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भारत सरकार - रेल नौकालय
अनुसंधान अभिरूप और मानक संगठन
लुकरनऊ - 226011
Government of India - Ministry of
Railways
Research, Designs & Standards
Organization, LUCKNOW - 226011

No: EL/3.1.3

Date: 28-08-2001
29

Modification Sheet No. ELRS/MS/ 0306-2001 (Rev.'0')

Chief Electrical Engineer,

- Central Railway, Mumabi-CST -400 001
- Eastern Railway, Fairlie Place, Calcutta - 700 001
- East Central Railway, Chandra Shekhapur , Bhuwaneshwar - 751016
- Northern Railway, Baroda House, New Delhi - 110 001
- North Central Railway, Hasting Road, Allahabad- 211 001
- Southern Railway, Park Town, Chennai - 600 003.
- South Central Railway, Rail Nilayam, Secunderabad - 500071
- South Eastern Railway, Garden Reach ,Calcutta - 700 043.
- South Western Railway, Bangalore- 560 046
- Western Railway, Church gate, Mumbai- 400 020.
- West Central Railway, Jabalpur.
- New Zone Railway, Bilaspur.
- Chittaranjan Loco Works, Chittaranjan - 713 331

TITLE: Modification to electrical weight transfer compensation circuit in WAG7 locomotive.

- 1.0 **OBJECT:** WAG7 locomotive are provided with high adhesion bogie. Traction motors are axle hung and has uni-directional nose suspension arrangement similar to WAG6C locomotive. Weight transfer calculations carried out for WAG7 locomotives indicate off loading of leading axles (1, 2 & 3) equally by 1.15 t. Though weight transfer characteristics of co-co trimount bogie (WAG5) are different (off loading on axle no. 1, 2 & 4) but inadvertently electrical weight transfer compensation circuit was adopted for WAG7 also. This is not giving optimum result and need modification

Existing arrangement provides weight compensation by inserting weak field resistance (RS3) of 32 mill-ohm in traction motor no. 3, 5 & 6.

The effect of providing the weak field resistance (RS3) either in TM 1, 2, 3 or in TM 4, 5 & 6 have been studied. It is observed that the weak field (RS3) when provided in TM 1, 2, 3 for driving from cab 1 produces lower working adhesion while developing same tractive effort thus creating margin vis-à-vis limiting adhesion and preventing chances of wheel slip.

As such, it is decided to modify the circuit so as to achieve weight compensation by field shunting (RS3) on TM 1 2, & 3.

2.0 Work to be carried out :

- i) The schematic of concerned control circuit shown in CLW's Drg No. CLW.3W.9009.05 Sheet 13 to be modified as per RDSO's Drg No. SKEL-4600.
- ii) Disconnect cable no. C270 from QWC terminal no. 11 and cable no. C277 from QWC terminal no. 15.
- iii) Connect cable no. C270 on QWC terminal no. 15 and cable no. C277 on QWC terminal no. 11.
- iv) Disconnect cable no. C278 from electro valve terminal of S43 and cable no. D271 from electro valve terminal of S33. End to be taped and varnished.
- v) From S23 (+) terminal form a new loop and name as M278 and connect to S33 (+) terminal.
- vi) From S63 (+) terminal form a new loop and name as H271 and connect to S43(+) terminal.

3.0 APPLICATION TO CLASS OF LOCOMOTIVES :

All WAG-7 class of Electric Locos.

4.0 MATERIAL REQUIRED : Nil

5.0 MATERIAL RENDERED SURPLUS : Nil


6.0 REFERENCE : CEE, S. Railway's letter no. E-28/ET/WAG7 dt 30-7-2001.

7.0 MODIFICATION DRAWING: RDSO's Drg No. SKEL-4600.

8.0 AGENCY OF IMPLEMENTATION :

CLW, All Electric Loco Sheds, POH WorkShops.


Encl: RDSO's Drg No SKEL-4600.


