



AIRWORTHINESS BULLETIN

AWB 25-007 Issue 3 – 5 August 2016

Personnel Harnesses, Restraint Straps and
Approved Attachment Points

1. Effectivity

All fixed and rotary wing operations.

2. Purpose

Alert operators to issues relating to the safety of personnel when not secured by a seat belt and while performing duties inside the cabin of the aircraft during flight or while at or near an open door or hatch, including 'Dispatch' duties, and regarding rappelling or 'fast roping' from rotorcraft.

3. Background

Paragraph 4.1 of Civil Aviation Order 20.16.3 ([CAO 20.16.3](#)) provides for circumstances when a seat belt or a safety harness must be worn. All harnesses, restraint straps and the attachment point(s) to which restraint straps are connected must be approved for the purpose.

a) Safety Harnesses

The safety design features for a personnel harness approved for use in aircraft operations include provisions for adequate adjustment to the wearer, strength, durability, and quick-release fittings to allow quick detachment from the aircraft following ditching, fire, forced landing etc. Any personal safety harness which uses screw carabineers to attach to the restraint strap, for example, would not be an approved harness.

b) Restraint Straps

In conjunction with body harnesses, the intent of an approved despatchers restraint strap (or tether), is to provide adequate restraint. In order for the strap to be used within its design limitations, it should be adjusted to the length that will prevent the occupant encountering a range of hazardous conditions including:

- (i) Falling from the open door of the aircraft in flight. Should the occupant of the harness accidentally enter a free-fall condition, the sudden take-up in excess slack in the strap results in violent arrest of the occupant which may result in injury and/or the inability to return to the aircraft cabin.
- (ii) Gaining excessive momentum within the cabin should the aircraft encounter violent deceleration during a forced landing.



- (iii) Being wholly or partially ejected from the cabin during a forced-landing accident, particularly in a roll-over accident.

The restraint strap and harness should remain connected to an approved hard point at all times during flight, including while moving to a different position within the cabin.

c) Approved Hard Points

Considering the above, it can be seen that an approved hard point located overhead or high on the wall of the cabin may offer better restraint than a tie-down point on the floor of the cabin. A cargo tie-down point may not have been designed to serve as an approved hard point to which a personnel harness restraint strap may be attached.

Cargo tie down systems typically employ multiple cargo tie-down points and are designed to take loads predominantly in the fore-aft direction with respect to the aircrafts' longitudinal axis. The attachment point for a personnel harness restraint strap must be approved to accommodate the anticipated lateral loads.

d) Rappelling from rotorcraft

The stowed hook of an external helicopter winch may not be an approved hard point to which to attach a rope for rappelling. Personnel sliding down the rope inevitably produce shock loadings which may result in stretching (thinning) of the first 0.5m (18") or so of the cable wrapped around the drum.

4. Recommendations

With regard to the various items of equipment identified in this AWB, operators should ensure the following:

- a. Dispatcher harnesses have been manufactured to a CASA approved standard. [ATSO-C1003](#) is an approved standard.
- b. Dispatcher restraint straps have been manufactured to a CASA approved standard. [ATSO-C1001](#) is an appropriate standard.
- c. Personnel attached to a restraint strap adjust the length of the strap so as to minimise the 'slack' between the attachment point and the harness for Dispatch operations.
- d. Hard points intended to be used for attaching personnel harnesses and restraint straps are approved for that purpose.
- e. Hard points intended to be used for rappelling or fast roping are approved for that purpose.
- f. Equipment that has already been approved to [ATSO-C1001/ATSO-C1003](#) or by another means will require a separate installation approval. Contact your CASA Regional Office for advice.



5. Reporting

All defects in relation to personnel harnesses, restraint straps, tie down points and rappelling operations to be reported to CASA via the defect reporting system.

6. Enquiries

Enquiries with regard to the content of this Airworthiness Bulletin should be made via the direct link email address:

AirworthinessBulletin@casa.gov.au

or in writing, to:

Airworthiness and Engineering Standards Branch
Standards Division
Civil Aviation Safety Authority
GPO Box 2005, Canberra, ACT, 2601