



भारत सरकार  
GOVERNMENT OF INDIA  
रेल मंत्रालय  
MINISTRY OF RAILWAYS  
पटियाला रेल इंजन कारखाना

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**PATIALA LOCOMOTIVE WORKS**

An ISO 9001, ISO 14001, IS 18001, ISO 50001, 5S & Green Building Certified Organization

No. PLW/E/Drg/Loco/EL-101 (Brake Gear)

Date: 28-11-2025

M/s. M. M. UDYOG-HOWRAH (Email: mondalmadhumita11@gmail.com)	M/s. FRONTIER ALLOY STEELS LTD-KANPUR (Email: frontieralloy@yahoo.co.in)
M/s. TRIDENT AUTOCOMPONENTS PRIVATE LIMITED-KANPUR 208022. (Email: info@tridentgroup.com)	M/s. PIONEER GEARS AND EQUIPMENTS-HOWRAH (Email: pioneergear58@gmail.com)
M/s. D.R. STEEL AND INDUSTRIES PVT LTD.-KOLKATA (Email: raunakdave@gmail.com)	M/s. TARA MA INDUSTRIES-HOWRAH (Email: tarama_industries@yahoo.co.in)

**Sub:- Implementation of RDSO Modification Sheet for modification in tie bar & its safety sling bracket of conventional brake rigging arrangement equipped in WAP-7 and WAG-9HC three phase electric locomotives.**

Ref:- RDSO/2025/EL/MS/0513, Rev. "0 dated 21.11.2025 (copy attached).

To avoid the breakage and falling of Tie-bar & its safety sling bracket on track in order to ensure safety of human and railway resources, RDSO has issued Modification Sheet under reference above for modification in Tie-bar for all axle locations by providing an MS angle of dimensions height-70mm, length-40mm, width-28mm and thickness 6mm at each corner of the tie bars as shown in the photographs attached in the modification sheet.

Therefore, it is requested to implement this modification sheet during further supply of brake gear arrangement.

DA: As above

*Sanjay* 28/11/2025  
Dy.CME/Design

Copy:

CEE/D&Q, CWE: For kind information please

Dy.CME/Plg., Dy.CME/BS: for kind information please



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Government of India - Ministry of Railways  
Research, Designs & Standards  
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No. EL/3.2.119 (Brake rigging)

Dated: As signed

Principal Chief Electrical Engineer,

1. Central Railway, Mumbai, CST-400 001.
2. East Central Railway, Hazipur-844101.
3. East Coast Railway, Chandrashekharpur, Bhubaneswar-751016.
4. Eastern Railway, Fairlie Place, Calcutta-700001.
5. North Central Railway, Block-A, Subedarganj, Allahabad- 211033.
6. Northern Railway, Baroda House, New Delhi-110001.
7. North Eastern Railway, Gorakhpur-273001.
8. South Central Railway, Secunderabad-500 071.
9. South East Central Railway, Bilaspur-495004.
10. South Eastern Railway, Garden Reach, Calcutta-700 043.
11. Southern Railway, Park Town, Chennai-600 003.
12. South Western Railway, Hubli-580020.
13. West Central Railway, Jabalpur-482001.
14. Western Railway, Churchgate, Mumbai-400 020
15. North East Frontier Railway, Malegaon, Guwahati-781011
16. North Western Railway, Jaipur- 302 006
17. Chittaranjan Locomotive Works, Chittaranjan - 713 331
18. Banaras Locomotive Works, Varanasi- 221004
19. Patiala locomotive Works, Patiala- 147 003

**Sub:** Modification sheet (MS) for modification in tie bar & its safety sling barcket of conventional brake rigging arrangement equipped in WAP-7 and WAG-9HC three phase electric locomotives.

A modification sheet no. RDSO/2025/EL/MS/0513, Rev. '0' Dated: November 2025 for modification in tie bar & its safety sling bracket of conventional brake rigging arrangement equipped in WAP-7 and WAG-9HC three phase electric locomotives has been prepared.

It is requested to download the above Modification sheet through the following path.

[www.rdsso.indianrailways.gov.in](http://www.rdsso.indianrailways.gov.in)→Specification/drawings→Loco, EMU and power supply→other important links for Loco→SMI/MS/TC→Serial number→MASTER LIST OF MODIFICATION SHEET.

This for kind information please.

Encl: As above

*Nirdosh*  
21.11.25

(Nirdosh Kumar Gupta)  
Director standard Electrical/Mech.





