

AMENDMENT RECORD SHEET

To record the incorporation of an Amendment List in this publication, sign against the appropriate A.L. No. and insert the date of incorporation.

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1-75	Incorporated in this Reprint	8.59	98			122		
76	INCORPORATED		99			123		
77	INCORPORATED		100			124		
78	BY A.P.F.S.		101			125		
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80	INCORPORATED		103			127		
81	BY A.P.F.S.		104			128		
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LETHAL WARNING

EJECTION SEATS AND CANOPY JETTISON MECHANISMS

1. Ejection seats and canopy jettison mechanisms are sources of potential danger to personnel and of damage to the aircraft. Serious injury (possibly fatal) may result if any firing mechanisms are inadvertently operated whilst the aircraft is on the ground.

2. The following instructions are to be obeyed:—

R.N. Safety precautions contained in A.P.(N.)140—Naval Aircraft Maintenance Manual.

R.A.F. ALL PERSONNEL before entering the cockpit or cabin of an aircraft fitted with an ejection seat are to report to the N.C.O. immediately in charge of airframe servicing who is to ensure that all safety pins (or other safety devices) are correctly positioned to render the seat and canopy jettison firing mechanisms safe. On completion of servicing, tradesmen are to report to the N.C.O.

3. Full instructions for rendering the firing mechanisms safe are contained in the A.P.4288 and A.P.(N.)1023 series, in Aircraft Servicing Schedules and in the A.D.5037 series.

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NOTE TO READERS

The subject matter of this publication may be affected by Admiralty Fleet Orders, 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.

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

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 on the right of the matter affected. This line merely denotes a change in the information previously given and is not a mark of emphasis; it does not appear when a Section or Chapter is issued in a completely revised form.



LIST OF ASSOCIATED PUBLICATIONS

	<i>A.P.</i>
<i>Aircraft operation and servicing under low-temperature conditions</i>	1441A
<i>Dinghies and associated equipment</i>	1182C
<i>Ejection seats</i>	4288C
<i>Electrical equipment, aircraft</i>	{ 1095 Series 4343 Series
<i>External and internal finish of aircraft</i>	2656A
<i>Flying clothing and survival equipment</i>	1182E
<i>Goblin Mk. 2 and 3 aero-engine</i>	4121B & C
<i>Gun sights</i>	1275E
<i>Hispano 20 mm. guns</i>	1641F
<i>Hydraulic equipment, Lockheed</i>	1803B & C
<i>Instrument manual</i>	1275 Series
<i>Miscellaneous power cartridges</i>	1161F
<i>Parachutes and parachute harness</i>	1182A
<i>Pneumatic equipment, aircraft, Hymatic</i>	4303C
<i>Pressure-cabin testing trolleys</i>	2306G
<i>Safety harness</i>	1182B

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LAYOUT OF A.P.4099J

VAMPIRE T Mk. 11 AIRCRAFT

*Volumes and Parts printed below in heavy type are being issued as separate books
and, when issued, will be listed in A.P.113*

VOLUME 1		General and technical information
VOLUME 2, Part 1		General orders and modifications
Part 2		Inapplicable (refer to Vol. 4)
Part 3		User unit repairs } A.P.4099 & 4269
Part 4		Major repair scheme }
VOLUME 3, Part 1		Schedule of spare parts
Part 2 Appendix "A"
Part 3 Scales of unit equipment
Part 4		Scales of servicing spares
VOLUME 4		
Series 1 and 2, Part 2		Before flight, after flight, primary, primary ★ and intermediate servicing
Part 3 Minor servicing
Part 4 Major servicing
Part 5 Removal and installation
Part 6 Bay servicing
VOLUME 5 <i>Inapplicable</i>

Ground Handling
Notes
A.P.4099J-G.H.N.

Pilot's Notes
A.P.4099J-P.N.

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Frontispiece

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 - Electrical system and instrument installation ...

