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Chapter 6

PROCEDURE FOLLOWING HAZARDOUS INCIDENTS

Introduction

1. For the purpose of these instructions a hazardous incident is one which could result in damage to an aircraft although the damage may not be immediately apparent.

2. The information in this chapter and its appendices is to be applied when an aircraft has been subjected to an incident and the captain or the pilot of the aircraft has reported the fact on Form 700, and before the aircraft is again certified serviceable for flight. The checks listed are additional to any routine servicing that may be due.

3. The type of damage which may occur and which should be looked for when carrying out the operation 'Examine for damage' is as follows:-

- (1) Insecurity of attachments
- (2) Cracks in, or fracture of, structure and components.
- (3) Corrosion or contamination
- (4) Structure distortion or skin wrinkling.
- (5) Defective or missing rivets.
- (6) Chafing, scoring or fraying.
- (7) Broken locking devices.

4. The instructions detail renewals and adjustments that may be made; renewal is not to be commenced until all the examinations called for have been completed and the overall damage assessed.

APPENDIX 1 - HEAVY LANDING

1. The following examination procedure should be carried out after an aircraft heavy landing has been reported.

NOTE...

The magnitude of the heavy landing, as

described in the report, must be taken into account when assessing the extent of the areas covered in this schedule of examination which should, in each particular case, be included in the overall examination.

SCHEDULE OF CHECKS

Item No.	Item	Operation
1.	Ground equipment	(a) Position jacks and raise the aircraft. (b) Position wing steadying trestles. (c) Position nose trestle. Refer to Sect.2, Chap.4 for these operations.
2.	Main wheels	(a) Remove the wheels and despatch for bay servicing. (b) Examine axles for damage. (c) Examine bogie fittings for damage and carry out a crack detection test in accordance with S.I./Vulcan/37.
Main undercarriage		
3.	Bogie trimmer	Examine for oil leaks and damage. If oil leakage is found a serviced strut is to be fitted.
4.	Shock-absorber	Examine for oil leaks and damage. If oil leakage is found a serviced strut is to be fitted.
5.	Torque links	Examine for damage, distortion and sheared bolts.

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SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
6.	Lower strut	Examine for bow and damage and sheared bolts at attachments points.
7.	Bracing tubes	Examine for bow and damage and sheared bolts at attachment points.
8.	Down-lock assembly	Examine for correct operation and freedom from obstruction.
Main undercarriage bay		
9.	Pivot tube attachments	(a) Examine housing cap for damage. (b) Examine bolts for damage and shearing. If damage exists fit new and serviceable items.
10.	Main pivot attachments	As item 9(a) and (b).
11.	Main attachment and drag link bearing beams.	(a) Examine for damage. (b) Examine attachment bolts for bowing and shearing.
12.	Cross member.	Examine as item 11 including distortion and signs of movement.
13.	Operating jack.	Examine for oil leaks. If oil leakage is found a serviceable jack is to be fitted.
14.	Wheel bay structure.	(a) Examine the outboard engine and undercarriage ribs for distortion and skin wrinkling and loose or sheared rivets and bolts. (b) Examine the engine access door attachments for distortion and malalignment.

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SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
14. (continued)		<p>(c) Examine the stringer attachment brackets in the roof structure for sheared rivets and bolts.</p> <p>(d) Examine the roof structure and wing skin for buckling, distortion, loose or sheared rivets and bolts.</p> <p>(e) Examine the bulkhead at the rear of each undercarriage bay for buckling, distortion, and loose and sheared rivets and bolts. Special care must be taken during the inspection in the region of attachment angles to main ribs and at the diamond-shaped gusset plates.</p> <p>(f) Examine the side load strut attachment lugs on the main undercarriage bearing beams and carry out a crack detection test on the lugs.</p> <p>(g) Examine the side load strut for damage, bowing, and loose ferrules and tie rods. Carry out a crack detection test on the end sockets.</p> <p><i>NOTE...</i> <i>If it is found necessary to remove the side load strut to carry out op. (f) and (g), the strut must be fitted with the end which has four pairs of ferrules secured to the outboard bearing beam.</i></p> <p>(h) Examine the main undercarriage bearing beam attachment bolts for tightness. The bolts along the end of the bearing cap end of the beam must be torque-loaded as follows:-</p> <p>Inboard bearing beams 27-33 lb.ft.</p> <p>Outboard bearing beam 18-22 lb.ft.</p>

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SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
15.	Undercarriage doors and fairings.	(a) Examine for local buckling and distortion (b) Examine connecting rods for bow and damage. (c) Examine for security of attachment to surrounding structure. (d) Examine attachment bolts for bow and shearing. (e) Examine locking mechanism for correct functioning.
16.	Main wheels	On completion of other replacements fit serviceable wheels.
Main undercarriage		
17.	(a) Retracting (b) Up and down locks (c) Doors and fairings	Examine for correct operation and freedom from obstruction during retraction test to instructions given in Sect.3, Chap.6 of this Book.
Nose undercarriage		
18.	Nose wheels	(a) Remove wheels for bay servicing. (b) Examine the splined axle for damage. (c) Examine the bearings for smooth running.
19.	Shock-absorber	Examine for oil leaks and damage. If oil leakage is found a serviced item is to be fitted
20.	Drag-stay	(a) Examine for damage and signs of bow. (b) Examine attachment fittings for signs of movement and sheared bolts.

