		Blade—bore	0·2344 / 0·2349	—	0·002 / 0·003	—	
		Pin—dia.	0·2319 / 0·2324				
49	STAGE 11 WHEEL ON FRONT COMPRESSOR SHAFT	Wheel—bore	9·4750 / 9·4755	—	0·0005 / 0·0015	—	
		Shaft—dia.	9·4740 / 9·4745				

Ref. No. on Diagram (1)	Part and Description (2)		Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
50	BLADE RETAINING PINS IN STAGES 11, 10 AND 9 ROTOR WHEELS AND BLADES	Wheel and blade—bore	0·2344 / 0·2349	—	0·002 / 0·003	—	Pre AS 54
		Pin—dia.	0·2319 / 0·2324				
		Wheel—bore	0·2344 / 0·2354	—	0·0020 / 0·0035	—	AS 54
		Pin—dia.	0·2319 / 0·2324				
		Blade—bore	0·2344 / 0·2349	—	0·002 / 0·003	—	
		Pin—dia.	0·2319 / 0·2324				
51	STAGE 11 WHEEL ON FRONT COMPRESSOR SHAFT	Backlash between gear teeth used as serrations	—	—	0·001 / 0·003	—	
52	STAGE 10 WHEEL ON FRONT COMPRESSOR SHAFT	Wheel—bore	9·1500 / 9·1505	—	0·0005 / 0·0015	—	
		Shaft—dia.	9·1490 / 9·1495				
53	STAGES 10 AND 9 WHEELS ON FRONT COMPRESSOR SHAFT	Backlash between gear teeth used as serrations	—	—	0·001 / 0·003	—	
54	STAGE 9 WHEEL ON FRONT COMPRESSOR SHAFT	Wheel—bore	8·8650 / 8·8655	—	0·0005 / 0·0015	—	
		Shaft—dia.	8·8640 / 8·8645				

Ref. No. on Diagram (1)	Part and Description (2)		Dimension, New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
55	STAGE 8 WHEEL ON LOCATING BUSH	Wheel—bore	9·1000 / 9·1005	—	Tight / 0·022 / 0·021 / Tight	—	Pre Mod. 17
		Bush—dia.	9·1215 / 9·1220				
		Wheel—bore	9·1000 / 9·1005	—	Tight / 0·030 / 0·029 / Tight	—	Mod. 17
		Bush—dia.	9·1295 / 9·1300				
56	LOCATING BUSH ON FRONT COMPRESSOR SHAFT	Bush—bore	8·8650 / 8·8655	—	0·0005 / 0·0015	—	
		Shaft—dia.	8·8640 / 8·8645				
57	BLADE RETAINING PINS IN STAGES 8, 7, 6 and 5 ROTOR WHEELS AND BLADES	Wheel and blade—bore	0·2030 / 0·2035	—	0·002 / 0·003	—	Pre AS 54
		Pin—dia.	0·2005 / 0·2010				
		Wheel—bore	0·2030 / 0·2040	—	0·0020 / 0·0035	—	AS 54
		Pin—dia.	0·2005 / 0·2010	—			
		Blade—bore	0·2030 / 0·2035	—	0·002 / 0·003	—	
		Pin—dia.	0·2005 / 0·2010	—			

RESTRICTED

Ref. No. on Diagram (1)	Part and Description (2)		Dimension, New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
58	STAGES 8 AND 7 WHEELS ON FRONT COMPRESSOR SHAFT	Backlash between gear teeth used as serrations	—	—	0·001 0·003	—	
59	STAGES 7 AND 6 WHEELS ON LOCATING BUSHES	Wheel—bore	8·7750 8·7755	—	Tight 0·0174 0·0164	—	Pre Mod. 17
		Bush—dia.	8·7919 8·7924		Tight		
		Wheel—bore	8·7750 8·7755	—	Tight 0·025 0·024	—	Mod. 17
		Bush—dia.	8·7995 8·8000		Tight		
60	LOCATING BUSHES ON FRONT COMPRESSOR SHAFT	Bush—bore	8·5300 8·5305	—	0·0005 0·0015	—	
		Shaft—dia.	8·5290 8·5295				
61	STAGES 6 AND 5 WHEELS ON FRONT COMPRESSOR SHAFT	Backlash between gear teeth used as serrations	—	—	0·001 0·003	—	
62	INNER STARTER SPRING DRIVE SHAFT IN OUTER STARTER SPRING DRIVE SHAFT	Backlash between serrations	—	—	0·0009 0·0066	0·010	
63	STAGES 5 AND 4 WHEELS ON LOCATING BUSHES	Wheel—bore	7·8000 7·8005	—	Tight 0·0121 0·0111	—	Pre Mod. 17
		Bush—dia.	7·8116 7·8121		Tight		
		Wheel—bore	7·8000 7·8005	—	Tight 0·018 0·017	—	Mod. 17
		Bush—dia.	7·8175 7·8180		Tight		

