

- Replacing GSM-R Cab Radios
- VSWR Testing of the Antenna Cable
- Siemens Technical Help Line

AUDIENCE:

Train Crew

Maintenance Staff

Signallers

Control Office

This bulletin is aimed at persons engaged in the maintenance of GSM-R Cab Radio and is provided only for information and actioned by the Operator as appropriate.

Further information and support can be obtained by contacting:

NRTenquiries@networkrail.co.uk

Please ensure that the subject title of the e mail is "GSM-R Bulletin 40"

Introduction: Observations of GSM-R Cab Radio maintenance procedures has identified useful lessons learnt when replacing GSM-R Cab Radios and when VSWR testing of the antenna and cable. This Guidance & Advisory note does not remove the accountability of maintainers complying with their company Vehicle Maintenance Instructions (VMI) at all times

Aims:

- Improve reliability of the GSM-R Cab Radio and associated components.
- Reduce service delays
- Reduce unnecessary maintenance and return of GSM-R Cab Radios with no fault found.

Key Observations:

Maintenance Activity	Observations	Impact
Connecting / disconnecting of the coaxial cable N type connector to Antenna	Overtightening or misalignment of the N type connector can cause the centre pin of the male N type connector to be bent or pushed back. Overtightening can also cause damage to the connector screening. Under-tightening of the N type connector causing the centre pin of the connector to not correctly mate. None of the above is normally experienced when connected to VSWR Bird Antenna meter as not over tightened.	Loss of network with "Searching for Network" displayed on DPC.

Maintenance Activity	Observations	Impact
Connecting the ARINC connector (Gland Box) to GSM-R Cab Radio	Overtighten of the x4 M5 securing nuts. Loose – missing securing x4 M5 securing	Bent/pushed back pins on ARINC connector causing possible low audio and component interface failures

17/11/2016

Advisory Notes:

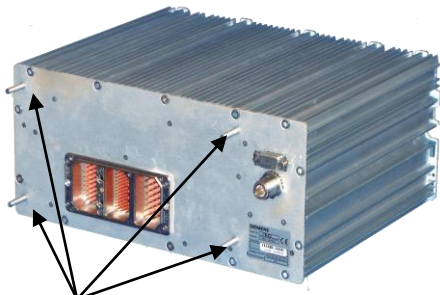
The above observations may not be immediately visible and may not fail tests such as VSWR, or when a GSM-R Cab Radio is connected to a Radio Test Unit (RTU).

- The torque settings for Gland Box securing nuts are 4Nm.
- There is no Coaxial Cable Plug Torque Setting, it is recommended to be "Finger Tightened".
- Maintainers are advised to check the above observations during the fault finding process.



The above photo shows the connector on the right that was connected to the antenna, showing the inner shield surround closed up due to being over tightened.

For comparison the connector to the left was connected to the radio unit. Note that the four segments of the shield surround are visible as they have not been crushed together due to being overtightened.



Cab Radio & Gland Box (ARINC Connector) fitment x4 securing points (Torque setting 4Nm)

Recommendations:

Recommendation to all operators are to:

- Include this Advisory & Guidance within maintenance team updates and training.
- Review of Vehicle/Class VMI's.

Reference Documentation:

- Review of Specific Class VMI

Siemens Publication Document Number

- Cab Radio – User Guide version 2 cab Radio 666/HB/60024/001
- Cab Radio version 2 – Technical Handbook 666/HH/86219/000
- Fault-finding Flow Charts for Version 2 Cab Radio 666/HB/86205/001
- Generic/Typical VMIs for Version 2 Cab Radio 666/HB/86205/00

17/11/2016