

Working instructions for SB G304eS-14a)

Type HPH Glasflügel 304	Model Glasflügel 304eS	Serial No.		Registration	
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This procedure describes the necessary steps for inspection and replacement (if necessary) of shunt cable attachment screws for 304eS sailplanes with FES propulsion system.

This document serves as a reference for Service Bulletin G304eS-14a).

The following materials, parts and tools will be used:

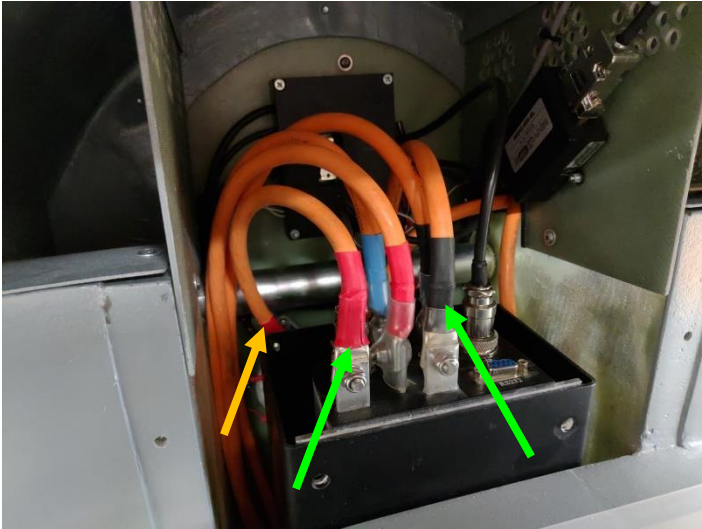

- Steel screws (3/8" - 16 UNC thread) – 2pcs
- „Schnorr“ safety spacers for 3/8" or 10mm screws – 2pcs
- Medium strength thread lock adhesive (Loctite 243 or equivalent)
- 14 size key
- Torque wrench set for 17Nm of torque
- Set of metric size spanners and hex (allen) keys

SAFETY WARNING: FES battery packs must be disconnected and removed from the sailplane during maintenance work!

Step #	Procedure and materials used
1	<u>Steps 1-7 - Access</u> Disconnect the battery packs and remove them from the battery compartment
2	Remove the floor pads in the battery compartment
3	Remove the engine controller cover in the rear of the luggage space (see Fig. 1). The cover is held in place by a pair of screws.  <p><i>Figure 1 – Engine controller cover</i></p>