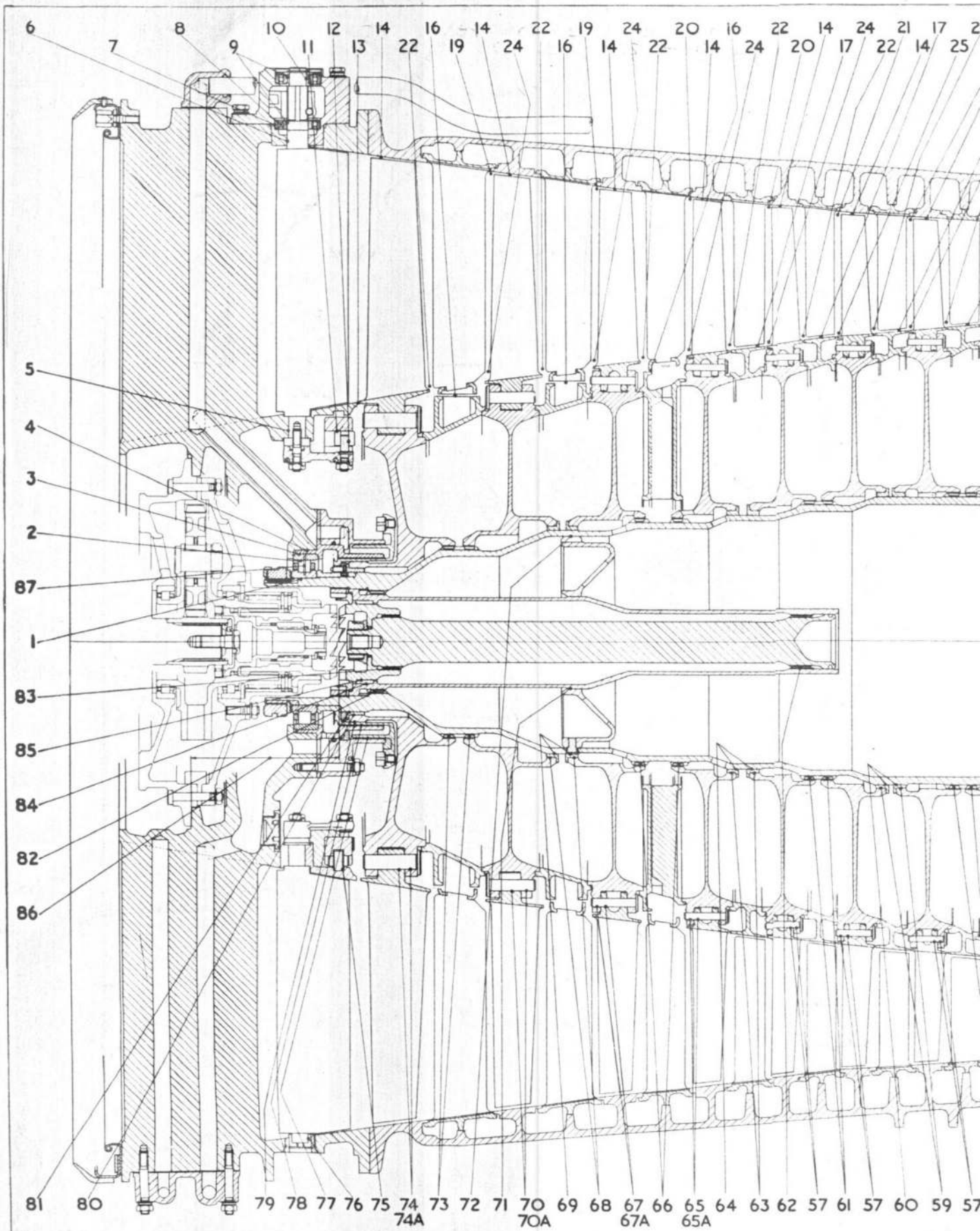
Ref. No. on Diagram (1)	Part and Description (2)		Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
64	LOCATING BUSHES ON FRONT COMPRESSOR SHAFT	Bush—bore	7·5500 7·5505	—	0·0005 0·0015	—	
		Shaft—dia.	7·5490 7·5495				
65	BLADE RETAINING PIN IN STAGE 4 ROTOR WHEEL AND BLADE BUSHES	Wheel and blade—bore	0·2188 0·2193	—	0·0021 0·0031	—	Pre Mod. 116
		Pin—dia.	0·2162 0·2167				
		Wheel and blade—bore	0·2344 0·2349	—	0·002 0·003	—	Mod. 116 and Pre Mod. 243
		Pin—dia.	0·2319 0·2324				
		Wheel and blade bush—bore	0·2344 0·2349	—	0·002 0·003	—	Mod. 243 and Pre AS 54
		Pin—dia.	0·2319 0·2324				
		Wheel—bore	0·2344 0·2354	—	0·0020 0·0035	—	AS 54
		Pin—dia.	0·2319 0·2324				
		Blade bush—bore	0·2344 0·2349	—	0·002 0·003	—	
		Pin—dia.	0·2319 0·2324				

