

MS/245

NEW No.

ELRS/MS/0245

GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS

## RESEARCH, DESIGN &amp; STANDARDS ORGANISATION

Manak Nagar,  
Lucknow-226011

No.EL/3.1.22

Dated 31.03.98

Modification Sheet No. RDSO/WA5/32

## 1. Title:

Modification in the QRS relay feeding circuit to prevent its de-energisation during blending of air brakes on load through A9 with rheostatic braking on Electric Locomotive.

## 2. Object :

- i) In the QRS relay feeding circuit, 110 V feed has been given through the normally open inter lock of RGEb in pure air brake locomotives and normally close interlock of RGEb in dual brake locomotives.
- ii) Presently, whenever driver goes in the rheostatic braking mode and tries to blend air brakes/vacuum brakes in the load through A9, RGEb gets cut off resulting in de-energisation of QRS relay which brings QR to '0' and therefore rheostatic braking effort to '0'. Thus with the present control circuit the blending of air brakes/vacuum brakes on load with rheostatic braking of Electric Locomotive is not being effective.
- iii) With the proposed modification, one auxiliary interlock of CTF1 which will remain closed in the 'braking' mode and open in the 'running' mode will be connected across normally open/close interlock of RGEb in the QRS feeding circuit. This will ensure continuous feed to QRS in the rheostatic braking mode even in case of blending of air /vacuum brakes through A9 by the driver.

## 3. Work to be Carried out :

One spare auxiliary interlock of CTF1 which will remain closed in the 'braking' mode and open in the 'running' mode will be connected across normally open/close interlock of RGEb as per arrangement shown in Annex. I and its cable schedule in

Annex.II for WAG7 modular locomotives.

For older series of WAG7 and WAG5 locomotives, the cable schedule may be drawn by the implementing agencies themselves on the similar lines.

4. **Application to the Class of Locomotives:**

All Electric Locomotives provided with rheostatic braking that is WAG5, WAG7 class.

5. **Material required :**

2.5 sq.mm control cable of required length as per existing specification.

6. **Material rendered surplus :**

None.

7. **Reference:**

Modification requested by S.E.Railway in their list of new items proposed for 25th MSG (Elec. Loco) meeting held at South Central Railway, Secunderabad on 5th & 6th March '98.

8. **Modification Drawing :**

Enclosed as Annex. I & II.

9. **Agency of Implementation :**

CLW, all the Sheds & Workshops.

10. **Distribution :**

As per enclosed list.

( O.H.Pande )

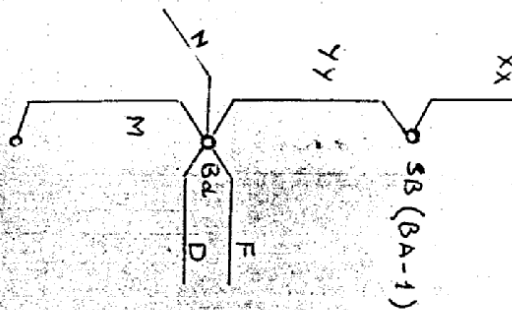
for Director General/Elect.

Encl: As above

# ANNEXURE-II

201

CTF-1 (FROM AUXILIARY CONTACT 'OPEN' IN RUNNING POSITION & CTF AND 'CLOSE' IN BRAKING POSITION OF CTF)



NOTE:-

201 XX, 201 YY, 180 UU, 180 W ARE  
THE NEW CONTROL CABLES TO BE LAID

WAG-5/82

180  
CTF-1

(FROM AUXILIARY CONTACT 'OPEN' IN RUNNING POSITION OF CTF AND 'CLOSE' IN BRAKING POSITION OF CTF)

