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TP 5

AMENDMENT CERTIFICATE

TO

VAMPIRE INSTRUCTIONS

Certified that the amendments promulgated in [illegible] Amendment Lists have been incorporated.

Amendment List		Instruction No.	How Affected	Amendment [illegible]	[illegible]
No.	Date				

AAP 721.79, VOLUME 2, PART 1

AMENDMENT CERTIFICATE

TO

VAMPIRE INSTRUCTIONS

Certified that the amendments promulgated in the undermentioned Amendment Lists have been incorporated.

Amendment List		Instruction No	How Affected	Amendments Made By	Date
No	Date				
27	23.7.62	30	Insert	L Alexander	
28	11.10.62	31	"	"	
29	25.10.62	32	"	"	
30	2.1.1963	Amendments 1 to 12	Amendments	"	
31	7.1. "	33	Insert	"	
32	10.1. "	13 Issue 2	"	"	
33	14.2. "	34	"	"	
34	16.4. "	29	"	"	
35	Aug "	36	"	"	
36	29.8.1963	35	Insert	L Alexander	
37	19 Sept 63	37	"	"	
38	1 Nov 63	38	"	"	
39	21.11.63	39	"	"	
40	13.5.1964	40	"	"	
41	1.6. "	11 Issue 3	"	"	
42	14.9. "	Amend 31	Insert Page 4	"	
43	5.10.1964	41	"	L Alexander	
45	15.2.1965	Index Sheet Page 3	Insert	L Alexander	
46	12.4 "	Issue 2 Inst 19	"	L Alexander	
47	10.5. "	Amend Inst No 13		L Alexander	
48	16.8. "	Issue 2 " " 40	"	L Alexander	
49				B Lyne.	
50	22.11.1965	Insert mod 43.			

(Issued with A/L 30 - January 1963)

AAP
Volume Part

AMENDMENT CERTIFICATE

CERTIFIED that the amendments promulgated in the undermentioned lists have been effected in this publication.

Amendment List No	Date	Amendments Made By		Date
51	15 · 3 · 1966	Insert, Inst. 44.	B Lyne	14 · 6 · 66
52.	15 · 3 · 1966	Amend Inst 38.	B Lyne	14 · 3 · 1966
53.	15 · 3 · 1966	" 24	B Lyne	14 · 3 · 1966
54.	21 · 3 · 1966	Insert ISSUE 2. Inst 32	B Lyne	27 · 6 · 1966
55	26 · 7 · 66	Insert Inst 45	[illegible]	20 · 9 · 66
56	26 · 8 · 66	" " 47	[illegible]	20 · 9 · 66
57	13 · 9 · 66	" " 46	[illegible]	20 · 9 · 66
58	30 · 8 · 66	" " 48	[illegible]	20 · 9 · 66
59	20 · 9 · 66	" " 49	[illegible]	18 · 10 · 66
60	26 · 4 · 67	Insert Inst. No 50	[illegible]	24 · 5 · 67 ·
61.	22 · 5 · 67.	Amend Inst No 46.	[illegible]	21 · 8 · 67
62	16 Aug · 68	Insert Inst mod No 51.	[illegible]	27 Sept · 68.

CONTENTS TO VAMPIRE INSTRUCTIONS

(Issued with A/L 30 - January 1963)

Instruction No	Title	Cancelled or Current
16.		Not Issued
17.	Alternative Ball Bearings - Flying Controls	Current
18.	Starting Procedure - Use of Rectifier Ground Starting	Current
19.	~~Revised Voltage Output Setting~~ - Pitot Circuit - Voltage Drop Test ISSUE 2	Current
20.	Vampire Fork Nose Wheel - Repair	Current
21.	Cockpit False Floor - Damage	Current
22.	Inspection for Main Plane Buckling whenever Excessive "G" Loading is recorded or suspected	Current
23.	Rudders - Re-securing of Loose Lead Filling in Mass Balances	Current
24.	Introduction of Reclaimed Brake Friction Plates	Current
25.	Vampire Aircraft - Drop Tanks Storage, Inspection, Installation and Removal and Tests	Current
26.	Canopy Locking and Latching Mechanism - Operation and Security	Current
27.	Undercarriage Selector Lever and Micro Switches	Current
28.	Elimination of Gaps in Cockpit False Floors	Current
29.	Speed Brake Jack - Fouling Lightening Hole - False Spar	Re-instated CURRENT
30.	Inspection of Cables - Fire Warning Circuit	Current
31.	Recording of Fatigue Data on Vampire Aircraft	Current
32.	Canopy Hatch - Perspex Panels - Removal, Replacement, Inspection and Test	Current

(Issued with A/L 30 - January 1963)

(Issued with A/L 45)

Instruction No	Title	Cancelled or Current
43	NIPPLES SPHERICAL MK 3B AND MK 3C — USE WITH H.P. OXYGEN SYSTEM.	CURRENT
44	MAIN UNDERCARRIAGE LATCH PLATE- REPLACEMENT OF ATTACHMENT RIVETS WITH BOLTS	CURRENT
45	WING DROP TANKS - FILLING PRECAUTION	CURRENT
46	Fuel Tank Pressurization System Non-Return Valves Test Procedure	
47	Canopy Hatch Damper - Check for worn locking pin (Cancelling AAAF ST1 Vampire/70)	CURRENT
48	Bulkhead No. 3 - Cracking	CURRENT
49	Flying Control Cable Inspection for fraying cancelling	CURRENT
50	Hydraulic Systems Connections - Torque Values for Fitment of Jointing Washers	CURRENT
51	Oxygen Flexible Hose Clamps - Current Inspection for Security and Damage	

(Issued with A/L 45)

(TS10)

Restricted.

AIR FORCE HEAD-QUARTERS VAMPIRE INSTRUCTION NO.1

TECHNICAL ORDER

AL 2

LIMITATIONS TO BE OBSERVED DURING FLYING.

PART I APPLICABLE to Vampire (MK I aircraft)

The following limitations are to be observed during all conditions of use of the Vampire (Mark I) aircraft:-

(a) Weights

The maximum permissible weight for all forms of flying	= 8,700 lbs.
The maximum permissible weight for landing	= 8,500 lbs.
Note.- Tare weight	= ~~To be inserted later.~~ 5,912 LBS. AL 2

(b) C.G. Data

The datum point of this aircraft is located by a datum peg situated on the transverse datum through the centre line lower wing to fuselage main spar joint.

The maximum permissible forward position of the C.G. is ~~4.82~~ 3.72 inches aft of the datum (undercarriage down). AL 2

In percentage S.M.C. = ~~26.8%~~ 20.6%

The maximum permissible aft position of the C.G. is 8.45 inches aft of the datum (undercarriage down).

In percentage S.M.C. = 30.84%

(c) Speeds (I.A.S.)

	Knots	M.P.H.
(i) Maximum permissible speeds.		
Diving -		
Without Mod.148 incorporated	348	400
With Mod.148 incorporated, Between S.L. and 5,000 ft.	455	525
" 5,000 ft. and 10,000 ft.	416	480
" 10,000 ft. " 15,000 ft.	382	440
" 15,000 ft. " 20,000 ft.	348	400

Note.- If a Machmeter is fitted, a reading of 0.75 at all altitudes.

(PL46/47)

Information contained therein has been included in the Vampire Weight Sheet Summary (Australian Air Publication No 829) and in the Various Pilot's Notes as follows:-

Part I. - AP.4099A - P.N

Parts II & III - AP.4096 C and E. P.N

Part IV - Australian Air Publication No 839 a/l 5

	Knots	M.P.H.
Dive brakes open	435	500
Undercarriage down	174	200
Flaps down	156	180

(ii) Recommended speeds for aerobatics.

Roll	217-235	250-270
Loop	330	380
Half roll off the top of a loop	348	400
Climbing roll	348	400

(iii) Climbing speed.

The recommended speed for maximum rate of climb is 270 m.p.h. (235 knots) I.A.S. from sea level to 5,000 ft., decreasing thereafter by 15 m.p.h. (13 knots) I.A.S. per 5,000 ft.

(iv) Stalling speeds, engines throttled back.

Flaps and undercarriage up	83	95
Flaps and undercarriage down	68-70	78-80

Notes. - (a) With the sliding hood open these speeds are increased by approximately 2 m.p.h. or knots I.A.S..

(b) With the dive brakes open these speeds are increased by approximately 4 m.p.h. (3 knots) I.A.S.

(v) Flying at reduced airspeed in conditions of poor visibility.

Reduce speed to below 170 m.p.h. (148 knots) I.A.S. using the dive brakes as required, then lower the flaps 30° and fly at 130 m.p.h. (114 knots) I.A.S.

(vi) Cruising speed for maximum range.

From S.L. to 5,000 ft.	314	360

Above 5,000 ft. reduce speed by 20 m.p.h. (18 knots) I.A.S. for every additional 5,000 ft. in altitude.

(d) **Aerobatics** *(See also paragraph (c)(ii).)*

This aircraft is designed for manoeuvres appropriate to a single seat fighter.

Aerobatics are permitted but intentional spinning is not permitted.

References: Files R.A.A.F. 9/41/325, 150/4/7497, AP4099A, P.P.N.

Appendix: I attached.
Drawing: A 8819 attached
Date of Issue: 21st March, 1947.

APPENDIX I. Drawing No A8819 herewith

RELATION OF MACH NUMBERS TO AIRCRAFT SPEED.

This Appendix describes the effect of altitude in relation to Mach numbers and aircraft speed.

(a) Definitions

(i) Mach number.

Mach number is the ratio of the aircraft's true air-speed (T.A.S.) to the speed of sound in the undisturbed air through which it passes.

(ii) Pressure altitude.

Pressure altitude is the observed outside air pressure expressed in terms of height. With pressure type altimeters, indicated height equals pressure altitude.

(iii) Calibrated indicated airspeed.

Calibrated indicated airspeed is the pilot's indicated air-speed corrected for position error.

(b) Discussion

The speed of sound varies with temperature and decreases with altitude; it is independant of pressure. Above 36,000 ft. air temperature is constant, and therefore the speed of sound and the Mach number are constant. Compressibility may be considered negligible at low Mach numbers (below 0.6), its effect causing no change in drag and a small increase only in lift. At high Mach numbers, compressibility effects are serious, and above a Mach number of 0.75, dangerous.

Reference should be made to D.T.S. Technical Bulletins Nos. 17 and 37 for advice as to avoidance of these effects.

(c) Mach number graph

A simple method of determining Mach numbers can be obtained from the measured values of pressure altitude and calibrated indicated airspeed as shown by the Mach number graph (see Fig.1).

To determine the Mach number obtained from flight, enter the graph at the pressure altitude corrected for instrument and position error, and the indicated airspeed also corrected for instrument and position error.

(PL46/47)

LIMITATIONS TO BE OBSERVED DURING FLYING

PART II

Applicable to Vampire (Mark II) Aircraft

The following limitations are to be observed during all conditions of use of the Vampire (Mark II) aircraft:-

(a) Weights

The maximum permissible weight for take-off and all forms of flying = 9,000 lb.

The maximum permissible weight for landing = 8,500 lb.

(b) C.G. Data

The datum point of this aircraft is marked by a datum peg situated on the port side of the front fuselage.

The maximum permissible forward position of the C.G. is 3.78 inches aft of the datum (undercarriage down).

In percentage S.M.C. = 25%

The maximum permissible aft position of the C.G. is 8.45 inches aft of the datum (undercarriage down).

In percentage S.M.C. = 30.8%

(c) Speeds (A.S.I.)

	Knots
(i) Maximum permissible speeds -	
Diving -	
Between sea level and 5,000 ft.	455
At heights between 5,000 ft. and 35,000 ft. (maximum altitude), an indicated Mach number of 0.76 is not to be exceeded.	
Dive brakes open.	455
Undercarriage down	175
Flaps down	155

(ii) Recommended speeds for aerobatics -

	Knots
Roll	230-250
Loop	320-340
Roll off the top	340-360
Climbing roll	350 plus

(iii) Climbing speed -

The provisional recommended speed for maximum rate of climb is 225 knots from sea level to 10,000 ft., decreasing thereafter by 15 knots per 10,000 ft.

(iv) Stalling speeds, engines off -

Flaps and undercarriage up	88
Flaps and undercarriage down	78

Note: With the dive brakes or sliding hood open, these speeds are increased by approximately 3 knots.

(v) Flying at reduced airspeed in conditions of poor visibility -

Reduce speed to 155 knots using the dive brakes as required, then lower the flaps 30° and fly at not less than 140 knots.

(vi) Cruising speed for maximum range -

At 5,000 ft.	226
At 25,000 ft.	196

(d) Aerobatics (see also paragraph (c)(ii))

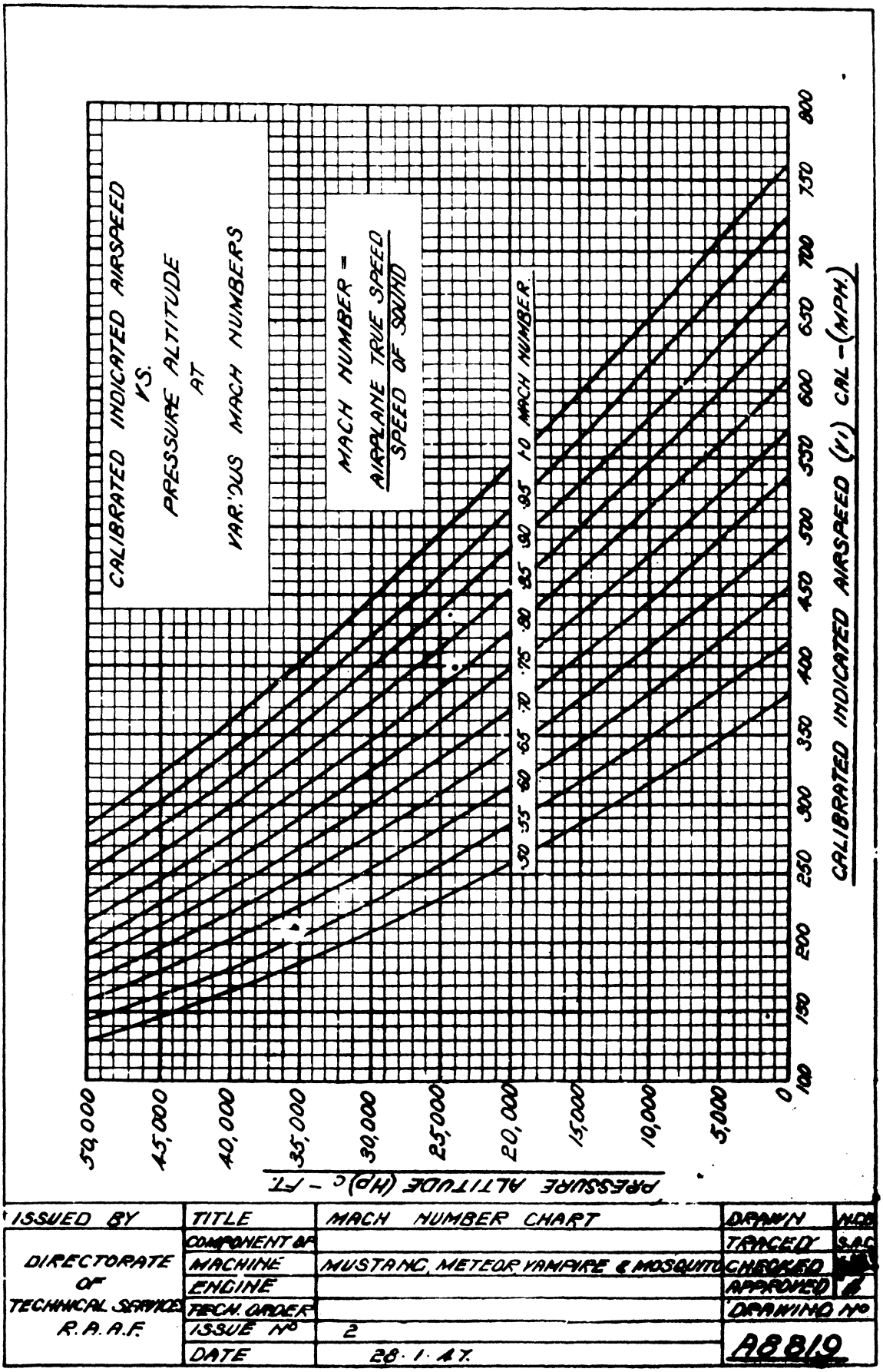
This aircraft is designed for manoeuvres appropriate to a single-seat fighter.

Aerobatics are permitted but intentional spinning is prohibited.

AL 3.

Reference: File R.A.A.F. 9/84/71 A.P. 4099 C-P.N.

Date of Issue of Part II: September, 1948.



ISSUED BY	TITLE	MACH NUMBER CHART	DRAWN	W.C.B.
DIRECTORATE OF TECHNICAL SERVICES R.A.A.F.	COMPONENT OF		TRACED	S.A.C.
	MACHINE	MUSTANG, METEOR, VAMPIRE & MOSQUITO	CHECKED	
	ENGINE		APPROVED	
	TECH. ORDER		DRAWING No	
	ISSUE No	2	A8819	
	DATE	28·1·47.		

LIMITATIONS TO BE OBSERVED DURING FLYING

PART III

APPLICABLE TO VAMPIRE (MARK V) AIRCRAFT

The following limitations are to be observed during all conditions of use of the Vampire (Mark V) aircraft :-

(a) Weights

The maximum permissible weight for take-off from prepared runways and for gentle manoeuvres = 12,800 lb.

The maximum permissible weight for take-off from grass runways and for all forms of flying = 10,560 lb.

The maximum permissible weight for landings other than emergency landings = 10,560 lb.

(b) C.G. Data

The datum point of this aircraft is marked on the leading edge of the port wing.

The maximum permissible *forward* position of the C.G. is 2 inches aft of the datum (undercarriage down)

In percentage S.M.C. = 23.7%.

The maximum permissible *aft* position of the C.G. in inches aft of the datum (undercarriage down) :

Without drop tanks = 7.5 inches (28.7% of S.M.C.)
With drop tanks = 5.85 inches (26.7% of S.M.C.)

(c) Speeds (A.S.I.)

(i) Maximum permissible speeds -

	Knots
Diving without bombs, R.P. or drop tanks -	
Sea Level to 5,000 ft.	455

At heights above 5,000 ft. an indicated Mach number of 0.78 is not to be exceeded.

With drop tanks - Knots

Sea Level to 5,000 ft.	390
5,000 ft. to 10,000 ft.	365

At heights above 10,000 ft. an indicated Mach number of 0.65 is not to be exceeded.

Jettisoning drop tanks in straight and level flight only 260

With bombs -	Speed to 5,000 ft. Knots	Mach No. above 5,000 ft.	Angle of dive
2 x 1000 lb.	400	0.65	60°
2 x 500 lb.	455	0.75	60°
2 x 250 lb.	455	0.75	70°
2 x 25 lb.	400	0.65	65°

	Knots
Undercarriage down	175
Flaps down	155

(ii) Recommended speeds for aerobatics -

Roll	230 - 250
Loop	320 - 340
Roll off the top	340 - 360
Climbing roll	350 plus

(iii) Climbing speed -

The provisional recommended speed for maximum rate of climb is 225 knots from Sea Level to 10,000 ft., decreasing thereafter by 15 knots per 10,000 ft.

Knots

(iv) Stalling speeds, engines off

Flaps and undercarriage up	88
Flaps and undercarriage down	78

Note:- With the dive brakes or sliding hood open, these speeds are increased by approximately 3 knots.

(v) Flying at reduced airspeed in conditions of poor visibility -

Reduce speed to 155 knots using the dive brakes as required, then lower the flaps 30° and fly at not less than 140 knots.

(vi) Cruising speed for maximum range -

	Knots
At 5,000 ft.	226
At 25,000 ft.	196

(d) Aerobatics (see also paragraph (c)(ii))

This aircraft is designed for manoeuvres appropriate to a single seat fighter.

Aerobatics are permitted but intentional spinning is prohibited.

(e) Maximum altitude

Pending further instructions, an altitude of 35,000 ft. must not be exceeded.

(f) Ballast

When carrying drop tanks (full or empty), full ammunition or an equivalent ballast must be carried.

Reference : File R.A.A.F. 9/84/57.

Date of Issue of Part III : 28th June,.1949.

LIMITATIONS TO BE OBSERVED DURING FLYING

PART IV

APPLICABLE TO VAMPIRE (MARK 30) AIRCRAFT

The following limitations are to be observed during all conditions of use of the Vampire (Mark 30) aircraft :-

(a) WEIGHTS

The maximum permissible weight for straight flying and gentle turns (overload limit)	= 12,400 lb.
The maximum permissible weight for all forms of flying	= 10,400 lb.
The maximum permissible weight for landing on	
(i) Prepared runways	= 10,134 lb.
(ii) Unprepared runways	= 8,500 lb.

(b) C.G. DATA

The datum point of this aircraft is marked on the fuselage side under the port wing.

The maximum permissible forward position of the C.G. is 3.6 inches aft of the datum (undercarriage down).

The maximum permissible aft position of the C.G. is 8.4 inches aft of the datum (undercarriage down).

(c) SPEEDS (A.S.I.)

(i) Maximum permissible speeds -	Knots
Diving without drop tanks or with dive brakes open	
Sea Level to 5,000 ft.	455
At heights above 5,000 ft., an indicated Mach number of 0.77 is not to be exceeded	

	Knots
With drop tanks -	
Sea Level to 5,000 ft.	390
5,000 ft. to 10,000 ft.	365
At heights above 10,000 ft., an indicated Mach number of 0.65 is not to be exceeded	
Jettisoning drop tanks in straight and level flight only	260
Undercarriage down	175
Flaps down	155

(ii) Recommended speeds for aerobatics -

Roll	230-250
Loop	320-340
Half roll off the top of a loop	340-360
Climbing roll	350 plus

(iii) Climbing speed -

The recommended speed for maximum rate of climb is 240 knots from sea level to 10,000 ft., decreasing thereafter by 15 knots per 10,000 ft.

(iv) Stalling speeds, engines off

Flaps and undercarriage up

At 8,500 lb.	70
At 9,500 lb.	77

Flaps and undercarriage down

At 8,000 lb.	81
At 9,500 lb.	88

With the drive brakes or sliding hood open, these speeds are increased by approximately 3 knots.

(v) Flying at reduced airspeed in conditions of poor visibility -

Reduce speed to 155 knots using the drive brakes as required; then lower the flaps 30° and fly at not less than 140 knots.

(vi) Cruising speed for maximum range - Knots

At 5,000 ft.	226
At 25,000 ft.	196

(d) Aerobatics (see also paragraph (c)(ii))

This aircraft is designed for manoeuvres appropriate to a single-seat fighter. Aerobatics are permitted but intentional spinning is prohibited.

(e) Maximum altitude

Pending further instructions, an altitude of 35,000 ft. must not be exceeded.

(f) Ballast

When carrying drop tanks (full or empty), full ammunition or an equivalent ballast must be carried.

Reference: Files R.A.A.F.9/84/24 and 9/84/72.

Date of Issue of Part IV : 4th November, 1949.

T53 (E)

Restricted

Air Force Head-Quarters — VAMPIRE INSTRUCTION NO. 2

Technical Order — Classification: N/A.

VAMPIRE MARK 31 AIRCRAFT - INTRODUCTION

1. A requirement has arisen for a ground attack version of the Vampire Mk. 30 Interceptor type aircraft. This requirement coincided with an extension order for Vampires.

2. The Mk. 30 aircraft was not equipped for, nor did the strength of the structure permit the carriage of bombs or rockets, the additions of which raise the all up weight of the aircraft to 13,100 lbs.

3. The additional requirements for the ground attack role are:-

(a) Retention of existing equipment.

(b) Carriage of eight 3" rocket.

(c) Carriage of up to 2 x 1000 lb. bombs.

4. To enable this equipment to be carried the following major modifications were necessary:-

(a) Introduction of store carrying gear.

(b) Strengthening the main structure as follows:-

(i) at the rocket & bomb attachment positions;

(ii) at the undercarriage attachment positions. (A strengthened undercarriage having been introduced in the first Vampire.)

(c) Clipping of the main planes.

5. As it was desired that Vampire production should not be halted both for Service and manufacturing reasons it was decided to introduce the above modification as quickly as possible keeping in line with the production capacity to absorb the various changes.

6. Therefore the new aircraft, (nominally Mk. 31), are coming into the Service with sufficient equipment incorporated to carry eight rockets but not with all the strengthening modifications to permit the operation of the aircraft at an all up weight greater than 12400 lb.

7. The complete series of modifications, to permit the full role of ground attack, will not be completed until approximately the 70th Aircraft. Aircraft manufactured prior to this number will be modified retrospectively.

8. The retrospective fitment of the aircraft already delivered will be beyond the capacity of units and arrangements will be made for this work to be carried out by the manufacturers at a later date.

9. Pending the incorporation of the complete modification, all Vampire Mk. 31 Aircraft are to be flown in accordance with the weight sheet summary for the Vampire Mk. 30 until such time as the provisional weight sheet summary for the Mk. 31 is issued.

10. The provisional weight sheet summary for the Vampire Mk. 31 aircraft will detail the loading procedure necessary for the use of rockets only.

11. The carriage of rockets on the partly modified ground attack aircraft will call for certain flying limitations. These will be covered by a Special Flying Instruction.

Reference: File R.A.A.F. 9/84/242

Date of Issue: 30th August, 1952.

A.A.P.721:79, VOL.2, PT.1. VAMPIRE INSTRUCTION NO. 3

Applicable to Vampire Aircraft Mk.30 & 31.

FOULING BETWEEN TAIL PLANE AND ELEVATOR

Introduction

1. Cases have been reported of poor fore and aft stability, attributable to the outer surface of the tail plane shroud having been bent concave to give clearance between the shroud skin rivets and the elevator.

Instruction

2. Refer to Drawing A.10767 and check the clearance between the tail plane shroud and elevator. Any adjustment should be obtained by dressing the shroud to suit, where necessary. Care is to be taken to ensure the line between tail plane and elevator becomes fair and that there are no reflex contours. Where rivet heads inside the shroud foul the elevator, they are to be filed back as indicated on Drawing No. A.10767.

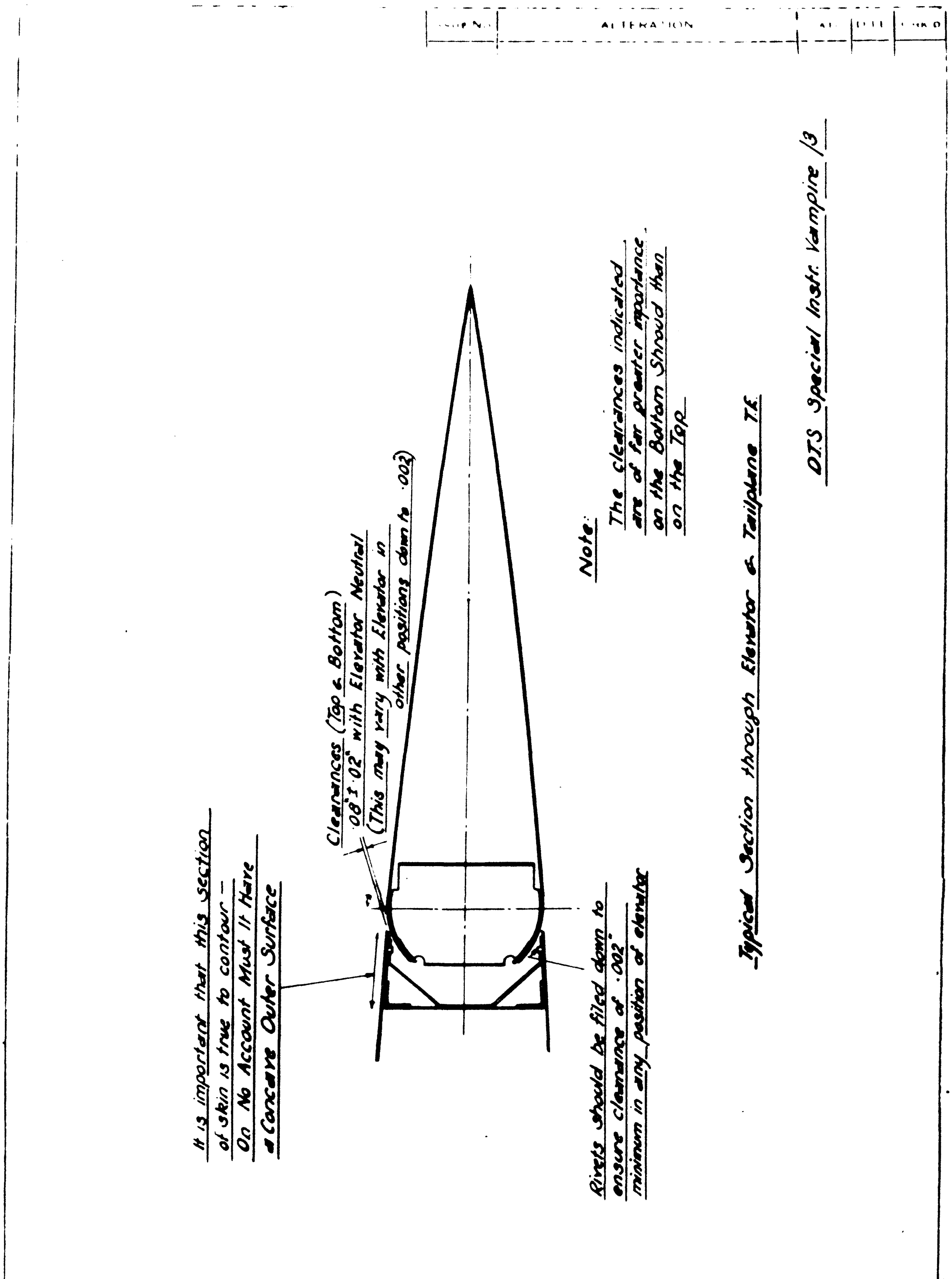
3. This instruction is to be followed when replacement elevators are being fitted.

Amended AL30

References : Files R.A.A.F. 9/84/58 and 150/4/8937

Attachment : Drawing A.10767

Date of Issue : 16th December, 1954.



