



No.EL/3.2.172

Date: 28.06.2017

Chief Electrical Engineers,

1. Central Railway, Mumbai CST-400001
2. Eastern Railway, Fairlie Place, Kolkata- 700 001
3. East Coast Railway, Chandrashekharapur, Bhubaneswar-751 016
4. Northern Railway, Baroda House, New Delhi-110 001
5. North Central Railway, Hasting Road, Allahabad-211 001
6. Southern Railway, Park Town, Chennai-600 003
7. South Central Railway, Rail Nilayam, Secunderabad-500 071
8. South Eastern Railway, Garden Reach, Kolkata-700 043
9. South East Central Railway, Bilaspur-495004
10. Western Railway, Churchgate, Mumbai-400 020
11. West Central Railway, Jabalpur-482001
12. East Central Railway, Hazipur-844101 (Bihar)
13. North Eastern Railway, Gorakhpur-273012
14. South Western Railway, Hubli(Karnataka)
15. North Western Railway, Opp. Railway Hospital, Jaipur-302006
16. Noreast Frontier Railway, Maligaon, Guwahati
17. Chittaranjan Locomotive Works, Chittaranjan- 713 331
18. Diesel Locomotive Works, Varanasi-221004

SPECIAL MAINTENANCE INSTRUCTION NO. RDSO/2017/EL/SMI/0308 (Rev '0')

Dated 28.06.2017

1. **Title:** Preventive measures to be taken for crack detection of traction motor nose stay & lifting lugs to eliminate chances of falling of traction motor during service in 25 KV AC conventional electric locomotives.
2. **Brief History:**
 - 2.1 In August 2011, a case of derailment of WAG5 loco no. 23730/KYN in Kota Division was reported due to breakage of upper nose stay and both the lifting lugs. Before this case, one more similar case was reported for breakage of nose stay in WAG7 loco No. 27107/AQ in June 2003 which led to derailment in Eastern Railway.
 - 2.2 Major reasons of these failures were investigated by RDSO and recommended action plan was circulated to all Zonal Railways vide letter No. EL/3.2.172 dated 13.09.2011 for implementation to prevent falling of Hitachi/TAO traction motors.

- 2.3 Subsequently, one more case of breakage of the plate of nose stay of traction motor in loco no. 22652/LDH was reported from NCR/JHS on 29.01.2014. In this case locomotive was detached after detection of the breakage of TM nose stay. However, the locomotive was derailed while shunting from main line to the yard on the point because of the infringement of TM fittings with those of tracks.
- 2.4 An enquiry committee of JA/SG officers investigated this derailment and based on their finding, Railway Board vide their letter No. 2007/Elect(TRS)/441/8 pt. dated 03.02.2014 issued the action plan to be implemented by the concerned agencies to prevent re-occurrence of such incidences on Indian Railways.
- 2.5 On 22.06.2017, a case of falling of traction motor in Loco No. 22209/WAP4/BRC while working in train No. 12904 was reported due to breakage of traction motor nose stay. In a preliminary investigation, the case of falling of traction motor was attributed to non-adherence of the maintenance instructions issued earlier on the subject matter.

3. Object:

Preventive measures to be taken for crack detection of traction motor nose stay & lifting lugs to eliminate chances of falling of traction motor during service in 25 KV AC conventional electric locomotives.

4. Modified Instructions to replace existing instructions:

- 4.1 Following preventive maintenance activities are to be conducted as tabulated below:

S N	Activities	Reference
1.	a) During all major overhauling and repair of traction motors, proper DPT of welded joints of nose stay and lifting lugs shall be carried out to eliminate weld failures and any cracks.	RDSO's letter No. EL/3.2.172 dated 13.09.2011 and Railway Board's letter No. 2007/Elect(TRS)/441/8 pt. dated 03.02.2014
	b) For carrying out DPT, grinder shall not be used for cleaning of weld area. Cleaning shall be done by cleaning agents and wire brush etc.	-
2.	Checking of condition of nose stay along with sandwich pins etc. shall be the focus of under frame examination at out pits. Gap between TM nose stay and bogie transom bracket should be checked visually and any excessive gap should be reported with attention to loco at nearest/ home shed depending upon the condition.	Railway Board's letter No. 2007/Elect(TRS)/441/8 pt. dated 03.02.2014

4.2 Following instructions already issued on the above subject needs to be strictly followed:

SN	Instruction No.	Details
1.	Special Maintenance Instruction No. ELRS/SMI/186 dated 15.05.1997 along with its amendment No. 2 dated 01.04.2014.	Instructions for bonded rubber sandwich mounting for nose suspension of traction motors.
2.	Technical Circular No. RDSO/2014/EL/ TC/0126, Rev.'0' dated 25.03.2014.	Instructions to maintain gap between traction motor bottom nose and bonded rubber sandwich mounting unit.
3.	Modification Sheet No. RDSO/2011/ELRS/ MS/0392, Rev.'0' dated 11.02.2011	Modification in traction motor nose suspension system for provision of additional L clamps and split pins to prevent falling of vertical nose pin of traction motor type HS 15250A/TAO 659.
4.	Specification No. RDSO/2014/EL/SPEC/0115 Rev.'0' dated 22.08.2014	Specification for bonded rubber sandwich mounting for nose suspension of traction motor for electric locomotives.
5.	Technical Circular No. RDSO/2013/EL/ TC/0123, Rev.'0' dated 16.05.2013 along with its amendment No. 2 dated 16.05.2016.	Instructions for replacement of sandwich mounting assembly in POH.
6.	Technical Circular No. ELRS/TC/0029 Rev.1 dated 15.7.2002.	Instructions for replacement of sandwich mounting assembly in IOH.
7.	Technical Circular No. ELRS/TC/0031 Rev.1 dated 15.7.2002 along with its amendment No. 1 dated 28.06.2017.	Instructions for replacement of sandwich mounting assembly of WAP4 locomotives in every TOH schedule.

Note: Latest version of above mentioned instructions shall be followed.

5. Application to class of Locomotives:

All 25 KV AC conventional electric locomotives.

6. Agency of Implementation:-

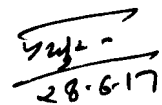
All Electric Loco sheds/Workshops and Railway production unit

7. Periodicity of Implementation:

During out pit inspection for item 2 of paragraph 4.1.

Every major overhaul i.e. TOH/IOH/POH.

Encl: nil


28.6.17

(P. K. Saraswat)

for Director General/Electrical

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