

Rail Coach Factory, Kapurthala

CAI No.: ED/CAI/031 Dated: 20.03.2024

a). Bill of Material required for modifications:

Sno.	Item description	Ref. Spec./Drg.	QPA	Remarks
1.	Stainless Steel Bush, L=18mm, Thread size M12x1.75(outside)/M8X1.25 (inside) (Mat. AISI 304) to match with M8 Allen screw)	SKED 945	03	For fastening of cover with housing
2.	Stainless Steel Bush, L=15mm, Thread size M12x1.75(outside)/M8X1.25 (inside) (Mat. AISI 304) to match with M8 Allen screw)	SKED 945	02	For mtg. brush holder assembly.
3.	Stainless Steel Bush, L=10mm, Thread size M12x1.75(outside)/M8X1.25 (inside) (Mat. AISI 304) to match with M8 Allen screw)	SKED 945	01	For mtg. brush holder assembly.
4.	Stainless Steel Stud M8x55mm (Mat. AISI 304)	SKED 945	02	For mtg. brush holder assembly.
5.	Stainless Steel Stud M8x50mm (Mat. AISI 304)	SKED 945	01	For mtg. brush holder assembly.
6	Stainless Steel Lock nut, M8	SKED 945	03	For mtg. brush holder assembly.
7	Loctite Solution, 3M make (6ml/50ml)	Red 271 Thread locker	01	-

b). Special Tools Required:

1. Torque Wrench with Allen key M8 adapter and M8 Hex. HD. adapter
2. Helicoil Extraction Tool Size M8.

c. Enclosures:

Sno.	Ref. Specification/Drawing no	Description
1	EDTS 101 REV. C, AM. 1& 2 Cor.1 to Cor.8	Spec. for WSEE.
7	SKED 945	WSEE Modifications.

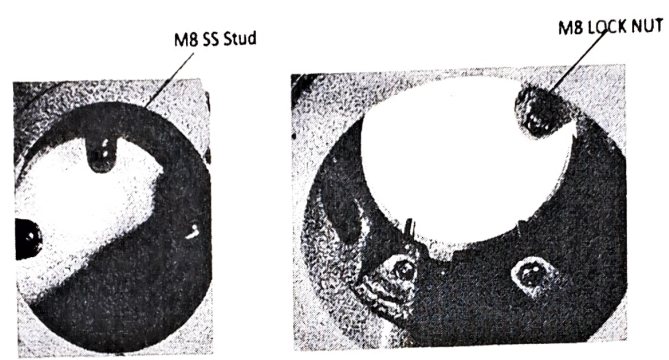
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- iv. Fixing of the threaded SS bush (AISI 304) in threaded holes with use of Loctite Red 271 Thread locker of 3M make and SS bush shall be tested for any movement during screwing & unscrewing of M8 Stud after the specified period of 30min (min).
- v. Provide the Stainless steel Stud (AISI 304) of size M8x55mm (02nos.) & M8x50mm (01no.) at the existing locations with use of Loctite Red 271 Thread locker of 3M make.
- vi. Provide the M8 SS locknut (AISI 304) at the bottom side of the studs with use of Loctite Red 271 Thread locker of 3M make as per drawing SKED 945.



- vii. Fixing of the Carbon Brush holder assembly to drawing no. LW71237 properly at the existing location.

Step-4: Reassembling of Wheel Set Earthing Equipment (ref. drawing no. SKED 945)

- i. Fixing of the carbon brush holder assembly to drawing no. LW71237 properly at the existing location with M8 SS Studs, lock Nut etc.
- ii. Connecting the earthing cable to drawing no. LW71245 in Carbon Brush assembly properly with M10x20 Bolt, torque 30N/m.
- iii. Fixing of front cover assembly with Allen Bolt of size M8, torque 25N/m.
- iv. Fixing of the complete WSEE assembly on the bogie axle with M16x45 Bolt, torque 170N/m.
- v. Connecting the earthing cable to drawing no. LW71245 with Bogie frame properly.

