Chapter 6 PROCEDURE FOLLOWING HAZARDOUS INCIDENTS

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

Appendix I HEAVY LANDING

Servicing after a heavy landing

1. The following servicing must be carried out whenever the aircraft has made a heavy landing:-

AIRFRAME

Item No.	Item	Operation
1	Shock-absorber struts (alighting gear)	(1) Examine for signs of bottoming (2) Examine for signs of oil leakage. Serious leakage indicates gland failure and will entail fitting of a serviced strut (3) Check for normal extension
2	Wheel wells (port and starboard)	(1) Examine for cracks the edge of the large hole in the rib, through which the head of the shock-absorber strut passes in the retracted position. Buckled ribs free from cracks are permissible (2) Examine for buckling the rear and front undercarriage diaphragms, particularly above the shock-absorber attachments
3	Shock-absorber struts (port and starboard)	If the extensions are incorrect, proceed as follows:- (1) Remove the inflation valve cap and check for internal leakage by depressing the valve to release the air, and examine for the presence of oil (2) Check the air pressure (the correct pressure is 400 p.s.i.) (3) Replenish as necessary (4) Refit the valve cap
4	Nose shock-absorber strut	If the extension is incorrect, proceed as follows:- (1) Remove the inflation valve cap and check for internal leakage by depressing the valve to release the air, and examine for the presence of oil

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Item No.	Item	Operation
		(2) Check the air pressure (the correct pressure is 600 p.s.i.)
		(3) Replenish as necessary
		(4) Refit the valve cap
5	(1) Main wheels (2) Nose wheel	(1) Remove for Bay Servicing
6	Undercarriages (1) Port and Starboard (2) Nose	(1) Examine, by feel, for excessive fore and aft movement and side play
7	Torque links (port and starboard)	(1) Examine for cracks and distortion (2) Examine the bolts for signs of shearing
8	Hydraulic jacks	(1) Examine the rams for bowing (2) Examine the attachment fittings for signs of movement and shearing of the bolts
9	(1) Brake shoes and springs	(1) Remove (2) Clean the shoes with a brush and a dry rag (3) Examine for excessive wear, loose rivets and damage
	(2) Brake springs and lugs	(1) Clean (2) Examine for fracture
	(3) Expansion bag	(1) Examine the bag for deterioration, and the pipe connection for security of attachment
	(4) Brake flexible pipe lines	(1) Examine for chafing (particularly in the vicinity of the top of the shock-absorber strut), damage and security of attachment
	(5) Seperator plates	(1) Examine for cracks and distortion
	(6) Brake shoes and springs	(1) Refit
10	Attachment fittings (port, starboard and nose)	(1) Examine for cracks and distortion (2) Examine for signs of movement on the spars and bulkheads (3) Examine the bolts for signs of shearing

AIRFRAME *(Continued)*

Item No.	Item	Operation
11	Main spars and skin in the vicinity of the undercarriage attachment fittings	(1) Examine for buckling, distortion and wrinkling (2) Examine for sheared or loose rivets
12	(1) Shock-absorber strut (2) Stub axle castings	(1) Examine for cracks and damage
13	Radius rod assemblies	(1) Disconnect the lower radius rod from the shock-absorber strut (2) Examine the locking mechanism for damage (3) Examine the latch plates for cracks and distortion (4) Check the radius rod stop screw for correct adjustment, by swinging the latch arm and ensuring that the roller runs freely in the slot over the complete range. Adjust, as necessary, and ensure that the stop screw is correctly locked (5) Examine the radius rods for cracks, corrosion, and excessive wear at the pivots (6) Examine the shock-absorber support links for distortion and damage (7) Examine the four vertical bolts, attaching the front and rear radius rod hinge blocks to the mounting brackets, for signs of looseness or failure through being over-stressed (8) Reconnect the lower radius rod (9) Remove the access panels situated on the top wings immediately above port and starboard main undercarriage, and thoroughly examine the radius rod upper links for cracks (10) Examine the needle housing bearing for cracks **Note...** *All undercarriage microswitch adjustments are to be followed by an undercarriage retraction test*
14	(1) Nose wheel self-centering device (2) Nose wheel barrel casting	(1) Examine, by operation, for correct functioning (2) Examine for cracks and damage

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AIRFRAME *(Continued)*

Item No.	Item	Operation
15	Nose undercarriage strut swivel lug	(1) Remove the nose wheel door guide plate if secured by bolts (do not disturb if riveted), and throughly clean the inner and outer faces of the lower portion of the swivel lug (2) Check the lug for cracks, paying particular attention to the area around each of the door guide plate attachment bolts or rivet holes (3) If any sign of a crack is observed, the swivel lug is unserviceable and must be renewed.
16	Main and nose wheels	(1) Fit serviced wheels
17	Undercarriages (port and starboard)	(1) Examine for freedom from obstruction during retraction **Note...** *During all ground operations of the hydraulic hand pump the manually operated non-return valve is to be operated on aircraft to pre-Mod.3348 standards* (2) Check that the correct clearance exists between the latch plate roller and the end of the slot when the undercarriage is retracted; the correct clearance is 1/16 in. to 3/32 in.
18	Nose undercarriage	(1) Examine for freedom from obstruction during retraction (2) Check that the correct clearance exists between the latch plate roller and the end of the slot when the undercarriage is lowered; the correct clearance is 1/16 in. to 3/32 in.
19	Root end fairing strips	(1) Examine for signs of movement between the main plane skin and the fairing strips
20	Skin in the vicinity of the stub boom attachments	(1) Examine for buckling, and loose or pulled rivets
21	Boom bumper pads	(1) Examine the pads, and the skin in the vicinity, for buckling and other damage

