

# Continuing Airworthiness Notice – 73-003



## Precision RSA-10AD1 Fuel Control Unit (FCU) – Possible Fuel Flow Restriction

26 June 2014

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A Continuing Airworthiness Notices (CAN) is issued by the Civil Aviation Authority of New Zealand in the interests of aviation safety to alert, educate and make recommendations to the aviation community of essential information not considered mandatory. The information in this CAN does not meet the criteria for an Airworthiness Directive (AD). The inspections and practices described in this CAN must still be carried out in accordance with the applicable NZCAR Parts 21, 43 and 91.

**CAN numbering is by ATA Chapter followed by a sequential number for the next CAN in that ATA Chapter.**

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### Applicability:

Precision RSA-10AD1 Fuel Control Units (FCUs) installed on, but not limited to Robinson R44 II helicopters fitted with a Lycoming IO-540 engine.

### Purpose:

The purpose of this Continuing Airworthiness Notice (CAN) is to advise aircraft owners, operators and maintainers of a possible defect with Precision RSA-10AD1 FCUs which could result in a restricted fuel flow and a loss of engine power.

### Background:

This CAN is prompted by an incident reported to the CAA of a loss of engine power on a Robinson R44 II which resulted in the pilot carrying out a successful auto-rotation landing. A subsequent examination of the FCU revealed delaminated material from washer P/N 367757 which was ingested through the fuel system and resulted in a loss of engine power. The material found was similar in appearance to Polytetrafluoroethylene (PTFE) thread-tape. A laboratory analysis determined that the composition of the material as PTFE, a thermoplastic polymer associated with washer P/N 367757. This washer is fitted to the fuel cylinder injector in the FCU. Refer to the attached photos for more detail.

Since this incident the CAA has been advised of a further five defects associated with the FCU washer.

### Recommendation:

Precision Airmotive Service Bulletin PRS-108 dated 26 January 2012 advises of the potential adverse consequences which may result from the use of unacceptable cleaning fluids on diaphragms, o-rings and other non-metallic components in RS and RSA series fuel injection systems manufactured by Precision Airmotive or Bendix. SB PRS-108 can be obtained from Precision Airmotive at <http://www.precisionairmotive.com/servpubs.htm>

Anecdotal information suggests that washer P/N 367757 may be delaminated if the throttle is stiff, or if reduced engine performance is experienced. An inspection of washer P/N 367757 cannot be accomplished in situ, or in the field. Disassembly of the FCU is required which can only be accomplished by an overhaul facility.

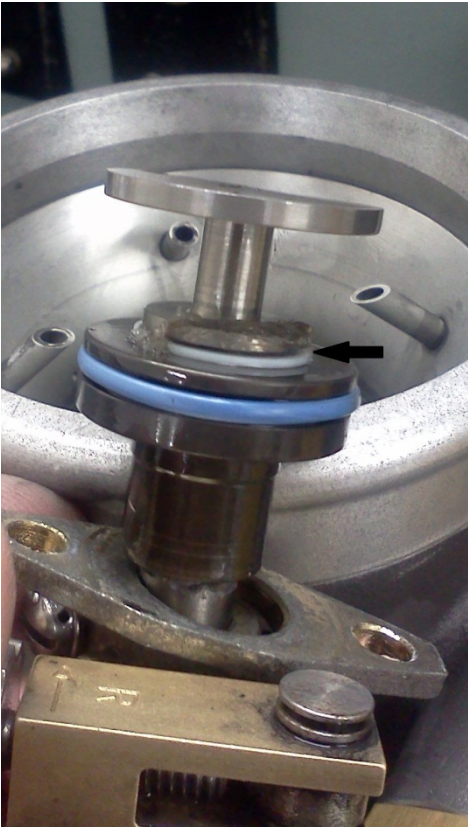
The CAA is continuing to investigate the failure to determine the cause of the delamination. Further action may follow.

