

Continuing Airworthiness Notice – 27-020



Flap Support and Roller Bearing Inspection - Cessna 150, 152, 170, 172, 180, 182, 185, 188, 206, 207 and 210 aircraft series

18 May 2021

Issued by the Civil Aviation Authority of New Zealand in the interests of aviation safety. A Continuing Airworthiness Notice (CAN) is intended to alert, educate, and make recommendations to the aviation community. A CAN contains non-regulatory information and guidance that 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.

Applicability:

All Cessna 150, 152, 170, 172, 180, 182, 185, 188, 206, 207 and 210 aircraft series.

Purpose:

The purpose of this Continuing Airworthiness Notice (CAN) is to alert operators and maintainers of the importance of accomplishing a thorough inspection of the flap supports and rollers bearings for wear and corrosion. Service experience indicates the possibility of flap support wear by the flap roller bearings. Failure to accomplish a thorough inspection of the flap supports and roller bearings could result in damage to the flap supports, restriction of flap free movement, and a possible flap asymmetric condition.

Background:

This CAN is prompted by a recent report of the LH wing flap on a Cessna 172 failing to retract fully on a training flight, which resulted in an asymmetric flap condition.

During routine circuit training on a go-around with full power selected and the flaps selected UP, the aircraft rolled to the right, which the student pilot had difficulty controlling. The instructor took control and noted that the LH flap was stuck in the DOWN position and the RH flap had retracted as normal. Fortunately, the instructor was able to maintain control of the aircraft and carry out a successful emergency landing.

An inspection of the LH flap assembly revealed a failed/broken flap attachment roller assembly P/N 0523920 at the forward position of the inboard track of the LH flap.

The investigation determined that with the flaps selected UP, the unsupported LH flap jammed on the flap support bracket, which prevented flap retraction. Minor flap deformation was also detected due to the mechanical force of the flap drive motor applied to the jammed LH flap.

The CAA and operator investigations identified the potential for a serious outcome had the circumstances been different. Similar events have resulted in fatal accidents overseas. This shared concern has prompted this CAN.

Recommendation:

The CAA recommends that aircraft operators/maintainers familiarise themselves with the instructions in Cessna SEB95-3 Revision 1, dated 10 March 1995, or later approved revision, and comply with the instructions in this SB.

Failure to accomplish a thorough flap support and roller bearing inspection and the embodiment of stainless-steel washers on each side of the roller bearings in accordance with SEB95-3, could result in damage to the flap supports and/or loss of flap control.

Service experience received by the aircraft manufacturer indicates the potential for wear occurring in the flap supports by the flap roller bearings. To assist in preventing this condition from occurring, an inspection of the flap supports, and all the roller bearings is required, including embodiment of stainless-steel washers on each side of the forward roller bearings.