

# **Technical Note TN.JS-010**

# 06 July 2012

#### TITLE

Rudder Pedal Replacement

### REASON

The rudder pedal S-tube design has been refined to reduce rudder control cable wear in S-tubes.

### DESCRIPTION

Replacing the rudder pedals with refined S-tube design on the JS1-A and JS1-B Revelation sailplane.

#### **INSTRUCTIONS**

If the rudder pedal assembly has M4 nuts on either side of the main pedal axis follow these instructions. See rudder pedal system assembly D1A-1.21 issue 4.0

- 1. Cut the rudder control cables and slide the rudder control cables out of the pedal Stubes.
- 2. Adjust the rudder pedals to the full back position on the slider beam (D1A-1.21 Item 1, referred to as "Main Tube Weld") for better access.
- Unscrew and remove the M4 nuts on either side of the main pedal axis (D1A-1.21 Item 6).
- 4. Unscrew and remove the end caps (D1A-1.21 Item 7) positioned on both sides of the main pedal axis (D1A-1.21 Item 6).
- 5. Unhook both of the springs (D1A-1.21 Item 12) from the rudder pedal assembly.
- 6. Slide both rudder pedals off the hinge tubes. If there is insufficient space to remove the pedal, move the main pedal axis (D1A-1.21 Item 6) to the opposite side from the rudder pedal being removed as depicted in Figure 1.



Figure 1: Removal of Rudder Pedals

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- 7. Remove and replace the threaded shaft (D1A-1.21 Item 8) with the supplied threaded rod (Part no.1A-1.21.20.14#v2).
- 8. Slide on the supplied rudder pedals (part no. 1A-1.21.20w#v4, 1A-1.21.21w#v4). (If the rudder pedal's bottom pivot tube length is +/- 52mm as depicted in Figure 2 (1A-1.21.20w or 1A-1.21.20w#v2, 1A-1.21.21w or 1A-1.21.21w#v2), a 5mm spacer must be added to the assembly on either side of the main pedal axis before the supplied rudder pedals (part no. 1A-1.21.20w#v4, 1A-1.21.21w#v4) are installed.)



Figure 2: Measure Rudder Pedal Bottom Pivot tube

- 9. Screw the end caps (D1A-1.21 Item 7) onto the threaded shaft (D1A-1.21 Item 8) and into the main pedal axis (D1A-1.21 Item 6).
- 10. Tighten the end caps (D1A-1.21 Item 7) finger tight, with the threaded shaft (D1A-1.21 Item 8) protruding equal amounts on either side of the main pedal axis (D1A-1.21 Item 6).
- 11. Move the rudder pedals fully forward on the slider beam and check for clearance at the top of the rudder pedals with the sides of the aircraft nose during control movement. If either pedal interferes with the fuselage, remove both rudder pedals and remove material from the 5mm spacers on the long side. Additional spacers will need to be inserted on the opposite side of the rudder pedal the width of spacer(s) must equal the amount of material removed from the 5mm spacer as depicted in Figure 3. Remove material from the spacers until the rudder pedals clear the fuselage.
- 12. Reinstall rudder pedal system using steps 8 to 11.

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Figure 3: Addition of Spacers to Step Up Rudder Pedals with Throw Clearance

- 13. Apply Loctite on the M4 nyloc nuts (D1A-1.21 Item 42) and install at both ends of the main pedal axis (D1A-1.21 Item 6), ensuring that there is at least 2mm of thread protruding on each end of the M4 nyloc nuts (D1A-1.21 Item 42).
- 14. Replace the rudder control cables according to Technical Note TN.JS-009.

If the rudder pedal assembly has lock rings on either side of the main pedal axis follow these instructions. See rudder pedal system assembly D1A-1.21.20 issue 3.1

- 1. Cut the rudder control cables and slide the rudder control cables out of the pedal Stubes.
- 2. Adjust the rudder pedals fully back on the slider beam for better access.
- 3. Remove the seloc pins and lock rings (D1A-1.21.20 Item 9).
- 4. Unhook both the springs on the rudder pedals.
- 5. Slide both rudder pedals off the main pedal axis (D1A-1.21.20 Item 8). If there is insufficient space to remove the pedal, move the main pedal axis (D1A-1.21.20 Item 8) to the opposite side from the rudder pedal being removed.
- 6. Insert 5mm spacers on both ends of the main pedal axis (D1A-1.21.20 Item 8).
- 7. Insert the supplied rudder pedals (part no. 1A-1.21.20w#v4, 1A-1.21.21w#v4).
- 8. Insert the lock rings (D1A-1.21.20 Item 9) on both sides.

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9. Insert the seloc pins.

10. Follow the Technical Note TN.JS-009 to replace the rudder control cables.

## MATERIAL

- 2x 5mm spacers (Part no.1A-1.21.20.22)
- LH & RH rudder pedals v4 (Part no.1A-1.21.20w#v4, 1A-1.21.21w#v4)
- 1x Threaded Shaft v2 M4 X 185mm (Part no.1A-1.21.20.14#v2)
- 2x M4 nyloc nuts (Stock code 4.4.08)
- 2x Seloc pins Ø 4mm x 20mm (Stock code 4.2.05)
- Loctite 243 (not supplied)

## SUPPLIED DRAWINGS

- D1A-1.21 issue 4.0
- D1A-1.21.20 issue 3.1

## MASS AND BALANCE

No effect on mass and balance

## NOTES

This Technical Note must be accomplished by approved maintenance personnel.

The original rudder pedals must be returned to a Jonker Sailplanes agent.

Aircraft up to 1B-011 use the lock ring method. Aircraft from 1B-013 onwards use the threaded shaft method. Both designs are approved.

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