MATERIAL	SPEC		TREATMENT		
NO OFF			FINISH		
BREAK ALL SHARP EDGES	TOLERANCES	ON DECIMALS		ON FRACTIONS	OR AS NOTED
ISSUED BY	ITEM	ELEVATOR FITTING CLEARANCE		DATE 30-8-48	
DIRECTORATE OF TECHNICAL SERVICES AIR BOARD RAAF	SUB ASSEMBLY			SCALE	
	ASSEMBLY				
	MACHINE	VAMPIRE		DRAWING NO	
	ISSUE NO	DRAWN	TRACED N.L.B	A-10767	
		CHECKED	APPROVED J.N.B.		

A.A.P.721:79, VOL.2, PT.1.

VAMPIRE INSTRUCTION NO. 4

Applicable to Vampire Aircraft Mk.30-31 & 33.

WING DROP TANKS - PRECAUTIONS WHEN FILLING

Introduction

1. (a) Cases have been reported of fuel entering the cabin via the cabin pressurising system, when aircraft have been fitted with drop tanks filled to the maximum capacity.

This is the result of the flow back of the fuel through the drop tank pressurising line, due to the expansion of the fuel and subsequent pressure set up in the drop tanks.

(b) To eliminate the possibility of the fuel being drawn from the drop tanks and transferred into the cockpit pressurising line, while the cabin pressure is building up, a non-return valve was introduced in the drop tank air transfer line under Vampire Modification No. 92.

Instruction

2. Pending the incorporation of Vampire Modification No.92, personnel filling drop tanks are to ensure an air space of approximately five (5) gallons is left to allow for the expansion of fuel in the drop tanks.

Cancelled AL 30

References : Files R.A.A.F. 9/84/146, 9/84/294 and 150/4/8938

Date of Issue : 16th December, 1954.

A.A.P.721:79, VOL.2, PT.1. VAMPIRE INSTRUCTION NO. 5

Applicable to Vampire
Aircraft Mk.30-31 & 33.
" " 35 & 35A

WING-TIPS - APPLICATION OF FILLER

1. To overcome premature wing tip stalling on Vampire Aircraft, it is necessary to match wings by the application of filler at the wing tips.

2. Should a mainplane or mainplanes ever be replaced or repairs made to an existing mainplane on the tip area, then the mainplanes must be matched by the application of filler as detailed in this instruction. The determination of the stall characteristics is to be assessed only by an experienced pilot.

3. Some filler should be sprayed on to the wing tip area (after the aluminium finish has been removed). Usually it is sufficient to fill the wing between the tip and rib 12, but in very bad cases it may be necessary to extend it as far inboard as rib 11. The filler should be sprayed chord-wise from the leading edge (approximately at centre of nose radius) back about 6 inches on the chord of the upper surface. This area should be sufficient for the purpose. Usually an aircraft only drops one wing in which case, that side alone need be subsequently treated, although occasionally treatment on both sides may be needed.

4. On the first treatment of a wing about 4 coats of filler may be applied, two at a time, rubbing down the first two coats before applying the last two. The purpose of the filler is to smooth out any waviness &c. and to increase the average thickness of the front part of the wing.

5. After application, the filler should be rubbed down to a smooth surface so that it fairs on to the main skin smoothly. As a guide, the maximum thickness of filler will probably be between $\frac{1}{2}$ inch to 3 inches behind the extreme leading edge and after rubbing down, and for the first treatment, the average maximum thickness need not exceed approximately 0.05 inch. A straight edge should be used to check the span-wise distribution of filler. Chord-wise the most critical area is the front 2 inches. It has been found in some cases that an increase in the nose radius has greatly improved the stall.

6. Should the first treatment not be sufficient, then further filler may be applied, but a thickness greater than 0.07 inch is undesirable and should be avoided.

7. If this does not cure the wing dropping, then it will be necessary to remove the filler and start again.

8. After a satisfactory filling has been achieved care must be taken in applying the finishing paint, as this is sometimes sufficient to upset the stall characteristics again. It is important to do a test flight after this final coat of paint to ensure that the stall is still acceptable.

References : Files R.A.A.F. No. 9/84/56 and 150/4/8939

Date of Issue : 16th December, 1954.

A.A.P.721:79, VOL.2, PT.1.

VAMPIRE INSTRUCTION NO. 6

Applicable to Vampire
Aircraft Mk.33
" " 35 & 35A AL

USE OF WATERPROOF CANOPY COVERS

Introduction

1. (a) A rain simulating test on the Vampire Trainer showed that some water entered the cockpit through the canopy attachment hinge and canopy joint.

(b) This condition should only exist when the aircraft is parked, as during flight the cabin pressurisation and canopy seal would prevent the entry of water.

Instruction

2. Whenever an aircraft is parked in the open for a prolonged period or is likely to be subjected to heavy rain when parked, the waterproof canopy cover must be fitted.

Reference : Files R.A.A.F. 9/84/472 and 150/4/8940

Date of Issue : 16th December, 1954.

A.A.P.721:79, VOL.2, PT.1. VAMPIRE INSTRUCTION NO. 7

Applicable to Vampire
Aircraft Mk.30-31 & 33

AMMUNITION DOORS LOCKING LEVERS - REPAINTING

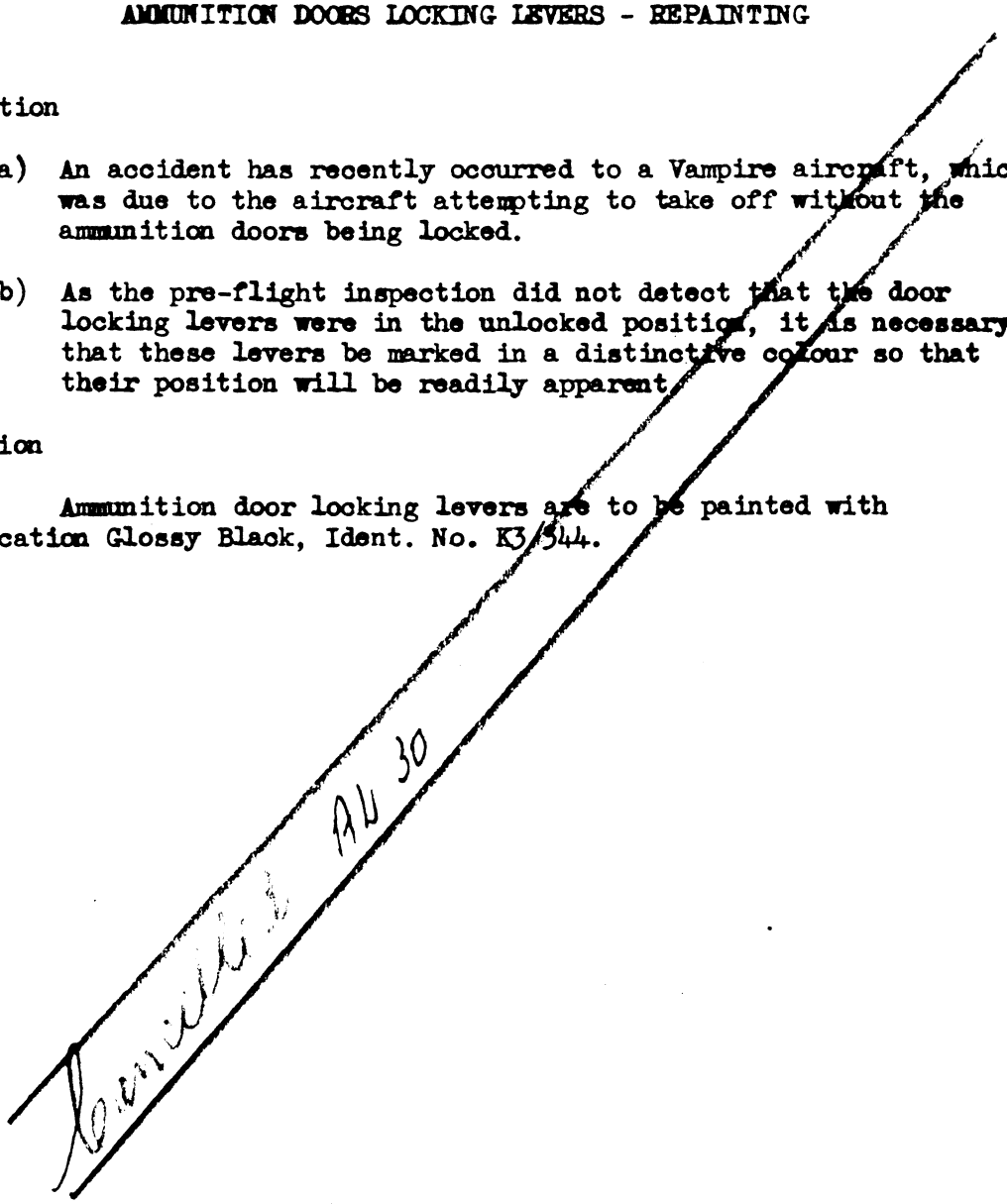
Introduction

1. (a) An accident has recently occurred to a Vampire aircraft, which was due to the aircraft attempting to take off without the ammunition doors being locked.

(b) As the pre-flight inspection did not detect that the door locking levers were in the unlocked position, it is necessary that these levers be marked in a distinctive colour so that their position will be readily apparent.

Instruction

2. Ammunition door locking levers are to be painted with Identification Glossy Black, Ident. No. K3/544.



Reference : Files R.A.A.F. 9/84/16 and 150/4/8941

Date of Issue : 16th December, 1954.

A.A.P.721:79, VOL.2, PT.1.

VAMPIRE INSTRUCTION NO. 8

Applicable to Vampire Mk.30-31 modified by D.H. (Aust.) Mod. V.78 and Mk.33

METHOD OF DETERMINING THE SERVICEABILITY OF A BI-METALLED BRAKE DRUM

Introduction

1. (a) De Havilland (Aust.) Modification V.78 authorised the introduction of the dual brake unit (Ident. No. T27A/500047) into Vampire aircraft during production. Aircraft manufactured previously to this, were fitted with a single brake unit (Ident. No. T27A/14341) which are being replaced for reasons of serviceability.

(b) The method of manufacture for the dual brake drum differs from the normal type of brake drum practice, in that the inner surface of the drum is formed by centrifugally casting cast iron into the steel drum. This type of brake drum is known as a bi-metal drum.

(c) A condition known as crazing due to the difference of temperatures on the inside and outside of the drum is liable to occur in bi-metalled brake drums following a period of service.

(d) Crazing is characterized by fissures forming transversely across the face of the drum, as shown in attached photographs.

(e) Transverse crazing is in no way dangerous and does not affect the strength of the drum.

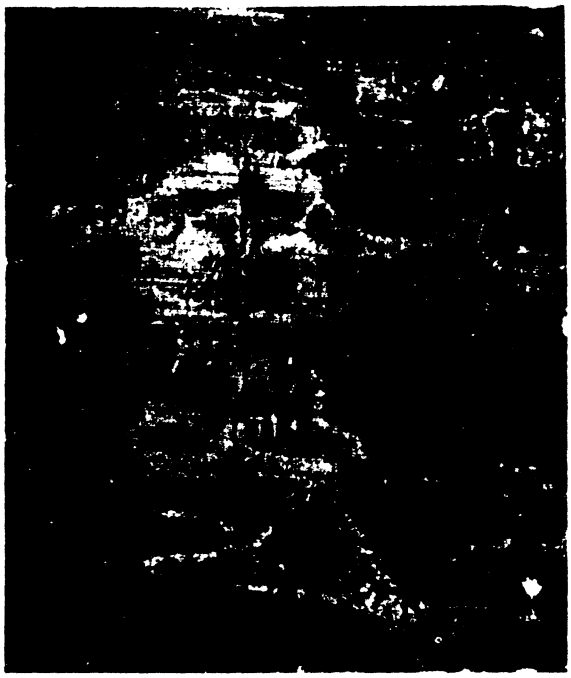
(f) The photographs are true to scale and are intended to be directly comparable with a drum surface, which could still be in service.

Instruction

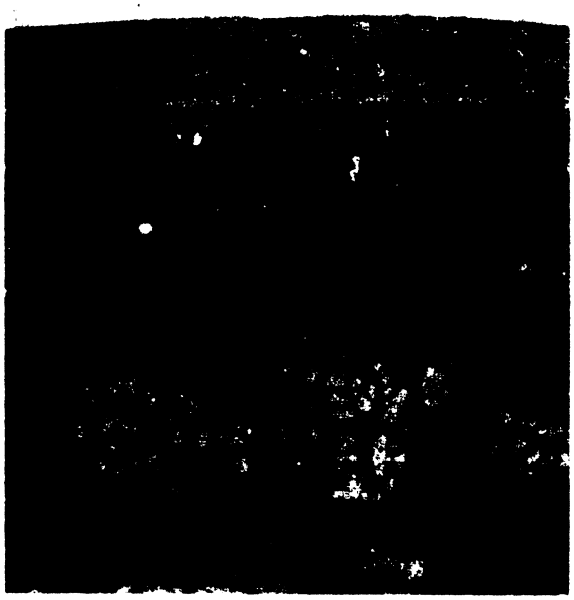
2. (a) If a severe local condition of crazing is apparent and fissures similar to the large central fissure on the upper photograph develop with 1/4 inch to 3/8 inch of each other, the drum should be regarded as unserviceable. The lower photograph represents a more advanced state of crazing, and here the drum is unserviceable.

(b) Crazing does not necessarily aggravate brake shoe wear and since the drum develops a very hard-wearing surface, it is not desirable to attempt to machine out the fissures by grinding the surface.

Reference	:	Files R.A.A.F. 9/84/157 & 150/4/8942
Attachment	:	Photographs
Date of Issue	:	16th December, 1954.



Serviceable Bi-metal Brake Drum.



Unserviceable Bi-metal Brake Drum.

A.A.P.721:79, VOL.2, PT.1. VAMPIRE INSTRUCTION NO. 9

Applicable to Vampire
Aircraft Mk.30-31 & 33.
" " 35 + 35A

FUEL PIPE LINES FROM FUSELAGE FUEL TANK - INSPECTION

Introduction

1. A case has occurred of a fuel hose, attached to the bottom of the fuselage fuel tank, fouling one of the guns and resulting in severe chafing to the hose.

Instruction

2. (a) When the pipe lines are being examined for signs of fuel leakage, the pipe lines are to be carefully inspected to ensure that they cannot be fouled by any part of the structure or armament installation. Should any interference be considered possible, the pipes are to be positioned to give a maximum clearance.

(b) To prevent the pipes from being fouled by the guns on the recoil, a minimum distance of at least 1⅛ inches must be allowed for as the recoil movement of the gun.

Reference : Files R.A.A.F. No. 9/84/74 and 150/4/8943

Date of Issue : 16th December, 1954.

A.A.P.721:79, VOL.2, PT.1.

VAMPIRE INSTRUCTION NO. 10

Applicable to Vampire Aircraft Mk.33.
" 35 & 35A

CLEARANCE OF ELEVATOR SHROUD

Introduction

1. Cases have occurred on Vampire Mark 33 aircraft of the elevator fouling the shroud, because of insufficient clearance between these two respective members.

Instruction

2. (a) With the elevator in the maximum up position i.e. $25^{\circ} \pm 1^{\circ}$, the gap between tailplane spar, together with the shroud, and the elevator should be 0.040 inch minimum. (See attached Drawing A.12084).

(b) To achieve this requirement, the elevator profile may be dressed locally and/or the spar flange and shroud filed to a maximum chamfer of 0.15 inch, care being exercised in the vicinity of rivets.

(c) Aircraft which, when inspected, show no less than 0.020 inch clearance may be considered satisfactory to continue flying, until such time as it is necessary to remove the elevator. With the elevator removed action should be taken to dress the fairing as indicated in sub-paragraph (a) and sub-paragraph (b). The Log Books of such aircraft are to be entered up accordingly.

(d) It is important that, while adjusting the shroud, no concavity of the shroud fairing is introduced, as this may seriously affect the flying characteristics of the aircraft.

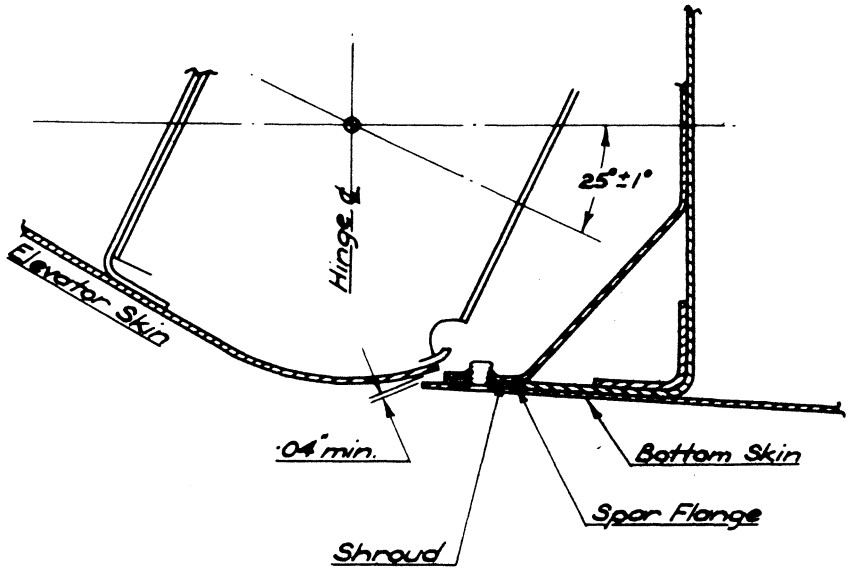
Reference : Files R.A.A.F. No. 9/84/275 and 150/4/8944

Attachment : Drawing A.12084

Date of Issue : 16th December, 1954.

NOT SCALE

ISSUE NO	DATE	ALTERATION
1	9.11.55	



REFERENCE		ISSUED BY			TITLE	
		DIRECTORATE OF TECHNICAL SERVICES R.A.A.F.			CLEARANCE OF ELEVATOR SHROUD	
LIMITS UNLESS STATED		MATERIAL			COMPONENT OF	
DECIMALS	± .010"	SPEC.			MACHINE	VAMPIRE MK 33
FRACTIONS	± 1/32"	TREATMENT			ENGINE	
ANGLES	± ½°	FINISH			TECH. ORDER	D.T.S.SPEC.INST. VAMPIRE/68
SURFACE FINISH AUSTRALIAN STANDARD		SCALE			DRAWING NO.	A12084 DRWG A
		DRAWN		APPROVED		
		TRACED	G.G.J.	CHECKED		

AAP 721.79, Vol 2, Pt 1

VAMPIRE INSTRUCTION NO 11
(ISSUE 3)

APPLICABLE TO: Mk 35 and 35A Vampire Aircraft

MAIN UNDERCARRIAGE AND DOOR LOCK PLUNGER ADJUSTMENT PROCEDURE

Introduction

1. A number of undercarriage failures have been due to the fracturing of the teleflex controls which operate the main wheel door lock plungers, these are attributed to semi-seizure of the teleflex cables inside the conduit, the lock plungers fouling the door catches, or maladjustment of the lock plungers.

2. This instruction has been raised in issue to clarify the procedures to be adopted in setting the main wheel door lock mechanism and to detail the checks to be made at various periods.

3. The instruction is written in two parts, as follows:-

PART 1 - Index of Operations

PART 2 - Operations called up in Part 1.

Instructions

PART 1

4. The following table lists the minimum sequence of operations which must be carried out to check or set the teleflex door locking mechanism during A, C, D and E servicings. It also lists those operations which are necessary to set the mechanism after various parts of the main wheel or teleflex door locking mechanism have been removed or adjusted.

Note: The port and starboard teleflex systems are completely independent and any adjustments to one side only will not affect the other. Operations calling for adjustments to teleflex runs must, however, be carried out on both fore and aft teleflex runs in the affected wing.

Servicing, or Part Removed or Adjusted	Operation Sequence
"A" Servicing	Nil
"C" Servicing	(ai), (aj), (ac) to (af), (ah).
"D" Servicing	(ai), (aj), (w), (ac) to (af), (ah)
"E" Servicing	(a) to (ah)

(Issued with A/L 41)

Servicing, or Part Removed or Adjusted	Operation Sequence
Main Wheel Mechanism (Fig 1)	
Complete Main Undercarriage U15-29-30/1 Hydraulic Jack Air 41192 Eye Bolt, Radius Rod G001015 Radius Rod Assembly G001094-5A/2	(a) to (h), (p) to (ah)
Leg Fairing U15-65-6A/1	(z) to (af), (ah)
"D" Door and Mechanism (Fig 2)	
"D" Door U15-63-4A	(w), (ac) to (af), (ah)
Unjustable Radius Rod G001573A	(ac) to (af), (ah)
Door Catches G00458-459-1697-1698	(w), (ac) to (af), (ah)
Teleflex Mechanism (Figs 2 & 3)	
Teleflex Conduit No 2 Clamp Blocks G001779-81	(f) to (h), (p) to (ah)
Teleflex Cable DS23/2	(f) to (ah)
Lock Plunger G00429 Barrel Guide G00427-8A Slide Tube B1804	(f) to (h), (r) to (ah)

PART 2

5. Before carrying out any of the following operations:-

(i) Refer to Part 1 to ascertain which of the operations are mandatory.

(ii) Carry out normal precautionary measures, eg jack up the aircraft and ensure that the undercarriage is clear for retraction tests.

(a) Refer to figure 1 and disconnect the radius rod assembly G001094-5A/2 from the radius rod pick up casting. Refer to figure 5 and ensure that when the radius rod is held with the stop faces in contact that the lock plate roller can be moved freely from one end of the kidney

slot to the other. This indicates that the centres A, B, C are in a straight line. If necessary, adjust the stop bolt to suit and re-wire lock.

(b) Adjust the leg lock micro switch (figure 5) in accordance with the instruction AAP 721.79 Vol 1, Sect 5, Chap 1, Page 51. Reconnect the radius rod assembly G001094-5A/2 to the radius rod pick up casting.

(c) Fix a piece of plasticene to the end of the axle and check the .03" to .13" clearance between the end of the axle and rib 4 (figure 1) by retracting and lowering the undercarriage. Adjust the radius rod eye bolt G001015 (figure 1) to suit.

Notes: 1 The "D" door is to be disconnected during this operation and the clearance will increase when the "D" is connected.

2 One half turn of the eye bolt equals .10" movement at the end of the axle. Screw the eye bolt in to increase the clearance.

3 French chalk may be used on the plasticene to prevent it from sticking to rib 4.

(d) With the undercarriage fully locked UP, there must be a clearance of 1/16" to 3/32" at the end of the kidney slot (figure 1). Adjust the hydraulic jack fork end G001707 (figure 1) to suit.

Notes: 1 The correct clearance can be attained by lining up the red mark painted on the lock plate with the red line painted on the lock link (figure 5). These are visible with the aid of a mirror and light through the slinging attachment access hole on top of the wing.

2 Provided play can be felt in the lock plate with the undercarriage fully locked up, there is a positive clearance. The exact amount of this clearance cannot be gauged from the play. To fix the clearance if no red line is visible, lengthen the jack (no more than $\frac{1}{8}$ of a turn at a time) until a position is just reached where there is no play. Then shorten the jack $\frac{1}{8}$ to $\frac{1}{4}$ of a turn and lock. Re-check that play can be felt in the lock plate.

(e) Adjust the "up" and "down" micro switches (figure 1) in accordance with AAP 721.79, Vol 1, Sect 5, Chap 1, Page 51.

(f) Remove the leg fairing U15-65-66A/1 (figure 1) being careful to wire the packing washers in their original position, so as to ease re-fitment.

(g) Refer to figure 3 and draw a pencil line on the wheel well wall to coincide with the outboard face of the barrel guide G00427-8A. Remove the barrel guide.

(h) Remove the front and rear access panels D001871 and D00 1868 (figure 1 shows rear panel only). Remove the lock plunger G00429, the slide tube B1804 and the lock spring DS47/2 (figure 2). Discard the lock spring.

(i) Remove all the teleflex conduits (figure 3) from the aircraft.

(j) Spring the end of the teleflex cable out of the hole in the wrapped wheel C20059-60 (figure 5).

(k) Remove the teleflex cable DS23/2 by unscrewing it by hand from the wrap box. The cable should be renewed if there are any signs of stretching or excessive wear, or if the cable could not be screwed out of the wrap box without knotting it or using pliers to attain sufficient torque.

(l) Grind both ends of the teleflex cable to a neat cone shape. All grinding to be done in the direction of the helix of the cable. Check that the grinding of the ends is adequate by ensuring that a new lock spring DS47/2 (figure 2) can easily be screwed on or off either end and has no tendency to pick up on the fine spacing wires of the teleflex cable (figure 6).

(m) Lubricate the cable prior to assembly with molybond GS10 grease, Ident No 9150-013-6094.

(n) Screw the teleflex cable into the wrap box by hand. The cable is not to be formed into a knot to enable additional torque to be applied, neither are pliers or a chuck to be used. The radius rod may be moved back and forth to ease fitment, but if the cable cannot be fitted by hand the radius rod must be removed and the teleflex wrap box D21392-3 and wrapped wheel C20059-60 (figure 5) examined for damage.

(o) Spring the teleflex cable into the hole in the wrapped wheel C20059-60 (figure 5). It is to protrude .1" to .5" beyond the hole.

Note: The protrusion of the cable is not to be adjusted while the cable is through the hole in the wheel, as the sharp bend in the cable will prevent it being turned without excessive torque being applied.

(p) Examine the teleflex conduits for signs of damage. Dented conduits should be renewed.

(q) Replace the teleflex conduits in the aircraft, ensuring that:-

(i) The 5.25" maximum dimension (figure 3) is maintained.

(ii) The 1.0" minimum dimension (figure 3) is maintained. This may be checked through the 1/16" diameter inspection hole (figure 3) if the lock plunger and slide tube are temporarily assembled using the .35" dimension and the pencil line shown on figure 2.

(iii) The length of conduit inside the 5.25" maximum dimension (figure 3) is straight and in line with the barrel guide G00427-8A (figure 3). This may be checked by ensuring that the slide tube and lock plunger (figure 2) can freely be slid back and forth on the conduit with the barrel guide temporarily assembled to the aircraft. This check should be carried out with the slide tube in various angular positions.

(iv) The top end of the inboard conduit is fully home in the wrap box D21392-3 (figure 5). This may be checked through the 1/16" diameter inspection hole in the wrapped box.

(v) All clamp bolts are fully tightened.

(Issued with A/L 41)

(r) Fully retract the undercarriage. Lubricate the exposed portion of the teleflex cable with molybond GS-10 grease, Ident No 9150-013-6094.

(s) Fit the slide tube B1804, the locknut DS94/2, a new lock spring DS47/2, Ident No 5340-RAF27K504 and the lock plunger G00429 using the following method:-

(i) Assemble them loosely to the teleflex cable DS23/2 in the order shown in the exploded view on Detail "B" (figure 2), and position the spring so that the groove on the lock plunger is 1/32" outboard of the pencil line.

Note: Ensure that the spring does not pick up and start to unwind the spacing wires on the teleflex cable (figure 6) when screwing it in position.

(ii) Hold the lock plunger stationary and tighten the slide tube into the lock plunger. The lock spring must be fully compressed during tightening. Check this by ensuring that the .35" dimension on (figure 2) has been attained.

(iii) Tighten the lock nut onto the lock plunger.

(iv) The groove on the lock plunger should now line up with the pencil line. If necessary repeat this operation using a new spring.

Note: Under no circumstances should an attempt be made to adjust the position of the lock plunger by twisting the cable after fitment of the conduits.

(t) Lubricate the lock plunger G00429 with molybond GS-10 grease, Ident No 9150-013-6094, and refit the barrel guide, G00427-8A.

(u) Raise the undercarriage and cut off the teleflex cable level with the end of the lock plunger, if necessary. If the end of the cable is inside the lock plunger, check that it is no more than 1.0" inside. If necessary, replace the cable.

(Issued with A/L 41)

(v) Lower the undercarriage. Disconnect the radius rod by removing the pin G0053 (figure 1). Manually check the radius rod assembly and door lock mechanism complete for free movement over the entire range. The effort required to swing the radius rod assembly inboard and outboard should not exceed 10 lb approximately. If necessary, dismantle the mechanism to locate and rectify excessive tightness.

(w) Raise the "D" door by hand and hold against stops. Manually move the plungers to the locked position by rotating the radius rod. (Note: If radius rod has not be disconnected in operation (v), $\begin{matrix}.500"\\.495"\end{matrix}$ diameter rods should be fitted in the barrel guides G00427-8A to represent the lock plungers G00429). Check the $\begin{matrix}.05"\\.10"\end{matrix}$, $\begin{matrix}.04"\\.06"\end{matrix}$ and $\begin{matrix}.06"\\.12"\end{matrix}$ clearances shown on figure 3. If necessary refer to figure 4 and repack or move the door catches G00458-9, G001697-8 (figure 3).

Note: If the above clearances cannot be obtained using the slotted adjustment shown on figure 4, the catches may be filed the minimum amount necessary to suit. Restore the finish on reworked areas with Zinc Chromate and silver paint, Ident Nos K3/175 and K3/365.

(x) Lower the "D" door. Reconnect the radius rod by the pin removed in operation (v). Recheck the undercarriage clearances set in operation (c) and (d).

(y) Refit the leg fairing U15-65-6A/1 (figure 1).

(z) Retract the undercarriage. Ensure that the leg fairing U15-65-6A/1 (figure 1) is a good flush fit. It should have an all round clearance of .050" with the underside of the wing and a clearance of .05" to .2" with the "D" door (except in that section of the "D" door which overlaps the fairing). If necessary, adjust the packing washers on the fairing to suit.

(Issued with A/L 41)

(aa) Lower the undercarriage, deflate and compress the compression leg and ensure that the torque links do not foul the leg fairing U15-65-6A/1 (figure 1). If necessary, carefully dress the leg fairing to suit. Re-inflate the leg to 400 psi.

(ab) Examine the two flexible brake hoses on the undercarriage leg. These hoses should have a gap of 1/16" - 1/8" between one another in the loop between the bottom hose clip on the undercarriage leg and the Maxaret Unit. Ensure that both hoses are positioned between the clip markings at both the upper and lower clips.