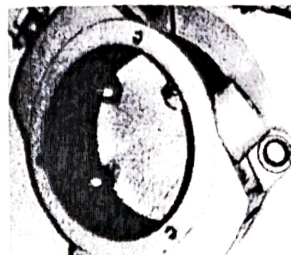
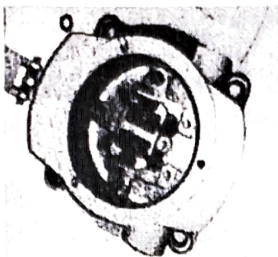
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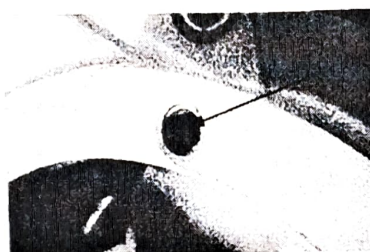
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- v. Removal of complete Carbon brush holder assembly to drawing no. LW71237 by removing the Hex. Hd. Nylock Nut of size M8.



Step-2: Modifications required in WSEE Housing as per ref. drawing no. SKED 945

- i. Removal of the helicoil spring from the existing 03 nos. mounting holes provided in WSEE housing for fixing of front cover with special tool.



Helicoil spring

- ii. Modifying the existing 3nos. mounting holes to M12 threaded hole suitable for SS bush to drawing no. SKED 945 in housing for WSEE to Drawing no. LW71233. The PCD of 160mm at 120deg. shall be maintained to ensure proper fixing of cover during assembly.
- iii. Fixing of the threaded SS bush (AISI 304) in threaded holes with use of Loctite Red 271 Thread locker of 3M make and SS bush shall be tested for any movement during screwing and unscrewing of M8 Stud after the specified period of 30min (min).

Step-3: Modifications required for fixing of Carbon brush Holder Assembly as per ref. drawing no. SKED 945.

- i. The Stainless steel Stud of size M8x40mm (3nos.) provided for fixing of Carbon brush holder assembly shall be removed.
- ii. Removal of the helicoil spring from the existing 03 nos. mounting holes provided in WSEE housing for fixing of Brush Holder assembly with special tool.
- iii. Modifying the existing 3nos. mounting holes to M12 threaded hole suitable for SS bush (AISI 304) to drawing no. SKED 945 in collars for mounting of brush assembly to drawing No. inside WSEE housing to drawing no. LW71233.

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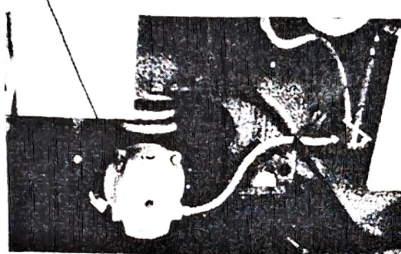
This Coach Alteration Instruction Sheet has been issued for modifications to be carried out in Wheel Set Earthing Equipment (WSEE) to spec. EDTS101 in LHB EOG Coaches on the basis of feedback received from Users Railways. It covers modifications in front cover and brush holder assembly mounting arrangement by provision of SS inserts. The detailed step by step procedure is as under:

Step-1: Removal of Wheel Set Earthing Equipment (WSEE) from Coach Bogie :

- Disconnecting the earthing cable to drawing No. LW71245 Alt.-'d' from Bogie to WSEE by removing hardware.
- Unfastening of mounting bolts M16X45mm of earthing device housing from bogie axle in order to dismantle the WSEE from bogie axle.

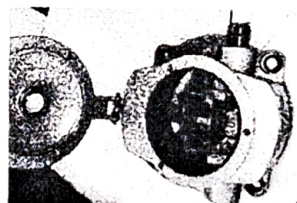
Mounting bolts

Earthing cable



- Opening the cover of earthing device housing by removing the Hex. Hd. Cap screw of Size M8X20mm .

Cover Fasteners



- Removal of the earthing cable connections from carbon brush holder assembly to drawing no. LW71237 by removing hardware of size M10x20mm.

