

SECTION 4.2.3**INSPECTION AFTER HEAVY LANDING**

It is not possible to detail every inspection procedure to be used after a heavy landing because of the wide variation in aircraft structure and the loads exerted on those structures. This schedule lists items and areas to be inspected and is to be used as a guide and when any doubt exists, the structure must be disassembled and inspected to prove every part is serviceable.

ALIGNMENT AND GEOMETRY CHECKS

1. In instances where the airframe has sustained unusually high loading, either in flight or during landing, structural distortion may have occurred. Although in most instances there will be visual evidence (eg, skin wrinkling, cracking of paint at the joints of structural members, loose rivets etc), this is not always the case and alignment and geometry checks should be carried out. Similarly, if the aircraft has been damaged by impact, misalignment and distortion of the structure may have occurred in areas remote from the initial impact point in addition to the damage which may be clearly visible at the impact point.
2. The control and structural integrity of an aircraft is dependent on the correct alignment of its separate components, not only in themselves but in their relationship to one another. Misalignment may result in the imposition of stresses of such magnitude that a premature structural failure could occur. It is therefore essential that alignment is checked. These alignment checks are in addition to the normal inspection of all airframe components for structural integrity and engine security.
3. Where a manufacturer's schedule exists for a heavy landing inspection, this schedule is to be followed. Where such a schedule is not available, the following schedule must be used. On completion of any heavy landing inspection, the details and results of the inspection, the inspector's signature, name(in block letters) AUF membership number and date of entry are to be included in the aircraft log book.

LANDING GEAR

- a. Shock absorbing mechanisms particularly the end fittings.
- b. Wheel assemblies for cracks, deformation or tyre damage
- c. Any retraction mechanisms for correct operation.

LANDING GEAR ATTACHMENTS

- a. End fittings for cracking, distortion or damage.
- b. Bolt or rivet shearing.
- c. Structure in the vicinity of attachments for distortion or cracking.

WINGS

- a. Rigid wing covering for wrinkling, buckling, loose or sheared fasteners.
- b. Wing to fuselage fillets for buckling or distortion.
- c. Wing attachments for distortion, cracking or sheared fasteners.
- d. Internal structural damage.
- e. binding controls or control systems.
- f. Lift and jury struts for bowing.
- g. All external strut attachment fittings and adjacent structure for integrity.
- h. All bracing wires for correct tension end fitting attachment and thickness.
- i All bolts and pins for bending, shearing and hole elongation.

ENGINE MOUNTING

- a. Mount assembly for distortion or cracking.
- b. Mount attachments for damage and distortion in adjacent structure.
- c. Firewall for wrinkles and loose or sheared fasteners.
- d. Engine shock mounting assemblies for completeness and integrity.

FUSELAGE

- a. Rigid skin for wrinkles, cracking, distortion or loose fasteners.
- b. All structural elements for bowing, buckling, cracking and end connections.
- c. All doors and other openings for distortion and correct fit.
- d. Interior for damage, security of equipment and for any signs of a leaking battery.

EMPENNAGE (TAIL SURFACES)

- a. Rigid skins for wrinkles, cracking, distortion, loose rivets or sheared rivets.
- b. Empennage attachments and surrounding structure for distortion, cracking, distortion bent bolts or pins, sheared bolts, loose rivets or sheared rivets.

CONTROL SYSTEMS

- a. Control surface hinges for freedom of movement or damage.
- b. Mass balance weights for attachment.
- c. Full and free operation of all control surfaces and systems.
- d. Any increase in backlash or static friction.
- e. All engine controls for freedom, integrity and durability.