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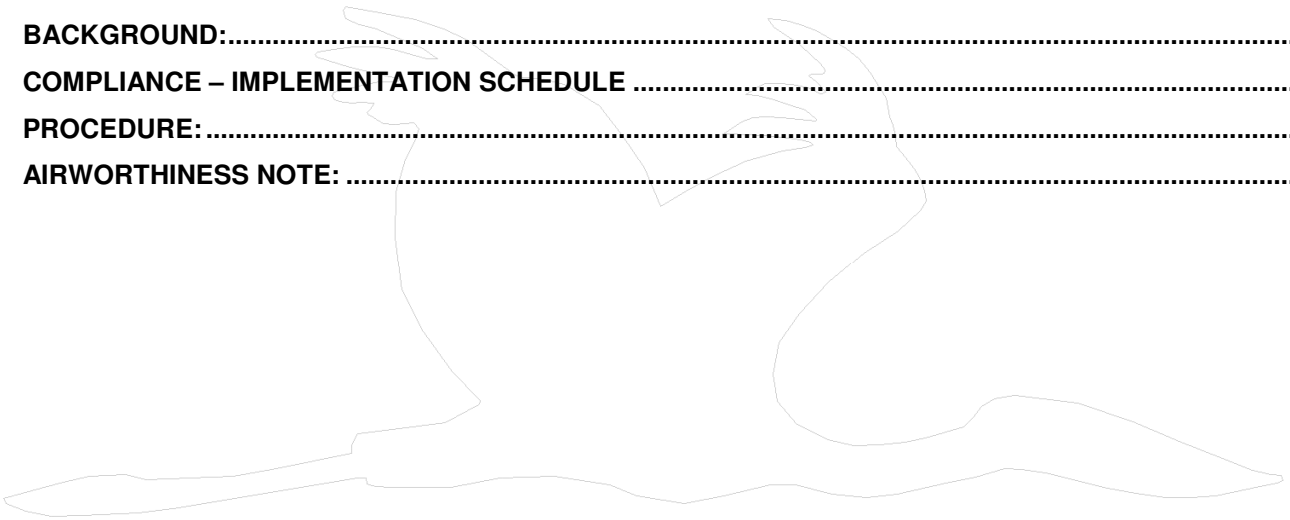
SERVICE BULLETIN: JSB 027-1

Issue: 1

Date: 9th July 2009

Subject: Control Cable Clamp Inspection (Kit Models)

Issue	Reason for Issue	Revision Status
1	Original Issue	CURRENT



1 Applicability

All kit-built Jabiru Aircraft.

Note: For aircraft in Kit-Built Light Sport Aircraft categories this Bulletin is equivalent to a Manufacturer's Safety Direction.

2 Background:

2.1 General

- Worldwide, several cases have been reported where the push-pull control cables used in Jabiru Aircraft have disconnected from their anchoring clamps.
- This can potentially result in a control surface (rudder, aileron or elevator) not responding to control inputs.
- Investigation into these events has shown that they have been caused by incorrect assembly.
- In several cases the misassembled clamps had been checked & approved by independent inspectors more than once.
- This Service Bulletin has been prepared to raise awareness of the issue and to improve knowledge of the installation and inspection requirements of these cables.

2.2 Clamp Details

- The Figures below show various pictures of the cable clamps and cable assemblies. Points to note include:

i. Primary cables have a green outer sheath with machined end fittings.
ii. Trim cables have a black outer sheath with a visible crimp on the end fitting.
iii. Primary cable clamps are smaller than trim cable clamps and have square corners.
iv. Primary cable backing plates are smaller, have a slotted hole and are made from aluminium.
v. The two cables are made by different manufacturers and the clamps are supplied by each manufacturer to suit. **The correct type of clamp must be used with each cable.**
vi. The rubber seal of primary control cables must be pulled back slightly to allow the clamps to be installed properly.

- Both cables use clamps which work by the same means: the clamp has a locking tang which inserts into a groove machined in the cable end fitting.