Section 6 - Radio installation

Section 7 - Armament installation

Chapter 1 - Pilot's controls and equipment
2 - Not applicable
3 - Emergency controls, equipment and exits

Chapter 1 - Ground handling
2 - Preparation for flight
3 - Loading and C.G. data
4 - General servicing
5 - Not applicable
6 - Procedure following hazardous incidents

Chapter 1 - Fuselage
2 - Main plane
3 - Tail unit
4 - Flying controls
5 - Alighting gear
6 - Hydraulic system
7 - Pneumatic system
8 - Air conditioning system
9 - De-icing system
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11 - Emergency equipment

Chapter 1 - Power unit
2 - Fuel system
3 and 4 - Not applicable
5 - Fire protection system

Chapter 1 - Electrical system
2 - Instrument installation

Chapter 1 - Wireless installations
2 - Radar installations

Chapter 1 - Pyrotechnics
2 - R.P. equipment
3 - Guns
4 - Bombing equipment

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LUBRICATION DETAILS

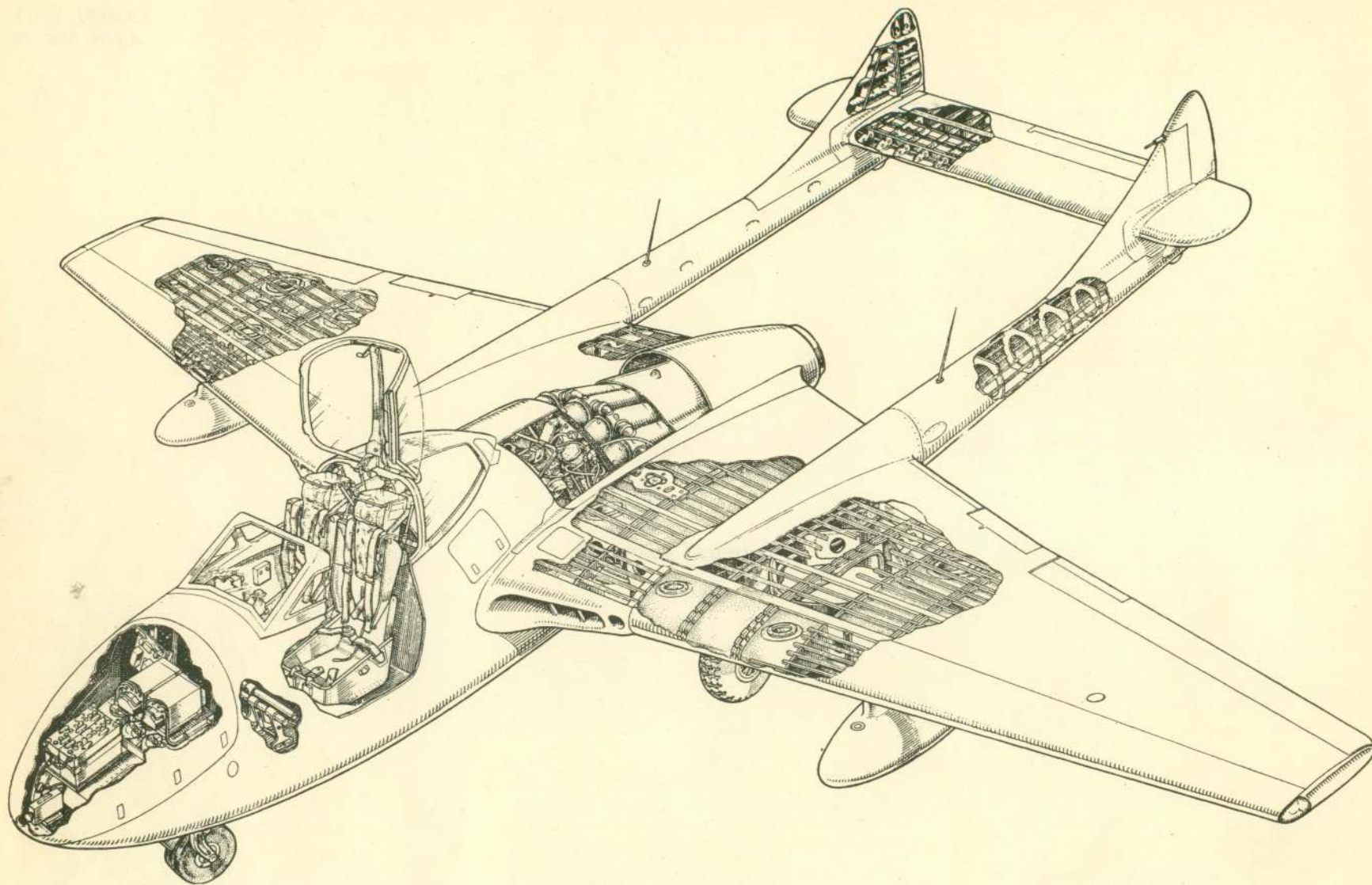
In order to avoid repeating Stores References and N.A.T.O. Code Numbers throughout the book, details of the lubricants used in routine servicing are given below.