(A K Gupta)
for Director General/Electrical

Copy to:

1. Secretary (Electric Traction), Railway Board, Rail Bhavan, New Delhi-110 001
(Kind Attn: EDEE (RS)/ Railway Board)
2. Secy.(Elect.), Railway Board, New Delhi-110 001.(Kind Attn: DEE(RS)/ Railway Board)
3. **Chief Electrical Loco Engineer,**
 - -Central Railway, Mumbai CST- 400 001.
 - -Eastern Railway, Fairlie Place, Calcutta- 700 001
 - -East Central Railway, Chandrashekharpur, Bhubaneswar- 751 001.
 - -Northern Railway, Baroda House, New Delhi-110 001
 - -North Central Railway, Hasting Road, Allahabad-211 001.
 - -Southern Railway, Park Town, Chennai-600 003
 - -South Central Railway, Rail Nilayam, Secunderabad -500 071
 - -South Eastern Railway, Garden Reach, Calcutta-700 043
 - -South Western Railway, Bangalore - 560 046
 - -Western Railway, Churchgate, Mumbai -400 020
 - -West Central Railway, Jabalpur
 - -New Zone Railway, Bilaspur
 - -Chittaranjan Locomotive Works, Chittaranjan- 713 331.

4. **Chief Electrical Traction Engineer,**
-Central Railway, Mumbai CST- 400 001.
5. **Chief Works Manager,**
 - -Electric Loco Workshop, Eastern Railway, Kancharapara, 24 Pargana (N) -743145 (W.B.)
 - -Electric Loco Workshop, Central Railway, Bhusaval- 425 201.
 - Traction Motor Workshop, Central Railway, Nasik-422 101.
 - Loco, Carriage & Wagon Works, Western Railway, Dahod, P.O. Freeland Ganj – 389160 (Gujrat)
6. **Sr. Divisional Electrical Engineer (TRS), Electric Loco Shed,**
 - Central Railway, Katni (M.P.)
 - Central Railway, Jhansi -284 001 (UP)
 - Central Railway, Bhusaval-425 201.
 - Central Railway, Itarsi (MP)
 - Central Railway, Ajni, Nagpur-440 -008
 - Central Railway, Kalyan (Maharashtra)
 - Eastern Railway, Gomoh.- 828 401
 - Eastern Railway, Asansol-713 310.
 - Eastern Railway, Mughalsarai-232 101.
 - Northern Railway, Ghaziabad-201 001.
 - Northern Railway, Fazalganj, Kanpur-208 003.
 - Southern Railway, Arrakonam-631 001.
 - Southern Railway, Erode-638002.
 - South Central Railway, Vijayawada- 520 009.
 - South Central Railway, Lallaguda, Secunderabad-500 017.
 - South Eastern Railway, Santraghanchi, Howrah-711311.
 - South Eastern Railway, Tatanagar-831 002.
 - South Eastern Railway, BMY Complex, Bhilai, Durg-490 025.
 - South Eastern Railway, Vishakhapatnam- 530 001.
 - South Eastern Railway, Bondamunda, Rourkela.
 - Western Railway, Vadodara-390 002.
 - Western Railway, Valsad-396 001.
 - Western Railway, Tughlakabad, New Delhi-110 044.
- 7.- **Sr.Divl.Elect.Engineer,** Traction Motor Shop, Northern Railway, Fazalganj, Kanpur.-208003
- **Divisional Electrical Engineer,** Electrical Repair Shop, Tatanagar- 831 002.
- 8.**Dy. Chief Electrical Engineer, POH Shop/Loco Works**
 - Charbagh Workshop, Northern Railway, Lucknow- 260 005.
 - POH Shop, South Eastern Railway, Kharagpur (W.B.)
 - POH Shop, Southern Railway, Perambur, Chennai-600 038.
9. - **Director Inspection (Electrical),** RDSO Inspection Cell at BHEL, Bhopal-462 022.
- **Director,** Centre for Advanced Maintenance Technology, Indian Railways, Maharajpur, Gwalior-474 020 (MP).
- **Director,** IRIEN, Nasik Road, Post Box No.233, Nasik-422 101.
- **Principal (Electrical),** Railway Staff College, Vadodara-390 004.
10. - DD/Doc./ Electrical Directorate, RDSO
(Four Copies)


 (A.K. Gupta)

for Director General/Elect

