

**GOVERNMENT OF INDIA**

**MINISTRY OF RAILWAYS**

**RESEARCH, DESIGNS & STANDARDS ORGANISATION**

Manak Nagar,  
Lucknow-226011

No.EL/3.1.3

Dated 31.03.98

**Modification Sheet No. RDSO/MAM4/200**

**1. Title:**

Measures to prevent burning of selsyn transmitter/receiver of notch repeater used in Electric Loco motives.

**2. Object :**

- i) Presently, the supply to selsyn transmitter is fed from 'U' phase and neutral of Arno Converter through isolation transformer TFS. As a result, selsyn transmitter is subjected to variation in the supply due to fluctuation in OHE voltage and variable auxiliary load on the Arno Converter. The practical measurements of the input supply voltage of selsyn transmitter have confirmed voltage variations in the range of 90 V to 145 V, as against the specified voltage of  $115 \pm 10V$ . The wide variation in the input voltage of selsyn transmitter (mostly the higher voltage) is mainly responsible for the frequent burning of selsyn transmitter/receiver.
- ii) The objective of present modification is to give stabilised supply to selsyn transmitter/receiver from the secondary winding of step down regulating transformer inside the battery charger i.e. 110V AC supply just before bridge rectifier. As, this voltage is more or less constant, it is expected to improve the reliability of selsyn transmitter/receiver and hence notch repeater in Electric Locomotives.

**2. Works to be Carried out :**

Input supply for the selsyn motor is to be taken from the secondary winding of step down regulating transformer of battery charger as per arrangement shown in Annex. I and its cable schedule in Annex.IIA for WAG7 modular locomotives and in

Annex.II B for WAP4 locomotives. For older series of locomotives, the cable schedule may be drawn by the implementing agencies themselves on the similar lines.

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

All Electric Locomotives of WAM4, WAG5, WAP and WAG7 class.

**4. Material Required :**

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

**5. Material rendered surplus :**

One number single phase isolation transformer (TFS)

**6. Reference :**

Item No. 14.3 of Minutes of 25th MSG (Elec.Loco) meeting held at Secunderabad, South Central Railway on 5th & 6th March, '98.

**7. Modification Drawing :**

As per Annex. I & II (A & B).

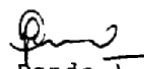
**8. Agency of Implementation :**

All Electric Loco Sheds, Workshops as well as CLW.