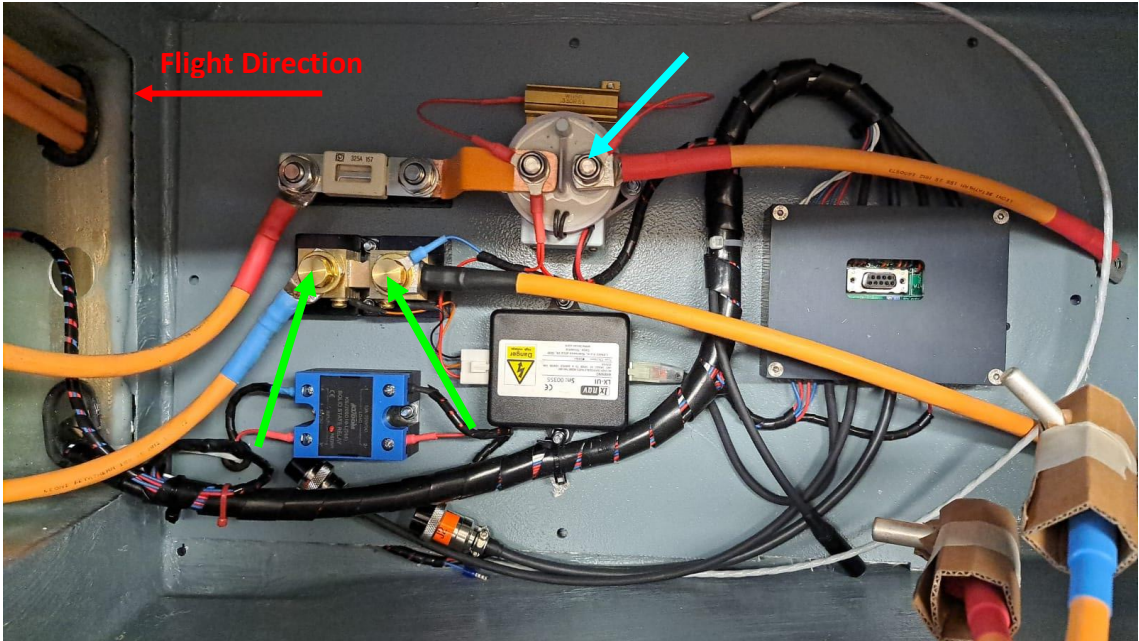
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Step #	Procedure and materials used
4	<p>Disconnect the power cables leading to the shunt circuit and relay from the controller terminals (see Fig. 2) , also disconnect controller data connectors (bayonet type) – be aware of the position !</p>  <p><i>Figure 2 –Engine controller, cables to be disconnected marked with green arrows, orange arrow marks connection to be loosened acc. to Step 5</i></p>
5	<p>Slightly loosen the nut securing the disconnected cable to the relay (cable marked with red shrink wrap ends – marked with orange arrow in Figure 2, obscured by controller) – the connector should be able to rotate and slightly tilt.</p>
6	<p>Remove the screws securing the firewall in place (8 round head hex slot screws along the firewall outer perimeter) – see Figure 3</p>  <p><i>Figure 3 – Firewall in battery compartment</i></p>

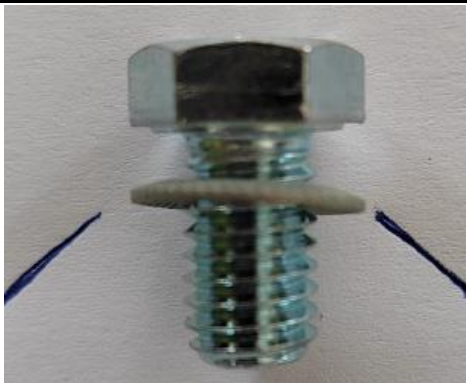

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Step #	Procedure and materials used
7	Carefully pull the firewall away and lay it on the battery compartment floor, make sure that the free cable ends are able to clear the rear tube without breaking or hard bends.
8	<p>Step 8 - Inspection</p> <p>Inspect the type and condition of the shunt screws (see Figure 4).</p>  <p><i>Figure 4 – screws to be inspected / removed marked with green arrows; Nut loosened acc.to Step 5 marked with light blue arrow</i></p> <ul style="list-style-type: none"> • If steel screws are used and there is no visible damage to them, skip Steps 9 and 10 • If brass screws are used or the screws are damaged, they need to be replaced – proceed with the next step of the procedure.
9	<p>Steps 9-10 - Replacement</p> <p>Remove the brass screws and their washers.</p>
10	<p>Install replacement steel screws and safety washers</p> <p>Ensure the correct orientation of the safety washer (see Figure 5)</p> <p>Use thread locking adhesive on the screw thread (see Figure 6) – Loctite 243 or equivalent</p> <p>Tightening torque is 17Nm.</p>

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10 (cont.)	  <p><i>Figure 5 (left) – Proper orientation of „Schnorr“ safety washer)</i> <i>Figure 6 (right) – Screw with applied threadlocker</i></p>
11	<p><u>Steps 11-15 – Reinstallation</u></p> <p>Slide the firewall in the original position Ensure that the free cable ends are routed to the front (relative to flight direction) of the tube Secure the firewall with the original screws</p>
12	<p>Position the cable connected to the relay (red shrink wrap on cable ends – orange arrow in Figure 2) so that it points upwards. Tighten the nut securing the cable to the relay.</p>
13	Reconnect the cables to the terminals of the engine controller (see Figure 2)
14	Reinstall the engine controller cover in the luggage compartment
15	Reinstall the floor pads in the battery compartment