2-A

TECHNICAL STAFF INSTRUCTIONS — AF. 2516

INDEX SHEET.

VOLUME TITLE — AIRFRAME — VOLUME NO — 3

SECTION TITLE — VAMPIRE — SECTION NO — 2

SUB SECT TITLE — GENERAL ORDER — SUB SECT NO — A

TITLE	MOD STI OR ST NO. etc.	TSI No.	Issue No. 1	2	3	4	5	6
JUNCTION BOX No1. BRACKET INSECURE	CANCELLED BY A/L 683.	1	✓					
B.P.C. TOTAL HEAD LINE WATER TRAP LINE.	CANCELLED BY. A/L 680.	2	✓					
GROUND RUNNING VAMPIRE A/C.	CANCELLED BY A/L 682	3	✓					
UNDERCARRIAGE SELECTION - DEFECTIVE.	CANCELLED BY. A/L 683	4	✓					
VAMP A/C - UNDERCARRIAGE ADJUSMENTS.	CANCELLED BY. A/L 681	5	✓	✓				
LOCKING OF UNDERCARRIAGE. EMERGENCY RETRACTION SWITCH.	CANCELLED BY. A/L 680.	6	✓					
FUEL SYSEM :- WATER DRAINAGE POINTS.	CANCELLED BY. STN/VAMP/18. A/L 681.	7	✓					
RUBBER STRIP AT FLAP SHROUD TRAILING EDGE - SECURITY.	CANCELLED BY. A/L 684	8	✓					
UNDERCARRIAGE FAILURES HYDRAULIC HAND PUMP : GROUND OPERATION.	CANCELLED BY. A/L 680.	9	✓					
PAINT STRIPPERS - EFFECT ON REDUXED JOINT		10	✓	✓				
RUDDER MASS BALANCE WEIGHTARM - FRACTURE.		11	✓					
VAMPIRE TII A/C CONTROL COLUMN GRIPS : RIGGING.		12	✓					
MAIN UNDERCARRIAGE HYDRAULIC HOSE :- CORRECT CHIPPING.		13	✓					
FAULTY OPERATION OF UNDERCARRIAGE SELECTOR LEVER VAMPIRE.		14	✓					
GROUND HANDLING - VAMPIRE A/C.	CANCELLED BY A/L 682.	15	✓					
A.C.R.E. 8 MKS 1A AND 1B GODFREY COLD AIR UNITS VAMP A/C MKS 11 AND 2.		16	✓	✓				
ROUTING OF GUN HEATER PIPING.	CANCELLED BY. A/L 692. TO VOL 3-21-1 P36		✓					
CONTROL CABLE PULLEYS.		18	✓					
FUEL SYSTEM - CHAFING OF FUEL BALANCE PIPE	CANCELLED BY. A/L 685.	19	✓	✓				
ADDITIONAL CHECK OF MAIN UNDER-CARRIAGE AFTER DRIFT OR HEAVY LANDING.	STN/VAMP/33 CANCELLED BY. AL 680.	20	✓					
MAIN U/C TOP JACK ATTACHMENT BOLT.	CANCELLED BY. STN/VAMP/21 AL 684.	21	✓					
RIGGING OF CONTROL COLUMN.	CANCELLED BY A/L 681.	22.	✓					

TECHNICAL STAFF INSTRUCTIONS — AF. 2516

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TITLE	MOD ST1 OR ST NO. etc.	TSI No.	Issue No. 1	2	3	4	5	6
DAMAGE TO GYRO - GUNSIGHT REFLELTOR GLASS		23	✓					
MAIN WHEEL OUTER COVERS - EXAMINATION.		24	✓					
HYDRAULIC PIPES - METHODS OF LASHING.		25	✓					
METAL CONDUITS IGNITION CABLE - NON INSULATION OF CLIPS	CANCELLED BY A/L 686.	26	✓					
FUEL TANKS - JOINTING COMPOUND ON TANK ADAPTORS.		27	✓					
4 PSI IN PRESSURE TESTING	CANCELLED BY A/L 680.	28	✓					
MARSTON FUEL TANKS - FITTING OF ADAPTOR FILLER 26 FC/6782.		29	✓	✓				
ENGINE COWLING, UPPER INSPECTION DOORS MALFITMENT OF COWLING FASTENERS COVER PLATES		30	✓					
LOW PRESSURE FUEL FILTER ASSY AND ELEMENTS		31	✓					
HYDRAULIC ACCUMULATOR - CHARGING POINT VAMPIRE T11 AIRCRAFT.		32	✓					
HYDRAULIC JACKS LEAKING AND SELECTOR VALVES SEIZED AFTER PERIODS OF INACTIVITY.	CANCELLED BY VOL 3-1-A-39	33	✓					
FUEL SPILLAGE - VAMPIRE AIRCRAFT, PRE MOD 3129	CANCELLED BY A/L 691	34	✓					
TAIL PLANES NEEDLESS RETECTION.		35	✓					
	CANCELLED BY VOL 3-2-E60.	36	✓					
DISPOSITION OF PERSONAL SURVIVAL PACK PARACHUTE AND HARNESS AND EMERGENCY OXYGEN INSTALLATION		37	✓					
GROUND RUNNING.	CANCELLED BY A/L 690.	38	✓					
FUSELAGE FUEL TANK - PRECAUTIONS ON REMOVAL AND INSTLLATION		39	✓	✓				
	CANCELLED BY. VOL 3-2-E40	40	✓					
NOSE WHEEL DOOR MECHANISM ADJUSTMENTS.		41	✓	✓	✓			
MOLLART JOINT AT BASE OF CONTROL COLUMN.	CANCELLED BY A/L 680.	42	✓					
WIRING OF MAIN FLYING CONTROL CABLES EXCLUDING TRIM TAB CABLES		43.	✓					

TECHNICAL STAFF INSTRUCTIONS — AF. 2516

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VOLUME TITLE: AIRFRAME — VOLUME NO: 3

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SUB SECT TITLE: GENERAL ORDER — SUB SECT NO: A.

TITLE	MOD STI OR ST NO. etc.	TSI No.	Issue No. 1	2	3	4	5	6
SPERRY GYROSCOPE COMPANY INSTRUMENTS - IDENTIFICATION OF MODIFICATIONS.	CANCELLED BY A/L 690.	44	✓					
LOCKHEED HYDRAULIC COMPONENTS INTERCHANGEABILITY CHART.		45	✓	✓				
	CANCELLED BY VOL 3-2-E42.	46	✓					
GUN DOOR FASTENERS - DELETION OF IDENTIFICATION LABEL FROM TOGGLE FASTENER COVER.		47	✓					
DAMAGE TO WINDSCREENS		48	✓					
CABLE BRAKE OPERATING 36FL/6455 - DEFFECTIVE - VAMPIRE FB9 A/C		49	✓					
PROVISIONING OF AIRFRAME SPARES.	CANCELLED BY A/L 683.	50	✓	✓				
FITTING OF EXISTING CANNON DROPPING TOOL BRACKETS TO REPLACEMENT CANNON STIRRUP FASTINGS.		51	✓					
FAIRINGS CANNON SPOUT L.H. AND R.H. AND TUBES, BLAST, MATIN BAKER" CORROSION		52	✓	✓				
PACITOR FUEL CONTENTS SYSTEM.		53	✓					
R.P. MOUNTING STRUT BOLTS - REPLACEMENT		54	✓					
IDENTIFICATION TAGS ON CONTROL CABLES.		55	✓					
HYDRAULIC PIPE - INCORRECT MATERIAL.	CANCELLED BY A/L 683.	56	✓					
ADDITIONAL CHECKS FOLLOWING CANNON FIRING EXERCIES		57	✓					
VAMPIRE A/C PRECAUTIONS AFTER "WET" STARTS		58	✓					
EJECTOR SEAT SAFETY PIN - STOWAGE.		59	✓					
NOT ISSUED.		60	✓					
NOSE UNDERCARRIAGE LEG - FITS AND CLEARANCES.		61	✓					
DAMAGE TO HYDRAULIC PRESSURE LINE BETWEEN NO 4 BLKD AND CUT OUT VALVE	CANCELLED BY A/L 688.	62	✓					
INTER-CHANGEABILITY OF NOSE LEG ASSEMBLIES - VAMPIRE A/C		63	✓					
LEVER ASSEMBLIES - CAULKING OF SPACED BALLRACES		64	✓					

TECHNICAL STAFF INSTRUCTIONS — A.P. 2516

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SUB SECT TITLE: GENERAL ORDERS. — SUB SECT NO: A

TITLE	MOD STI OR ST NO. etc.	TSI No.	Issue No. 1	2	3	4	5	6
SALVAGE INSTRUCTIONS		65	✓					
NOT ISSUED.		66						
HANDLING CHARACTERISTICS OF VAMP A/C		67	✓					
SECURITY OF CANOPY ON VAMP. TII. A/C.		68	✓	✓				
NOT ISSUED.		69						
PIPE ENGINE PUMP SUCTION.	CANCELLED BY VOL 3 - 2 - A39.	70	✓					
ELEVATOR TRIM TAB SETTING ALL VAMPIRE AIRCRAFT	CANCELLED BY A/L 681	71	✓					
SPINNING CHARACTERISTICS OF VAMPIRE AIRCRAFT.	1	72	✓	✓				
VAMPIRE TII A/C BALLASTING REQUIREMENTS.		73	✓					
LUBRICATION VAMPIRE A/C.		74	✓					
WEAR LIMITS - VAMPIRE UNDERCARRIAGE		75	✓					
SHRINKALE WASHERS - CORRECT METHOD OF FITING.		76	✓					
BRAKE SERVICING TOOL.		77	✓					
FRACTURE OF OPERATING RACK LEVERS VAMPIRE A/C		78	✓					
AMENDMENTS TO A/P 2099 J AND 2099G		79.	✓					
H.P. COCK BALL JOINTS - SECURITY.		80	✓					
VAMPIRE MK 9 - TII A/C - MAIN FUEL TANK FILLER CAPS - INCORRECT ASSY		81	✓					
VAMPIRE TII A/C FATIGUE LIFE.		82	✓					
FUSELAGE TANK - SUPPORT STRAP.	CANCELLED BY VOL 3 - 2 - A39. ISS 3	83	✓					
TII A/C :- REPLACEMENT AILERON DRIVE ASSEMBLY		84	✓					
NO 1 TANK FILLER CAP ADAPTERS FITTING OF SEATING WASHERS		85	✓					

TECHNICAL STAFF INSTRUCTIONS AF. 2516

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SECTION TITLE VAMPIRE SECTION NO 2

SUB SECT TITLE GENERAL ORDER SUB SECT NO A

TITLE	MOD STI OR ST NO. etc.	TSI No.	Issue No. 1	2	3	4	5	6
REMOVAL AND REPLACEMENT OF MAIN FUEL TANK.		86	✓					
ELASTIC CORD IN ELEVATOR CONTROL SYSTEM		87	✓					
U/C TELEFLEX CONTROLS INTECHANGEABILITY		88	✓					
NO 4 TANK FILLER NECK - FITTMENT OF RING SEALING REF. 26 FC/8205.		89	✓					
MAIN WHEEL OUTER COVERS. REPAIRED BY BANDAG PROCESS		90	✓					
PRESSURISATON CHECKS AFTER ABNORMAL AERODYNAMIC LOADS.		91	✓					
VAMPIRE T11 A/C WOODPLY SEPERATION.		92	✓					
REDUCED RANGE HARMONISATION PROCEDURE. - VAMP T11 PARAMEL CCINS.		93	✓					
DROP TANKS - RECORD OF FITTMENT AND SERVICING.		94	✓					
ENGIME FIRE PROTECTION SYSTEM - EXAMINATION.		95	✓					
~~HARMONIZATION PROCEDURE~~ cancelled by AC 198		96	✓					
VAMPIRE MAINWHEEL OUTER COVERS		97	✓					
FUEL PRESSURE WARN LIGHT SWITCH		98	✓					

R.R.A.F. TECHNICAL ORDERS

AMENDMENT RECORD SHEET

TO:- VOLUME:- ...3.... SECTION:- ...2..... SUB. SECTION:....A.....

R.R.A.F. TECH. ORDER NO.	AMENDMENT NUMBER RECEIVED				
3-2-A1	A/L 683				
3-2-A2	A/L 680				
3-2-A3	A/L 682				
3-2-A4	A/L 683				
3-2-A5	A/L 681				
3-2-A6	A/L 680				
3-2-A7	A/L 681				
3-2-A8	A/L 684				
3-2-A9	A/L 680				
3-2-A15	A/L 682				
3-2-A17	A/L 692				
3-2-A19	A/L 685				
3-2-A20	A/L 630				
3-2-A21	A/L 687				
3-2-A22	A/L 681				
3-2-A26	A/L 686				
3-2-A28	A/L 680				
3-2-A33	VOL 3-1-A39				
3-2-A34	A/L 691				
3-2-A36	VOL 3-2-E60				
3-2-A38	A/L 690				
3-2-A40	VOL 3-2-E40				
3-2-A42	A/L 680				
3-2-A44	A/L 690				
3-2-A46	VOL 3-2-E42				
3-2-A56	A/L 683				
3-2-A62	A/L 688				
3-2-A70	VOL 3-2-A39				
3-2-A71	A/L 688				
3-2-A83	VOL 3-2-A37				

NOTE: 1. This Index to Amendments is sued is to be inserted behind the Index Sheet of each Section & Sub. Section of all Volumes of Technical Orders.

2. Amendments are to be entered in the columns provided from left to right immediately on receipt and the Amendment attached to the applicable Technical Order.

RHODESIAN AIR FORCE TECHNICAL ORDERS

INDEX SHEET

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SECTION TITLE : VAMPIRE. SECTION NO : 2

SUB-SECTION TITLE : GENERAL INFORMATION. SUB SECTION : A

TITLE AND DESCRIPTION	MOD STI OR SI NOS	ORDER NO.	1.2.3.4.
ENGINE FIRE PROTECTION SYSTEM EXAMINATION.		3.2.A95	*
FUEL PRESSURE SWITCHES		A98	x

EMES

FROM : Headquarters (Tech)
Rhodesian Air Force

TO : New Sarum
Thornhill
OC CED
AIS

COPY TO : D. EQ
TRG 1
NO. 1 GTS

DATE : MAY 1980

Technical Staff Instruction
Vol 3, Sect 2, Sub Sect A 98
Vol 3, Sect 6, Sub Sect A 33
Vol 6 Sect 1, Sub Sect A 16
(Issue 1)

This leaflet is issued in accordance with TSI Vol1, No. 2, Issue 11

FUEL PRESSURE WARNING LIGHT SWITCH (6A 1912)

1. It has been found necessary to differentiate between the Fuel Pressure Warning Light Switches as fitted to Vampire and Canberra A/C by amending the Sect/Ref No. This should resolve the confusion that has occurred.

2. With immediate effect the following Sect/Ref No. is to be used for the switch as fitted to the Canberra A/C.

6A 1912A. Switch-Fuel Pressure Warning 4,5 P.S.I.

3. There is no change of number required for the switch as fitted to the Vampire A/C.

4. Canberra switches are to be suitably marked with the amended number.

(R. E. Schley)
Squadron Leader
SEIO

Source : H/105/Eng Vol II Enc 40

TECH CONT 3-2-498

FROM : Headquarters (Tech)
Rhodesian Air Force

TO : New Sarum -
Thornhill
OC CED
AIS

COPY TO : D EQ
TRG 1
NO. 1 GTS

DATE : MAY 1980

Technical Staff Instruction
Vol 3, Sect 2, Sub Sect A 98
Vol 3, Sect 6, Sub Sect A 33
Vol 6 Sect 1, Sub Sect A 16
(Issue 1)

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6A 1912A. Switch-Fuel Pressure Warning 4,5 P.S.I.

3. There is no change of number required for the switch as fitted to the Vampire A/C.

4. Canberra switches are to be suitably marked with the amended number.

(R. E. Schley)
Squadron Leader
SEIO

Source : HQ/105/Eng Vol II Enc 40

T/CONTROL

FROM : Headquarters (Tech)
Rhodesian Air Force

Technical Staff Instruction
Vol 3 Sect 2 Sub Sect A 97
(Issue 1)

TO : New Sarum
Thornhill
OC CED
AIS

COPY TO : D EQ
TRG 1
NO. 1 GTS

DATE : OCTOBER 1979

This leaflet is issued in accordance with TSI Vol 1 No. 2 Issue 11

VAMPIRE MAINWHEEL OUTER COVERS

(27A/2087)

1. A recent inspection has revealed that there are two types of outer covers held in stock, hereafter referred to as the old and the new types respectively, both types bearing the same part numbers.

2. This leaflet authorises the use of both types but under the following conditions :

a. The old type is identified as having equal size/equidistant ribs. This type is not retreadable and may therefore be run to the breaker strip and then scrapped.

b. The new type is identified by the centre rib which is much wider than the outside ribs. This type is retreadable and must only be run to the acceptable limit for retreading, ie; all the groove lines must be visible throughout the circumference of the outer cover. When the outer cover reaches these limits it must be returned to Repairable Depot for retreading.

(L.W. Authers)
Air Lieutenant
Engineer II

SOURCE : Headquarters (tech)

REF : HQ Sig T677 Sept 1979
101/7/ENG

CONFIDENTIAL

FROM : Headquarters
Rhodesian Air Force

TO : New Sarum
Thornhill
OC CED
AIS

COPY TO : D EQ
TRG 1
NO. 1 GTS

DATE : AUGUST 1977

Technical Staff Instruction
Vol 5 Sect 8 Sub Sect A 5
(Issue 1)
Vol 6 Sect 8 Sub Sect A 4
(Issue 1)
Vol 3 Sect 2 Sub Sect A.96
(Issue 1)

This TSI is issued in accordance with Vol 1 No 2 Issue 10

HARMONISATION PROCEDURE

VAMPIRE FB 9

1. Check the harmonisation board sighting spot positions as detailed in the diagram (Annex A) to this TSI.

2. Check that:

a. Gunsight electrical checks have been carried out.

b. Aircraft rigged at 1° nose up (longitudinal axis) and laterally level.

c. Nose wheel is retracted.

d. Port inner (master gun) set at 20 minutes down from the aircraft datum (ie, 40 minutes up from horizontal).

e. Gun aligning tool is serviceable and accurate.

3. Suspend plumb bobs from:

a. Nose cone.

b. Centre of tail plane leading edge (check that the suspension point is exactly midway between booms).

c. Centre of harmonisation board.

4. Place harmonisation board 60 feet (18,3 metres) in front of the aircraft. This measurement is taken from the front face of the port inner breach block to the front face of the harmonisation board.

5. Align harmonisation board with aircraft by aligning the two plumb bobs fitted to the aircraft and the plumb bob suspended from the board. (Measure from each wing tip to the edge of the harmonisation board and ensure measurements are the same).

6. Using the gun aligning tool, view through the barrel of the port inner gun and move the harmonisation board vertically to align with the port inner gun.

7. Level the harmonisation board using an inclinometer.

8. Re-check board is in line vertically with the port inner gun.

/9...

FROM : Headquarters (Tech)
Rhodesian Air Force

TO : New Sarum
Thornhill
OC CED
OC AIS

COPY TO: SO EQ
TRG 2
No 1 GTS NS

DATE : 26th October 1973

Technical Staff Instruction
Vol 3 Sect 2 Sub-Sect A95
(Issue 1)

This TSI is issued in accordance with Vol 1, No 2, Issue 10.

ENGINE FIRE PROTECTION SYSTEM - EXAMINATION

1. Whenever the jet pipe fairing is removed from the aircraft, for any reason, proceed as follows:

Carry out an examination of the engine fire protection system in accordance with AP 4099 J, Vol 5, PART 1, Book 3, SP 231.

(A.D. Steel)
Squadron Leader
SELO

SOURCE : RHODESIAN AIR FORCE HEADQUARTERS

FROM : Headquarters (Tech)
Rhodesian Air Force

Technical Staff Instruction
Vol 3 Sect 2 Sub-Sect A95
(Issue 1)

TO : New Sarum
Thornhill
OC CED
OC AIS

COPY TO: SO EQ
TRG. 2
No 1 GTS NS

DATE : 26th October 1973

This TSI is issued in accordance with Vol 1, No 2, Issue 10.

ENGINE FIRE PROTECTION SYSTEM - EXAMINATION

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(A.D. Steel)
Squadron Leader
SELO

SOURCE : RHODESIAN AIR FORCE HEADQUARTERS

JRH Confirm

FROM : Headquarters (Tech)
Rhodesian Air Force

Technical Staff Instruction
Vol 3 Sect 2 Sub Sect A94
(Issue 1)

TO : New Sarum
Thornhill
OC CED
AIS CED

COPY TO : SO EQ
TRG 2
No 1 GTS (NS)

DATE : 6th March 1973

This TSI is issued in accordance with TSI Vol 1, No 2, Issue 10.

VAMPIRE AIRCRAFT

DROP TANKS - RECORD OF FITTMENT AND SERVICING

1. It is a requirement that drop tanks are serviced every 50 hours concurrent with Primary/Primary Star Servicings etc. However due to AFS/OCU requirements to fly the aircraft in clean configuration cases can occur where the drop tanks have not, in fact, been installed for the whole or part of the period between the 50 hour servicings.

2. In order to prevent unnecessary servicing drop tanks are only to be serviced I.A.W. S.P.'s 466, 467 after completing 50 flying hours fitted. In this regard the following instructions are to be implemented by WO or NCO i/c Squadrons :-

a. All sets of drop tanks are to be clearly identified with specific aircraft.

b. A record of flying times flown with drop tanks fitted is to be recorded in Section 3 of Form 700 (Base and Traveller) in column 1 (APU Running Time) i.e. delete "APU Running Time" and annotate "Drop Tanks Flying Total".

c. When a F700 is full the total is to be transferred to new F700.

d. When drop tanks have completed 50 flying hours fitted they are to be serviced I.A.W. S.P.'s 466, 467 as applicable. Such servicing to be recorded in relevant F700.

(J.A. Scatcherd)
Air Lieutenant
Engineer 2

SOURCE : HQ/101/3/1/ENG VOL IV ENCL 36

FROM : Headquarters (Tech)
Rhodesian Air Force

TO : New Sarum
Thornhill
OC CED
AIS CED

COPY TO : SO EQ
TRG 2

DATE : 3rd January 1972

Technical Staff Instruction
Vol 5 Sect 8 Sub Sect A4
(Issue 3)
Vol 6 Sect 8 Sub Sect A3
(Issue 1)
Vol 3 Sect 2 Sub Sect A93
(Issue 1)

This TSI is issued in accordance with TSI Vol 1, No 2, Issue 9.

REDUCED RANGE HARMONISATION PROCEDURE - VAMP T 11 PARALLEL GUNS AT 1000 INCH OR 83 FT 4 INCH

1. Check the Harmonisation Board setting positions as laid down in the diagram detailed as Annex A to this TSI. (Limited Distribution)

2. Check that :

   a. Gunsight electrical checks have been carried out.

   b. Aircraft rigged at plus 1° longitudinal axis, laterally level.

   c. Master gun (port inner) set plus 30 mins.

3. Suspend plum-bobs

   a. Front nose cone locking stud (to hang vertically over centre of this stud)

   b. Leading edge, centre of tail plane (cross check that suspension point is mid-distant between booms and lines up with centre of engine exhaust cone, radio compass aerial and centre of canopy bar).

4. Tape out 1000 inches (83 ft 4 inch) from the vertical line down to ground through centre of gunsight lenses (this point can be taken as the forward face rear hinge of the nose wheel side door) and position the front face of the harmonisation board at this range.

5. Level the harmonisation board with inclinometer. Suspend a plumb-bob from the centre top of the board then ensure that this bob is in line with the aircraft plumb-bobs (ie. centralise the board). Cross check that the face of the board is parallel to the aircraft lateral axis by taping from wing tips to board outer corners. A plumb-bob can again be used to chalk these points on ground for accurate measurement.

6. Adjust height of board by reference through the horizontal to the master gun and its appropriate board position. Check tools, barrel aligning for accuracy and serviceability.

7. Harmonise the guns to their relevant spots after examining the stirrups for wear and security at top attachment brackets. Check also for looseness of the front mounting at the bulkhead.

/8. Set .....

8. Set 500^{x} range drum on the starboard gunsight (this is done only because in flight, the port range drum cannot usually be seen by pilot in port seat). Set gunsight selector to guns and guns/RP to guns. Harmonise port (master) gunsight by :-

a. Adjusting pipper to the (stbd) GGS spot and then the fixed cross to the (port) GGS spot (gyro day, fixed, then cross check fixed and gyro). Cross check by ranging from 200^{x} and 800^{x} respectively to reposition pipper on the harmonisation point. Range drum should be 500^{x} ± 25^{x}.

Instrument Fitter

9. Select gunsight up and set: fixed and gyro, dimmer fully bright, range 500^{x}. Allow at least 15 minutes warm-up time and set up voltage regulator output to 22.0 volts. Carry out complete gunsight functional checks I.A.W. AP 1275E Vol 1 Sect 7 Chap 1.

10. Before carrying out the RP checks ensure that the Armament Tradesmen have harmonised the gunsights as per Paras 8 and 8a.

a. Selection Guns/RP to R.P. Pipper should drop approximately 13½ inches below the 500^{x} harmonised position.

b. Set wingspan knob anti clockwise to R.P. (72°). Check bottom diamond is vertically below pipper.

NB. There are approximately three clicks backlash in the wingspan linkage and if the R.P. position is overshot, the wingspan must be reduced and brought carefully back to 72°. If the bottom diamond is not vertically below the pipper, no attempt must be made to adjust the wingspan knob. The sight must be removed for Instrument Section repair.

c. Select M.R.P. on the GGS selector and adjust the M.R.P. potentiometer to place the bottom tip of the bottom diamond on the M.R.P. marker spot on the board. Cross check by selecting M.R.P. from varying "Guns" range settings (800^{x}, 200^{x}, 500^{x}). Should the diamond not return exactly to the harmonised M.R.P. position, the ranging feed-back circuit must be adjusted on the F.B.M. potentiometer to give smooth ranging with no back-lash or hunt.

d. Select S.R.P. on the GGS selector and Guns/RP to guns. Adjust on the S.R.P. potentiometer to put the bottom tip of the bottom diamond on the M.R.P. spot.

11. Reselect R.P. on the Stbd sight as in paragraph 9 and check the bottom diamond harmonised position. This should be practically identical to that of the port sight. Due to internal tolerances of the gunsight however, differences may occur and an attempt must be made to "match" the gunsights to give equal R.P. depression. The maximum acceptable difference between the two sights on R.P. can be taken as ¼ of a diamond.

12. The Bowden cable range drive system of the Mk 4E gunsights is unreliable, and in order to give the pilot an in-flight check of the M.R.P., S.R.P., range drum settings, a thin red line must be painted on the range drum at each of these positions.

/13. Harmonise .....

13. Harmonise the G45 Camera to its appropriate spot on the board.

14. Arrange for Squadron Pilot to check that aircraft has been correctly harmonised. Sign in Form 700 for harmonisation.

(A.D. Steel)
Squadron Leader
SEngO

Annex 'A' : Harmonisation diagram for Vampire T11 aircraft

Source : HQ/259/1/ARM M.5
HQ 105/10/ENG ENCL 58

FROM : Headquarters (Tech)
Rhodesian Air Force

TO : New Sarum
Thornhill
OC Central Equip Depot
AIS CED

COPY TO: SO Equip
TRG 2

DATE : 24th August 1971

Rhodesian Air Force
Technical Staff Instruction
Vol 3, Sect 2, Sub-Sect A92
(Issue 1)

TWHR

This TSI is issued in accordance with TSI Vol 1, No 2, Issue 9.

VAMPIRE T.11 AIRCRAFT
WOODPLY SEPARATION

1. Cases have been reported of plywood separation occurring on the fuselage structure. Defects of this nature have been discovered particularly in the gun port and entry step areas. Separation is often hard to detect and may be indicated only by slight blistering of the fabric.

2. Should separation of plywood be discovered the attention of all personnel is drawn to the Makers Maintenance and repair manual, Publication VMR-1-113, Section 8, Chapter 1, detailing various repair schemes.

(J.A. SCATCHERD)
Air Lieutenant
Eng 3

TWHQ.

FROM : Headquarters (Tech)
Rhodesian Air Force

TO : New Sarum
Thornhill
OC Central Equipt Depot
AIS CED

COPY TO : SESO
TRG 2

DATE : 14th July 1971.

Rhodesian Air Force
Technical Staff Instruction
Vol. 3. Sect 2, Sub Sect A91
(Issue 1)

This TSI is issued in accordance with TSI Vol 1. No. 2. Issue 9

VAMPIRE AIRCRAFT - PRESSURISATION CHECKS AFTER ABNORMAL AERODYNAMIC LOADS

1. The application of abnormal aerodynamic loads will necessitate a pressurisation check to determine the structural integrity of the cockpit and pressure bulkheads.

2. This requirement is to be brought to the attention of all personnel concerned through the medium of the Flight and Section Order Book.

(J. A. Scatcherd)
Air Lieutenant
Engineer 3.

SOURCE : HQ/101/3/ENG. ENCL. 54
(HQ SIG T508 dated 5th July 1971)

FROM : Headquarters (Tech)
Rhodesian Air Force

TO : New Sarum
Thornhill
OC Central Equipment Depot
AIS Central Equipment Depot

COPY TO : SESO
TRG 2

DATE : 23rd March 1971

Rhodesian Air Force
Technical Staff Instruction
Vol 3. Sect 2 Sub Sect A90
(Issue 1)

This TSI is issued in accordance with TSI Vol 1, No.2. Issue 9

MAIN WHEEL OUTER COVERS REPAIRED BY BANDAG PROCESS

1. Outer covers repaired by the Bandag process may in some instances be slightly larger than original dimensions, this increase is marginal and is not always discernable on initial acceptance, additionally it is suspected that outer covers stretch after inflation.

2. When repaired outer covers are assembled to main wheel hubs they are to be inflated to working pressure and allowed to settle for a minimum period of four hours prior to fit of assembled wheel to aircraft.

3. On installation of assembled wheel to aircraft a full retraction test is to be carried out to ensure that the outer cover does not foul the retraction mechanism and that the undercarriage and warning system illuminates/operates satisfactorily.

4. Technicians employed on 1st line servicing are to be especially vigilant in respect of the side wall condition, this may be the determining factor in life of the outer cover.

5. This Instruction is to be brought to the attention of technicians through the medium of Flight and Section Order Books.

(R.Evans)
Flight Lieutenant
Engineer 3

SOURCE: SOR VA/4/71

Two of Q

FROM : Headquarters (Tech)
Rhodesian Air Force

TO : New Sarum
Thornhill
OC Central Equipment Depot
AIS Central Equipment Depot

COPY TO : SESO
TRG 2

DATE : 27th June 1970

Rhodesian Air Force
Technical Staff Instruction
Vol 3, Sect 2, Sub Sect A89
(Issue 1)

This TSI is issued in accordance with TSI Vol 1, No.2, Issue 9.

NO 4 TANK FILLER NECK - FITMENT OF RING SEALING REF.26FC/8205

1. When fitting a Number 4 Wing Tank IAW AP4099J Vol.1. Sect.4. Chap.2 (AL 86) Para. 16 attention is drawn to the fitment of Ring Sealing 26FC/8205 introduced by MOD/VAMP/3247 (AP 4099J Vol.2, Part 1. Leaflet H14 refers).

2. This leaflet is the authority to amend AP4099J, Vol.1. Sect.4. Chap.2. (AL 86) Para 16 as shown below :

a. Immediately below Para 16 insert :
"NOTE : When fitting a No 4 Wing Tank ensure Ring Sealing 26FC/8205 is fitted IAW MOD/VAMP/3247 (TSI Vol.3.2. A89 Refers)"

R. Evans

(R.Evans)
Flight Lieutenant
Engineer 3

SOURCE : HQ/101/3/2/ENG. M29

TWHQ

FROM : Headquarters (Tedh)
Royal Rhodesian Air Force

RRAF Technical Staff Instructions
Vol 3, Sect 2, Sub Sect A88 (Issue 1)

TO : RRAF New Sarum
RRAF Thornhill
OC Central Equipt Depot
AIS CED

COPY TO : SESO
Ops 1

DATE : 23rd June 1969

This TSI is issued in accordance with RRAF TSI Vol. 1. No. 2. Issue 9.

