

## 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 appendices 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

### AIRFRAME

#### SERVICING NOTES

1. The examinations and checks called for in this servicing are to be carried out and signed for as completed by a Senior N.C.O., assisted by Tradesmen as required.
2. Unless otherwise stated, damage found as a result of this servicing is to be assessed and repaired in accordance with A.P.4267, Vol.6 (Repair and Reconditioning Instructions).
3. This schedule lists certain replacements and adjustments which may be made, but replacements and adjustments are not to be commenced until all examinations called for have been completed, and overall damage assessed.
4. This schedule has been compiled to cover damage resulting from any type of heavy landing, and discretion is to be used with regard to the extent to which the schedule is applied.

#### SAFETY PRECAUTIONS

1. Before any servicing is commenced, ensure that the alighting gear is locked in the 'DOWN' position and that ground locks are fitted.
2. On no account are any bolts or pipe connections to be loosened without first deflating the shock absorber struts. Failure to observe this warning may result in a serious accident.
3. Before releasing air pressure from shock absorber struts, jacking or lowering aircraft, ensure all equipment and men are clear.
4. If the hydraulic reservoir oil level has fallen to, or below, the 'MIN', mark the starboard engines are not to be started until the reservoir has been replenished and the pumps reprimed.
5. When the hydraulic reservoir filler cap has been refitted the handle of the vent cock must be locked in the DOWN position with locking wire. Failure to return the cock to the DOWN position after replenishing the system may cause venting and damage to the pumps when No.3 and 4 engines are started.

**RESTRICTED**

## SCHEDULE OF CHECKS

Item No.	Item	Operation
1	Access panels	
	(a) All engine cowlings	} Remove
	(b) All engine controls	
	(c) Top spar flange	
	(d) Outboard nacelle rear fairings	
	(e) Rear attachment of outboard engine sub-frames	
2.	Shock-absorber struts (Port and starboard)	Examine for signs of oil leaks. Serious leakage indicates gland failure and entails the fitting of a serviced strut.
3.	Tail shock-absorber strut	(i) Examine for signs of bottoming. (ii) Examine for oil leaks. If oil leakage is found a serviced strut is to be fitted. (iii) Check for normal deflection under normal static load. Minimum deflection is 8.72 in.
4.	Ground equipment	Detail and supervise raising of aircraft as follows:- (i) Fit jacking pads. (ii) Raise aircraft on main jacks. (iii) Raise tail of aircraft.
5.	Main wheels	(i) Release brakes. (ii) Remove wheels. (iii) Examine main attachment bolts for shear. (iv) Transport to Servicing Bay.
6.	Tail wheels	Remove for Bay Servicing.
7.	Undercarriage (Port and starboard)	Examine by feel, for excessive fore-and-aft movement and side play.

**RESTRICTED**

## SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
8.	Shock-absorber struts (Port and starboard undercarriages)	Examine the strut brace fittings for cracks running from the lugs for the diagonal bracing member to the lower side of the fitting.
9.	Cross tube and 'K' frame (Port and starboard undercarriage)	(i) Examine tubes for bowing and damage (ii) Examine end fittings for signs of movement and stripping of threads. (iii) Examine attachment bolts for signs of movement and shearing.
10.	Shock-absorber struts (Port and starboard)	(i) Examine for damage. (ii) Examine radius rods and 'K' frame lugs for cracks and distortion. (iii) Examine top attachment fittings for cracks, damage and security of attachment.
11.	Shock-absorber fouling clips (Port and starboard)	Examine for indentation. Maximum allowable indentation is 1/32 in. If indentation exceeds 1/32 in. clip may be turned once through 90 deg. before rejection.
12.	Shock-absorber struts (Port and starboard)	(i) Remove inflation valve caps. (ii) Connect inflation adapter to either strut (iii) Release air pressure until struts are fully deflated. (iv) Examine rams for freedom of movement by sliding up and down manually. Resistance to movement will indicate a bowed ram and the strut is unserviceable. (v) If struts are serviceable, leave inflation adapter fitted.
13.	Radius rods (Port and starboard)	(i) Examine for bowing and damage. (ii) Examine end fittings for signs of movement and shearing of rivets.
14.	Radius rod attachment fittings to rear spar. (Port and starboard)	(i) Examine for cracks and distortion. (ii) Examine for signs of movement on spar and shearing of attachment bolts. (iii) Examine spar flanges in vicinity for cracks, distortion and loose bolts.