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SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
21.	Main fitting attachment	(a) Examine the pivot bearings for damage and shearing of bolts. (b) Examine for cracks.
22.	Operating jack	(a) Examine for bowing. (b) Examine attachment fittings for signs of movements and shearing of bolts. (c) Examine for oil leaks. If oil leakage is found, a serviceable item is to be fitted.
23.	Upper retracting struts	(a) Examine for distortion and damage. (b) Examine for shearing of bolts. (c) Examine the torque tube and cross shaft for distortion, damage and shearing of bolts.
24.	Down-lock assembly	Examine for correct operation.
25.	Y member	Examine as item 23(a) and (b).
Nose-wheel bay		
26.	Undercarriage bearing beams	(a) Examine for damage and distortion. (b) Examine the upper and lower pivot brackets and bearings for damage and shearing of attachment bolts. (c) Examine attachment of side support beams for damage and shearing of bolts.
27.	Bearing beam fore-and-aft diffusion members - top.	Examine for damage, distortion and shearing of rivets and bolts.

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SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
28.	Rear pressure bulkhead.	Examine for skin buckling, distortion, sheared or loose rivets, and cracks. If such damage is apparent the aircraft must be offered for full damage assessment.
29.	Wheel bay structure.	Examine stringer bracket and frame attachments for damage and loose and sheared rivets and bolts. If such damage is apparent the aircraft must be offered for full damage assessment.
30.	Nose wheels.	On completion of other replacements fit serviceable wheels.
Nose undercarriage		
31.	(a) Retracting (b) Up and down locks (c) Doors	Examine for correct operation and freedom from obstruction during retraction test to instructions in Sect.3, Chap.6 of this Book.
◀ General		
32.	Tank bay skin	Remove the underwing access panels in the vicinity of No.3 and 4 tanks. Examine the tank bay skins as far as is possible, for cracking (S.T.L./Vulcan/148). ▶
33.	Ground equipment	(a) Lower the aircraft. (b) Remove the jacking equipment from the vicinity of the aircraft.
◀ 34.	Access panels	(a) Remove all tools, rags, and other materials used during this servicing. (b) Refit all access panels. ▶

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SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
◀ 35.	Form 700H	Enter details of all components removed and repairs carried out.
36.	Recording	Sign appropriate servicing forms. ▶

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Appendix 2

EXCESSIVE 'G' LOADING

1. When excessive 'G' loading has been applied to the aircraft in flight, the following checks must be carried out.

SCHEDULE OF CHECKS

Item No.	Item	Operation
Centre Section		
1.	Intake structure bottom skin panel forward of Former 75 and inboard of rib 162.5 (A.P.4505, Vol.6, Part 1, Chap.3, Fig.314A).	(i) Examine for small diagonal wrinkles. (ii) Examine for loose rivets.
2.	Bomb arch contour angle inboard of bracket attachment to rib 62.5 (A.P.4505, Vol.6, Part 1, Chap.3, Fig.307A items 12 and 33 and Fig.307B items 7 and 16).	Examine free flange for wrinkling.
3.	Stringer attachment brackets at Former 75 on aircraft pre Mod.1338.	Examine for cracks and damage in accordance with S.1./Vulcan/28.
4.	Top surface skin forward and aft of the airbrakes.	Examine for skin wrinkling.
5.	Roof structure between engine front bulkhead and engine bay front bulkhead (A.P.4505, Vol.6, Part 1, Chap.3, Fig.317 items 1 and 3).	(i) Examine intercostal flanges for wrinkling. (ii) Examine structure adjacent to intercostal attachment brackets to rib 62.5 for damage and security.
Main Plane		
6.	Outer wing bottom surface leading edge skin attachment to rib 162.5 (A.P.4505, Vol.6, Part 1, Chap.3, Fig.324, item 6).	Examine for loose and sheared rivets.
7.	First butt strap in bottom surface leading edge skin outboard of rib 162.5.	Examine for loose and sheared rivets.
8.	Leading edge skin in vicinity of first eleven nose ribs outboard of rib 162.5.	(i) Examine for skin wrinkling. (ii) Examine for loose and sheared rivets.
9.	Top surface skin on each side rib 162.5 in the region of the undercarriage bay.	Examine for skin wrinkling between the stringers.

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