UNDERCARRIAGE TELEFLEX CONTROLS OUTER FLEXIBLE COVER-INTERCHANGEABILITY INNER CABLES-LENGTH-STANDARDISATION

1. Teleflex controls are now held in CED as individual items thus obviating the necessity to replace complete assemblies. Demands should be submitted for items required only.

2. Additionally outer Flexible covers port and starboard are now interchangeable being made so by the fit of an additional grease nipple diametrically opposed to the original item. Demands should be submitted as follows :-

27K/NIV Outer flexible cover teleflex - front
27K/NIV Outer flexible cover teleflex - rear.

3. Standardisation of the Inner Cable has been achieved by provisioning for the known length of the longer of the two cables, ie. 3'. Technicians fitting cables to aircraft are to reduce the length of the cable as required in accordance with AP1464D Vol. 1 Pt. 2. Sect. 2. Chap 3. Para 34. Demands should be submitted as follows :-

27K/NIV Inner Cable Teleflex length 3'.

4. Unserviceable items removed from aircraft are to be returned to CED.

(F.R. Simmonds)
Squadron Leader
Engineer 1

Source : HQ/101/3/2/ENG
Enclosure 112

Tw HQ

FROM : Headquarters (Tech)
Royal Rhodesian Air Force

RRAF Technical Staff Instruction
Volume 3 Section 2 Sub Sect.A87.
(Issue 1)

TO : RRAF New Sarum
RRAF Thornhill
OC CED

COPY TO: SESO
C MODS C

DATE : 26th June 1968

This T.S.I. is issued in accordance with RRAF T.S.I. Vol. 1 No.2 Issue 9.

VAMPIRE FB9 AND T11 AIRCRAFT ELASTIC CORD(REF.NO.26FC/2092) IN ELEVATOR CONTROL SYSTEM

1. On Vampire fighter/bomber and trainer aircraft a length of "bungee" elastic cord is connected between the elevator control lever in the aft end of the starboard boom and a bracket on the tail boom/stub boom joint.

2. The purpose of this cord is to maintain longitudinal stability throughout the speed range of the aircraft.

3. If the cord was not fitted, aerodynamic effects would cause the nose of the aircraft to drop as the speed increased, necessitating a rearward force on the control column. This would be undesirable as the aircraft would be unstable. With a stable aircraft the nose should tend to rise as the speed increases, requiring a forward force on the control column to control it.

4. On the Vampire fighter/bomber and trainer, the cord provides an artificial down load on the elevator which is balanced at low speeds by an upward air load on the trim tab. As the aircraft's speed increases the air load on the tab overcomes the cord and moves the elevator up, so causing the nose to rise, which is the desired effect.

NOTE : The bungee cord installation in no way affects the ability of the aircraft to be trimmed to fly level at any desired speed.

5. The rubber cord is covered by two layers of braided white cotton, the outer layer includes a helix of red cotton, denoting that the cord is to the basic specification (BSS 6F16) and also a helix of another colour to indicate the year of manufacture :-

1963	Green
1964	Heliotrope (purple)
1965	Yellow
1966	Blue
1967	Black

and re-commencing the 5 year cycle in 1968 with green.

6. These colours will be made up of 1, 2, 3 and 4 threads to denote the quarter of the year in which the cord was manufactured.

7. If cords are stored for more than two years they can only be fitted to aircraft on release by AIS.

(A.J. Rowe)
Squadron Leader
ENGINEER I

SOURCE : DHTNS V653
DCA 86 ISS.2 (AF.G)

T W.H.Q

FROM : Headquarters (Tech).
Royal Rhodesian Air Force

R.R.A.F Technical Staff Instruction
Vol.3, Sect.2, Sub-Sect. A86(Issue 1)

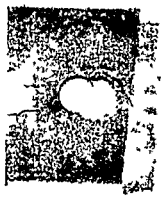
TO : R.R.A.F. New Sarum
R.R.A.F. Thornhill
O.C. Central Equipt. Depot

COPY TO: S.E.S.O.
C. MODS. C.

DATE : 12th October, 1963

This T.S.I. is issued in accordance with R.R.A.F. T.S.I. Vol.1. No. 2 Issue 8.

VAMPIRE T. Mk.11 AIRCRAFT - FUEL SYSTEM
REMOVAL AND REPLACEMENT OF MAIN FUEL TANK

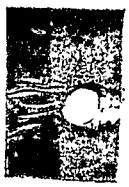


1. On removal of main fuel tank from the aircraft, it is imperative that the following items be detached from the tank.

Ref. No.	Pt.No.	Nomenclature	Qty	Class
26FC/11928	12 Pt.1807	Nut Special	8	C
26FC/ -	15 PT.7	Spigot, Main Fuel Tank	1	C
26FC/ -	15 Pt.8	Spigot, Main Fuel Tank	1	C

2. The above Items are to be fitted on the new tank before the latter is placed in the aircraft.

3. This instruction is to be brought to the notice of all Servicing personnel through the medium of the Flight & Section Order Book.



(E.F.J. GERICKE)
Squadron Leader
ENGINEER I

SOURCE: RRAF/7501/4/1/ENG.
ENCL: 83

T.W.H.Q.

Technical Wing,
Royal Rhodesian Air Force,
New Sarum.

R.R.A.F. Technical Staff Instruction,
Vol.3.Sect.2.Sub.Sect.A85.(Issue 1).

Date:- 4th. December, 1961

This T.S.I. is issued in accordance with R.R.A.F. T.S.I. Vol.1,No.2,Issue 7.

Vampire Aircraft - No. 1 Fuel Tank Filler Cap Adaptors - Fitting of Seating Washers.

1. A case has occurred where the seating washer was omitted from the base of a No.1. wing tank filler cap adaptor (Stores Ref 26FC/6572), thereby permitting fuel leakage and subsequent damage to the fuel tank through deterioration.

2. Seating washers (Stores Ref. 26FC/5872 or alternatively 26FC/6414) are to be fitted at all times.

3. The adaptor and seating washer were introduced by Modification No. Vampire/3041. All R.R.A.F. Vampires are to this basic standard.

4. A later modification (Vamp/3204) introduced a steel adaptor in place of the initial Aluminium Alloy adaptor, and retained the seating washer. The majority of R.R.A.F. Vampires are to this standard.

5. Modification Vamp/3204 is being promulgated in R.R.A.F. Technical Staff Instructions for information and recording action. Vol.3,Sect.2, Sub.Sect.B.97 refers.

6. Where No. 1 tank cap adaptors are found to be loose, the tank must be removed and inspected for deterioration caused by fuel seepage.

7. Where a loose, or otherwise unserviceable adaptor is found to be of Aluminium Alloy (Part No.P003669) it must be replaced in accordance with Vol.3. Sect.2. Sub.Sect.B97, and the necessary recording action taken.

8. Fitting and tightening of adaptors is to be accomplished with the aid of Spanner, Stores Ref. 26FC/NIV.16, and Plastic Hermetite (Light Grade), Stores Ref. 33H/167, is to be applied sparingly to both sides of the seating washer.

(E.F. GRICKE)
Squadron Leader,
Officer Commanding
Technical Wing
R.R.A.F. New Sarum

SOURCE: E62. R.R.A.F./7501/4/1/ENG.

Technical Headquarters,
No. 1. Group,
Royal Rhodesian Air Force.

No. 1. Group Technical Staff Instruction.
Vol. 3. Sect. 2. Sub.Sect. A.84. (Issue 1).

3rd August, 1961.

Vampire T.11. Aircraft: Replacement Aileron Drive Assembly.

1. On fitting a replacement Aileron Drive Assembly Part No. 15CF.451 AND, Ref. 26FC/11826, it may be found that the forward Aileron Quadrant Pulley Part No. 15 CF.123 is out of alignment with the Cable Guard, Part No. 15CF.95 ND, Ref. 26FC/6003, which is bolted to two ferrules in the cockpit floor.

2. The mal-alignment may be rectified as follows :-

(a) Remove the two cable guard mounting ferrules from the cockpit floor.

(b) Plug the redundant holes with spruce to D.T.D. 36B Grade B, well glued into position.

(c) Fit the new ferrules into a position to suit the quadrant pulley of the replacement Aileron Drive Assembly, ensuring that the ferrules are well glued and bradded.

(D.B. MILES)
Flying Officer
ENG I.

SOURCE: E35b. 1.Gp/7501/4/Eng.

DISTRIBUTION :-

In accordance with Vol.1, No.2. (Issue 6) Para 6 (As amended).

Technical Headquarters,
No. 1. Group,
Royal Rhodesian Air Force.

R.R.A.F. Technical Order.
Vol.3. Sect.2. Sub.Sect. A83. (Issue 1).

23rd July, 1960.

Vampire A/c - Mk. F.B.9's and T.11's.
Fuselage Tank - Support Strap.
(Stores Ref. 26FC/1973 Part No. 00333A).

1. A case has occurred of failure of a support strap, Stores Ref. 26FC/1973. supporting the fuselage tank. The failure has been attributed to the strap being bent during removal and/or refitment of the tank.

2. The following Instructions are to be complied with:-

(a) Before next flight and subsequently at each tank removal and refitment, the straps securing the tank are to be examined for kinks and cracks, particular attention being paid to the reinforcing section of the top attachment points.

NOTE: This examination can be effected by the use of a probe Illuminator Stores Ref. 5A/4310.

(b) Record Initial Inspection in F.700 as R.R.A.F. Technical Order Vol.3.Sect.2.Sub.Sect.A83. complied with.

(c) All cases of tank support straps kinking or cracking are to be reported to this Headquarters immediately, and the aircraft placed unserviceable.

(d) This Technical Order is to be repeated in Unit, Squadron, Flight and Section Order Books.

(H.J. PRINGLE)
Wing Commander
S.T.S.O.

SOURCE: 1.Gp/9003/2/Eng/E.43.
Tech. H.Q. No. 1. Gp. R.R.A.F.

DISTRIBUTION :-

As per Vol.1. No.2. (Issue 6) Para 6 (as amended).

Technical Headquarters,
No. 1. Group,
Royal Rhodesian Air Force.

1st March 1960.

R.R.A.F. Technical Order.
Vol.3. Sect.2. Sub.Sect.A82. (Issue 1).

VAMPIRE T MK. 11 AIRCRAFT
FATIGUE LIFE.

1. Technical personnel concerned are advised that the Fatigue Life of Vampire T.Mk.11 Aircraft is 3,000 hours, subject to the embodiment of Modification/Vampire/3634 at, or before, 1500 flying hours, and the replacement of the centre section lower cross tube with end fitting assembly and the wing root end fittings at, or before, 1800 flying hours.

2. Modification/Vampire/3634 will be promulgated in due course.

(H.J. PRINGLE)
Wing Commander
S.T.S.O.

SOURCE. 1.Gp/7504/Eng. Vol.1.
Enclosure 18.

DISTRIBUTION :-

One copy to essential recipients plus the following :-

W.O. i/c No. 1. Sqdn. (2)

Headquarters,
No. 1. Group.

R.R.A.F. Technical Order.
Vol. 3. Sect. 2. Sub.Sect. A81(Issue 1).

2nd December, 1959.

Vampire Mk.9 and T.11 Aircraft - Main Fuel Tank Filler Caps - Incorrect Assembly.

1. Main Fuel Tank Filler Caps Stores Ref. 26FC/13032 Part No. 15 Pt.19A issued as spares to Modification 3573 standard have been supplied with the 4-off washers SP.10B(0.018 inch thick) fitted on the bolts AS.1242 under the nuts instead of being placed on the bolts to come between the cap body and the square shaped backing plate Part No. 15PT.17A.

2. All personnel concerned are advised that when incorrectly assembled filler caps are encountered, although they are not ideal, they are acceptable, and therefore corrective action is not required.

H.J. Pringle

(H.J. PRINGLE)
Wing Commander
S.T.S.O.

Source : 1.Gp/7504/2/Eng Vo.4. Enclosure 87.

Distribution :-

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Air Headquarters,
Royal Rhodesian Air Force.

R.R.A.F. Technical Order.
Vol. 3. Sect. 2. Sub.Sect. A80 (Issue 1)

27th April, 1959.

VAMPIRE AIRCRAFT - ALL MARKS - H.P.
COCK BALL JOINTS - SECURITY.

1. High Pressure Fuel Cock Ball Joints may give false indications of security owing to the springs or cups, jamming on threads or shoulders during assembly. The risk is increased in some assemblies, by excessive internal thread length in the body, or by badly formed springs.

2. During assembly or adjustment, care must be taken that the domed portion of the threaded cap is screwed in flush with, or below, the surface of the body.

*3

A.L. 322 4. Special Technical Instruction/Vampire/179. which has not been issued is hereby cancelled.

(B.H. GIBBONS)
Wing Commander
S.T.S.O.
A.H.Q. R.R.A.F.

Source : Ref. No. A.199453/54/Air.Eng.1b, held on A.M., S.T.I. Vampire file.

Distribution :-

One copy to essential recipients plus the following :-

W.O. A.R.S.	(2)
W.O. Components	(2)
W.O. No. 1. Sqdn.	(2)
W.O. No. 2. Sqdn.	(2)

*3. To obtain the correct setting when the ball joint is assembled, the threaded cap must be screwed into the joint body until the ball fitting is clamped tightly and then screwed back for not more than ⅛th of a turn to the nearest split pin hole.

A.L. 322.
10.8.59.

Air Headquarters,
Royal Rhodesian Air Force.

19th January, 1959.

R.R.A.F. Technical Order.
Vol. 3. Sect. 2. Sub.Sect. A79 (Issue 1)
Vol. 7. Sect. 1. Sub.Sect. A38.(Issue 1)

Amendments to A.P.4099G. Vol. 4, Part 3. Issue 1
Minor Servicing Schedule Vampire F.B.9. and
A.P.4099J. Series 2, Vol. 4. Part 3, 1st Edition
(January 1956) Vampire T.Mk.11. (With Ejection Seats).

1. Amendment Lists R.R.A.F. No. 1 to the above Air Publications have been issued to holders by A.P.F.S.

2. The amendments read:-

(a) F.B.9. Amend Sheet No. 48 Item No. 1 by adding the following sentence :-

"Ensure during the retraction test that the port leg safety micro-switch is functioning correctly".

(b) T.Mk11: Amend Sheet No. 85. Item No. 13(a) under operation insert sub para (iii).

"Ensure during the retraction test that the port leg safety micro-switch is functioning correctly".

3. Holders of the above A.P.s. who are not yet in receipt of the amendments, are to apply to A.P.F.S. for copies immediately.

(B.H. GIBBONS)
Wing Commander
S.T.S.O. A.H.Q. R.R.A.F.

Source : S.T.S.O. A.H.Q.

Distribution :-

One copy to essential recipients
plus the following :-

Station Specialist Officer (1)
W.O. A.R.S. (1)
W.O. Electrical Section (1)
Copy to Mr. Sanders for info only.

Air Headquarters,
Royal Rhodesian Air Force.

R.R.A.F. Technical Order.
Vol. 3. Sect. 2. Sub.Sect. A78 (Issue 1).

5th January, 1959.

Fracture of Operating Jack Levers Vampire Aircraft

1. An Aircraft Accident Report, Air Forces Flight Safety Committee (Western Europe) dated 25.6.58. has been received by this Headquarters, the information it contains is as follows :-

(a) "During the pilots pre-flight inspection he noticed that the flaps were down and the air brakes out. Before starting up therefore, he selected flaps and airbrakes in, although before and after start up, the undercarriage indicator showed three greens. Whilst taxying out of the dispersal to the take-off point, the undercarriage collapsed.

(b) The collapse of the undercarriage was due to the fracture of the operating jack lever. This was thought to be due to a previous incident when the undercarriage was lowered in error at 280 knots causing overstressing on both legs, although since the incident in question, the aircraft had completed some 88 safe landings and had previously revealed no signs of over-stressing or cracking."

2. In view of this any R.R.A.F. Vampire aircraft which is known or thought to have exceeded 175 knots with the undercarriage fully lowered, is to be thoroughly inspected for signs of over stressing or cracking of the undercarriage, particular attention being paid to the operating jack levers.

"

(B.H. GIBBONS)
Wing Commander
S.T.S.O. A.H.Q. R.R.A.F.

Source : Aircraft Accident Report, Air Forces Flight Safety Committee (Western Europe).

Distribution : One copy to essential recipients plus the following :-

W.O. A.R.S. (2)

Air Headquarters,
Royal Rhodesian Air Force.

19th December, 1958.

R.R.A.F. Technical Order.
Vol. 3. Sect. 2. Sub.Sect. A77. (Issue 1).

VAMPIRE BRAKE SERVICING TOOL.

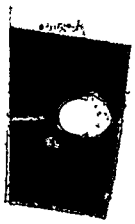
1. A tool has been developed for removing and fitting brake springs on Vampire aircraft.

2. The method of using this tool is detailed on the drawing attached.

3. Units are to demand TOOLS, BRAKE SERVICING SECT. REF. 27G/NIV/1 from Central Equipment Depot as follows :

(a) Central Technical Depot
R.R.A.F. New Sarum 2.

(b) R.R.A.F. Thornhill. 4.



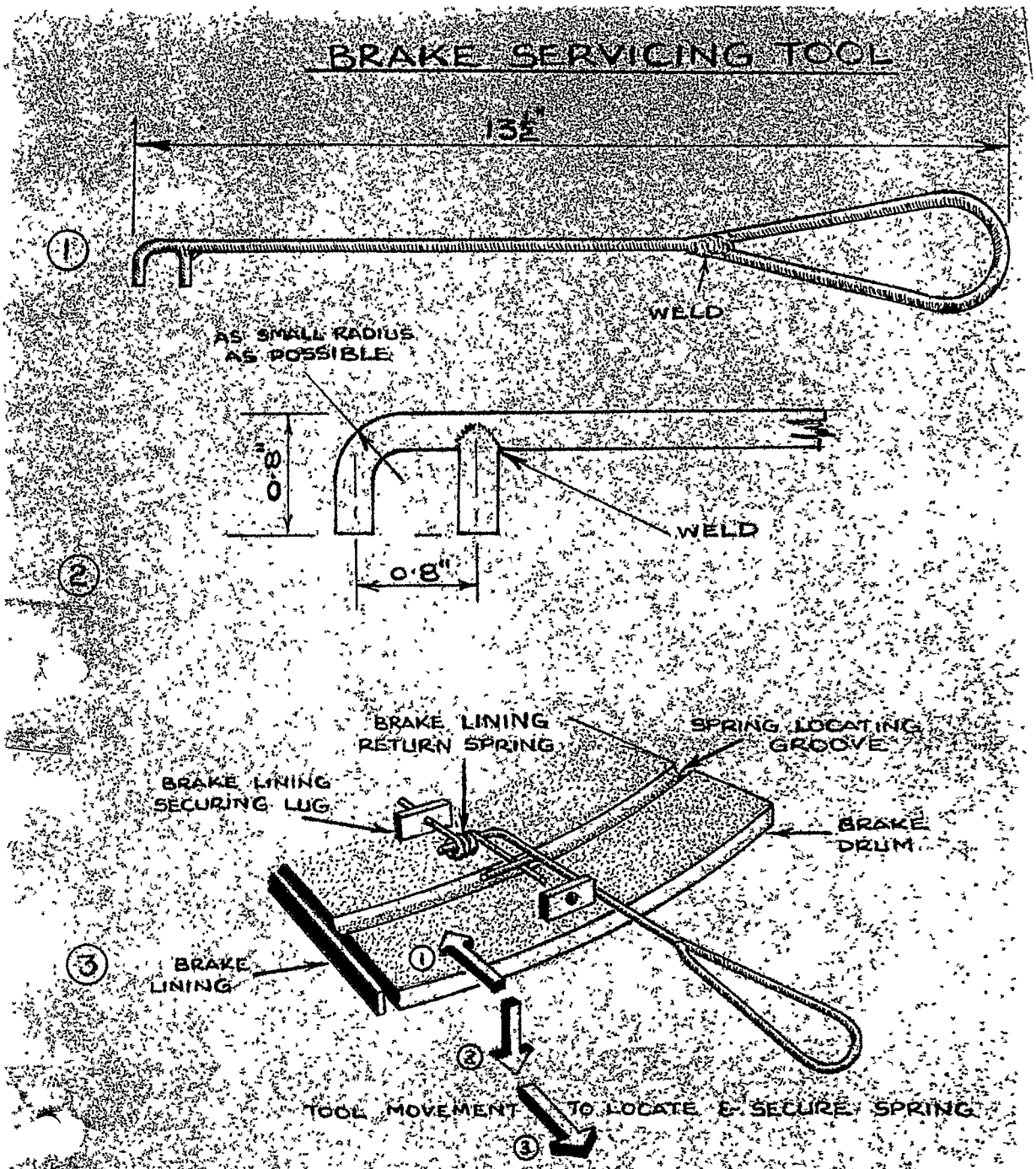
(B.H. GIBBONS)
Wing Commander
S.T.S.O. A.H.Q. R.R.A.F.

Source : RRAF/7504/1/Vol 3 encl. 25.

Distribution : One copy to essential recipients plus the following :

W.O. A.R.S. (2)

BRAKE SERVICING TOOL



TO MANUFACTURE

A piece of 1/4" M.S. rod, 19" long, is the only material required. First, a piece of rod .8" long is cut off the end, the end then being bent at right angles shown above. The .8" piece is welded at right angles to the main rod, and the handle is shaped so that the overall length of the tool is 13.1/2".

TO USE

The end prong is inserted through the spring coil and the other prong over it. The far end of the spring is pushed fully into the securing lug; the other end is forced down by the second prong and pulled outwards into the opposing brake lining lug, the coiled part of the spring snapping into the spring locating groove (as illustrated). The process is reversed for removing springs.

Air Headquarters,
Royal Rhodesian Air Force.

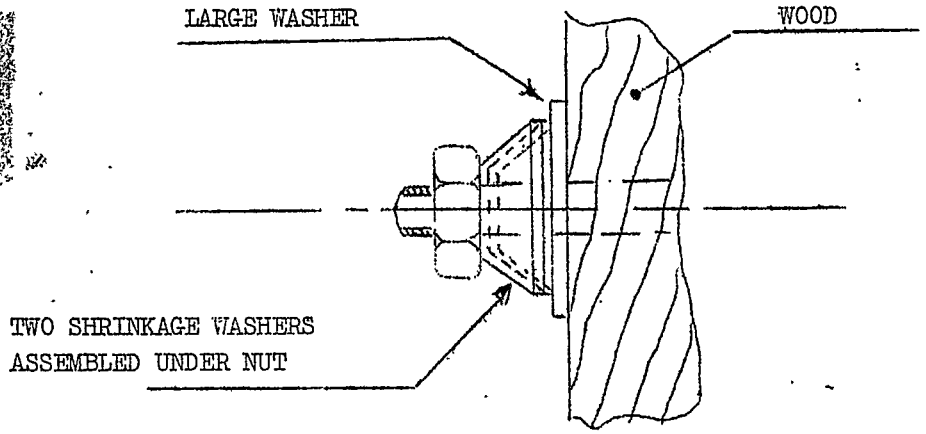
R.R.A.F. Technical Order.
Vol. 3. Sect. 2. Sub.Sect. A.76.

8th October, 1958.

VAMPIRE AIRCRAFT
SHRINKAGE WASHERS : CORRECT METHOD OF FITTING
(FOR INFORMATION ONLY)

1. Some uncertainty appears to exist with regard to the correct method of fitting shrinkage washers to bolts passing through wooden members.

2. The sketch below shows that a large plain washer should be fitted against the wood, then two shrinkage washers one over the other, and finally the nut.



(R.M. PARRY)
Flight Lieutenant
For S.T.S.O. A.H.Q. R.R.A.F.

Source : D.H. T.N.S. Series V No. 743 Issue 1.

Distribution :
One copy to essential recipients plus
the following :-

W.O. A.R.S. (2).
W.O. No. 3. Sqdn. (2)
W.O. No. 4. Sqdn. (2)
N.C.O. i/c Carpenters Shop. (2)

Air Headquarters,
Royal Rhodesian Air Force.

9th August, 1958.

R.R.A.F. Technical Order.
Vol. 3. Sect. 2. Sub. Sect. A.75.
(Issue 1).

Wear Limits - Vampire Undercarriage

As a result of research into undercarriage wear on Vampire FB mk 9 and T. Mk 11 aircraft the following information and tables of maximum permissible worn clearances for all undercarriage bushes and bolts are laid down. These tables will enable clearances to be restored to acceptable limits by replacement of either the bolt or bush.

LIST OF CONTENTS

LIST OF ILLUSTRATIONS

Description

1. The alighting gear is of the tricycle type and it comprises two main landing wheels attached to the wing structure and one wheel situated in the nose of the fuselage, all of which are retractable. The shock absorption is effected by the use of hydraulically controlled compression legs. The general design of the alighting gear is the same in all marks of the aircraft but there are some variations in detail design causing the use of difference parts in the various marks, which are indicated on the relevant illustration and keys.

Negligible Damage

2. Main and Nose undercarriage. No damage which affects these structures can be defined as negligible, and in the event of damage the affected members must be renewed.

3. Nosewheel top structure, Mk. 9. Any smooth isolated dents which are free from cracks or fractures of the metal, and which do not exceed 1/40th of the tube diameter in depth, may be treated as negligible when situated in the end thirds of a member. The limit of bowing in tubular members which may be treated as negligible is defined in para. 12 of chap. 1.

Wear Limits.

4. Wear limits of the male and female parts of the alighting gear are shown in the keys which are included opposite the relevant key diagrams.

Application of Keys

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

2/.....

6. Permissible worn dimension. The figure given in this column is the limiting dimension to which the part may be worn and still be refitted for a further period of service, provided that its mating part is selected so that the "permissible worn clearance" is not exceeded. In the extreme, this would necessitate the mating part being to the high, or low, limit of the "dimension new" (high for male parts and low for female parts).

7. Clearance, new. This column gives maximum and minimum clearances which result from mating two new parts.

8. Permissible worn clearance. This is the maximum clearance permitted between to mating parts which are assembled to under go a further period of service.

for (B.H. GIBBONS)
Wing Commander
S.T.S.O. A.H.Q. R.R.A.F.

Source: RRAF/7504/2/Eng.

Distribution :-

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W.O. Components	(2)
W.O. No. 2. Sqdn.	(2)
W.O. No. 3. Sqdn.	(2)

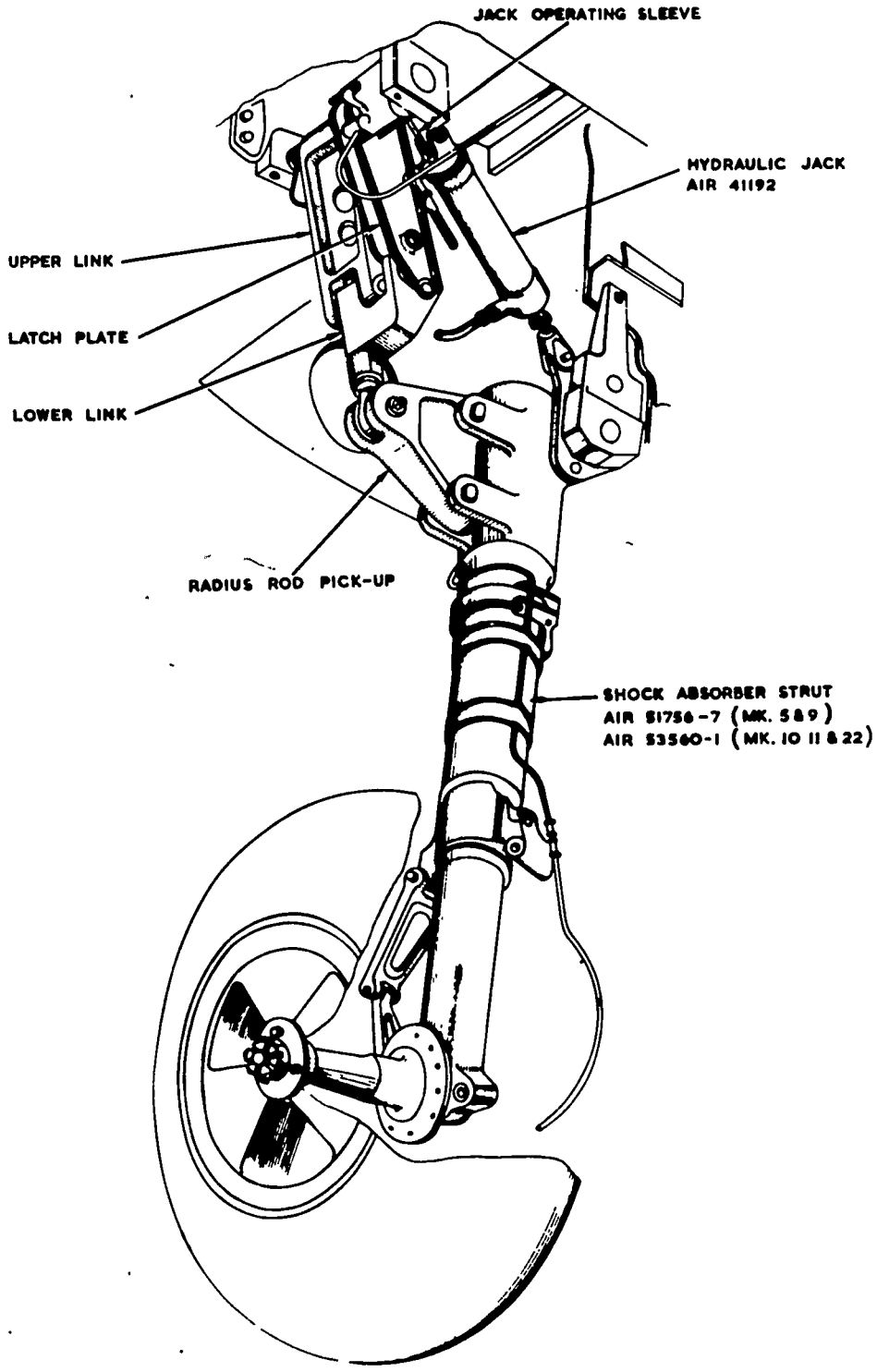


Fig. 5/1. Main undercarriage

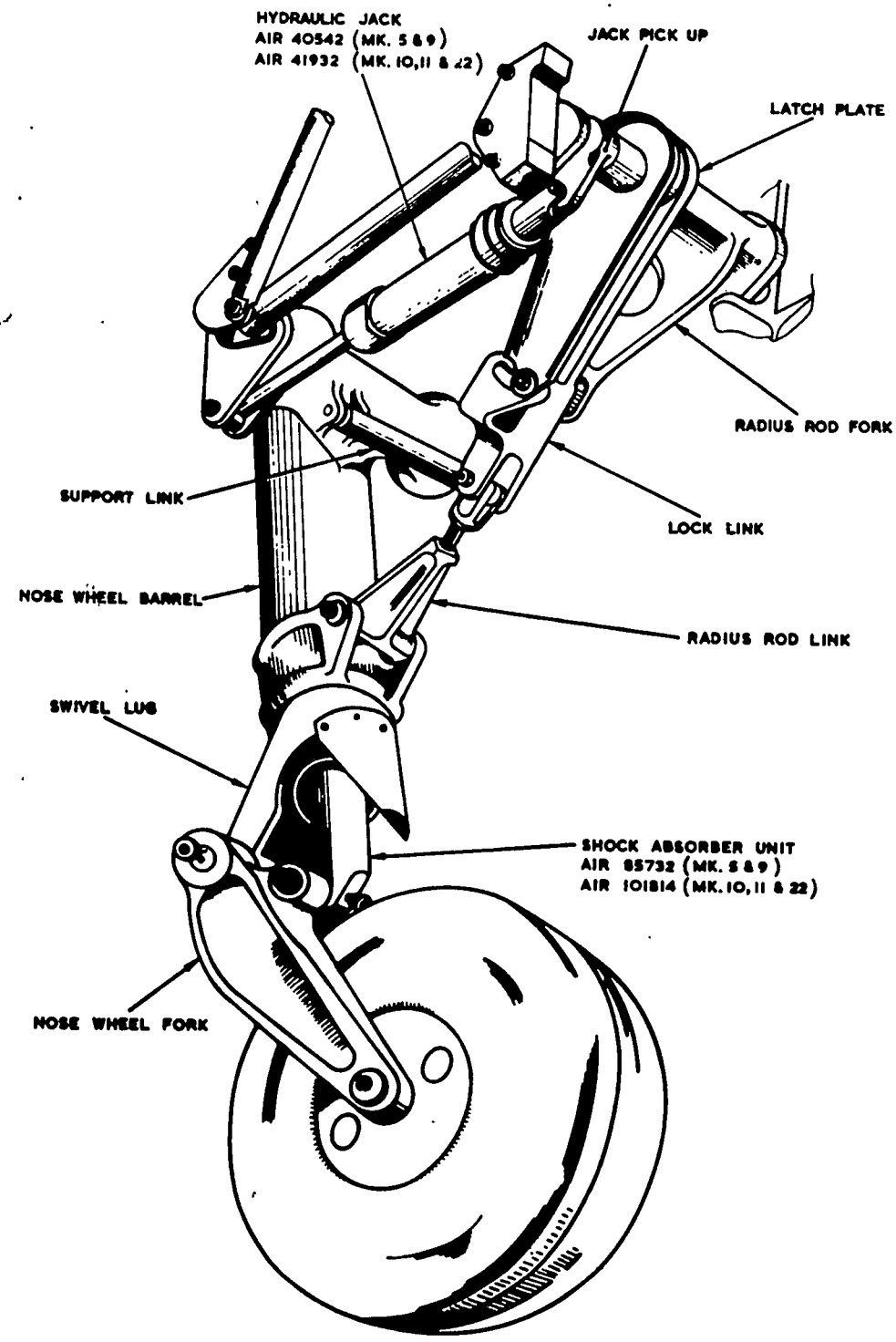


Fig. 5/2. Nose wheel undercarriage (A.L. 29 May '58)