RESTRICTED

SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
15.	Down-locks (Port and starboard)	Examine for distortion, damage and correct locking.
16.	Hydraulic jacks (Port and starboard undercarriages)	<ul style="list-style-type: none"> <li>(i) Examine rams for bowing.</li> <li>(ii) Examine attachment fittings for signs of movement, shearing of bolts and security of attachment.</li> <li>(iii) Examine for fluid leaks.</li> </ul>
17.	Engine ribs (Port and starboard undercarriage wells)	<ul style="list-style-type: none"> <li>(i) Examine for distortion of flanges and webs.</li> <li>(ii) Examine for defective rivets.</li> <li>(iii) Examine attachments to front and rear main plane spars, for signs of movement and shearing of rivets.</li> <li>(iv) Examine main plane skin in vicinity of ribs for defective rivets and wrinkling.</li> </ul>
18.	Undercarriage main support beam frames. (Port and starboard)	Examine for cracks, distortion and damage.
19.	Undercarriage main support beam frame attachment fittings. (Port and starboard)	<ul style="list-style-type: none"> <li>(i) Examine for signs of movement and shearing of bolts.</li> <li>(ii) Examine spar flanges and webs in vicinity of attachment points for defective rivets, distortion, loose bolts and screws and wrinkling of webs.</li> <li>(iii) Examine main plane skin immediately over top of fittings for buckling and loose screws.</li> </ul>
20.	Engine mounting sub-frames (Engines No.1, 2, 3 and 4)	<ul style="list-style-type: none"> <li>(i) Examine all welded joints for cracks and failure of weld.</li> <li>(ii) Examine structures for distortion and members for bowing.</li> <li>(iii) Examine all tube end fittings for signs of movement and shearing of pins.</li> <li>(iv) Examine all attachment bolts for signs of shear and security of attachment.</li> </ul>
21.	Attachment fittings (Outer engine sub-frames to front and rear spars)	<ul style="list-style-type: none"> <li>(i) Examine for cracks, distortion, and security of attachment.</li> <li>(ii) Examine front and rear spar webs and flanges for defective rivets and bolts for distortion.</li> </ul>

**RESTRICTED**

## SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
		(iii) Examine main plane skin in vicinity for defective rivets and wrinkling.
22.	Main plane skin. (In vicinity of all main plane attachment bolts)	Examine for defective rivets and screws, and wrinkling. If wrinkling is found, attachment bolts are to be examined for signs of movement and shearing.
23.	Centre section rear spar web.	Examine for distortion and wrinkling.
24.	Undercarriage. (Tail)	Examine, by feel, for excessive fore-and-aft movement and side play.
25.	Down-lock. (Tail)	Examine for distortion, damage and correct locking.
26.	Retraction strut. (Tail)	(i) Examine for bowing and damage. (ii) Examine end fittings for signs of movement and shearing of rivets.
27.	Retraction strut attachment fitting to former No.41 (Tail undercarriage)	(i) Examine for cracks and distortion. (ii) Examine for signs of movement (iii) Examine for shearing of attachment bolts. (iv) Examine former in vicinity for cracks, distortion and damage.
28.	Hydraulic jack	(i) Examine ram for bowing. (ii) Examine attachment fittings for shearing of bolts, signs of movement and security of attachment. (iii) Examine for signs of fluid leaks.
29.	Main fitting (Tail undercarriage)	(i) Examine for distortion and damage. (ii) Examine pivot shaft for wear and damage.
30.	Main fitting attachment fittings to former No.37. (Tail undercarriage)	(i) Examine for cracks and damage. (ii) Examine for signs of movement. (iii) Examine for shearing of attachment bolts. (iv) Examine former in vicinity for cracks, distortion and damage.

