Government of India
Ministry of Railways
Research, Designs & Standards Organisation
Manak Nagar, Lucknow - 226 011

Ref: EL/2.2.2/DC 2 Dec,1980.

MODIFICATION SHEET NO. RDSO/WAM4/107
Provision of a series resistance with MTDJ coil of DJ type 30i250 of M/s Hindustan Brown Boveri.

1. Object of modification

1.1 Railway have reported a few cases of locomotive failure due to open/short circuiting of MTDJ coil. Investigations have shown that this coil is designed for a nominal voltage of 86 V DC, while the system nominal voltage on locomotives is 110 V. The temperature rise of the coil is therefore beyond the limits of temperature rise of the insulation.

1.2 For the existing breakers it is proposed to provide a resistance of 500 Ohms, 10 W in series with the existing MTDJ coils.

1.3 Efforts are being made to develop a new design of MTDJ coil suitable for 110 V nominal voltage operation with suitable pick-up voltage. If such coils are fitted in place of existing MTDJ coils, this series resistance will not be required.

2. Work to be carried out

2.1 Cut bakelite plate and drill six holes according to the SK. EL. 3586 enclosed (part No.8). Fix 500 Ohms, 10 V, vitreus enamelled wire wound to IS: 3373, resistor type RWS on this plate with the help of clamp (10) and fixing bolts (11) Put small piece of glass mica between the clamp and resistor. Connect the leads of the resistor at terminal(2) with the help of nut(3) Mount this complete assembly on existing stoppers (5) which are fitted on existing plate (9) This plate is on the control block near the MTDJ coil just below the name plate. Fix the assembly on stoppers (5) with the help of nut(7) and spring washer (6).

2.2 Open terminal 4 from MTDJ coil and connect to terminal (2) of this assembly. connect existing cable connection from terminal board of DJ at other terminal (2). This will make the resistor in series with MTDJ coil on negative side of 110 V supply.

2.3 On a few DJs modified initially check the pick-up voltage of MTDJ. The value should be in the range 42 to 65 volts.

3. Applicable to class of locomotives/EMUs

All locos and EMUs fitted with DJ type 30i250.

4. Material required

As per drawing RDSO SK. EL. 3586 enclosed.

5. Material rendered surplus

NIL

6. Reference

This modification is based on the modifications carried out by electric locoshed, Kanpur, Northern. Railway and reported to be working satisfactorily.

7. Modification drawing

RDSO SK. EL. 3586.

8. Agency for implementation

CLW/ICF for locos/EMUs under production.

Railway maintenance sheds for existing locos/EMUs during IC schedule.

Electric locomotive workshops for existing locos/EMUs during POH schedule.

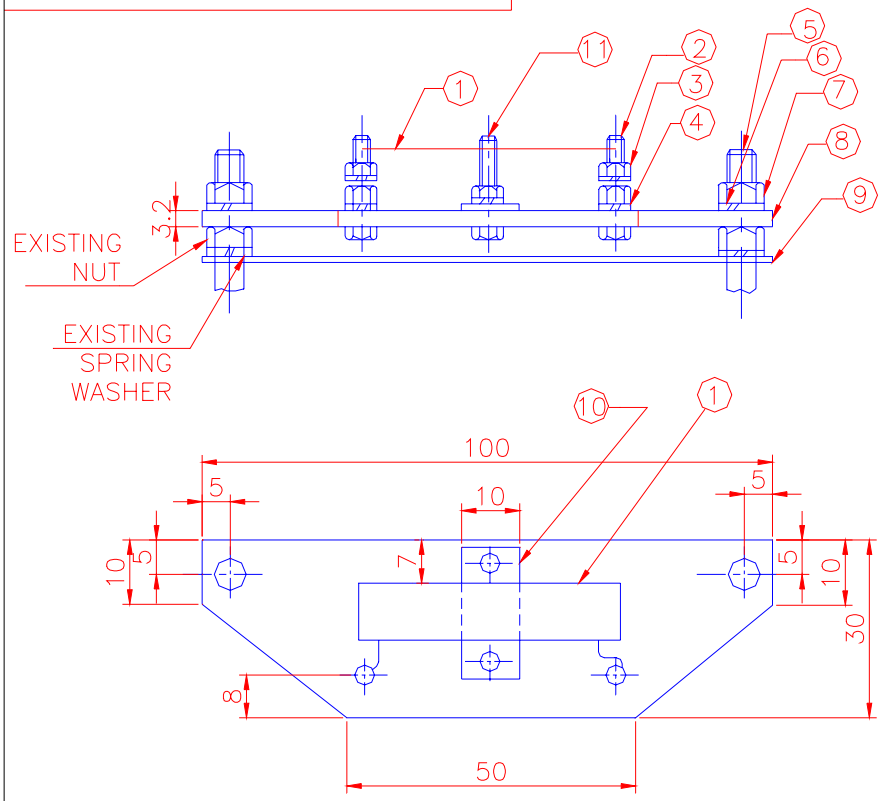
9. Distribution

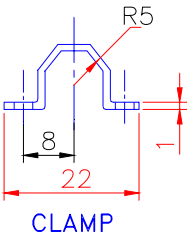
As per list attached.

Encl: Drg No. SK. EL. 3586.

(RAMESH CHANDRA)
for Director General/Elect.

SK.EL– 3586





CLAMP

REF: No.	DESCRIPTION	QTY.	MTL/SPEC.
11	HEXAGONAL BOLT M3x16	2	IS:2389 cd. PLATING TO BS: 3382 pt.1
10	CLAMP	1	STEEL IS: 1079 Gr. O ZINC PLATED IS: 1573
9	PLATE	1	EXISTING
8	MOUNTING PLATE	1	F4 IS: 2036 BAKELITE
7	HEXAGONAL NUT MS	2	IS:2389
6	SPRING WASHER M5	2	IS: 3063
5	STOPPER M5	2	EXISTING
4	SPRING WASHER M3	6	IS: 3063 cd. PLATING TO BS: 3282 pt.1
3	HEXAGONAL NUT M3	6	IS: 2389 cd. PLATING TO BS: 3382 pt.1
2	HEXAGONAL BOLT M3x16	2	IS: 2389 cd. PLATING TO BS: 3382 pt.1
1	RESISTANCE 500 Ω 10W	1	IS: 3373

REF:–	SCALE:– 1 : 1	APPROVED BY:–

SERIES RESISTANCE FOR MTDJ COIL

RDSO.ELEC.DTE. SKEL– 3586

Dt.	16.2.79
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