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 issues the following Airworthiness Directive (**AD**) under subregulation 39.001 (1) of CASR 1998. 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.

Cessna 400 Series Aeroplanes

AD/CESSNA 400/120 Fitting - Wing Attach - Lower Forward Carry Through Spar (Left and Right Wings) 18/2017

Applicability: All Cessna 400 series aircraft, except for models 404 and 441, with J&R Aerospace manufactured fittings part number JRA-445-1 (the fittings).

Requirement:

1. Remove inspection panels that are previously installed in accordance with Cessna Service Kit SK421-152 as in force at the date of this instrument, (or by other access means if these inspection panels are not installed) to gain access to the fittings on both wings;

   Examine Cessna Illustrated Parts Catalog (IPC) 53-40-00, page 4, Figure 01, item 169 (left wing shown), as in force at the date of this instrument, to identify the fitting and its location on each wing;

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 Aerospace 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 or 3 years (whichever occurs first) 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 occurs first, or

For fittings with more than 1000 hours or 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.

Cessna 400 Series Aeroplanes

AD/CESSNA 400/120 (continued)

Note 3: The initial and repeat inspection interval is the same as the Current Supplemental Inspection Documents (SIDS) inspection interval in Cessna Model 401/402 Supplemental inspection Number 57-10-27. This AD may be accomplished at the same time as the SIDS inspection.

Figure A.

Cessna 400 Series Aeroplanes

AD/CESSNA 400/120 (continued)

This AD commences on 31 August 2017.

Background: This Airworthiness Directive was issued because 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.

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.

Christopher De Luis
Delegate of the Civil Aviation Safety Authority

29 August 2017