
AIRWORTHINESS DIRECTIVE

On the effective date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below repeals Airworthiness Directive (AD) AD/ROBIN/21 Amdt 2 and issues the following AD under subregulation 39.001 (1) of CASR 1998 and subsection 33 (3) of the *Acts Interpretation Act 1901*. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct an 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.

Robin Aviation Series Aeroplanes

AD/ROBIN/21 Stabilator Spar and Attachment Brackets 12/2015 **Amdt 3**

Applicability: This AD applies to all Model R2000 series aircraft.

Requirement: For all aircraft, excluding aircraft with Major Mod 79 bulkhead reinforcement embodied:

1. Visually inspect, with the aid of strong lighting, the forward face of the rear fuselage bulkhead, which supports the stabilator hinge brackets. Look for cracks and corrosion. Pay particular attention to the area outboard of the stabilator hinge bracket bolt holes and around the stabilator balance weight cutout.
2. Remove the stabilator from the aircraft, in accordance with paragraph 4.4.1 of the Avions Pierre Robin R2000 Service Manual, then remove the stabilator hinge brackets from the rear fuselage bulkhead. Inspect the forward and aft faces of the bulkhead, outboard of the hinge bracket bolt holes and around the balance weight cutout, using the fluorescent dye penetrant method as detailed in Civil Aviation Order 108.10.

Note: Alpha Aviation models R2160, R2160i & R2120U are manufactured with Major Mod 79 bulkhead reinforcement embodied.

For all aircraft:

3. Remove the stabilator from the aircraft, in accordance with paragraph 4.4.1 of the Avions Pierre Robin R2000 Service Manual, then remove the stabilator hinge brackets from the stabilator spar. Inspect around the bolt holes and nut plate rivets in the stabilator spar using the fluorescent dye penetrant method as detailed in Civil Aviation Order 108.10.

Compliance: 1. The action in Requirement 1 must be taken at the later of the following:

 (a) before 1 000 hours time in service; or

 (b) before further flight after 22 February 1995.

Thereafter, a subsequent inspection is to occur at each interval of no more than 100 hours.

2. The action in Requirement 2 must be taken at the later of the following:

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- (a) before 2 000 hours time in service; or
- (b) before 25 hours time in service after 22 February 1995.

Thereafter, a subsequent inspection is to occur at each interval of no more than 750 hours.

3. The action in Requirement 3 must be taken at the later of the following:

- (a) before 2 000 hours time in service; or
- (b) before 25 hours time in service after 22 February 1995.

Thereafter, a subsequent inspection is to occur at each interval of no more than 750 hours.

The effective date of this AD is 8 June 2015.

Background: During a precautionary inspection, not required by the maintenance schedule, a number of cracks were found in the rear fuselage bulkhead. Removal of the stabilator to facilitate repair revealed widespread cracking of the bulkhead and cracking of the stabilator spar near the hinge bracket bolts. The structural integrity of the stabilator attachment is critical to flight safety.

Amendment 1 included repeat inspections of the stabilator spar. Laboratory examination of the cracked stabilator spar has indicated that the condition of the rear fuselage bulkhead cannot be used to gauge the condition of the stabilator spar. The fatigue cracks in the stabilator spar started from fretting damage due to free movement of the stabilator hinge fittings and the balance weight attachment fitting.

Amendment 2 alleviated all R2000 aircraft with rear bulkhead strengthening modification (Major Mod 79) embodied, from the requirement for repetitive inspections to the forward face of the rear bulkhead structure.

This Amendment 3 further alleviates those models with the Major Mod 79 fitted from the requirements to inspect the aft face of the bulkhead due to the modification covering the area of interest and the manufacturer advising they have not received any reports of cracking occurring to models with the modification installed.



Mike Higgins
Delegate of the Civil Aviation Safety Authority

1 June 2015