Ref. No. on Diagram (1)	Part and Description (2)		Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
65A	BUSHES IN STAGE 4 ROTOR BLADES	Blade—bore	0·2812 / 0·2817	—	Tight / 0·0013	—	Mod. 243 and Pre Mod. 596
		Bush—dia.	0·2820 / 0·2825		0·0003 / Tight		
		Blade—bore	0·28120 / 0·28170	—	Tight / 0·00130	—	Mod. 596
		Bush—dia.	0·28225 / 0·28250		0·00055 / Tight		
66	STAGES 4 AND 3 WHEELS ON FRONT COMPRESSOR SHAFT	Backlash between gear teeth used as serrations	—	—	0·001 / 0·003	—	
67	BLADE RETAINING PIN IN STAGE 3 ROTOR WHEEL AND BLADE BUSHES	Wheel and blade—bore	0·2812 / 0·2817	—	0·0022 / 0·0032	—	Pre Mod. 1089
		Pin—dia.	0·2785 / 0·2790				
		Wheel and blade bush—bore	0·2812 / 0·2817	*	0·0087 / 0·0097	—	Mod. 1089
		Pin—dia.	0·2720 / 0·2725				

Ref. No. on Diagram (1)	Part and Description (2)		Dimension, New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
67A	BUSHES IN STAGE 3 ROTOR BLADES	Blade—bore	0·3248 0·3253	—	Tight 0·0013	—	Mod. 243 and Pre Mod. 596
		Bush—dia.	0·3256 0·3261		0·0003 Tight		
		Blade—bore	0·3248 0·3253	—	Tight 0·00130	—	Mod. 596
		Bush—dia.	0·32585 0·32610 *		0·00055 Tight		
68	STAGES 3 AND 2 WHEELS ON LOCATING BUSHES	Wheel—bore	6·8750 6·8755	—	Tight 0·0076	—	Pre Mod. 17
		Bush—dia.	6·8821 6·8826		0·0066 Tight		
		Wheel—bore	6·8750 6·8755	—	Tight 0·012	—	Mod. 17
		Bush—dia.	6·8865 6·8870		0·011 Tight		
69	LOCATING BUSHES ON FRONT COMPRESSOR SHAFT	Bush—bore	6·6250 6·6255	—	0·0005 0·0015	—	
		Shaft—dia.	6·6240 6·6245				

