

REYROLLE AIR BLAST CIRCUIT BREAKER **OIBR 140 SILENCER DOME INSTALLATION PROCEDURE**

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PURPOSE AND SCOPE

Following the recent failure of OIBR 140 ABCB at Bolney X110, it is considered the 5/8W x4" Cap Head screws used to secure the Silencer Domes are a driving factor in the failure. All cap head screws require to be replaced to remove the requirements detailed within OESB 15/2014.

The following procedure shall be followed to change and tighten the Silencer Dome cap head screws to a set torque.

Torque values as agreed with the manufacturer and endorsed by ERA Technologies LTD and National Grid Network Engineering.

PART 1 – PROCEDURE DETAILS

1 COMPONENT SPECIFICS

New 5/8BSW x 4" cap head screw fasteners have been ordered through Doncaster Refurbishment Centre against a specific work order number. Early replacements were supplied as self-coated (not plated) to a recommended 'Certificate of Conformance' and independently verified by ERA Technology LTD (metallurgy specialists). A replacement specification for plating cap screws is now recommended; in association with Unbrako (fastener supplier), Wolverhampton Electroplaters (WEP) and ERA Technologies LTD. The detail of the cap screws and plating applied is important as this affects the required torque settings.

Cap head screws shall only be supplied through the refurbishment centre and via a specific work order issued through Planning for tracking.

Plated cap head screws: This procedure only applies to the specific work order for the replacement of recommended 5/8" OIBR silencer caps head screws supplied through the

refurbishment centre. Any other application should be referred to the Asset Integrity Switchgear team.

2 INSTALLATION PROCEDURE

- 2.1** Install V-Band Clamp retaining tool (Appendix A) and firmly tighten. Remove old fastener and reinsert new 5/8BSW x 4" Cap Head screw (lubricated – AluSlip or Molybdenum grease). Lightly tighten fastener and remove the clamp retaining tool.

****Note**** The Silencer Dome weighs 60kg. If the clamp retaining tool is unavailable, approved lifting techniques and equipment are to be used to support the Dome whilst the fasteners are exchanged.

- 2.2** Repeat (2.1) for the opposite fastener.
- 2.3** Ensure even gap on opposite sides of the V-Band clamps. The fasteners should be orientated in a 12 o'clock – 6 o'clock position.
- 2.4** To adjust the gaps loosen the fastener with the smaller gap and increase the gap using a suitable pry-bar.
- 2.5** Torque tighten both fasteners to 80 lb ft.
- 2.6** Percussion 'seat' the ring clamps using large soft face/hide face mallet.
- 2.7** Torque tighten both fasteners to 138 lb ft.
- 2.8** Percussion 'seat' the ring clamps using large soft face/hide face mallet.
- 2.9** Check torque tighten both fasteners to 138 lb ft.
- 2.10** Retain removed fasteners labelled up with site location, circuit breaker 'x' reference and date of removal for future reference by forensic analysis.

3 FORMS AND RECORDS

Not applicable.

PART 2 - DEFINITIONS AND DOCUMENT HISTORY

4 DEFINITIONS

Not applicable.

5 AMENDMENTS RECORD

Issue	Date	Summary of Changes / Reasons	Author(s)	Approved By (Inc. Job Title)
1	April 2015	Initial Issue as a Technical Guidance Note following EEPiG approval on the new coated cap head screws.	Keith Williams / John Pettinger Asset Integrity	David Miller Asset Integrity Manager