To assist the CAA with this investigation please report any incidents or defects found with Precision RSA-10AD1 FCUs to the CAA by completing a CA005 Defect Report form. Please provide as much engineering detail as possible. The form can be obtained from [http://www.caa.govt.nz/Forms/CA005D\\_Form.pdf](http://www.caa.govt.nz/Forms/CA005D_Form.pdf)  
The completed form can be emailed to the CAA at [CA005@caa.govt.nz](mailto:CA005@caa.govt.nz)

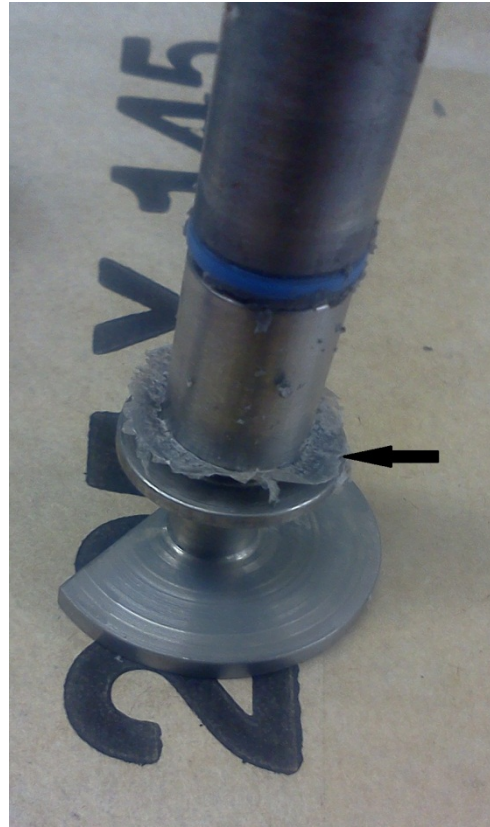
### Enquiries:

If you are affected by this CAN, or have any enquires please contact:

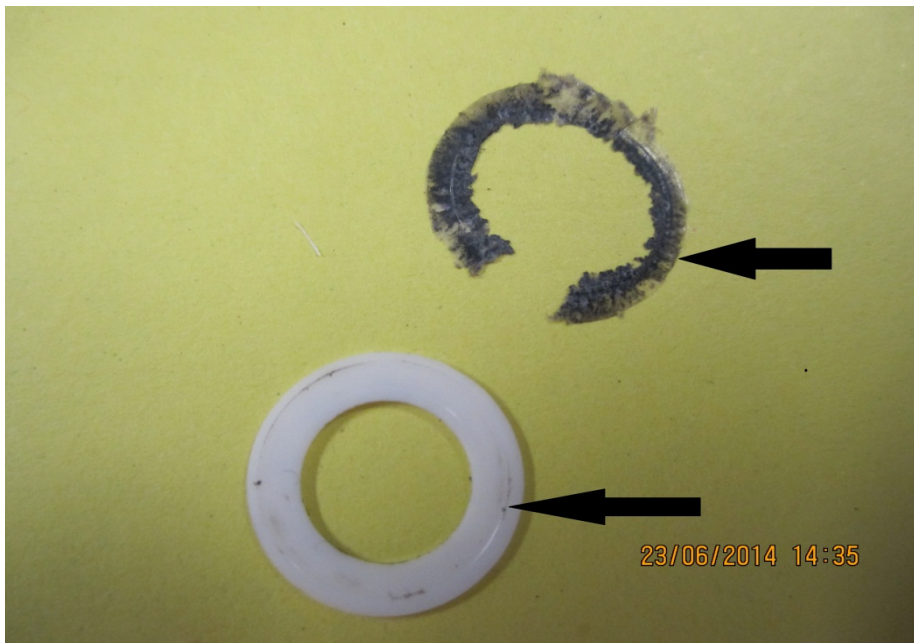
Paul Breuille  
Safety Investigator Rotary  
Email: [Paul.Breuille@caa.govt.nz](mailto:Paul.Breuille@caa.govt.nz)  
Phone: 04 560 9539



Washer P/N 367757 in situ on the fuel cylinder injector shaft.



Delaminated material found with washer removed.



Delaminated material and washer P/N 367757.