RESTRICTED

Ref. No. on Diagram (1)	Part and Description (2)		Dimension, New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
70	BLADE RETAINING PIN IN STAGE 2 ROTOR WHEEL AND BLADE BUSHES	Wheel and blade—bore	0·2969 0·2974	—	0·002 0·003	—	Pre Mod. 1
		Pin—dia.	0·2944 0·2949				
		Wheel and blade—bore	0·3437 0·3442	—	0·002 0·003	—	Mod. 1 and Pre Mod. 243
		Pin—dia.	0·3412 0·3417				
		Wheel and blade bush—bore	0·3437 0·3442	—	0·002 0·003	—	Mod. 243 and Pre AS 54
		Pin—dia.	0·3412 0·3417				
		Wheel—bore	0·3437 0·3447	—	0·0020 0·0035	—	AS 54
		Pin—dia.	0·3412 0·3417				
		Blade bush—bore	0·3437 0·3442	—	0·002 0·003	—	
		Pin—dia.	0·3412 0·3417				
70A	BUSHES IN STAGE 2 ROTOR BLADES	Blade—bore	0·3906 0·3911	—	Tight 0·0014 0·0004 Tight	—	Mod. 243 and Pre Mod. 596
		Bush—dia.	0·3915 0·3920				
		Blade—bore	0·3906 0·3911	—	Tight 0·00140 0·00065 Tight	—	Mod. 596
		Bush—dia.	0·39175 0·39200				



AVON MK.I

FRONT BEARING HOUSING, COMPRESSOR SH

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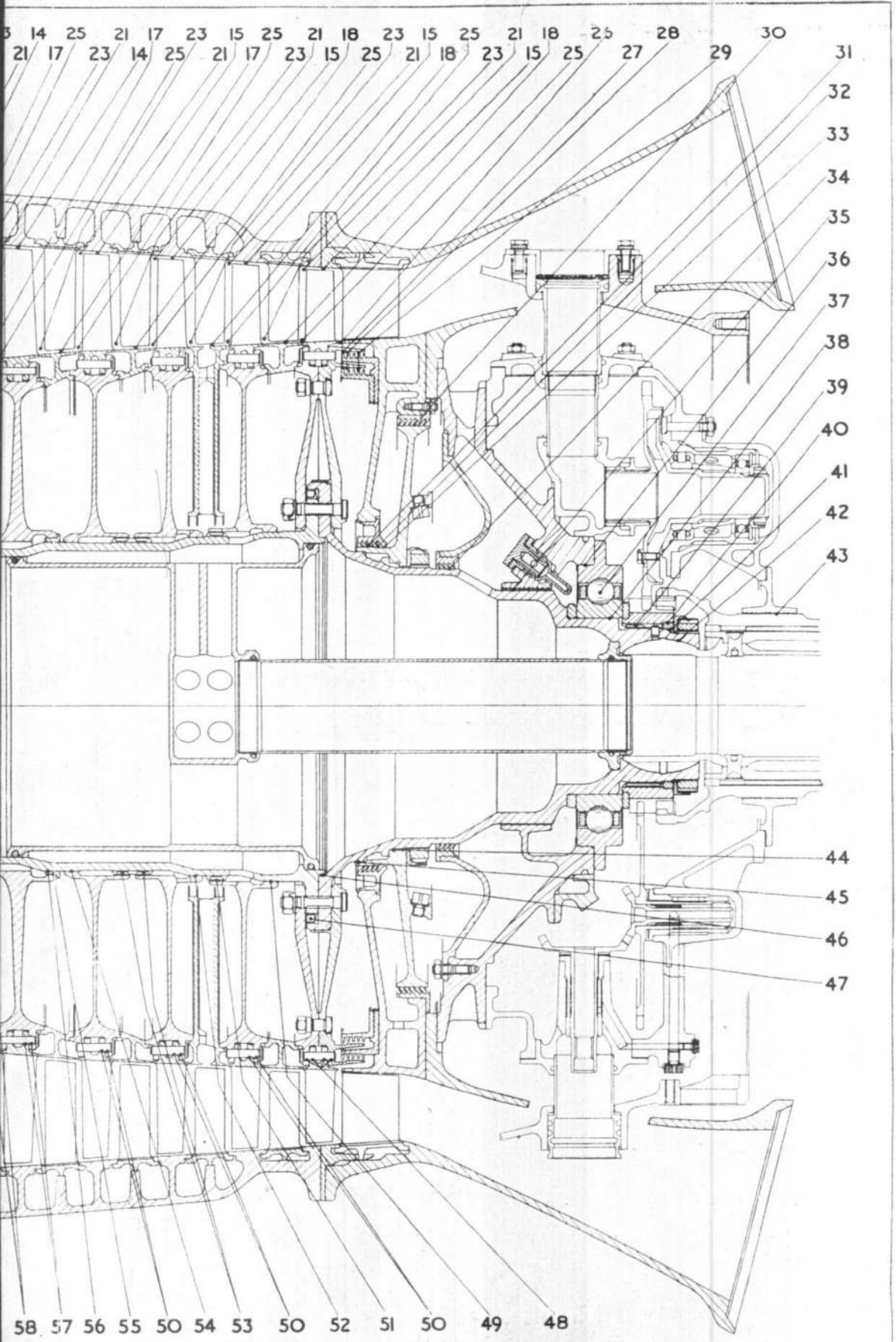