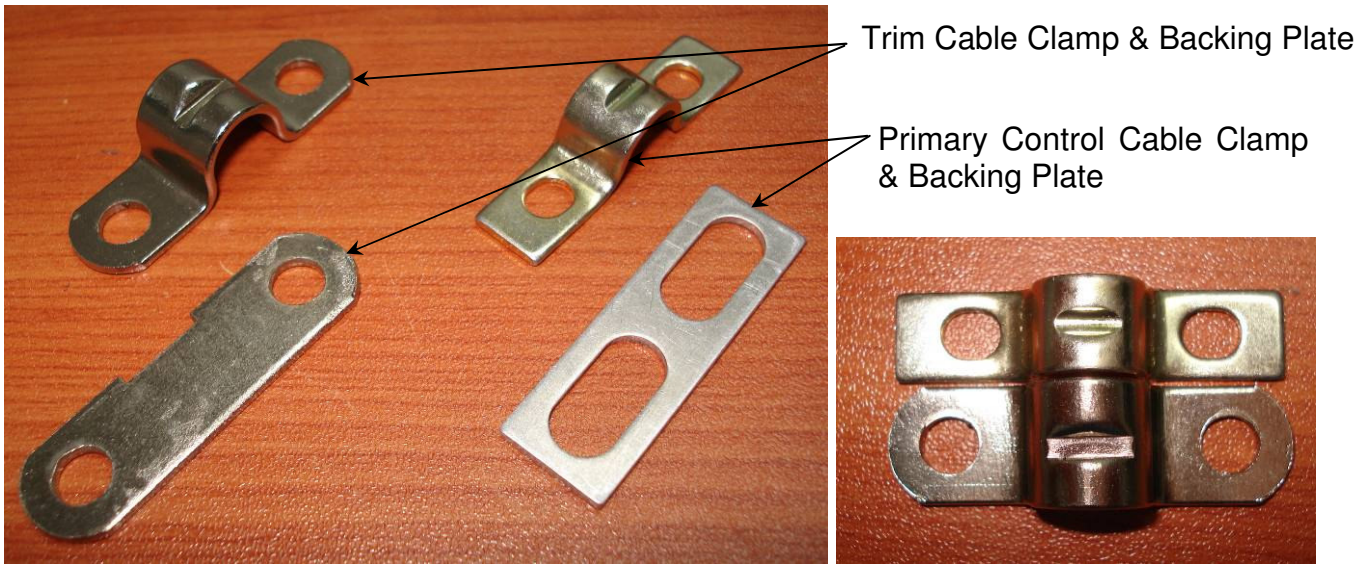


Figure 1 – Clamp Comparison (Primary Cable Clamp Upper on Right Picture)

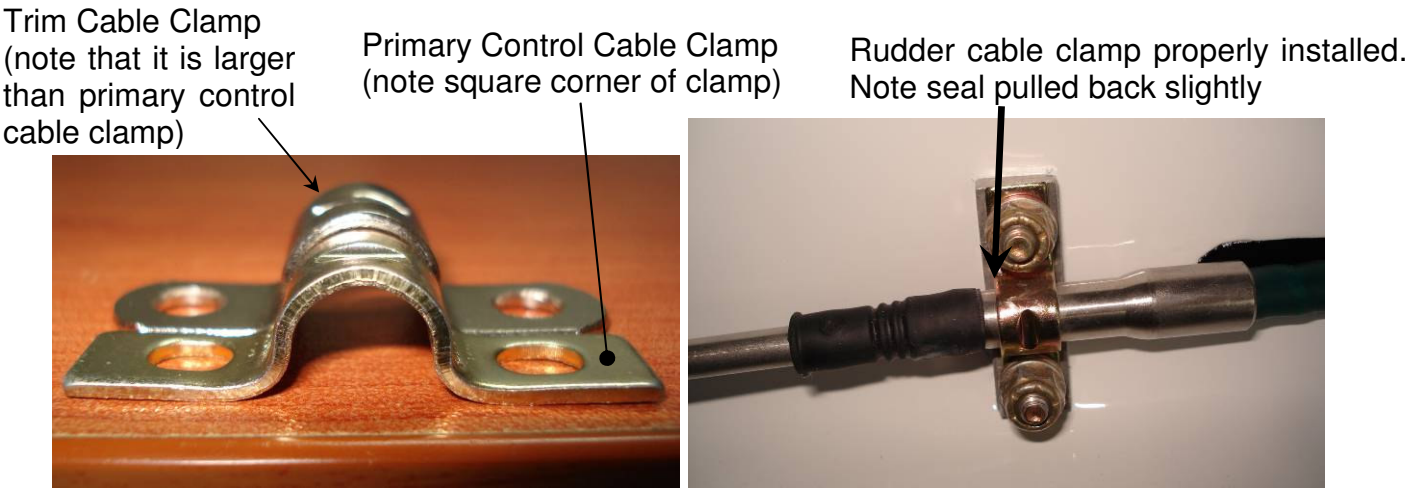


Figure 2 – Clamp Comparison & Installation (Rudder Cable)

