

RESTRICTED

AIR PUBLICATION

4267C

VOLUME I

BOOK I

comprising

Sections 1, 2, 3 and 4

SHACKLETON MR Mk. 3 AIRCRAFT

GENERAL AND TECHNICAL INFORMATION

Prepared by direction of
the Minister of Supply

J. R. C. Helmer

Promulgated by Order
of the Air Council

W. V. Dean

AIR MINISTRY

Introduction

Leading Particulars

Section 1 - Controls and Exits

Section 2 - Ground handling and Preparation for Flight

Section 3 - Airframe

Section 4 - Power Unit Installation

Section 5 - Armament Installation

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" 5 - Torpedo equipment
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AMENDMENT RECORD SHEET

A.P.4267E, Vol.1, Book 1

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NOTE TO READERS

The subjectmatter of this publication may be affected by Defence Council Instructions, or by Servicing schedules (Vol.5), or 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 Instruction, Servicing schedule or leaflet contradicts any portion of this publication, the Instruction, Servicing schedule or leaflet is to be taken as the overriding authority.

The inclusion of references to items of equipment does not constitute authority for demanding the items.

Each leaf, except the original issue of preliminaries, bears the date of issue and the number of the Amendment List with which

it was issued. New or amended technical matter will be indicated by triangles in the text thus: ◀...▶ to show the extent of amended text, and thus: ▶◀ to show where text has been deleted. When a Section or Chapter is issued in a completely revised form, the triangles will not appear.

If more than one copy of this publication is held, each set of covers should be given an identifying number and be kept together.

◀ The reference number of this publication was altered from A.P.4267E to A.P.101B-1703 in January 1967. No general revision of page captions has been undertaken, but the code number appears in place of the earlier A.P. reference on new or amended leaves issued subsequent to that date. ▶

LIST OF ASSOCIATED PUBLICATIONS

Aircraft fuel and oil tanks	4117A
Aircraft pneumatic equipment	4303
Aircraft pressurizing and air conditioning	4340
Aircraft undercarriage equipment - Dowty	1803E
Aircraft undercarriage equipment - Electro Hydraulics	1803F
Automatic pilot Mk.10	1469E
Bomb carriers	1664
Dunlop equipment fitted to Shackleton aircraft	4515C
Electrical manual	4343
Engine Griffon Mk.58	2234E & F
Gun, nose mounting, B.P., Type N, Mk.1	2796N
Hydraulic equipment - Dowty	1803D
Instrument manual	1 275
Missile storage, preparation, transportation, loading and off-loading procedures	2852B
Power plant Griffon Mk.58	4275A
Rotary accessory gearboxes and drives	2240A
Servicing of aircraft and associated equipment in low temperature conditions	1 441B
Servicing of aircraft and associated equipment in tropical conditions	1 441C
Servicing of aircraft	2306
Mk.20301 engine change unit	102C-0804-1
Wheels, tyres and brakes	2337

LIST OF AIR DIAGRAMS

	A.D.
Access panels	8086Q
Electrical installation circuits	8086L
Electrical installation location	8086Z
Flying controls	8086C
Flying controls lubrication	4915
Fuel and nitrogen system	8086F
Hydraulic system	6023H

◀ LAYOUT OF A.P. 101B-1703

SHACKLETON MR. MK.3, PHASE 3 AIRCRAFT

Code No.	Title	Previous designation
101B-1703-1B	Aircraft servicing manual	A.P.4267E, Vol.1
<i>Issued in three books as follows:-</i>		
101B-1703-1B1	Sect.1 to 5	A.P.4267E, Vol.1, Book 1
101B-1703-1B2... ..	Sect.6	A.P.4267E, Vol.1, Book 2
101B-1703-1B3... ..	Sect.7 to 9	A.P.3267E, Vol.1, Book 3
101B-1703-2	General orders	A.P.4267E, Vol.2
101B-1703-3A2	Illustrated parts catalogue	A.P.4267E, Vol.3, Part 1
101B-1703-3B2	Appendix 'A'	A.P.4267E, Vol.3, Part 2
101B-1703-3C2	Scales of unit equipment	A.P.4267E, Vol.5, Part 3
101B-1703-3D2	Scales of servicing spares	A.P.4267E, Vol.3, Part 4
101B-1703-4B	Not applicable	A.P.4267E, Vol.4
101B-1703-5B	Basic servicing schedule	A.P.4267E, Vol.5
101B-1700-6A	Aircraft repair manual	A.P.4267, Vol.6
101B-1700-7	Modifications list	A.P.4267, M.L.
101B-1703-12B	Ground handling notes	A.P.4267E, G.H.N.
101B-1703-15B	Pilot's notes	A.P.4267E, P.N.
101B-1703-16B	Operating data manual	A.P.4267E, O.D.

NOTE ...

Until notice of the changeover is promulgated in D.C.I's the required A.P should be requisitioned under the old A.P. number. ▶

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LUBRICATION SYMBOLS

The following symbols and abbreviations are used to indicate lubrication on the appropriate illustrations throughout the book.