Note: If necessary, adjust the return (outer) hose in the clips to attain the 1/16" - 1/8" clearance. The supply (inner) hose must always be clipped between the clip markings.

(ac) Connect the "D" door to the radius rods (if disconnected). Fit weight hooks to the wheel door through the holes shown on figure 2.

Note: The bolt holes for the catches G00458-9, G001697-8 (figure 3) are not to be used as this could alter the adjustment carried out in operation (w).

(ad) Retract the undercarriage.

(ae) To ascertain if the door adjustment is correct apply a load of 50 lbs simultaneously to the weight hooks. This should just be sufficient to pull the door down onto the lock plungers G00429. A light finger pressure on the underside of the door should be then sufficient to lift the door catches clear of the lock plungers again. Adjust the length of the door radius rods G001573A (figure 2) to suit.

Note: If the leg fairing is incorrectly adjusted in operation (z), ie it projects slightly below the undersurface of the wing, it may be difficult to obtain sufficient adjustment on the radius rods. If necessary repeat operation (z).

(af) Lower the undercarriage. Ensure that the "D" door clears the tank door. If necessary file the "D" door the minimum amount necessary to clear.

(Issued with A/L 41)

(ag) Manually raise the "D" door. Set the door lock micro switch (figure 2) by positioning the micro switch plunger .22" from the outboard face of the barrel guide G00427-8A (figure 3). This will ensure that the micro switch plunger is depressed .12" .15" when the lock plunger G00429 is extended .35" as marked by the groove.

(ah) Remove the weight hooks and replace with 4 BA bolts and nuts. Replace all covers removed in this instruction.

(ai) Lubricate teleflex controls at the grease nipple with molybond GS-10 grease, Ident No 9150-013-6094.

(aj) Disconnect the "D" door (figure 2) and raise the undercarriage. Check that the groove in the lock plunger G00429 lines up with the end of the barrel guide G00427-8A (figure 2). If necessary adjust as in operation (f), (g), (h), (r), (s) and (t).

6. This instruction supersedes and cancels Vampire Instruction No 11 Issue 2 dated 6th May 1957.

References : Files, Headquarters Support Command 2601/79/33 and 2501/110/4816

Attachments : Drawings A15275 Sheets 1 - 4 inclusive

Date of Issue : 1st June 1964

(Issued with A/L 41)

DO NOT SCALE

ISSUE No	DATE	ALTERATION	D.I.L.	INITIALS	APP
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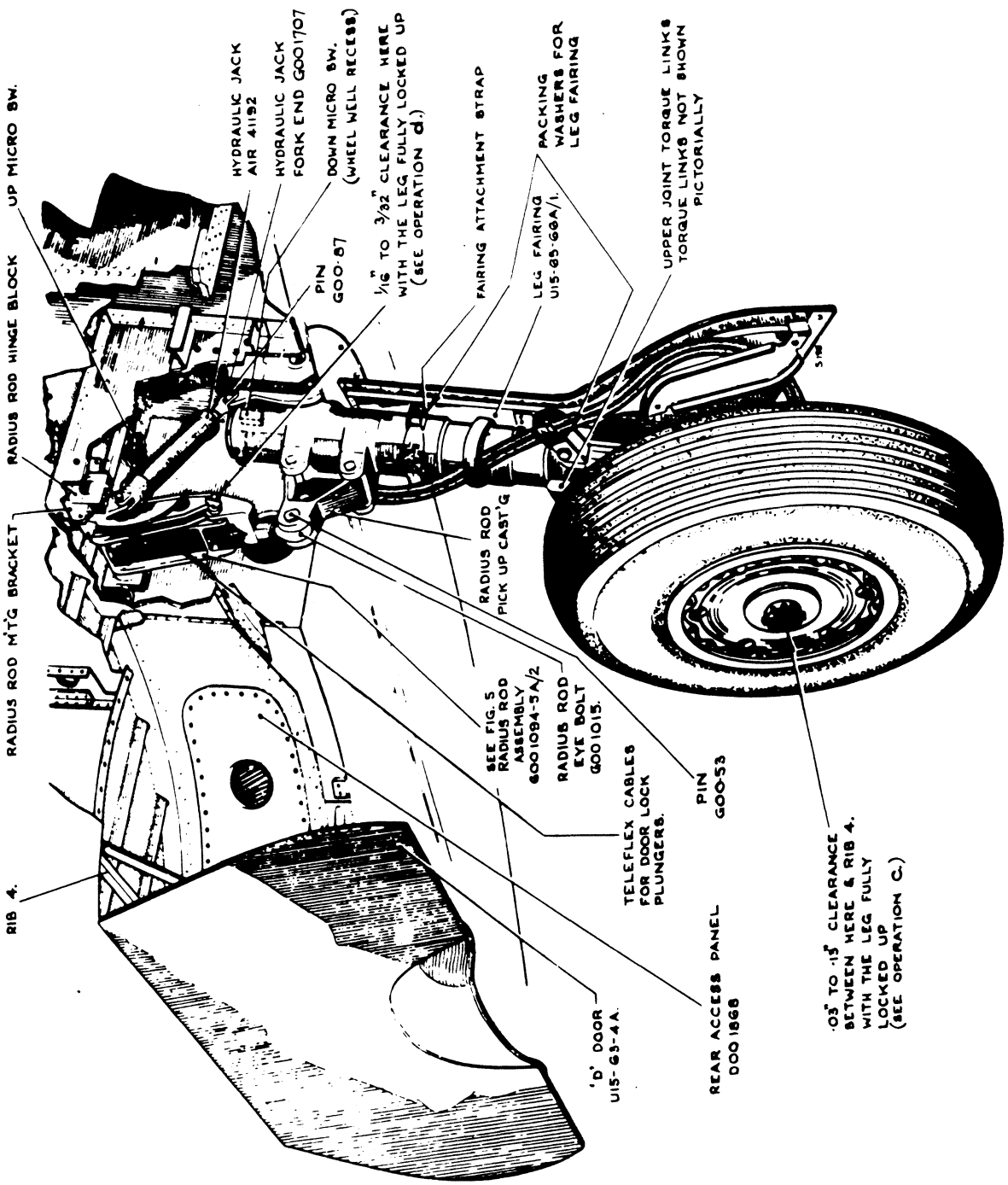


FIG. 1 MAIN UNDERCARRIAGE

REFERENCE	ISSUED BY	TITLE
	DEPARTMENT OF AIR DIRECTOR GENERAL OF ENGINEERING	MAIN UNDERCARRIAGE DOOR LOCK PLUNGER ADJUSTMENT PROCEDURE

LIMITS UNLESS STATED	MATERIAL			COMPONENT OF	
DECIMALS ± ·010"	SPEC.			MACHINE	VAMPIRE MK. 35 & 35A
FRACTIONS ± 1/32"	TREATMENT			ENGINE	
ANGLES ± ½°	FINISH			TECH. ORDER	VAMPIRE INSTRUCTION No 11
SURFACE FINISH AUSTRALIAN STAN'D ENG. DRWG. PRACTICE AS.C.I.	SCALE			DRAWING NO.	A/5275 SHEET 1 — DR'W A SIZE
	DRAWN		APPROVED RWR		
	TRACED		CHECKED		

DO NOT SCALE

ISSUE No	DATE	ALTERATION	D.I.L.	INITIALS	APPROVED
1	12-3-64				

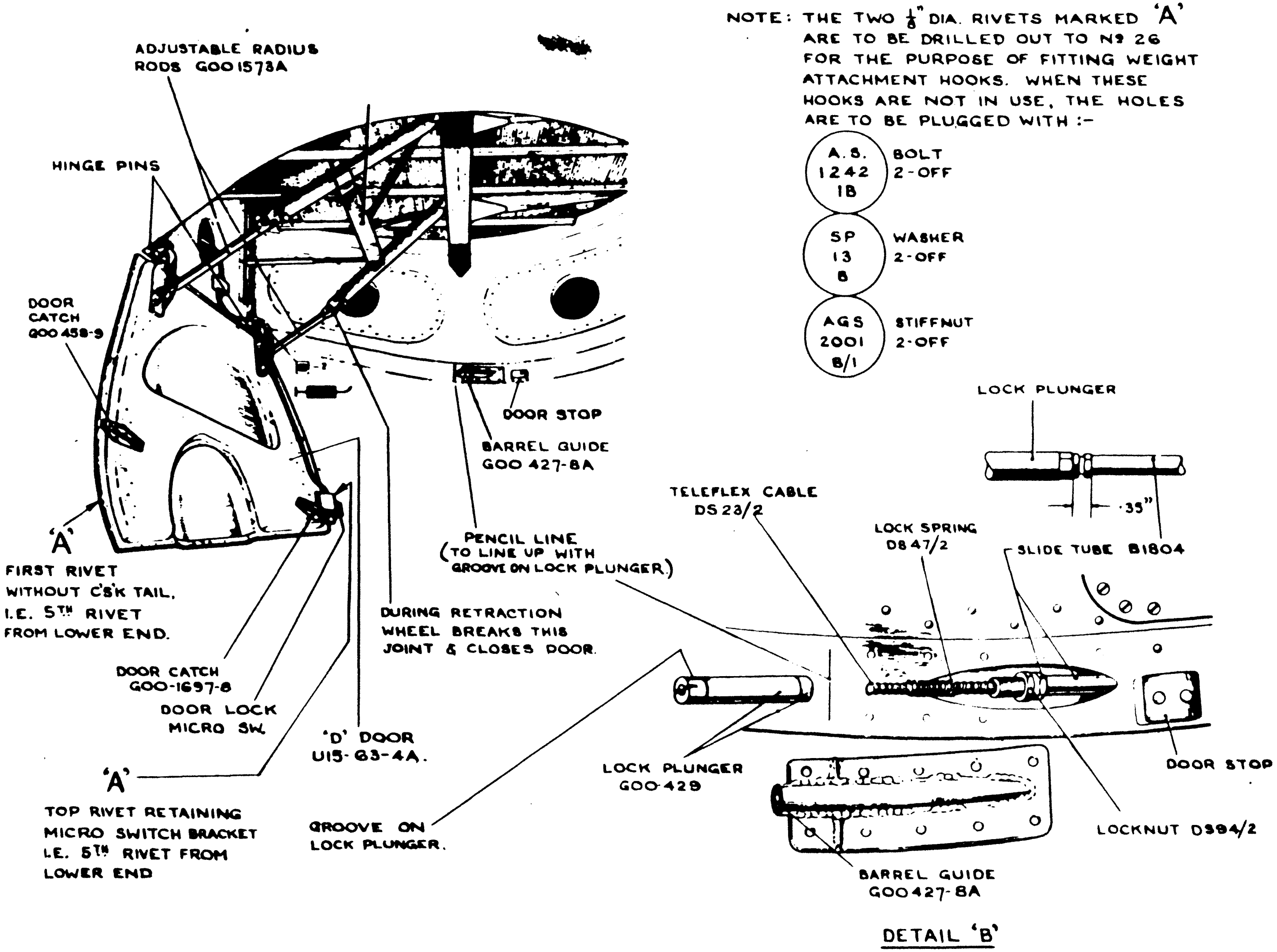
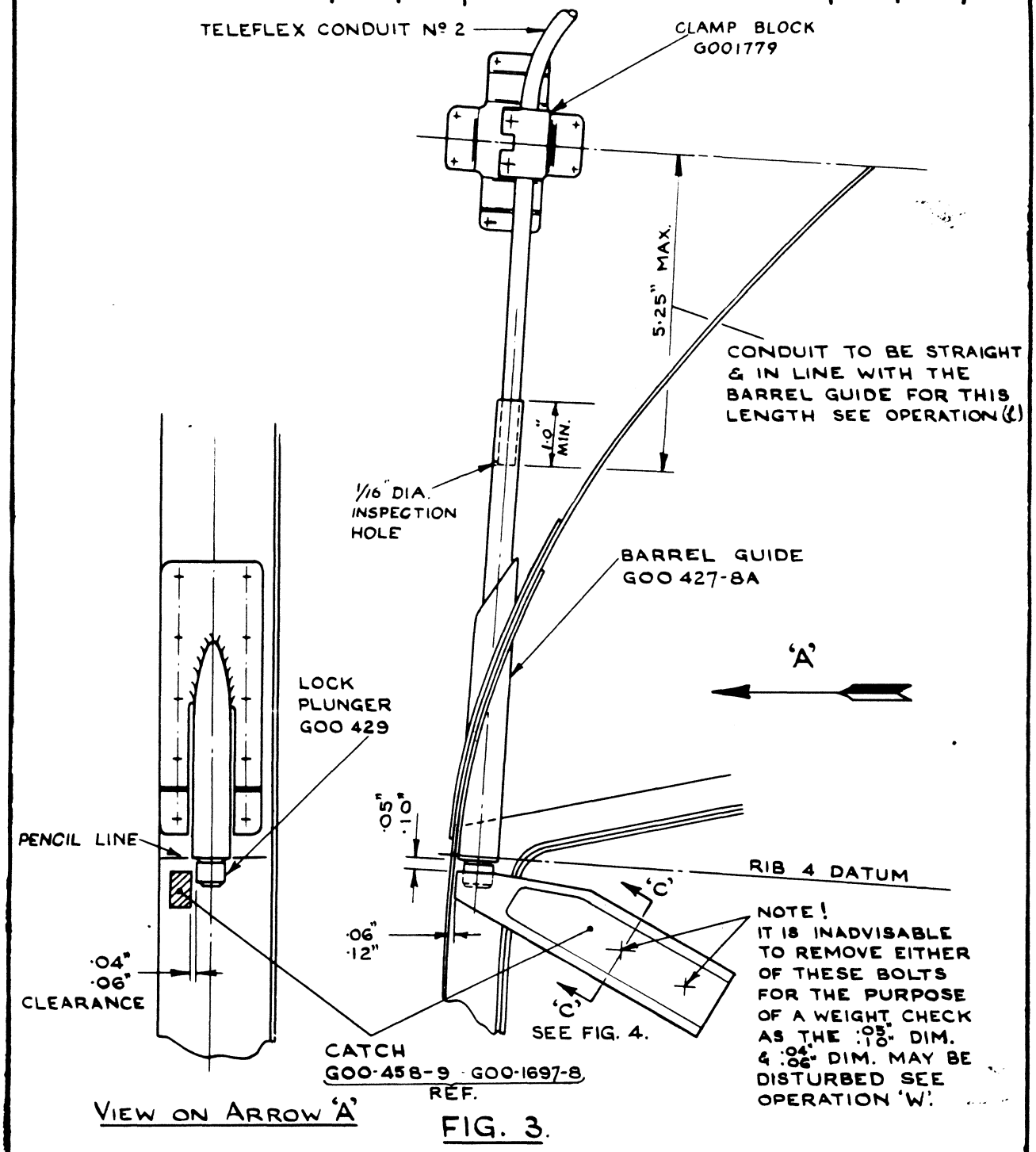


FIG. 2

REFERENCE	
ISSUED BY	DEPARTMENT OF AIR DIRECTOR GENERAL OF ENGINEERING
TITLE	MAIN UNDERCARRIAGE DOOR LOCK PLUNGER ADJUSTMENT PROCEDURE
LIMITS UNLESS STATED	MATERIAL
DECIMALS ± ·010"	SPEC.
FRACTIONS ± 1/32"	TREATMENT
ANGLES ± 1°	FINISH
SURFACE FINISH	SCALE
AUSTRALIAN STAND. ENG. DRWG. PRACTICE AS1100	DRAWN
	TRACED
APPROVED	RWK
CHECKED	
COMPONENT OF	
MACHINE	VAMPIRE MK. 35 & 35A
ENGINE	
TECH. ORDER	VAMPIRE INSTRUCTION No 11.
DRAWING No	A15275 SHEET 2
DRW. SIZE	A

DO NOT SCALE

ISSUE NO.	DATE	ALTERATION	B. I. L.	INITIALS	APPROVED
	12-3-64				



VIEW ON ARROW 'A'

FIG. 3.

REFERENCE	ISSUED BY	TITLE
	DEPARTMENT OF AIR DIRECTOR GENERAL OF ENGINEERING	MAIN UNDERCARRIAGE DOOR LOCK PLUNGER ADJUSTMENT PROCEDURE

LIMITS UNLESS STATED		MATERIAL		COMPONENT OF	
DECIMALS	± .010"	SPEC.		MACHINE	VAMPIRE MK 35 & 35A
FRACTIONS	± 1/32"	TREATMENT		ENGINE	
ANGLES	± ½°	FINISH		TECH. ORDER	VAMPIRE INST'N Nº 11.
SURFACE FINISH AUSTRALIAN STANDARD ENG. DRWG. PRACTICE A.S.C.21		SCALE		DRAWING NO.	A15275 SHT. 3
		DRAWN	APPROVED Rwk		DRWG. A SIZE
		TRACED	CHECKED		

DO NOT SCALE

ISSUE NO	DATE	ALTERATION	B. I. L.	INITIALS	APPROVED
	18-8-64				

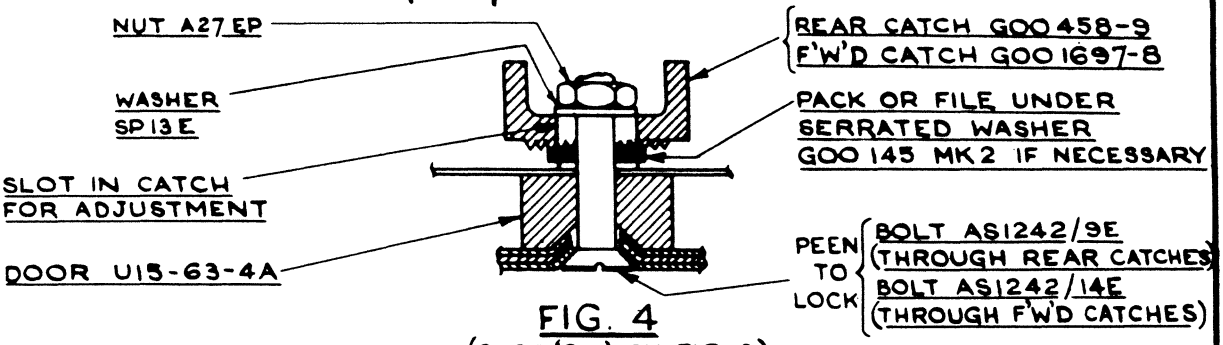


FIG. 4
(SECT. 'C-C' ON FIG. 3)

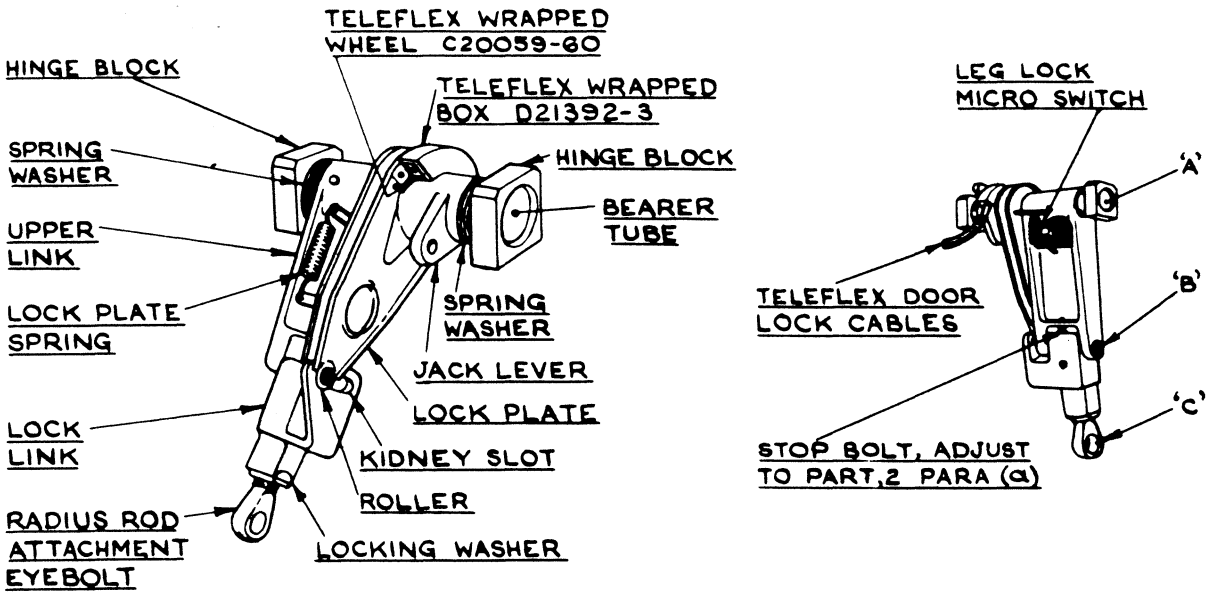


FIG. 5
VIEW ON RADIUS ROD ASS'Y

A TENSION CORE B COMPRESSION WINDING
C SPACING WIRES D HELIX WIRE

FIG. 6
SECTION OF TELEFLEX CABLE

REFERENCE	ISSUED BY	TITLE
	DEPARTMENT OF AIR DIRECTOR GENERAL OF ENGINEERING	MAIN UNDERCARRIAGE DOOR LOCK PLUNGER ADJUSTMENT PROCEDURE

LIMITS UNLESS STATED		MATERIAL			COMPONENT OF		
DECIMALS	± .010"	SPEC.			MACHINE	VAMPIRE MK. 35 & 35A	
FRACTIONS	± 1/32"	TREATMENT					
ANGLES	± 1/2°	FINISH			TECH. ORDER	VAMPIRE INSTRUCTION No 11	
SURFACE FINISH AUSTRALIAN STANDARD ENG. DRWG. PRACTICE A.S.C.21		SCALE			DRAWING NO.	A15275 SHT. 4	DRWG. A SIZE
		DRAWN		APPROVED			
		TRACED		CHECKED			

A.A.P.721:79, Vol.2, Pt.1 VAMPIRE INSTRUCTION NO. 12

Application: Vampire Mk.30-31

INTERCHANGEABILITY OF MAINPLANES

Introduction

1. With the introduction of varying marks of Vampire fighter aircraft and the progressive stages to which wings have been modified, confusion is likely to arise as to the correct standard to be observed when effecting replacement of mainplanes on these aircraft. It is essential that the modification standard be carefully checked to ensure that the aircraft will still function in the role for which it is intended. A check is also necessary to ensure that if a wing of a different modification standard is fitted, the aircraft log book is annotated accordingly.

2. Mark 33 Vampire wings are completely different at the root end from Mark 30 and 31 Vampire wings, as the cowling attachments are made by a different method. There need, therefore, be no confusion between trainer and fighter type wings.

Instruction

3. The following modifications affect the functional interchangeability of fighter wings, and therefore must be considered in detail when fitting new wings or supplying replacements.

D.H. Mod.	R.A.A.F. Mod.	Brief Description	Effect
V78	44	Dual Wheen Brakes	Both wings must be fitted with the same type of wheel brake. Wings Serial No's VMP137 and 146 and subsequent (port) and VMS137 and 146 and subsequent (starboard) were modified at manufacture. However, wings should be checked to confirm that they have not been de-moded.
V83		Strengthened Top Skin	It is mandatory that this modification be included in any wings for aircraft with D.H. Constructors No's.4030 and subsequent. It is optional on earlier aircraft Wings Serial No's: VMP130 (Port), VMS130 (Starboard) and subsequent were modified at manufacture. Earlier wings cannot be modified retrospectively.

Cancelled AL30

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D.H. Mod.	R.A.A.F. Mod.	Brief Description	Effect
V84		Rocket & Bomb fixed Installations - including Wiring.	If the fuselage is modified, both wings must also be modified, but modified wings may be fitted to unmodified fuselages which have D.H. Constructor's No's.4030 and subsequent. Wings Serial No's.VMP130-4 and 153 and subsequent (port) VMS130-4 and 153 and subsequent (starboard) were modified at manufacture.
V98	47	Micro Switches - Change of Type and Introduction of Down-lock Switch.	It is desirable, but not essential, that both wings be modified to this standard or both unmodified, otherwise the U/C warning light indicators will differ from standard. Wings Serial No's VMP140 (port) and VMS140 (starboard) and subsequent were modified at manufacture.
V102	62	G3F Compass in lieu of Magnesyn Compass	Affects starboard wing only. Fuselage and wing must be to same modification standard. Starboard wings Serial No's. VMS114 and 153 and subsequent were modified at manufacture.
V130 Pt.B	132	Clipped Wings	These may only be fitted to aircraft D.H. Constructor's No.4030 and subsequent. Both port and starboard wings must be of the same type. Regarding this modification, spare wings for Aircraft D.H. Constructor's No's.4065, 4069 and subsequent must incorporate this modification, and eventually all aircraft back to D.H. No.4030 will also be to this standard. Wings Serial No's VMP169 and subsequent (port) and VMS169 and 172 and subsequent (starboard) were modified at manufacture.

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D.H. Mod.	R.A.A.F. Mod.	Brief Description	Effect
V84		Rocket & Bomb fixed Installations - including Wiring.	If the fuselage is modified, both wings must also be modified, but modified wings may be fitted to unmodified fuselages which have D.H. Constructor's No's.4030 and subsequent. Wings Serial No's.VMP130-4 and 153 and subsequent (port) VMS130-4 and 153 and subsequent (starboard) were modified at manufacture.
V98	47	Micro Switches - Change of Type and Introduction of Down-lock Switch.	It is desirable, but not essential, that both wings be modified to this standard or both unmodified, otherwise the U/C warning light indicators will differ from standard. Wings Serial No's VMP140 (port) and VMS140 (starboard) and subsequent were modified at manufacture.
V102	62	G3F Compass in lieu of Magnesyn Compass	Affects starboard wing only. Fuselage and wing must be to same modification standard. Starboard wings Serial No's. VMS114 and 153 and subsequent were modified at manufacture.
V130 Pt.B	132	Clipped Wings	These may only be fitted to aircraft D.H. Constructor's No.4030 and subsequent. Both port and starboard wings must be of the same type. Regarding this modification, spare wings for Aircraft D.H. Constructor's No's.4065, 4069 and subsequent must incorporate this modification, and eventually all aircraft back to D.H. No.4030 will also be to this standard. Wings Serial No's VMP169 and subsequent (port) and VMS169 and 172 and subsequent (starboard) were modified at manufacture.

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D.H. Mod.	R.A.A.F. Mod.	Brief Description	Effect
V181	191	Introduction of Hycar Packing in Wing Tank Bays.	Wings modified to include V130 Pt.B will automatically have modifications V84 and V102 incorporated. Wings must include this modification if they are to be fitted to a fuselage modified to Vampire modification No.106 (D.H. Modification V174).

4. For the selection and ordering of spare wings the following table is provided, but the notes in paragraph 3 must be carefully followed.

Ident. No.	Part No.	Description and Functional Mod. Standard	A/c to which wing may be fitted D.H. Cont.'s No.	Remarks
A79/ 503659	OOD1449 AND	Port wing including D.H. Aust. Mods. V78, V98, V181 but Pre- V83, V84 and V130 Pt.B. These were wings originally fitted to the first 29 Mk.30 aircraft but have now been modified and re-issued as spares	4001-4029	The aircraft is to be checked to ensure D.H. Aust. Mod. V78 is incorporated on the opposite wing.
A79/ 503660	OOD1451 AND	Starboard wing including D.H.Aust. Mods. V78, V98, V102, V181 but pre mods. V83, V84 and V130 Pt.B. These were starboard wings originally fitted to the first 29 Mk.30 aircraft but have now been modified and re-issued as spares.	4001-4029	The aircraft is to be checked to ensure that the airframe is modified to D.H. Aust. Modification V102, and that V78 is incorporated on the opposite wing.

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Ident. No.	Part No.	Description and Functional Mod. Standard	A/c to which wing may be fitted D.H. Cont.'s No.	Remarks
A79/ 503572	00D1413A	Port wings including D.H.Aust. Mods. V78, V83, V98 and V181 but pre V84 and V130 Pt.B.	4001-4029	The aircraft is to be checked to ensure that D.H.Aust. Modification V78 is incorporated on the opposite wing.
A79/ 503572				This may also be fitted to some aircraft in the series 4030-4050 which have not as yet been modified to D.H. Aust. Modification V84, provided D.H. Aust. Modification V78 is checked for incorporation in the opposite wing.
A79/ 503571	00D1415A	Starboard wings including D.H.Aust. Mods. V78, V83, V98 V102 & V181 but pre V84 & V130 Pt.B.	4001-4029	The aircraft is to be checked to ensure D.H.Aust. modification V78 is incorporated on the opposite wing. The fuselage must be modified to D.H.Aust. Modification V102.
				This may also be fitted to some aircraft in the series 4030-4050 which have not as yet been modified to D.H. Aust. Modification V84, provided the fuselage is modified to D.H. Aust. Modification V102 and the opposite wing is checked for D.H.Aust. Mod.V78.
A79/ 500240	00D25A	Port wing including D.H.Aust. Mods. V78, V83, V84 & V98 but pre V130 Pt. B & V181	4030-4064 & 4066-7 & 8	The aircraft is to be checked to ensure D.H. Aust. Mod. V78 is incorporated on the opposite wing and D.H. Aust. Mod. V130 Pt.B and V181 are not required.

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Ident. No.	Part No.	Description and Functional Mod. Standard	A/c to which wing may be fitted D.H. Cont.'s No.	Remarks
A79/ 500241	00D26A	Starboard wing including D.H.Aust. Mods.V78,V83,V84 & V98 but is pre Mod. V102 & V130 Pt.B and V181	4030-4050	The aircraft is to be checked to ensure D.H.Aust. Modification V78 is incorporated on the opposite wing and D.H. Aust. Modificatior V102,V130 Pt.B and V181 are not required.
A79/ 501916	00D26A/1	Starboard wing including D.H.Aust. Mods.V78,V83,V84, V98 & 102 but pre 130 Pt.B & V181	4030-4064 & 4066-7 & 8	The aircraft is to be checked to ensure D.H. Aust. Modification V78 is incorporated on opposite wing and D.H. Aust. Modification V13(Pt.B and V181 are not required. The fuselage must be modified to V102.
A79/ 501851	00D1103A	Port wing including D.H.Aust. Mods. V78, V83, V84, V98 and V130 Pt.B but pre V181	4030-4080	The aircraft is to be checked to ensure D.H.Aust. Modification V181 is not required and D.H.Aust. Modification V78 and V130 Pt.B is incorporated on the opposite wing.
A79/ 501852	00D1104A	Starboard wing including D.H.Aust. Mods.V78, V83, V84, V98, V130 Pt.B & V102 but pre V181.	4030-4080	The aircraft is to be checked to ensure D.H. Aust. Modification V181 is not required, that the fuselage is modified for D.H.Aust. Modification V102, and that V78 & V130 Pt.B are incorporated on the opposite wing.
A79/ 503661	00D1455 AND	Port wing including D.H.Aust. Mod. V78 V83, V84, V98 V130 Pt.B & V102 but pre V181	4030-4080	Opposite wing to be checked to ensure both D.H.Aust. Modification V78 and V130 Pt.B are incorporated.