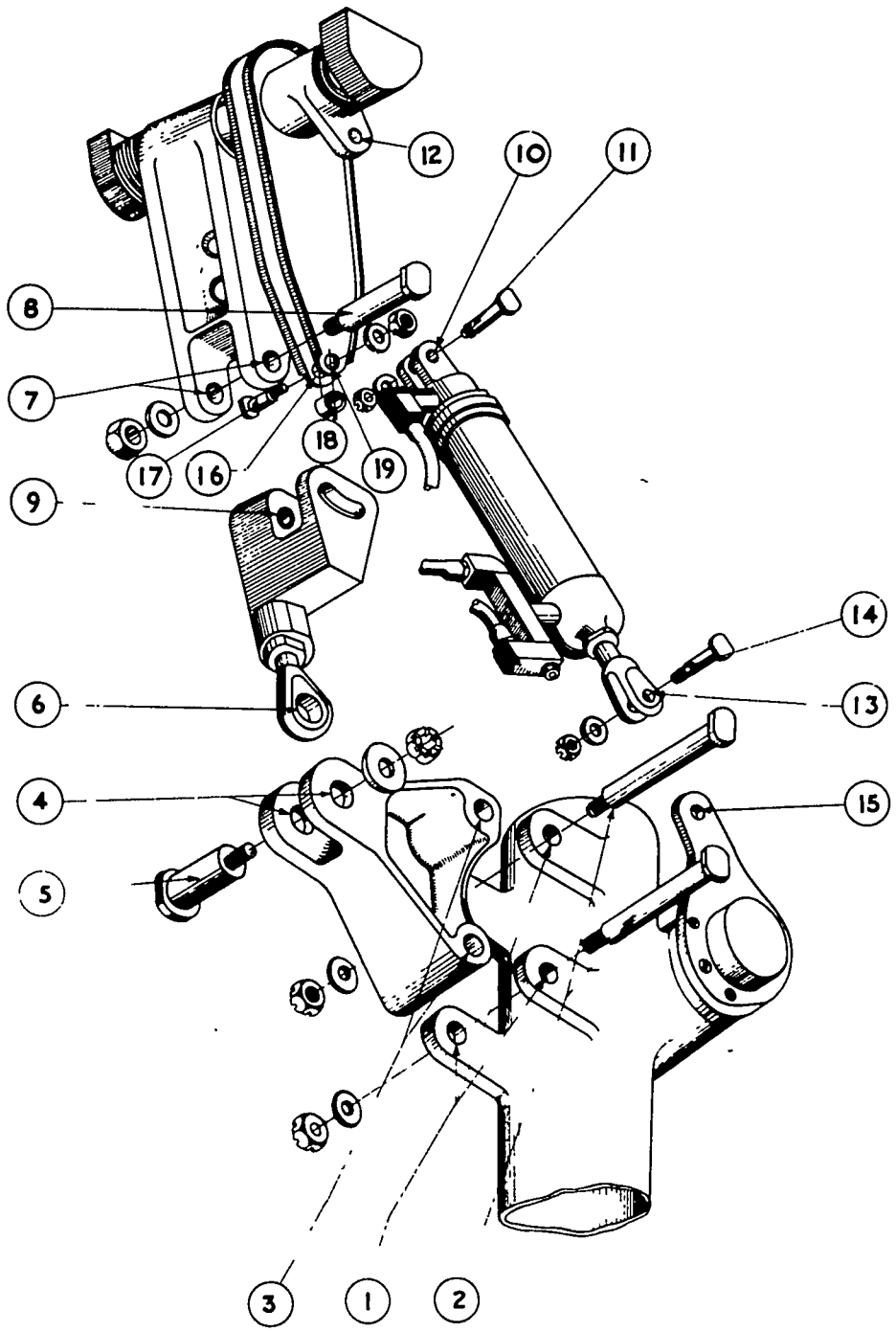


Fig. 5/3. Wear limits, main undercarriage

KEY TO FIG.5/3.

(Wear limits, main undercarriage retracting mechanism.)

Ref. No.	Description of Part	Dimensions New	Permissible Worn Dimensions	Clearance New	Permissible Worn Clearance
1	OLEO CASING LUGS	——— REFER TO A.P.1803 ———			
2	SPECIAL BOLT (G00.1013)	0.6875 / 0.6870	0.6860		
				0.0010 / 0.0005	0.0020
3	RADIUS ROD PICK-UP (G00.1003/4)	0.6880 / 0.6870	0.6895		
4	RADIUS ROD PICK-UP (G00.1003/4)	0.8755 / 0.8745	0.8775		
				0.0030 / 0.0010	0.0040
5	SPECIAL BOLT (G00.53)	0.8735 / 0.8725	0.8705		
				0.0030 / 0.0010	0.0040
6	RADIUS ROD EYE BOLT (G00.1015) (BUSH G00.40)	0.8755 / 0.8745	0.8775		
7	RADIUS ROD TOP LINK (G00.1983/4)	0.6880 / 0.6870	0.6900		
				0.0030 / 0.0010	0.0040
8	BOLT (G00.51)	0.6860 / 0.6850	0.6840		
				0.0030 / 0.0010	0.0040
9	RADIUS ROD BOTTOM LINK (G00.59-60) (BUSH G00.38)	0.6880 / 0.6870	0.6900		
10	JACK HEAD	——— REFER TO A.P.1803 ———			
* 11	SPECIAL BOLT (G00.1901) (ON INTERMEDIATE OR MINOR SEE R.R.A.F. TECH ORDER VOL 3-2-540)	0.3736 / 0.3730	0.3715		
				0.0024 / 0.0010	0.0035
12	JACK PICK-UP (G00.1979) (BUSH G00.48)	0.3754 / 0.3746	0.3771		
* 13	JACK FORK END, (G00.1707) (ON PRIMARY. SEE R.R.A.F. TECH. ORDER VOL. 3-2-534)	0.3754 / 0.3746	0.3773		
				0.0024 / 0.0008	0.0035
* 14	SPECIAL BOLT, (G00.87) (ON INTERMEDIATE. SEE R.R.A.F. TECH ORDER VOL 3-2-528)	0.3738 / 0.3730	0.3715		
				0.0024 / 0.0008	0.0035
15	JACK LEVER, (G00.1007/8) (BUSH, G00.86)	0.3754 / 0.3746	0.3773		
16	LATCH PLATE (G00.1068/9)	0.3754 / 0.3746	0.3774		
				0.0016 / 0.0002	0.0030
17	SPECIAL BOLT (STEPPED) (G00.203)	0.3744 / 0.3738	0.3720		
				0.0016 / 0.0002	0.0030
18	ROLLER (G00.71)	0.3754 / 0.3746	0.3774		
19	LATCH PLATE (G00.1087)	0.2503 / 0.2497	0.2540		
				0.0033 / 0.0005	0.0045
17	SPECIAL BOLT (STEPPED) (G00.203)	0.2500 / 0.2470	0.2455		

* CALLED UP IN R.R.A.F.

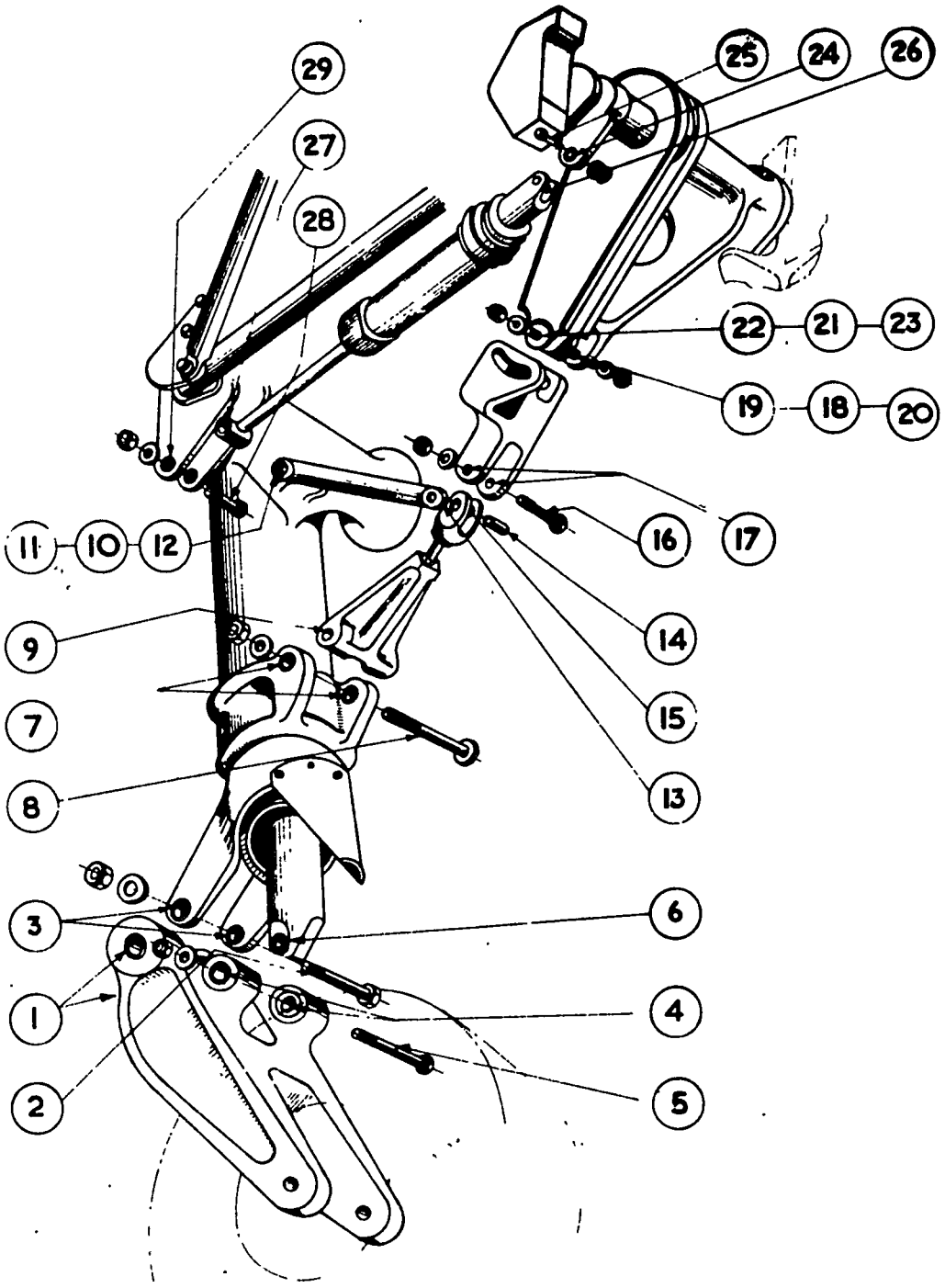


Fig. 5/4. Wear limits, nose undercarriage (A.L. 29 May '58)

KEY TO FIG.5/4, WEAR LIMITS, NOSEWHEEL UNDERCARRIAGE RETRACTING MECHANISM.

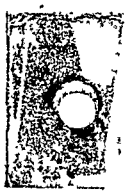
Ref. No.	Description of Part	Dimensions New	Permissible Worn Dimensions	Clearance New	Permissible Worn Clearance
1	WHEEL FORK (ALL MKS. GOO.176, BUSH GOO.218)	0.7505 / 0.7495	0.7530		
				0.0030 / 0.0010	0.0045
2	SPECIAL BOLT (ALL MKS. 12.20.UN.55)	0.7485 / 0.7475	0.7450		
				0.0030 / 0.0010	0.0045
3	SWIVEL LUG (MKS.5 & 9, GOO.232, MKS.10,11 & 22, 13.UN.91) BUSH (ALL MKS. GOO.218)	0.7505 / 0.7495	0.7530		
4	WHEEL FORK (ALL MKS. GOO.176, BUSH GOO.219)	0.7505 / 0.7495	0.7530		
				0.0030 / 0.0010	0.0045
5	SPECIAL PIN (ALL MKS. 12.20.UN.53)	0.7485 / 0.7475	0.7450		
6	PISTON ROD BUSH	REFER TO A.P.1803			
7	BARREL LOWER PICK-UP (MKS.5 & 9, 12.UN.161, MKS.10,11 & 22, 13.UN.99) BUSH (ALL MKS. GOO.211)	0.5004 / 0.4996	0.5019		
				0.0016 / 0.0002	0.0025
8	SPECIAL BOLT (ALL MKS. GOO.1043)	0.4994 / 0.4988	0.4971		
				0.0016 / 0.0002	0.0025
9	LOWER LINK (ALL MKS. GOO.1052)	0.5004 / 0.4996	0.5019		
10	BARREL UPPER PICK-UP (MKS.5 & 9, 12.UN.161, MKS.10,11 & 22, 13.UN.99)	0.3754 / 0.3746	0.3774		
				0.0016 / 0.0002	0.0025
11	SPECIAL BOLT (ALL MKS. GOO.208)	0.3744 / 0.3738	0.3720		
				0.0016 / 0.0002	0.0025
12	UPPER LINK (MKS.5 & 9, 12.UN.75, MKS.10,11 & 22, 13.UN.127)	0.3754 / 0.3746	0.3774		
13	UPPER LINK (MKS.5 & 9, 12.UN.75, MKS.10,11 & 22, 13.UN.127)	0.7505 / 0.7495	0.7522		
				0.0020 / 0.0003	0.0030
14	BUSH, OUTSIDE (ALL MKS. GOO.193)	0.7492 / 0.7485	0.7465		
				0.0020 / 0.0003	0.0030
15	FORK END (ALL MKS. GOO.1041)	0.7505 / 0.7495	0.7522		
14	BUSH, INSIDE (ALL MKS. GOO.193)	0.5629 / 0.5621	0.5645		
				0.0024 / 0.0008	0.0035
16	SPECIAL BOLT (ALL MKS. GOO.1044)	0.5613 / 0.5605	0.5590		
				0.0024 / 0.0008	0.0035
17	RADIUS ROD LOWER (ALL MKS. 13.UN.123)	0.5629 / 0.5621	0.5645		

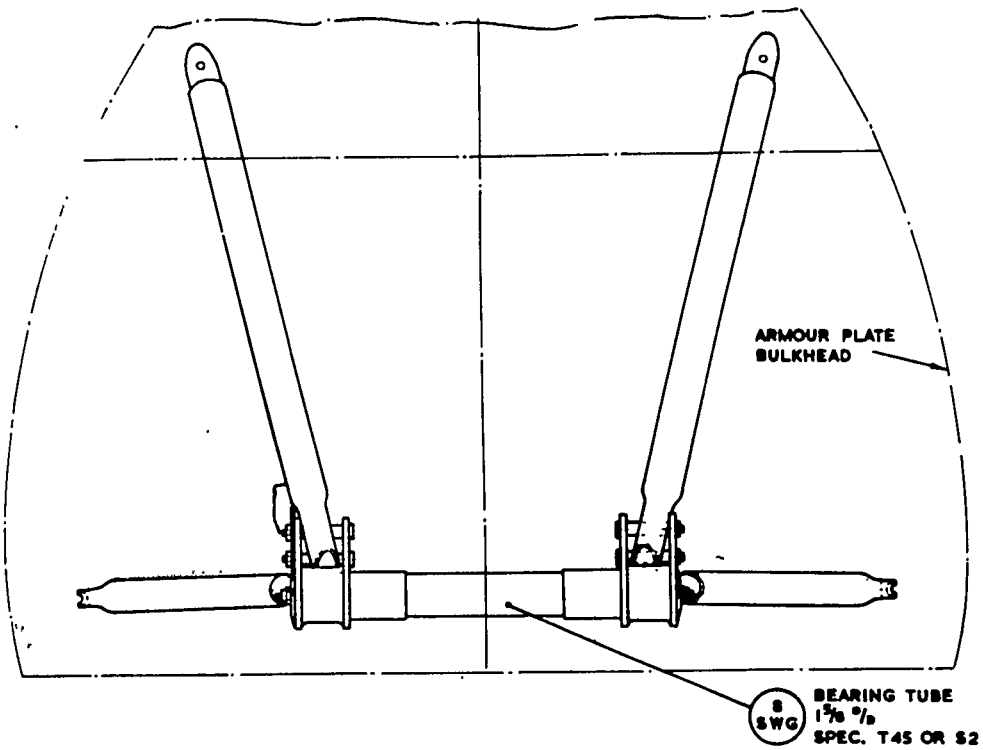
KEY TO FIG.5/4. WEAR LIMITS, NOSEWHEEL UNDERCARRIAGE RETRACTING MECHANISM.

Continued.

Ref. No.	Description of Part	Dimensions New	Permissible Worn Dimensions	Clearance New	Permissible Worn Clearance
18	RADIUS ROD UPPER (ALL MKS. G00.1809)	0.5629 / 0.5621	0.5645		
				0.0024 / 0.0008	0.0035
19	KNUCKLE PIN (ALL MKS. G00.1045)	0.5613 / 0.5605	0.5590		
				0.0024 / 0.0008	0.0035
20	RADIUS ROD LOWER (ALL MKS. 13.UN.123, BUSH G00.192)	0.5629 / 0.5621	0.5645		
* 21	LATCH PLATE (MKS.5 & 9, G00.185, MKS.10,11 & 22, 13.UN.165) (ON PRIMARY. SEE RRAF TECH ORDER) VOL 3-2-E41	0.2503 / 0.2497	0.2540		
				0.0033 / 0.0003	0.0045
22	SPECIAL BOLT, STEPPED (ALL MKS. G00.203)	0.2500 / 0.2470	0.2455		
21	LATCH PLATE (MKS.5 & 9, G00.186, MKS.10,11 & 22, 13.UN.166)	0.3754 / 0.3746	0.3774		
				0.0016 / 0.0002	0.0030
22	SPECIAL BOLT, STEPPED (ALL MKS. G00.203)	0.3744 / 0.3738	0.3720		
				0.0016 / 0.0002	0.0030
23	ROLLER (ALL MKS. G00.70)	0.3754 / 0.3746	0.3774		
24	JACK LEVER (MKS.5 & 9, G00.187, MKS.10,11 & 22, 13.UN.163) (BUSH, ALL MKS. G00.48)	0.3754 / 0.3746	0.3773		
				0.0024 / 0.0008	0.0035
25	SPECIAL BOLT (MKS.5 & 9, G00.756, MKS.10,11,22, 13.UN.135)	0.3738 / 0.3730	0.3715		
26	JACK HEAD	REFER TO A.P.1803			
27	JACK ROD END FITTING (ALL MKS. G00.647, BUSH G00.201)	0.3754 / 0.3746	0.3775		
				0.0029 / 0.0011	0.0040
28	SPECIAL BOLT (ALL MKS. G00.649)	0.3735 / 0.3725	0.3710		
				0.0029 / 0.0011	0.0040
29	JACK PICK-UP (MKS.5 & 9, 12.UN.161, MKS.10,11 & 22, 13.UN.99) BUSH (ALL MKS.G00.210)	0.3754 / 0.3746	0.3775		

* CALLED UP IN R.R.A.F.





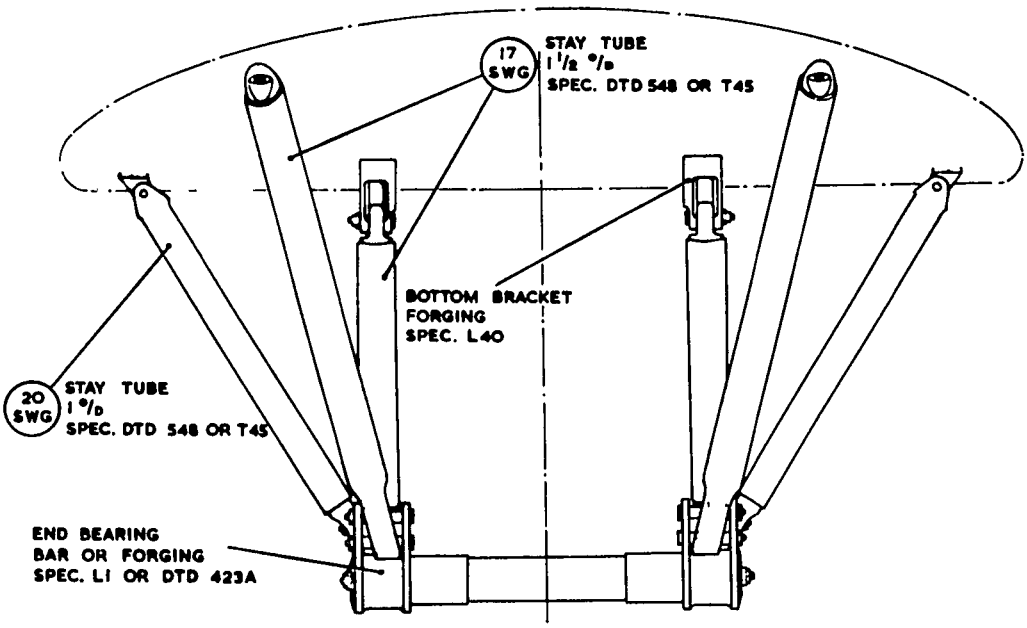


Fig. 5/5. Nosewheel top structure, Mk. 5 and 9

Air Headquarters,
Royal Rhodesian Air Force.

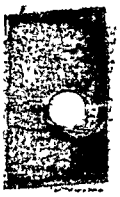
21st July, 1958.

R.R.A.F. Technical Order,
Vol. 3. Sect. 2. Sub Sect. A74(Issue 1).

LUBRICATION VAMPIRE AIRCRAFT

1. A case has occurred where an aircraft was forced to make a belly landing due to the nose wheel failing to extend. The cause was attributed to inadequate greasing of the nose wheel unit causing corrosion of the lay shaft.

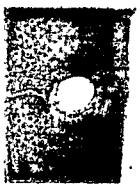
2. The attention of servicing personnel is drawn to the need for great care to ensure that all parts, where lubrication is called for, are greased and that the grease penetrates the bearing concerned.



for (B.H. GIBBONS)
Wing Commander
S.T.S.O. A.H.Q. R.R.A.F.

SOURCE : Aircraft Accident Report (Western Europe).

Distribution : One copy to essential recipients plus the following :



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W.O. Components Sect. (2)

Air Headquarters,
Royal Rhodesian Air Force.
6th May, 1958.

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A73 (Issue 1)

Vampire T.11 Aircraft - Ballasting Requirements

1. Accidents have occurred to T.11 aircraft through ballast becoming loose in flight.

2. All R.R.A.F. Mk. T.11 aircraft have Mod. 3298 embodied, which provides for the stowage of Standard A.G.S. 670 (Sect. Ref. No. 287/3478) ballast weights in the nose of the aircraft. This form of ballasting must be used and is available from Central Equipment Depot.

3. If for some reason it should be necessary to fit non-standard ballast in the ammunition boxes, an entry must be made to this effect in column 2 of the "fitness for Flight" certificate of the Form 700, including the instruction "Gentle Manoeuvres Only".

3. Non-standard ballast must be inspected for security at "Between Flight" inspections.

Source: RRAF/7504/Eng Vol.2 Encl 69

(B.H. GIBBONS)
Wing Commander
S.T.S.O.
A.H.Q.R.R.A.F.

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Air Headquarters,
Royal Rhodesian Air Force.
26th February, 1958

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A72 (Issue 1)

Spinning Characteristics of Vampire Aircraft

1. Whilst undergoing spin evaluation tests by de Havilland Test Pilots a Vampire aircraft showed a tendency to consume more fuel from its starboard wing tank than from its port, though the degree to which it did this was not consistent.

2. It was found that when the difference in fuel content between the two wing tanks was over 30 gallons, recovery could be a little more difficult than under normal conditions.

3. Modification action is under consideration, but as a precautionary measure all Technical personnel engaged in refuelling Vampire aircraft are to note the consumption of each tank, and where there is a difference between Port and Starboard tanks of 30 gallons or over the quantity is to be entered in the Form 700 in red ink and the Pilots attention drawn to it.

4. Tech. Stats. A.H.Q. are to be notified of any aircraft with this characteristic.

Source: RRAF/7504/Eng Encl. 55 & 56.

Cancelled

(B.H. GIBBONS)
Wing Commander
S.T.S.O.
A.H.Q. R.R.A.F.

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Air Staff	(2)
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W.O. E.R.S.	(1)

TECH CONTROL

FROM : Headquarters (Tech)
Royal Rhodesian Air Force

TO : RRAF New Sarum
RRAF Thornhill
OC Central Equipt Depot

COPY TO: SESO
C MODS C

DATE : 4th May 1965

RRAF Technical Staff Instruction
Vol.3.Sect.2.Sub.Sect.A.72. (Issue 2)
Cancelling and superseding
Vol.3.Sect.2.Sub.Sect.A.72. (Issue 1).

This TSI is issued in accordance with RRAF TSI Vol.1. No.2. Issue 8

Spinning Characteristics of Vampire Aircraft

1. Whilst undergoing spin evaluation tests by de Havilland Test Pilots and a CFS Investigation team Vampire aircraft showed a tendency to consume more fuel from its starboard wing tank than from its port, though the degree to which it did this was not consistent.

2. It was found that when the difference in fuel content between the two wing tanks was over 16 gallons, recovery could be a little more difficult than under normal conditions.

3. As a precautionary measure all Technical personnel engaged in refuelling Vampire aircraft are to note the consumption of each tank, and where there is a difference between Port and Starboard tanks of 16 gallons or over the aircraft is grounded for investigation of the fuel system.

4. HQ RRAF are to be advised by signal of any aircraft with this characteristic.

5. This Instruction is to be brought to the attention of servicing personnel through the medium of Technical Wing Orders and Flight/Section Order Books.

(T.M. WESTON)
Squadron Leader
A/STSO

SOURCE: RRAF/1401/343/P.1. (AF.G)

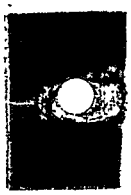
Air Headquarters,
Royal Rhodesian Air Force.

20th November, 1957.

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A71 (Issue 1)

Elevator Trim Tab Setting
All Vampire Aircraft

1. Air Ministry Amendment List No. 62 to A.P. 4095E & G, Volume 1, Section 4, contains a revised paragraph 11 dealingwith the elevator trim tab. It is noted tha t the write up concerning the setting of the elevator trim tab push rod states that the setting must now be connected to the lowest hole.



2. Additionally a new figure 10 is included in the Amendment List, and from this it is noted that the sketch of the elevator trim tab is now identical with that shown for the Vampire T.11.

3. All Vampire aircraft must have the elevator trim tab push rod set in the lower hole.

Source: RRAF/7504/1/Eng (Encl. 89) refers.

(B.H. GIBBONS)
Wing Commander
S.T.S.O.
A.H.Q. R.R.A.F.

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CANCELLED BY AP 68

Air Headquarters,
Royal Rhodesian Air Force.
18th November, 1957

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A70 (Issue 1)

Vampire Aircraft

Pipe Engine Pump Suction - (Stores Ref. No. 26FC/8690)

1. A recent major inspection revealed Pipe Engine pump suction (Stores Ref. No. 26FC/8690) to be badly dented.

2. Whenever the fuselage fuel tank is to be removed or fitted, the pipe in question must first be removed.

3.2.193

Source: Air Headquarters.

(H.J. PRINGLE)
Squadron Leader
A/S.T.S.O.
A.H.Q. R.R.A.F.

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Air Headquarters,
Royal Rhodesian Air Force.
11th October, 1957.

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A68 (Issue 1)

Security of Canopy on Vampire T 11 Aircraft

1. Instances have occurred of canopies on Vampire T 11 aircraft being damaged as a result of carelessness when opening under windy conditions.

2. The attention of all technicians is drawn to the need for exercising great care when opening the T. 11 canopy. On release of the locking mechanism by means of the external release handle retain a firm grip on the handle and gently raise the canopy to the fully open position. Secure and lock with the telescopic support strut.

When closing the canopy its weight must be supported whilst the barrel of the support strut is rotated to disengage the pin from the slot, and then the canopy carefully lowered to the closed position, retaining a firm grip on the external release handle.

Source: A.H.Q.

Cancelled by Issue 2

(B.H. GIBBONS)
Wing Commander
S.T.S.O.
A.H.Q. R.R.A.F.

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W.O. Components	(2)

Technical Wing,
Royal Rhodesian Air Force,
New Sarum

Date: 19th June, 1962

R.R.A.F. Technical Staff Instruction
Vol.3, Sect.2, Sub-Sect.A68 (Issue 2)
Superseding and Cancelling:-
Vol.3, Sect.2, Sub-Sect.A68 (Issue 1)

This T.S.I. is issued in accordance with R.R.A.F. T.S.I. Vol.1, No.2 Issue 7.

Security of Canopy on Vampire T.11 Aircraft

1. Instances have occurred of canopies on Vampire T.11 aircraft being damaged as a result of carelessness when opening under windy conditions.

2. The attention of all technicians is drawn to the need for exercising great care when opening the T.11 canopy. On release of the locking mechanism by means of the external release handle, retain a firm grip on the handle and gently raise the canopy to the fully open position. Secure and lock with the support strut.

3. When closing the canopy the weight must be supported manually while the strut is unlocked by pulling the release handle at the top of the strut barrel, prior to lowering the hatch.

(E.F. GERICKE)
Squadron Leader,
Officer Commanding
Technical Wing
Royal Rhodesian Air Force
New Sarum

Source: H.Q. R.R.A.F. T.S.I.
Vol.3-2-A68 (Issue 1),
and A.P. 4099J GHN.

Air Headquarters,
Royal Rhodesian Air Force.

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. 167 (Issue 1)

7th September, 1957.

Handling Characteristics of Vampire Aircraft

1. Consequent upon the receipt of complaints of the handling characteristics of a Vampire 5 aircraft at R.A.F., Swinderby, Messrs De Havilland carried out an extensive survey of nearly 150 Mark 5 and 9 aircraft in order to determine to what extent irregularities and deformations in fueslage and airofoil surfaces might be contributory factors. Although this survey was on single seat versions of the aircraft only, the following applies to all makes of Vampire unless otherwise stated.

