

Jabiru Service Letter: Cylinder barrel threads		JABIRU AIRCRAFT PTY LTD			
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JSL024-1	Release Date: 11 th September 2020	Effective Date: 11th September 2020	Affected Models: See Applicability	S/No. Range: See Applicability	Page 1 of 4

SERVICE LETTER: JSL024-1

Issue: 1

Release Date: 11th September 2020

Effective Date: 11th September 2020

Subject: Cylinder barrel threads

Affected Variants: Jabiru Engines Gen 3, 2 and 1

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1 Applicability

This applies to all Jabiru Engines (excluding Generation 4 engines) that are fitted with replacement steel cylinder-barrels that were purchased after the following dates.

- 3/8" bolt holes – May 2016
- 7/16" bolt holes – Mar 2019.

2 Background

This Service letter has been released to address potential issues relating to bottoming of cylinder-head attachment bolts in the thread on the cylinder-barrel.

2.1 General

2.1.1 Bottoming of Cylinder Head bolts.

In a Jabiru engine top end assembly, it is possible for the thread of the cylinder head attachment bolts to bottom out within the thread holes in the cylinder barrels when the cylinder head is torqued down. Though unlikely in assemblies using a new cylinder-head and new cylinder-barrel, older cylinder heads have a slight variation in shape, therefore some attachment

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bolts may tighten against the end of the thread rather than applying clamping force to the cylinder head. This is most prevalent on the exhaust port side of the cylinder-head. Without proper clamping the seal between the cylinder-head and cylinder-barrel may be compromised, causing leakage of combustion gases.

