

**GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS  
RESEARCH DESIGNS AND STANDARDS ORGANISATION  
Manak Nagar Lucknow - 226 011**

No. EL/3.1.3

Dated 31.3.98

**Modification sheet No. RDSO/WAM4/201**

**1. Title :**

Modification to provide HRC fuses for protection of RPS in AC Electric Locomotives.

**2. Object :**

- i) In the power circuit of Electric Locomotives, RPS resistance has been connected in parallel with main field of traction motor. Since RPS resistance is only rated to carry 5% of rated traction motor current, whenever due to any fault in the traction motor, main field of traction motor gets open circuited, the full traction current passes through RPS resulting in the burning of RPS elements and failure of Electric locomotives due to QOP problem.
- ii) By providing HRC fuses in the circuit of RPS burning of RPS elements can easily be prevented. The blown out fuses, which will be of indicator type, can easily be identified and replaced in the normal schedule inspections.

**3. Work to be carried out :**

- i) The schematic of concerned power circuit indicating **HRC** fuse arrangement in WAM4 (2s-3p) and other 6P locos have been shown in RDSO's Drg.No.SKEL-4457 and SKEL-4459 enclosed herewith.
- ii) The modified arrangement of RPS terminal box with provision of **HRC** fuses as per above schematic of power circuit for WAM4 (6p), WAP1 (6P), WAM4, WAG5 and WAG7 class of Electric locomotives have been shown in RD SO's Drg. No.SKEL-4458 and SKEL-4460 enclosed herewith.

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

All AC Electric locomotives of WAM4, WAP, WAG5 and WAG7 class.

**5. Material Required :**

- i) Indicator type HRC fuses of 100 Amps, 1000 V rating capacity in the required number.
- ii) Hylem sheet of suitable size for manufacturing of extra RPS terminal plate required for 6p locomotives.

**6. Material rendered surplus :**

None

**7. Reference :**

Item No.14.1 of Minutes of 25th MSG (Elec. loco) meeting held at Secunderabad on 5th & 6th March'98.

**8. Modification Drawings :**

RDSO's DRG.Nos.SKEL-4457, 4458, 4459 & 4460.

**9. Agency of Implementation :**

CLW, all the sheds & workshops.

**10. Distribution :**

As per enclosed list.

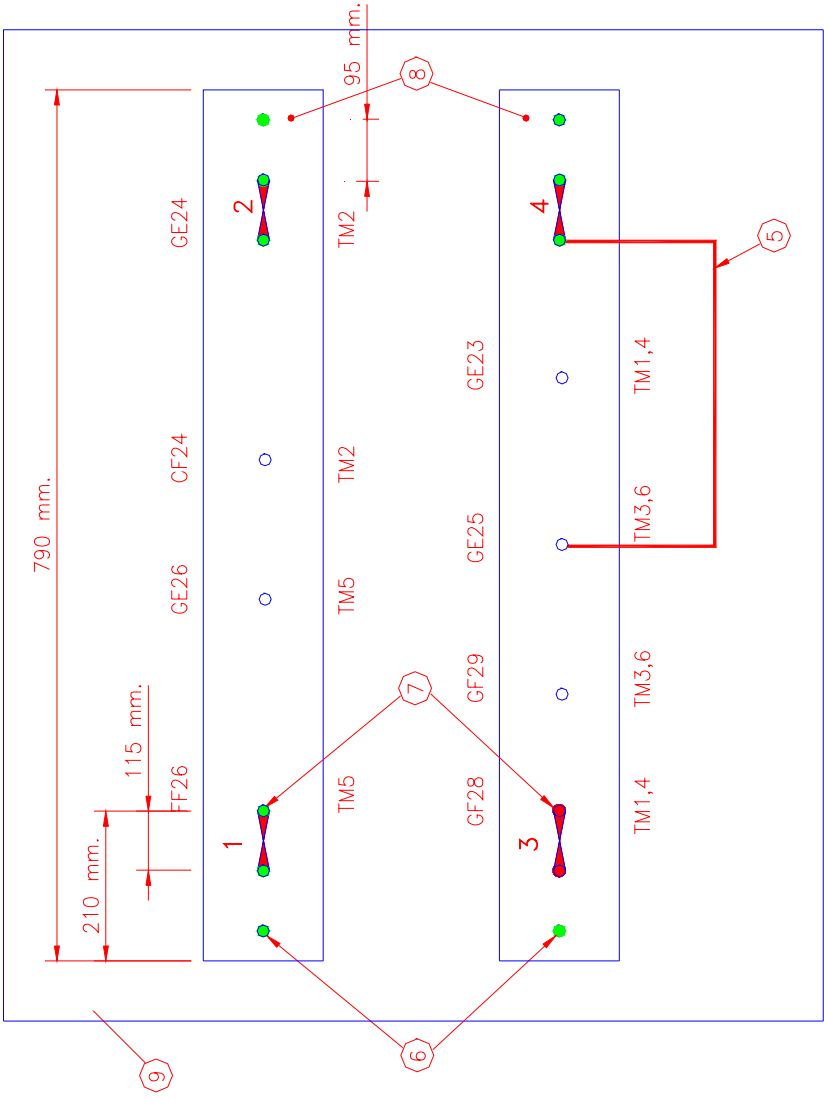


Encl : As above

(O.H. Pande)  
for Director General/Elect.




	Dt.	
	DRN	
	CHD	
	FILE	



NOTE:!

1. HRC FUSE FOR TM5-100 Amps.
2. HRC FUSE FOR TM2
3. HRC FUSE FOR TM4,1
4. HRC FUSE FOR TM3,6
5. NEW SHORTING LINK  
( Cu. FLATE OF SIZE-3mmX50mm)
6. FIXING BOLTS
7. PROPOSED BOLTS AND NUTS  
FOR HRC FUSE.
8. 30mm. THICK HYLAM  
TERMINAL BOARD.
9. RPS PANEL.

REF. NO.	PART NO.	DESCRIPTION	DETAIL DRG. NO.	NO/EMU	MATL.	SPEC
REF. :			SCALE: NTS	APPD. BY	(FOR DG) <i>Paul</i>	
PROPOSED LOCATION OF HRC FUSES -100 Amps. FOR WAM-4 (2S-3P)				FIRST ISSUED	---	
				SUPERSEDES	-----	
RDSO. ELECT. DTE				SUPERSEDED BY	----- SKEL - 4458	