2. It is considered particularly that the deterioration of elevator control may be due to one or more of a variety of causes, but it is certainly aggravated when the aircraft is not in a "clean" condition, causing turbulent airflow over the tailplane and some degree of "blanketting" of the elevators.

Whenever a Vampire aircraft is reported to have unusual handling characteristics, the following points are therefore to receive special attention:-

(a) An examination of tailplane contours is to be carried out by means of a 6" steel rule and feeler gauges, as shown in the attached drawing. A tailplane is to be rejected if a hollow be found to extend more than 12" spanwise along the tailplane forward of the main spar on top or bottom surface. Any tailplane is also to be rejected if a hollow, deeper than 0.020" and extending more than 12" spanwise along it, be found aft of the main spar on either surface.

(b) The paint finish of tail planes is to be kept in a reasonably smooth condition with a minimum of flaking and peeling.

(c) Control surface shroud gaps are to be maintained within the limits specified below:-

(i) Aileron shroud gaps

Clearance between aileron and shroud to be 0.020" to 0.120".

(ii) Elevator shroud gaps

Clearance between elevator and shroud to be 0.080" plus 0.050" minus 0.020".

(iii) Rudder shroud gaps

Clearance between rudder and shroud to be 0.10" minimum. All of the above gaps are applicable with the control surfaces in neutral. The minimum gap between elevator and elevator shroud in the full travel position is 0.002". There are no minimum gaps specified for the aileron and rudder clearances in the full travel position. There is no limitation to the minimum distance in which the shroud gaps may vary within the specified tolerances. The limits on the internal dimensions between the outer skin top and bottom at the trailing edge of the tailplane are:- 3.802" plus 0.040" minus nil, and the limits on the elevator thickness are 3.82" plus nil minus 0.040". Therefore, the maximum difference permissible from elevator shroud inside dimension and elevator outside dimension is:-

Thick tailplane to thin elevator .... minus 0.062"
Thin tailplane to thick elevator .... plus 0.018"

In cases where the limits cannot be observed without serious distortion when fitting replacement control surfaces, selective assembly is to be used.

/2.....

3. (d) .Tailplanes are to be rejected where overheating has caused slackening of the skins and "oil canning."

(e) Bullet fairings are to be maintained reasonably free from dents or other distortions.

(f) A smooth contour is to be maintained over engine cowlings and particularly the joints between them. Steps between cowlings are to be kept to a minimum and should never exceed 0.1".

4. A.P. 4099E and G, A.P. 4099J and A.P. 4099H will be amended, where necessary, to comply with the requirements stated above.

Source: F.T.C. T.S.I.
Vol. 3, Lt. 2A Sect. 1 Leaflet 11. (Iss.2)

(B.H. GIBBONS)
Wing Commander
S.T.S.O.
A.H.Q. R.A.A.F.

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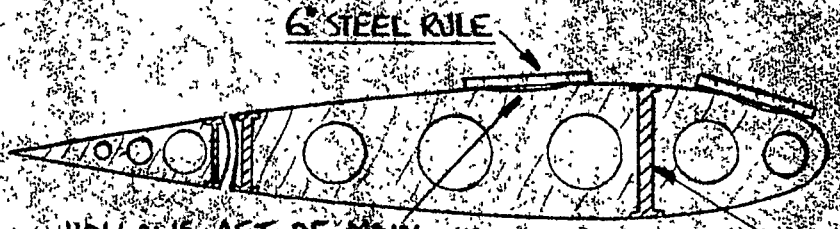

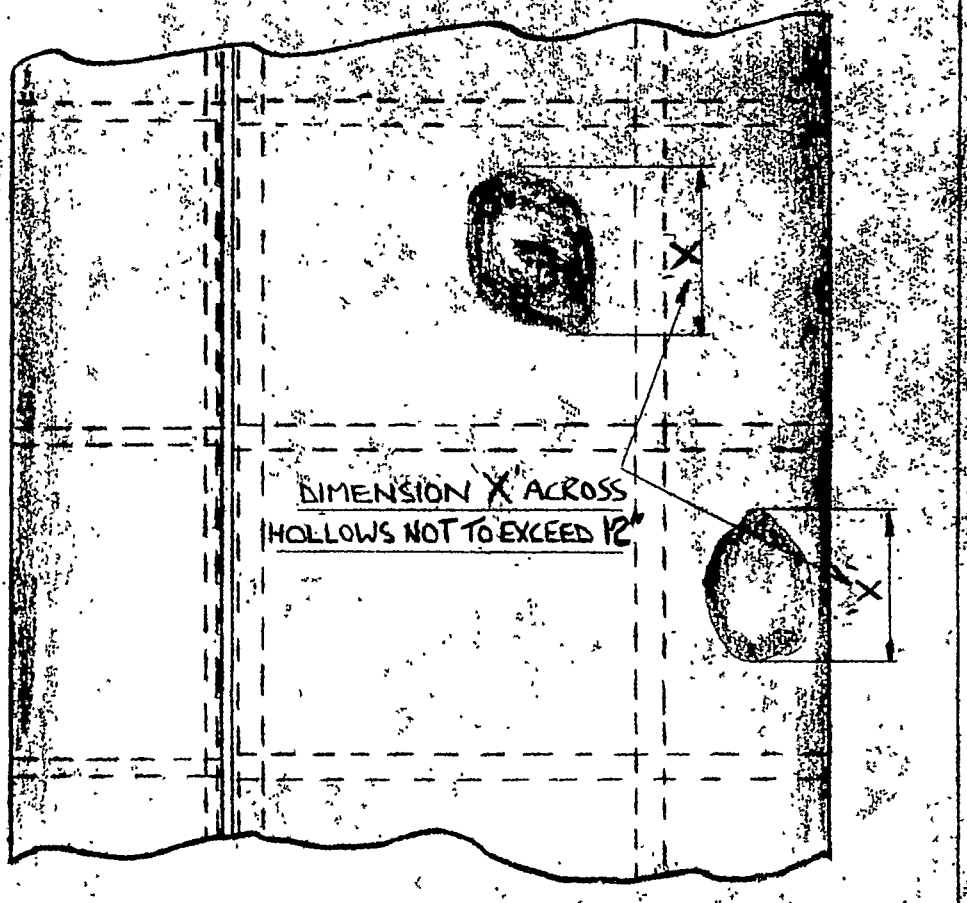

DO NOT SCALE

PLATE No

Vol: 3 - 2 - A65

Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport.

TECHNICAL DIRECTIVE
~~VOL. 2. SECT. 1 No. A.V.14~~

11th May, 1955.

SALVAGE INSTRUCTIONS - VAMPIRE AIRCRAFT

~~LIVINGSTONE DETACHMENT~~ AL.496 Ed.

1. It is imperative in the case of a wheels-up landing or similar accident occurring on the runway at Livingstone, that the most expeditious means are employed to remove the aircraft from the runway.

2. The method to be employed in respect of Vampire FB.9 and T.11 aircraft is as follows:-

a) Eliminate potential fire at base of fuselage resulting from friction, with the use of FOAM and not Co.2 - introduction of fire fighting agents into the engine air intakes is to be avoided. FOAM will be applied if necessary to the base of the fuselage by opening or breaking away the lower engine inspection panels. If the fire is extensive, the top engine panels can be opened for application of FOAM.

b) With the fire hazard eliminated the aircraft will then be towed off the runway with the special equipment provided, using the following procedure:-

A 120' x 1¼" diamter rope will be anchored to the shackle on the Coles Crane by the spliced loop end (See DRG No. A.V.18 attached). The free end will then be fed through the port top inspection panel aperture of the engine and withdrawn from the port bottom panel aperture as per photographs A & B attached. The rope will then be returned to and around the shackle pin.
The same basic procedure will be repeated with the free end of the rope via the apertures of the top and bottom starboard engine panels, as per photographs C & D attached.
The free end of the rope will finally be led round the shackle pin and tied with a bowline knot.

c) Prior to the strain being taken up on the rope, felt packing will be positioned under the rope to prevent it coming into contact with the fuselage sides.

d) The Coles Crane driver will use bottom gear whilst towing the aircraft to a point well clear of the runway.

3. Subsequent lifting of a T.11 or FB.9 Vampire aircraft, which has been towed off the runway, will be undertaken by utilizing the approved lifting tackles as laid down in AP.4099G Vol. 1 (FB.9) and the D.H. Makers Handbook VMR-1-115, covering Maintenance and Repair (T.11).

4. In the case of FB.9 Vampire aircraft, the following alternative method may be employed:-

a) Remove di-electric nose cap.
b) Feed approved sling beneath port and starboard upper support pylon struts of nose wheel assembly at point of attachment to No; 1 Bulkhead.
c) Connect sling to lifting hook of Coles Crane (Jib of Coles Crane to be set at optimum angle) and raise aircraft just sufficiently for tail boom rubbers to take the load, take up strain on lifting cable and tow aircraft from runway using bottom gear.

(B.H.GIBBONS) S/LDR.
S.E.S.O.

Air Headquarters,
Royal Rhodesian Air Force.

22nd July, 1957.

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A64 (Issue 1)

Lever Assemblies - Caulking of Spaced Ballraces

As the mounting of these levers is concerned mainly with radial loading, and not end-loading, the chief considerations are as follows:-

1. Only one of the races is positively located axially. The other race is axially located by being lightly nipped between the shoulder of the pivot bolt and the distance piece, there being a clearance between the outer track of this race and the housing shoulder. This clearance is allowed to prevent end-loading of the ballraces.

2. The positively located ballrace is tightly caulked into its housing after ensuring that it is positively located on the housing shoulder. Axial play will result in service if this race is not hard against its shoulder. The housing of the second race is lightly caulked to prevent the race from falling out on assembly or during dismantling. This caulking must not be increased in an attempt to prevent axial movement of the second race otherwise the caulking of the positively located race may be loosened and end-loading of the races may result.

The following defects have arisen due to incorrect fitting in service:-

1. Cracked inner tracks due to the shoulder radius on the pivot bolt being greater than the radius on the inner track. This point should always be checked when fitting new races. The race should locate positively on the bolt shoulder.

2. End-loading of the bearings due to overtightening of the pivot bolt. Overtightening will cause the inner race tracks to indent the distance piece with the result that the clearance between the outer track of the floating race and its housing is reduced to nothing.

3. Difficulty in removing the pivot bolt. This is again due to overtightening. The metal of the distance piece is distorted by the indentations until it bears on the pivot bolt.

The attached drawings serve to indicate and clarify the foregoing.

Source: D/H T.N.S. V651

(B.H. GIBBONS)
Wing Commander
S.T.S.C.
A.H.Q. R.R.A.F.

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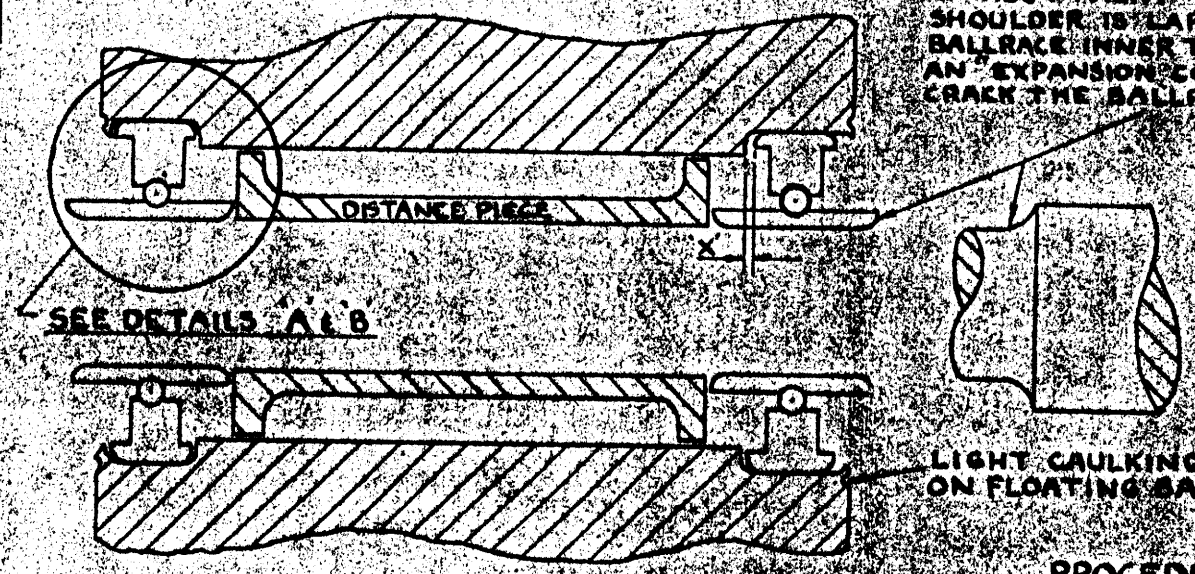
ISS	DATE	MODIFICATION	MOD BY.	CHD BY.
A	1/8/57			



IF ABUTTMENT RADIUS AT BOLT SHOULDER IS LARGER THAN THAT ON BALLRACE INNER TRACK IT WILL FORM AN "EXPANSION CONE" WHICH WILL CRACK THE BALLRACE ON TIGHTENING.

LIGHT CAULKING ONLY ON FLOATING BALLRACE

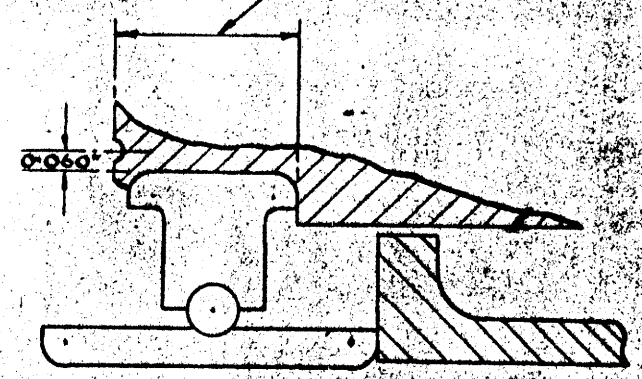
CORRECT ASSY:

NOTE:- POSITIVE AXIAL LOCATION OF THE LEVER ASSEMBLY DEPENDS ENTIRELY ON THE HOUSING FIT AND THE QUALITY OF CAULKING OF THE FIXED RACE.
CAULKING OF THE FLOATING BALLRACE IS INTENDED ONLY TO PREVENT WITHDRAWAL OF THE BALLRACE ON DISMANTLING OF THE LEVER ASSEMBLY AND MUST NOT EXERT ANY PRESSURE ON THE OUTER TRACK.

PROCEDURE FOR RECAULKING:-

1) A 1/32 RADIUS SPHERICAL ENDED PUNCH SHOULD BE USED.
2) DEPTH OF CAULKING TO BE APPROX .03"
3) CENTRE OF CAULKING TO BE APPROX .04" FROM EDGE OF HOUSING.
4) NUMBER OF CAULKS TO BE THE SAME AS BEFORE - SPACED ONE-THIRD OF THE DISTANCE BETWEEN THE OLD CAULKS. THIS ALLOWS FOR A FURTHER RACE CHANGE WHEN NECESSARY.

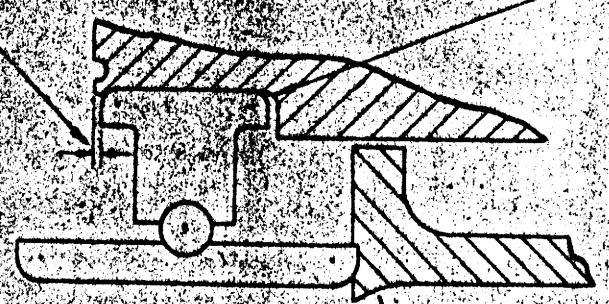
HOUSING DEPTH TO BE:-
WIDTH OF RACE OUTER TRACK PLUS 0·030" $^{+\cdot010"}_{-\cdot000"}$



DETAIL 'A'
CORRECT ASSY:

CAULKING ALLOWANCE BELOW MINIMUM PERMISSIBLE DUE TO BAD SEATING OF OUTER TRACK.

HOUSING RADIUS TOO GREAT CAUSING OUTER TRACK TO BE HELD OFF SHOULDER SO IMPAIRING EFFECTIVE SPACING OF BALLRACES.



DETAIL 'B'
INCORRECT ASSY:

IF PIVOT BOLT IS OVERTIGHTENED, BALLRACE INNER TRACK INDENTS DISTANCE PIECE CAUSING:-

1) BALLRACES TO BECOME END-LOADED WHEN DIMⁿ 'X' (SEE ASSEMBLY D.W.G.) REDUCES TO NOTHING.
2) POSSIBLE DIFFICULTY IN DISMANTLING DUE TO DISPLACED METAL BEARING

2 SEE DETAILS A & B

LIGHT CAULKING ONLY ON FLOATING BALLRACE

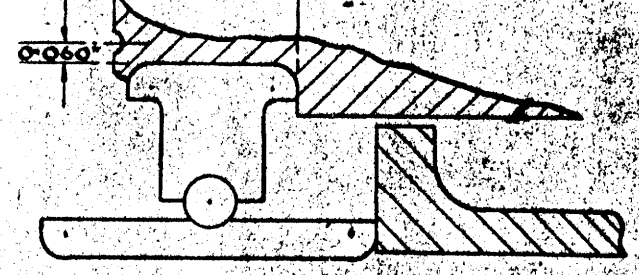
CORRECT ASSY:

NOTE:- POSITIVE AXIAL LOCATION OF THE LEVER ASSEMBLY DEPENDS ENTIRELY ON THE HOUSING FIT AND THE QUALITY OF CAULKING OF THE FIXED RACE.
CAULKING OF THE FLOATING BALLRACE IS INTENDED ONLY TO PREVENT WITHDRAWAL OF THE BALLRACE ON DISMANTLING OF THE LEVER ASSEMBLY AND MUST NOT EXERT ANY PRESSURE ON THE OUTER TRACK.

PROCEDURE FOR RECAULKING:-

1) A 1/32 RADIUS SPHERICAL ENDED PUNCH SHOULD BE USED.
2) DEPTH OF CAULKING TO BE APPROX .03"
3) CENTRE OF CAULKING TO BE APPROX .04" FROM EDGE OF HOUSING.
4) NUMBER OF CAULKS TO BE THE SAME AS BEFORE, SPACED ONE-THIRD OF THE DISTANCE BETWEEN THE OLD CAULKS.
5) THIS ALLOWS FOR A FURTHER RACE CHANGE WHEN NECESSARY.

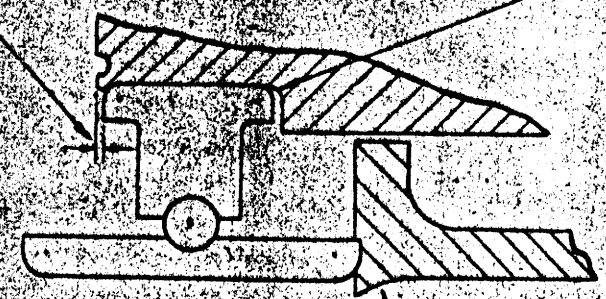
HOUSING DEPTH TO BE:-
WIDTH OF RACE OUTER TRACK PLUS 0·030" +·010" −·000"



DETAIL A
CORRECT ASSY:

CAULKING ALLOWANCE BELOW MINIMUM PERMISSIBLE DUE TO BAD SEATING OF OUTER TRACK.

HOUSING RADIUS TOO GREAT CAUSING OUTER TRACK TO BE HELD OFF SHOULDER SO IMPAIRING EFFECTIVE SPACING OF BALLRACES.



IF PIVOT BOLT IS OVERTIGHTENED, BALLRACE INNER TRACK INDENTS DISTANCE PIECE CAUSING:-

1) BALLRACES TO BECOME END-LOADED WHEN DIMN. X (SEE ASSEMBLY D.W.G.) REDUCES TO NOTHING.
2) POSSIBLE DIFFICULTY IN DISMANTLING DUE TO DISPLACED METAL BEARING ON THE PIVOT BOLT.

DETAIL B
INCORRECT ASSY.

D.O.	SCALE	T.N.S. FIG. 1 & A.B. TO VOL. 3-2-64	DRN —
R.R.A.F.	FULL	CAULKING OF LEVER ASSEMBLY.	TRCD R.G.S
N.S.	SIZE.		CHD C.J.C.
			QCM.U.
			APPD
			DATE

DRG Nº AV 47.

Nº OF SHTS 1 | SHEET Nº 1

Air Headquarters,
Royal Rhodesian Air Force.

15th June, 1957.

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A 23 (Issue 1)

Vampire Aircraft Undercarriage Nose Leg Assembly - Interchangeability

1. This Technical Order is issued, with the attached drawing 12-Y-501 to bring to the notice of all personnel concerned, the fact that some undercarriage assemblies fitted to Vampire and Venom aircraft are interchangeable.

Source: D.H., T.F.S. 606
Dated 12th March, 1957.

(C.G. Barton),
Warrant Officer
For S.T.S.O.
A.H.Q. R.R.A.F.

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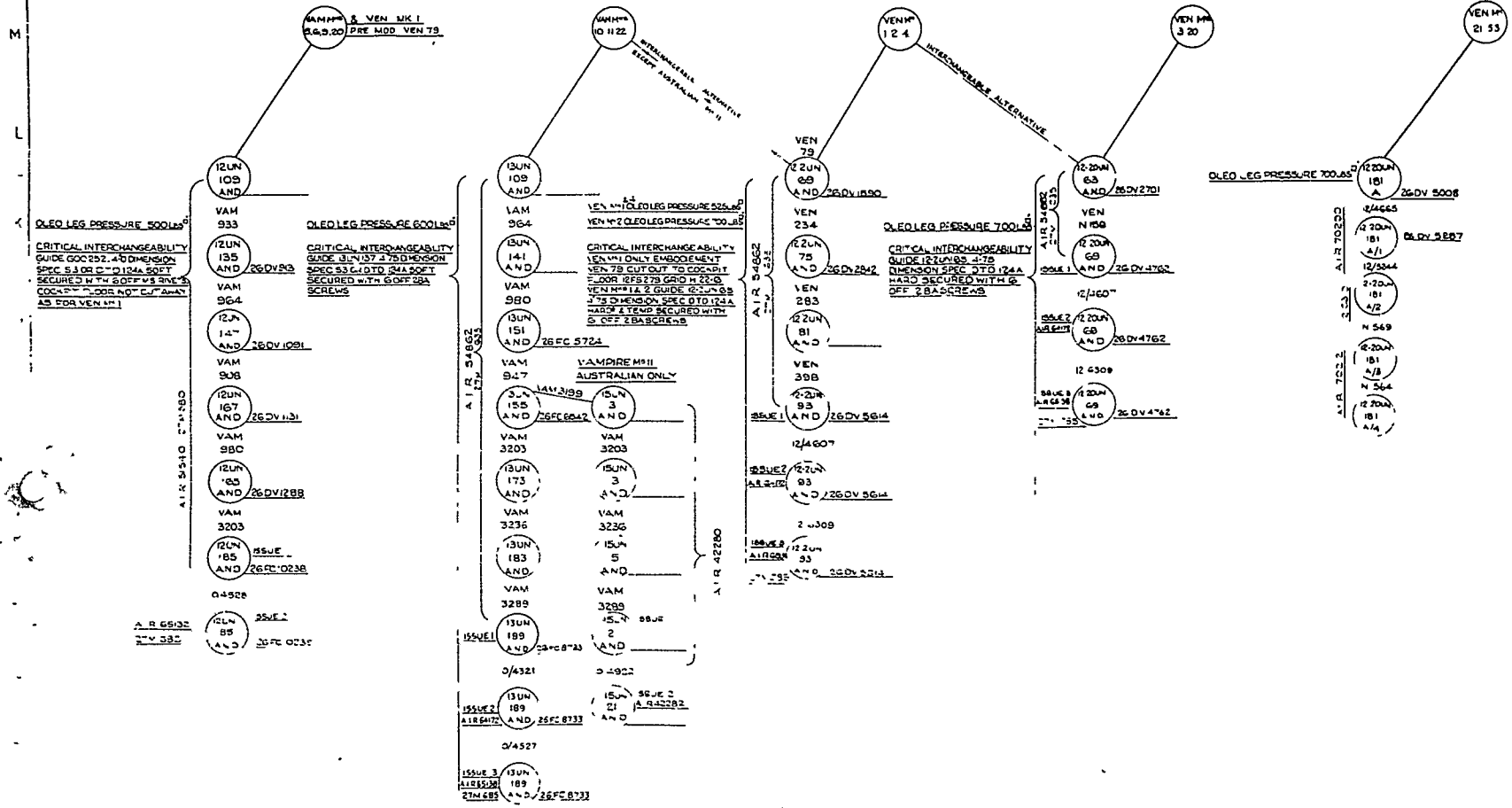
ANY ERRORS ON DRAWINGS MUST BE REPORTED TO THE DRAWING OFFICE



EXAMPLE

12 UN 165 AND STORES REF 26DV/1288 WITH MOD VAM / 3203 EMBODIED BECOMES 12 UN 185 AND STORES REF 26FC/10238.
A LEG SHOWN IN A BALLOON MAY BE SUPPLIED IN LIEU FOR ANY LEG BALLOONED IN THE SAME COLUMN ABOVE.
THE LINE SHOWING INTERCHANGEABLE ALTERNATIVES INDICATES "NIL" WHERE OLEO LEGS CANNOT BE SUPPLIED FOR VENOM 1, 2 & 4, THAT OLEO LEGS FOR VENOM MK 3 & 20 MAY BE USED IN LIEU.

NEW ORG

INTERCHANGEABILITY CHART MAINWHEEL COMPRESSION LEG STOREABLE ASSEMBLY

12 Y 501 SHEET 64

G. RANDALL

Air Headquarters,
Royal Rhodesian Air Force.

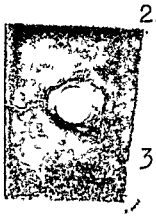
R.R.A.F. Technical Order
Volume 3, Sect. 2, Sub Sect.A62 (Issue 1)

18th May, 1957

Vampire T 11 Aircraft - Damage to Hydraulic Pressure Line routed between Bulkhead No. 4 and the cut-out valve.

1. There is a possibility that, on replacing or tightening, the main fuel tank hoses connecting between the base of the tank and the port forward face of bulkhead No. 4, inadvertent damage can be inflicted on the hydraulic pressure pipe line routed between Bulkhead No. 4 and the cut-out valve resulting in a fracture of the pipe with a subsequent loss of hydraulic pressure.

2. To obviate this possibility modification 3554 has been introduced which calls up a stronger hydraulic pressure pipe which has an extended sleeve attachment nut at one end to give it added protection. This modification is not yet available to the Service.

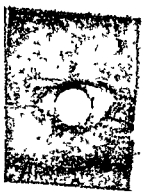


3. On all occasions when it is necessary to replace or tighten main fuel tank hoses or work in the immediate vicinity of the hydraulic pressure pipe line quoted in para 1, technicians are to be particularly careful not to damage the hydraulic pipe in question.

4. Embodiment of Modification 3554 will render compliance with this order unnecessary.

Source: RRAF/7504/6/Eng

CANCELLED BY



(B.H. GIBBONS)
Wing Commander
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Air Headquarters,
Royal Rhodesian Air Force,

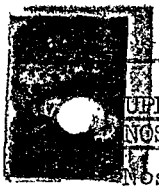
10th April, 1957

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A61 (Issue 1)

Vampire FB 9 & T 11 Aircraft.

Nose Undercarriage Leg - Fits and Clearances

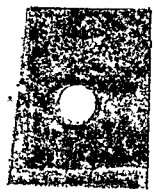
The following information on fits, clearances and wear limits are provided as additional to those shown in the repair manuals.



Description of Mating Parts	Dimensions New	Permissible Worn Dimension	Clearance New	Permissible Worn Clearance.
UPPER BEARING IN NOSE WHEEL BARREL				
Nose wheel barrel(12.UN.163)	I/D 3.7510 / 3.7490	3.7520	Bearing selected to obtain an interference fit.	
Upper Bearing(13.UN.143)	O/D 3.7520 / 3.7490	3.7490		
LOWER BEARING IN NOSE WHEEL BARREL				
Nose wheel barrel(12 UN. 103)	I/D 4.3610 / 4.3590	4.3620	0.0000 / -0.0030	0.0000
Lower bearing (G00229)	O/D 4.3620 / 4.3610	4.3590		
SWIVEL LUG ASSEMBLY IN UPPER BEARING				
Upper bearing(13.UN.143)	I/D 3.4509 / 3.4491	3.4535	0.0049 / 0.0016	0.0065
Spigot tube (G00231)	O/D 3.4475 / 3.4460	3.4445		
SWIVEL LUG ASSEMBLY IN LOWER BEARING				
Lower Bearing (G00229)	I/D 4.1010 / 4.0990	4.1030	0.0060 / 0.0020	0.0080
Sleeve lower end (G00227)	O/D 4.0970 / 4.0950	4.0935		
BUSH IN NOSE WHEEL BARREL				
Nose wheel barrel (12.UN.163)	I/D 1.6882 / 1.6868	1.6889	0.0000 / -0.0021	0.0000
Bush (G00233)	O/D 1.6889 / 1.6882	1.6868		

..... 2.

Description of Mating Parts	Dimensions New	Permissible Worn Dimension	Clearance New	Permissible Worn Clearance
BEARING TUBE IN SUPPORT BRACKET				
Support bracket (G00285)	I/D 1.5007 / 1.4993	1.5025	0.0024 / 0.0001	0.0035
Bearing Tube (G00284)	O/D 1.4992 / 1.4983	1.4965		
BEARING TUBE IN BUSH				
Bush (G00233)	I/D 1.5007 / 1.4993	1.5025	0.0024 / 0.0001	0.0035
Bearing tube (G00284)	O/D 1.4992 / 1.4983	1.4965		
UPPER BEARING IN NOSE WHEEL BARREL				
Nose wheel barrel (13.UN.179)	I/D 3.7510 / 3.7490	3.7520	Bearing selected to obtain an interference fit.	
Upper bearing (13.UN.143)	O/D 3.7520 / 3.7490	3.7490		
LOWER BEARING IN NOSE WHEEL BARREL				
Nose wheel barrel (13.UN.179)	I/D 4.3610 / 4.3590	4.3620	0.0000 / -0.0030	0.0000
Lower bearing (G00229)	O/D 4.3620 / 4.3610	4.3590		
SWIVEL LUG ASSEMBLY IN UPPER BEARING				
Upper bearing (13.UN.143))	I/D 3.4509 / 3.4491	3.4535	0.0049 / 0.0016	0.0065
Spigot tube (13.UN.187)	O/D 3.4475 / 3.4460	3.4445		
SWIVEL LUG ASSEMBLY IN LOWER BEARING				
Lower bearing (G00229)	I/D 4.1010 / 4.0990	4.1030	0.0060 / 0.0020	0.0080
Sleeve lower end (G00227)	O/D 4.0970 / 4.0950	4.0935		



..... 3.

Description of Mating Parts	Dimensions New	Permissible Worn Dimension	Clearance New	Permissible Worn Clearance
BUSH IN NOSE WHEEL BARREL				
Nose wheel barrel (13.UN.179)	I/D 1.6882 / 1.6868	1.6889	0.0000 / -0.0021	0.0000
Bush (G00233)	O/D 1.6889 / 1.6882	1.6868		
BEARING TUBE IN PIVOT BRACKET				
Pivot bracket (13.FS.1999 L.H., 13.FS.2000 R.H.)	I/D 1.5007 / 1.4993	1.5025	0.0024 / 0.0001	0.0035
Bearing tube (13.UN.37)	O/D 1.4992 / 1.4983	1.4965		
BEARING TUBE IN BUSH				
Bush (G00233)	I/D 1.5007 / 1.4993	1.5025	0.0024 / 0.0001	0.0035
Bearing tube (13.UN.37)	O/D 1.4992 / 1.4993	1.4965		

NOTE: ALL DIMENSIONS ARE IN INCHES.

Source: T.N.S. 681
Dated 12/3/57

(B.H. GIBBONS).
Wing Commander
S.T.S.O.
A.H.Q. R.A.A.F.

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Air Headquarters,
Royal Rhodesian Air Force.

28th February, 1957.

