

AMENDMENT RECORD SHEET

Incorporation of an Amendment List in this publication is to be recorded by inserting the Amendment List number, signing in the appropriate column, and inserting the date of making the amendments

A.L. No.	AMENDED BY	DATE
1	J. Burrell (Prelim)	1.3.46
2	J. Burrell (Sect. 1)	1.3.46
3	J. Burrell (Sect. 4 & 2)	1.3.46
4	G. Aspden (Sect. 6/1)	28.5.46
5	D. Packer (Sect. 4/1)	25/7/46
6	G. Aspden (Sect. 6)	28.5.46
7	G. Aspden (Sect. 12)	5.11.46
8	G. Aspden (Sect. 4/3)	5.11.46
9	G. Aspden (Sect. 4)	5.11.46
10	G. Aspden (Sect. 9)	5.11.46
11	G. Aspden (Sect. 6/1)	5.11.46
12	G. Aspden (Prelim)	5.11.46
13	G. Aspden (Sect. 5)	5.11.46
14	G. Aspden (Sect. 11)	5.11.46
15	D. Packer (Sect. 4)	21.12.46
16	D. Packer (Sect. 4/1)	16.7.47
17	D. Packer (Sect. 4/1)	16.7.47
18	D. Packer (Sect. 4/1)	16.7.47
19	A. Potts (Sect. 12)	25.9.47
20	D. Wassall (Sect. 1, 2, 4, 5)	9/10/47
21	D. Wassall (Sect. 5)	17.12.47
22	D. Wassall (Sect. 6/1)	19.2.48
23	D. Wassall (Sect. 4/1)	26.4.48
24	D. Wassall (Sect. 6/1)	26.4.48
25	G. Aspden (Sect. 4/3)	5.8.48
26	G. Aspden (Sect. 12, 4, 5)	15.3.49
27	G. Aspden (Sect. 6/1)	15.3.49

A.L. No.	AMENDED BY	DATE
28	J. Moore (Sect. 4/5)	14.6.49
29	M. Kitson (Sect. 6/1)	10.2.50
30	B. Marshall (Sect. 4/3)	17.3.50
31	B. Marshall (Sect. 4/3)	14.9.50
32	B. Marshall (Sect. 4/3)	27.11.50
33	K. Singh (Sect. 6/1)	14.3.51
34	B. Marshall (Sect. 6/1)	6.6.51
35	H. Dalloway (Sect. 5)	17.10.51
36	K. Singh (Sect. 4/3)	6.2.52
37	K. Singh (Sect. 4, 5, 8)	13/3/52
38	H. Dalloway (Sect. 4)	18.3.53

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# LIST OF SECTIONS

## Preliminaries:—

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## Leading Particulars

## Introduction

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- 2 Emergency controls, equipment and exits
- 3 Controls and equipment at crew stations  
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- 4 . . . . . Instructions for ground personnel
  - Chapter 1—Loading and C.G. data
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### NOTE

A list of contents is given at the beginning of each Section or Chapter.

Sections or Chapters listed above but not to be found in this handbook will be issued later.

# LAYOUT TREE

## VAMPIRE F. Mk. I—A.P. 4099A

**VOL. I**  
**SERVICING AND  
DESCRIPTIVE HANDBOOK**

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**VOL. III**

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- Group G—Tail unit
- Group J—Miscellaneous

**A.P.4099A**  
**PILOT'S NOTES**  
A separate handbook



The subject matter of this publication may be affected by Air Ministry Orders, or by Volume II, Part I, leaflets, in this A.P., in the associated publications listed overleaf, or even in some others. If possible, Amendment Lists are issued to correct this Volume 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 Volume is amended, is indicated by a line in the margin. This line merely denotes a change and is not a mark of emphasis. When a Section or Chapter is issued in a completely revised form, the line does not appear.