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Ident. No	Part No.	Description and Functional Mod. Standard	A/c to which wing may be fitted D.H. Cont.'d No.	Remarks
A79/ 503662	00D1457 AND	Starboard wing including D.H.Aust. Mods. V78, V83, V84, V98, V102, V130 Pt.B & V181	4030-4080	Opposite wing to be checked to ensure both D.H.Aust. Modifications V78 and V130 Pt.B are incorporated. Fuselage must be modified to D.H.Aust. Modification V102.

References : Files Department of Air 9/84/201 and 150/4/9186

Date of Issue : 14th November, 1955.

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AAP 721:79, VOLUME 2, PART 1

VAMPIRE INSTRUCTION NO 13 (ISSUE 2)

Applicable to Mark 35 and 35A Vampire Aircraft

NOSE UNDERCARRIAGE DOOR LOCK MECHANISM

- VAMPIRE TRAINERS -

Introduction

1. Several cases of failure of the nosewheel door mechanism have been reported and it is considered that excessively worn linkages, incorrect adjustments and insufficient clearances have contributed to these failures.

2. This instruction has been raised in issue to clarify the procedures to be adopted in setting the nose wheel door mechanism and to detail the checks to be made at various periods.

3. The instruction is written in three parts, as follows:-

Part 1 Index of Operations.

Part 2 Operations called up in Part 1.

Part 3 Relevant wear limits.

Instructions

4. Part 1 - Index of Operations

(a) The following table lists the minimum sequence of operations which must be carried out to check or set the nose wheel door mechanism during A, C, D and E servicings, it also lists those operations which are necessary to set the mechanism after various parts of the nose wheel or the nose wheel door mechanism have been removed or adjusted.

(b) Example 1:- At "C" servicing it is necessary to check the radius rod eye bolt for bending. (Operation (e)) - If it is found necessary to replace the eye bolt, reference to the table indicates that it is also necessary to carry out operations (g), (h), (l), (p) to (t).

(c) Example 2:- When replacing the nose wheel tyre, reference to the table indicates that it is necessary to check the clearance under the tyre (Operation (j)). If it is found necessary to adjust this clearance by altering the length of the radius rod link further reference to the table indicates it is also necessary to carry out operations (g) to (t) inclusive.

Servicing, or part removed or adjusted	Operation Sequence
"A" servicing	(u) and (v)

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Servicing, or part removed or adjusted		Operation Sequence
"C" servicing		(e), (o), (u), (v) and (w)
"D" servicing		(e), (o), (u), (v) and (w)
"E" servicing		(a) to (l) and (o) to (t)
NOSE WHEEL ASSY (Fig 2)		
	Complete Nose Undercarriage	(x), (g) to (t)
AIR41932	Hydraulic Jack	(g), (h), (k) to (t)
G001052	Radius Rod Link	(g) to (t)
12 UN 117A/41	Undercarriage Radius Rod Assy	(g) to (t)
13 UN 137	Striker Plate	(x), (g), (h), (l), (p) to (t)
NOSE WHEEL DOOR CLOSING MECHANISM (Fig 1)		
G00128A	Eyebolt	
G00321	Link, connector	
13 FS 1835	Link, guide assembly	
13 FS 1843A	Eye Bolt, upper radius rod	(g), (h), (l), (p) to (t)
13 FS 2015A/1	Nose wheel door	
13 FS 2193	Radius Rod, lower	
13 FS 3643A	Radius Rod, upper	

Servicing, or part removed or adjusted		Operation Sequence
NOSE WHEEL DOOR OPENING MECHANISM (Fig 1)		
13 FS 3497ND	Lever	
13 FS 3507A	Rod, connecting	
13 FS 3517	Fork, End	
13 FS 3523A	Bearing, lever	(r)
13 FS 3565A	Lever Assembly	
13 FS 3645A	Links	
Nose wheel tyre		(j)

5. Part 2 - Operations Called Up in Part 1

(a) Before carrying out any of the following operations:-

(i) Refer to Part 1 to ascertain which of the operations are mandatory.

(ii) Carry out normal precautionary measures, eg ensure the main undercarriage ground locks are fitted and trestle the nose.

(b) Remove the following parts (Fig 1)

G00321	Link, connector	2 off
13 FS 1835	Link, guide assembly	1 off
13 FS 1843A	Eye bolt, Upper Radius Rod	1 off
13 FS 2015A/1	Door, Nosewheel	1 off
13 FS 2193	Radius Rod, Lower	1 off
13 FS 3643A	Radius Rod, Upper	1 off

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(c) Check the above for wear in accordance with Ref Nos 1 - 28 inclusive in Part 3 of this Instruction. Components found to be outside tolerances quoted should be replaced; in the case of the hole - Ref No 27 - replace the bracket 13FS2175 only.

(d) Check that the forward door hinge 13FS2903 on the nose wheel door 13FS2015A/1 conforms to Fig 4. Hinges which do not conform are to be modified by cutting away both flanges to suit the scribe template detailed in Fig 5. Treat damaged area with Zinc Chromate and Silver paint.

(e) Check the eye bolt G00128A and the lower radius rod 13FS2193 (Fig 1) for signs of bending. Bent parts should be replaced.

(f) Refit all the above components, using Molybond GS10 Grease at all moving joints, except on the pin through the eye bolt G00128A (part of the lower radius rod, Fig 1), which is to be temporarily left disconnected.

(g) Disconnect the eye bolt G00128A from the door, if connected.

Disconnect the struts 13FS2899A (Fig 2) from the compression leg and tie the leg fairing 13FS2203A back to the nose cap.

Note: Care should be taken not to loosen the studs 13UN101/1 in the leg casting.

Should it be impossible to disconnect the struts at the leg casting without loosening the studs, the struts are to be disconnected at the fairing.

(h) Hold the lower radius rod 13FS2193 towards the Port side of the wheel well, and slowly retract the nose wheel by hand pump, (as the lower radius rod was left disconnected in operation (f), it could be damaged if left hanging loose when the undercarriage is retracted).

Ensure the nose wheel is fully locked up.

(j) With plasticine adhered on the nose wheel door, check that .4" min clearance is available between the door and tyre.

If necessary rectify as follows:-

(i) Lower nose wheel.

(ii) Refer to Fig 2 and shorten the radius rod link G001052 as required (Half a turn of the fork will lift the wheel approx .1").

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(k) Refer to Fig 2 and check the clearance of 1/16" to 1/32" exists between the roller and the end of the kidney slot in the radius rod assembly 13UN117A/41. This clearance is important and is to be checked by measuring the play in the kidney slot.

If necessary, alter the length of the Jack AIR41932 (Fig 2) to suit. This will also necessitate the replacement of tab washer 13UN171 (Ident No A79-502669).

(l) Ensure that both the port and starboard detachable nose fairings are fitted. This will ensure that the nose wheel side beams are not distorted when door adjustments are being carried out.

(m) With the nose wheel retracted, check that the fixed triangular fairing 13UN81A (Fig 2) lines up with the fuselage contour.
If necessary - due to the adjustment in operation (j) - add packing 13UN95 as shown in Fig 3.

(n) (i) Recheck .4" min clearance between tyre and door in accordance with operation (j).

(ii) Adhere plasticine to the diaphragm in the nose wheel well in the position shown in Fig 2, and ensure .2" clearance exists between wheel fork and nose wheel well diaphragm.

(iii) Reset the micro switches in accordance with AAP 721:79, Vol 1, Sect 5, Group F, Chap 1, Para 12.

(o) Check that the striker plate 13UN137 (Fig 2) is free from flats and dents in the contact area.

Remove and repair if necessary.

(p) Retract the nose wheel, swing the nose wheel door into the closed position and hold by hand pressure. Adjust the eye bolt GO0128A (Fig 1) until the special tapered pin (Fig 6) may be fitted by hand.

(q) Lower the undercarriage. Screw in the eye bolt 1½ turns, and ensuring that the eye bolt is held centrally in the door hinge bracket (13FS2903A) with washers to suit, fit the pin GO0323 Mk 6 with molybond GS10 grease and a new split pin SP9/C8.

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(r) With the nose wheel lock down, remove the SP4Z/D6 Pin from the rear end of the connecting rod 13FS3507A (Fig 1). With the connecting rod held rearwards as far as possible, adjust the fork end till the pin may be fitted. Lengthen the adjustment on the connecting rod by half a turn, refit the pin SP4Z/D6 and secure with new split pin SP9/C8. This will achieve the .005" - .027" clearance shown at Fig 1.

(s) With plasticine adhered to the front hinge bracket and side beam, check the clearance "B", "C" and "D" (Fig 4) by raising and lowering the nose wheel. This clearance will ensure that the eye bolt G00128A will not be bent.

Rectification may be achieved by filing the hinge and/or side beam the minimum amount necessary to obtain the required clearance. Treat damaged areas with Zinc Chromate and Silver Paint.

(t) Reconnect the struts 13FS2899A (Fig 2) to the compression leg, and function the nose wheel to ensure satisfactory all round operation.

Notes: In order to positively attach the struts to the compression leg, they should be assembled so that the caulking which retains the ball race faces outboard.

If necessary the opposite end of the struts may be disconnected and reversed.

If it is necessary to adjust the length of the struts, (eg: due to operation (m)) the following information is applicable.

(i) Nominal length of struts 8.8".

(ii) Half a turn of the eye bolt gives approx .12" movement at the rear end of the leg fairing 13FS2203A with the nosewheel retracted.

(iii) The eye bolts should be tightened 1 full turn past the point where the rear end of the leg fairing just touches the fixed triangular fairing 13UN81A.

(u) To check for looseness in the upper radius eye bolt 13FS1843A (Fig 1), waggle the door in the outboard and inboard direction. If necessary retighten the nut and secure with new split pin SP9/C8.

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Note: Do not slacken nut to facilitate fitment of split pin, if necessary, shim as required.

(v) Without applying any undue force, move the ball of the guide link 13FS1835 (Fig 1) fore and aft to check for max play of .1". If excessive play is found, the suspect items are to be removed and checked to Part 3 of this instruction. Also ensure that the connector links G00321 show no signs of bending.

(w) Lubricate all pin joints in the nose wheel door mechanism.

The pin G00323 Mk 6 through the lower radius rod eye bolt G00128A (Fig 1) is to be lubricated with Molybond GS10 Grease - remove the pin to apply the grease. All other pin joints to be lubricated in situ, with Molybond GS10 Grease.

(x) Ensure that a .1" clearance exists between the striker plate 13UN137 (Fig 2) and the air inflation valve and the grease nipple when the shock absorber strut is fully collapsed. Observe the following procedure:-

(i) Jack up nose of aircraft, remove air inflation cap, and release air pressure.

(ii) Compress the nose leg fully, replace the air inflation cap. Measure the minimum clearance between the air inflation cap and the striker plate and between the grease nipple and the striker plate.

(iii) If necessary, remove the striker plate from the leg and file to obtain the required clearance, refit it to the leg.

(iv) Recharge the compression strut with air to 600 pound per square inch.

6. Part 3 - Relevant Wear Limits

Notes: (i) It should be noted that the table of wear limits for Fig 1 does not include limits for all moving parts of the nosewheel door mechanism. If at any stage the wear appears to be excessive when related to permissible wear limits specified for other parts of the mechanism the decision as to what replacement action is to be taken must be made by the person responsible for servicing the aircraft.

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(ii) **Particular care must always be taken to ensure that no distortion is present in any part of the nosewheel door mechanism. Repair of parts G00321 and G00128A (Fig 1) is not permitted and if distorted, they must be replaced immediately.**

NOSEWHEEL DOOR MECHANISM

Limits for wear for Items shown on Fig 1.

Key No	Part No	Description of Part	Manufacturing Dimensions (ins)	Permissible Worn Dimensions (ins)	Manufacturing Clearance (ins)	Permissible Worn Clearance (ins)
1	13FS3643A	Upper Radius Rod	0.2501 / 0.2495	0.2513		
					0.0012 / 0.0002	0.0020
2	G00323 Mk4	Special Pin	0.2493 / 0.2489	0.2480		
					0.0012 / 0.0002	0.0020
3	13FS1843A	Upper Eye Bolt (Bush G00325 Mk 2)	0.2501 / 0.2495	0.2513		
4	G00321	Connector Link (See Note (ii)	0.2503 / 0.2497	0.2540		
					0.0038 / 0.0002	0.0045
5	A25/11E	Standard Bolt	0.2495 / 0.2465	0.2450		
					0.0036 / 0.0000	0.0045
6	13FS3643A	Upper Radius Rod (Bush G00325 Mk 3)	0.2501 / 0.2495	0.2540		
7	G00247	Radius Rod End	0.2501 / 0.2495	0.2540		
					0.0012 / 0.0002	0.0045
8	G00323 Mk2	Special Pin	0.2493 / 0.2489	0.2450		
					0.0012 / 0.0002	0.0045
9	13FS3643A	Upper Radius Rod (Bush G00325 Mk 2)	0.2501 / 0.2495	0.2540		
10	G00241	Fork End	0.1915 / 0.1880	0.1965		
					0.0090 / 0.0015	0.0150
11	SP4/B6	Pin	0.1865 / 0.1825	0.1800		

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Limits for wear for Items shown on Fig 1. (Cont'd)

Key No	Part No	Description of Part	Manufacturing Dimensions (ins)	Permissible Worn Dimensions (ins)	Manufacturing Clearance (ins)	Permissible Worn Clearance (ins)
12	G00321	Connector Link (See Note (ii)	0.2503 / 0.2497	0.2540	0.0038 / 0.0002	0.0045
13	A25/11E	Standard Bolt	0.2495 / 0.2465	0.2450	0.0036 / 0.0000	0.0045
14	G00244A	Link Guide End (Bush G00325 Mk 3)	0.2501 / 0.2495	0.2540		
15	13FS2191	Link Guide Bracket	0.1878 / 0.1872	0.1890	0.0012 / 0.0002	0.0020
16	G00322 Mk 1	Special Pin	0.1870 / 0.1866	0.1855	0.0019 / 0.0002	0.0030
17	13FS1837A	Link Guide Tube	0.1885 / 0.1872	0.1890		
18	13FS1885	Fork End	0.1915 / 0.1880	0.1965	0.0090 / 0.0015	0.0150
19	SP4/B6	Pin	0.1865 / 0.1825	0.1800		
20	13FS2903A	Front Hinge, Rear Door	0.2501 / 0.2495	0.2513	0.0012 / 0.0002	0.0020
21	G00323 Mk 6	Special Pin	0.2493 / 0.2489	0.2480	0.0012 / 0.0002	0.0020
22	G00128A	Radius Rod Eye End (Bush G00325 Mk 1) (See Note (ii))	0.2501 / 0.2495	0.2513		
23	13FS1775A	Front Hinge Bracket	0.3129 / 0.3121	0.3170	0.0039 / 0.0001	0.0050
24	A25/17G	Standard Bolt	0.3120 / 0.3090	0.3075		

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Limits of wear for Items shown on Fig 1 (Cont'd)

Key No	Part No	Description of Part	Manufacturing Dimensions (ins)	Permissible Worn Dimensions (ins)	Manufacturing Clearance (ins)	Permissible Worn Clearance (ins)
25	13FS1051A	Rear Hinge Bracket	0.3129 / 0.3121	0.3170	0.0039 / 0.0001	0.0050
26	A25/17G	Standard Bolt	0.3120 / 0.3090	0.3075		
27	13FS393A/4	Nose Wheel Fairing Assy	.3164 / .3200	.3255	.0044 / .0110	.0200
28	13FS1843A	Upper Eye Bolt	.3090 / .3120	.3050		

Superseded Instructions

7. This instruction supersedes and cancels Vampire Instruction No 13, Issue No 1, dated 6th May 1957.

References : Files, Headquarters Support Command, 2601/79/33 and 2501/110/3960

Attachment : Drawing A14661 Sheets 1-4 inclusive

Date of Issue : 10th January 1963

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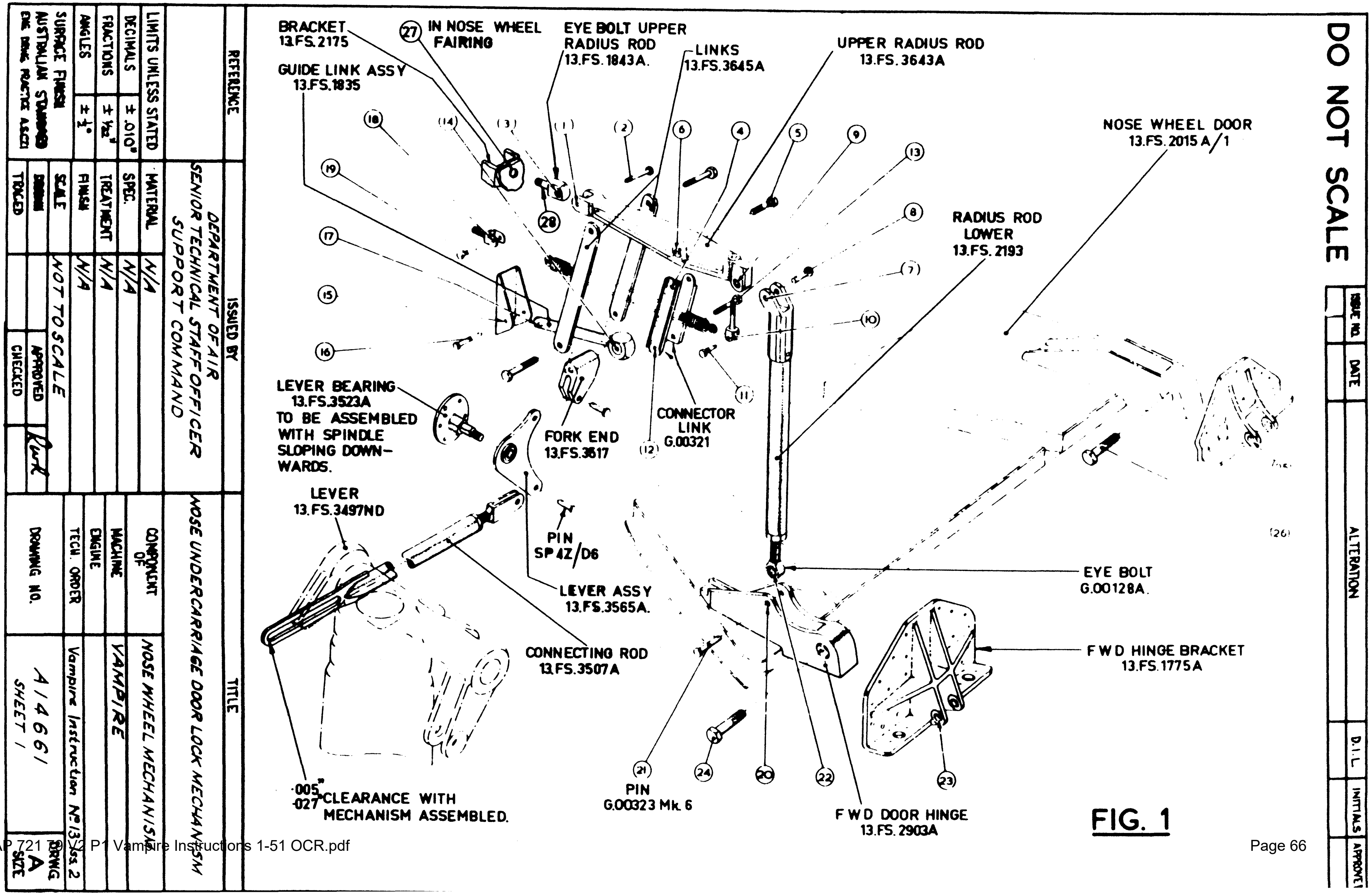

DO NOT SCALE
BRACKET 13.FS.2175
IN NOSE WHEEL FAIRING
EYE BOLT UPPER RADIUS ROD 13.FS.1843A.
LINKS 13.FS.3645A
UPPER RADIUS ROD 13.FS.3643A
GUIDE LINK ASSY 13.FS.1835
NOSE WHEEL DOOR 13.FS.2015 A/1
RADIUS ROD LOWER 13.FS.2193
LEVER BEARING 13.FS.3523A TO BE ASSEMBLED WITH SPINDLE SLOPING DOWNWARDS.
CONNECTOR LINK G.00321
FORK END 13.FS.3517
LEVER 13.FS.3497ND
PIN SP 4Z/D6
LEVER ASSY 13.FS.3565A.
EYE BOLT G.00128A.
FWD HINGE BRACKET 13.FS.1775A
CONNECTING ROD 13.FS.3507A
PIN G.00323 Mk.6
FWD DOOR HINGE 13.FS.2903A
.005" .027" CLEARANCE WITH MECHANISM ASSEMBLED.
LIMITS UNLESS STATED
DECIMALS ± .010"
FRACTIONS ± 1/32"
ANGLES ± 1/2°
SURFACE FINISH AUSTRALIAN STANDARD ENG. DRWG. PRACTICE A.S.C.Z1
REFERENCE
ISSUED BY
DEPARTMENT OF AIR SENIOR TECHNICAL STAFF OFFICER SUPPORT COMMAND
MATERIAL N/A
SPEC. N/A
TREATMENT N/A
FINISH N/A
SCALE NOT TO SCALE
DRAWN
APPROVED
CHECKED
TRACED
TITLE
NOSE UNDERCARRIAGE DOOR LOCK MECHANISM
COMPONENT OF NOSE WHEEL MECHANISM
MACHINE VAMPIRE
ENGINE
TECH. ORDER Vampire Instruction No 13 Iss. 2
DRAWING NO. A/4661 SHEET 1
DRWG. SIZE A
ISSUE NO.
DATE
ALTERATION
D.I.L.
INITIALS
APPROVED

FIG. 1

DEPARTMENT OF AIR
SENIOR TECHNICAL STAFF OFFICER
SUPPORT COMMAND

TITLE: NOSE UNDERCARRIAGE DOOR LOCK MECHANISM

COMPONENT OF: NOSE WHEEL MECHANISM

MACHINE: VAMPIRE

TECH. ORDER: Vampire Instruction No 13 Is. 2

DRAWING No. A14661 SHEET 2

DO NOT SCALE

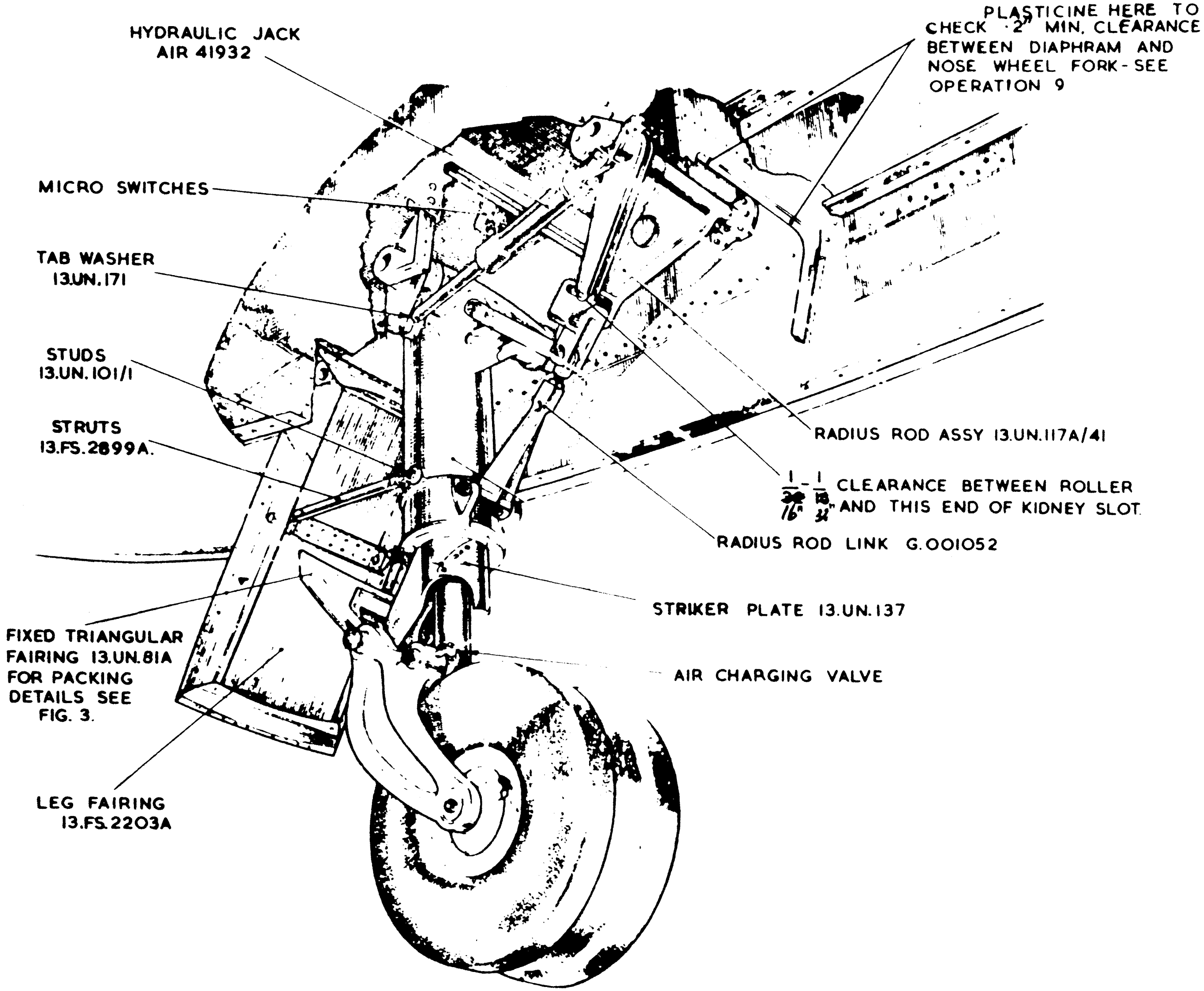
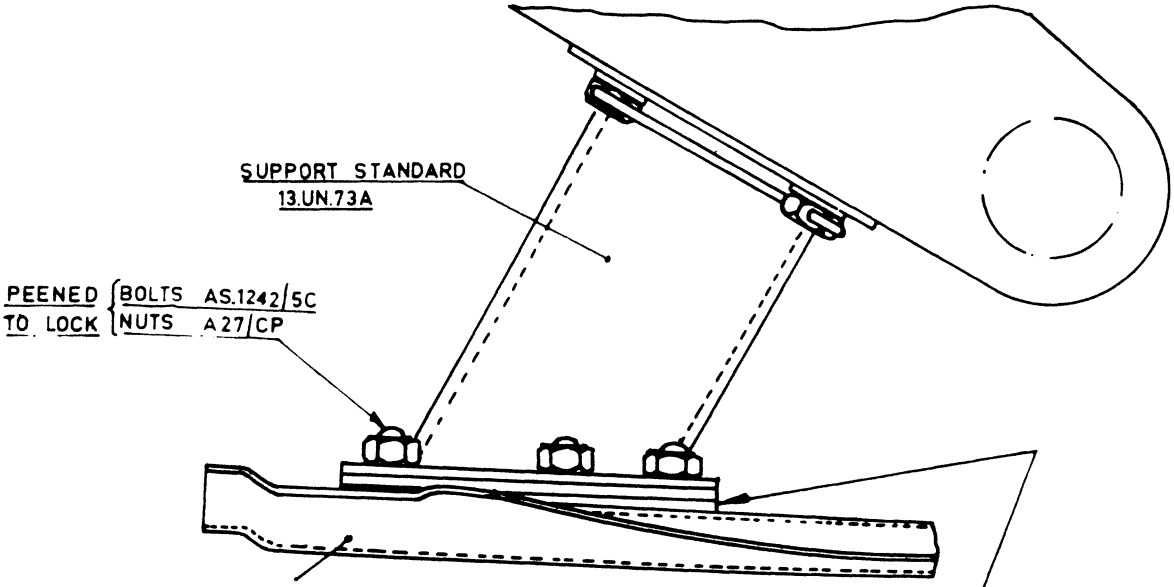


FIGURE 2.