EARTHING CABLE



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RAIL COACH FACTORY, KAPURTHALA

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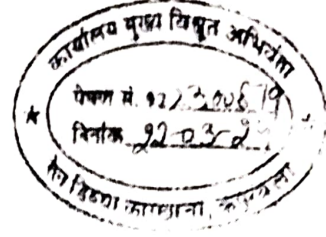
Office of the
Principal Chief Electrical Engineer

File no ED 2008

dated 21.03.2024

Chief Electrical Service Engineer

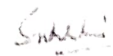
1. Central Railway, CST, Mumbai-400 001
2. Eastern Railway, Fairlie Place, Kolkata-700 001
3. East Central Railway, Dighi, Distt.- Vaishali, Hajipur-844 101
4. East Coast Railway, Chandra Shekharpur, Bhubneshwer-751 016
5. Northern Railway, Baroda House, New Delhi-110 001
6. North Central Railway, Hastings Road, Prayagraj-211 001
7. North Eastern Railway, Gorakhpur-273 001
8. North East Frontier Railway, Maligaon, Guwahati-781 001
9. North Western Railway, Jaipur-302 006
10. Southern Railway, Park Town, Chennai-800 003
11. South Central Railway, Rail Nilayam Secundrabad-500 371
12. South Eastern Railway, Gardern Reach, Kolkata-700 043
13. South East Central Railway, Bilaspur-495 004
14. South Western Railway, 4th Floor, DRM Office, Sh. Laxmi Narayan Complex, Station Road
Hubli-580 020
15. Western Railway, Church Gate, Mumbai-400 020
16. West Central Railway, Jabalpur-482 001
17. Chief Elect. Design Engineer, Integral Coach Factory, Chennai,
18. Chief Elect. Design Engineer, Modern Coach Factory, Rae Bareli



Sub: Coach Alteration Instructions for modifications to be carried out Wheel Set Earthing Equipment (WSEE) to EDTS 101.

As per the feedback received from the Zonal Railways, CAI no. ED/CAI/031 dated 20.03.2024 has been prepared which covers the modification in the front cover and brush holder assembly mounting arrangement by provision of double threaded Stainless Steel insert. The copy of the CAI is enclosed for your reference & further necessary action.

DA: As above


(Sukhbir Singh)
Dy. CEE/DP

for Principal Chief Elect. Engineer

Copy for kind information to:-

Exe. Director/Carriage (Stds.),
RDSO, Lucknow,



भारत सरकार - रेल मंत्रालय
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Research Designs & Standards Organisation
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D/D (0522) 2465310



MC/CTRB/Genl.

Date: 29.08.2024

Through e-mail

Principal Chief Mechanical Engineer,
All zonal Railways & PUs

Sub: Issues regarding loosening of cover of wheel set earthing equipment .

Ref: i. This office letter of even No. dated 26.02.2024.

ii. RCF letter No. ED 2008 dated 21.03.2024.

In view of frequent dropping/loosening of earthing box cover, design of earthing box cover got reviewed by RCF and accordingly RCF vide letter under reference (ii), issued CAI No. ED/CAI/031 dated 20.03.2024 to ZRs for incorporating the modification in the front cover and brush holder assembly mounting arrangement of wheelset earthing equipment by provision of double threaded Stainless Steel insert to address the issue.

Loosening of axle box cover or any undergear equipment in running condition may cause any untoward incident. Recently, a case of dropping of earthing box cover reported near WIR/NCR which resulted in injury to railway employee working near the track.

In view of the above, ZRs are requested to ensure that the modification work are done urgently as per RCF CAI mentioned under ref(ii).

For monitoring the progress of modification, google sheet link is attached below. The status of modification done may be updated on this link on priority.

<https://docs.google.com/spreadsheets/d/1LbP7TuPo7NQ4fIQ1AH2umQeYcC5UTM00166V-6QrDmU/edit?gid=0#gid=0>

DA: As above.

ANIL
KUMAR
SINGH

Digitally signed by ANIL KUMAR SINGH
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Date: 2024.08.29 10:25:44 +05'30'

(Anil Kumar Singh)
Exe. Director (Stds.)/Carriage

Copy to: for kind information
EDME/Coaching Railway Board, Rail Bhavan, New Delhi-110001

Signature valid

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