# LIST OF ASSOCIATED PUBLICATIONS

	<b>A.P.</b>
Aircraft operation and servicing under low-temperature conditions .....	1441A
Air pump units .....	1519
Armament publications, List of .....	2264B
Compass, Distant-reading, gyro-magnetic, Mk. I .....	1275B
Electrical equipment manual .....	1095 SERIES
Engineering, R.A.F. ....	1464 SERIES
Engineering publications, List of .....	2462A
Explosives, regulations for the R.A.F. ....	2608A
External finish of aircraft .....	2656A
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Guns, Hispano 20 mm. Mk. 1 and 2 .....	1641F
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Pressure cabin testing, servicing trolley .....	2306G
Pyrotechnics .....	1661E
Radio equipment, Concise details of .....	2276
Safety equipment manual .....	1182 SERIES
Signal dischargers and signal pistols .....	1641H
Signal manual .....	1186 SERIES
Standard repairs for airframes .....	2662A
Wheels, tyres and brake systems, Aircraft .....	2337
	<b>A.D.</b>
Flying controls .....	3503
Fuel controls .....	3506
Hydraulic system .....	3505
Pneumatic system—Vampire 1 and 3 .....	3508A

# LEADING PARTICULARS

**NAME : VAMPIRE F Mk. I**  
**TYPE : SINGLE-SEATER, SINGLE-ENGINE, JET-PROPELLED MID-WING MONOPLANE**  
**DUTY : HIGH-ALTITUDE FIGHTER**

**Note . . .** For principal dimensions, areas and settings and ranges of movement of control surfaces see General Arrangement illustration.

## Alighting Gear

### UNDERCARRIAGE

Type ... ..	Tricycle, all wheels retracting
Track ... ..	11 ft. 3 in.
<b>Shock-absorber legs</b> ... ..	Lockheed AIR 40014-5
Air pressure ... ..	400 lb. per sq. in.
<b>Wheels—</b>	
Type ... ..	Dunlop A.H.8218 (Pre Mod. 842)
	Dunlop A.H.9139 (Post Mod. 842)
Tyre ... ..	26 × 7.75—FCR. 16N
Tube ... ..	Dunlop F.C.9 (Pre Mod. 842)
	Dunlop F.C.7 (Post Mod. 842)
Tyre pressure ... ..	See Vol. 2, Pt. 2
<b>Brakes</b> ... ..	Dunlop pneumatic, Type A.H.8219 (Pre Mod. 842)
	Dunlop pneumatic, Type A.H.9140 (Post Mod. 842)

### NOSE WHEEL UNIT

Type ... ..	Retractable
<b>Shock-absorber leg</b> ... ..	Lockheed AIR 40012
Air pressure ... ..	400 lb. per sq. in.
<b>Wheels</b>	
Type ... ..	Dunlop A.H.O. 17219/IX
Tyre ... ..	Marstrand 6.5 × 5½—N.F.30
Tyre pressure ... ..	See Vol. 2, Pt. 2

## Power Plant

Type ... ..	... "A"
<b>Engine</b> ... ..	Goblin Mk. I or 2
Type ... ..	Turbo-jet
<b>Fuel</b> ... ..	Aviation turbine fuel AVTUR (Stores Ref. 34A/179)
<b>Oil</b> ... ..	OM—71 (Stores Ref. 34A/187)

## Tank Capacities

<b>Fuel tanks</b>	
Main tank ... ..	96 gall.
Inner wing tanks (2 × 53 gall.) ... ..	106 gall.
Wing drop tanks (2 × 100 gall.) ... ..	200 gall.
Total (with 2 × 100 gall. drop tanks) ... ..	402 gall.
<b>Oil (in power unit sump only)</b> ... ..	1½ gall.
<b>Hydraulic reservoir</b> ... ..	1 gall.

RESTRICTED

# LEADING PARTICULARS—CONTINUED

## Hydraulic and Pneumatic Pressures

### Hydraulic system

Pump	.....	Lockheed Mk. 6 (Stores Ref. 37J/263)
Oil	.....	OM-15 (Stores Ref. 34B/159)
Accumulator initial air pressure	.....	1,250-1,300 lb. per sq. in.
Cut-out valve	.....	2,500-2,600 lb. per sq. in.
Thermal relief valve	.....	3,000 lb. per sq. in.