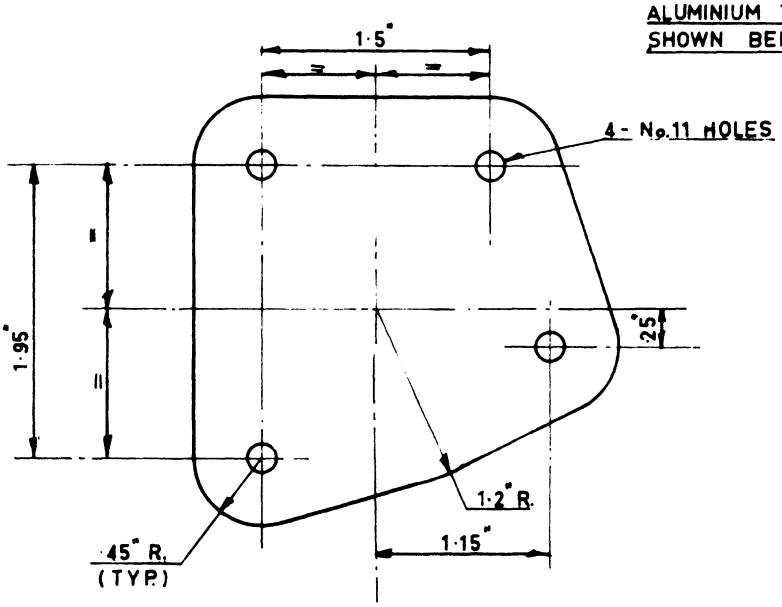
DO NOT SCALE

ISSUE NO	DATE	ALTERATION	D. I. L	INITIALS	APPROVED



VIEW ON FIXED TRIANGULAR FAIRING SHOWING METHOD OF PACKING

ADD IF REQUIRED IN OPERATION 8.—MAKE FROM 18 S.W.G. L16 ALUMINIUM TO THE DETAIL SHOWN BELOW



DETAIL OF PACKING 13.UN.95

FIG. 3

REFERENCE	ISSUED BY	TITLE
	DEPARTMENT OF AIR SENIOR TECHNICAL STAFF OFFICER SUPPORT COMMAND	NOSE UNDERCARRIAGE DOOR LOCK MECHANISM

LIMITS UNLESS STATED		MATERIAL	N/A			COMPONENT OF	NOSE WHEEL MECHANISM
DECIMALS	± .010"	SPEC.	N/A			MACHINE	VAMPIRE
FRACTIONS	± 1/32"	TREATMENT	N/A			ENGINE	
ANGLES	± ½°	FINISH	N/A			TECH. ORDER	Vampire Instruction No 13 Iss 2
SURFACE FINISH AUSTRALIAN STANDARD ENG. DRWG. PRACTICE A.S.E.21		SCALE	NOT TO SCALE			DRAWING NO.	A14661 SHEET 3
		DRAWN		APPROVED	Kwk		DRWG. A SIZE
		TRACED		CHECKED			

DO NOT SCALE

ISSUE NO	DATE	ALTERATION	D I L	INITIALS	APPROVED
2	14-12-62				

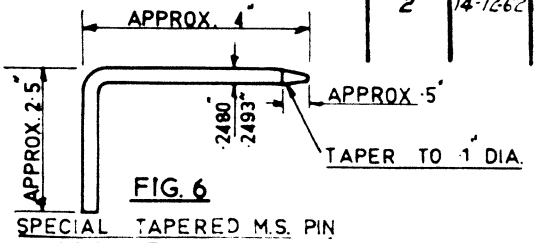


FIG. 6
SPECIAL TAPERED M.S. PIN
SEE OPERATION 6

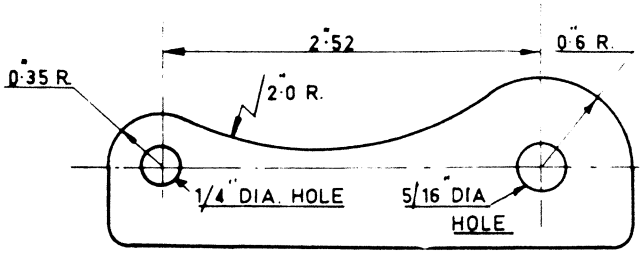


FIGURE 5
SCRIBE TEMPLATE FOR DOOR HINGE 13.FS.2903A
— SEE OPERATION 1 —

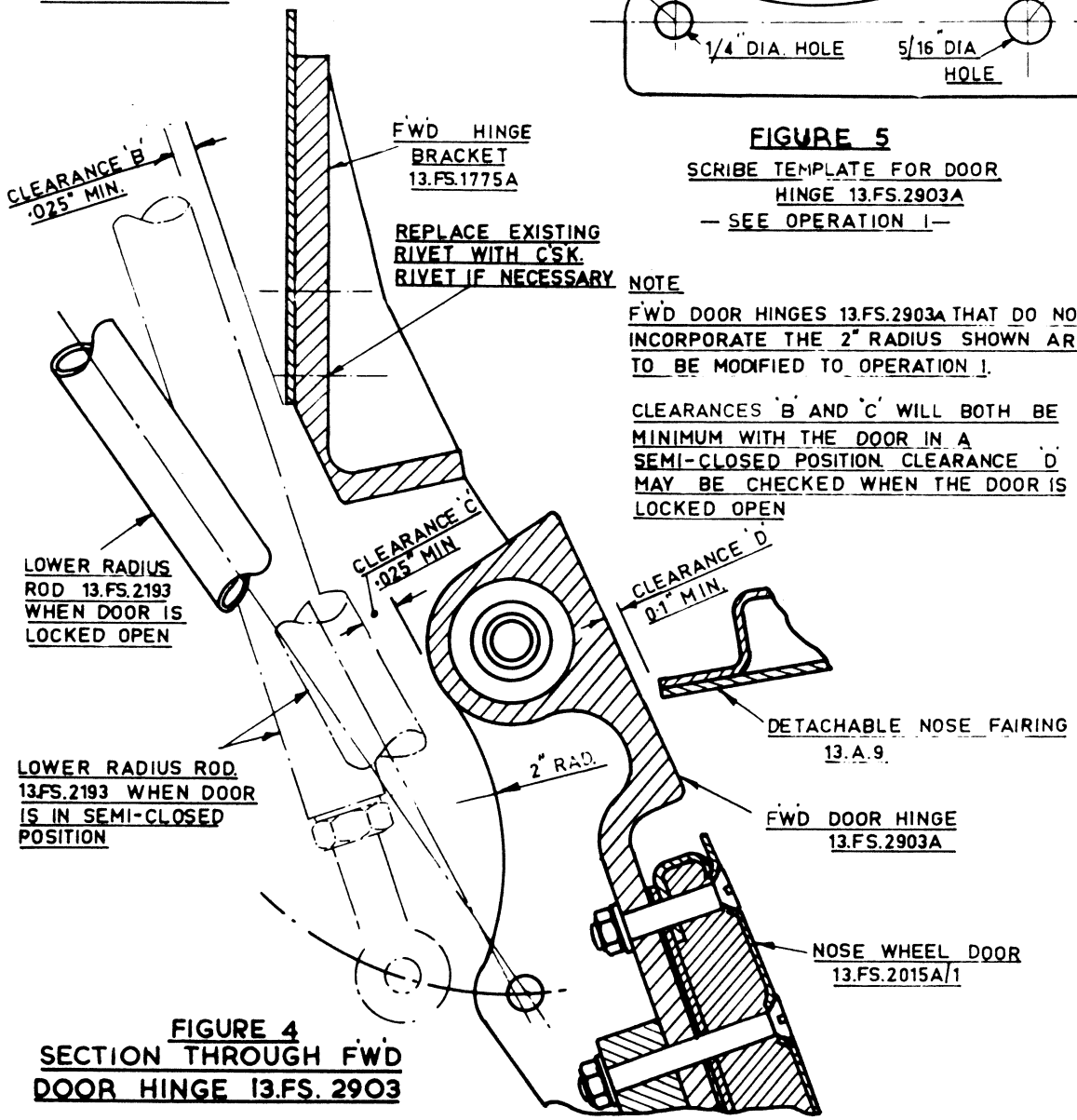


FIGURE 4
SECTION THROUGH FWD DOOR HINGE 13.FS. 2903

NOTE
FWD DOOR HINGES 13.FS.2903A THAT DO NOT INCORPORATE THE 2" RADIUS SHOWN ARE TO BE MODIFIED TO OPERATION 1.

CLEARANCES 'B' AND 'C' WILL BOTH BE MINIMUM WITH THE DOOR IN A SEMI-CLOSED POSITION. CLEARANCE 'D' MAY BE CHECKED WHEN THE DOOR IS LOCKED OPEN

REFERENCE	ISSUED BY	TITLE
	DEPARTMENT OF AIR SENIOR TECHNICAL STAFF OFFICER SUPPORT COMMAND	NOSE UNDERCARRIAGE DOOR LOCK MECHANISM

LIMITS UNLESS STATED		MATERIAL	N/A			COMPONENT OF	NOSE WHEEL MECHANISM
DECIMALS	± .010"	SPEC.	N/A			MACHINE	VAMPIRE
FRACTIONS	± 1/32"	TREATMENT	N/A			ENGINE	
ANGLES	± ½°	FINISH	N/A			TECH. ORDER	Vampire Instruction No 13 Iss. 2
SURFACE FINISH AUSTRALIAN STANDARD ENG. DRWG. PRACTICE A.S.E.21		SCALE	NOT TO SCALE			DRAWING NO.	A14661 SHEET 4
		DRAWN		APPROVED	Kwk		DRWG. A SIZE
		TRACED		CHECKED			

A.A.P.721:79, Vol.2, Pt.1. VAMPIRE INSTRUCTION NO.14

Applicable to all Marks
INCLUDING 35 & 35A AL 30

ASSEMBLING OF HYDRAULIC HOSES ON MAIN UNDERCARRIAGE

Introduction

1. Chafing of the hydraulic hose AIR.31836 on the undercarriage 'UP' line has been observed on many service aircraft. In some cases chafing gave rise to splitting of the hose and the loss of hydraulic fluid. This type of failure can be eliminated if the procedure detailed below is observed during re-assembling of the hydraulic lines.

Instruction

2. (a) Ensure that both hoses, AIR.31836 and AIR.34492, are assembled to the hydraulic system without twist.

(b) Hose AIR.31836 at all points along its length must lie inside the loop formed by the hose AIR.34492 without bulging out sideways.

(c) Wrap the two hoses together with 1" wide tape, Varnished Cambric, Ident.No. G5F/463 from a point approximately 1" above the clip 00G21 down to within approximately 4" from the hydraulic jack connection of hose AIR.34492.

(d) Bind with Cordage, Kite, Flex 4 oz. Ident. No. I32A/5 at approximately 4 places at regular intervals along the wrapped portion of the hoses.

~~(e) Apply 1 coat of Shellac Ident.No. K4/145 to the tape and cord bindings.~~

(e) If the present positions of the bolts attaching the clip 00G21 are outside a radius of .4" from the positions marked in the attached sketch, reposition the clip 00G21 as shown on Drawing A12834.

(Issued with A.L.8 - May, 1957)

Reference : File Department of Air 150/4/9418.

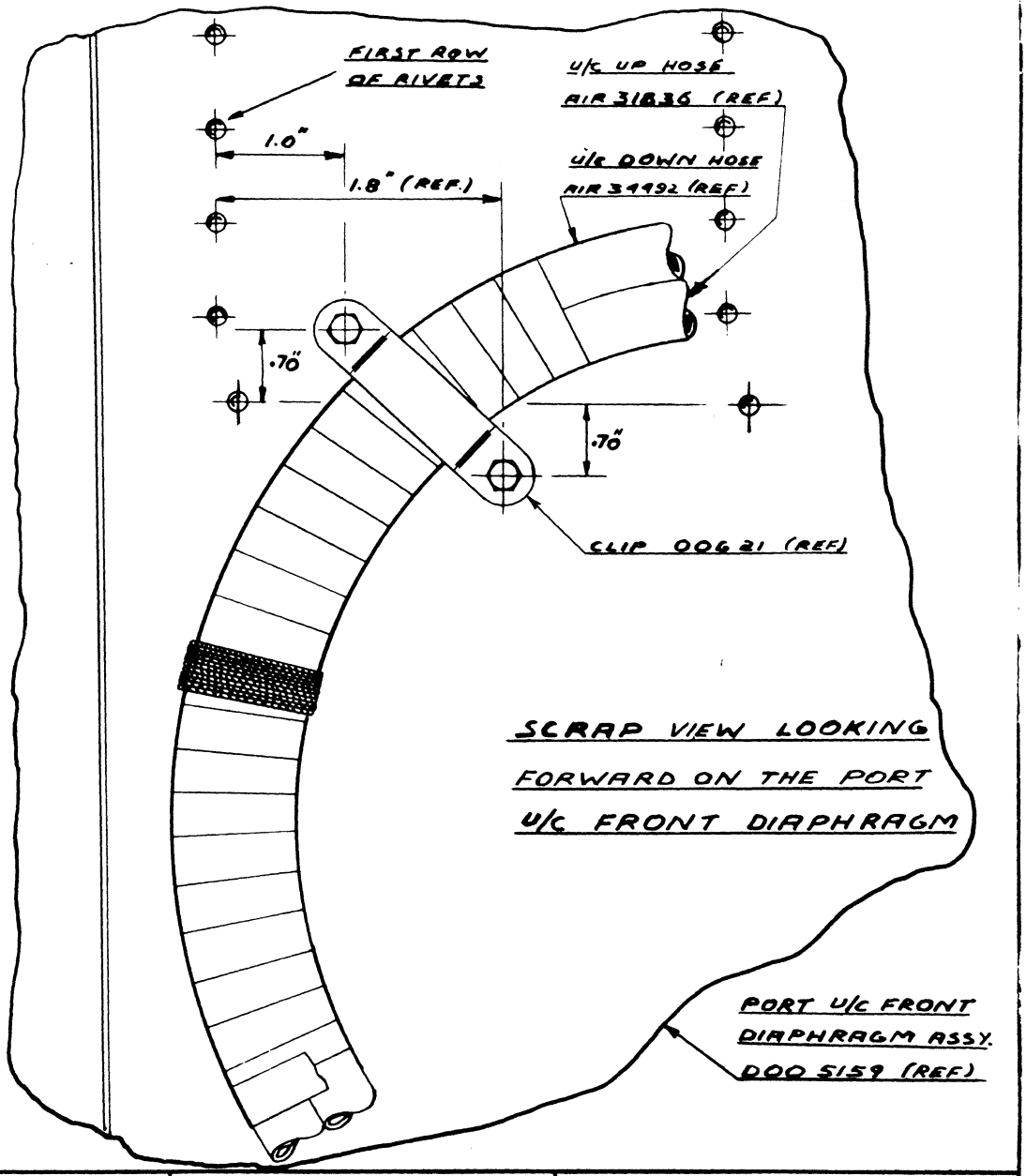
Attachment : Drawing No. A12834.

Date of Issue : 6th May, 1957.

(Issued with A.L.8 - May, 1957)

DO NOT SCALE

ISSUE NO	DATE	ALTERATION



REFERENCE	ISSUED BY	TITLE
	DEPARTMENT OF AIR DIRECTOR GENERAL OF ENGINEERING	ASSEMBLY OF HYDRAULIC HOSES ON MAIN UNDERCARRIAGE ASSEMBLY

LIMITS UNLESS STATED		MATERIAL		COMPONENT OF	
DECIMALS	± .010"	SPEC.		MACHINE	
FRACTIONS	± 1/32"	TREATMENT		ENGINE	
ANGLES	± 1°	FINISH		TECH. ORDER	VAMPIRE INSTR. NO. 14.
SURFACE FINISH AUSTRALIAN STANDARD ENG DRWG. PRACTICE A S 621		SCALE		DRAWING NO.	A 12834
		DRAWN	APPROVED		DRWG SIZE A
		TRACED	CHECKED		

AAP 721:79 Vol 2 Pt 1 VAMPIRE INSTRUCTION NO 15

Application: Vampire Mk 30/31 aircraft

ADF/14 RADIO COMPASS - SENSE ANTENNA CONTACT SPRING

AL 30

Introduction

1. Instances have been reported where the Radio Compass ADF/14 bearings were erratic and on some occasions indicated a complete loss of sensing both in flight and on the ground due to the sense antenna contact spring failing to make proper contact when the canopy was closed.

Instruction

2. The sense antenna contact spring should conform to the following:-

(a) shaped in accordance with Drawing No A13056;

(b) make contact at its lower forward edge approximately ¼" before the canopy is closed;

(c) the upper portion of the spring must not short on the diaphragm forming the canopy seal when the canopy is fully closed.

3. If the spring is found to be deformed, it is to be so shaped to conform to Drawing No A13056 or replaced by a serviceable item.

4. If the Contact Spring fails to make correct contact with contact plate, the fingers may be bent slightly ~~xxxxxx~~ towards or away from the centre line of the aircraft. Should still further adjustment be necessary the mounting holes of the contact spring may be elongated to permit such ~~xxxxxxxxx~~ adjustment.

References : Files, Department of Air, 214/20/35 and 150/4/9586

Attachment : Drawing No A13056

Date of Issue : 14th November, 1958

(Issued with A/L 12)

AAP 721:79 Vol 2 Pt 1 VAMPIRE INSTRUCTION NO 15

Application: Vampire Mk 30/31 aircraft

ADF/14 RADIO COMPASS - SENSE ANTENNA CONTACT SPRING

Introduction

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Instruction

2. The sense antenna contact spring should conform to the following:-

(a) shaped in accordance with Drawing No A13056;

(b) make contact at its lower forward edge approximately ¼" before the canopy is closed;

(c) the upper portion of the spring must not short on the diaphragm forming the canopy seal when the canopy is fully closed.

3. If the spring is found to be deformed, it is to be so shaped to conform to Drawing No A13056 or replaced by a serviceable item.

1. Vampire Instruction No 15 is amended as follows:-

After paragraph 3 insert new paragraph 4 -

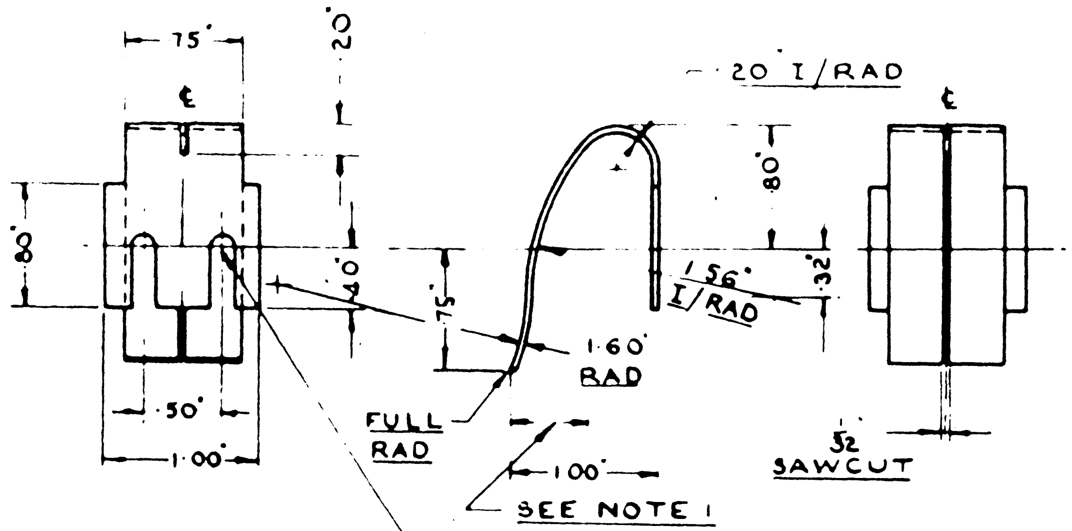
"4. If the contact spring fails to make correct contact with contact plate, the fingers may be bent slightly towards or away from the centre line of the aircraft. Should still further adjustment be necessary the mounting holes of the contact spring may be elongated to permit such adjustment."

(A/L 14)

(Issued with A/L 12)

DO NOT SCALE

ISSUE NO.	DATE	ALTERATION	INITIALS	APPROVED
	18.4.50			



NOTE 1 FINAL TEST THE SPRING MUST BE HELD SECURELY IN SIMILAR MANNER AS SHOWN ON 00Z 395A AND WITHSTAND A DEFLECTION OF ·50" WITHOUT PERMANENT SET

1	00Z 395 A	002 395	MK 30,31
No OFF	ASSY No	SCHED No	M/C

REFERENCE	ISSUED BY	TITLE
	DEPARTMENT OF AIR DIRECTORATE OF MECHANICAL & ELECTRICAL ENG	CONTACT SPRING (SENSE AERIAL)

LIMITS UNLESS STATED		MATERIAL	18 SWG BERYLLIUM COPPER	COMPONENT OF	
DECIMALS	± ·010"	SPEC.		MACHINE	
FRACTIONS	± 1/64	TREATMENT		ENGINE	
ANGLES	± ½°	FINISH	ELECTRO TINNED	TECH ORDER	D.T.S. SPECIAL-VAMP/151
SURFACE FINISH		SCALE		DRAWING NO	A13056
AUSTRALIAN STANDARD ENG. DRAWING PRACTICE A.S.		DRAWN	APPROVED		A
		TRACED: E McK.	CHECKED		

AAP 721:79 VOLUME 2, PART 1 VAMPIRE INSTRUCTION NO 17
APPLICATION: All Marks

ALTERNATIVE BALL BEARINGS - FLYING CONTROLS

Introduction

1. During a temporary shortage of ball bearings SKF 400602/C-001 at De Havillands, a composite ball bearing consisting of ball bearing SKF 13303 with two spacers 00K47 was fitted as an alternative to the components listed below.

2. An instance has been reported in which a spacer was misplaced during the servicing of a rudder pulley assembly, resulting in malfunctioning of this component.

Instruction

3. Substitute type ball bearings SKF 13303 with two spacers 00K47 (see attached drawing) can continue to be used in Service on the components listed below but all personnel concerned with the servicing of these assemblies are to ensure that neither spacer is misplaced when components are removed and re-assembled.

4. The following assemblies may have had the substitute type ball bearings fitted and should therefore comply with paragraph 1:-

A79/500102	D0063A	Outer Hinge Bracket Assembled on Inner and Outer Flap Assemblies (Port and Starboard).
A79/500106	D00105A	Aileron Outer Hinge Swivel Assembled on Outboard Aileron Hinge (Port and Starboard).
A79/500108A	D00108A	Aileron Centre Hinge Swivel Assembled on Outboard Aileron Hinge (Port and Starboard).
A79/500223	D003313A	Port Inner Hinge Lever Bracket Assembled on Port Aileron.
A79/500224	D003314A	Starboard Inner Hinge Lever Bracket Assembled on Starboard Aileron.
A79/500398	K0082A	Connecting Rod End piece, fitted to Elevator Quadrant Pulley Assy.
A79/503719	K00121A/3	Assy of Port Rudder Pulleys, Assembled on False Spar Control Pulley Group.
A79/503720	K00122A/2	Assy of Starboard Rudder Pulleys, Assembled on False Spar Control Pulley Group.
A79/503724	K00153A/2	Assy of Port Elevator Pulley, Assembled on False Spar Control Pulley Group.

(Issued with AL 13 - August, 1959)

A79/503725 K00154A/2 Assy of Starboard Elevator Pulley, Assembled on False Spar Control Pulley Group.

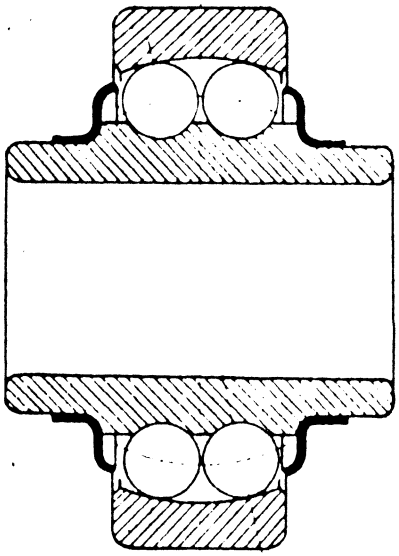
References : Files, Department of Air, 9/84/275^{II} and 150/8/1920

Attachment : Drawing No A13123

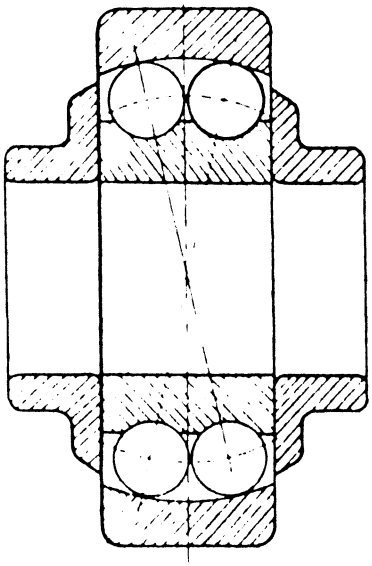
Date of Issue : 31st August, 1959

(Issued with AL 13 - August, 1959)

2	16.7.59	Tech. Order as shown, was:- "R.A.A.F. S.T. Vampire/2			



SKF 400602/C-001
BALL BEARING



BALL BEARING
SKF 13303 WITH 2 OFF
SPACERS OOK 47

SCALE 4 TIMES FULL SIZE

REFERENCE	ISSUED BY	TITLE
	DEPARTMENT OF AIR DIRECTORATE OF AIRCRAFT ENGINEERING	AIRFRAME - ALTERNATIVE BALL BEARINGS.
LIMITS UNLESS STATED	MATERIAL	
	4:1	153 (2) Vampire Instruction No.17
AUSTRALIAN ENG. DRWG. PRACTICE A.S.A.	AR	A-13123.

AAP 721.79 VOLUME 2 PT 1

VAMPIRE INSTRUCTION NO 18
Application: All Marks

STARTING PROCEDURE - USE OF RECTIFIER GROUND STARTING

Introduction

1. Investigation shows that when using item Trollies Rectifier, Ground Starting, it is possible to subject the aircraft electrical starting components to heavy overloads due to incorrect voltage setting on the rectifier unit during starting.

2. Additionally, the possibility of damage to engine gear train, due to the excessive torque developed at the clutchless starter motor when using high voltage settings, is always imminent.

3. Issue of this instruction cancels the requirements of Special Technical Instruction Vampire/29.

Instruction

4. When using mobile rectifier units to start Vampire aircraft, the minimum voltage must be selected prior to starting.

References : Files, Department of Air 9/84/36 and 150/8/2200

Date of Issue : 29th December, 1959

AAP 721.79, Vol 2, Pt 1

VAMPIRE INSTRUCTION NO 19
ISSUE 2

PITOT CIRCUIT VOLTAGE DROP TEST

Introduction

1. This instruction is issued to detail:-

(a) Maximum permissible voltage drop across the pitot heater circuit.

(b) Procedures for checking the voltage drop.

(c) Corrective measures to be adopted, where necessary.

Instructions

2. At each "D" servicing of Vampire aircraft check the pitot heating circuit for voltage drop as follows:-

(a) Connect a constant 28 volt DC external supply to the aircraft.

(b) Remove cover plate for access to pitot heating circuit terminal block situated on top of the port fin adjacent to the pitot head.

(c) Switch "ON" pitot heating circuit and ensure all other circuits are "OFF".

(d) Using two voltmeters of the same accuracy, simultaneously monitor the voltages at the ground power receptacle and the terminal block adjacent to the pitot head.

3. The maximum permissible voltage drop (measured at pitot head terminal block) is 2.0 volts.

4. If the voltage drop exceeds 2.0 volts, check all switch and terminal block connections, ensure they are clean and tight and inspect all plug and socket pins and inserts for deterioration.

5. Suspect plugs and sockets are to be serviced in accordance with AAP 745.00, Vol 2, Pt 1, Electrical Instruction No 5/4/2.

Reference: File, Headquarters Support Command 2501/110/5437

Date of Issue: 12th April 1965

AAP 721:79 VOL 2, PART 1

VAMPIRE INSTRUCTION NO 20

Applicable to all Mk 35 and 35A aircraft

VAMPIRE FORK NOSE WHEEL - REPAIR

Introduction

1. Numerous cases have occurred when the hexagon head of the nose wheel pivot bolt has caused damage to the machined flats of the nose wheel fork. This instruction is introduced to detail a repair for item A79/500676 Fork Nose Wheel.

Instruction

2. When the flats of the slot become damaged the following repair is to be carried out:-

(a) Remove the nose wheel fork from the aircraft.

(b) In accordance with attached drawing (A-14103) machine the damaged flats of the slot in the fork and manufacture a locking tab.

(c) Locate the manufactured tab in the slot, spot the three holes and drill and tap the fork to take 2BA screws $\frac{3}{8}$" long (H28C/2808).

(d) Attach the lock plate in position. Apply jointing compound (K3/353) under the tab and on the 2BA screws. Centre punch the 2BA screws to lock item.

(e) Re-assemble the Fork Nose Wheel to the aircraft.

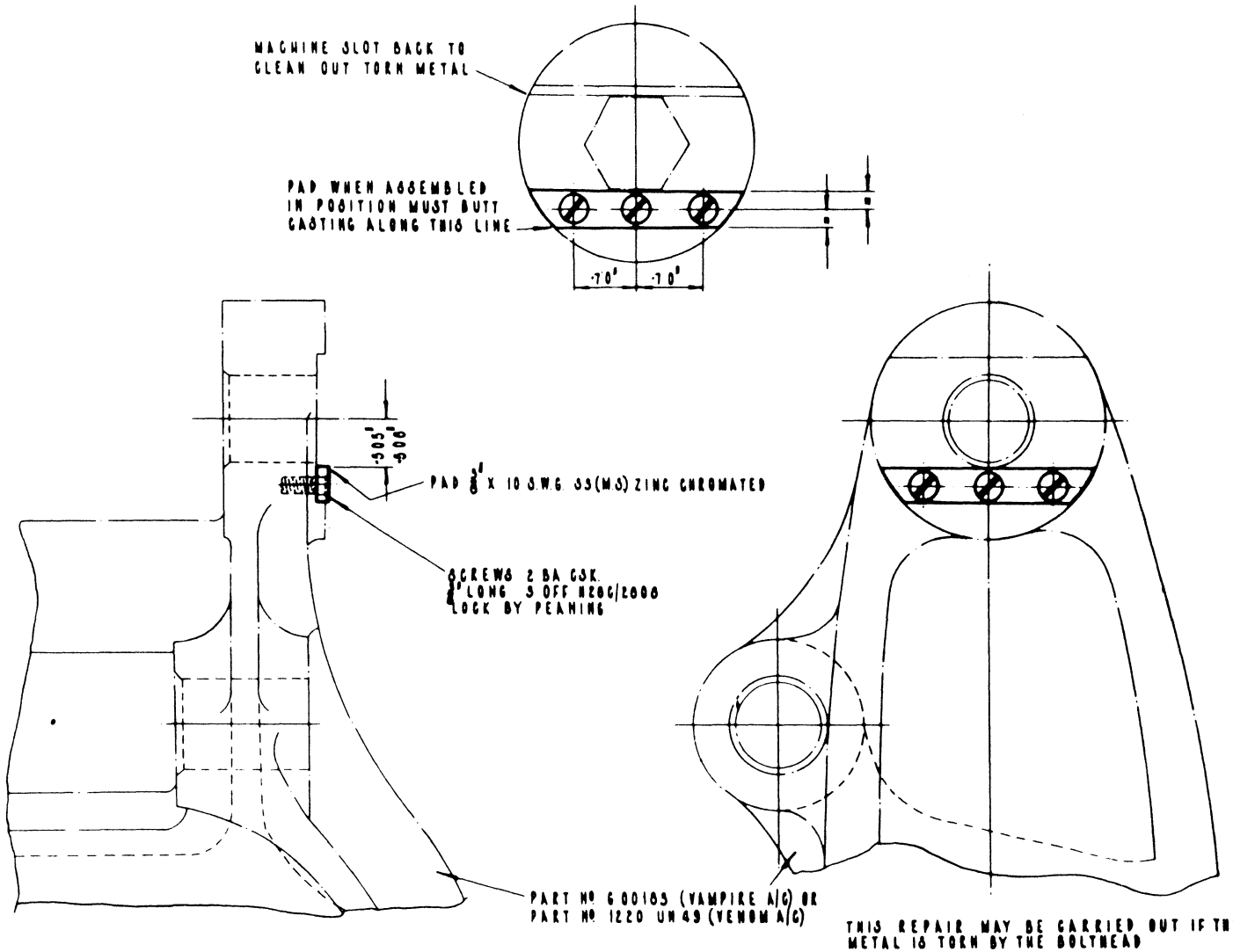
References : Files, HQSC, 2501/110/3200 and 2601/79/34

Attachment : Drawing A14103

Date of Issue : 11th December, 1961.