AFTS, ROTORS AND OUTLET CASING.

DIAGRAM No. 1.
(A.L. 3, Mar, 1954)

Ref. No. on Diagram (1)	Part and Description (2)		Dimension, New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
71	OUTER STARTER SPRING DRIVE SHAFT IN STEADY	Steady—bore	2·7750 / 2·7755	—	0·0005 / 0·0015	—	Pre AS 3
		Shaft—dia.	2·7740 / 2·7745				
		Steady—bore	2·77500 / 2·77525	—	0·00025 / 0·00075	—	AS 3 and Pre AS 29
		Shaft—dia.	2·77450 / 2·77475				
		Steady—bore	2·7750 / 2·7755	—	0·00100 / 0·00175	—	AS 29
		Shaft—dia.	2·77375 / 2·77400				
72	STEADY IN FRONT HALF COMPRESSOR SHAFT		—	—	Tight / 0·0015 / 0·0010 / Tight	—	Pre AS 29
			—	—	Tight / 0·003 / 0·001 / Tight	—	AS 29 — Steady machined to give this interference with mating shaft
73	STAGES 2 AND 1 WHEELS ON FRONT COMPRESSOR SHAFT	Backlash between gear teeth used as serrations	—	—	0·001 / 0·003	—	

RESTRICTED

SCHEDULE 1 *(continued)* **FRONT BEARING HOUSING, COMPRESSOR SHAFTS, ROTORS AND OUTLET CASING** **AVON Mk.1**

Ref. No. on Diagram (1)	Part and Description (2)		Dimension, New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
74	BLADE RETAINING PIN IN STAGE 1 ROTOR WHEEL AND BLADE BUSHES	Wheel and blade—bore	0·4531 / 0·4536	—	0·0031 / 0·0041	—	Pre Mod. 91
		Pin—dia.	0·4495 / 0·4500				
		Wheel and blade bush—bore	0·4531 / 0·4536	—	0·0031 / 0·0041	—	Mod. 91 and Pre Mod. 536
		Pin—dia.	0·4495 / 0·4500				
		Wheel and blade bush—bore	0·4531 / 0·4536	—	0·0131 / 0·0141	—	Mod. 536 and Pre AS 54
		Pin—dia.	0·4395 / 0·4400				
		Wheel—bore	0·4531 / 0·4541	—	0·0131 / 0·0146	—	AS 54
		Pin—dia.	0·4395 / 0·4400				
		Blade bush—bore	0·4531 / 0·4536	—	0·0131 / 0·0141	—	
		Pin—dia.	0·4395 / 0·4400				
74A	BUSH IN STAGE 1 ROTOR BLADES	Blade—bore	0·5000 / 0·5005	—	Tight / 0·002	—	Mod. 91
		Bush—dia.	0·5015 / 0·5020		0·001 / Tight		

Ref. No. on Diagram (1)	Part and Description (2)		Dimension, New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
75	ROLLERS IN INLET SWIRL VANES REAR SUPPORT AND ACTUATING RINGS	Ring track—width	0·300 / 0·301	0·305	0·001 / 0·003	0·006	Pre AS 13
		Roller—length	0·298 / 0·299	0·294			
		Ring track—width	0·300 / 0·301	0·305	0·002 / 0·004	0·007	AS 13
		Roller—length	0·297 / 0·298	0·293			
76	INLET GUIDE SWIRL VANES IN BUSHES	Bush—bore	0·500 / 0·501	0·504	0·001 / 0·003	0·005	Pre AS 4
		Vanes—dia.	0·498 / 0·499	0·495			
		Bush—bore	0·500 / 0·501	0·5035	0·0015 / 0·0035	0·005	AS 4
		Vanes—dia.	0·4975 / 0·4985	0·4950			
77	RADIAL CLEARANCE BETWEEN CORE DIAMETER OF FRONT BEARING SEALING GLAND AND FRONT BEARING SEALING LAND		—	—	0·0075 / 0·0085	—	
78	RADIAL CLEARANCE BETWEEN CORE DIAMETER OF SEALING THREAD OF FRONT BEARING LINER AND OIL SEAL AND FRONT BEARING SEALING LAND		—	—	0·006 / 0·007	—	

