		Doc. No.: MD11-WOI-71-002
Type: JS-MD Single	Subject: Work Instruction	ATA: 71
Model/s: JS-MD 3 RES	Title: JS-MD 3 RES Motor Torque Specification	Rev.: 00

Title: JS-MD 3 RES Motor Torque Specification
Work Instruction

1 Document Management

1.1 List of Revisions

Rev.	Date	Description	Author	Affected Sections / Pages
00	08.01.2024	Initial Issue	W. Oosthuizen	All

Unless shown impracticable due to the scope of the revision, the changes due to the latest revision are marked by a vertical line at the right page margin.

1.2 List of Validity


Rev.	Valid for / Restrictions	Type Def. Reference
00	JS-MD Single / Model JS-MD 3 RES	MD11-CDL-00-001

1.3 Document Acceptance

A **CVE** independently from his area of expertise or a second **DE** checks the form and content of the document according to section 1.1 and 1.2 and correctness and completeness of the content. The **CVE** approves the document.

	Function	Digital Signature <i>(includes Date and Name)</i>
Prepared	DE	
Checked	DE / CVE	
Approved	CVE	

Note: If no digital signature is used, the name and the date must be indicated in the digital signature box.


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3 Summary

This document contains all necessary steps to complete the content of the Service Bulletin SB-MD11-002

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4 Planning Information

4.1 Material

Medium-strength liquid threadlocker (Loctite 243 or equivalent)
 Acetone or other solvent suitable for removing dried threadlocker
 Inspection paint (torque-seal) marking pen (Bäder, Dykem, Permatex, or similar)
 Small ties (tie-wraps)

4.2 Special Tools

- 2.5mm Hex (Allen) Key.
- Socket-Drive 6mm Hex (Allen) Key.
- Torque Wrench (with 20Nm capability) and Socket-Drive Extension.
- Phillips Screwdriver.
- Side Cutter, Wire Cutter, or Tie-Wrap Snips.

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5 Work Instructions

During the delivery of some JS3 RES propulsion systems, concerns were identified about the fastening methods of the EMRAX 208 motor attachment to the RES.

The EMRAX 208 motor is mounted to the RES pylon using six M8 socket-head fasteners, each tightened to a torque of 20Nm (177 in-lbf). To ensure the long-term integrity of the attachment, a medium-strength liquid threadlocker (Loctite 243 or equivalent) is applied to the threads of the M8 fasteners. However, it has been observed that certain delivered gliders fail to conform to the specified torque and threadlocker requirements.

5.1 Rectification

Section 5.2 provides the instructions for the rectification to be performed on the affected aircraft.


WARNING: Only OEM or authorised persons are allowed to maintain high-voltage components like the EMRAX 208 motor.

Motor Bolt Torque Specification (refer to Figure 1)

1. Ensure all systems are switched off, and remove the HV batteries from the aircraft.
2. Loosen and remove, depending on the specific aircraft, either (a) the six M4 AB10 (Item 1, Figure 1) button-head screws, or (b) the six re-usable plastic expansion fasteners securing the rear cover plate to the pylon (Item 8, Figure 1)
3. Place a workshop towel into the pylon cavity to ensure that no items (cable ties, fasteners, washers, etc) are dropped into the hollow pylon.
4. Remove any cable ties as necessary to facilitate access to the M* socket-head fasteners.

WARNING: Do not disconnect any electrical connectors or terminals. Carefully, push wires or cables aside to access the motor fasteners.

5. Unfasten two bolts (positioned opposite each other from the centre point) of the six M8 bolts securing the EMRAX 208 motor to the pylon.
6. Thoroughly inspect the fastener threads for any signs of damage or wear.
7. In the case of undamaged threads, cleanse the thread area with a strong solvent such as Acetone. Chasing the M8 threads with a die before using the Acetone may facilitate cleaning.
8. Apply Loctite 243 medium-strength threadlocker evenly to the threads of the bolts.
9. Reinstall the bolts and secure them in their designated positions.
10. Torque the bolts to 20Nm (177 in-lbf) using the torque wrench and socket drive extension.
11. Mark the two bolts with an inspection paint, for instance, a Bäder, Dykem, or Permatex torque seal.
12. Remove the next pair of diagonally opposite uninspected bolts and repeat the cleaning, thread-locking, 20Nm torquing, and marking procedure.
13. Repeat the procedure for the third (final) pair of diagonally opposite fasteners.

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14. Secure cables and wires with cable ties as necessary and remove the workshop towel (if used).
15. Turn the propeller to observe any propeller blade travel.
16. Re-install the pylon rear cover plate.
17. Allow the applied liquid threadlocker to cure for a duration of 24 hours, or as specified in the manufacturer's datasheet, before operating the motor.

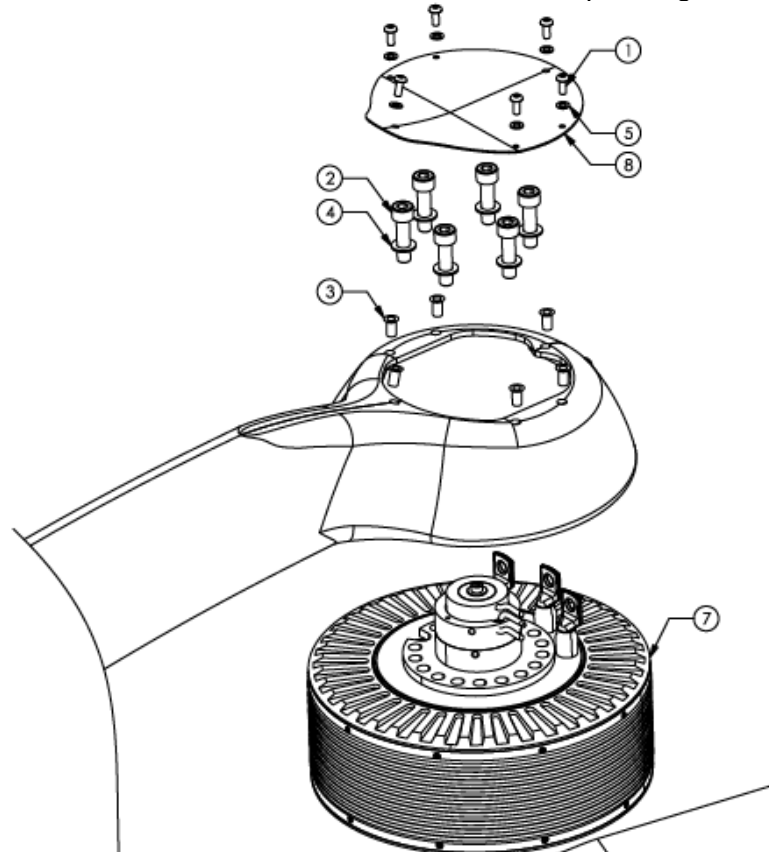


Figure 1 - EMRAX 208 to Pylon attachment

6 References

- /1/ MD11-AMM-00-001 JS-MD 3 RES Aircraft Maintenance Manual
- /2/ MD11-AMM-00-002 JS-MD 3 RES Aircraft Maintenance Manual Supplement