<i>Nomenclature</i>	<i>Stores Ref.</i>	<i>N.A.T.O. Code No.</i>
Grease, XG-273	34B/9423151	—
Grease, XG-275	34B/9100512 (4 oz.)	G-350
Oil, OM-150	34B/9100550	O-140

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(Continued overleaf)

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Vampire T Mk. 11

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LEADING PARTICULARS

NAME VAMPIRE T Mk. 11
TYPE TWO-SEATER SINGLE-ENGINE
JET-PROPELLED MID-WING MONOPLANE
DUTY CONVERSION TRAINER

Note . . . For principal dimensions refer to the General Arrangement illustration on opposite page.

MAIN PLANE DATA

Aerofoil section ... Thickness grading EC 1240 series camberline.
Constant load up to 0.4 chord, linear decrease to
Zero at T.E. Thickness to chord ratio 14%
Incidence Zero to fuselage datum ± 10 min.
Dihedral (measured on top skin at front spar) 1 deg. 15 min. ± 10 min.
Sweep back (48 in. in 240 in.) 11 deg. 19 min.
Chord at 56 in. from C/L of aircraft 102 in.
Chord at 216 in. from C/L of aircraft 42.8 in.

TAIL PLANE DATA

Chord 34 in
Incidence Zero to fuselage datum ± 10 min.

AREAS

Total wing area	261 sq. ft.
Main plane, each	109 sq. ft.
Aileron with tab, each	7.7 sq. ft.
Aileron balance tab, each	1.0 sq. ft.
Flaps, total	15.6 sq. ft.
Dive brake, each	3.05 sq. ft.
Tail plane, including extensions	39.7 sq. ft.
Elevator and trim tab	10.5 sq. ft.
Elevator trim tab	0.66 sq. ft.
Fin, each	7.1 sq. ft.
Rudder and tab, each	3.9 sq. ft.
Rudder tab, each	0.175 sq. ft.

ALIGHTING GEAR MAIN UNDERCARRIAGE

Type ... Two, interchangeable single-wheel units, sideways retraction
Shock-absorber struts ... Lockheed oleo-pneumatic, AIR 53560
and 53561
Fluid ... OF-4 (Ref. No. 34B/9100565, N.A.T.O. Code No. H-534)

Note . . . This fluid differs from that used in the hydraulic system.

Air pressure See Sect. 2, Chap. 2
Wheels Dunlop AH.9139 (Ref. No. 27A/2785)
Tyres Dunlop FC-R17N, size 26 x 7.75-13 (Ref. No. 27A/2087)
Tubes Dunlop FC-7 (Ref. No. 27A/2786)
Pressure Refer to Vol. 4
Brakes Dunlop AH.9140 (Ref. No. 27G/4067)

NOSE UNDERCARRIAGE

Type Single-wheel, fully castering, self-centring, rearward retraction
Shock-absorber strut ... Lockheed oleo-pneumatic AIR 101814
Air pressure See Sect. 2, Chap. 2
Fluid As for main undercarriage
Wheel Dunlop AHO.17219 (Ref. No. 27A/2069)
Tyre ... Dunlop NF-R-31, size 6.50 x 5.5 (Ref. No. 27A/3433)
Tube Dunlop NF-2 (Ref. No. 27A/2071)
Pressure Refer to Vol. 4

ENGINE

Name Goblin Mk. 3
Note . . . When ordering a replacement engine, it is essential to specify that it is to be installed in a Vampire T Mk. 11 aircraft.
Type Single-stage centrifugal compressor, straight flow
combustion, single-stage, axial-flow turbine
Starter motor ... Rotax Type C 3804/1 (Ref. No. 37F/4503)
Fuel Aviation turbine, AVTUR (Ref. No. 34A/9100449, N.A.T.O.
Code No. F-30)
or Aviation turbine gasoline, AVTAG (Ref. No. 34A/9100448
N.A.T.O. Code No. F-40)
or Aviation carrier turbine fuel, AVCAT
(N.A.T.O. Code No. F-42)
Oil ... OEP-71 (Ref. No. 34A/9100540, N.A.T.O. Code No. O-136)
OX-38 (Ref. No. 34A/9100591, N.A.T.O. Code No. O-149)
Refer to A.P.4121B & C, Vol. 1

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TANK CAPACITIES

Fuel tanks	
Fuselage tank	96 gall.
Inner wing tanks (2 × 53 gall.)	106 gall.
Leading edge and outer wing tanks (2 × 64 gall.)	128 gall.
Wing drop tanks (2 × 100 gall.)	200 gall.
Oil (in engine sump only)	1½ gall.