RESTRICTED

SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
31.	Pivot fork and link fitting. (Tail undercarriage)	(i) Examine for distortion, damage and security of attachment. (ii) Examine for freedom of rotation in main fitting. (iii) Examine for wear on upper and lower bearings in main fitting. (iv) Examine dust covers for damage and security of attachment.
32.	Self-centring device (Tail undercarriage)	Examine for correct operation, by turning wheels and pivot fork to one side and allowing it to return to centre.
33.	Axle. (Tail)	(i) Examine port and starboard stub axles for distortion and damage. (ii) Examine for freedom of rotation and excessive end float. (iii) Examine for seepage of grease denoting failure of outer seals. (iv) Examine axle bush for damage and security of attachment.
34.	Fuselage skin (In vicinity of formers No.6, 31, 37 and 41)	Examine externally for defective rivets and wrinkling.
35.	(a) Tail plane front spar attachment bolts	Examine for signs of movement and shear.
	(b) Fuselage formers No.37 and 41	Examine for buckling and defective rivets.
36.	Tail plane skin (Port and starboard)	Examine for defective rivets and wrinkling.
37.	Tail and main undercarriages	(i) Remove all damaged components and fit new or serviced components. (ii) Carry out all necessary adjustments and repairs in accordance with A.P.4267B, Vol.1, Sect.3, and Vol.6.
38.	Main wheels	(i) Check tyre pressure of serviced wheels. Refer to servicing schedule. (ii) Refit valve dust caps. (iii) Fit serviced wheels.

RESTRICTED

## SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
		(iv) Reconnect brake pipelines and lock.
		(v) Examine for freedom of rotation.
39.	Tail wheels	(i) Check tyre pressure of serviced wheels. Refer to servicing schedule.
		(ii) Fit serviced wheels.
		(iii) Examine for freedom of rotation.
40.	Main shock-absorber struts (Port and starboard)	Top up with oil as follows:-
		(i) With wheels clear of ground, connect oleo pump to inflation adapter and pump in oil OM-15 to a pressure of 100 p.s.i., screw up adapter gauge head and slowly slacken air release screw to allow surplus oil and air to blow off.
		(ii) Close inflation valve and repeat Operation (i).
		(iii) Lower the aircraft slowly to allow the weight to fully compress the strut and eject surplus oil.
41.	Main shock-absorber struts (Port and starboard)	Inflate as follows:-
		(i) Raise aircraft on main jacks sufficiently to clear ground when struts are fully extended.
		(ii) Connect air charging trolley to inflation adapter and inflate struts to between 1,200 to 1,250 p.s.i.
		(iii) Ensure struts are fully extended. Full extension measured from lower end of radius rod to top of main-wheel bolt lock plate is 12.4 in.
		(iv) Disconnect charging trolley and inflation adapter.
		(v) Refit inflation valve caps.
42.	Tail shock-absorber strut	(i) Remove cap from charging valve and fit adapter.
		(ii) Connect pressure gun filled with oil, OM-15, loosely to adapter so that delivery pipe is at bottom of pressure gun.
		(iii) Prime pressure gun delivery pipe, by operating gun, until oil is escaping at adapter. While oil is still escaping, tighten adapter by means of knurled wheel.

RESTRICTED

SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
		(iv) Charge strut to between 1,950 to 2,500 p.s.i.
		(v) Release pressure in the charging pipe by unscrewing the joint adjacent to the pressure gauge.
		(vi) Disconnect gun and adapter.
		(vii) Refit cap.
43.	Undercarriages (Port and starboard)	
	(a) Knee joints. (1 nipple to each joint)	Lubricate with grease, XG-295
	(b) Down locks. (3 nipples to each joint)	
	(c) Shock absorber strut upper attachments. (1 nipple to each strut)	
	(d) Radius rod top and bottom attachments. (2 nipples to each rod)	
	(e) Door operating collars. (1 nipple to each door)	
	(f) Jack top attachments	Lubricate with oil, OM-150.
	(g) Jack bottom attachments	
44.	Tail undercarriage	
	(a) Main fitting pivots	Lubricate with grease, XG-295
	(b) Main fitting bearings	
	(c) Pivot fork bushes	
	(d) Actuating plunger for self-centring device	

## SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
	(e) Shock absorber strut lower attachment	Lubricate with grease, XG-295
	(f) Retracting strut and link attachment.	
	(g) Retraction jack attachments	
	(h) Up-lock mechanism	
	(j) Down-lock mechanism	Lubricate with oil, OM-150
	(k) Door hinges and link lever pivots	
45.	Undercarriage (Main and tail)	<p>With undercarriage 'DOWN', bomb doors 'CLOSED' and flaps 'UP', examine for correct operations as follows:-</p> <p>(i) Ensure fluid level is between maximum and minimum marks on dipstick. Replenish as necessary with oil, OM-15.</p> <p>(ii) Disconnect Avery couplings at test connections on rear bulkhead of engines No.3 and 4 and connect test rigs.</p> <p>(iii) Remove undercarriage ground locks.</p> <p>(iv) Start test rigs and run at 2,950 r.p.m. trolley engine speed.</p> <p>(v) Select undercarriage 'UP' and check time taken for undercarriage to retract. Correct times are:-  Main undercarriage 13 to 17 seconds  Tail undercarriage 3 to 5 seconds</p> <p>(vi) Examine undercarriage during retraction for fouling with other parts of the aircraft.</p> <p>(vii) Examine warning devices and up-locks for correct operation.</p> <p>(viii) Examine undercarriage doors for flush fitting.</p> <p>(ix) Select undercarriage DOWN and check time taken to lower. Correct times are:-  Main undercarriage 14 to 18 seconds  Tail undercarriage 3 to 5 seconds</p>

RESTRICTED

SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
		(x) Examine down-locks and warning devices for correct functioning.
		(xi) Check undercarriage down-lock clearances. Correct clearances are:- Main undercarriage down-lock   0.005 to 0.020 in. Tail undercarriage down-lock   0.040 to 0.060 in.
		(xii) Check alignment of radius rods by stretching a thread between centres of the upper and lower attachment pins. The centre line of the knuckle joint fulcrum pin is to be not more than 0.10 in. above this thread.
		(xiii) Check alignment of tail undercarriage down-lock link with main tube. The centre of the hollow pin is to be plus or minus 1/16 in. from a datum line between the centres of each fitting and the bushed lower end of the link.
		(xiv) Raise and lower undercarriage again and examine for correct operation.
		(xv) Stop test rigs and disconnect.
		(xvi) Reconnect Avery couplings and lock.
		(xvii) Refit undercarriage ground locks.
		(xviii) Ensure fluid level in reservoir is between maximum and minimum marks on dipstick. Replenish as necessary. If more than 1/2 pint of fluid is required, cause is to be investigated.
		(xix) Refit reservoir filler cap.
		(xx) Lower handle of two-way cock.
46.	Ground equipment	Detail and supervise lowering of aircraft and removal of jacks clear from aircraft.

## SCHEDULE OF CHECKS (continued)

Item No.	Item	Operation
47.	Fire Extinguisher Bottles (Fuel tank system)	
	(a) Port and starboard wheel-well (1 off, each well)	(i) Examine for signs of discharge. This is indicated by protrusion of the plunger below the bottom of the flange nut.
	(b) Mainplane trailing edge outboard of No.2 and 3 engines. (2 off)	<i>NOTE:- Adapter and bottle are to be changed if bottle has been discharged.</i>
	(c) No.1 and 4 engine sub-frames. (3 off each nacelle)	(ii) Examine for damage and security of attachment.
	(d) Front face of rear spar in fuselage. (2 off)	
48.	(a) Access panels	Refit
	(b) Engine cowlings	
49.	Aircraft generally	Remove all tools, rags and other materials used during Airframe Servicing from the aircraft.
50.	Form 700H	Sign for completing Additional Servicing and enter details of all components renewed and repairs carried out.



This file was downloaded  
from the RTFM Library.  
Link: [www.scottbouch.com/rtfm](http://www.scottbouch.com/rtfm)  
Please see site for usage terms,  
and more aircraft documents.

