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## AIRWORTHINESS DIRECTIVE

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For the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/CESSNA 170/57 Amdt 3 and issues the following AD under subregulation 39.1 (1) of CAR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

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### Cessna 170, 172, F172, FR172 & 175 Series Aeroplanes

**AD/CESSNA 170/57  
Amdt 4**

**Forward Door Post Bulkhead**

**2/2003**

**Applicability:** All tricycle undercarriage models that do not have Cessna Service Kit (SK) 172-147 incorporated as per Cessna SEB95-19.

**Requirement:**

1. Visually inspect the wing strut lower attachment structure to determine the type of strut attachment used. Aircraft with the earlier embedded type strut attachment are not subject to any further action. Aircraft with strut attachment fittings of the type with the protruding lug, similar to that shown in the diagram below, must comply with Requirement paragraphs 2 and 3.

*Note 1: This inspection may be easily accomplished by removing the strut attachment fairing at the lower end of one of the wing struts. Structure requiring further inspection is characterised by the strut attachment lug protruding beyond the fuselage skin.*

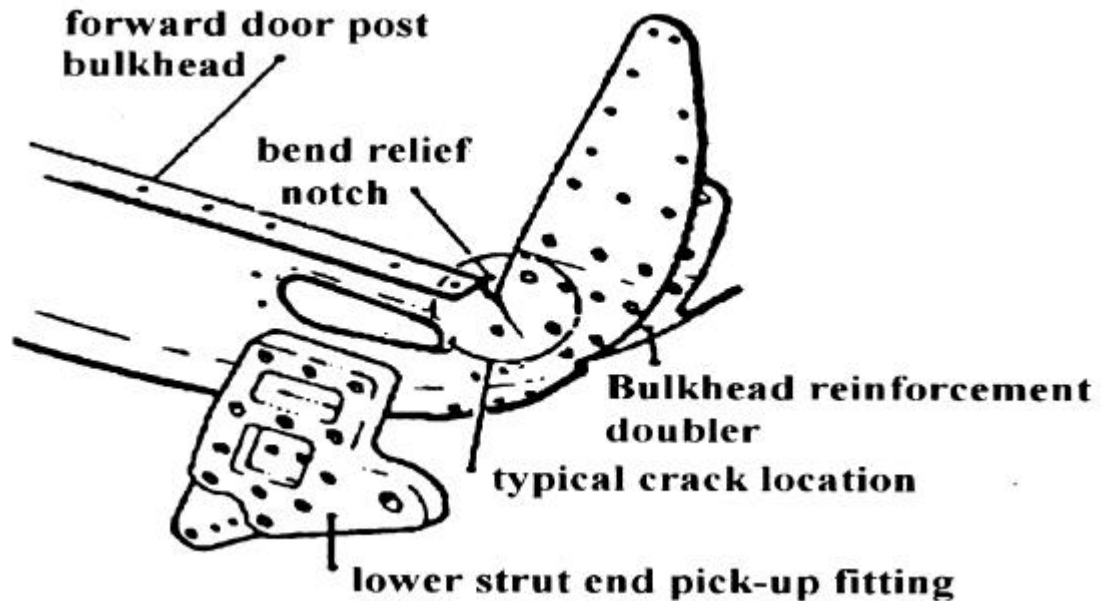
2. Visually inspect for cracks at the inside edge of the left hand and right hand bend relief notches of the forward door post bulkhead.
3. Visually inspect for loose or working fasteners securing the lower strut end pick-up fitting to the forward door post bulkhead. The inspection areas and typical crack location are shown in the diagram below.

*Note 2: Inspection in accordance with Requirement 2 will initially require removal of certain floor panels. Incorporation of inspection holes in accordance with an approved modification will allow inspection of the relief notch without requiring removal of the floor panels.*

*Note 3: Inspection in accordance with Requirement 3 may be accomplished from outside the aircraft via the hole exposed by removing the lower wing strut fairing.*

**Cessna 170, 172, F172, FR172 & 175 Series Aeroplanes**

AD/CESSNA 170/57 Amdt 4 (continued)



**Compliance:** Inspect before exceeding 1000 hours aircraft time in service, or before 50 hours time in service after 20 July 1995, whichever occurs last. Thereafter inspect in accordance with Requirements 2 and 3, as applicable, at intervals not to exceed 500 hours time in service.

*Note 4: Repaired or modified structure must continue to be inspected unless a variation to the requirements of this AD has been approved.*

This amendment becomes effective on 20 February 2003.

**Background:** Numerous reports have been received of cracking in this area on Cessna models 206 and 182. The structure on some models in the 170 range is similar.

The bend relief notch in the bulkhead serves as a stress concentration notch, causing fatigue cracks to propagate across the bulkhead web. The strut attachment area forms part of the wing's primary load path, and loss of strength in this area could be catastrophic. Although most of this area is covered by the strut attach fitting and a bulkhead reinforcement doubler, the inside edge of the bulkhead, where the cracks have been initiating, is visible without removing the lower strut attachment fitting.

Amendment 1 reduced the initial inspection time as several cracks have been found in model 182 aircraft, which are structurally similar to the model 172 at a low time in service. Cessna SEB 93-5, for the model 206, provides background information.

Amendment 2 was issued to allow the installation of Cessna Service Kit 172-147 as terminating action for the repetitive inspection requirement.

**Cessna 170, 172, F172, FR172 & 175 Series Aeroplanes**

AD/CESSNA 170/57 Amdt 4 (continued)

Amendment 3 is issued to allow the installation of Cessna Service Kit (SK) 172-149 as terminating action for the repetitive inspection requirement.

Amendment 4 is issued to remove the installation of Cessna Service Kit (SK) 172-149 as terminating action for the repetitive inspection requirement of this airworthiness directive as it is applicable to the lower aft doorpost not the lower forward doorpost. This returns this airworthiness directive back to the same applicability as amendment 2.

Amendment 3 of this Airworthiness Directive became effective on the 4 December 2002.

Amendment 2 of this Airworthiness Directive became effective on the 24 January 2002.

Amendment 1 of this Airworthiness Directive became effective on 20 July 1995.

The original issue of this Airworthiness Directive became effective on 27 April 1995.



David Alan Villiers  
Delegate of the Civil Aviation Safety Authority

18 December 2002