### Pneumatic system

Compressor	.....	Hymatic SH6/2 (Stores Ref. 37G/501)
At air compressor and cylinder	.....	450 lb. per sq. in.
After first reducing valve	.....	200 lb. per sq. in.
At each brake	.....	120 lb. per sq. in.

## Pressure Head Settings

Position (pressure head)	.....	L/E of port fin
Incidence	.....	Zero to fuselage datum
Distance from centre-line of aircraft	.....	58 in.
Distance ahead of leading edge	.....	11.9 in.
Distance from top of fin to centre-line of cover	.....	3.0 in.
Tolerance on regular setting	.....	$\pm 2$ deg.

# INTRODUCTION

1. The **VAMPIRE F. Mk. 1** a single-engined, jet-propelled, single-seater fighter, is a mid-wing monoplane with twin tail booms and a tricycle alighting gear. It is powered by a Goblin 1 or 2 engine mounted at the rear of the fuselage. It carries four 20 mm. guns.

2. Forward of the instrument panel is an armour-plate bulkhead in front of which is mounted the R.3121 I.F.F. set, a Glycol tank for windscreen de-icing and the ciné camera. The nose of the fuselage also contains the mechanism for retracting the nose wheel.

3. The pilot's seat is the standard S.B.A.C. plastic type.

4. The flying controls are conventional in operation, the rudder pedals being of the pendulum type and adjustable fore and aft in flight. The control surfaces are operated by means of cables and pulleys.

5. The elevators and rudders are fitted with trim tabs; the former are trimmed by the hand wheel in the cockpit, but the rudder tabs and aileron servo tabs are adjustable only on the ground.

6. The fuselage is an oval cross-section which is tapered off into a cone shape by a metal fairing aft of the fireproof bulkhead. The construction is of balsa wood sandwiched between plywood sheet and is made in two halves and joined down the top and bottom centres. The nose portion forward of the armour-plate bulkhead No. 1 is constructed of alclad sheet.

7. The wing is a metal cantilever structure with one I-section main spar and a false spar joined by alclad ribs and alclad skin covering. Extending aft from each wing is a metal tail boom, the front portion of which is built integrally with the wing structure. Each wing is attached to the fuselage by three bolts, two at the main spar end-fittings at bulkhead No. 4, and one at the drag fitting at bulkhead No. 3. The drag fitting on the wing is accessible beneath the leading-edge skin through an inspection panel. Split flaps, dive brakes, and round-nose ailerons are fitted to the wings.

8. The tail unit consists of metal covered fins and rudders attached to each tail boom

with a metal tail plane attached between the two fins.

9. The alighting gear is a tricycle undercarriage consisting of two wheels which retract outward into the wing, and the nose wheel which retracts into the nose of the fuselage. The undercarriage and nose wheel are retracted and lowered hydraulically and are mechanically locked in both positions. The brakes on each undercarriage wheel are pneumatically operated.

10. The power unit is mounted on a tubular steel structure and attached with four bolts. The unit drives the following auxiliaries:—

<i>Left-hand upper wheel case</i>	<i>Right-hand upper wheel case</i>
Hymatic compressor	1,500 watt generator
Marshall blower (when fitted)	Vacuum pump
<i>Left-hand lower wheel case</i>	<i>Right-hand lower wheel case</i>
Starter motor	Fuel governor
Dowty fuel pump	Hydraulic pump