(Issued with A/L 17 - December 1961)

DO NOT SCALE



No.	DATE	ALTERATION	D.T.L.	INITIALS	APPROVED
	25.10.61				

REFERENCE

ISSUED BY
DEPARTMENT OF AIR
SENIOR TECHNICAL STAFF OFFICER
SUPPORT COMMAND

LIMITS UNLESS STATED		MATERIAL	
DECIMALS	± .010"	SPEC.	
FRACTIONS	± 1/64"	TREATMENT	
ANGLES	± ½°	FINISH	
SURFACE FINISH AUSTRALIAN STANDARD		SCALE	
		DRAWN	APPROVED
		TRACED L.O.W.	CHECKED

TITLE
REPAIR SCHEME, NOSE WHEEL FORK

COMPONENT OF	
MACHINE	VAMPIRE A/C
ENGINE	
TECH. ORDER	
DRAWING NO.	A 14103

AAP 721:79 VOL 2, PART 1

VAMPIRE INSTRUCTION NO 21

Applicable to Vampire Aircraft Mk 35 and 35A

COCKPIT FALSE FLOOR - DAMAGE

Introduction

1. Damage is being caused to panels of the false floor by servicing personnel working in the cockpit when the ejection seats have been removed. In one instance, distortion of the panel caused fouling of the lever of the elevator layshaft under the false floor.

Instruction

1. Servicing personnel are to take all possible precautions to prevent damage to false floor panels whilst working in cockpits when the ejection seats have been removed.

2. Shoes Working are to be worn by servicing personnel working in the aircraft.

3. Operating units are to design and manufacture suitable plywood ramps that will obviate damage to the false floor and provide a solid footing for personnel working in the cockpit.

4. Whilst it is appreciated that the ramps cannot be used on every occasion they are to be used whenever practicable, particularly during "D" and "E" servicing.

5. When false floor panels are removed they are to be examined for foul marks, distortion and/or damage and are to be suitably reworked before refitting to the aircraft.

References : Files, HQSC, 2601/79/16 and 2501/110/3241

Date of Issue : 28th December, 1961.

(Issued with A/L 18 - December 1961)

AAP 721:79 VOL 2, PART 1

VAMPIRE INSTRUCTION NO 22

Applicable to Vampire Aircraft Mark 35 and 35A

INSPECTION FOR MAIN ~~PLANE~~ BUCKLING WHENEVER EXCESSIVE "G" IS RECORDED OR SUSPECTED (CANCELLING DTS SPECIAL INSTRUCTION VAMPIRE/53)

Introduction

1. DTS Special Instruction Vampire/53 was introduced to detail the acceptance limits of skin buckling on Vampire aircraft mainplanes. It is an established fact that buckling, within the tolerances laid down in DTS Vampire/53, occurs early in the life of an aircraft. Furthermore experience has shown that increased buckling is most unlikely to occur. The following instruction details the occasions and procedure for a detailed examination for skin buckling.

Instruction

2. (a) Whenever excessive "G" is recorded or suspected the following check is to be carried out and details entered in the Airframe Log Book.

All Nose Ribs other than Nose Rib No 2

(b) Aircraft may be considered fully serviceable provided a rib depression does not exceed 0.035 inches - measurements being taken under a 6 inch rule placed spanwise over rib stations.

Nose Rib No 2

(c) Vampire aircraft can be considered fully serviceable with buckles existing on the top nose skin between rib No 2 and Rib No 3 providing they do not exceed 0.1 inch when measured as follows:-

(i) Measure round the upper profile from the tank door cut-out at Rib 2 and Rib 3 dimension, and mark off percentage points as shown in the following table. Rib 2 datum falls on the joint in the skin, and Rib 3 datum falls mid-way between two rows of rivets, which will be seen at approximately 17" outboard of Rib 2.

Percentage	Rib 2 Datum	Rib 3 Datum
1%	4-1/16	4-1/16

(Issued with A/L 19 - January 1962)

Percentage	Rib 2 Datum	Rib 3 Datum
2½%	5-29/32	5-13/16
5%	8-11/16	8-7/16
7½%	11-3/8	10-15/16

(ii) Join up the percentage points on Rib 2 and Rib 3 by drawing pencil lines across the leading edge skin top surface.

(iii) Determine the deepest (or highest) point in the wrinkle and measure as follows:-

(A) Ridges. Place a 6" steel rule with the percentage lines and position the inboard end of the rule on the highest point of the rule and the skin. This dimension must not exceed .1". (See Drawing No A11990 attached).

(B) Hollows. Place a 6" steel rule in line with the percentage lines across the hollow and measure the maximum gap between the rule and the skin at the deepest point. This dimension must not exceed .1". (See Drawing No A11990 attached).

(d) The only circumstances under which aircraft with buckles exceeding the above tolerances are to be flown is for the return of the aircraft to the contractors or repair centre.

(e) This flight is to be carried out on authority of allotment signal from this Headquarters but only if the responsible engineering officer considers the aircraft safe for a travel flight.

(f) Reports Required : Cases of existing buckles exceeding allowable tolerances and buckles subsequently developing beyond these tolerances are to be forwarded to this Headquarters by signal giving, extent, aircraft number and relevant information on type of flying prior to buckling if available.

(g) Log Book Action : Required stating depth of maximum buckle.

References : Files, HQ^{S}C, 2601/79/23 and 2501/110/3267

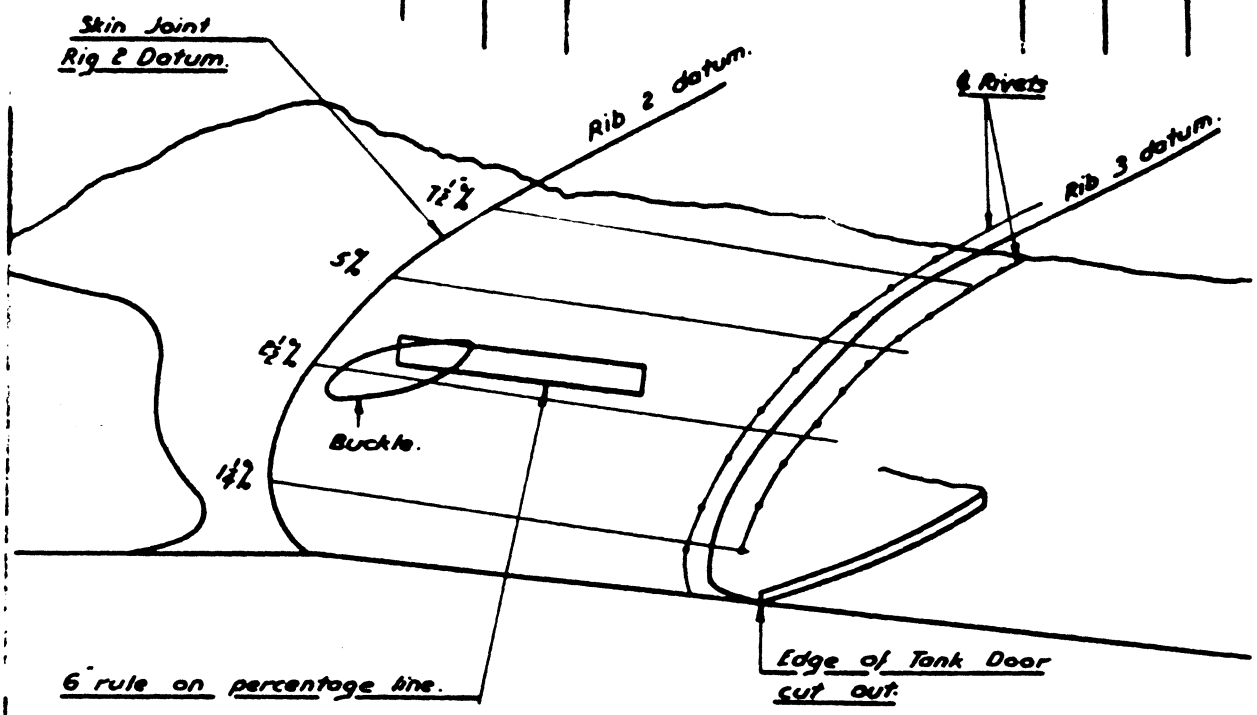
Attachment : Drawing A11990

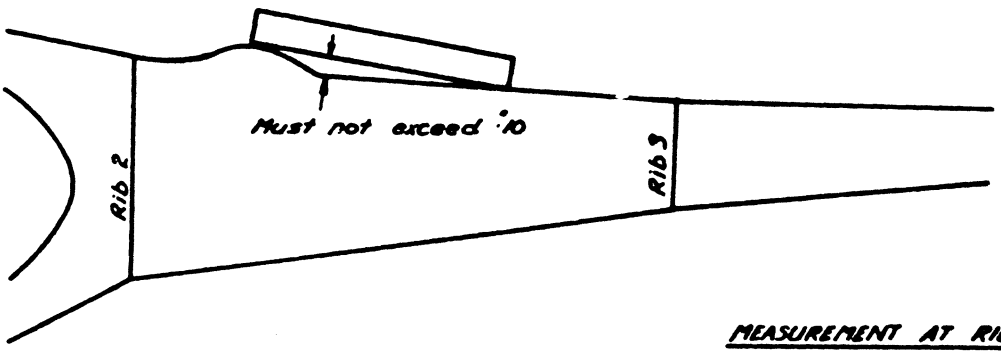
Date of Issue : 4th January, 1962.

(Issued with A/L 19 - January 1962)

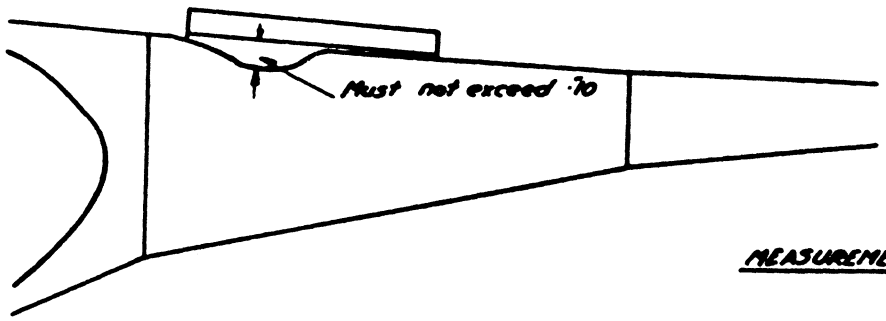
DO NOT SCALE

ISSUE NO.	DATE	ALTERATION	B. L. L.	INITIALS	APPROVED
	30-8-57				





MEASUREMENT AT RIDGES.



MEASUREMENT AT HOLLOWS.

REFERENCE	ISSUED BY	TITLE
	DIRECTORATE OF TECHNICAL SERVICES. R. A. A. F.	METHODS FOR MEASURING BUCKLES BETWEEN RIB 2 AND RIB 3.

LIMITS UNLESS STATED		MATERIAL		COMPONENT OF	
DECIMALS	± .010"	SPEC.		AIRFRAME	
FRACTIONS	± 1/32"	TREATMENT		ENGINE	
ANGLES	± ½°	FINISH		TECH. ORDER	D.T.S SPECIAL INST. VAMPIRE/67
SURFACE FINISH AUSTRALIAN STANDARD EMC. DRWG. PRACTICE A.S.621		SCALE		DRAWING NO.	A11990
		DRAWN	APPROVED		DRWG. SIZE
		TRACED M.E.W.	CHECKED		

VAMPIRE INSTRUCTION NO 23

Applicable to Mark 35 and 35A Vampire Aircraft

RUDDERS - RE-SECURING OF LOOSE LEAD FILLING IN MASS BALANCES (CANCELLING DTS INSTRUCTION VAMPIRE 132)

Introduction

1. Units have reported instances where the lead mass balance weights in the rudders is found to be loose in its casing. When rudders are removed from aircraft in the normal course of servicing or when security of the mass balance weights is suspect, the following instruction is to be adhered to.

Instruction

2. (a) Check all rudders when removed from the aircraft for tightness of the mass balancing lead in its casing. Should this lead become loose in its casing, it may be tightened as follows.

(b) Remove the front $\frac{1}{4}$" BSF retaining bolt. Invert the rudder and pour Zinc chromate primer, thinned to spraying consistency, into the bolt hole as a means of treating the surfaces of any cavity that may exist between the lead and its casing. Oscillate the rudder to ensure overall distribution of the chromate within the casing. Drain off excess primer.

(c) Insert a .20" dia lead plug into the bolt hole of sufficient thickness to ensure that the lead filling is firmly held within the casing when the bolt is replaced and tightened. Replace and tighten bolt.

(d) Repeat operations (b) and (c) for each of the remaining two retaining bolts.

(e) Wire lock all three bolts with 22 SWG steel locking wire, Ident No Il/9715.

(f) When lead plugs have been inserted as per paras (c) and (d), the re-mass balancing of the rudder is carried out as detailed below.

(g) Mk 35 and 35A. Through the 1.00" dia access hole provided in Cap Rib and Base Plate, drill out sufficient lead to balance rudder to requirements shown on Drawing No A14150 attached.

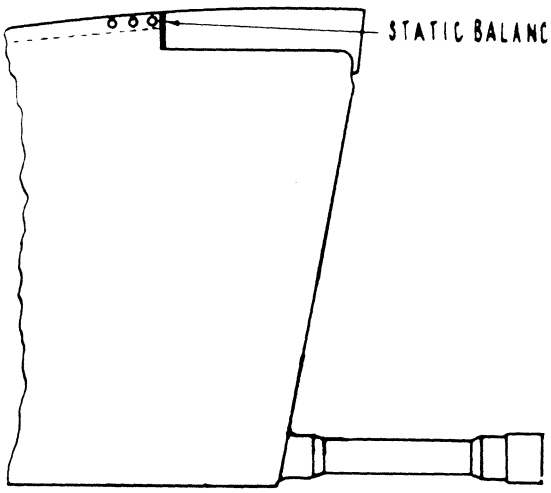
References : Files, HQSC, 2501/110/3278 and 2601/79/31

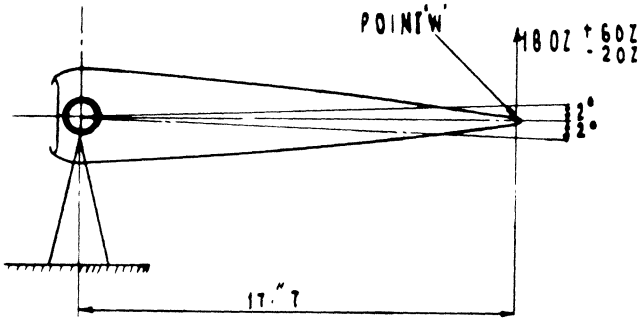
Attachment : Drawing A14150

Date of Issue : 4th January, 1962. (Issued with A/L 20 - January 1962)

DO NOT SCALE

ISSUE NO	DATE	ALTERATION	D. L.	INITIALS	APPROVED
	12.12.61				





WITH RUDDER SUPPORTED AT TOP TORQUE TUBE. BALANCE MUST BE OBTAINED WITHIN AN ANGULAR TOLERANCE OF ± 2° BY APPLYING AN UPWARD LOAD OF 18 OZ + 6OZ - 2OZ AT POINT 'W'

RUDDER

REFERENCE	ISSUED BY	TITLE
	DEPARTMENT OF AIR SENIOR TECHNICAL STAFF OFFICER SUPPORT COMMAND	RUDDER BALANCING

LIMITS UNLESS STATED		MATERIAL	COMPONENT OF	
DECIMALS	± .010"	SPEC.	MACHINE	
FRACTIONS	± 1/32"	TREATMENT	ENGINE	
ANGLES	± ½°	FINISH	TECH ORDER	VAMPIRE INST Nº 23.
SURFACE FINISH AUSTRALIAN STANDARD ENG. DRWG. PRACTICE A.S.CZI		SCALE	DRAWING NO.	A-14150
		DRAWN		DRWG. A SIZE
	B.K.	TRACED		

AAP 721:79 VOLUME 2, PART 1

VAMPIRE INSTRUCTION NO 24

Applicable to Vampire Mark 35 & 35A aircraft

INTRODUCTION OF RECLAIMED BRAKE FRICTION PLATES (CANCELLING RAAF SPECIAL TECHNICAL INSTRUCTION 28)

Introduction

1. Worn brake friction plates are now being reconditioned at Dunlop Aviation Branch. The plates are inspected on arrival and if found suitable for reconditioning they are reground and replated. The reclaimed plate is .720" thick which is .030" under new production dimension.

2. The reclaimed plates are identified as follows:-

Ident No 1630/66/010/9301 Plate Brake, Outer
Part No 1DB1180-RP072/1

Ident No 1630/66/010/9300 Plate Brake, Inner
Part No 2DB1180-RP072/1

Note: RP072/1 is Dunlop code for a reclaimed Brake Plate to dimension .720".

3. Reclaimed plates are readily identified by the yellow band painted around the inner circumference of outer plate and the outer circumference of the inner plate.

Instruction

4. Reclaimed plates must always be fitted in pairs, ie an outer and an inner plate of the same thickness dimension.

5. They may be fitted in either the inboard or the outboard section of the brake assembly and may be fitted with a pair of brand new plates provided instruction (1) is observed.

6. Although the reclaimed plates are .030" undersized compared with new plates, adequate adjustment has been provided on the piston rod and nut.

(☛) 7. When reclaimed brake plates branded RP072/1 are removed from aircraft because of unserviceability they are to be certified unrepairable and placed on Board of Survey. On no account are they to be returned to the contractor.

ommand, 9/84/1113 Pt 11,

(Issued with AL 21 - January 1962)

Applicable to Vampire Mk 35 and Mk 35A Aircraft

VAMPIRE AIRCRAFT - DROP TANKS STORAGE, INSPECTION, INSTALLATION AND REMOVAL AND TESTS

Introduction

1. As a result of numerous Unit Defect and Special Occurrence Reports, this instruction is promulgated to detail the necessary action to be taken in relation to the use of drop tanks when fitted to Vampire Aircraft.

2. As drop tanks are used on Vampire Aircraft infrequently, a considerable period of their life is spent in storage, pending their required use.

3. Drop tank equipment, when fitted, becomes part of the main aircraft fuel system and as such requires the same precautions applicable to the rest of the aircraft fuel system.

4. Broken pieces of glass tube, water, contaminated fuel and incorrectly adjusted pressure reducing valves can cause unabalance of fuel feed and could lead to a serious accident.

Instruction

5. Marking of Drop Tanks

(a) Each aircraft is to be fitted with a port and starboard drop tank in accordance with the instructions detailed in AAP 721.79/33 Vol 1 Section 4 Chapter 2 Para 17.

(b) When the tanks have been satisfactorily fitted, they are to be clearly stencilled with the serial No of the aircraft, and except in an emergency, they are to be used only on that aircraft.

6. Inspection of Drop Tanks at D & E Servicings

(a) Pending amendment to aircraft Servicing Schedules, units operating Vampire Aircraft are to service drop tanks with the parent aircraft at D & E Servicings.

(Issued with AL 22 - April 1962)

(b) The precautions laid down in AEIG's Part 10 Section 1 Instruction No 3 are to be observed during inspection and/or repair.

(c) Particular attention is to be made to the following:

(i) External Condition - The paint and stencilling on the tank is to be kept to the standard of the parent aircraft.

(ii) Internal Condition - The interior of the tank must be clean and free of foreign matter, any fluid is to be drained off. Where necessary, tanks are to be flushed with clean fuel and drained.

(iii) External Fittings - Examine hoses, hose clips and glass break tubes for serviceability and security (Note any glass break tubes that are suspect are to be rejected). Blow down air and fuel lines to be certain there is no obstruction in the lines.

(iv) Any gaskets that are disturbed, are to be replaced and the utmost care taken on replacement that excess sealing compound does not restrict air and fuel feed when applicable.

(v) At the conclusion of servicing, all openings are to be blanked off.

7. Installation Procedure

(a) Before commencing to fit the drop tank, carry out the following checks:

(i) Drain off any liquid in the tank and check for contamination.

(ii) Remove blanks and inspect glass tubes, reject any that are doubtful, blow down air and fuel lines to see they are clear.

(Issued with AL 22 - April 1962)

(iii) Examine the underside of mainplanes and ensure that the drop tank spigot locating bushes are not missing.

(b) Attach the drop tank to the aircraft in accordance with instructions laid down in AAP 721:79/33 Vol 1 Section 4 Chapter 2 Para 17.

Note: If the glass break tubes are broken during this sequence, it is important that all pieces of glass are removed to prevent ingress of glass pieces to the main fuel system.

8. Tests to be carried out when Drop Tanks are Fitted to the Parent Aircraft

(a) Fill each drop Tank with 20 gallons of fuel. Substitute and adaptor cap fitted with a 0 - 10 lb sq inch pressure gauge for the filler cap.

(b) If necessary, defuel the fuselage tank of sufficient fuel to allow the drop tanks to feed via the float valve at the top rear of the fuselage tank. (Approximately 20 gallons of fuel will have to be removed from a full fuselage tank to allow drop tanks to feed).

(c) Ground run the engine and at the same time, examine the drop tank system for leaks. Observe the pressure reading at the two gauges. This must be 3.1/4 $\pm$ 1/4 lb sq inch for both tanks. Observe through the fuselage tank filler neck that fuel is feeding into the tanks via the float valve. After a short period of running the fuel will cease to flow when the float valve closes. Check that the float valve cuts off the fuel flow before the fuselage tank fills. Dip each drop tank and check that the amount of fuel transferred in equal from both drop tanks. (For information, a correctly adjusted system will produce 3 lbs/sq inch pressure at cruising revs).

(d) If the foregoing test is proved satisfactory, remove adaptor caps and after refuelling to the desired quantity, replace all filler caps.

(Issued with AL 22 - April 1962)

9. Removal Procedure

(a) Removal of drop tanks is the reverse procedure to installation. The following should be checked before commencing to remove the tanks.

Check that the drop tank is completely empty of fuel - defuel if necessary.

(b) When the tanks are removed from the aircraft, all liquid is to be drained off, openings blanked and tanks stored as detailed in Para 10 of this instruction.

(c) Replace and lock wire the blanking plugs in the under side of the main plane at the drop tank connection block.

(d) If the glass break tube is broken during removal, ensure that broken pieces are not left where they can enter the main fuel system.

10. Storage of Drop Tanks when not fitted to Aircraft

(a) Before storage, all liquid is to be completely drained off from the tank.

(b) The tank is to be securely stored in a suitable rack to prevent damage.

(c) All openings are to be blanked off, pipe lines secured to prevent damage to the glass break tubes and loose air and fuel fittings stored so as to prevent loss or damage.

(d) Aircraft having D or E Servicing carried out, are to have their drop tanks serviced at the same time.

References : Files, Headquarters Support Command, 2501/110/3428 & 2601/79/59

Date of Issue : 2nd April 1962

(Issued with AL 22 - April 1962)

AAP 721:79 VOLUME 2, PART 1 VAMPIRE INSTRUCTION NO 26

Application to Vampire Mk 35 and 35A Aircraft

CANOPY LOCKING AND LATCHING MECHANISM - OPERATION AND SECURITY (CANCELLING RAAF SPECIAL TECHNICAL INSTRUCTION VAMPIRE/77)

Introduction

1. An instance has occurred where the Eccentric Head Spindle Part No 15.FC.1907, which attaches the Locking Lever Part No 15.FC.1879A, to the canopy centre beam had become loose. This destroyed the effectiveness of the return spring and the lever remained free to move. Whenever adjustments are made to the canopy locking and latching mechanism, or checks are made for operation and security, the following instruction is to be adhered to.

Instructions

2. With the canopy in the fully open position, operate the 12.20FC.555 Handle to the closed position but do not engage with the 15.FC.1879A Locking Lever. Refer to the attached Drawing A14259.

3. With a spring balance hooked onto the 15.FC.1879A Locking Lever, ascertain the load necessary to initially move the lever.

4. A minimum load of $1\frac{1}{4}$ lbs should be obtained. If necessary, the adjustment is to be carried out as follows:-

(i) Remove the split pin and slacken the slotted nut securing the eccentric head spindle, and adjust the tension on the spring.

(ii) Tighten the nut to 80 - 100 inch pounds.

(iii) Check load as called for in para D2.

(iv) Lock nut with split pin (Ident No H28B/12462).

Note: Do not slacken nut to facilitate fitment of split pin. If necessary, shim as required.

5. If a load greater than $1\frac{1}{4}$ lbs is obtained, no further action is necessary.

References : Files, Headquarters Support Command, 2501/110/3479 and 2601/79/53.

Attachment : Drawing A14259

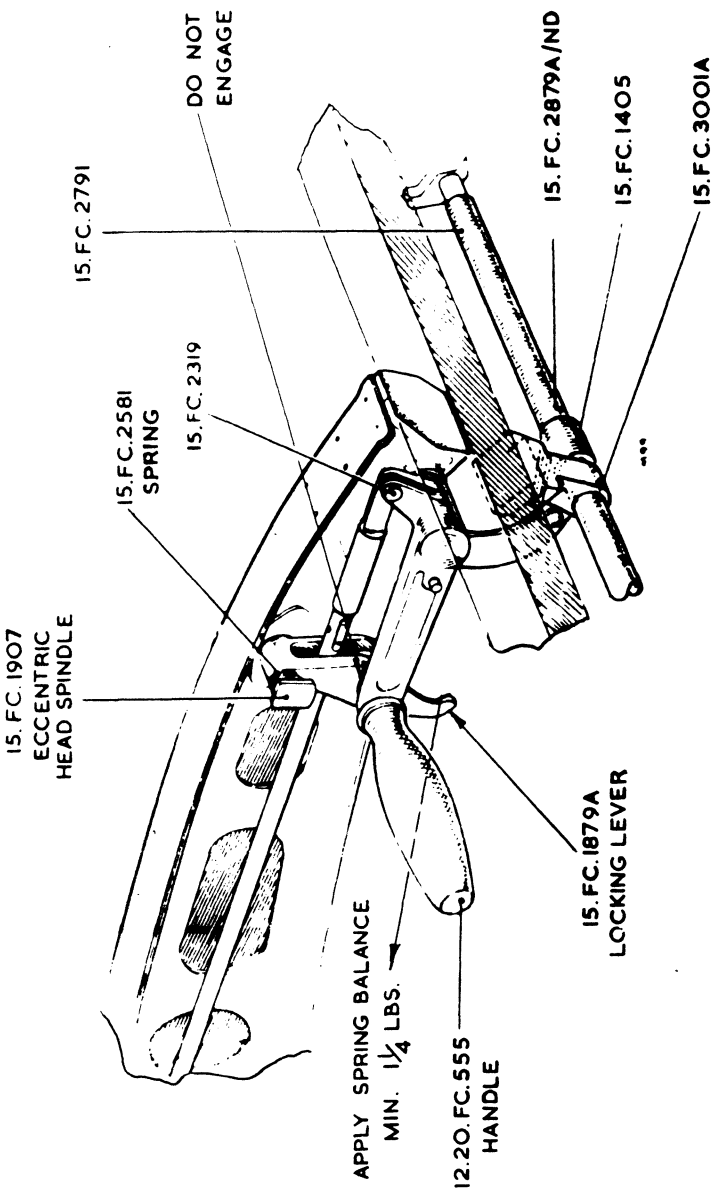
Date of Issue: 10th July 1962

(Issued with A/L 26 - July 1962)

RESTRICTED

DO NOT SCALE

ISS. No	DATE	ALTERATION	D.I.L.	INITIALS	APPROVED



REFERENCE	ISSUED BY	TITLE
	DEPARTMENT OF AIR SENIOR TECHNICAL STAFF OFFICER SUPPORT COMMAND	CANOPY LOCKING MECHANISM VAMPIRE MK.35 & 35A

LIMITS UNLESS STA'D		MATERIAL		COMPONENT OF	CANOPY LOCKING MECHANISM VAMPIRE MK.35 & 35A AIRCRAFT
DECIMALS	±·010"	SPEC.			
FRACTIONS	± 1/32"	TREATMENT		MACHINE	
ANGLES	± ½°	FINISH		ENGINE	
SURFACE FINISH		SCALE		TECH. ORDER	S.T.I. VAMPIRE / 77
AUST. STANDARD		DRAWN	APPROVED	DRAWING No.	A 14259
ENG. DRG. PRACT. ASC21		TRACED	CHECKED.		DRWG A SIZE

AAP 721:79 VOLUME 2, PART 1 VAMPIRE INSTRUCTION NO 27

UNDERCARRIAGE SELECTOR LEVER AND MICRO SWITCHES

ADJUSTMENT AND CHECK FOR CORRECT OPERATION - POST MOD 320
(Cancelling RAAF STI Vampire/78)

Introduction

1. Vampire Modification No 320 introduces a new Switch Micro Bracket and Cable Assembly. It is possible when Mod 320 is incorporated to obtain a foul between the undercarriage selector lever and the countersunk head of the pivot bolt which passes through the micro switch bracket. If the tail of the bolt fouls the fuselage skin, the bracket is forced inboard thus reducing the clearance of the actuating lever and the micro switch bracket. Furthermore, introduction of Mod 320 and/or adjustment of the control box to provide clearance for the fouled bolt requires the following checks to be carried out.