Ref. No. on Diagram (1)	Part and Description (2)		Dimension, New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
79	STAGE 1 WHEEL IN FRONT BEARING SEALING LAND	Sealing land—bore	4·7750 / 4·7755	—	0·0005 / 0·0015	—	
		Wheel—dia.	4·7740 / 4·7745				
80	STAGE 1 WHEEL ON LOCATING BUSH	Wheel—bore	4·3750 / 4·3755	—	Tight / 0·0038 / 0·0028 / Tight	—	Pre Mod. 17
		Bush—dia.	4·3783 / 4·3788				
		Wheel—bore	4·3750 / 4·3755	—	Tight / 0·006 / 0·005 / Tight	—	Mod. 17
		Bush—dia.	4·3805 / 4·3810				
81	LOCATING BUSH ON FRONT COMPRESSOR SHAFT	Bush—bore	4·1500 / 4·1505	—	0·0005 / 0·0015	—	
		Shaft—dia.	4·1490 / 4·1495				
82	OUTER STARTER SPRING DRIVE SHAFT IN FRONT COMPRESSOR SHAFT	Backlash between serrations	—	—	0·0009 / 0·0013	0·003	
83	INNER STARTER SPRING DRIVE SHAFT IN COUPLING PIECE	Backlash between serrations	—	—	0·0009 / 0·0066	0·010	
84	BUSH IN OUTER SPRING DRIVE SHAFT	Shaft—bore	2·5000 / 2·5005	—	Tight / 0·0015 / 0·0005 / Tight	—	
		Bush—dia.	2·5010 / 2·5015				

Ref. No. on Diagram (1)	Part and Description (2)		Dimension, New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
85	BUSH ON COUPLING PIECE	Bush—bore	2·2500 / 2·2505	—	0·0005 / 0·0015	—	Pre AS 3
		Coupling piece—dia.	2·2490 / 2·2495				
		Bush—bore	2·25000 / 2·25025	—	0·00050 / 0·00125	—	AS 3
		Coupling piece—dia.	2·2490 / 2·2495				
86	POSITION OF END OF COUPLING PIECE RELATIVE TO FACE OF TURBO STARTER GEAR CASING		4·425 / 4·435	—	—	—	
87	POSITION OF ROLLERS ON FRONT ROLLER BEARING RELATIVE TO CENTRE LINE OF OUTER RACE	Amount of roller centre line behind and in front of race centre line	—	—	Max. 0·0125	—	Behind—rotor pressed rearwards
			—	—	Max. 0·0855	—	In front—rotor pressed forwards

Ref. No. on Diagram (1)	Part and Description (2)	Dimension New (3)	Permissible Worn Dimension (4)	Clearance New (5)	Permissible Worn Clearance (6)	Remarks (7)
88 This reference number not shown on diagram	ROTOR BLADES IN ROTOR WHEELS — Clearance between blade flanks					This flank clearance is to be checked by inserting a feeler gauge into the space between adjacent blade roots. Size of feeler is to give a minimum of 0·011 (Pre Mod. 536) or 0·031 (Mod. 536) for stage 1, 0·022 for stage 3 (Mod.1089) and 0·009 for stages 2 to 12 inclusive. It is important that the feeler must enter until its end contacts the wheel diameter beneath the blades. Only one feeler should be inserted at a time. Blades are not to be under any restraint other than that imposed by retaining pins while flank clearance is being checked
	Stage 1 (Pre Mod. 536)	—	—	0·011	—	
	(Mod. 536)	—	—	0·031	—	
	Stages 2–12 (not Stage 3)	—	—	0·009	—	
	Stage 3	—	—	0·022	—	

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