

Technical Information Notice

TIN No.:	TIN-04-2020	Revision No.:	1.0	Issue Date:	11/03/2020
Title:	Owners Service Bulletin – OSB 33 Issue 1.0 Control Surface Corrosion and Cracking				
Applicability:	Ikarus C42 all models				
Information Type(s):	MANDATORY				
Modification:		Airworthiness / MPD	✓	Maintenance / Operation	
Parts:		Inspection		Other	
Importance:	ESSENTIAL	✓	HIGH	ROUTINE	
<p>Subject Summary / Description of Problem:</p> <p>Inspection of control surface hinge and horn attachments for corrosion or cracking of aluminium tubes.</p> <p>A number of high hours examples and/or those kept outside (particularly near the coast) of C42 aircraft have been found to have suffered corrosion of the control surface front spar tubes where the eyebolt hinges and, in the case of the aileron, where the aileron horn are attached.</p> <p>The corrosion is related to the dissimilar metals in contact at these positions combined with moisture, and may be exacerbated by salt-laden coastal air.</p> <p>In addition, localised cracking around the eyebolt hinge attachments has been noted where the eyebolt has been overtightened with resulting deformation of the aluminium tube. This may also be exacerbated by corrosion in this area.</p> <p>See example photographs on following pages.</p> <p>Airworthiness Implications</p> <p>The corrosion may result in partial loss of control of the associated control system.</p> <p>The late discovery of this damage may be indicative of a failure to perform proper maintenance and inspection of the aircraft concerned.</p> <p>Aircraft Affected</p> <p>C42 all models.</p> <p>Hours of Operation</p> <p>Aircraft older than 10 years from date of manufacture.</p>					

In the event of any questions relating to this Information Notice please contact

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Example Photographs



Figure 1, severely corroded aileron centre eyebolt hinge attachment point (hidden under fabric covering in service).

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Figure 2, cracked aileron inboard eyebolt attachment, caused by overtightening eyebolt onto flat ended insert (not hidden by fabric covering in service).

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Figure 3, hole where aileron horn passes out lower side of aileron front spar tube (hidden beneath fabric covering in service).

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Action Required:

(A) Inspection

1. Before next flight, visually inspect the aileron, flap, elevator and rudder eyebolt hinge attachments for corrosion or cracking where they are not covered by the fabric coverings (this should be a standard part of a normal pre-flight check).
2. Before next flight, secure the control stick against movement using straps or a helper. Apply hand force to the control surfaces whilst watching the control horns, in order to discover any movement due to corrosion failure of either the eyebolt hinge attachments or the horn attachments. Moderate hand pressure (~10kg) may be applied to the trailing edge near each hinge, and to the control surface front spar immediately adjacent to each hinge.
3. Within 10hrs or 1 month of the date of this TIN inspect the control surface front spar tubes for corrosion or cracking where the eyebolt hinges or other bolted fittings are hidden by the fabric coverings. This may be an external inspection by removing the coverings, or an internal inspection using an Endoscope.

(B) Repair

If any of the tubes are corroded or cracked they must be replaced.

Contact TLAC for parts and instructions.

If any of the tubes shows signs of distortion at the eyebolts, but show no evidence of cracking, they may continue in service subject to the usual 50hr eyebolt hinge inspections as specified in the Maintenance Manual. Note that this includes inspection of the tubes where the eyebolt attachments are hidden by the coverings.

(C) Record the inspection and any repairs in the aircraft logbook.

Note that if the flying controls are disturbed that a duplicate inspection must be performed by a competent person on reassembly.

(D) Ongoing maintenance



Application of corrosion protection, such as ACF50, XCP Rust Blocker or similar, by spraying into the tubes is recommended. The frequency of application depends on the environment in which the aircraft is stored and operated.

CAA CAP 1570 (Corrosion and Inspection of General Aviation Aircraft) is a very good resource:

https://publicapps.caa.co.uk/docs/33/CAP1570_Corrosion.pdf

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Authorised on Behalf of TLAC: Paul Hendry-Smith		Date	
Position:	Chief Executive	Signature:	
Authorised on Behalf of COMCO IKARUS : Paul Welsh		Date 11/03/2020	
Position:	Certification Engineer (C42 Type)	Signature:	

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