Instructions

RAAF 2. WHENEVER MICRO-SWITCH ADJUSTMENT IS REQUIRED - Aircraft are to be inspected for fouling of the bolt AS1242-17B with the fuselage and for a minimum clearance of .030" between the lever assembly undercarriage selector and the micro switch bracket P/No CE15-391A assembled on Pt/No CE15-49A/6 Ident No A79/504342.

3. Where the minimum clearance of .030" is not found and/or where the bolt tail fouls the fuselage the defect is to be rectified by packing the control box outboard with shims. If necessary, fit the correct size bolt and thin type stop nut in accordance with the attached drawing A14278.

4. Referring to AAP 721.79 Vol 2, Part 2 Vampire Modification No 320 Drawing A13463 carry out the following inspection on CE15-391A Micro Switch and Cable Assembly:-

(a) Ensure that the actuating levers are free to pivot. Slacken the countersunk bolt if necessary.

(b) Ensure that a clearance of .030" exists between the edge of the actuating levers and the mounting bracket.

(c) Check that when operating the micro switches with the operating levers, the micro switches are free to return to normal, ie, a clearance is to exist between the actuating levers and the micro switch plungers.

5. Carry out a functional test of the undercarriage in accordance with the terms referred to in AAP 721.79 Vol 2, Part 2, Vampire Modification No 320, Paragraph 11D.

Reference : File, Headquarters Support Command, 2601/79/34

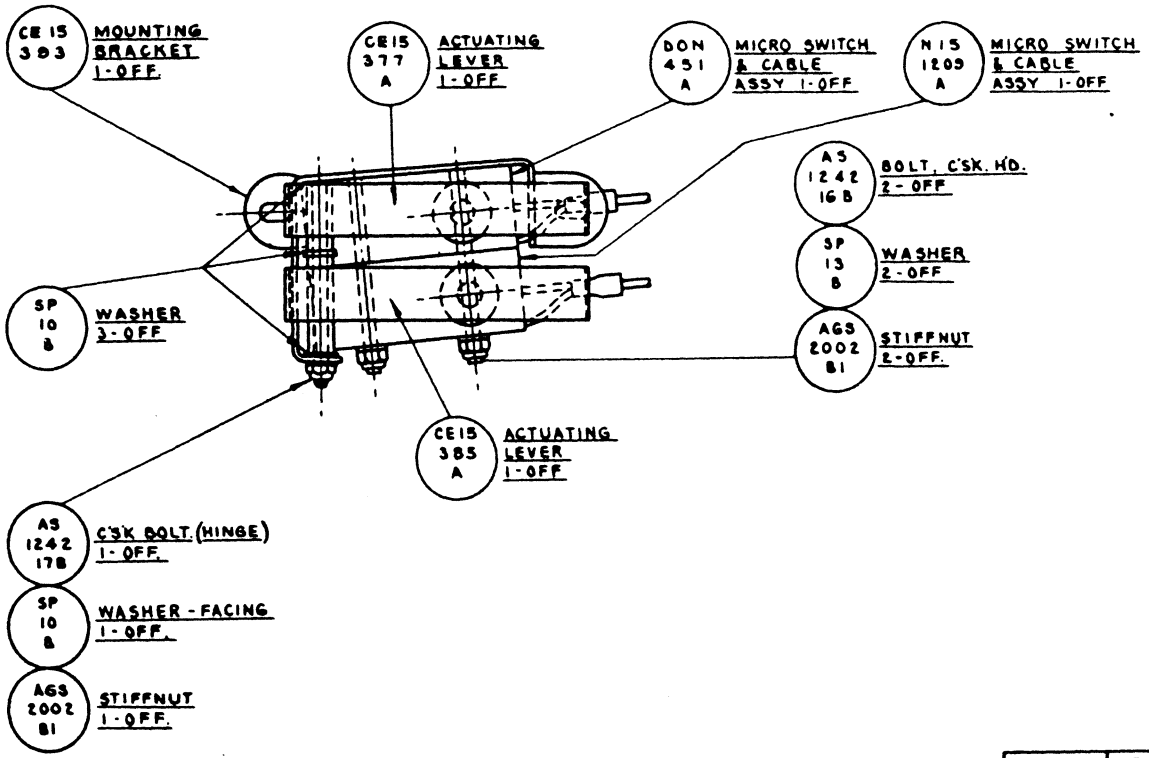
Attachment : Drawing No A14278

Date of Issue: 8th May 1962

(Issued with A/L 24 - May 1962)

RESTRICTED

DO NOT SCALE



35, 35A	CE15-49A/6	CE15-49	1
35, 35A	Z15-1503		1
MK	ASSEMBLY N°	SCHEDULE N°	N°OFF

ALTERATION	DATE	INITIALS	APPROVED
	5-3-62		

REFERENCE: TRACED FROM D.A. DRG. NO CE 15-391 A.

USED BY: DEPARTMENT OF AIR, SENIOR TECHNICAL STAFF OFFICER, SUPPORT COMMAND

TITLE: MICRO SWITCH BRACKET & CABLE ASSY

COMPONENT OF: UNDER CARRIAGE SELECTOR

AIRFRAME | ENGINE | TECH. ORDER: VAMPIRE ST.I 78

LIMITS UNLESS STATED		MATERIAL	
DECIMALS	± .010"	SPEC.	
FRACTIONS	± 1/64"	TREATMENT	
ANGLES	± 1°	FINISH	
SURFACE FINISH AUSTRALIAN STANDARD ENG. DRWG. PRACTICE A.S.C.E.		SCALE	
		DRAWN	APPROVED
		TRACED	M.I.F. CHECKED

DRAWING: A14278

AAP 721.79, VOLUME 2, PART 1

VAMPIRE INSTRUCTION NO 28

APPLICABLE TO VAMPIRE MK 35 AND 35A AIRCRAFT

ELIMINATION OF GAPS IN COCKPIT FALSE FLOORS

(CANCELLING RAAF SPECIAL TECHNICAL INSTRUCTION VAMPIRE/79)

Introduction

1. Aircraft have been found to have the Lassoband adhesive tape missing after replacement of the cockpit false floors.

2. Omission of the Lassoband tape nullifies the intent of Vampire Mod 248 which was introduced to seal the false floors and prevent the ingress of foreign objects.

Instruction

3. Whenever false floors are removed and replaced the following inspection is to be carried out:-

(a) Inspect the cockpit false floor for any gaps which could allow foreign objects to find their way under the false floor.

(b) Where gaps are found, Lassoband Adhesive Tape, Ident No I32B/500085, is to be used to seal the floor as detailed in Vampire Mod 248 para 11, sub-para (c), sub-sub-para (xiv).

(c) Areas in particular to be checked for gaps are Details A, B, C, E and F of Drawing A12981, Sheet 1 of Vampire Mod 248.

References : Files, Headquarters Support Command, 2601/79/15 and 2501/110/3565

Date of Issue : 19th June 1962

(Issued with A/L 25 - June 1962)

AAP 721:79, VOLUME 2, PART 1

VAMPIRE INSTRUCTION NO 29

Applicable to Vampire
Mk 35 & 35A Aircraft

SPEED BRAKE JACK FOULING LIGHTENING HOLE - FALSE SPAR

Introduction

1. Instances have been reported of the Speed Brake Jack fouling the outboard upper edge of the lightening hole in the false spar, in severe cases this has caused cracking of the false spar. AAP 721:79 Vol 4 Part 2 has been amended requiring a check for cracks in this area at each "C" servicing.

Instruction

2. To ascertain that clearance exists between the speed brake jack and the lightening hole in the false spar proceed as follows:-

(a) Remove the speed brake shrouds from both port and starboard mainplanes; retain all parts for reassembly.

(b) Check the rigging of the speed brake in accordance with AAP 721:79 Vol 1 Sect 3 Chap 4 Para 15.

(c) Smear Joint Compound K3/353, or Prussian Blue K4/236, to the lip of the upper outboard quadrant of the lightening holes.

(d) Function the speed brakes several times using either hydraulic rig or engine driven pump.

(e) With the aid of a mirror check that the smeared compound has not transferred onto the body of the jack, which will indicate that a foul exists either in the "IN" or "OUT" positions.

(f) Clean off the smeared compound.

3. If a foul exists proceed as follows:-

(a) Remove speed brake and jack in accordance with instructions laid down in AAP 721:79 Vol 1 Sect 3.

(b) Examine the false spar for cracks radiating from the edge of the lightening holes through which the speed brake jack passes. If cracks are found and they do not disappear from sight, stop drill the crack with an 1/8" drill.

(Issued with A/L 34 - April 1963)

(c) Where cracks are found to disappear from sight the aircraft is to be grounded and full details reported by signal to HQSC.

(d) Where cracks are stop drilled as in para D(3)(b), dress the fouled lip of the lightening hole in the false spar as necessary by lightly panel beating the affected area.

(e) Reassemble the speed brake and jack to the aircraft and check the rigging in accordance with instructions laid down in AAP 721:79 Vol 1 Sect 3.

(f) On completion of the rigging check ensure that clearance exists by repeating instructions detailed in para D(2)(c) to (f) inclusive.

(g) Replace the speed brake shrouds to the mainplanes.

4. Where cracks have been stop drilled an inspection is to be carried out at each subsequent "C" servicing to ensure that the existing cracks have not propagated and disappeared from sight, or that new cracks have not developed due to fouling of the jack against the edges of the lightening holes in the false spar.

References : Files, Headquarters Support Command, 2501/110/3622 and 2601/79/23

Date of Issue : 16th April 1963

(Issued with A/L 34 - April 1963)

INSPECTION OF CABLES - FIRE WARNING CIRCUIT

Introduction

1. (a) This instruction details the requirements for the servicing of fire warning cables in Vampire Mk 35 and Mk 35A aircraft at each engine change.

(b) RAAF Special Technical Instruction Vampire/76 is cancelled on the issue of this instruction.

Instruction

2. (a) After engine is removed examine all flame detector interconnecting cables in the engine compartment and at the tail cone for heat damage and/or mechanical damage. Where cables are found to be so damaged, replace using item G5E/3759, Cable Electric Unifire F12.

(b) When checking cables at the tail cone, ensure that the loop of cable between the entry to the flame detector and the first cable clamp is directed outward away from the fire shield.

(c) Using 250 volt megger, carry out an insulation test of that part of the fire warning circuit on the tail cone section, testing between poles and to frame. Minimum allowable resistance is 15 megohms.

(d) During removal and replacement of the tail cone, personnel are to exercise extreme care in disconnecting and connecting the plug/socket connection in the subject circuit. In this regard, ensure that the cable ferrule nuts are loosened off beforehand so that the plug and socket shells are free to move without twisting the cables connected to them.

References : Files, Headquarters Support Command, 2501/110/3634 and 2601/79/68

Date of Issue : 23rd July 1962

(Issued with A/L 27 - July 1962)

RECORDING OF FATIGUE DATA ON VAMPIRE AIRCRAFT (SUPERSEDES AND CANCELS RAAF STI VAMPIRE/51)

Introduction

1. The procedures detailed in this instruction are to be followed at all times when a fatigue meter is fitted to an aircraft unless otherwise directed by Headquarters Support Command.

2. The fatigue meter is a counting accelerometer, its primary function being to measure and record the vertical accelerations to which an aircraft is subjected whilst in flight. It will indicate the number of times that six predetermined acceleration threshold values are exceeded.

Instructions

3. To facilitate computations and to permit the ready use of any required data details, a Fatigue Meter Data Sheet (RAAF Form E/E 360 - Revised Feb 62) is to be raised and maintained for each Vampire aircraft fitted with a fatigue meter.

4. The fatigue meter counters are to be read when the instrument is installed initially after each flight following this fitment. The readings are to be recorded on the Fatigue Data Sheet and the differences from the previous readings noted.

5. Unit Engineer Officers are to ensure that personnel responsible for taking fatigue meter readings are fully aware of the importance of the accumulated data which is progressively recorded on the Data Sheets. Fatigue study programmes are over an extended period of time and consequently accuracy of meter records compiled at unit level must be assumed when statistical analysis are subsequently undertaken. AP1275A Volume 1, Section 12, Chapter 4 should be read and understood by all concerned so that the recorded readings can be monitored and used as a guide to assess meter serviceability.

6. Sheet Serial No 1 is to be allocated for the first Data Sheet of each aircraft and all following Data Sheets applicable to each particular aircraft are to be numbered consecutively, irrespective of Fatigue Meter changes. The Data Sheet Serial Number applies to the particular aircraft and not to the Fatigue Meter.

7. When the Data Sheet has been completed, the last set of readings, the next sheet Serial Number and other data is to be entered on a new sheet and the completed original copy is to be despatched direct to:-

Chief Superintendent,
Aeronautical Research Laboratories
Fishermen's Bend,
PORT MELBOURNE

(Attention RAAF Liaison Officer)

(Issued with A/L 28 - October 1962)

8. If a Fatigue Meter is removed from an aircraft for any reason and the Data Sheet is not completed, the incomplete ORIGINAL copy of the Data Sheet is to be forwarded direct to ARL.

9. If an aircraft is allotted away for any reason and whether the Data Sheet is completed or not, the ORIGINAL copy is to be forwarded direct to ARL and the new sheet, bearing the next serial number and other applicable data is to accompany the aircraft.

10. In the event of an unscheduled unserviceability arising units are to advise (by Message) Headquarters Support Command Serv 4, quoting ident number, type, serial number and to which aircraft fitted. Units are to hold unserviceable instruments pending disposal instructions from Headquarters Support Command.

11. When a fatigue meter is removed for servicing as directed by Headquarters Support Command Serv 4 and the aircraft continues to fly without a serviceable meter being replaced then all the relevant Information as per paras 13 and 14 below (with exception of 13(c)) is to be recorded on Form E/E 360 - Revised Feb 62. The form is also to be annotated that the fatigue meter has been removed for servicing.

12. In the event of an aircraft (which normally has a fatigue meter fitted) flying without a fatigue meter fitted for a period of four weeks then Headquarters Support Command Serv 4 is to be notified by message.

13. The details required to be entered on the Fatigue Meter Data Sheet are:-

(a) Date The date on which the initial readings are taken and the date of each subsequent flight.

(b) Period This refers initially to each flight but as sufficient data becomes available to allow computations to proceed this may then refer to a period as designated by the Department of Air.

(c) Counters Record the number appearing in the window above the "G" threshold levels inscribed on the installed instrument; Counter No 1 being the lowest threshold value; Counter No 2 being the next lowest etc.

Note: Form E/E 360 - Revised Feb 62 has provision for eight counting windows, columns for counters No 7 and No 8 should be ignored for Mk 2B meters.

(Issued with A/L 28 - October 1962)

(d) Airframe Log This column indicates the airframe hours and duration of flight.

(e) Nature of Flight This is to indicate the type of flying being carried out on each period, eg, navigation exercise, travel flight, test flight, ground attack, etc. Also annotate in this column external stores (other than fuel tanks), size and location.

14. The reverse side of the sheet is to be completed by the aircrew in conjunction with the NCO in charge of servicing and the records section. The following Flight Information is required for this side of the form:-

(a) Period Refers to the period mentioned at paragraph 13(b).

(b) AUW at Take-Off The total weight of the aircraft at take-off is to be inserted in this column, eg, 11,200 lbs.

(c) Fuel Weight at Take-Off The total weight of fuel at take-off is to be inserted in this column, eg, 2,960 lbs.

(d) Fuel Disposition at Take-Off The disposition of the fuel at take-off is to be recorded, eg, full integral tanks, full 100 gal drop tanks.

(e) No of Landings This is to indicate the number of touchdowns during the flight, eg, 10 for circuits and landings.

(f) No of Press This is to indicate the number of times the aircraft was pressurized during flight.

(g) Sortie Pattern This is to indicate the basic sortie pattern of the aircraft, giving the length of time the aircraft was at a particular altitude, eg 30,000 ft 1/2 hour, 5,000 ft 15 minutes.

(h) Weight of Stores Dropped As applicable.

(j) Captains Initials

(k) Flight Occurrence Remarks to indicate or amplify on the arising of an occurrence of any unusual manoeuvre affecting the "G" loading.

(Issued with A/L 28 - October 1962)

15. Technical details of the Mk 2B fatigue meter may be found in AP 1275A, Volume 1, Section 12, Chapter 4. The relevant Standard Serviceability Tests are given in Appendix 3 of the Chapter.

16. All enquiries concerning this instruction are to be directed to Headquarters Support Command.

References : Files, Headquarters Support Command, 2604/1/165 and 2501/110/3829

Date of Issue : 11th October 1962

(Issued with A/L 28 - October 1962)

15. Technical details of the Mk 2B fatigue meter may be found in AP 1275A, Volume 1, Section 12, Chapter 4. The relevant Standard Serviceability Tests are given in Appendix 3 of the Chapter.

16. Aeronautical Research Laboratory and De Havilland have commenced analysing the fatigue meter data recorded on Vampire aircraft, and these establishments have indicated preferred aircraft to which fatigue meters are to be fitted. Appendix A lists these Overseas and Australian based aircraft in order of preference. Units are requested to adjust their distribution of fatigue meters to follow the list in order of preference.

17. All enquiries concerning this instruction are to be directed to Headquarters Support Command (Air Eng 3).

References: Files, Headquarters Support Command 2604/1/106 and 2501/110/3829

Date of Issue: 14th September 1964

Overseas Based Aircraft

Order of Preference	Aircraft No
1st	A79-667

Australian Based Aircraft

Order of Preference	Aircraft No
1st	A79-832
2nd	-651
3rd	-652
4th	-654
5th	-658
6th	-659
7th	-660
8th	-826
9th	-653
10th	-637
11th	-640
12th	-618
13th	-612
14th	-635
15th	-664
16th	-624
17th	-642

Note: Maximum unit holdings of fatigue meters for fitment to Vampire aircraft is to remain as follows:-

81(W)	-	5
EAST SALE	-	4
PEARCE	-	8
78(W)	-	1

CANOPY HATCH - PERSPEX PANELS - REMOVAL, REPLACEMENT, INSPECTION AND TEST

Introduction

1. This instruction is introduced to detail the approved method of replacing damaged perspex panels in the canopy hatch of Vampire aircraft.

2. Additional general information relative to the care and use of transparent plastic panels is detailed in the following publications and they are to be referred to in conjunction with this instruction:-

(a) AP 1464D, Vol 1, Pt 2, Sect 5, Chap 5, RAF Engineering - Aircraft; and

(b) AP 1464B, Vol 1, Pt 2, Sect 4, Chap 5, RAF Engineering, General Engineering.

Instruction

3. Removal of Damaged Panel

(a) Remove bolts and masking strips from around the damaged panel.

Note: Due to variations in the thickness of the hatch casting the bolts will be found to be of differing lengths. Care must be taken to ensure that on refitment, the bolts are replaced in their correct holes.

(b) Remove damaged perspex panel and clean off any Boscoprene remaining on the hatch casting.

4. Fitment of Replacement Panel. The following precautions must be observed when working with perspex:-

(a) As much as possible of the panel is to be protected with clean paper affixed with soft soap (caustic and solvent free) or a coat of 8030-174-2607 plastic coating to MIL-C-6799A.

Note: Pending further investigation pressure sensitive masking tape should not be used against any part of the perspex panel.

(b) As perspex will craze under the action of a very wide range of solvents and their vapours, (craze may arise sometime after applied stress) ensure that all perspex is protected as above before commencing any major painting.

When spray painting in an enclosed area, ensure that the over spray is not likely to settle on aircraft within the same area.

(c) Great care must be taken in all trimming and drilling operations to avoid cracking the perspex. Drilling should be done with only light pressure on the drill and preferably without using pilot holes.

(d) Panels should fit easily in position and on no account should force be used to obtain a fit. To ease the situation when carrying out panel changes it is advisable to selectively assemble the panel, looking for a panel which conforms as closely as possible.

5. Offer up the new panel to the hatch and determine the position in which the best fit of the panel on the casting is obtained. This position will not necessarily be the one which will require a uniform amount of trimming all round the panel. Trim the top edge of the panel as necessary to obtain .10" clearance from the other perspex panel and .05" clearance from the shoulder of the rebate in the hatch beam. Trim the remaining edges of the perspex panel to obtain .05" clearance all round. When trimming is completed the panel must be a good fit on the casting and there must be a clearance of not less than .05" between the casting and the perspex and .10" between the two perspex panels.

6. With the perspex panel held firmly in its correct position spot drill several holes along the centre beam, locating the holes from those in the cover strip along the centre beam. Remove the panel and drill No 11 holes where "spotted". Refit the panel and secure it with bolts through the drilled holes. Hold the panel down firmly, locate and drill three holes in each of the other edges, fit the cover strips and secure strips and panel with appropriate bolts. Spot drill the remaining holes from the holes in the cover strips, remove the panel and complete drilling with a No 11 drill. Refit panel and check alignment of holes, check that gaps are correct and that the panel seats correctly.

7. Submit for progress inspection.

8. De-burr all holes thoroughly, ensuring all rough edges are removed, and clean off all swarf from panel and hatch casting.

9. Mount panel in a bed of Boscoprene 2100 (Ident No 8030-RAF-33H2202388), fit cover strips, insert a few bolts at random, but do not tighten up.

Note: Ensure that both Parts A and B of Boscoprene 2100 is thoroughly mixed and that the full contents of Part B is emptied into Part A.

10. Allow 12-24 hours for the Boscoprene 2100 to cure.

11. Remove cover strips, if necessary apply a fillet of Boscoprene 2100 in the angle formed by the casting and the panel. Refit cover strips and insert all bolts.

12. Gradually tighten the bolts at random.

Note: Do not work progressively around the periphery of the panel as this will almost certainly lead to cracking or crazing of the panel.

13. De-burr the panel thoroughly and clean all swarf from panel and hatch casting. Apply Boscoprene 2100 (Ident No 8030-RAF-33H2202388) around the rebate in the hatch casting. Fit the panel in position, fit cover strips and insert all bolts. If necessary apply a fillet of Boscoprene 2100 in the angle formed by the casting and the panel. Then gradually tighten the bolts at random. Do not work progressively around the periphery of the panel as this will almost certainly lead to cracking of the panel. Clean off any excess Boscoprene while still wet.

Inspection

14. On completion of the above instructions carry out a careful visual inspection of the perspex along the edge of the fibre glass, with the aid of strong oblique lighting, to ensure no flaws or cracks are present. If necessary low power magnifying glasses and/or dental mirrors may be used to assist.

Tests

15. Carry out a cabin pressure test in accordance with instructions detailed in AAP 721.79, Vol 1, Sect 3, Chap 8.

References: Files, Headquarters Support Command, 2601/79/53 and 2501/110/3851

Date of Issue: 23rd October 1962

Re-Issued: 21st March 1966

AAP 721.79, VOLUME 2, PART 1

VAMPIRE INSTRUCTION NO 33

APPLICABLE TO ALL VAMPIRE MK 35 AND 35A AIRCRAFT

TORQUE LOADING OF FUEL TANK DOOR RETAINING BOLTS

Introduction

1. During the Vampire Mainplane Fatigue Investigation at ARL tests were carried out to ascertain what effect the tightness of the stress plate bolts had on the strain in the lower spar boom at Rib No 2.

2. It was discovered that when all bolts were ½ turn loose, the strain at Rib No 2 increased by 50%; of this increase 33% was produced when No 1 inboard stress plate bolts were loosened.

3. Checks subsequently carried out on aircraft revealed that the tank door bolts often loosen after being initially tensioned on replacement of the tank doors. In some instances readings as low as 10-20 inch/lb were obtained.

Instruction

4. On replacement of Fuel Tank Doors, all bolts are to be torqued to 80-85 inch/lbs as laid down in AAP 721.79 Vol 1, Section 3, Chapter 2, Page 1, Figure 2.

5. At the first "C" servicing after replacement of the doors, all bolts are to be further check torqued to 80-85 inch/lbs.

6. All fuel door retaining bolts in both Port and Starboard Mainplanes are to be check torqued to 80-85 inch/lbs at "D" servicings.

References : Files, Headquarters Support Command 2501/110/3955 and 2601/79/23

Date of Issue : 7th January 1962

(Issued with A/L 31 - Jan 1963)

AAP 721:79, VOLUME 2, PART 1

VAMPIRE INSTRUCTION NO 34

APPLICABLE TO: Vampire Aircraft 35, 35A

FUEL SYSTEM PIPES - PROVISION FOR ADEQUATE CLEARANCE CANCELLING VAMPIRE INSTRUCTION NO 9

Introduction

1. (a) A case has occurred of a fuel hose, attached to the bottom of the fuselage fuel tank, fouling one of the guns and resulting in severe chafing of the hose.

(b) A further case has occurred of inability to fit fuel pipes (Pt No P003867-8ND, Ident No A79/503363-4) with sufficient clearance from the lower cowling support ring of the fireproof bulkhead (Pt No FS15-475ND, Ident No A79/504030) and the wing lower fairings (Pt No W15-77-8ND, Ident No A79/504227-8, or Pt No D002141-2, Ident No A79/500625-6). Due to flexing of the Wing No 1 tanks, chafing can occur even though a clearance exists.

Instruction

2. (a) When the pipe lines are being examined for signs of fuel leakage, the pipe lines are to be carefully inspected to ensure that they cannot be fouled by any part of the structure or armament installation. Should any interference be considered possible, the pipes are to be positioned to give a maximum all round clearance.

(b) To prevent the pipes being fouled by the guns on recoil, a minimum distance of at least $1\frac{1}{8}$" must be allowed for, as the recoil movement of the gun.

(c) A minimum clearance of .5" is to be maintained between the fuel pipe P00-3867-8ND and the lower cowl support ring FS15-475ND. Up to .75" may be locally removed from either end of the support ring to achieve this.

(d) Due to the difficulty in achieving sufficient clearance between the fuel pipe P00-3867-8ND and the fairing W15-77-8ND, a split neoprene sheath is to be fitted over the pipe in this area, and bound in position with waxed cord and/or neoprene tape.

References : Files, Headquarters Support Command, 2601/79/39 and 2501/110/3988

Date of Issue : 14th February 1963

(Issued with A/L 33 - February 1963)

AAP 721:79, VOL 2, PART 1

VAMPIRE INSTRUCTION NO 35

APPLICABLE TO: Vampire Aircraft 35, 35A

AERIAL TYPE 137 - CORRECTION OF MOISTURE ENTRY

Introduction

1. This instruction is issued to overcome the possibility of moisture entering the Aerial Type 137 between the sealing plate and the aerial rod. Entry of moisture has been found to cause loss of signal and hence sluggish bearings.

Instruction

2. (a) Ensure that a Nylex sleeve (5 mm diam) is fitted in accordance with the attached drawing.

(b) Remove the lid and inspect the rubber sealing block for deterioration or enlargement of the mounting hole. If the block has deteriorated or the hole has enlarged, a new block is to be fitted.

(c) Remove the mounting plate and inspect the top of the aerial block for moisture. Dry all parts thoroughly and re-assemble.

(d) If the sleeve is fitted, ensure that it is undamaged and butts evenly against the aerial mounting lock. Replace if cut, abraded or perished.

(e) If the sleeve is not fitted, install as per the attached drawing.

References: Files, Headquarters Support Command, 2501/110/4459 and 2846/8/16

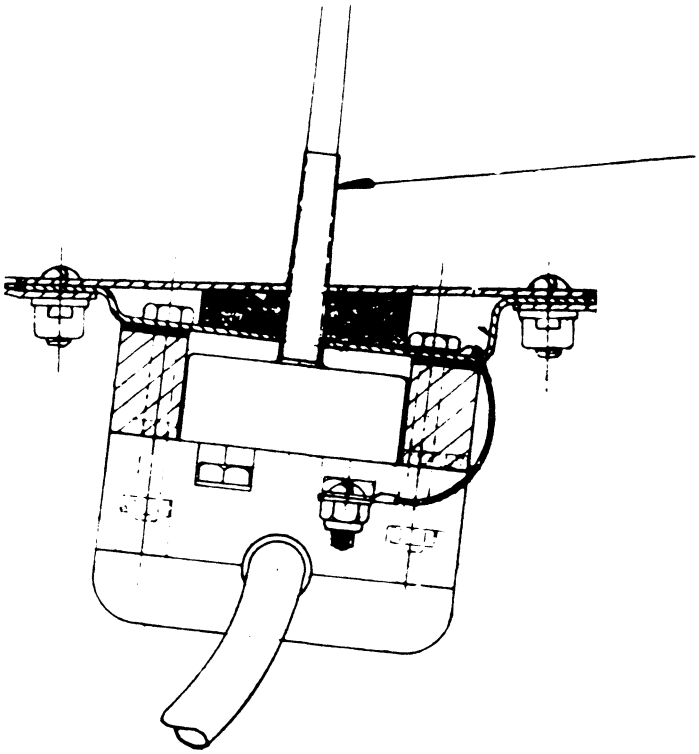
Attachment: Drawing No A14005

Date of Issue: 29th August 1963

(Issued with A/L 36 - August 1963)

DO NOT SCALE

ISSUE NO	DATE	ALTERATION	D. I. L.	INITIALS	APPROVED
	20·7·61				



NOTE:- NYLEX TUBE AS SHOWN AROUND AERIAL MUST NOT BE PAINTED WHEN APPLYING SILVER FINISH EXTERNALLY ON AIRCRAFT.

REFERENCE	ISSUED BY	TITLE
	DEPARTMENT OF AIR SENIOR TECHNICAL STAFF OFFICER SUPPORT COMMAND	CORRECTION OF MOISTURE ENTRY

LIMITS UNLESS STATED		MATERIAL		COMPONENT OF	RADIO COMPASS AN/ARN-6
DECIMALS	± .010"	SPEC.		MACHINE	
FRACTIONS	± 1/32"	TREATMENT		ENGINE	
ANGLES	± ½°	FINISH		TECH. ORDER	S.T.I. RAD AIRBORNE/18
SURFACE FINISH AUSTRALIAN STANDARD ENG. DRWG. PRACTICE A.S.C.Z1.		SCALE			
		DRAWN	APPROVED	DRAWING NO.	A-14005
		TRACED	CHECKED		DRWG. A SIZE

AAP 721.79 VOL 2 PART 1

VAMPIRE INSTRUCTION NO 36

Applicable to all Vampire Aircraft

WING ROOT FAIRINGS AND FILLETS CHAFING OF FUSELAGE

Introduction

1. Instances have occurred of the wing root fairings chafing the fuselage. The following preventative measure is promulgated to preclude this occurrence.