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A 59 (Issue 1)

Vampire T 11 Aircraft

Ejector Seat Safety Pin - Stowage

1. This information is applicable to all Vampire Trainers Mark 11, fitted with ejector seats.

2. A recent case of engine rejection has been attributed to the ejector seat safety pin and disc assembly falling from the cockpit and being drawn into the air intake. AL 687

It would appear that before flight the disc had been stowed correctly, but the pin had been left hanging on its chain outside the stowage pocket.

During flight the pin became entangled in the canopy hatch and after landing, when the hatch was opened, the disc was pulled from its stowage and the whole assembly dropped outside the cockpit and was drawn into the air intake, causing severe damage to the engine.

3. This Order is to be brought to the notice of all aircrew and groundcrew concerned so that they may guard against a repetition of this occurrence.

Compiled: J.A.W.
Typed: B.W.L.
Source: De Hav. T.N.S./V.672, 22/1/57.

J. S. Hamilton
(J.S. HAMILTON)
Flight Lieutenant
for S.T.S.O.
A.H.Q. R.R.A.F.

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"4. Embodiment of Mod/RRAF/Vamp 17, Vol.3,Sect.2. Sub-Sect. B105 (Issue 1) supersedes the Information in this Instruction."

AL 687

Headquarters,
Royal Rhodesian Air Force.

20th February, 1957.

R.R.A.F. Technical Order,
Vol. 3, Sect. 2, Sub Sect. A 58 (Issue 1)
Vol. 4, Sect. 2, Sub Sect. A 23 (Issue 1)

Vampire Aircraft

Precautions after "Wet" Start.

1. When a "wet" start has occurred on a Goblin Engine installed in the aircraft it is necessary that all the fuel be drained from the combustion chambers and tail pipe, the starting system resistances have cooled and the engine has ceased to rotate.

2. The drainage period may be shortened by depressing the tail of the aircraft.

3. To minimize the risk of fire, it is important that the fuel which has drained onto the ground beneath the aircraft be mopped up or preferably that the aircraft be moved to a new site before any attempt to re-start the engine is made.

Source:-
SAAF/Part A.Vampire A.104

(B.H. GIBBONS)
Wing Commander
S.T.S.O.
H.Q. R.R.A.F.

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Air I	(1)
Tech. Stats.	(1)

Air Headquarters,
Royal Rhodesian Air Force,
NEW SARUM.

18th January, 1957.

R.R.A.F. Technical Order.
Vol. 3, Sect. 2, Sub-Sect. A57(Issue 1)

VARIOUS AIRCRAFT - ADDITIONAL CHECKS FOLLOWING CANNON FIRING EXERCISES.

1. A case has occured where damage was caused to number 2 Bulkhead as a result of vibration during a cannon firing exercise.
The damage was caused by the cumulative effect of repeated cannon firing.

2. Airframe trades are, therefore, when carrying out servicing in accordance with A.P. 4099G, Vol. 4, Part 2, and A.P. 4099J, Vol. 5, Part 2, to pay particular attention to No. 2 Bulkhead following cannon firing exercises.

3. Any case of damage, or suspected damage, to the bulkhead is to be reported on Form Stats. 25A (R.R.A.F. Form/Stats/128) supported by full details of the extent of damage.

Source: Air Forces Flight Safety Committee.
(Western Europe)
Date: 8th October, 1956.

(B.H. GIBBONS)
Squadron Leader,
S.T.S.O.

DISTRIBUTION.

O.C.M.U.	(1)	Staff Armament Officer.	(1)
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No. 1 Squadron.	(3)		
No. 2 Squadron.	(3)		

Air Headquarters,
Royal Rhodesian Air Force,
NEW SARUM.

10th December, 1956.

R.R.A.F. Technical Order.
Vol 3, Sect 2, Sub Sect A 56, (Issue 1)

Vampire Mk. 5 and 9 Aircraft - Hydraulic Pipe - Incorrect Material

1) A case has been reported of fracture of a hydraulic pipe which resulted in hydraulic failure and wheels up landing of a Vampire Mk. 5 aircraft.

2) Unit investigation revealed that a defective hydraulic pipe, Stores reference 26FC/4784 Part No. Q.00509A/ND which runs from a tee-piece on blukhead No. 2 to selector valve, Stores Ref. 27M/453, as of incorrect material (aluminium alloy) and that over-tightening of union nut contributed to failure of the bell end of the pipe. For identification reference see AP.4099E and G Vol. 1, Sect. 4 Chap. 3, Fig. 20.

3) The material specification for pipe Part No. Q.00509A/ND is quoted in Messrs De Havilland Drawing No. Q.00455 as D.T.D. 503 ($\frac{1}{4}$" outside diameter x 24G) which is steel tube. Steel or tangum pipes to this Part No. are satisfactory.

4) On an opportunity basis but not later than the next Primary Servicing following receipt of this order, a physical inspection of the material identity of the above quoted hydraulic pipe is to be made.

5) Where aluminium alloy pipe is fitted, report details to Tech. Stats. Air Headquarters on RR/F/Form/Stats/128. Pipes held in stores are to be checked and rejected if made from aluminium alloy tubing.

6) (1) Form 700 entry is required, stating findings and/or action taken.

(2) Pipe held in Stores and found satisfactory are to be suitably labelled to this effect.

7) NOTE: AP.4099 and 4269, Vol 2, Part 3, Chap. 3, "Hydraulic System" quotes D.T.D.503 as being aluminium alloy; this is incorrect and amendment action will be taken.

8) S.T.I. Action is being considered by the Air Ministry to deal with the above problem.

CANCELLED

(B.H. GIBBONS)
Squadron Leader
S.T.S.O.

Source: A.M. Postagram
A.111657/51/Air Eng. 1 (b) dated 28th November, 1956.

Distribution.

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R.R.A.F. Technical Order.
Vol. 3 Sect. 2 Sub Sect. A 55 (Issue 1)

Air Headquarters,
Royal Rhodesian Air Force,
NEW SARUM.

21st November, 1956.

VAMPIRE AIRCRAFT - IDENTIFICATION TAGS ON CONTROL CABLES.

1) It has been reported that an Identification Tag on a Vampire Elevator Trim Control Cable had fouled a Fairlead in the Tail Boom, causing "jumpy" Elevator Trim operation.

2) There are two types of Part Number Tags liable to be found on Vampire Flying Control Cables. These are Tags to D.H.S.514 (Sheet 3), Type SP.51-2, which are wire locked to cable end fittings, and also a redundant type of marker to D.H.S.354 which is merely "crimped" to the cable. It was a Tag to the redundant pattern which caused the defect mentioned above.

3) When checking Flying Control Cables on Vampire aircraft, care should be excercised to ensure that marker "tags" (where used for Cable Part Number Identification) are of the Type SP.51-2, which should be securely wire locked to the cable end fittings. Marker tags which are "crimped" to the cable, i.e. where tags are secured by means of lugs wrapped and pressed around the cable, may be removed.

4) Recent design action has been taken to delete marker tags, where possible, by calling for cable part numbers to be marked on the cable end fittings.

(B.H. GIBBONS)
Squadron Leader
S.T.S.O.

Source: A.M. Postagram
A.132040/52/Air.Eng.1(b) Dated 8th November, 1956.

Distribution:

O.C. M.U.	(1)
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R.R.A.F. Technical Order.
Vol. 3 Sect. 2 Sub Sect. A 54 (Issue 1)
Vol. 5 Sect. 9 Leaflet No. 5 (Issue 1)

Air Headquarters,
Royal Rhodesian Air Force,
NEW SARUM.

21st November, 1956.

VAMPIRE T.11 AIRCRAFT - R.P. MOUNTING STRUT BOLTS - REPLACEMENT.

1) Cases have been reported of the 4 bolts (26FC/3885 Part No. D006719) securing each inboard R.P. Mounting Strut to the Mainplane structure not being fitted and the bolt holes having been covered with doped fabric.

2) A.P.4099J Volume 1, Section 7, Chapter 2, Para. 4, states that the rear pair of bolts for each front mounting strut forms part of the main spar structure and must be replaced when the struts are not fitted. When aircraft leave the production line a notice to this effect is stencilled on the under side of the mainplane informing all concerned of the necessity for replacing the bolts.

3) It is absolutely essential that these bolts should be replaced when the mounting struts are removed and to this effect action is to be taken to ensure that the instruction in A.P.4099J is followed. Also a suitable notice stating "These bolts must be replaced when the struts are not fitted" is to be stencilled on the under side of the mainplane in cases where the original notice has been obliterated.

4) A.P.4099J will be amended to include the instructions as regards the stencilling of the notice on the under side of the mainplane.

(B.H. GIBBONS)
Squadron Leader
S.T.S.O.

Source: A.M. Postagram
A.132040/52/Air.Eng.1(b) dated 7th November, 1956.

Distribution.

O.C. M.U.	(1)
Tech. Office M.U.	(1)
S.A.O. A.H.Q.	(1)
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R.R.A.F. Technical Order.
Vol. 6, Sect. 5, Sub Sect. A 3 (Issue 1)
Vol. 3, Sect. 2, Sub Sect. A 53. (Issue 1)

Air Headquarters,
Royal Rhodesian Air Force,
NEW SARUM.
17th November, 1956.

PACITOR FUEL CONTENTS SYSTEM.

1. Instances have occurred of Pacitor Fuel Contents Gauges under reading beyond tolerance which, has been traced to faulty sealing of the wing tank unit access panels, allowing ingress of water, and faulty bedding of the tank seals, allowing fuel to seep from the tank into the unit wells.

2. The following action should be taken on aircraft fitted with the Pacitor Fuel Contents System in which:-

(a) Access panels for the gauge tank units are exposed to the weather,

(b) it is suspected that fuel is seeping from the tank into the tank unit wells and contaminating the terminal connections.

At the next convenient opportunity, and on occasions when it is necessary to remove tank unit access panels -

(i) Examine the well of each tank unit and dry out any water and kerosene which may be present with rag and, finally, with a stream of warm clean air. Care must be taken not to endanger the wax insulation in the connections by overheating.

(ii) Check the nuts of the tank sealing rings for tightness, taking care not to strip the threads. The ring securing bolts and the tank unit sealing bolts will require even tightening to bed down the seal and prevent it leaking.

(iii) Disconnect the affected tank unit cables from the rectifier unit and check the combined insulation of the cable, junction box and tank units using a 250 volt megger. The insulation resistance must not be less than 5 megohms. Reconnect the cables to the rectifier unit.

(iv) Apply a coat of sealing compound to the underside of the tank unit access panels and replace the panels.

(B.H. GIBBONS)
Squadron Leader
S.T.S.O.

Source: A.M. Postgram
A2282/96/55/Air. Eng.
Distribution:

O.C. M.U.	(1)
A.L.S.	(2)
Tech. Office M.U.	(3)
No. 1 Squadron	(3)
No. 2 "	(3)
Instrument Section	(1)
Tech. Stats.	(1)

R.R.A.F. Technical Order.
Vol. 3, Sect. 2, Sub Sect. A 52 (Issue 2)
Vol. 5, Sect. 3, No. 16 (Issue 2)
(Supersedes and cancels Issue 1 of the above orders dated 17th November, 1956.)

Air Headquarters,
Royal Rhodesian Air Force,
NEW SARUM.

28th November, 1956.

VAMPIRE MK FB 9 and T 11 AIRCRAFT - FAIRINGS CANNON SPOUT L.H. AND R.H., AND TUBES, BLAST, "MARTIN BAKER." CORROSION

1. Cases have been reported of corrosion taking place:-

i) On the Fairings Cannon Spout Stores Ref. 26FC/4253 (L.H.) and 25FC/4254 (R.H.) (Vampire Mk FB 9) and Stores Ref. 26FC/5790 (L.H.) and 26 FC/5791 (R.H.) (Vampire Mk T.11) in the rear end of the spout aft of the gun muzzle.

ii) Inside of Blast Tubes, Stores Ref. 1692, P/No C/MBBT/60 (FB·9), and Stores Ref. 6863, P/No C/MBBT/83 (T.11).

2. Investigation reveals that the corrosion is directly due to residual chemicals, resulting from the firing of the cannons, being blown back into the spout where they remain combining with moisture in the atmoshpere thereby causing corrosion.

3. At the earliest opportunity all Cannon Spout Fairings and Blast Tubes are to be examined for corrosion and where evident are to be sand blasted and sprayed with a coat of heat resisting aluminium paint, Stores Ref. 33B/921.

4. After the first treatment a regular check for corrosion is to be carried out whenever the cannons are fired, and as soon as any sign of corrosion is observed the treatment as set out in para 3 above is to be carried out.

5. As the co-operation of Airframe & Armament Tradesmen is required this Order is issued into, and must be filed into, both relevant Technical Order Volumes.

(B.H. GIBBONS)
Squadron Leader
S.T.S.O.

Source: S.A.A.F. - Vampire A.96.
Distribution.

O.C. M.U.	(2)
Tech. Office M.U.	(2)
Armoury	(4)
A.R.S.	(4)
No. 1 Squadron	(5)
No. 2 "	(5)
Officer I/C G.E.S.	(2)
S.A.O. A.H.Q.	(2)
O.C. Equip Depot.	(2)
Tech. Stats.	(2)

R.R.A.F. Technical Order.
Vol. 3 Sect. 2 Sub Sect. A 5[illegible] (Issue 1)
Vol. 5 Sect. 3 Sub Sect. 15 (Issue 1)

Air Headquarters,
Royal Rhodesian Air Force,
P.O. Box 8131, Causeways.

13th October, 1956.

FITTING OF EXISTING CANNON DROPPING TOOL BRACKETS TO REPLACEMENT CANNON STIRRUP CASTINGS.

1) On newly produced cannon stirrup castings the vertical dimensions between the centres of the four No. 26 drill sized holes, used for the attachment of the cannon dropping tool bracket Part No. S00 415A, have been increased by 0·120 inches. Consequently should the existing dropping tool bracket be required to be fitted to a new stirrup casting, difficulty may be experienced in aligning the No. 26 holes in the bracket (Which was originally drilled to mate with those in the original stirrup) with those in the new casting.

2) If the above trouble is encountered each No. 26 hole in the dropping tool bracket will be required to be "elongated" approximately 0·060 inches in order to obtain correct alignment.

3) On current production of dropping tool brackets the attachment holes are drilled to suit stirrups to latest design requirements.

(B.H. GIBBONS)
Squadron Leader
S.T.S.O.

Scource:- DH. TNS. V656
Dated 14/9/56.

Distribution:-

O.C. M.U.	(1)
A.M.S.	(2)
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Armament Sect.	(2)
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Tech. Stats.	(1)

R.R.A.F. Technical Order.
Vol. 3 Sect. 2 A50 (Issue 1)

Air Headquarters,
Royal Rhodesian Air Force,
NEW SARUM.

11th October, 1956.

Provisioning of Airframe Spares:- Vampire.

1. It has been the practice to provision airframe spares in the various paint finish colours to suit individual aircraft roles. It has been decided that the expense incurred in provisioning such a range of spares cannot be justified and that, in the future, these spares will be issued without the application of the final coat of paint finish. Such spares will be described as being supplied to "under-coat finish".

2. The components to which this Technical Order applies are listed in Appendix "A". The first reference and part number of each component in the Appendix refers to the item in the "under-coat finish" state. Until present stocks of fully finished components are exhausted, demands are to specify the reference number of the fully finished component, but the corresponding reference number of the component in the "under-coat finish" state is to be included as an alternative.

3. On receipt of a component supplied to "under-coat" finish", it will be necessary to spray it with one coat of finish to the appropriate colour scheme. This operation will be carried out by First or Second Line Servicing Units. It is advised that good adhesion of the final coat is dependent on the surface to be sprayed being completely free from grease and it is, therefore, essential that the component should not be handled before being sprayed. Components will be supplied wrapped in a final layer of brown paper which is only to be removed immediately prior to spraying. A label giving instructions to this effect will be attached to the wrapped component.

(B.H. GIBBONS)
Squadron Leader
S.T.S.O.

Scource:- A.M. Postagram
A175411/53/AIR ENG 5 b.
Dated 13th September, 1956.

Distribution:-

O.C M.U.	1 Copy
A.M.S.	2 "
M.U. Tech. Control	1 "
No. 1 Squadron	3 "
No. 2 "	3 "
O.C. Equip. Depot	1 "
S.E.S.O.	1 "
Tech. Stats.	1 "
File	1 "

Z.I.... Technical Order.
Vol. 3 Sect. 2 :50 (Issue 1)

ATTENDIX "A"

Air Headquarters,
Royal Rhodesian Air Force,
NEW SARUM.

11th October, 1956.

REV. NO.	PART. NO.	DESCRIPTION.
26EC/1003 5194	D.001605A D.001605A/Col.C)	Flap
1005 5195	D.0016064 D.001606A/Col.C)	Flap
1004 5106	D.001953A D.001953A/Col.C)	Flap
1006 5197	D.0019 4A D.00195 A/Col.C)	Flap
3765 5192	D.002175A D.002175A/1/Col.C)	Flap Dive Brake
3766 5193	D.002176A/1 D.002176A/1/Col.C)	Flap Dive Brake
3437 5631	D.006539A D.006539A/Col.C)	Wing Tip
3438 5632	D.006540A D.006540A/Col.C)	Wing Tip Fairing
3428 5190	D.006657A D.006657A/Col.C)	Aileron
3429 5191	D.006658A D.006658A/Col.C)	Aileron
4571 5198	G.001577A/4 G.001577A/4/Col.C)	Wheel Door
4572 5199	G.001578A/4 G.001578A/4/Col.C)	Wheel Door
3131 5207	J.00905A J.00905A/Col.C)	Fairing
3132 5208	J.00906A J.00906A/Col.C)	Fairing
3176 5045 26DV/ 1855	J.001474A J.001475A/Col.C) J.001474A/Col.F)	Tab. Assy.
26EC/1031 5210	L.0050A L.0050A/Col.C)	Door
1035 5212	L.0057A L.0057A/Col.C)	Panel
6760 6759	L.0058A/1 L.0058A/1/Col.C)	Cowl Panel

Air Headquarters,
Royal Rhodesian Air Force,
New Sarum.

R.R.A.F. Technical Order.
Vol.3, Sect. 2 A50 (Issue 2)
(Superseding Issue 1, dated 11th Oct. 56)

1st. February, 1957.

PROVISIONING OF AIRFRAME SPARES - VAMPIRE.

1. It has been the practice to provision airframe spares in the various paint finish colours to suit individual aircraft roles. It has been decided that the expense incurred in provisioning such a range of spares cannot be justified and that, in the future, these spares will be issued without the application of the final coat of paint finish. Such spares will be described as being supplied to "under-coat finish".

2. The components to which this Technical Order applies are listed in Appendix "A". The first reference and part number of each component in the Appendix refers to the item in the "under-coat finish" state. Until present stocks of fully finished components are exhausted, demands are to specify the reference number of the fully finished component, but the corresponding reference number of the component in the "under-coat finish" state is to be included as an alternative.

3. On receipt of a component supplied to "under-coat finish" it will be necessary to spray it with one coat of finish to the appropriate colour scheme. This operation will be carried out by First or Second Line Servicing Units. It is advised that good adhesion of the final coat is dependent on the surface to be sprayed being completely free from grease and it is, therefore, essential that the component should not be handled before being sprayed. Components will be supplied wrapped in a final layer of brown paper which is only to be removed immediately prior to spraying. A label giving instructions to this effect will be attached to the wrapped component.

Source: A.M. Postagram
A1/5411/53/AIR ENG 5/b.
Dated 13th September, 1956
Dated 16th January, 1957.

CANCELLED BY 93

(B.H GIBBONS)
Wing Commander,
S.T.S.O.
A. HQ. R.R.A.F.

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Tech. Stats.	(1)
File.	(1)

Air Headquarters,
Royal Rhodesian Air Force,
New Sarum.

1st February, 1957.

R.R.A.F. Technical Order.
Vol.3, Sect. 2 A50 (Issue 2)

REF. NO.	PART NO.	DESCRIPTION.	REMARKS.
26FC/1003	D.001605A	Flap	
5194	D.001605A/Col.C		
1005	D.001606A	Flap	
5195	D.001606A/Col.C		
1004	D.001953A	Flap	
5106	D.001953A/Col.C		
1006	D.001954A	Flap	
5197	D.001954A/Col.C		
3765	D.002175	Flap Dive Brake	
5192	D.002175A/1/Col.C		
3766	D.002176A/1	Flap Dive Brake	
5193	D.002176A/1/Col.C		
3437	D.006539A	Wing Tip	
5631	D.006539A/Col.C		
3438	D.006540A	Wing Tip Fairing	
5632	D.006540A/Col.C		
3428	D.006657A	Aileron	
5190	D. 006657A/Col.C		
3429	D.006658A	Aileron	
5191	D.006658A/Col.C		
4571	G.001577A/4	Wheel Door	
5198	G.001577A/4/Col.C		
4572	G.001578A/4	Wheel Door	
5199	G.001578A/4/Col.C		
3131	J.00905A	Fairing	
5207	J.00905A/Col.C		
3132	J.00906A	Fairing	
5208	J.00906A/Col.C.		
3176	J.001474A	Tab. Assy	
5845	J.001475A/Col.C.		
26DV/1855	J.001474A/Col.F	Tab. Assy	
26FC/1031	L.0050A	Door	
5210	L.0050A/Col.C		
1035	L.0057A	Panel	
5212	L.0057A/Col.C		
6760	L.0058A/1	Cowl Panel	
6759	L.0058A/1/Col.C		
26FC/11813	12T. 561 AND	Tail Plane Ext.	Supersedes 26DV/2393, 2394 and 26FC/10185
" 11947	15T. 6A/6	Fin and Booms	Under Coat Finish
" 11942	J.001007A/5	Fin and Booms.	Under Coat Finish
" 6497	J00601A/6	Elevator	Under Coat Finish
" 11923	13TE. 1A/3	Elevator	Under Coat Finish Supersedes 10200, 10367
" 11941	15EC. 79 AND	Rear Cone	Under Coat Finish

NOTE: Where there is no under coat finish number the above reference numbers are to be quoted for the under coat finish component.

R.R.A.F. Technical Order
Vol 3, Sect 2, Sub-Sect A49 (Issue 1)

Air Headquarters,
Royal Rhodesian Air Force,
P.O. Box 8131, Causeway,
SOUTHERN RHODESIA.

1st, October 1956.

Cable Brake operating 26FC/6455 - Defective Vampire FB9 Aircraft.

1. A case has occurred of the nipple on the inner bowden cable breaking off at the Pilots brake lever thereby causing complete failure of the braking system. This failure occurred in spite of modification 3166 being embodied which was introduced to overcome this type of failure. Modification 3166 is embodied on all R.R.A.F. FB9 aircraft.

2. The attention of all personnel is drawn to item 7 on sheet 29 of the Primary/Primary Star Servicing in A.P. 4099G, Vol 4, Pt. 2, Sect 2, Issue 1. With modification 3166 it is still possible for the tongued end of the torque plate to ride out of the slot in the Bowden end fitting, thus causing mal-alignment of the nipple.

3. Further to this, it is essential that the Cable is limited in travel by the brake lever stop on the control column and not by the pressure adjuster on the dual relay valve, and thus prevent overloading of the cable.

(B.H. GIBBONS) SQDN. LDR.
S.T.S.O.

Source:- Summary of Defects No. 1765.

Distribution:

OC/MU	(1)	Tech. Stats.	(1)
A.R.S.	(2)	File	(1)
MU Tech. Control	(1)		
No. 1 Sqdn.	(3)		
No. 2 Sqdn.	(3)		

R.R.A.F. Technical Order.
Vol. 3, Sect. 2, Sub. Sect. A.48 (Issue 1)

Air Headquarters,
Royal Rhodesian Air Force,
P.O. Box 8131, Causeway.
SOUTHERN RHODESIA.

14th August, 1956.

VAMPIRE AIRCRAFT - ALL MARKS.

Damage to Windscreens.

1. Cases have occurred where impact on the Windscreen has caused indentations, resulting in severe cracking.

2. It is considered that the possible cause is lack of care being exercised when installing items of Aircrew Equipment i.e. (Parachutes etc.) into the Cockpit.

3. As this type of damage is avoidable, extreme care must be exercised to prevent a recurrence of the above.

(B.H. GIBBONS) SQN. LDR.
S.T.S.O.

SOURCE:- A.H.Q.

Distribution:-

O.C. M.U.	(1)
A.R.S.	(2)
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No. 2 Sqdn.	(3)
Safety Equip Sect.	(2)
Air I.	(1)
Tech Stats.	(1)

R.R.A.F. Tech Order.

Vol.3, Sect 2, Sub Sect A47 (Issue 1).

Vol.5, Sect.3, Leaflet No.14.

Air Headquarters,
Royal Rhodesian Air Force,
NEW SARUM.

24th July, 1956.

Vampire Mks. 9 and T.11 Aircraft
Gun Bay Door Fasteners - Deletion of Identification Label from Toggle Fastener Cover Safety Cables.

1. A case has occurred where a Gun Bay Door Toggle Fastener had been incorrectly fastened due to the Identification Label on the Toggle Cover Safety Cable interfering with the fastener mechanism.

2. The offending label is used only for identification and serves no other useful purpose. When interference with the fastener mechanism is experienced the label may be removed.

B.H. GIBBONS.
Squadron Leader
S.T.S.O.

Source:- Postagram A119467/54/AIR ENG 1(b).

Distribution:-

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Tech Stats	(2)
No. 1 Squadron	(3)
No.2 Squadron	(3)

Air Headquarters,
Royal Rhodesian Air Force.

1st May, 1958.

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A45 (Issue 2)
Superseding and Cancelling:-
Vol. 3, Sect. 2, Sub Sect. A45 (Issue 1)

Lockheed Hydraulic Components
Interchangeability Chart

1. Based on Lockheed Drawings SK.1856, Issue 13, and SK.2357, the accompanying charts, covering the interchangeability of Lockheed hydraulic components fitted to all makes of Vampire and Venom aircraft, are issued for information and guidance.

2. Lockheed part numbers have the prefix 'AIR'. Components with part numbers in the 40,000 series have seals of synthetic base for use with D.T.D. 585 oil. Components with part numbers in the 50,000, 60,000 and 70,000 series are fitted with seals of natural rubber base for use with Lockheed H.22 fluid. The only exceptions to the above are those components which do not contain seals and can therefore be used with either fluid.

Source: D.H. .V.614 Issue 5.
Date 24/2/58.

(B.H. GIBBONS)
Wing Commander
S.T.S.O.
A.H.Q. R.R.A.F.

Distribution:

One copy to essential recipients plus the following:-

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W.O. No. 3 "	(2)
W.O. No. 4 "	(2)
W.O. Components Section	(2)

LOCKHEED DRG. SK.1856 ISSUE 13		AIR.403 Iss. 12	AIR.422 Iss. 10	AIR.426 Iss. 8	AIR.429 Iss. 6	AIR.433 Iss. 18	AIR.449 Iss. 13	AIR.453 Iss. 14	AIR.459 Iss. 17	AIR.460 Iss. 27	AIR.470 Iss. 28	AIR.471 Iss. 24
Part No.	Description	VAMPIRE 1, 3.	SEA VAMPIRE 20, 21.	VAMPIRE 5, 9, 52.	VAMPIRE 6, 50.	VENOM 1, 4, 50, 54.	VAMPIRE 10, 54.	VENOM 2, 51.	VAMPIRE 11, 22, 55.	SEA VENOM 20.	SEA VENOM 21, 53.	VENOM 3.
AIR 40016	Accumulator	+	+	+	+	+	+	+	+	+	+	+
AIR 42426	" (Deck Hook Damper)									+	+	
AIR 42540	" (Brakes)										+	+
AIR 41502	Damper. Deck Hook		+									
AIR 42394	" "									+	+	
AIR 40702	Fittings. Misc. Airframe	+	+	+	+							
AIR 40704	" " Engine	+	+	+	+	+						
AIR 41478	" " Airframe					+						
AIR 42166	" " Engine							+				+
AIR 42168	" " Airframe							+				+
AIR 42190	" " Airframe									+		
AIR 42420	" " Airframe										+	
AIR 42422	" " Engine									+	+	
AIR 57410	" " -						+		+			
AIR 42840	Flow Indicator					+					+	+
AIR 42496	Gauge Assy. Pressure										+	
AIR 40008	Jack. Flap.	+	+	+	+		+		+			
AIR 40010	" Main U/C	+				+ Flap		+ Flap				+ Flap
AIR 40022	" Dive Brake	+	+	+	+		+		+			
AIR 40542	" N/Wheel	+	+	+	+	+						
AIR 41192	" Main U/C		+	+	+		+		+			
AIR 41472	" U/C Door					+		+		+		+
AIR 41474	" Dive Brake					+		+		+	+	+
AIR 41684	" Main U/C					+		+		+		+
AIR 41754	" Canopy						+	+	+			+

(Continued)

LOCKHEED DRG. SK.1856 iss.13. Part No.	Description	VAMPIRE 1, 3.	SEA VAMPIRE 20, 21.	VAMPIRE 5, 9, 52.	VAMPIRE 6, 50.	VENOM 1, 4, 50, 54.	VAMPIRE 10, 54.	VENOM 2, 51.	VAMPIRE 11, 22, 55.	SEA VENOM 20.	SEA VENOM 21, 53.	VENOM 3.
	(Continuation)											
AIR 41932	Jack. N/Wheel						+	+	+	+		+
AIR 42024	" U/C Door										+	
AIR 43352	" Wing Fold									+	+	
AIR 42208	" Flap									+	+	
AIR 42360	" N/Wheel										+	
AIR 42436	" Main U/C										+	
AIR 42438	" Main U/C Lock										+	
AIR 42439	" " " "										+	
UMC 501	Pump, Hand	+	+	+	+	+	+	+	+	+		+
AIR 43254	" "										+	
AIR 62370	Restrictor											
AIR 42500	" Flow Surge					+				+	+	
AIR 42514	Servodyne, Aileron				(Mk.4 only)	+					+	+
AIR 42515	" "				(Mk.4 only)	+						+
AIR 42604	" "				(Mk.4 only)							+
AIR 42605	" "										+	
AIR 40012	Strut. N/Wheel. (Nat.equiv.AIR 51540)	+									+	
AIR 65132	" " (Nearest syn. AIR 40012)	+ (S.O.O)	+	+	+							
AIR 70212	" "										+	
AIR 43752	" " (Nat.AIR 10814)								+ S.O.O			
AIR 101814	" " (Synth.AIR. 43752)					+	+	+	+	+	-	+
AIR 40014	Strut. Main (Nat.AIR 50750)	+										

(Continued)

LOCKHEED DRG SK.1856 iss. 13. Part No.	Description	VAMPIRE 1, 3.	SEA VAMPIRE 20,21.	VAMPIRE 5,9,52.	VAMPIRE 6,50.	VENOM 1,4,50, 54.	VAMPIRE 10,54.	VENOM 2,51.	VAMPIRE 11,22, 55.	SEA VENOM 20.	SEA VENOM 21,53.	VENOM 3.
	(Continuation)											
AIR 40015	Strut. Main. (Nat. AIR 50751)	+										
AIR 50750	" " (Synth. AIR 40014)	+ S.O.O										
AIR 50751	" " (Synth. AIR 40015)	+ S.O.O										
AIR 51756	" " (Synth. AIR 41080)			+	+							
AIR 51757	" " (Synth. AIR 41080)			+	+							
AIR 53560	" " (Synth. AIR 42270)		+				+		+			
AIR 53561	" " (Synth. AIR 42271)		+				+		+			
AIR 65880	" "					+		+		+		+
AIR 65881	" "					+		+		+		+
AIR 103500 AIR 103581									+inc +inc			
AIR 40020	Valve, Cut-Out	+	+	+	+		+	+	+			
AIR 42268	" " "					+				+	+	+
AIR 40272	Valve, Selector (Dive Brake)	+	+	+	+	+	+	+	+	+	+	+
AIR 40758	" " (N/Wheel)					+		+		+	+	+
AIR 41792	" " (Canopy)						+	+	+			+
AIR 42164	" " (Servos)					+					+	+
					(Mk.4 only)							
AIR 40068	Valve, Sequence.					+		+		+		+
AIR 42014	" "										+	
AIR 40018	Valve. Release.	+	+	+	+	+	+	+	+	+	+	+
AIR 40504	" By-Pass	+	+	+	+	+	+	+	+	+	+	+
AIR 60314	" Collapse									+	+	
AIR 42704	Valve, Thermal Relief		+	+		+			+	+	+	+
UMC 632	" " "	+	+	+	+	+	+	+	+	+	+	+
AIR 34126	Valve. Non-Return	+	+	+	+	+	+	+	+	+	+	+
AIR 62600	" " "										+	
AIR 66576	" " "								+		+	+

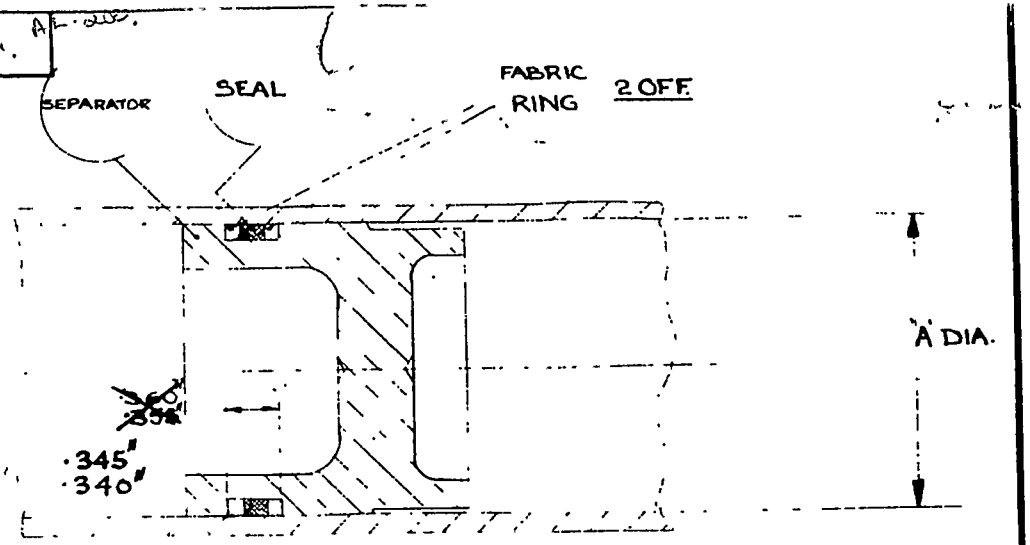
(Continued)

M.R. 299

PART NO SK 23 "LOCKHEED".