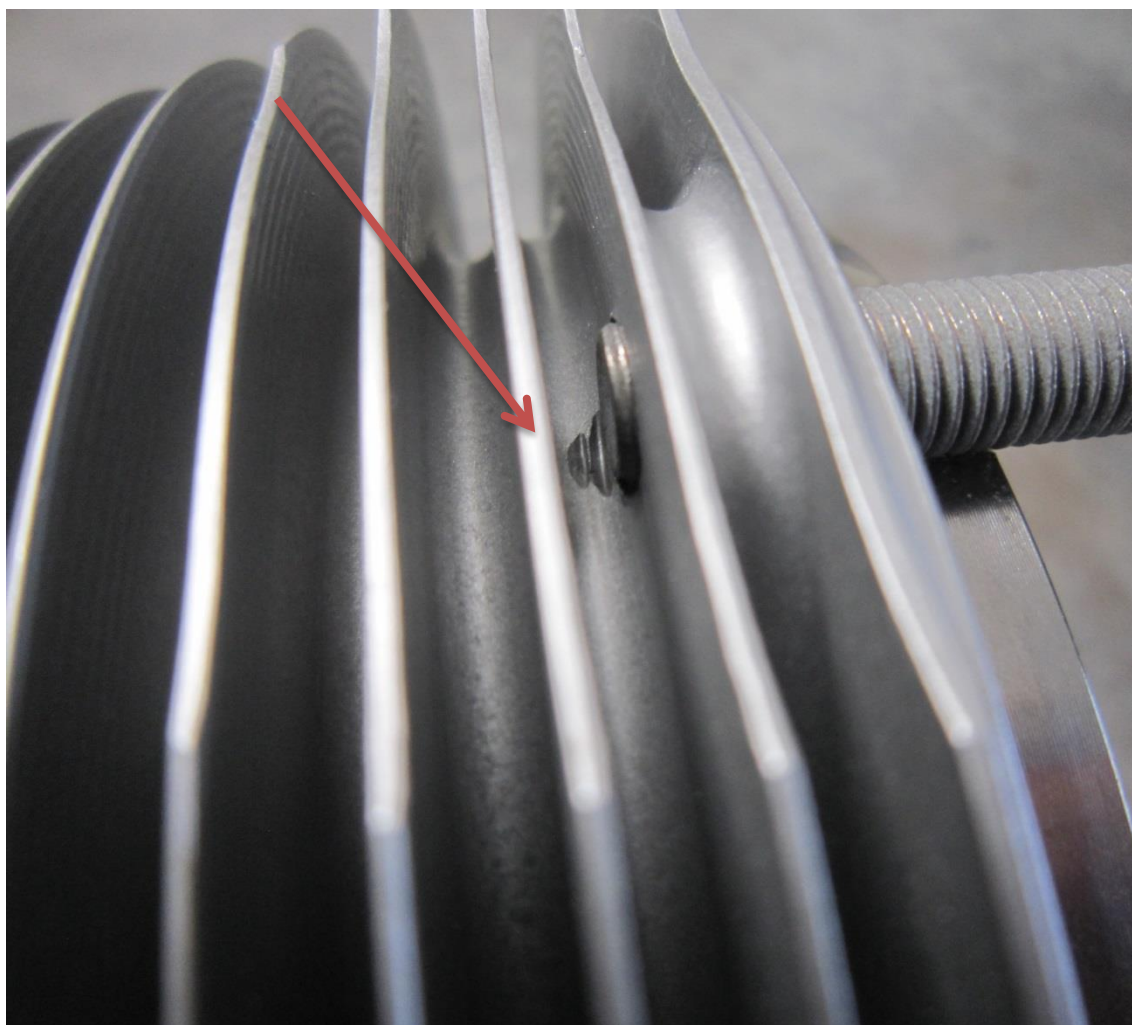


Figure 1: Bolt against end of usable thread, any further tightening will damage bolt thread.

3 Procedures

3.1 Check for bottoming of the attachment-bolt threads.

During routine cylinder-head bolt torque checks, each attachment-bolt should be inspected to ensure that it hasn't bottomed out in the threads of the cylinder-barrel.

- The first step is to observe how far the end of each attachment-bolt protrudes out of the threads in the cylinder-barrel (see Figure 1 above).
- If any more than that shown in the above figure (i.e. about ½ to 1 thread), the bolt should be backed off ½ turn or removed and the threads on the end of the bolt inspected for damage (squashing or galling).

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3.2 Rectification

If there are signs that the threads of any of the cylinder-head attachment bolts have bottomed out rectification is required. There are two options regarding rectification work.

3.2.1 Option 1:

- Put a flat washer under the head of the attachment bolt to reduce the reach of the bolt.
- On several of the attachment bolts, there exists little lateral space so a relatively small diameter washer will be required.
- In all cases aircraft grade washers must be used such as half thickness and full thickness AN5 plain washers. Note that due to lateral clearance issues some modification (e.g. grinding the edges) of these washers may be required to allow them to fit correctly.
- After reinstallation of the attachment bolt with the spacing washer(s), make sure that the attachment bolt still comes at least flush through the threads in the cylinder-barrel. If the end threads of the attachment bolt have been damaged by binding or galling then it must be replaced with a new one.

3.2.2 Option 2:

- Grind the end of the bolt so that the excess thread that protrudes past the threads on the barrel is entirely removed. Full thread engagement in the barrel is still required.
- Grinding the thread away, so the tip of the attachment bolt is tapered may also be sufficient to prevent the bolt bottoming and the thread binding.
- Do not overheat the bolt during any grinding processes conducted.

4 Compliance

- Check at next 25 hr service and ongoing monitoring at every scheduled routine maintenance interval there after (If the bolt continues to tighten on successive services it may end up binding again and this must be monitored).
- The inspection prescribed and any rectification work must be conducted in accordance with this service letter.
- Reference to JSL024-1 should be made in the relevant aircraft and/or engine log book after completion of the inspection and/or rectification work.

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LSA Service Notification: JSN024

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Applicability:

- This Notification is applicable to all LSA products which fall within the Applicability ranges given in Jabiru Service Letter JSL024-1

Requirement:

- Operators of aircraft within Light Sport Aircraft categories must comply with any requirements of Jabiru Service Letter JSL024-1

Compliance:

- Any compliance details given in JSL024-1 must be met.

Background:

- This LSA Service Notification is advice of JSL024-1 for Jabiru engines operating within Light Sport Aircraft Categories.