HYDRAULIC SYSTEM

Pump (engine-driven)	Lockheed Mk.7 (Ref. No. 37J/264)
Fluid	OM-15 (Ref. No. 34B/9100572, N.A.T.O. Code No. H-515)

Note . . . This fluid differs from that used in the shock-absorber struts.

Reservoir capacity	1 gall.
Accumulator initial air pressure (main and emergency)	1250-1300 p.s.i.
Operating pressure (cut-out valve)	2400-2500 p.s.i.
Thermal relief valve	3000 p.s.i.

PNEUMATIC SYSTEM

Compressor	Hymatic, SH.6/2A (Ref. No. 37G/505)
Pressure regulator	AR.5/450-2 (Ref. No. 27VB/3247)
Oil-and-water trap	OWT./46/1 (Ref. No. 27VB/3168)
Pressure maintaining valve	Teddington EV/A/135/155 (Ref. No. 27V/2147)

Reducing valve (hatch seal)	Hymatic, PS.29 or PS.29/19
Reducing valve (hatch strut)	Dunlop ACM.17444 (Ref. No. 27VA/5003)

Pressure reducing valve (brakes)	Dunlop AHO.5712 (Ref. No. 27G/2022)
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Electro-magnetic air valve (hatch strut)	Teddington FKF/A/5 (Ref. No. 27V/4862)
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Pressures	
Air reservoir	450 p.s.i.
Reducing valve (brakes)	200 p.s.i.
At brakes (max.)	150 p.s.i.
At pressure maintaining valve	180 p.s.i. (opening pressure) 150 - 160 p.s.i. (closing pressure)
After pressure reducing valve (hatch seal) (PS.29)	10 p.s.i.
(PS.29/19)	6 p.s.i.
After pressure reducing valve (hatch strut)	170 p.s.i.

DE-ICING SYSTEM

Fluid	3 pints, AL-8 (Ref. No. 34B/9100475, N.A.T.O. Code No. S-738)
Pump (hand-operated)	Rotax M.2601

OXYGEN SYSTEM

Cylinders	Mk. 5C (Ref. No. 6D/1383)
Regulators	1st Pilot, Mk. 11D (Fluorescent) (Ref. No. 6D/1276) 2nd Pilot, Mk. 11E (Ref. No. 6D/1277)

PRESSURE CABIN

Control valve	Normalair No. 503180E
Cold air unit	ACRE 8, Mk. 1A (Ref. No. 27UA/272)
Differential pressure (max.)	3 lb. per sq. in.

SEATS

Ejection type	Martin Maker Mk. 3B
Cartridge, seat ejection	(Ref. No. 12K/1170)
Cartridge, drogue gun ejection	(Ref. No. 12K/1171)

ELECTRICAL INSTALLATION

Generator 24-v., 3000 watt, Type O2 (anti-clock)	(Ref. No. 5UA/3619)
Voltage	24
Voltage regulator	Type B (Ref. No. 5UC/3880)
Batteries (two) Lead acid, Type C, 12-v., 40 amp/hr.	(Ref. No. 5J/3253)

RADIO INSTALLATION

General Purpose (V.H.F., two)	TR.1934 (Ref. No. 10D/17693) TR.1935 (Ref. No. 10D/17694)
Identification	R.3121 (Ref. No. 10DB/570)

ARMAMENT INSTALLATION

Guns, two inboard	Hispano 20 mm. Mk. 5 (Ref. No. 7G/786)
Belt feed mechanism (Mk. 5)	Left-hand (Ref. No. 7G/924) Right-hand (Ref. No. 7G/925)
Firing unit	Maxiflux 24-v. (Ref. No. 5D/1489)
Ammunition (300 rounds)	20 mm. Hispano (Ref. No. 12C/-)
Rocket projectiles	Mk. 8
Bombs (short tails)	Two 1000 lb. or two 500 lb.
Gun sight	Mk. 5
Ciné-camera	G.45

PRESSURE HEAD SETTINGS

Position	Port fin leading edge
Incidence	Zero to fuselage datum
Distance from C/L of aircraft	58 in.
Distance ahead of leading edge	11.9 in.
Tolerance on angular setting	±2 deg.

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