IMPROVED SEPARATOR SEALING ON VENOM AND VAMPIRE NOSE STRUTS.

FOR USE WITH LOCKHEED 22 FLUID.



AIRCRAFT	MOD Nº.	NEW UNIT AIR Nº.	OLD UNIT AIR Nº.	NEW SEPARATOR AIR. Nº.	'A' DIA.	SEAL APS. Nº.	FABRIC RING AIR. Nº.
VAMPIRE.	AIR 403/M/27	65132	51540	65130	1·812"/1·808"	115/9	65224
VAMPIRE SEA	AIR 422/M/19						
VAMPIRE MK 5	AIR 426/M/15						
VAMPIRE MK 6	AIR 429						
VAMPIRE MK 50							
VENOM MK 1	AIR 433/M/18	~~65134~~ ~~65134~~ OR 65138	54862 OR 64172	64218	2062" 2·058"	115/13	65226.
VAMPIRE. NF	AIR 445/M/5						
VENOM. NF.	AIR 458/M/13						
VAMPIRE. T.	AIR 459/M/6						
VENOM SEA	AIR 460/M/22						
VENOM MK 3	AIR 471/M/3						
VENOM SEA.	AIR 470/M/8	70212	70200	65128.	1·960"/1·956"	708/12.	42686.

THIS CHANGE IS COVERED BY MOD. Nº E.S.A. 2233.

T.N.S. V.614, Issue 5 and VE. 453, Issue 5.

LOCKHEED DRG. SK.1856 Iss. 13. Part No.	Description	VAMPIRE 1, 3,	SEA VAMPIRE 20, 21.	VAMPIRE 5, 9, 52.	VAMPIRE 6, 50.	VENOM 1, 4, 50, 54.	VAMPIRE 10, 54.	VENOM 2, 51.	VAMPIRE 11, 22, 55.	SEA VENOM 20	SEA VENOM 21, 53.	VENOM 3.
	(Continuation)											
UMC 703	Valve, Non-Return	+	+	+	+	+	+	+	+	+	+	+
UMC 704	" " "					+					+	+
UMC 706	" " "	+	+	+	+	+	+	+	+	+	+	+
										+		
AIR 42408	Valve, Multiple Non-Return										+	+
AIR 43470	" " " "											

Continued overleaf...

RRAF TECH ORDER.
Vol 3. Sect 2 S.Sect A44 (Issue 1)
Vol 6. Sect 2 S.Sect A3 (Issue 1)

Air Headquarters,
Royal Rhodesian Air Force,
P.O. Box 8131, Causeway,
SOUTHERN RHODESIA.

15th May 1956.

SPERRY GYROSCOPE COMPANY INSTRUMENTS- IDENTIFICATION OF MODIFICATIONS.

The following, which has been published by the Sperry Gyroscope Company Limited in the form of General Service (Aeronautical) Bulletin No.4 is issued for the information of all concerned.

REASON FOR AND NATURE OF CHANGE: Owing to recent developments in aeronautical equipments it is no longer possible to employ a system whereby modification numbers are allocated to a complete equipment. This is due to the fact that a number of current equipments now use common units, and under the existing modification system it would be necessary for these units to bear several numbers in order to identify a particular modification.

In view of this it has been considered necessary to initiate a system using Unit modification numbers. This system will be put into operation forthwith.

DETAILS:

1. Modification numbers will be allocated on a unit part number basis (not as previously on an equipment type basis) and will start at number one.

2. All new modification numbers will be prefixed with letters denoting the type of unit to which a modification refers. Whilst this prefix will not identify a particular instrument or equipment, it is considered beneficial in that it will give a lead as to the type of unit concerned.

3. An attempt has been made to keep the prefix letters as near 'self-explanatory' as is practicable:- G denoting Gyro Unit; F, Flux Valve, X, Cross Pointer Indicator, etc. The prefixes are as follows:-

All GYROSYN Gyro Units.....	Prefix letter G.
All GYROSYN Amplifiers.....	Prefix letter A.
All GYROSYN Detector Units.	Prefix letter F.
All GYROSYN Master Indicators.....	Prefix letter M.
All GYROSYN Control Panels.....	Prefix letter C.
All GYROSYN Corrector Control Boxes.	Prefix letter CB.
All Master Units.....	Prefix letter MU.
All Variation Control Panels.....	Prefix letter V.
All Flight Computers.....	Prefix letter FC.
All Z.R.F.D. Control Panels.....	Prefix letter ZC.
All Z.R.F.D. Indicators.....	Prefix letter X.
All Z.R.F.D. Course Selectors.....	Prefix letter S.
All Junction Boxes.....	Prefix letter J.
All Gyro Relay Units.....	Prefix letter R.
All Pilot Controllers.....	Prefix letter P.
All Directional Gyros & D.G. Control Units.	Prefix letter D.
All Servo Units.....	Prefix letter SU.
All Relief Valves.....	Prefix letter RV.
All Horizons (Electric).....	Prefix letter H.
All Horizons (Air Driven).....	Prefix letter HA.

It will undoubtedly be necessary to add to this as new equipments are developed, and users of Sperry Aeronautical Eqipment will be informed of new prefixes

2/.....

by additions to this series of bulletins.

4. The new system is not retrospective, and previous modifications and numbers will remain as at present, the new modification numbers being identified by the prefix letters,

(B.H.GIBBONS) SQN. LDR.
S.T.S.O.

Scource:- D/H TNS V 627.

Distribution:-

OC. MU.	(2)
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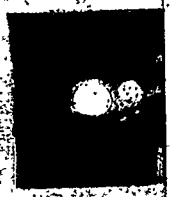
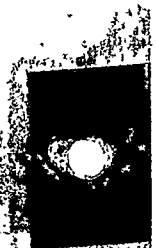




Air Headquarters,
Royal Rhodesian Air Force,
NEW SARUM.

R.R.A.F. Technical Order.
Vol. 3, Sect. 2, Sub-Sect. A41 (Issue 2)
(Superseding and cancelling Issue 1)

VAMPIRE AIRCRAFT.

NOSE UNDERCARRIAGE DOOR LOCK MECHANISM.

1. Following recent investigations into Vampire Nose Undercarriage Wheel Door failures, it is considered advisable to enlarge upon the information contained in Issue 1 of this Order.

2. Reported cases of failure of the nose wheel door mechanism are attributed to over-tensioning of the nose wheel door, which could also cause the unserviceability of components which comprise the nose wheel door retracting mechanism. Therefore, during periodic servicing or prior to carrying out nose wheel door adjustments, the following serviceability checks should be made:-

(a) With the undercarriage down, ensure that the nose wheel door guide striker plate is not bent and that a flat does not exist covering the area of contact with the ball of the link guide assembly.

(b) Ensure that the striker plate conforms to S.T.I./Vampire/115A, i.e. that a.1" clearance exists between the nose wheel striker plate and the air inflation valve when the nose shock absorber strut is collapsed.

(c) Check that the link guide attachment bracket, mounted on the Starboard side of the nose wheel wall, is not loose or distorted.

(d) By holding the ball of the guide link assembly, ensure that there is no undue fore and aft movement; this is most important.

(e) Check the lower radius rod eye bolt for bending.

(f) Where Modification Vampire 3236 is embodied, "Positive mechanism for nose wheel door operation," (i.e. on all R.R.A.F. Vampire T11 aircraft), a clearance of 0.010 inch to 0.015 inch should be maintained between the slotted end of the operating rod and the lever on the nose wheel barrel, with the nose undercarriage in the fully down position. This is to prevent over-loading in the undercarriage down position of the lever bearing spigot, mounted on the Starboard nose wheel wall.

3. The nose wheel door should always be re-adjusted when replacing the following items:-

(a) Nose undercarriage leg.

(b) Nose undercarriage striker plate.

(c) Nose wheel door.

(d) Lower radius rod eye bolt.

4. During the adjustment of the nose wheel door, as set out below, it may be found necessary to relieve the nose wheel door front hinge to prevent the lower radius rod fouling the hinge bracket during lowering and retracting operations, which will cause bending of the lower radius rod eye bolt.

5. The following action should be taken in cases where a foul exists:-

(a) When the lower radius rod fouls the hinge flanges at its lock nut, the flanges should be radiused to give clearance.

(b) It may be found that the lower radius rod fouls the top of the hinge slot; this must be relieved with a round file to give a clearance of 0.10 inch min. in its closest position. Avoid sharp changes of section & treat with an approved primer & finishing coat.

/2.....

(c) On some aircraft there may be inadequate clearance between the door hinges and the Port cannon blast fairing with the door fully open. In such cases it is permissable to relieve the cut-outs in the cannon blast fairing.

(d) It may also be found necessary to relieve the edge of the Port nose wheel well side beam, to prevent the fouling of the lower radius rod at approximately its mid-position when the door is being retracted or lowered. Clear the foul on the nose wheel well side beam with a round file to give a clearance of .025 inch minimum.

6. When adjustments have to be made to the nose wheel door mechanism, the following important procedure should be strictly adhered to to prevent over-tensioning of the nose wheel door:-

(a) Disconnect the nose leg hinged fairing attachment struts from the compression leg support casting, and also remove the nose wheel door lower radius rod attachment pin.

(b) Slowly retract the nose wheel undercarriage.

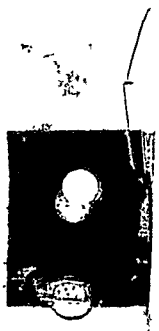
(c) Swing the nose wheel door into the closed position and hold there by hand pressure; adjust the lower radius rod adjustable eye-bolt until the pin can be fitted by hand.

(d) Lower the nose wheel and remove the pin, and screw the eye-bolt in 2 turns to tension the door in the retracted position.

(e) Re-fit pin and split pin.

(f) Carry out nose retraction tests.

Source: D.H.T.N.S. V665
Date : 11th December, 1956.



(B.H. GIBBONS)
Squadron Leader,
S.T.S.O.

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Air Headquarters,
Royal Rhodesia Air Force
29th November, 1957.

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A43 (Issue 2).
Cancelling and Superseding:-
Vol. 3, Sect. 2, Sub Sect. A43 (Issue 1)

Vampire Aircraft - Lifing of Main Flying Control Cables excluding Trim Tab Cables

Authority has been granted to "up-grade" the lifing of all main flying control cables (excluding trim tab cables) to Major Inspection.

Source: S.T.S.O. A.H.Q.
File RRAF/7504/Eng E.50 refers.)

Vol 3-2-E17

(H.J. PRINGLE)
Squadron Leader
A/S.T.S.O.
A.H.Q. R.R.A.F.

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R.R.A.F. Technical Order
Vol.3 Sect.2 Sub.Sect. A.42 (Issue 1)

Air Headquarters,
Roual Rhodesian Air Force,
P. O. Box 8131, Causeway,
SOUTHERN RHODESIA.

15th May, 1956.

Vampire T.11 Aircraft - Mollart Joint at Base of Control Column.

A case has been reported of the flying controls in a Vampire T.11 aircraft becoming extremely stiff in flight. Subsequent inspection revealed that the Mollart Joint in the aileron drive at the base of the control column was partially seized owing to lack of lubrication.

2. The Mollart Joint should normally be lubricated at Primary Star Servicing, therefore it is not intended to issue an instruction in this particular case.

CANCELLED BY AL 180

B H Gibbons

(B.H. GIBBONS) SQN. LDR.
S.T.S.O.

SOURCE: AM/Postagram A.130R/0/52/Air.Eng.1(b)

Distribution:

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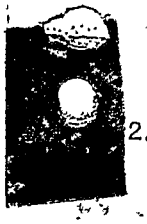
Air Headquarters,
Royal Rhodesian Air Force.
26th November, 1957.

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A41 (Issue 3)
Complimentary to and to be read in conjunction with:-
Vol. 3, Sect. 2, Sub Sect. A41 (Issue 2)

Vampire FB 9 and T.11 Aircraft
Nose Wheel Door Mechanism Adjustments

1. Reference is made to Vol. 3, Sect. 2, Sub Sect. A41 (Issue 2), on the above subject. Despite the issue of this information, trouble is still being experienced because the upper eye end attachment bolt Part No. 13-FS-1843A, which secures the upper radius rod door retracting mechanism to the starboard nose wheel side beam is permitted to become excessively loose.

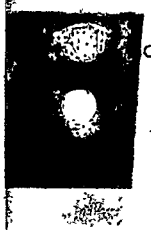


2. This in turn results in the loss of the nose door tension with possible subsequent mechanical failure of the nose door retracting mechanism, and in extreme instances the loss of cabin air pressure.

3. It is requested, therefore, that the above quoted Technical Order be again brought to the notice of all concerned, and in this connection the following additional sub paragraph should be added:-

Para 2 at the end add new sub-paragraph:-

" (g) With the nose undercarriage fully 'DOWN' move the nose door athwartships, and at the same time ensure there is no movement of the upper radius rod attachment eye and bolt about the nose wheel side-beam.



Source: A.M. Postagram
A.154016/52/Air.Eng.1b Dated 30th October, 1957.

(H.J. PRINGLE)
Squadron Leader
A/S.T.S.O.
A.H.Q. R.R.A.F.

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R.A.F. Technical Order
Vol. 3 Sect. 2 Sub Sect A39 (Issue I)

Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport,
P.O. Box 8131, Causeway,
SOUTHERN RHODESIA.

19th March 1956.

Vampire Aircraft - Mks. NF10 and T11.
Instruction Plate in Main Fuel Tank Bay - Repositioning

1. A report has recently been received to the effect that during a main fuel tank removal the instruction plate, detailing the removal of the intermediate pulley bracket for the flying controls, was obscured by an electrical cable loom.

2. It is necessary to remove the pulley bracket to obtain clearance during the withdrawal of the main fuel tank from the fuselage, hence, if the operator is unaware of this requirement, damage to the fuel tank may result.

3. When next removing a main fuel tank, before the actual withdrawal of the tank from the fuselage, remove the flying control pulley bracket referred to above. Where the Instruction Plate, "Before removal of Tank," is not clearly visible to the operator it should be re-positioned as per attached Drawing R.12. FS.178.

4. Future aircraft produced will have the label positioned as per Drawing R.12.FS.178. Action is in hand to include appropriate instructions regarding the removal of the pulley bracket in the relevant A.P.

(B.H.GIBBONS)
Squadron Leader
S.T.S.O.

Reference: A.M. Postagram.
A.96785/51/Air. Eng. 1 (b)
Dated: 24.2.1956.

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Appendix to:- R.R.A.F. Tech. Order Vol. 3-2-25A

(COPY)

INTERMEDIATE PULLEY BRACKET

NOTE

REMOVE THIS PULLEY BRACKET BEFORE REMOVAL OF TANK

OLD POSITION OF INSTRUCTION PLATE

VIEW ON INBOARD SIDE OF STARBOARD WALL (MAIN FUEL TANK BAY)

T WING HQ

Technical Wing,
Royal Rhodesian Air Force,
New Sarum

Date: 19th June, 1962

R.R.A.F. Technical Staff Instruction
Vol.3. Sect.2. Sub-Sect.A39 (Issue 2)
Superseding and Cancelling:-
Vol.3, Sect.2, Sub-Sect.A39 (Issue 1)
Vol.3, Sect.2, Sub-Sect.A70 (Issue 1)
Vol.3, Sect.2, Sub-Sect.A83 (Issue 1)

This T.S.I. is issued in accordance with R.R.A.F. T.S.I. Vol.1, No.2 Issue 7.

Vampire F.B.9 & T.11 Aircraft
Fuselage Fuel Tank -
Precautions on Removal and Installation

1. It is to be brought to the attention of technical personnel that the following precautions on removal of fuselage fuel tanks will be strictly complied with:-

(a) Remove pipe, engine pump suction fitted in Gun Bay, adjacent to gun bay door hinges, port.

(b) T.11 Aircraft only: Dismantle the flying control cable pulley assembly from the starboard side of the fuel tank compartment.

(c) The straps securing the tank assembly are to be examined for kinks and cracks particular attention being paid to the re-inforcing section of the top attachment points.

2. This Technical Order is to be brought to the attention of personnel through the medium of Flight and Section Order Books.

(E.F. GERICKE)
Squadron Leader,
Officer Commanding
Technical Wing
Royal Rhodesian Air Force
New Sarum

Source: H.Q. R.R.A.F. T.S.I.
Vol.3-2-A39 (Issue 1),
A70 (Issue 1),
A83 (Issue 1)

R.R.A.F. Technical Order
Vol. 3 Sect. 2 Sub Sect A38 (Issue I)
Vol. 4 Sect. 2 Sub Sect A18 (Issue I)

Voted

Vampire and Venom Aircraft - Ground Running

1. A number of incidents have occurred of serious icing up of the air intake guards when running engines under conditions of dense fog and outside air temperature in the region of 32°F. In one case there was slight fog with outside air temperature of 37°F.

2. During the engine runs the air intake guards iced-up to such an extent as to cause collapse of the intermediate air intakes and damage to the engine through over-heating. The first indication of this icing up was an increase in jet pipe temperatures.

3. These unusual incidents are considered to be of sufficient importance to advise all concerned to avoid, if possible, running of jet engines in Vampire and Venom aircraft in conditions when likelihood of icing may occur.

(B.H.GIBBONS)
Squadron Leader
S.T.S.O.

Source: A.M.Postagram.
Ref. A.153809/52/Air.Eng. 1 (b)

Dated: 3.3.1956.

CANCELLED BY AL 640

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R.R.A.F. Technical Order
(Vol.3 Sect.2 Sub.Sect.A37 (Issue 1)
(Vol.6 Sect.9 Sub.Sect.A 9 (Issue 1)
(Vol.18 Sect.1 Sub.Sect.A3 (Issue 1)

Chuck Rib. F/S Butterworth
Outstanding receipt.

P. O. Box 8131, Causeway,
SOUTHERN RHODESIA.
19th March, 1956.

VAMPIRE T.II AIRCRAFT.

Disposition of Personal Survival Pack, Parachute and Harness and Emergency Oxygen Installation.

The following information is issued in advance of official amendments to Air Publications for information and guidance of all concerned.

Vampire T.II - Mk.3B Ejection Seats

1. Incorrect fitment of the above equipment has led to inadvertant firing of an oxygen bottle when the seat raising mechanism was operated. Restriction of control column movement was attributed to incorrect fitment of a seat cushion in one case and maladjustment of leg restraint straps in another case.

2. Whenever the equipment concerned is to be fitted to a seat the following dispositions are to be observed:-

(a) Personal survival pack. Positioned in the seat pan with the lowering line satchel at the rear and the water-and-hairlock cushion (inside the pack) uppermost. The lowering line satchel must be attached to the pack in such a way that the open-ended metal fitting on one end of the lowering line can be attached to the webbing lanyard on the right-hand side of the pack. The other end of the lowering line which emerges from the left-hand end of the satchel should be readily available for attaching by the aircrew member to the left-hand side of his life jacket; the free length of the lowering line must not be too great. The adjustable straps (carrying the snap hooks which are used to attach the pack to the harness) should be shortened as much as possible and the loose ends must be tucked down between the sides of the seat pan and the personal pack together with the surplus portion of the lanyard line on the right-hand side of the pack. These points are illustrated in the accompanying fig. 1.

(b) Parachute pack and harness. The black back blind must be clipped at its lower edge to the two clips on the seat back, and the connection correctly made between the back blind and the parachute (See A.P.1182A, Vol. 1, Sect. 4). The wedge-shaped parachute pack is to be fitted in the parachute cradle with the thin bottom edge behind the corner plates and the top edge pushed home with the restraining straps in the clips at the sides of the cradle. The seat cushion is attached to the parachute harness and must be fitted over the survival pack with the emergency oxygen bottle tied in the stowage on the underside of the cushion (see para. (d) for details) and located between the survival pack and the front boundary member of the seat pan. Restraining straps are provided on the parachute harness and these are to be fitted in the spring clips positioned one either side of the seat pan.

2/.............

(c) Leg restraint straps. These must be pulled through the snubbing units (after depressing the release plungers) so that the straps are taut between the snubbing units and the floor fittings.

(d) Emergency oxygen bottle installation. Ensuring that the oxygen bottle is arranged as instructed in S.T.I./Vampire 150, (R.R.A.F. Tech. Orders Vols. 3-2-D46: 6-9-D5 : 18-1-D1) the release cable runs across the front of the seat pan, emerges at the right-hand side of the seat and is clipped to the fitting on the side of the seat; the cable between the seat and the fitting assume a gentle curve and is not passed through the lower harness tunnel. The supply pipe emerges from the left-hand side of the seat and is passed through the lower and upper tunnels on the left-hand side of the parachute harness. The accompanying illustration shows an occupied seat and the correct run for the cables and pipes (See Fig. 2).

Note: On completion of installation, with seat occupied and all harness straps connected and adjusted, raise and lower seat to fullest extent to prove that emergency oxygen and harness release cables are free in all positions of the seat.

3. At all times when personnel are making entry into their seats, they are to pay particular attention to the following points:-

3 (a). The attachment of the lowering line of the personal survival pack to the life jacket. The lowering line must pass over the lower left hand Parachute straps and under the Parachute harness wide waist belt.

(b) Fit the shoulder straps of both parachute harness and seat safety harness under the inflatable collars of their life jacket.

(c) Arrange the leg restraint straps as shown in Fig. 3.

(d) Operate the control column and rudder pedals throughout their entire range when tightening the leg restraint straps. Excessive tightening of the straps restricts leg movement and prevents the control column being pulled fully backwards.

(e) Pass the emergency oxygen supply pipe under the left-hand shoulder strap of the safety harness before connecting it to the bayonet connection on the mask tube assembly.

4. File one copy of this Order in each T.O. Volume as indicated.

(B.H. GIBBONS) SQN. LDR.
S.T.S.O.

SOURCE:
A.M. Postagram
A.196977/54/AIR ENG. 5(a)
DATED: 28.2.1956.

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Appendix to:-
R.R.A.F. Tech. Order
(Vol. 3-2-A37
(" 6-9-A9
(" 18-1-A3

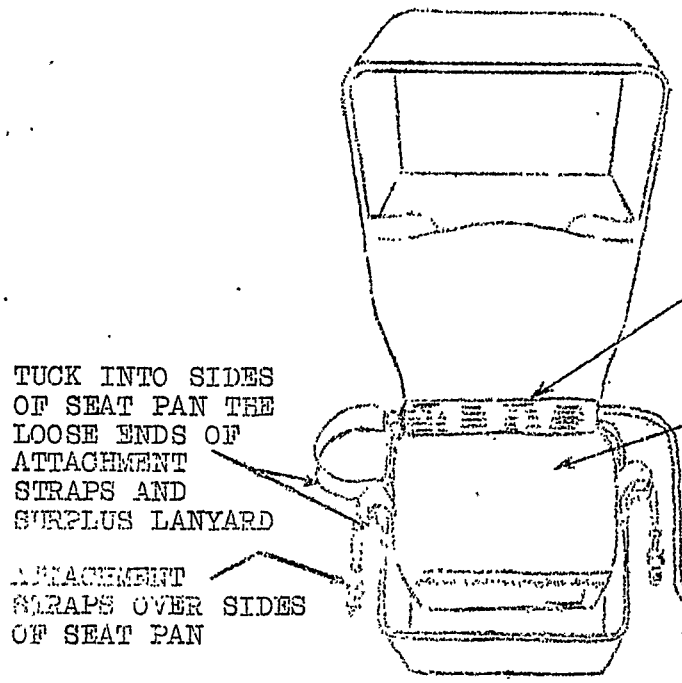


FIG. 1 INSTALLATION OF PERSONAL SURVIVAL PACK

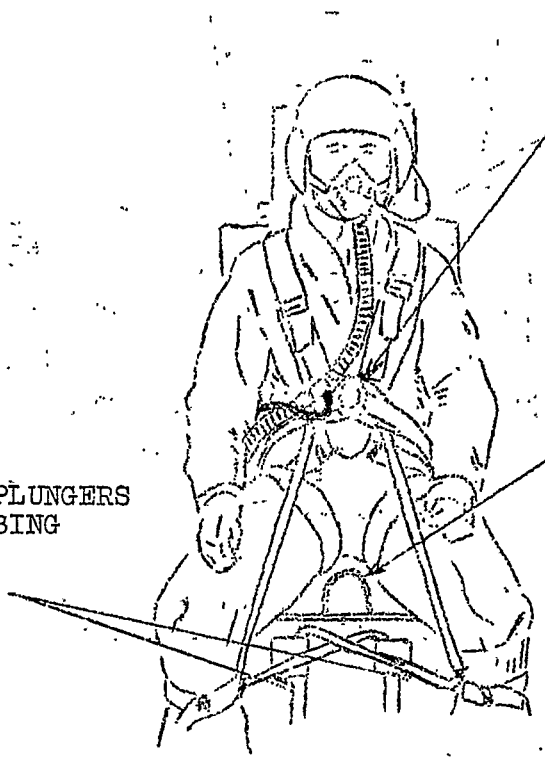


FIG. 3 ARRANGEMENT OF LEG RESTRAINT STRAPS.

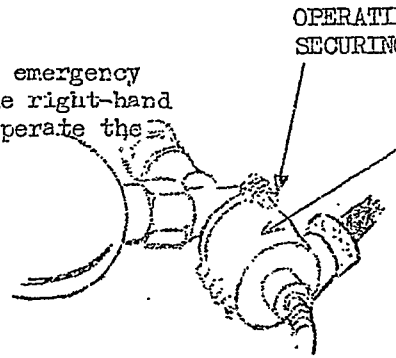
See over for Fig. 2

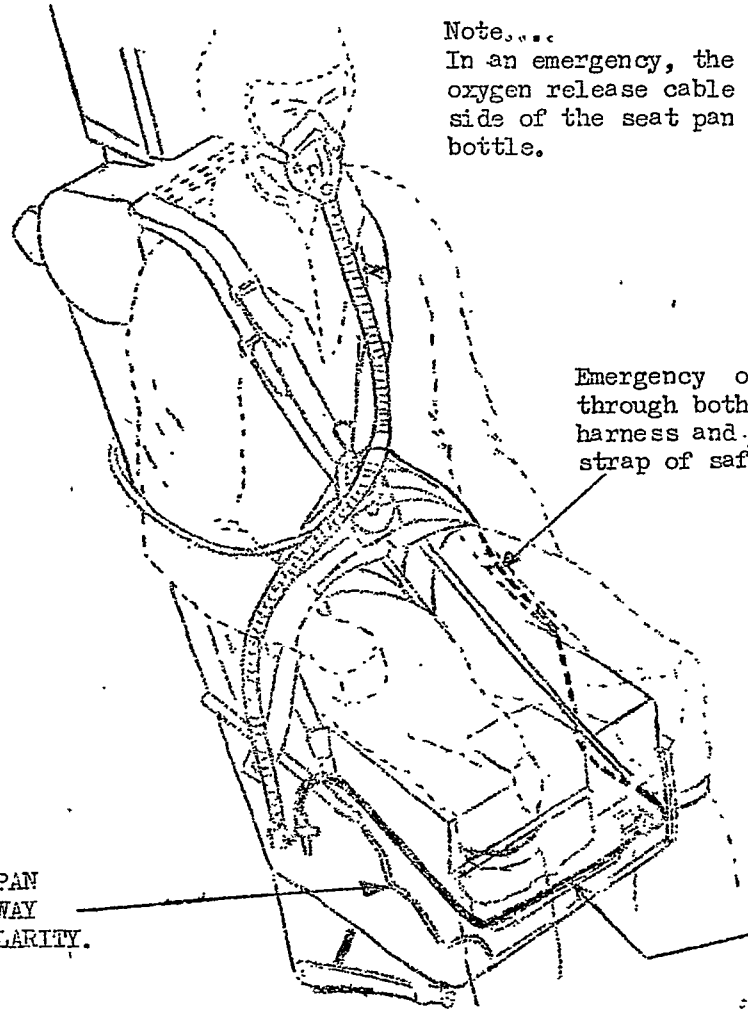
Appendix to:-

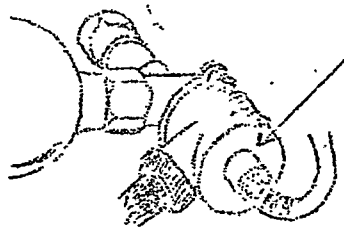
R.R.A.F. Technical Order
Vol. 3-2-D46 A37
" 6-9-D9 A9
" 18-1-[illegible] A3

VAMPIRE T.II, BOTH SEATS (FIG. 2)

Note....
In an emergency, the portion of the emergency oxygen release cable lying along the right-hand side of the seat pan is pulled to operate the bottle.







R.A.F. Technical Order
Vol. 3 Sect. 2 Sub Sect. A.35 (Issue -,

Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport,
P.O. Box 8131, Causeway,
SOUTHERN RHODESIA.

7th March 1956.

VAMPIRE AIRCRAFT

TAILPLANES - NEEDLESS REJECTION

1. Cases have occurred of Vampire tailplanes having been needlessly rejected as unserviceable when buckles have been found in vertical angles joining skin stringers.

2. These angles were added to prevent panting of the skin, particularly the lower surface, at the cut outs in the rib booms where the spanwise stringers pass through. This panting can cause loose rivets, and in some cases cracking of skin, at the skin to rib joints.

3. It is emphasised that no structural weakness exists with the vertical stiffeners buckled. They will still effectively serve their purpose of connecting stringers to the ribs.

(B.H.GIBBONS)
Squadron Leader
S.T.S.O.

Source: A.M.Postagram.
A.132040/52/AIR.ENG.1(b)
dated 22.2.1956.