Instruction

2. Where the fairing butts the fuselage side, file to give a clearance of .015" approximately. However, clearance up to .040" is acceptable provided this is the exception rather than the rule. Well radius any sharp edges.

3. Where the fairings meet the fuselage tangentially, dress to conform to the fuselage shape.

References: Files, Headquarters Support Command, 2601/79/15 and 2501/110/4470

Date of Issue: 28th August 1963

(Issued with A/L 35)

NOSE WHEEL RADIUS ROD ASSEMBLY
LINK LOCK ASSEMBLY - REPLACEMENT OF BUSHES

Introduction

1. Bushes, Ident No A79-500679, Part No G00-192, are scaled as replacement bushes for repair of Link Locks, Ident No A79-502671, Part No 13-UN-123A.

2. Replacement of link lock bushes requires reaming of the bush after being driven into the lock and a subsequent machining operation to face both flanged bushes after assembly into the link lock.

Instruction

3. Fit of Bushes into Link Lock

(a) The replacement Bush, Ident No A79-500679, is required to be a drive fit to the link lock. Interference fit is laid down as 0 to 0015".

(b) Fitting of the bushes causes the hole in the bush to close up. Therefore after fitment the bush is to be reamed 9/16" ± .0004".

4. Fit of Link Lock into Radius Rod Fork

(a) Drawing G00-1809 - Radius Rod Fork, calls for a gap of 1.639"/1.641".

(b) Drawing 13-UN-123A - Link Lock calls for a width over flanged bushes of 1.635"/1.637".

(c) A machining operation is therefore required to face both flanges, after assembly into the link lock, to reduce the 1.7 total thickness down to the .002" toleranced dimension for satisfactory fit to the radius rod fork.

References: Files, Headquarters Support Command 2601/79/34 and 2501/110/4505

Date of Issue: 19th September 1963

(Issued with A/L 37)

AAP 721.79 VOL 2 PART 1 VAMPIRE INSTRUCTION NO 38

INSPECTION OF RIB NO 2 AT THE UNDERCARRIAGE CUT OUT

Introduction

1. There have been instances where aircraft have been received at the contractors for servicing with Rib No 2 damaged beyond acceptable limits. AAP 721.79 Vol 4 Part 2 Section 3 Item No/6 (a) (i) and (ii) require inspection of No 2 Ribs at "C" servicings. A similar inspection is mandatory after Heavy Landings - AAP 721.79 Vol 4 Part 2 Section 4 Item No 2 refers. The following instruction details the inspection requirements and limits to be observed.

Instruction

2. View the "D" shaped hole in Wing Rib No 2 from the undercarriage wheel well.

3. Inspect the outboard face of Rib No 2 around the area of the front and rear top corners of the "D" shaped hole, particularly noting any bucklings and the extent of any cracking.

4. Cracks or buckling in the region of the top corner of the "D" hole may be considered completely acceptable for continued use providing buckling does not extend to a point where it would be difficult to dress out during subsequent repair, ie, buckles not exceeding about .2", and provided cracks appear to stop at the pipe hole or at a rivet hole. Cracks that disappear from view are not acceptable and the aircraft is to be withdrawn from service pending allotment for Vampire Modification No 363 embodiment at De Havillands.

5. A defect report is to be submitted to Headquarters Support Command when aircraft are found to be damaged beyond the limits laid down in para 4.

References : Files, Headquarters Support Command, 2501/110/4590 and 2601/79/23

Date of Issue : 1st November 1963

(Issued with A/L 38)

AAP 721.79 VOL 2 PART 1

VAMPIRE INSTRUCTION NO 39

APPLICATION: Vampire Aircraft

VAMPIRE AIRCRAFT CANOPY JETTISON JACKS - ANTI-CORROSION TREATMENT AT BAY SERVICINGS

Introduction

1. Several cases have occurred of corrosion damage to the piston head and cylinder barrel bore of Canopy Jettison Jacks fitted to Vampire aircraft.

2. Ingress of atmospheric moisture through the hole at the top of the barrel in the mounted position tends to collect on top of the piston. The absence of protective coating on the piston lands and head results in the collected moisture creating a corrosion hazard.

3. To prevent the corrosion forming and propagating it is necessary that preventative treatment be carried out at regular intervals. This instruction details the required treatment and the periodicity.

Instruction

4. During Bay servicing of the Canopy Jettison Jack the item is to be so dismantled as to permit removal of soot and corrosion.

Note: The diameter of the top land is not critical and therefore corrosion removal is permissible.

5. On completion of corrosion removal, provide adequate protection of the face and top land of the piston by the application of inhibitor grease type XG-271, Ident No 9150-943-1550.

References: Files, Headquarters Support Command 2501/110/4626 and 2601/79/42

Date of Issue: 21st November 1963

(Issued with A/L 39)

AAP 721.79, Vol 2, Pt 1

VAMPIRE INSTRUCTION NO 40
ISSUE 2

Application: To Vampire Aircraft

SALVAGE OF BOTTOM BRACKET FIN SPAR J00-653 AND CORRECT TORQUE TENSION FOR MASS BALANCE LEVER LOCATING BOLT

Introduction

1. The face of the lower locating holes of Bracket Bottom Fin Spar Part No J00-563, Ident No A79/500312 often becomes worn beyond acceptacle limits due to frictional rub by the bearing located in the lever Part No 12CF 503A of the rudder mass balance weight.

2. Wear of this item is attributed to loose mass balance weight bolts. When this bolt is tightened it clamps the inner faces of both upper and lower bearings between the mounting lugs and the distance piece provided within the balance arm assembly.

3. To preclude any possibility of cracking of the lugs of the bottom bracket fin spar J00-563, the maximum permissible clearance between rudder balance arm and lugs is .006" with no tension on the bolt. Where clearance exceeds .006" a steel shim or washer is to be inserted between the bearing and either the upper or lower lug, whichever is the more convenient. Re-assemble the bolt Part No K00-363, Ident No A79/500482 (replace if worn or damaged) and torque load to 64 inch lbs ± 6 inch lbs.

4. The attached drawing details the repair scheme for salvage of the bracket. Distance between the face of the installed bush and lower face of the upper lug must be 2.805" to 2.810".

Instruction

5. Salvage Bottom Bracket Fin Spar Part No J00-563 in accordance with attached Drawing No A15276.

6. Fit shims as necessary and torque load the rudder mass balance lever arm attachment bolt to 64 ± 6 inch lbs.

References: Files, Headquarters Support Command 2601/79/32D-4 and 2501/110/4817

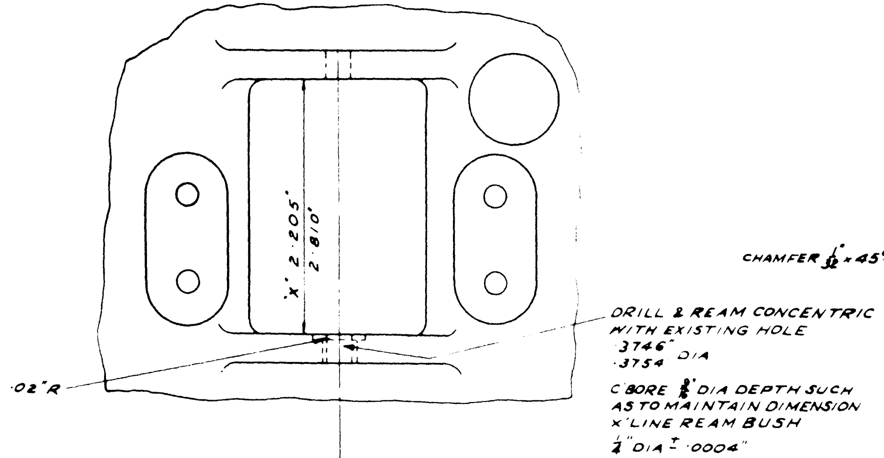
Attachment: Drawing No A15276

Date of Issue: 16th August 1965

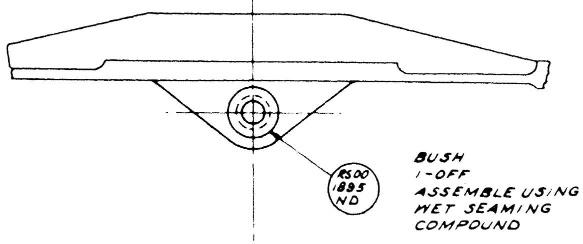
SECURITY CLASSIFICATION

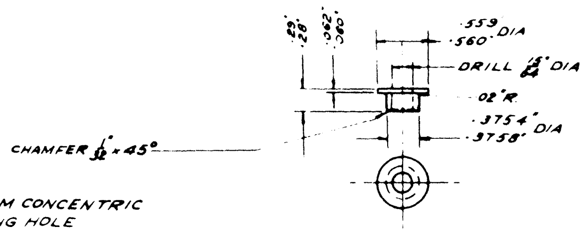
DRAWING NUMBER A15276

DO NOT SCALE FIRST **ANGLE PROJECTION**



VIEW OF FRONT FACE OF BRACKET





DETAIL RS 001895 ND
MAT: AL. AL BAR
SPEC: L1, L39, L65 OR DTD423

ITEM	PART	IDENT	DESCRIPTION	QTY REQ	ZONE

ISSUE	DATE	ALTERATION	INITIALS	APPROVED
1	18·3·64			

DEPARTMENT OF AIR ISSUED BY SENIOR TECHNICAL STAFF OFFICER SUPPORT COMMAND	REFERENCE 1 DIM'S IN 2 DEF (AUST) 85 3 DEF (AUST) 46 4 5	MODIFICATION VAMPIRE INST/40	
DRAWN	CHECKED J Whittaker	EFFECTIVE ON	
TRACED E McK	APPROVED [signature]	COMPONENT OF	
LIMITS UNLESS STATED DECIMALS ± ·010" FRACTIONS ± 1/32" ANGLES ± 0 30'	TREATMENT	FINISH AS ABOVE	TITLE SALVAGE OF BOTTOM BRACKET FIN SPAN
	MATERIAL AS ABOVE	SPECIFICATION AS ABOVE	SCALE / NEXT ASSEMBLY / DRAWING NUMBER A15276 / SIZE B

SECURITY CLASSIFICATION

AAP 721.79, Vol 2, Pt 1

VAMPIRE INSTRUCTION NO 41

Applicable to Vampire Mk 35 and 35A Aircraft

VAMPIRE MAIN WHEEL DETACHABLE FLANGE LOCATING BOLTS - TORQUE LOADING

Introduction

1. This instruction is issued to promulgate the correct torque loading for main wheel detachable flange locating bolts.

Instruction

2. When assembling the flange to the main wheel proceed as follows:-

(a) Smear the bolt threads with grease.

(b) Tighten nuts and torque to 30-40 ft/lbs.

(c) Fit new split pins.

References: Files, Headquarters Support Command 2601/79/37 and 2501/110/4945

Date of Issue: 5th October 1964

(Issued with A/L 43)

FLEXIBLE PITOT/STATIC TUBES - CORRECT ROUTING WHEN THE INSTRUMENT PANEL IS DISTURED

Introduction

1. This instruction has been introduced as a result of instances where the flexible Pitot/Static tubes behind the instrument panel became jammed under the G4 Compass Gyro Unit, causing erratic readings of the associated instruments.

Instruction

2. This instruction is to be carried out whenever the instrument panel is disturbed, ie, released from its mountings or securing points.

3. Extreme caution is to be observed when raising the instrument panel to ensure that the flexible pitot/static tubing is correctly and safely routed to prevent the tubing being trapped under the G4 Compass Cyro Unit.

4. Ensure that the tubing is pushed clear of the Gyro Unit as the panel is raised so that it can coil safely into the recess area behind the panel.

5. This instruction cancells RAAF STI Vampire/166.

Reference: File, Headquarters Support Command, 2501/110/5704

Date of Issue: 6th September 1965

NIPPLES SPHERICAL MK 3B AND MK 3C - USE WITH HP OXYGEN SYSTEM

Introduction

1. The spherical nipple Mk 3B, Ident No 6D/1502, was designed for use on oxygen piping systems in which the equipment incorporated union connections having a 60° female cone and $\frac{1}{8}$" bore. It was subsequently found that in making the connections there was a tendency for the 60° cone unions to splay out slightly and cause binding of the threads. On later items of oxygen equipment, therefore, a 90° union was used and a further complication was introduced by the bore of the unions on certain oxygen equipment being increased to $\frac{1}{4}$" in order to accommodate the non-return valve Mk 1 (6D/427) or filter, pipeline Mk 1 (6D/574).

2. The Mk 3B nipple may not make a satisfactory joint with union connections other than 60° cone angle and $\frac{1}{8}$" bore. The Mk 3C nipple will make satisfactory joints on all types of oxygen unions (ie, 60° or 90° cone angle and bores of $\frac{1}{8}$" or $\frac{1}{4}$") except where non-return valves Mk 1 or filters, pipeline Mk 1 are fitted, when Mk 3B nipples must be used.

3. This instruction details the aircraft locations where the Mk 3B and Mk 3C nipples spherical are to be used in Vampire Mk 35 and Mk 35A aircraft HP oxygen systems:-

(a) Items with which only Mk 3B nipples spherical should be used when fitted with Mk 1 non-return valves or Mk 1 filters, pipelines:-

Piece connecting 3 way Mk 3A.

(b) Items with which either Mk 3B or Mk 3C nipples spherical may be used as alternatives:-

(i) Regulator oxygen Mk 16B.

(ii) Regulator oxygen Mk 16C.

(iii) Valve HP oxygen Mk 8*.

(iv) Filter pipeline Mk 2A.

(v) Barometric line valve.

(Issued with A/L 50)

(c) Items with which only Mk 3C nipples spherical should be used:-

(i) Piece connecting 5 way Mk 7*.

(ii) Piece connecting 5 way Mk 8.

(iii) Valve HP oxygen Mk 10A.

(d) Mk 3B or Mk 3C nipples spherical may be used as alternatives on the following item when Mk 1 non-return valves or Mk 1 filters, pipeline are not fitted:-

Piece connecting 3 way Mk 3A.

Instructions

4. Standardization of nipples in accordance with paragraph 3 of this instruction is to be carried out on an opportunity basis, unless excessive oxygen leaks are suspected to be caused by badly mating nipples and female cones due to non standard fitment. Broadly the occasions when the oxygen system should be checked for standardization are as follows:-

(a) when there are leaks in the oxygen system;

(b) whenever it becomes necessary to change the aircraft oxygen cylinders and;

(c) when the Mk 8* HP oxygen charging valve is replaced by the Mk 10A HP charging valve.

5. Where replacement is necessary, it is to be carried out in accordance with AP 1275G Volume 1 (2nd Edition), Part 1, Section 3, paragraph 89.

Reference: File, Headquarters Support Command, 2501/110/5796

Date of Issue: 22nd November 1965

(Issued with A/L 50)

AAP 721.79, Vol 2, Pt 1

VAMPIRE INSTRUCTION NO 44

APPLICATION: Vampire Aircraft

MAIN UNDERCARRIAGE LATCH PLATE - REPLACEMENT OF ATTACHMENT RIVETS WITH BOLTS

(Cancelling RAAF STI Vampire/136)

Introduction

1. Investigation into an overseas accident in which the port main undercarriage collapsed on landing, proved the cause to be the failure of the two rivets Part No AS455/511, which secure the latch plate to the main undercarriage jack operating sleeve.

2. On receipt of this information at Headquarters Support Command, RAAF STI Vampire/136 was issued. That STI is now cancelled by the issue of this instruction.

3. The purpose of this inspection is to check for deformation or failure of the two rivets securing the latch plates to the jack operating sleeve.

Note: A recent amendment to Vampire Modification No 392 calls for the introduction of the 2BA bolts in lieu of rivets to secure the latch plate.

Instruction

4. This instruction is applicable to aircraft which have had Vampire Modification No 392 embodied but do not have two 2BA bolts fitted in lieu of rivets.

5. Refer to AAP 721.79, Vol 1, Sect 3, Chap 5, Page 3 for the arrangement of the latch (lock) plate and jack operating sleeve in the radius rod assembly.

6. For radius rod assemblies installed in aircraft:-

(a) Check for deformation or absence of the rivet heads with the aid of a torch and mirror.

(b) Both rivets must be checked for failure within the rivet hole by attempting to lever the latch plates apart in a position as close to each rivet as possible.

(Issued with A/L 51)

Note: Great care must be taken that the leverage applied is not excessive. No permanent deformation of the latch plates is permissible. If a rivet has failed, the latch plates will move apart slightly and pull the rivet ends out of the hole.

(c) If the rivets are found to be satisfactory, no action need be taken, apart from further inspections at subsequent C servicings, until such time as the undercarriage and radius rod assembly is removed from the aircraft. See paragraph 7.

(d) If damage is found, a careful visual check of the four bolts, at the top of the assembly, and surrounding metal of the latch plates, is to be made and rectification carried out as necessary. Deformed or broken rivets are to be replaced with 4BA bolts (A25/5B, Ident No H28/12623), washers (SP13B, Ident No 5310-941-9465) and stiffnuts (AGS2001/B1, Ident No 5310-PN-2001B1 nylon). Use of these bolts will obviate the necessity of dismantling the assembly.

Note: Both rivets on a damaged latch plate assembly must be replaced.

(e) Latch plate assemblies fitted with 4BA bolts in lieu of rivets do not require subsequent inspections until such time as the undercarriage and radius rod assembly is removed from the aircraft, in which case para 7(d) applies.

7. For radius rod assemblies which have been removed:-

(a) Drill out the two rivets (AS455/511) securing the latch plates to the jack operating sleeve.

(b) Carry out a careful visual check of the four bolts, at the top of the assembly, and surrounding metal of the latch plates, and rectify as necessary.

(c) Open out the two rivet holes with a No 13 (.185" diameter) drill and fit a 2BA bolt (A25/5C, Ident No 5305-RAF28D12533), washer (SP13/C, Ident No 5310-941-9402) and stiffnut (AGS2002/C1, Ident No 5310-PN-2002C1 nylon) in each hole. Trim the bolts as necessary.

(Issued with A/L 51)

(d) In cases where 4BA bolts have been fitted in accordance with para 6(d), the 4BA bolts are to be removed and 2BA bolts fitted as above.

Reference: File, Headquarters Support Command, 2501/110/5902

Date of Issue: 15th March 1966

(Issued with A/L 51)

AAP 721.79, Vol 2, Pt 1

VAMPIRE INSTRUCTION NO 45

Applicable to Vampire Mks 35 and 35A Aircraft

WING DROP TANKS - FILLING PRECAUTIONS

Introduction

1. This instruction has been introduced as a result of an incident in which fuel from the aircraft's drop tanks entered the cabin via the drop tank and cabin pressurization systems. The cause of this incident has been attributed to the filling of the drop tanks to maximum capacity and the faulty operation of the non-return valves situated in drop tank pressurization system.

2. When Vampire drop tanks are filled to maximum capacity a flow back of fuel through the drop tank pressurization lines can occur, due to the expansion of fuel and a subsequent build up of pressure in the drop tanks. If then, the drop tank pressurization system non-return valves are faulty, the expanded fuel passes these valves and enters the cabin pressurization system.

Instruction

3. Whenever Vampire wing drop tanks are being replenished, an air space equivalent to approximately five gallons is to be left to allow for fuel expansion.

4. In addition to the requirement for operating units to exercise caution when replenishing drop tanks, units are to ensure that the following notice, warning servicing personnel of requirement detailed in paragraph 3 of this instruction has been stencilled in ½ inch red capitals on the uppermost surface of each wing drop tank forward of and as near as possible to the filler cap:-

WARNING

FIVE GALLON AIR

SPACE REQUIRED

5. This instruction cancels RAAF STI Vampire/182.

References: Files, Headquarters Support Command, 2501/110/6074 and 2601/79/39

Date of Issue: 26th July 1966

(Issued with A/L 55)

FUEL TANK PRESSURIZATION SYSTEM NON-RETURN VALVES - TEST PROCEDURE

(Cancelling RAAF STI Vampire/~~182~~ (184) HL 61)

Introduction

1. This instruction has been issued to promulgate the test procedure for the testing of fuel tank pressurization system non-return valves. Periodic testing of these valves has become necessary following incidents in which faulty non-return valves allowed fuel from aircraft drop tanks to enter the cockpit via the cabin pressurization system.

Instructions

2. This instruction is applicable to, not only the drop tank pressurization system non-return valves, but also the non-return valves installed in the Vampire Mk 35 wing tank pressurization system.

3. The test procedure detailed in this instruction is to be carried out when required by the provisions of AAP 721.79 Vol 4 and whenever fuel tank pressurization system non-return valves are suspected of being faulty.

4. External Leakage Test. Carry out the external leakage test as follows:-

(a) Blank off the outlet port.

(b) Connect Avtur or air to the inlet port and apply a pressure of 75 psi for five minutes. No external leakage is permissible.

Note: If air is used, immerse the valve in Avtur.

(c) Reduce pressure and remove blanking cap.

5. Internal Leakage Test. Carry out the internal leakage test as follows:-

(a) Secure the valve in an upright position.

(b) Apply a 6" lead of Avtur to the outlet and allow a five minutes settling period.

(c) Observe inlet port for leakage. Maximum permissible leakage is 8 drops per minute.

(d) Re-connect Avtur to outlet and gradually increase the supply pressure, over a period of at least two minutes, to 50 psi. Maintain this pressure for five minutes.

(e) During operation (d) observe the inlet port for leakage. Maximum permissible leakage is 8 drops per minute.

6. Any valve which fails to meet these test requirements is to be rejected and returned to repairable stock.

7. RAAF STI Vampire/~~152~~ 184 is hereby cancelled.

References: Files, Headquarters Support Command, 2501/110/6120 and 2601/79/39

Date of Issue: 13th September 1966

AAP 721.79, Vol 2, Pt 1

VAMPIRE INSTRUCTION NO 47

Application: All Vampire Aircraft

CANOPY HATCH DAMPER - CHECK FOR WORN LOCKING PIN

(Cancelling RAAF STI Vampire/170)

Introduction

1. Two instances have been reported where the canopy hatch closed, without warning, upon fitters working in the cockpit.

2. Investigation revealed that the locking pin which secures the canopy hatch in the open position had worn forming a slight taper approximately 3/16" long. This allowed the pin to slip out of engagement, thus permitting the canopy hatch to close.

3. This instruction is issued to detail the inspection requirements necessary to ensure that the locking pin will safely retain the canopy hatch in the open position and is to be carried out when required by the provisioning of AAP 721.79, Vol 4, Pts 3 and 4.

4. RAAF STI Vampire/170 is hereby cancelled.

Instructions

5. Slowly operate the canopy hatch support strut release handle and note the extension necessary before the canopy hatch is free to close.

6. Repeat with locking pin rotated as far as linkage will permit in both directions.

7. Where the canopy hatch is free to close with an extension of less than 3/32" proceed as follows:-

(a) Remove support strut assembly.

(b) Remove the strut lower end cap P/No 15FC-3131 and after loosening the castle nut, rotate the piston P/No 15FC-3489 on piston rod P/No 15FC-2385A to afford a new bearing surface for the locking pin. Tighten and relock the castle nut, replace end cap and relock.

(c) Remove locking pin and replace with new pin P/No 15FC-165.

(d) Replace support strut assembly and recheck locking pin extension as detailed in paras 5 and 6 of these instructions.

References: Files, Headquarters Support Command, 2501/110/6127 and 2601/79/53

Date of Issue: 26th August 1966

BULKHEAD NO 3 - CRACKING

(Cancelling RAAF STI Vampire/161)

Introduction

1. This instruction is issued to detail inspection requirements and acceptable limits associated with:-

(a) cracking or buckling of No 3 bulkhead;

(b) end grain cracking of the spruce insert/ support blocks;

(c) bulkhead to fuselage separation.

2. RAAF STI Vampire/161 is hereby cancelled.

Instruction

3. The inspection procedure detailed in this instruction is to be carried out when required by the provisions of AAP 721.79 Vol 4 and before the next flight where instances of nose wheel shimmy or juddering brakes have been reported.

4. Inspect fuselage bulkhead No 3 for cracking in the vicinity of the port and starboard wing attachment plates at wing joint No C and:-

(a) where cracking of the front and rear plywood diaphragm of bulkhead No 3 in the vicinity of wing joint No C is found, the affected aircraft is to be withdrawn from service and defect reporting action taken in accordance with ABO T 4/2;

(b) aircraft not in the category defined in paragraph 4(a) of this instruction but:-

(i) in which end grain cracking of the spruce insert/support blocks is evident are to be repaired in accordance with AAP 721.79 Vol 6;

(ii) in which bulkhead to fuselage separation and/or minor buckling of the diaphragm is evident are cleared for continued flight.

Note: The use of an intrascope is recommended during this inspection. Where doubt exists as to the presence of cracks in the rear face of bulkhead No 3, the fuselage fuel tank is to be removed to facilitate inspection.

References: Files, Headquarters Support Command, 2601/79/16-D5 and 2501/110/6128

Date of Issue: 30th August 1966

AAP 721.79, Vol 2, Pt 1

VAMPIRE INSTRUCTION NO 49

Application: Vampire Aircraft

FLYING CONTROL CABLE - INSPECTION FOR FRAYING

(Cancelling RAAF STI Vampire/187)

Introduction

1. Investigations into the fraying of flying control cables Part Nos 13.CF.203A, 13.CF.213A, 13.CF.215A and 15.CF.305A in the area of bracket Part No 13.CF.25 have revealed that fraying is caused by fatigue originating from brinelling of adjacent strands.

2. On receipt of this information at Headquarters Support Command, RAAF STI Vampire/187 was issued to:-

(a) impose an installed life of 400 flying hours on these cables;

(b) introduce an inspection of these cables at each D servicing.

The inspection requirements of RAAF STI Vampire/187 are cancelled by the issue of this instruction; the lifing requirements having been included in AAP 721.79, Vol 4, Part 6.

Instructions

3. The following inspection requirements are to be carried out when required by AAP 721.79, Vol 4:-

(a) Gain access to cables in the area of bracket Part No 13.CF.25 and to the cable turnbuckles in the engine bay by removing the gun bay doors and engine lower cowling.

(b) Disconnect the cables at the turnbuckles and pull the cables down below the aircraft to facilitate next operation.

(c) Apply a firm bending pressure with the thumb and forefinger to each cable along the length which contact with pulleys Part No 12.CF.85A over the complete range of travel.

Note: Do not bend the cable to the extent where it would be left with a permanent kink.

(Issued with A/L 59)

(d) Inspect each cable for broken strands and, where the limits detailed in AAP 702.1, Book 2, Part 7, Section 1, Instruction No 1, are exceeded, the affected cable is to be replaced with a serviceable item.

(e) Re-connect serviceable cables. Reset and retension cables in accordance with AAP 721.79, Vol 1, and check the operation of the controls for correct sense and full travel.

Reference: File, Headquarters Support Command, 2501/110/6215

Date of Issue: 20th September 1966

AAP 721.79, Vol 2, Pt 1

VAMPIRE INSTRUCTION NO 50

Application: Vampire Aircraft

HYDRAULIC SYSTEM CONNECTIONS - TORQUE VALUES FOR FITMENT OF JOINTING WASHERS

Introduction

1. As a result of repeated reports of in-flight Vampire hydraulic failures, caused by failure of the hydraulic connection crush washers, investigations have proved that the tightening of connections in contact with crush washers by the free hand method leads to a wide variation in torque values.

2. This instruction details the torque values to be applied when tightening hydraulic connections where crush washers are used as the sealing medium.

Instructions

3. Crush washers are not to be re-used under any circumstances.

4. When tightening hydraulic connections which use aluminium crush washers as a sealing medium the tightening is to be carried out using a torque wrench.

5. Part numbers of crush washers and applicable torque values are listed as follows:-

Part No	Internal Dia	Torque (Ft lb)
AGS1138A	.39"	20
AGS1138B	.52"	25
AGS1138C	.66"	40
AGS1138D	.83"	50

(Issued with A/L 60)

6. This instruction cancels RAAF Special Technical Instruction Vampire/194.

References: Files, Headquarters Support Command, 2601/79/42-D74 and 2501/110/6550

Attachment: Nil.

Date of Issue: 26th April 1967

(Issued with A/L 60)

OXYGEN FLEXIBLE HOSE CLAMPS - INSPECTION FOR SECURITY AND DAMAGE

Introduction

1. This instruction is issued to eliminate the possibility of oxygen flexible hose clamps becoming damaged through over tightening. If a hose clamp is damaged through over tightening, a condition may arise whereby a false impression of tightness will result, with the attendant possibility of an insecure connection.

Instruction

2. Whenever oxygen flexible hoses and hose clamps are inspected for security and damage, the hose clamps are to be checked for serviceability in accordance with AEIG Pt 1, Sect 1, Instruction No 1, para 4(a).

NOTE: The only lubricant to be used on oxygen hose clamp threads is Silicon Compound DC7 (6850-PN-DC7-80Z). The compound is to be applied sparingly, and all excess removed.

3. Particular attention is to be paid to the thrust washers on the clamps. There are two types of hose clamps available: one, stamped "FS" has two thrust washers, one at each end of the saddle; the other, marked "CHENEY", has only one thrust washer - under the screw head - and the end of the screw is flush with the saddle.

4. Those hose clamps which are found to be worn, damaged, or in any way suspect, are to be replaced with serviceable items.

5. If at any time the security of a flexible hose, or a hose-clamp, is suspect, the hose clamp is to be slackened off completely, the connection checked and the clamp checked for serviceability. The hose-clamp is to be tightened as follows:

a. with the hose and clamp correctly positioned, tighten the clamp until it just grips the hose; and

b. tighten the screw a further 1 1/4 - 1 1/2 turns. Do not tighten more than 1 1/2 turns.

6. All oxygen flexible hose clamps are to be replaced at E Servicings.

Reference: File, Headquarters Support Command, 2501/110/7905.

Date of Issue: 16th August 1968.

(Issued with A/L 62)