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Government of India - Ministry of Railways  
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LUCKNOW - 226011



No. EL/3.2.119 (Brake rigging)

Dated: As signed

Principal Chief Electrical Engineer,

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7. North Eastern Railway, Gorakhpur-273001.
8. South Central Railway, Secunderabad-500 071.
9. South East Central Railway, Bilaspur-495004.
10. South Eastern Railway, Garden Reach, Calcutta-700 043.
11. Southern Railway, Park Town, Chennai-600 003.
12. South Western Railway, Hubli-580020.
13. West Central Railway, Jabalpur-482001.
14. Western Railway, Churchgate, Mumbai-400 020
15. North East Frontier Railway, Malegaon, Guwahati-781011
16. North Western Railway, Jaipur- 302 006
17. Chittaranjan Locomotive Works, Chittaranjan - 713 331
18. Banaras Locomotive Works, Varanasi- 221004
19. Patiala locomotive Works, Patiala- 147 003

**Modification Sheet No. RDSO/2025/EL/MS/0513, Rev. '0' Dated: November' 2025**

**1. Title:**

Modification in Tie-bar for all axle locations & its safety sling bracket for axle no. 2, 3, 4 & 5 of conventional brake rigging arrangement equipped in WAP-7 and WAG-9HC three phase electric locomotives.

**2. Object:**

To avoid the breakage and falling of Tie-bar & its safety sling bracket on track in order to ensure safety of human and railway resources.

**3. History:**

Zonal railways have reported various cases of breakage of Tie-bar from the end & its safety sling bracket from the hanger of conventional brake rigging arrangement due to external hitting and vibrations. Recently ELS/GZB and ELS/RPM has reported breakage of Tie-bar & its safety sling bracket. To arrest the incident of frequent breakage, ELS/RPM has modified the safety sling bracket welding location and ELS/CNB has modified the Tie-bar by welding MS plate of 'L' shape.

**Existing Arrangement:**

In the existing brake rigging arranging as shown in fig.-1 & 2, Safety sling bracket of Tie-bar has been welded on hanger. The bracket, which is fixed to the brake hanger assembly, is subjected to repeated impacts as the brake hanger assembly hits the bracket during every operation, causing the bracket to break.

*Handwritten signature*



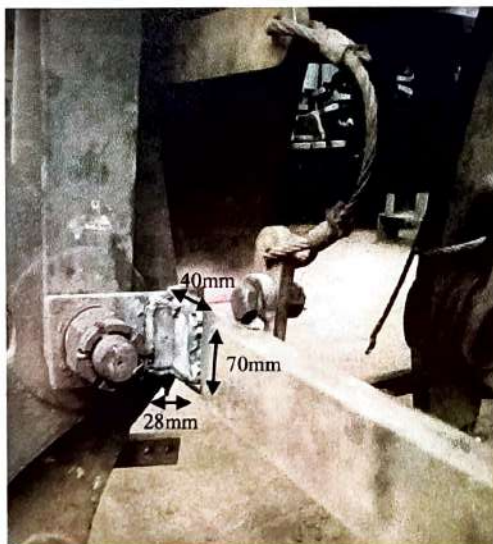
**Fig.-1** Existing Tie-bar arrangement



**Fig.-2** Existing safety sling bracket location

#### **4. Modified arrangement:**

Weld an additional MS plate of 'L' shape having dimension of height -70mm, length-40mm, width-28mm & thickness-06mm at the end of Tie-bar and its safety sling bracket for axle no. 2, 3, 4 & 5 on bogie as shown in fig.- 3 & 4. Safety sling bracket shall be welded in same vertical line to Tie-bar bracket. The welding shall be done at appropriate location by MIG welding. The welding procedure and inspection/testing of weld quality shall be done in accordance with the procedure laid down in RDSO specification no. VL. SPEC-6 rev '3' (Technical specification for fabricated bogie frame & bolster assembly for locomotives).



**Fig.-3** Modified Tie-bar arrangement



**Fig.-4** Modified safety sling bracket location

#### **5. Material required:**

12 nos. of MS plate of 'L' shape of height -70mm, length-40mm, width-28mm & thickness-06mm

**6. Reference:**

Sr. DEE/RS/RPM letter सं/No.M/RS/RPM/221/III/10/25 dated 06.10.2025  
Sr. DEE/RS/CNB letter no. 230/Elect/RS/CNB/Tech-88 dated 11.10.2025


**7. Applicable to class of Locomotives:**

WAP-7, WAG-9HC

**8. Agency of Implementation:**

All POH workshop/Electric Loco Sheds/PUs

**Encl:** Nil

  
(Nirdosh Kumar Gupta)  
Director standard Electrical/Mech.

**Copy to:** As per standard mailing list.