
PROPOSED AIRWORTHINESS DIRECTIVE

This Proposed Airworthiness Directive (PAD) is issued by the Civil Aviation Safety Authority with a view to address the unsafe condition detailed below. The Airworthiness Directive (AD) will require 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.

Cessna 400 Series Aeroplanes

PAD/CESSNA 400/120 Fitting - Wing Attach - Lower Forward Carry Through Spar (L+R)

Applicability: All 400 series aircraft, except for models 404 and 441, with J&R manufactured fittings P/N JRA-445-1.

Requirement:

1. Remove inspection panels installed per Cessna SK421-152 (or by other means) to gain access to the subject fittings on both wings. Refer to Cessna IPC 53-40-00, page 4, Figure 01, item 169 for an illustration of the fitting and its location (left wing shown).
2. Visually inspect (using a borescope to assist the inspection if required) the whole visible area of the fitting as shown in Figure A. Look particularly for cracks or corrosion pitting over the whole visible surface of the fitting. Also inspect the inboard end of the fitting for evidence of crack initiation as shown by the arrow.

Note 1: It is not necessary to remove the primer for any of the above inspections.

Note 2: J&R fittings will have been drilled to match the original fitting hole locations, however this type of installation may result in preload of the fitting if hole line up is not optimal, setting up residual stresses which can exacerbate stress corrosion cracking. There are methods to avoid these residual stresses being introduced. Shimming can be one typical solution. There may be other methods.

Compliance: For fittings with less than 1000 hours/3 years accumulated time in service at the commencement date of this AD, conduct an initial inspection prior to exceeding 1000 hours component time in service, or three (3) calendar years, whichever occurs first. Thereafter, re-inspect at every 1000 hours or three calendar year intervals whichever comes first.

For fittings with more than 1000 hours/3 years accumulated time in service at the commencement date of this AD, conduct an initial inspection within 220 hours or 12 months, whichever occurs first, after the commencement date of this AD. Thereafter, re-inspect at every 1000 hours or three calendar year intervals whichever comes first.

Note 3: The initial and repeat inspection interval is the same as the Current SIDS inspection interval Ref: Cessna Model 401/402 Supplemental inspection Number 57-10-27. This AD may be accomplished during this SIDS inspection as the same parts are accessible.

Cessna 400 Series Aeroplanes

PAD/CESSNA 400/120 (continued)



Figure A – Actual failed fitting showing crack location

Cessna 400 Series Aeroplanes

PAD/CESSNA 400/120 (continued)

Background: This Airworthiness Directive is proposed after a Cessna 402C aircraft was found to have an approximately 4 inch crack extending from the inboard end of the fitting. The fitting was a J&R Aerospace (non-OEM) fitting with a time since new of 2831 hours. However, it was not possible to determine when this crack actually started. Further laboratory analysis of the failed fitting revealed that the material and process used to manufacture the fitting renders the fitting more susceptible to stress corrosion cracking in service.

It has been decided to produce a dedicated Airworthiness Directive to deal with the issue of corrosion and cracking in this fitting, rather than add the additional instructions to the existing CASA AD/CESSNA 400/92, which covers different fittings.

This AD requires an initial and repetitive visual inspection of J&R manufactured wing fittings. The initial and repeat inspection intervals have been chosen to align with current SIDS inspection interval for this area - Refer: Cessna Model 401/402 Supplemental inspection Number 57-10-27.

Remarks: This Proposed AD will be closed for consultation on 14 July 2017.

Enquiries/Feedback regarding this PAD should be referred to the AD Cell, email airworthiness.directives@casa.gov.au