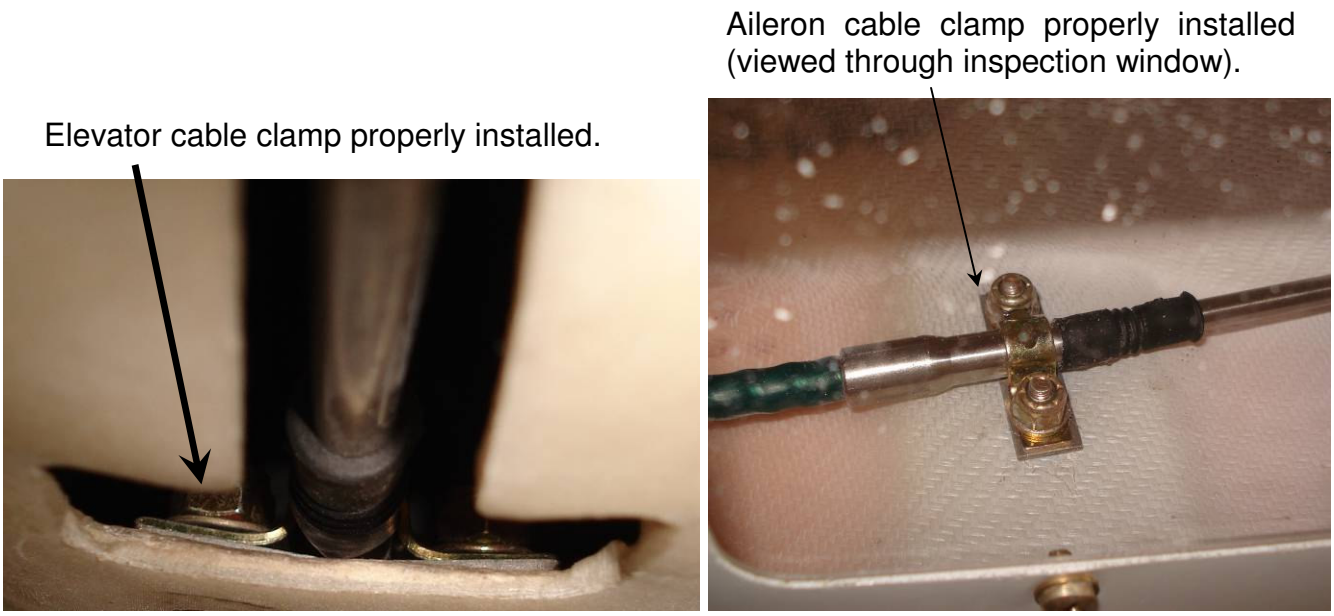


Figure 3 – Clamp Installations (Elevator & Aileron)

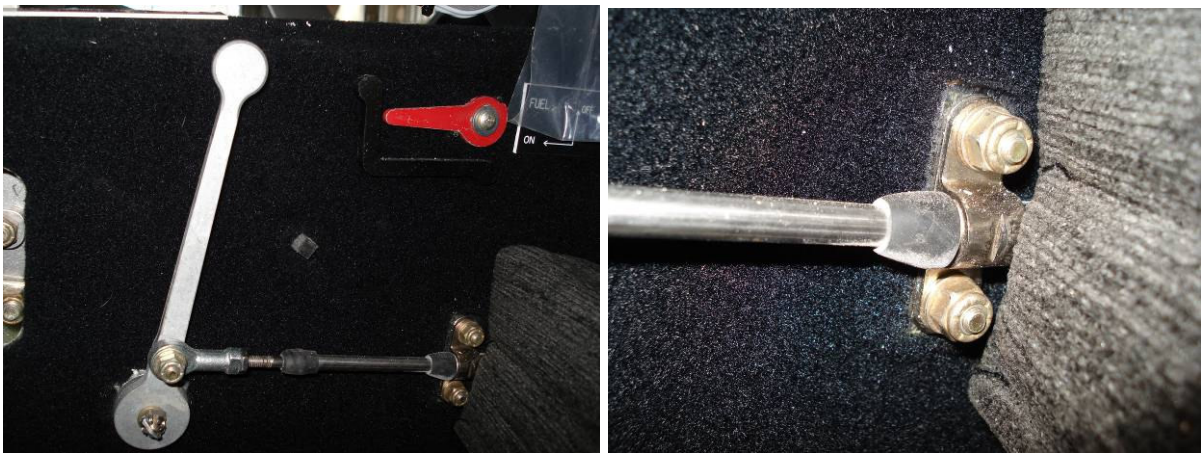


Figure 4 – Trim Cable Clamp Installation

Figure 5 – Cable & Clamp Comparison

Clamps correctly assembled. Locking tangs correctly fitted, clamp fitting snugly around body of cable.