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R.R.A.F. TECHNICAL ORDER
VOL.3 SECT.2 SUB.SECT. A.34 (ISSUE 1)

Air Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport,
P. O. Box 8131, Causeway,
SOUTHERN RHODESIA.

28th February, 1956.

Fuel Spillage - Vampire Aircraft, Pre-Mod. 3429.

1) Cases have occurred, in the R.R.A.F., of damage to the main fuselage fuel tanks of aircraft without Modification/Vampire/3249 embodied; caused by seepage of fuel into the tank bay when the tank is overfilled.

2) 1. Aircraft without Modification 3249 embodied are currently:-
R.R.A.F. 100 - 101 - 102 - 103.

2. Until such time as the modification is embodied, refuelling of the above unmodified aircraft is at all times to be supervised by a Technician who will ensure that spillage does NOT take place.

3) Authority for embodiment of Modification/Vampire/3249 is being issued as Tech. Order Vol.3 Sect.2 Sub.Sect.B8 (Issue 1). This introduces a new sealing ring between the fuel tank filler neck and the structure to prevent possible seepage.

4) Embodiment of Modification/Vampire/3249 renders compliance with this Order unnecessary.

CANCELLED BY A.L. 91

(B.H. GIBBONS) SQN. LDR.
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Headquarters,
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SOUTHERN RHODESIA.

25th February 1956.

VAMPIRE AIRCRAFT
HYDRAULIC JACKS LEAKING AND SELECTOR VALVES SEIZED AFTER PERIODS OF INACTIVITY.

1). Cases have been reported of hydraulic fluid leaking past the hydraulic jack ram seals and running down the ram shaft, cases have also been reported of the seizure of the hydraulic selector valves.

2) These failures are attributed to the inactivity of these components over long periods which causes adjesion of the rubber gland seals to the metal of the jack ram or selector plunger.

3) To prevent damage to the gland seals in the case of the hydraulic jacks and seizure in the case of the hydraulic selector valves, it is suggested that the following action should be taken after an aircraft or component has been inactive for a period of three months.

a) Jacks are to be gently stroked several times over their full travel in both directions. This must be carried out by a hand pump and not an engine driven pump, as it is essential that the initial movement of the jack ram is slow, to prevent the tearing of the gland seals in cases where the seals are tending to adhere to the ram shaft.

On completion of this operation the jacks are to be checked for signs of leaks when under normal working hydraulic pressure.

b) The selector valves are to be operated by pushing or pulling and at the same time rotating, where possible, the plunger in a spiral movement over its full travel.

In the case of selectors in storage, operate the valve as above, then introduce a small quantity of hydraulic fluid into the pipe connections and operate several times to ensure the fluid penetrates into the complete seal area.

c) NOTE: Aircraft Fitted with Power Boost Ailerons.

With power "off" gently apply full aileron in both directions several times; this will ensure freedom from adhesion of the gland seals to the ram shafts of the servo jack.

(B.H.GIBBONS)
Squadron Leader
S.T.S.O.

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De. Hav. T.N.S. No. V.607 (18.1.56)

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R.R.A.F. Technical Order
Vol. 3 Sect. 2 Sub Sect. A32 (Issue I)

Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport,
P.O. Box 8131, Causeway,
SOUTHERN RHODESIA.

30th December, 1955.

HYDRAULIC ACCUMULATOR CHARGING POINT - VAMPIRE T II AIRCRAFT

1. It has been brought to the notice of this Headquarters that Airframe Tradesmen, in order to facilitate Accumulator charging, are removing the instrument breeze plug which supplies power to all electrical instruments. This practice results in damage to the plug and introduces a risk of complete instrument failure in flight.

2. The seriousness of complete instrument failure in flight cannot be over-emphasised and therefore Tradesmen concerned WILL NOT UNDER ANY CIRCUMSTANCES remove the instrument supply breeze plug when recharging the hydraulic accumulator. The correct use of the Turner gauge with the angled extension provided renders removal of the breeze plug unnecessary.

3. The attention of all Personnel is drawn to R.R.A.F., Technical Order Volume 15 Section 1 Sub-Section A6 (Issue 2) which details the correct use of High Pressure Air Charging Apparatus and Inflation Adaptors.

(B.H.GIBBONS)
Squadron Leader.
S.T.S.O.

SOURCE: File RRAF/9026/ENG/F29.

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Headquarters,
Royal Rhodesian Air Force,
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SOUTHERN RHODESIA.

26th November, 1955.

VAMPIRE AIRFRAME, GENERAL CIRCULATION
SUB HEADING 12, FUEL SYSTEM.

VAMPIRE LOW PRESSURE FUEL FILTER ASSEMBLIES AND ELEMENTS.

It has become apparent that confusion exists regarding the interchangeability of Low Pressure Fuel Filter Assemblies and Elements, and the following is published for information. Action is in hand to amend the relevant Schedules of Spare Parts.

The low pressure fuel filter assemblies together with their appropriate filter elements are as anotated in the following paragraphs.

Fuel Filter Assembly. Tecalemit Type FD 2151/Mod. 6 (26FC/2943) Introduced by Mod. Vampire 441.
Elements required for use in above assembly:-

Tecalemit Type F.G. 2322 (26FC/4105) - Pre Mod. Vam. 3092.
Tecalemit Type F.G. 2413 (26FC/5841) - Post Mod. Vam. 3092.
(The elements are physically interchangeable when used with Filter Assembly FD 2151/Mod. 6 only).

2. Fuel Filter Assembly Tecalemit Type FD 2159 (26FC/4586) Introduced by Mod. Vam. 872.
Element required for use in above assembly:-

Tecalemit Type F.G. 2322 (26FC/4105).

NOTE: Tecalemit element F.G. 2413 cannot be used with the above filter assembly.

3. Fuel Filter Assembly Vokes Type D.29012 (26FC/4219) Introduced by Mod. Vam. 692 as an alternative to 26FC/2943.
Element required for use in above assembly:-

Vokes Type B.29565 (V.A.F.2) - (26FC/4220).

4. Fuel Filter Assembly Vokes Type E.147F/43482 (26FC/5880) Introduced by Mod. Vam. 987 as a replacement of 26FC/4219).
Element required for use in above assembly:-

Vokes Type B.43482 (V.A.F.3) - (26FC/10180).

NOTE: The Vokes filter elements shown in paras. (3) and (4) are interchangeable, the filter assembly being designated D.29012 or E. 147F/43482 according to the element assembled therein.

5. Fuel Filter Assembly Tecalemit Type F.D. 2168 (26FC/6504) Introduced by Mod. Vam. 955 for Vampire Mks. 1, 3, 5, 9, 20, 21, and 52A (with Goblin 2 engine) and by Mod. Vam. 3064 for Vampire Mks. 10, 11, 22, 54 and 55.
Element required for use in above assembly:-

Tecalemit Type F.G. 2415 - (26FC/8299).

NOTE: This fuel filter assembly is of considerably larger size than those previously fitted and is NOT interchangeable with earlier installations.

(R.M.PARRY) F/O.
A/S.T.S.O.

SOURCE: DHTNS V590.

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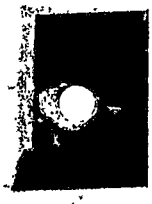

R.R.A.F. TECHNICAL ORDER
VOL. 3 SECT. 2 SUB. SECT. A.30.

Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport,
P. O. Box 8131,
CAUSEWAY.

7th November, 1955.

(A) Engine Cowling, Upper Inspection Doors - Malfitment of Cowling Fasteners Cover Plates

(B) Vampire Marks, 5, 9, 10 and 11.

(C) During the Flight Test of a Vampire Trainer aircraft the Cover Plate, for one of the Engine Cowling Upper Inspection Door Securing Catches, became detached, causing severe damage to part of the tail assembly. The incident has been attributed to the malfitment of the Cover Plate, inasmuch that it has been found possible to assemble the cover with its lower tongue engaged between the cowling skin laminations. The tongue, of course, should be engaged behind the inboard face of the cowling skin.

NOTE: A.P.'s 4099H and J, Vol. 1, Sect. 4, Chap. 1, Fig. 1. Detail "C" clearly illustrate the subject cover plate.

(D) It is advised that extra care be taken during the fitment of the fastener cover plates to safeguard against repetition of the above-mentioned incident.

(E) Modification Vampire 3492 has been initiated to modify the cover plate to obviate malfitment.

SOURCE: AMPA199453/54/AIR ENG. 1(B)

DATE: 24th October, 1955.

(B.H. GIBBONS) SQN. LDR.
S.T.S.O.

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Air Headquarters,
Royal Rhodesian Air Force.

9th. April, 1957

R.R.A.F. Technical Order
Cancelling & Superseding
Vol.3-2-A 29.
Dated 18th. October, 1955.

Marston Fuel Tanks - Fitting of Adaptor Filler 26FC/6782

1. Cases have occurred in the R.R.A.F. where the adaptor filler has been incorrectly fitted to the tank, i.e. in one case the adaptor was cross threaded, and the the other case the filler cap had been overtightened causing seizure between cap and adaptor.

2. All personnel concerned with refuelling of Vampire aircraft are to exercise extreme care when refitting Filler Caps after refuelling operations.

3. It is the direct responsibility of R.R.A.F. Technical Personnel on 1st. and 2nd. line servicing to refit and check all Filler Caps.

NOTE: Under no circumstances will Shell Company employees be permitted to carry out the above duties.

4. Any further cases reported will be subject to investigation and disciplinary action.

Source: Folio 1/2/56/7/Eng.

Signed: (B.H. GIBBONS)
Wing Commander
S.T.S.O.
A.H.Q. R.R.A.F.

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R.R.A.F. TECHNICAL ORDER
VOL. 3 SECT. 2 SUB. SECT. A29.

Headquarters,
Royal Rhodesia Air Force,
New Salisbury Airport,
P. O. Box 8131,
CAUSEWAY.

18th October, 1955.

No. 37 (Issue 1)

FUEL FILLER CAPS - VAMPIRE AIRCRAFT - OVERTIGHTENING.

Several cases have occurred of loosened off adaptors on Vampire fuel tanks. This is attributed to overtightening of the filler caps following refuelling operations.

With effect from the date of this order the refitting of filler caps to fuel and oil tanks on aircraft is to be the direct responsibility of R.R.A.F. Technical Personnel employed on 1st and 2nd line servicing. Under no circumstances will Shell Company employees be permitted to perform this duty.

SOURCE: File RRAF/9026/1/ENG M.9

(H.J. PRINGLE) FLT/LT.
S.T.S.O.

Cancelled & Superseded by Tech Order 2-

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Headquarters,
Royal Rhodesian Air Force,
NEW SALISBURY AIRPORT.

10th. September, 1955.

Vol. 3, Sect. 2, Sub Sect. A 28

CABIN PRESSURE TESTING - REVISED LEAK RATE

The Air Ministry have agreed to a concession being granted on all marks of Vampire aircraft to permit the cabin leakage rate to be lowered for repaired aircraft, or for those which have seen service.

The time taken for the cabin differential pressure to fall from 2¾ lb. per square inch to 1½ lb. per square inch is now to be not less than 12 seconds. (This figure was 20 seconds)

This concession applies to Vampire Marks F.1, F.3, F.B.5, F.B.9 N.F.10 and T.II of the Royal Air Force.

Action is being taken to amend the relevant publications.

H.J. Pringle

(H.J. PRINGLE) F/LT.
S.T.S.O.

Source:- DHTNS V537

Date :- 3.3.55

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R.R.A.F. TECHNICAL ORDER
VOL 3 SECT 2 SUB SECT A27

Headquarters
Royal Rhodesian Air Force
New Salisbury Airport
P.O. Box 8331
CAUSEWAY

23rd September 1955.

FUEL TANKS - VAMPIRE AIRCRAFT - USE OF JOINTING COMPOUND ON TANK ADAPTORS

The practice of applying jointing compound to tank adaptors threads is to be discontinued.

The applications for the use of jointing compound in the fuel system are laid down in Air Publication 4099 and 4269 Vol 2 Part 3 Figure 3/8 and R.R.A.F. Technical Order Vol 17 Sect 1 No 5 as amended by Amendment No 107.

Source: File RRAF/9026/1/ENG F14

(B.H.GIBBONS) S/LDR.
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R.R.A.F., N.S.A.

20 Sep 55

VOLUME 3, Section 2, Sub-section A.26

Vampire Aircraft - Metal Conduits
Ignition Cable - Non Insulation of Clips

1. Cases have been reported where insulating material has been used as a packing for "P" clips securing the ignition lead conduits, causing a discharge to the adjacent bonded metal surfaces.

Units are advised that where packing is required to "P" clips, a ¾" wide strip of 16 x 16 copper mesh x 28 gauge, cadmium plated, should be used.

After assembly the area should be given a coat of protective paint No. 26CB.

SOURCE: AMP 121501/52/Air ENG 3
dated 1st September 1955.

BY AL 690

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(B. H. GIBBONS) SQN LDR.,
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Headquarters,
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27th. August 1955.

TECHNICAL ORDER

Vol. 3, Sect. 2, Sub - Sect. A 25

Vampire Aircraft
Hydraulic Pipes : Method of Lashing

1. Cases have occurred of chafing on Vampire aircraft of Hydraulic Pipes, which are routed across or adjacent to each other. The object of this postagram is to familiarise personnel with the method now used during the manufacture of Vampire aircraft, to prevent this fault from occurring.

2. Where chafing, as described above, is suspected, it is recommended that the pipes be secured together with a figure of eight lashing as shown on the drawing R.12.S.103.

(C.S.V. GOODWIN) F/O.
FOR : S.T.S.O.

SOURCE : A.M. Postagram A111657/51/Air Eng. 1 (b)

DATE : 16th. August 1955

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NEW SALISBURY AIRPORT.

10th. September, 1955.

Technical Order Vol 3, Sect 2, Sub-Sect A24 (Issue 2) AL 106.

Superceding and cancelling Vol. 3, Sect. 2, Sub Sect. A 24 (Issue 1) AL 101

A MAIN WHEEL OUTER COVERS SECT REF 27A/2087 and 27A/2222 - INSPECTION

B VAMPIRE F.B.9 and T.II Aircraft

C As a result of repeated inspections failing to reveal any internal damage to the above mentioned outer covers, the system of lifing tyres is to be discontinued.

All ranks must fully realise the absolute necessity for carrying out the most careful and detailed examination of outer covers before, between and after flights.

Maximum regard will be paid to inspection of aircraft tyres as called for by the respective Servicing schedules.

D Tyres will be regarded as serviceable for use until such time as they are deemed unserviceable by external examination or are due for change as called for by the MINOR Servicing schedule A.P. 4099G Vol. 4 Part 3 and A.P. 4099J Vol. 5 Part 3 and 4

NOTE:- The A.P. 2337Y ~~2335~~ (Aircraft wheels tyres and Brakes) Vol. 1 Sect. 2 Chap, 2 para 11 and 12 lays down - To assess extent of wear on pattern treaded tyres depth of pattern groove is a good guide ; after the tread has worn to the bottom of the grooves 25 to 30 per cent of the total tread thickness remains. Pattern treaded tyres are classed unserviceable when the pattern has worn to the bottom of the grooves. AL 106

E When new outer covers are fitted to Vampire aircraft the date of fitting is to be painted in WHITE on the wall of the tyre. The recording of landings is still to be carried out in the F.700.

F All outer covers rejected at Bay Servicing are to be correctly labelled, the number of landings recorded on the label and are to be returned to Equipment Depot.

H.J. Pringle.
(H.J. PRINGLE) F/Lt.
S.T.S.O.

Source:- File RRAF/9026/Eng. D.14

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TECHNICAL ORDER.

Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport.

Vol. 3, Sect. 2, Sub. Sect. A. 23.

VAMPIRE AIRCRAFT - DAMAGE TO GYRO - GUNSIGHT REFLECTOR GLASS ASSEMBLY

1. Cases have been reported of damage to the Gun Sight reflector glass assembly.

2. This damage is being caused by the placing of tools, flying equipment etc. on top of the glass.

The attention of all technical personnel is to be brought to [illegible]s order, and to the need for exercising care in the treatment of all aircraft [illegible]ipment when engaged in work on these aircraft.

[illegible]rce : Livingstone Detachment Tech Dir. 1.
Date : 4th. June, 1955.

(C.S.V.GOODWIN) F/O.
for S.T.S.O.

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Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport.

13th May, 1955.

VOL. 3 SECT. 2 SUB SECT. A.22.

Vampire T.11 Aircraft.

Rigging of Control Column.

1. De Havilland Vampire T.11 aircraft with Mod. Vamp/3167 (installation of automatic Mk. 3 ejector seats) embodied.

2. Reference is made to the Publications VMT-1-915 (D.H. Manual) and AP.4099J, Section 3, Chapter 4, para. 5 sub. para. 2, which states that the control column hand grips are offset from the vertical 1.3" to starboard at the extreme top.

3. On RRAF Vampire T.11 aircraft the following instruction will now apply.

"The control columns are now rigged so that the centre of the rear button at head of column grips is to be .35" approximately to Starboard of centre line of column with the rigging pins inserted".

4. The above-mentioned Publications will be amended in due course.

5. Immediate amendment action is to be taken as follows:-

AP.4099J Vol. 5 Parts 3 and 4 (Minor and Major servicing Schedules Vampire T.11) Sheet No. 14, Item 71(b) (ii).

Amend "1.3 in." to read ".35 in approx". (Athority Vol. 3 Section 2 Sub Section A.22)

T.O. Vol 3 Sect 2 S.S. A/12 is Cancelled.

(B.H. GIBBONS) S/LDR.
S.T.S.O.

SOURCE: De Havilland T.N.S. Series V. No. 548.
DATE: 28th March, 1955.

Vol. 3 Sect. 2 Sub-Sect. A 20

Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport.

14th. April 1955.

VAMPIRE AIRFRAME. GENERAL CIRCULATION
SUB HEADING 16 UNDERCARRIAGE.

SPECIAL TECHNICAL NOTICE/VAMPIRE/33.
ADDITIONAL CHECK OF MAIN UNDERCARRIAGE
AFTER A DRIFT OR HEAVY LANDING.

Vampire Marks 9 and 11

1. Two recent Vampire undercarriage failures were attributed to the radius rod upper link, Pt. No. G. 001001 and 2A, having cracked during a previous heavy landing across the top of the needle house bearing, permitting the needle house to be forced out from the upper link during a subsequent landing which resulted in the main undercarriage collapsing.

In one of the above cases, a previous heavy landing had been reported two days ier and a check of the undercarriage had been carried out, but owing to the position which the upper link had cracked; it was impossible to detect it by looking up into Undercarriage Bay.

In future when a drift or heavy landing is reported, the inspection panel, situated on the top wing skin immediately above the main undercarriage, is to be removed and a thorough inspection of the radius rod upper link carried out from this point.

4. This Technical Order should also be applied in cases where the red undercarriage warning light remains on. The reason for this is that it may be an indication that the upper link has cracked and that the micro switch, which is mounted on the upper link, is not therefore being 'made'. If this is the case, it is possible to obtain a red light in the up and down position indicating that the undercarriage is not correctly locked.

NOTE. All undercarriage micro switch adjustments should be followed by an undercarriage retraction test.

1. Vampire FB. 9 and T11 Servicing Schedules. A.P. 4099 G. Vol.4, Part 2, Section and A.P. 4099 J. Vol. 5, Part 2, Section 4: "Servicing After Heavy Landing" are to mended as follows:

2. " A.P. 4099 G. Sect. 4 Item 16 (v) A.P. 4099 J. Sect. 4 Item 13 (v)

After "pivots" insert this additional sentence. "The inspection panel situated on the top wing skin immediately above the main undercarriage is to be removed to fascilitate thorough inspection of radius rod upper link for cracks".

Source : De Havilland T.N.S. V 535
Date : 21. 2. 55.

(B.H.GIBBONS) S/LDR.
S.T.S.O.

Vol. 3 Sect. 2 Sub-Sect ~~A~~

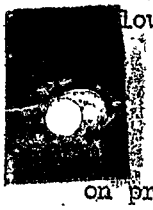
Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport.

19 - 2 - 55.

Vampire Aircraft - All Marks
Fuel System - Chafing of Fuel Balance Pipes.

1. Cases have been reported where Units, preparatory to carrying out modification Vampire 3045 - "Light Weight Packing in Wing Tanks Bays . . ", have found Fuel Balance Pipes chafing against the edge of the holes through which they are routed in the webs of the port and starboard ribs No.2. This chafing is most unlikely to recur when Modification 3045 is embodied, but it is strongly recommended that the Fuel Balance Pipes be suitably protected as early as possible.

2. When carrying out Modification/Vampire/3045, or when No. 1 Wing Tanks are next removed for any reason, the port and starboard Fuel Balance Pipes between No. 1 and No. 2, and No. 3 Wing Tanks are to be examined and covered with hose as detailed below:-



"Looking outboard from the No. 1 Tank bay, locate the low fuel balance pipes, 26FC/3383 - Pt. No. P001919ND - between tanks 1 and 2
26FC/3397 - Pt. No. P002729ND - between tanks 1 and 3 (L.H.)
26FC/3412 - Pt. No. P002730ND - between tanks 1 and 3 (R.H.)
on pre mod. 694 aircraft pipes 26FC/3396, 3411 (Pt. No.P002727, P002728) may be affected.

Where these pipes pass through their respective holes in the web of Ribs No. 2, inspect the pipe chafing. Where serious damage is evident, replace the pipe.

Cover each pipe with a 6" length of 1" I.d.hose to DTD. 625, (Stores Ref. 320/376) by splitting the hose and wrapping it over the pipes where they are routed through the rib web.

NOTE: On the forward pipe (connection between tanks 1 and 2) the hose should also cover the area of the pipe which is directly above the anchor nut, which is situated on the inner side of the bottom skin approximately 1" inboard of Rib No.2"

Secure the hose around each pipe with a Clip, Part No. AGS. 605, (Stores Ref. 7318) and lash the hose from the clip to the rib as far as possible, using waxed braided cord (Stores Ref. 330/10 and 324/94 respectively)."

mod 3045/3412 incorp.

Source :- A.M.P. A96785/51/AIR ENG 1(b)
Date :- 2 - 2 - 55.

(B.H.GIBBONS) S/LDR.

S.T.S.O.

Vol. 3 Sect. 2 Sub-Sect A/9 A.19

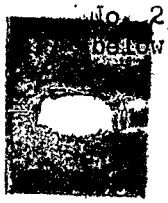
Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport.

19 - 2 - 55.

Vampire Aircraft - All Marks
Fuel System - Chafing of Fuel Balance Pipes.

1. Cases have been reported where Units, preparatory to carrying out modification Vampire 3045 - "Light Weight Packing in Wing Tanks ", have found Fuel Balance Pipes chafing against the edge of the holes through which they are routed in the webs of the port and starboard ribs No.2. This chafing is most unlikely to recur when Modification 3045 is embodied, but it is strongly recommended that the Fuel Balance Pipes be suitable protected as early as possible.

2. When carrying out Modification/Vampire/3045, or when No. 1 Wing Tanks are next removed for any reason, the port and starboard Fuel Balance Pipes between No. 1 and No. 2, and No. 3 Wing Tank are to be examined and covered with hose as detailed below:-



"Looking outboard from the No. 1 Tank bay, locate the tow fuel balance pipes 26FC/3397 - Pt. No. P002729ND - between tanks 1 and 3 (L.H.)
26FC/3412 - Pt. No. P002730ND - between tanks 1 and 3 (R.H.)
on pre mod. 694 aircraft pipes 26FC/3396, 3411 (Pt. No.P002727, P002728) may be affected.

Where these pipes pass through their respective holes in the web of Ribs No. 2, inspect the pipe chafing. Where serious damage is evident, replace the pipe.

Cover each pipe with a 6" length of 1" i.d.hose to DTD. 625, (Stores Ref. 32C/376) by splitting the hose and wrapping it over the pipes where they are routed through the rib web.

NOTE: On the forward pipe (connection between tanks 1 and 2) the hose should also cover the area of the pipe which is directly above the anchor nut, which is situated on the inner side of the bottom skin approximately 1" inboard of Rib No.2"

Secure the hose around each pipe with a Clip, Part No. AGS. 605, (Stores Ref. 28C/818) and lash the hose from the clip to the rib as far as possible, using beeswaxed braided cord (Stores Ref. 33C/10 and 32A/94 respectively)."

Source :- A.M.P. A96/35/51/AIR ENG 1(b)
Date :- 2 - 2 - 55.

(B.H.GIBBONS)S/LDR.
S.T.S.O.

A.L.685

Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport,
P.O. Box 8131, Causeway,
SOUTHERN RHODESIA.

30th November, 1954.

Vol.3 Sect.2 Sub.Sect. A. 18.

Venom/Vampire Aircraft - All Marks

Control Cable Pulleys.

1. A case has been reported on a Venom F.B.1 aircraft of excessive aileron droop caused by the aileron balance cable pulley at the upper engine mounting becoming detached from its ballrace.

2. It was subsequently found that the centre pop peening (caulking) of the ballrace to the pulley was inadequate and as it was mounted with the peening uppermost it was possible for the pulley to slide over the ballrace, mounting bolt and drop into the engine nacelle.

3. There are numerous pulleys of this type positioned throughout the control system all of which were originally fitted without consideration of which way the pulley caulking faced.

4. This one incident of pulley caulking failure can be regarded as an isolated case, but Vampire and Venom holding units are to be instructed that on any occasion when a pulley is removed it is on replacement to be fitted with the centre pop peening (caulking) at the bottom. In this way should the caulking fail the shoulder of the pulley will prevent it coming off the ballrace.

(B.H. GIBBONS) S/LDR.

S.T.S O.

FILE. TECH. CONT

Technical Wing,
Royal Rhodesian Air Force,
New Sarum

Date: 19th December, 1961

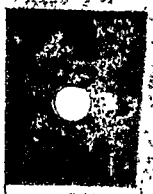
R.R.A.F. Technical Staff Instruction

Vol.3, Sect.2 Sub.Sect.A16 (Issue 2)
Cancelling Issue 1

This T.S.I. is issued in accordance with R R A.F. T.S I. Vol.1, No.2 Issue 7.

Vampire Mk.9 and T.11 Aircraft
A.C.R.E.8. Mks. 1.A. and 1.B.
Godfrey Cold Air Units.

1. The facts revealed by two recent investigations into Cold Air Unit failures underline the need for extreme care when servicing these units.



2. Needless ground testing of a unit on an aircraft must be avoided, and where such a test is specified a time limit of one minute (maximum) is imposed. Under no circumstances is the time limit to be exceeded. A.P. 4340, Volume 1, Book 1, Section 2, Chapter 2, Para.29 refers.

3. It is essential to ensure that the oil and containers, used to replenish or prime the oil system of Cold Air Units, are free from impurities or foreign matter.

4. Cold Air Units are to be primed with oil prior to their installation in an aircraft. The procedure to be adopted is as follows:-

(a) Temporarily seal the oil delivery adaptor at the base of the unit.

(b) Unlock the priming plug (Part No. 16651), and remove the plug from the top of the unit.

(c) Pour 250 c.c.s. of oil ~~OEP-71~~ OM 71 into the tapped hole in the top of the unit, at the same time turning the turbine in the normal direction of rotation. A2 139

(d) After a few minutes remove the temporary sealing from the oil inlet connection and allow the oil to drain from the unit.

(e) Refit the priming plug using a new tab washer (Pt No. 11169). tighten the plug and lock it.

5. When an aircraft has not been flown for a period exceeding twenty one days, the unit is to be removed and primed in accordance with para.4.

6. This order is to be brought to the attention of servicing personnel through the medium of Flight and Section Order Book.

A.L.907.

Squadron Leader,
Officer Commanding
Technical Wing
Royal Rhodesian Air Force
New Sarum

A.L 907

Source: Tech. H.Q. R.R.A.F.
RRAF/7501/4/2/ENG. Vol.1,
Enclosures 77 and 79.

Air Headquarters,
Southern Rhodesia Air Force,
New Salisbury Airport,
P.O.Box 8131,Causeway,
SOUTHERN RHODESIA.

Vol 3 Sect 2 Sub-Sect A15

GROUND HANDLING - VAMPIRE AIRCRAFT.

1. It has come to the notice of this Headquarters that Technical Personnel are ground running Vampire aircraft without the wire mesh debris guards, contrary to instructions laid down in Volume 4 Section 2 Sub-Section A6 para 2(C)1. of S.R.A.F. Technical Orders. This practice will cease forthwith and air intake guards will be fitted at all times during ground running.

2. Air intake blanks and cockpit covers will be fitted immediately aircraft engines are stopped. Further, after allowing sufficient time for the temperature of the Jet pipe to stabilize, the propelling nozzle blanks will be fitted.

(B.H.GIBBONS) MAJOR.
S.T.S.O.

CANCELLED 13 7

Air Headquarters,
Southern Rhodesia Air Force,
New Salisbury Airport.

30th September, 1954.

Vol 3 Sect 2 Sub-Sect A 14.

FAULTY OPERATION OF UNDERCARRIAGE SELECTOR LEVER VAMPIRE AIRCRAFT - All MARKS.

1. Acase has occurred of the undercarriage lever lock solenoid being partally burnt out.

2. This can only have occurred if, during grpund maintenance with the "ground to flight" switch "ON", the Undercarriage selector was left in a position other than fully "UP" or "DOWN". With the selector in any intermediate position the solenoid is continuously energised.

3. Maintenance personnel will exercise extreme care when operating the undercarriage selector and will ensure that the selector lever is IN THE FULLY "UP" OR "DOWN" POSITION.

B.H.G. Gibbons

(B.H.GIBBONS) MAJOR
S.T.S.O.

Air Headquarters,
Southern Rhodesia Air Force,
New Salisbury Airport.

6th September, 1954.

VOL. 3. SECT. 2 SUB-SECT A13.

VAMPIRE - ALL MARKS.

Main Undercarriage Hydraulic Hose: Correct Clipping.

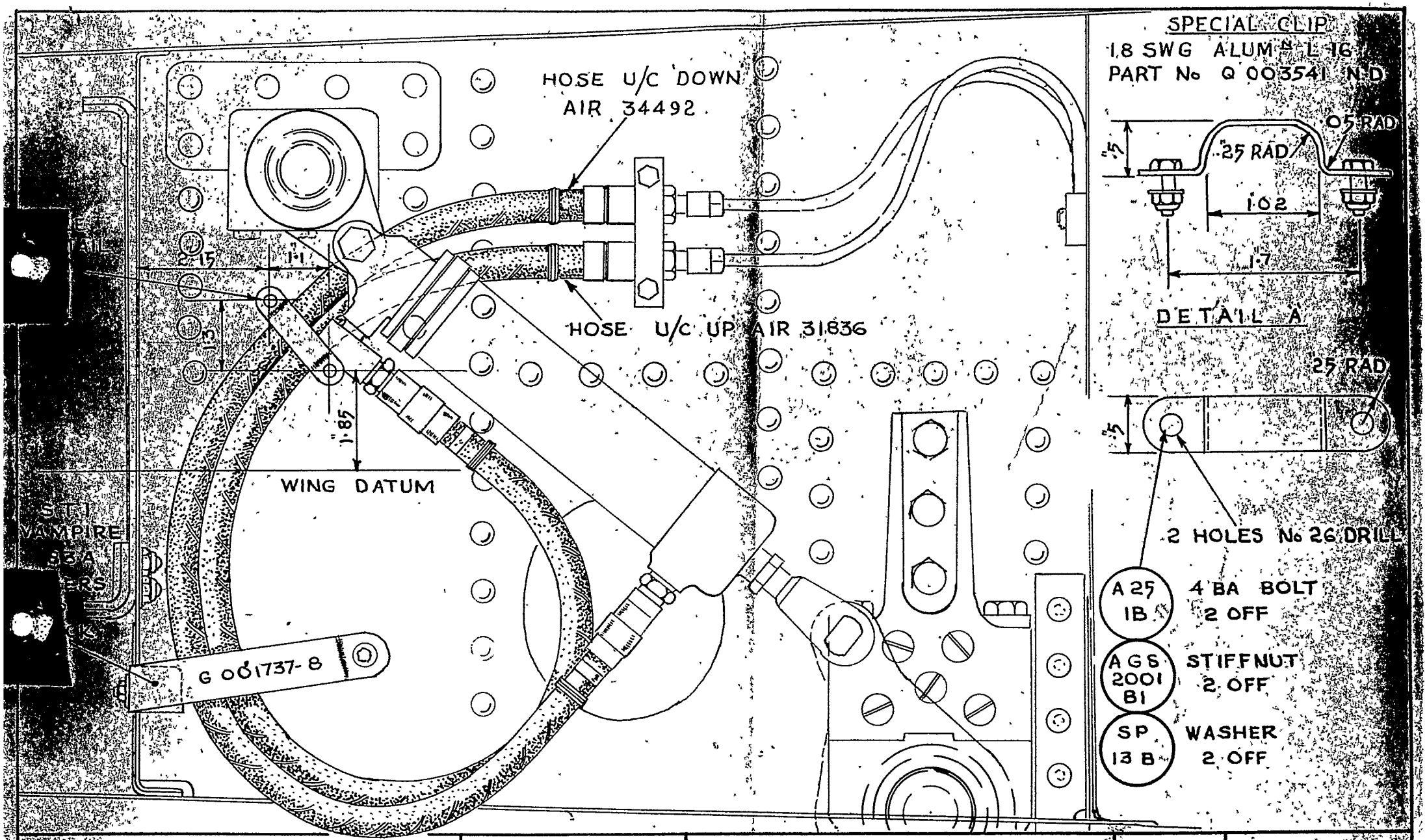
Cases have been reported of severe chafing and, in some instances, eventual bursting of the main undercarriage 'down' line hose Part No. AIR.34492, (27M/7779) resulting in a wheels up landing. This is caused by the top jack attachment bolt grease nipple jamming the hydraulic hose between the radius rod end fitting on undercarriage retractions. This is only made possible in cases where the hydraulic hose securing clip Part No. Q00354IND has not been replaced after removal during servicing of the undercarriage.