ELECTRICAL

Item No.	Item	Operation
1	(1) Lead acid batteries	(1) Examine for damage and security of attachment (2) If damage is found, disconnect (negative lead first) and remove the batteries (3) Examine the cables for deterioration
	(2) Stowage and adjacent structure	(1) Examine for corrosion and spilled electrolyte; if found, neutralise the affected areas with bicarbonate of soda solution and report to the Airframe N.C.O. (2) Paint with anti-sulphuric paint when detailed by the Airframe N.C.O.
	(8) Lead acid batteries	(1) Fit and connect (positive lead first) serviced batteries (2) Insulate exposed battery terminals with insulating tape *(Ref.No.5F/451)* (3) Clean the connection lugs (4) Grease the connecting lugs with protective, PX-7 *(Ref.No.34B/9100497, N.A.T.O. Code No.S-743)*
2	Undercarriage microswitches	(1) Clean (2) Examine for damage and security of attachment (3) Examine the rubber cowls for correct fitting and freedom from cracks (4) Operate. The switches are to operate smartly with no tendency to sluggishness
3	Undercarriage position indicator	(1) Examine for correct operation during the retraction test (2) Examine the lights individually as each leg lock is broken
4	Throttle warning lamp	(1) Ensure that the lamp illuminates when any 'leg down' lock is broken
5	Undercarriage lever lock	(1) During the retraction test, examine, by operation for correct functioning

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Item No.	Item	Operation
1	Top and bottom front cowlings	(1) Open
2	Engine mounting	(1) Clean (2) Examine for cracks, particularly in the vicinity of welds (3) Check the frame mounting bolts for security of attachments (4) Examine the struts for bowing (5) Examine the frame for distortion (6) Check the engine bearer bolts for tightness
3	Air Intakes	(1) Using a torch and a mirror, and viewing down the air intakes, check as far as possible, that there is clearsnce between the air intakes and engine
4	Jet pipe fairing	(1) Check that the jet pipe is concentric with fairing **Note...** *Lack of clearance in any one direction indicates movement of engine or distortion of bearer frame*
5	Controls (1) Throttle (2) H.P. cock (3) L.P. cock	Assisted by an airframe tradesman who will operate controls as necessary (1) Examine the Teleflex control boxes for damage and security of attachment (2) Examine the cable conduits for damage and security of attachment (3) Examine the layshafts for damage and security of attachment (4) Examine for full, free and correct movement
6	Top and bottom front cowling	(1) Close and secure

RADAR

Item No.	Item	Operation
1	I.F.F. Mk.3 GR	(1) Examine for damage and security of attachment (2) Carry out a functional test in accordance with A.P.4099J, Vol.4, Part 2, Sect.5
2	Aircraft generally	(1) Ensure that all tools, rags and other materials used during radar servicing have been removed from the aircraft

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Item No.	Item	Operation
1	TR.1985 and TR.1987 installation	(1) Examine for damage and security of attachment (2) Test for correct functioning as detailed in A.P.4099J, Vol.4, Part.2, Sect.5
2	Aircraft generally	(1) Ensure that all tools, rags and other materials used during wireless servicing have been removed from the aircraft

Appendix 4 EXCESSIVE USE OF BRAKES

Servicing after excessive use of brakes

1. The following servicing must be carried out whenever signs of overheating of the brakes are found:-

AIRFRAME

Item No.	Item	Operation
1	Undercarriage torque links	(1) Examine for excessive wear by rotating the wheels about the leg axis (2) Renew the links as necessary
2	Main wheel	(1) Remove
3	Brake shoes	(1) Examine for signs of wear, burning and deterioration (2) Renew as a set if necessary
4	Expansion bag	(1) Remove the brake shoes (2) Examine for signs of burning and deterioration (3) Renew if necessary (4) Refit the brake shoes
5	Brakes	(1) Refit the main wheel (2) Apply the brakes; the wheels should not rotate (3) Release the brakes; the wheels should rotate freely (4) Relock all parts affected by this servicing
6	Main wheels	(1) Check the tyre pressure (80 $^{+7}_{-5}$ p.s.i.) (2) Ensure that the valve cap does not protrude beyond face of the wheel

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Appendix 5 ABNORMAL AERODYNAMIC LOADS

Servicing after abnormal aerodynamic loads

1. The following servicing must be carried out whenever the aircraft has been subjected to abnormal aerodynamic loads:-

AIRFRAME

Item No.	Item	Operation
1	Main planes	(1) Examine the skin for wrinkling and for rivets pulling in the area of rib No.2, 3 and 5 (2) Examine rib No.2, 3 and 5 for buckling **Note...** *The buckling of rib No.2, without damage to others, should not be confused with the heavy landing case* (App.1, Item No.2, Operation (1))
2	Aileron, elevator and rudder controls	(1) Carry out a tension check; any abnormal change may be due to distortion of the aircraft
3	Control surfaces	(1) Examine all control surfaces for security of attachment
4	Aircraft generally	(1) Carry out a symmetry check (If necessary, a full rigging check is to be carried out at the discretion of the Senior Technical Officer) (2) Ensure that no tools, rags or other materials used during airframe servicing have been left in the aircraft
5	Servicing panels	(1) Examine for damage (2) Refit and ensure that the fasteners are correctly locked

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