Clamps incorrectly assembled. Locking tangs misaligned, clamp not fitting properly around body of cable.

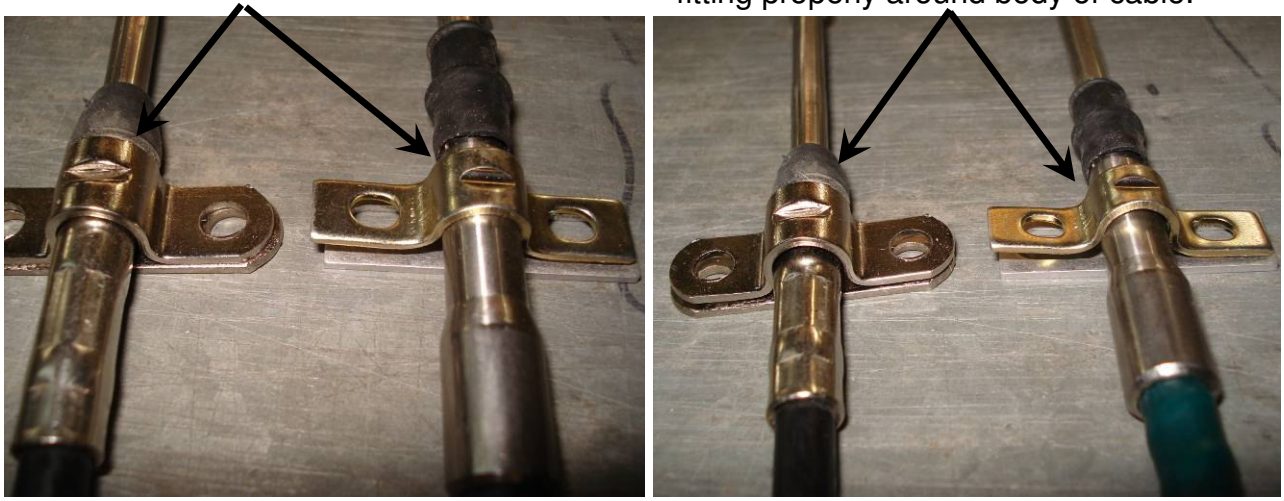


Figure 6 – Correct and Incorrect Clamp Installation

3 Compliance – Implementation Schedule

Note: The requirements listed below may be supplemented by the requirements of the aircraft's relevant Airworthiness Authority. Operators are responsible for ensuring that they meet their airworthiness requirements.

- Aircraft should be given a 1-off inspection as detailed below within 5 hours time in service or 3 months – whichever is the sooner.
- Technical Manuals for Jabiru Aircraft require control inspections during regular maintenance. The procedure given below is to be used during these inspections.
- The inspection is to be repeated any time the controls are re-assembled after being de-rigged (i.e. whenever control cable clamps are disturbed).

4 Procedure:

- Visually inspect each cable clamp fitted to the aircraft.

i. Ensure the correct type of clamp is fitted to each cable.
ii. Ensure the clamp is located correctly – i.e. directly over the locking slot.
iii. Ensure each clamp is correctly installed with the clamp tang engaging fully with the cable end fitting. Note that in some cases this may require the use of mirrors, flashlights etc to get a satisfactory view of the assembly.
iv. Ensure clamp bolt grip length is correct (i.e. the nut is not bottoming out or out of safety) and that the cable is firmly held together and firmly held against the structure.
v. Ensure the clamps and mounting hardware are in good condition – no rust etc.

- Manually check that each clamp is firm – such as by gripping the end of the fixed section of the cable and pulling it back and forth while watching for movement. The inspector must also work the control surface through it's full range of motion, checking for looseness in the clamp assembly.
- Where practical, holding a finger against the clamp as the above tests are carried out allows even small motions or looseness to be detected more readily by feel.
- Do not pull sideways on the cable.

5 Airworthiness Note:

- Standard aircraft practices apply to nuts used in the control system assembly: when tightened no less than 1 and no more than 3 threads must show through the nut.
- All work called for by this Bulletin must be carried out by authorised personnel. For the aircraft detailed herein this may mean the owner, an RA-Aus Level 2 holder, a Licensed Aircraft Maintenance Engineer (LAME) or equivalent – as appropriate to the aircraft's registration and use (Private or Air Work operations).
- On completion of the work, the authorised person must note the completion of the actions required by this bulletin in the aircraft's maintenance logbook. This note should include the date of the work and the identity (including licence number where appropriate) of the person carrying out the work.