2. Technical Order Vol. 3 Sect. 2 Sub-Sect. D23 dated 9th June, 1954, was issued to determine the condition of aircraft in use and to guard against failures.

3. In future therefore whenever the hose concerned has been disturbed or the clips removed the arrangement detailed in the attached Drawing R00G.48 is to be adhered to at re-installation or re-clipping of the hose.

SOURCE: AMP A111657/51/AIR ENG.1(B)

(B.H. GIBBONS) MAJOR,
S. T. S. O.



	VAMPIRE ALL MKS. & SEA VAMPIRE	CORRECT CLIPPING OF MAIN UNDERCARRIAGE HYDRAULIC HOSES	AV-9	R.O.O.G. 48

Air Headquarters,
Southern Rhodesia Air Force,
NEW SALISBURY AIRPORT.

9 July 1954.

VOLUME 3, Section 2, Sub-section A.12.

Vampire Mk. T.11 Aircraft Control Column Grips: Rigging.

1. Cases have been reported where Units have received aircraft with control column grips rigged 1.3" to starboard with ailerons at neutral and have re-rigged the grips in accordance with A.P.4099J, Volume 1, Section 3, Chapter 4, which states that the grips should be vertical when ailerons are at neutral.

2. Personnel are to be advised that the present instruction in the A.P. is not correct and that column grips should be rigged to starboard 1.3". This improves the pilot's vision of the G.4 compass and is an essential requirement. The instructions in A.P.4099, Volume 1, Section3, Chapter 4, Para. 5 are being amended to explain that the 1.3" setting can be obtained by rigging the sprocket chains as detailed in the A.P. and then adjusting the tie rods to give the correct setting - ensuring that the locking plate 15.Y.33A is in position before adjustment is made.

B.H.Gibbons

(B.H.GIBBONS) MAJOR,
S.T.S.O.

Air Headquarters,
Southern Rhodesia Air Force,
NEW SALISBURY AIRPORT.

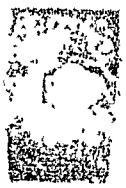
11 June 1954.

VOLUME 3, Section 2, Sub-section A.11.

RUDDER MASS BALANCE WEIGHT ARM - FRACTURE.

Cases have been reported of fracture of the rudder mass balance weight arm, Part No. K.00339A, situated at the rear of each tail boom.

Fractures have been experienced in both the top and bottom levers of the arm assembly.



Pending the results of the investigation which is now proceeding operators are warned of the excessive loads which can be applied to the rudder mechanism during ground operation, and also of the necessity to look the rudder pedals when an aircraft is left unattended in windy conditions.

H.J. Pringle.

(H.J.PRINGLE) CAPTAIN,
A/S.T.S.O.

SOURCE : DHTNS V.493
DATE : 20.5.54

R.R.A.F. TECHNICAL ORDER
AMENDMENT NO. 110.

Headquarters,
Royal Rhodesian Air Force,
New Salisbury Airport,
P. O. Box 8131,
CAUSEWAY.

30th September, 1955.

VOLUME 3 SECT. 2 SUB SECT. A.10 (ISSUE 2)
SUPERCEDING AND CANCELLING VOL. 3 SECT. 2
SUB. SECT. A.10 (ISSUE 1).

Paint Strippers - Effect on Reduxed Joints.

Recent tests with certain paint strippers known to contain Methylene Dichloride or Ethylene Dichloride have shown that these constituents can very seriously affect the shear strength of reduxed joints.

The following is a list of paint strippers that MAY be used without deleterous effect on such joints. No other strippers should be used.

Berger's Paint Remover V.4782.
Cellon T.D.L.10.
Cellon T.S. 3333.
International Paint's Pintoff.
Sherwood's Cellulose Remover 5/80.
Paint Remover 4/0114/5 supplied by Jenson and Nicholson Ltd.
Paint Remover 130/2 supplied by I.C.I. Ltd.
Thinners to any of the following specifications may also be used:
DTD. 751, 752, 753, 754, 755 and 843.
Ardox 227.
Paint Removers Ltd. Spec. DTD. 226, Ref. Z7314.
Dockers, Spec. DTD. 226A.
John Hall & Sons Ltd., Ref. 484/17.
Titanine Ltd. Solvent Stripper C.N.9.

SOURCE: DHTNS MAG.24 (ISSUE 4)

(B.H. GIBBONS) SQN. LDR.
S.T.S.O.

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Air Headquarters,
Southern Rhodesia Air Force,
NEW SALISBURY AIRPORT.

3 June 1954.

VOLUME 3, Section2, Sub-section A.9.

VAMPIRE AIRCRAFT - ALL MARKS - UNDERCARRIAGE FAILURES
HYDRAULIC HAND PUMP: GROUND OPERATION

1. Investigation has shown that undercarriage failures have been due to the fracturing of one of the following components:-

(1) Top hydraulic jack attachment bolt, Part No. G00.1825 (Pre-Mod.3153).

(2) Jack operating sleeve, Part No. G00.43A, which forms part of the radius rod assembly.

(3) Jack operating lever, Part No. G00.1007-8 assembled at the top forward face of the compression leg and, in some cases, shearing of the lever attachment bolts.

2. These component failures are considered most likely due to the hand pump being capable of delivering 4000 lb. per sq. in. pressure, with very little manual effort on the part of the operator, to the undercarriage and flap hydraulic jacks and is attained because no relief valve is included in the hand pump system. As this pressure is far in excess of the design loading, considerable overloading can occur although it might not be immediately apparent.

3. This damage is only likely to occur in cases where the hydraulic jacks are out of adjustment i.e., non-existence of 1/16" - /332" kidney slot clearance for the main undercarriage radius rod assembly in the fully retracted position. The maladjustment of the kidney slot is considered due to the appropriate Air Publications detailing the incorrect sequence of radius rod adjustments. Details of the correct sequence of adjustment were fully described in Air Ministry postagram A.154016/52/Air.Eng.1(b) dated 19th March 1954 headed "Vampire Aircraft - All Marks - Undercarriage Adjustments."

4. In future during all ground operation of the hydraulic hand pump the manually operated non return valve is to be operated. This valve is situated on the aft face of Bulkhead 2 below the floor level on the port side, access to the valve is gained by the removal of the port cannon bay door fairing. It is essential if the valve is wedged open, that a red flag is attached to the wedge as on completion of the ground operation the releasing of this valve may be overlooked.

5. It should be noted that on ground operation the main undercarriage will retract at approx. 500 lb. per sq. in. and the nose leg at approx. 1000 lb. per sq. in. If pumping is continued after the jacks have reached the end of their travel, with the non return valve closed, 4000 lb. per sq. in. pressure can be built up in the undercarriage and flap jacks in one and half strokes of the hand pump. With the non return valve operated, any excess pressure will be diverted to the hydraulic accumulator. It is unlikely that, with the valve operated, it will be physically possible to pump more than 2700 lb. per sq. in. pressure. In the event of there being any excess pressure the thermal relief valve will operate at 3000 lb. per sq. in.

6. The manually operated non return valve referred to in para 4. is that for the dive brake supply. In both the F8.9. and T.11. it is situated on the aft face of bulkhead 2.

H.J. Pringle.

(H.J.PRINGLE) CAPTAIN,
A/S.T.S.O.

Air Headquarters,
Southern Rhodesia Air Force,
NEW SALISBURY AIRPORT.

27 May 1954.

VOLUME 3, Section 2, Sub-section A.S.

RUBBER STRIP AT FLAP SHROUD TRAILING EDGE - SECURITY.

It is advised that Bostick 1261, which is heat and fuel resisting, be used when refitting displaced rubber strips in this position.

Perforations in the rubber should also be filled with Bostick 1261.

SOURCE : DH TNS V 488.
DATE : 6.5.54

(H.J.PRINGLE) CAPTAIN,
A/S.T.S.O.

CANCELLED BY AL 68

Air Headquarters,
Southern Rhodesia Air Force,
NEW SALISBURY AIRPORT.

19 May 1954

VOLUME 3, Section 2, Sub-section A.7.

Fuel System : Water Drainage Points. STN/VAMP/18.

1. Details of the drain points from which fuel samples can be taken on the Vampire series aircraft are not at present adequately described in the Volume 1 of the relevant Air Publications.

2. Necessary amendment action is in hand and will be issued at an early date.

3. The following advance information on the Venom FB 1 aircraft is brought to the notice of all concerned forthwith, pending receipt of the official amendment:-

The Venom 1 Air Publication AP 4335A, Vol. 1, Sect. 2, Chapt. 2, Para. 3, refers to a number of fuselage tank drain points located at various adjacent elbow joints from which fuel samples can be taken when testing for water content, but omits reference to the "FUSELAGE TANK WATER DRAIN PLUG" proper.

The tank base plate is attached to the tank shell by means of a row of bolts around its perimeter. One of these is a special hollow bolt with a small blanking plug at its head, and is designed to act as a water drain for the "valley" between the outside of the collector pot and the tank shell.

This bolt, which is easily distinguishable from the rest as it is much larger, and has a $\frac{1}{8}$" B.S.P. blanking plug in its head, is situated in the row of base plate attachment bolts across the after side of the base plate and on the right side of the tank centre line immediately behind a cast inlet elbow.

A water content check is carried out by removing the $\frac{1}{8}$" B.S.P. blanking plug from the head of the special bolt, and collecting the resultant fluid flow in a suitable container. If no fuel emerges, the hole in the special bolt should be probed with a piece of wire to ensure that it is clear.

Examination of the fluid thus collected will show if water is present or not, and samples should be taken off in the manner described until only neat fuel emerges.

4. The principle quoted above is applicable to Vampire aircraft, and may be observed when necessary.

SOURCE: DHTNS V 582.
DATE : 5.4.54

H.J. Pringle

(H.J.PRINGLE) CAPTAIN,
A/S.T.S.O.

Air Headquarters,
Southern Rhodesia Air Force,
NEW SALISBURY AIRPORT.

10 May 1954.

Volume 3, Sect. 2, Sub-Sect. A 6.

Vampire Aircraft - Locking of Undercarriages Emergency Retraction Switch.

1. An instance has been reported of incorrect locking of the undercarriage emergency retraction switch on Vampire aircraft where the locking wire used was of too thick gauge and was wrongly secured to the switch toggle, making it impossible to operate the switch and break the wire by manual pressure.

2. The attention of all personnel is drawn to the appropriate servicing schedules to ensure that the correct gauge of locking wire is used and that it is secured to the hole near the root of the toggle and not to the large hole which is near the tip.

3. To avoid any misunderstanding the gauge of wire to be used for this purpose is 26 s.w.g. copper locking wire and servicing schedules should be amended as necessary.

(H.J.PRINGLE) CAPTAIN,
A/S.T.S.O.

SOURCE: AML A 121501/52/AIR ENG.3.

DATE: 28.4.54

CANCELLED

R.R.A.F. Technical Order.
Appendix A to:-
Vol. 3, Sect. 2, Sub.Sect. A.5.

Air Headquarters,
Royal Rhodesian Air Force,
P.O. Box 8131, Causeway,
SOUTHERN RHODESIA.

11th August, 1956.

Vampire Airframe all Marks.

Undercarriage Adjustment.

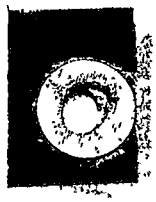
This Appendix "A" details additional information which has become available since the above order was issued on the 6/4/54, and is to be attached thereto.

Vampire Main Undercarriage Adjustment.

1. Teleflex Cables.

With regard to the failures reported concerning the fracturing of the main undercarriage door lock teleflex plunger operating cable at the radius rod wrapped box, which results in a wheels up landing being made, the following information is issued for guidance.

It will be noted that the ultimate breaking load for a No. 2 size teleflex cable is 450 lbs. This load can only be obtained on an aircraft by the door lock plunger assembly bottoming either against the securing clamp block fitted to the lower wing skin, or the end of the conduit which passes through the clamp block being in excess of the 5.25" dimension shown in Fig. 9 of Drawing No. R00-G-50, which will result in bottoming of the conduit inside the plunger slide tube when the undercarriage is approximately one third retracted. (Fig. 2 refers). It will also be noted the point at which the cable fractures is when the hinge points A, B and C, are in a straight line, as at this point the plunger slide tue assembly has travelled inboard to its fullest extent. If the plunger adjustments are correct to S.I/Vampire/50 and the clamp block mounting is correctly positioned on the lower wing skin, there should be a clearance of approximately 0.3" between the clamp block and the plunger slide tube. (Fig. 2 refers).



With reference to Fig. 2, it can be taken for granted that if a clearance in excess of 0.10" between the plunger slide tube and the clamp block exists when the hinge points A, B and C, are in a straight line, the teleflex plunger assembly is opening satisfactorily with regard to possible fracture of the cable, as it must be assumed that an aircraft with S.I/Vampire/50 satisfied the 5.25" dimension is correct. (Fig. 1 refers). Another indication that something is amiss is the amount of extension of the teleflex cable in excess of 0.10" from the wrapped box. (Fig. 1 refers).

It is suggested that the cause of mal-adjustment is brought about by excessive air speeds when retracting the undercarriage, which will impede the retraction of the 'D' door, or by incorrect tensioning of the 'D' door adjustable radius rods, as called for in S.I/Vampire/50. Both these instances will cause the plunger to foul the 'D' door catches, which may possibly cause the teleflex to "whip" and consequently screw further into the wrapped box. If this does occur, it is possible that the point will be reached where the plunger slide tube fouls the clamp block causing the teleflex to fracture at the wrapped box.

/ 2 .....

These failures are definitely not attributed to seizure of the door lock plungers, as subsequent to the teleflex fracture in approximately the one third retracted position the plunger is pushed forward to the undercarriage locked up condition, where it will remain due to the previous fracture of the cable and therefore necessitate a wheels up landing to be made.

for (B.H. GIBBONS) SQN. LDR.
S.T.S.O.

SOURCE:-
DH, TNS 623

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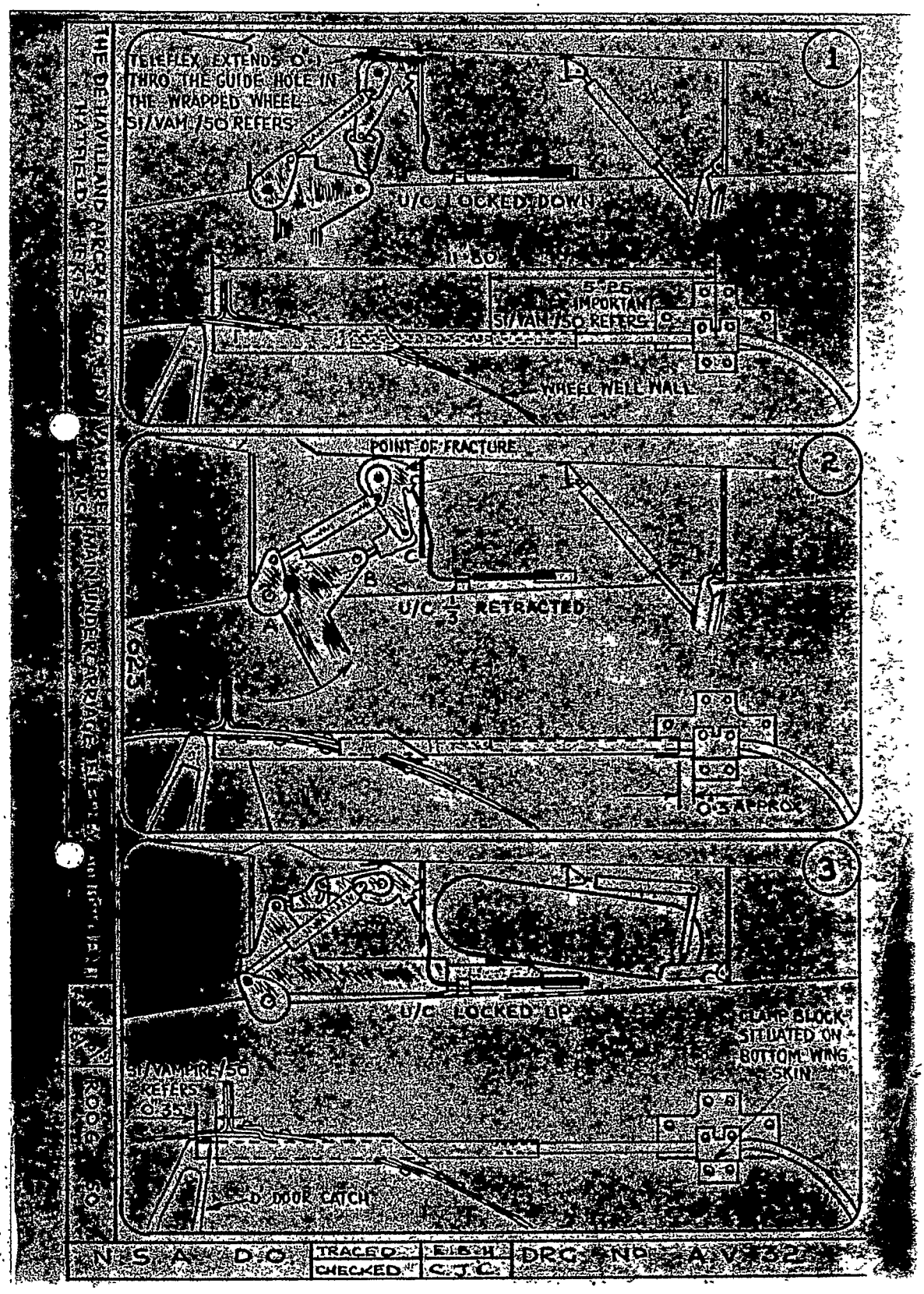
TELEFLEX EXTENDS 0·1 THRO THE GUIDE HOLE IN THE WRAPPED WHEEL SI/VAM/50 REFERS
U/C LOCKED DOWN
1
11·80
5·P5 IMPORTANT SI/VAM/50 REFERS
WHEEL WELL WALL
POINT OF FRACTURE
2
U/C RETRACTED
0·3 APPROX
3
U/C LOCKED UP
CLAMP BLOCK SITUATED ON BOTTOM WING SKIN
SI/VAMPIRE/50 REFERS
0·35
DOOR CATCH
THE DEHAVILLAND AIRCRAFT CO. LTD. VAMPIRE MAIN UNDERCARRIAGE TRAILING LINK
VC25
ROOC 30
NSA DO
TRACED
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E.B.H
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DRG. No. AV832

Air Headquarters,
Southern Rhodesia Air Force,
NEW SALISBURY AIRPORT.

6.4.54

VOLUME 3. Sect. 2. Sub-Sect. A 5.

Vampire Aircraft all marks - Undercarriage Adjustments.

In carrying out the investigation which led to the issue of Vampire S.T.I.101, it became evident that certain other operations in the undercarriage assembly needed special care to prevent attendant defects. It is now considered that the instructions given in the A.P. Vol.1 can profitably be revised to contain special emphasis on certain points; the necessary amendments to the relevant A.P's will be issued in due course.

2. The following is a resume of the relative defects and their correction given in assembly sequence: it embraces all current S.T.I's and S.I's on the subject but does not contradict any of them.

3. Radius Rod Assembly.

Cases have been reported of the radius rod mounting brackets Part No. G.00.79 being found with two or three threads stripped aft of the counterbore. This is attributed to the holes in the end fittings Part No. G00.1055, G.00.1056, G.00.1057 not lining up with those in the radius rod mounting brackets on assembly.

If difficulty is experienced in fitting the radius rod attachment bolts Part No. G00.726ND, unlock the end fitting lock bolt Part No. AL-6E, adjust the end fitting to enable alignment of the bolt holes with those in the mounting bracket, tighten up lock-nut, lower the assembly and re-lock lock bolts. Re-assemble.

Where the thread in the mounting bracket Part No. G00.79 has been damaged or found tight, the tapping out of the thread in situ is not to be attempted as a tap is likely to 'cut in' on a cross thread in view of the counter bore being tight. A bracket with a damaged thread is to be changed.

Some reports indicate that the radius rod is being incorrectly rigged, and therefore causing an unnecessary load to be exerted on the radius rod vertical attachment bolts Part No. G00.726ND with the undercarriage in the retracted position. The correct rigging procedure is as follows:

a) With the undercarriage compression leg fitted, secure the radius rod assemblies by the four vertical attachment bolts Part No. G00.726ND.

b) To ensure that the leg attachment eyebolt Part No. G00.1015A, which is fitted to the radius rod assembly, lines up centrally with its pick-up castings Part No. G00.1003 and 4 on the leg, it may be found necessary to shim the radius rod, between the end fitting and the radius rod mounting bracket, with laminated brass shim Pt. No. G00.1503. A maximum of .062" is permitted under one fitting only. In order to ascertain the amount of shim necessary to line up the eyebolt with the pick-up casting, take hold of the eyebolt and "work" the radius rod by hand to check its maximum travel fore and aft. Having done this, shim as described above so that the centre lines of the eyebolt and pick-up casting correspond. At no time should the radius rod eyebolt be permitted to foul the side of the pick-up casting on the undercarriage leg on final assembly.

4. Main undercarriage adjustment.

The following sequence of operations are to be strictly adhered to when carrying out undercarriage adjustments. The relevant A.P's will be brought in line with these recommendations by amendment action in due course.

-/....

NOTE: Before carrying out Para.2 below, it is essential that the leg attachment adjustable eyebolt is screwed in sufficiently for the initial retraction, to ensure that the axle does not strike rib 4 during the adjustment of the eyebolt. If the axle is permitted to strike rib 4 at any time, the radius rod attachment bolts Part No. GCO.726ND may be loosened due to the strain imposed upon them in this condition, through the radius rod assembly being out of adjustment and forming a 'dog leg'. Also ensure that the compression leg is fully extended.

a) Radius Rod.

The stop bolt between the upper link and the lock link of the radius rod should be adjusted with the lock plate in the locked position. Ensure that the roller moves freely within the slot when the stop faces are in contact. After this adjustment the stop bolt must be wire locked. The lock plate micro switch, which is wired in series with both the 'up' and 'down' lock micro switches, should now be adjusted so that the striker operates the switch plunger when the roller is $\frac{3}{4}$" in from the locked position.

b) Retracting Mechanism

With the wheel and leg fairing removed and 'D' door disconnected, proceed to adjust the leg attachment eyebolt in order to obtain a gap of 1/16 - 1/8" between the wheel axle and rib 4. Lock the eyebolt. At the same time adjust the striker of the 'UP' micro switch so that the switch is just operated when the undercarriage is in the 'UP' position. Then extend the striker three complete turns and lock.

c) Hydraulic retraction jack.

The length of the jack is critical for the satisfactory operation of the under-carriage and it should be adjusted for the main under-carriage in the 'UP' position. With the jack ram fully extended, adjust the fork-end so that the lock plate roller is between 1/16" and 3/32" from the end of the kidney slot. The best method of checking this clearance is to partially raise the undercarriage with the hand pump. Then the lock has broken, affix a small piece of plasticine to the inboard or upper extremity of the slot. Now raise the undercarriage to the 'UP' locked position to obtain an impression on the plasticine. Lower the under-carriage about half way to remove and measure the plasticine. When the jack has been correctly adjusted check that the fork-end of the ram is is safety before securing the lock-nuts.

NOTE: If after having rigged the kidney slot adjustment, the leg attachment eyebolt is altered, it is essential that the kidney slot be readjusted.

5. Wheel door and leg fairing adjustments.

a) Refit the undercarriage wheel and connect up the 'D' door adjustable radius rods.

By means of their radius rods, the wheel doors can now be adjusted so that when the undercarriage is fully retracted, the doors are a tight fit against the two door stops in the wheel well. It should require a load of approximately 50 lb applied at each corner of the door to pull it down onto the lock plungers. The gap between the lock plunger and door catches should be .040" to .060", this clearance is most important in order to obviate the door catches fouling the Teleflex plunger during the actual operation of locking in the up position.

b) Disconnect the 'D' door adjustable radius rods and fit the leg fairing.

With the undercarriage locked in the up position, and the straps securing the leg fairing tight, ensure that the fairing has an all round clearance of .050" to .125" with the underside of the wing. A flush fit

-/3..

5. b) continued:

is effected by the addition or removal of the packing washers on the strap attachment fittings, and by moving the fairing about the leg. At the same time ensure a clearance of .05" to .2" between the leg fairing and 'D' door, this does not refer to the leg fairing shroud which overlaps the 'D' door.

When a good fit has been obtained, lower the undercarriage and with the compression leg fully deflated and compressed ensure that the torque links do not foul the leg fairing.

c) Reconnect the 'D' door adjustable radius rods and carry out retraction tests with a hydraulic rig. Make a final plasticine check of the axle and kidney slot clearance with the 'D' door connected, ensuring that the kidney slot has not altered, and that the axle clearance has only increased a minimum amount.

6. Teleflex Cable Installation.

Numerous undercarriage failures can be attributed to teleflex cable plungers remaining in the locked psotion to varying reasons; the following are points to be therefore observed when installing the undercarriage teleflex system.

One defect was traced to the 4 B.A. clamp bolt fitted through the wrapped securing the two conduits, having been tapped into position. As the conduits obstructed the bolt hole, this caused the collapse of the conduits, and the fracture of the teleflex cable. Therefore ensure that with the two conduits assembled in the wrapped box, prior to the fitting of the 4 B.A. clamp bolt, a No. 27 drill is passed through the hole.

In addition on assembly of the two main lengths of conduits, fore and aft, ensure that they are adjusted so that they abutt rib 3. If this adjustment is not observed, it is possible that the conduit will "bottom" inside the slide tube, causing the teleflex to fracture.

Undercarriage failures have also been caused by the slide tube fouling the clamp block when the undercarriage is in approx. the ⅓ retracted position. This is considered due to poor lock plunger adjustments : S.I. Vampire 41 remedies this.

~~It must also be noted that prior to the assembly of the lock plunger and slide tube, that the slide tube is slid over the conduit, and the conduit is marked in the "bottomed" position to give a guide on final adjustment of the plunger and slide tube; this mark should be clearly seen with the clamp block in position and the undercarriage approx. ⅓ retracted.~~

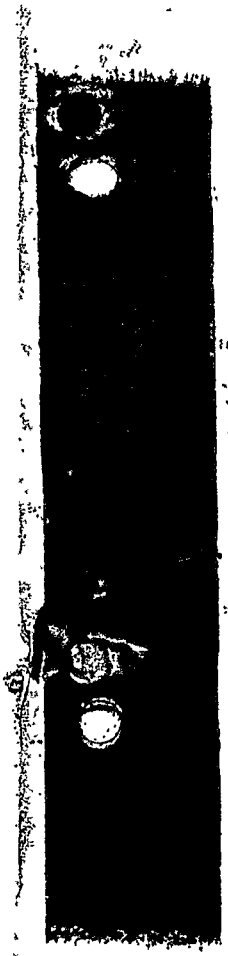
NOTE: On retraction of the undercarriage this slide tube will travel inboard approx. 1.2" until the undercarriage is almost ⅓ up and the tube will then reverse and travel outboard to the locked up position.

Finally as a result of conduits being found bent and in a semi-seized condition, special attention is drawn to S.I. Vampire 32 headed "Breakage of undercarriage door lock teleflex cables".

SOURCE: AMP A 154016/52/AIR ENG/B
DATE: 16.3.54

H.J. Pringle.
(H.J.PRINGLE) CAPTAIN,
A/S.T.S.O.

Vol.3. Sect.2. Sub-Sect.A.4.



VAMPIRE Mks. 5 and 9
Undercarriage Selection - Defective

1. A case has been reported on a Venom Mk.1. aircraft where the shackle pin attaching the undercarriage selector lever to the selector valve connecting rod had dropped out making the undercarriage selection inoperative. The shackle pin part No. BSS.SP.4Y.B3. is secured by a split pin Part No. AGS.784/1.

2. Servicing personnel are to be advised to check this assembly as soon as possible.

3. The shackle pin should have a clearance to the side of the control box during the full movement of the selector lever and the split pin legs should be correctly and firmly fitted around the shank of the shackle.

(B.H. GIBBONS) MAJOR

Source: Postagram A96784/51/AIR ENG 1B

Date : 5 Jan 54

Air Headquarters,
Royal Rhodesian Air Force.
5th February, 1958.

R.R.A.F. Technical Order
Vol. 3, Sect. 2, Sub Sect. A3 (Issue 2)
Cancelling and Superseding:-
Vol. 3, Sect. 2, Sub Sect. A3 (Issue 1)

Ground Running Vampire Aircraft

1. Cases have again been reported of peculiar symptons of dizziness being experienced by Ground Personnel in the near vicinity of Vampire aircraft during ground running.

2. Ear Protectors are available from the Warrant Officers i/c the Vampire Squadrons and are to be used by all personnel in the near vicinity of Vampire aircraft during round running.

3. Personnel are warned to stand well clear of Vampire aircraft running at peak R.P.M., except when carrying out absolutely essential inspections.

Source: Tech. Stats. A.H.Q.

CANCELLED BY AL 6 [illegible]

(B.H. GIBBONS)
Wing Commander
S.T.S.O.
A.H.Q. R.R.A.F.

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Vol. 3 Sect. 2. A2

Vampire Mk.F.B.9 Aircraft
B.P.C. Total Head Line Water Trap: Icing

Cases have been reported of engine speed limitations at altitude as the result of ice formation in the B.P.C. total head pipe water trap. This trap is situated on the starboard side of the front of the fuselage and access to it is by the removal of the forward gun blast panel.

Units are to be advised to drain this trap as often as local flying conditions require to prevent it becoming blocked by ice.

CANCELLED BY AL 30

(B.H. GIBBONS) MAJOR
M.S.O.

Source: Postagram
A96785/51/AIR ENG 1(B)

Date: 23.12.53

Vol.3. Sect.2. Sub Sect. A 1 + Index

Vampire Aircraft - Mark 5 & 9
Junction Box No.1: Bracket Insecure

Cases have been reported where the bottom forward support bracket Part No. N00.647A attached to ferrules at the starboard side of the cockpit by two screws, Part Number AGS.245/12 and locked by shakeproof washers No. 1210 has been found insecure.

At the next Daily Servicing check the security and correct assembly of this bracket attachment.

(B.H. GIBBONS) MAJOR
M.S.O

Source: Postagram
A96784/51/AIR ENG 1 (B)

Date: 23.12.53

CANCELLED BY AL 89