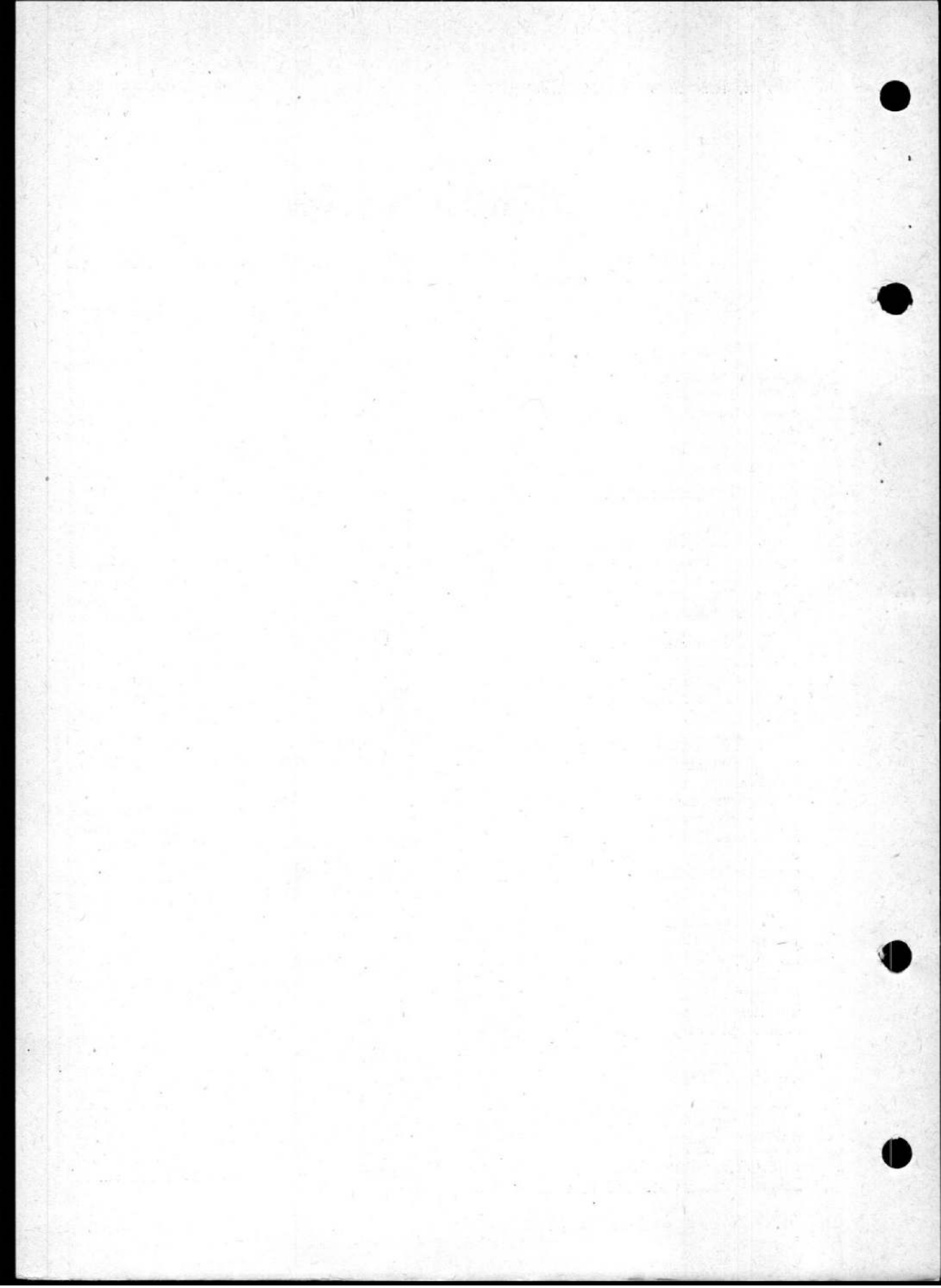
**Note . . .** The Marshall blower for pressurising the cabin is only fitted as from the 51st and subsequent aircraft.

11. Fuel is supplied to the power unit from a collector box underneath the main tank through a Purolater filter to the fuel pump.

12. The 24-volt, 1,500-watt generator supplies current for general services through the two 12-volt accumulators mounted in front of the fireproof bulkhead.

13. Cold air ventilation is provided on the first 50 aircraft; on the 51st and subsequent pressure cabir aircraft, cabin heating is installed.

14. The radio equipment comprises a T.R.1464 and an R.3121 I.F.F. set. The T.R.1464 radio is installed in a compartment behind the pilot's seat and is accessible through a door on the port side of the fuselage above the leading edge of the wing. On the left-hand side of the cockpit is the controller for T.R.1464 and the "G" manual auto-switch and button for the R.3121.



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