Symbol	Lubricant	Ref.No.	N.A.T.O. Code No.
	Grease XG-271	34B/9100510	G-382
	Grease XG-295	34B/9423152	G-352
	Grease XG-277	34B/9100514	G-359
	Grease XG-276	34B/9425139	G-353
	Grease XG-315	34B/9100519	G-394
	Oil OM-13	34D/9100570	O-134
	Oil OX-14	34B/9100589	O-147
	Oil OMD-370	34A/2201097	O-128
	Oil OEP-70	34B/9100539	9-155
	Gun lubrication	-	-
	Pre-packed bearings	-	-

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Shock-absorber strut	
Type	Liquid spring
Charge pressure (no load)	1,500 p.s.i.
Static load deflection	Refer to Sect.2, Chap.2
Oil	OM-15 (Ref.No. 34B/9100572)
	N.A.T.O. Code No. H-515
Wheels (two)	A.H. 9527 (Ref.No. 27A/3548)
Tyres	D.C. 4983, 30 x 9.00-15
	(Ref.No. 27A/3588)
	or FE-EN-59N, 30 x 9.00-15
	(Ref.No. 27A/3755)
Tubes	F.E.3, 30 x 9.00-15
	(Ref.No. 27A/3527)
Inflation	Refer to Vol.5 of this A.P.

POWER UNITS

Type	Griffon Mk.58 power plant
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ENGINES

Name	Griffon Mk.58
Type	12 cylinder, 60 deg.Vee, pressure-liquid cooled with two-speed single stage supercharger (Ref.No. 57A/50).
Number	Four

ACCESSORIES GEARBOXES

Number	Four
No.1	6.0214.0001 (Ref.No. 37L/5060)
No.2	6.0214.0003 (Ref.No. 37L/5063)
No.3	6.0214.0004 (Ref.No. 37L/5061)
No.4	6.0214.0005 (Ref.No. 37L/5062)
Oil	OM-270 (Ref.No. 34A/9100554)
	N.A.T.O. Code No. 0-117
Capacity	4 pints
After engine run	4.3 pints

ENGINE TACHOMETER GENERATOR

(four-one to each gearbox)	Ref.No. 6A/2237
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PROPELLERS

Type	
Front	D.F. 178/334/1 (Ref.No. 25A/748)

Rear	D.B. 229/336/1 (Ref.No. 25A/772)
Control	Hydromatic, constant speed and feathering
Diameter (front half)	13 ft.

PITCH SETTINGS

Front propeller	
Basic	23 deg.
Fine	23 deg.
Feathered	90 deg.
Rear propeller	
Basic	24 deg.
Fine	24 deg.
Feathered	91 deg.
Direction of rotation	
Front propeller	Right-hand tractor
Rear propeller	Left-hand tractor

TRANSLATION UNIT

Type	P.36674 (Ref.No. 27L/6943)
Oil	OEP-70 (Ref.No. 34B/9100539)
	N.A.T.O. Code No. 0-155
Tank capacity (each tank)	750 c.c.

FUEL SYSTEM

FUEL

Type	Aviation gasoline 100/130 grade
	(Ref.No. 34A/9100444)
	N.A.T.O. Code No. F-18

Fuel pumps

Main tanks	S.P.E. 418, Mk.3
Auxiliary tank	B.P.1, Mk.3, (Ref.No. 5UE/3751)
	or F.B.6, Mk.3, (Ref.No. 5UE/4986)

Fuel tank capacities

◀ No.1 tanks (each)	539 gall.
No.2 tanks (each)	573 gall. ▶
No.3 tanks (each)	297 gall.
No.4 tanks (each)	311 gall.
No.5 tanks (each)	185 gall.
◀ No.6 tanks (wing tip) (each)	253 gall.
Total fuel capacity (normal)... ..	4,316 gall. ▶
Auxiliary fuel tank	400 gall.
◀ Maximum total fuel capacity	4,716 gall. ▶

WATER/METHANOL

Type	A.L.-24 (Ref.No.34B/9440428)
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Tanks		Two
Capacity (each)		26 gall.
Pumps		S.P.M.7 (Ref.No. SUE/5272)
Pressure regulating valves		301/3/025/1

OIL SYSTEMS

[illegible]

PNEUMATIC SYSTEMS

COOLING SYSTEM

HYDRAULIC SYSTEM

RESERVOIR

A.S.V. PRESSURISATION SYSTEM

Type English Electric 527, A.E.2505/3 (Ref.No.5UA/8330)
Voltage control panel (four)... ... Type A.E.7307/2
(Ref.No.5UC/7601)

Batteries

Number Two
Type K, 24-volt, 40 amp./hr. (Ref.No.5J/3364)

Emergency batteries

Turn and slip indicator (two) 24-volt, 0.4 amp./hr.
Lighting 2.4-volt, 3 amp./hr. Connected
2.4-volt, 1.3 amp./hr. in parallel

Alternator 200-volt, 7.3 k.V.A.

Type N-0504

Voltage regulator Type 23/4784

Transformer/rectifier unit Type U/1801

Alternator protection unit Type V/12524

Inverters (rotary)

Type (four) 103C (Ref.No.5UB/8397)

(one) 103D (Ref.No.5UB/9290)

(two) 201B (Ref.No.5UB/6475)

(one) 108 (Ref.No.5UB/5953)

Inverter (static) Plessey (509/1/01230)
(Ref.No.5UB/8462)

ASSISTED TAKE-OFF UNITS**ENGINE**

Name Viper Mk.20301

Type Straight-flow turbo-jet

Number Two

Oil system

Type Integral with engine

Oil OX-38 (Ref.No.34A/9100591)

N.A.T.O. Code No.0-149

Tank capacity 6.5 pints oil, 3.5 pints air

Engine capacity 1 pint oil

Total oil capacity 7.5 pints

Starting system

Type Electrical

Starter Rotax Type C.13102

Starter panel Rotax Type U.1110