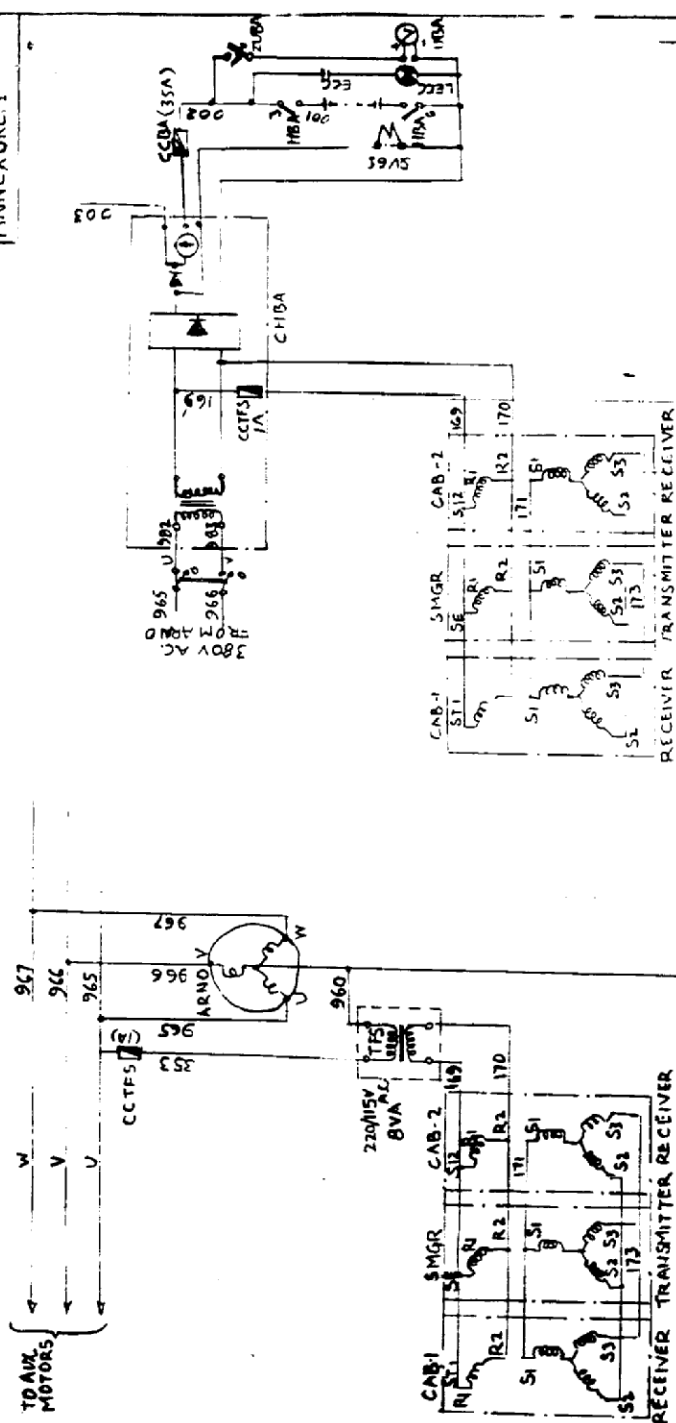
**9. Distribution :**

As per enclosed list.

Encl: As above  
WAM4/200

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

## ANNEXURE: I

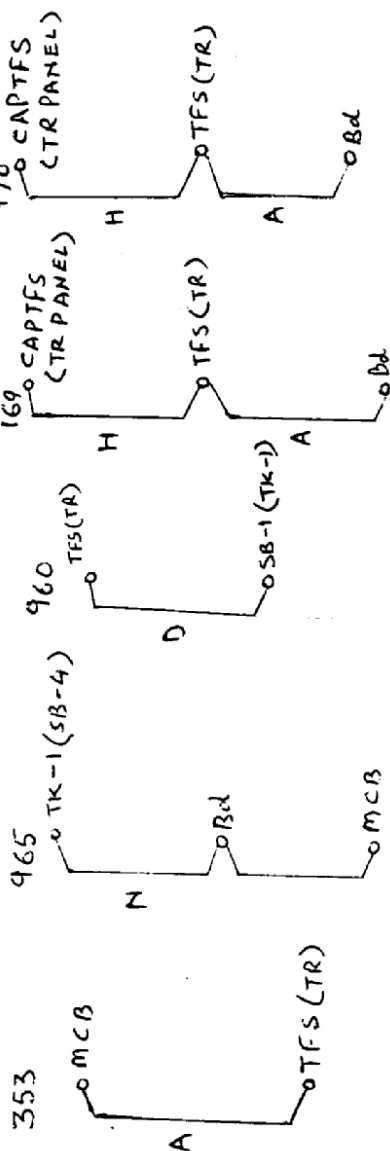


# PROPOSED MODIFIED SUPPLY ARRANGEMENT OF SELSYN TRANSMITTER & RECEIVER

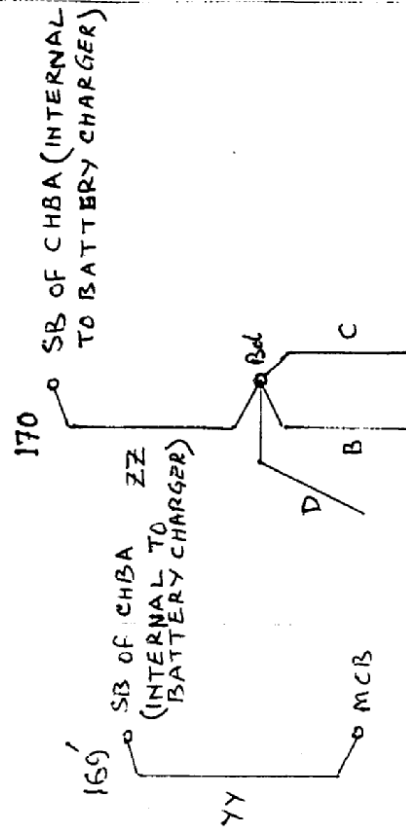
EXISTING SUPPLY ARRANGEMENT  
OF SELSYN TRANSMITTER & RECEIVER

# FOR WAG7 (MODULAR LOCOMOTIVES)

## ANNEXURE-II A.



EXISTING CONTROL CABLES TO BE DISCONNECTED FROM BOTH ENDS AND TO BE TIED PROPERLY



NEW CONTROL CABLES' LAYOUT AND THEIR CONNECTIONS.

# FOR WAP4-G LOCOMOTIVES

## ANNEXURE - II B

