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

No.EL/3.2.10/5/J-6 Dt. 6th May 1986

MODIFICATION SHEET NO. RDSO/WAM4/148

MODIFICATION TO ENGLISH ELECTRIC MAKE Q45 RELAY

1. OBJECT

It is observed that blow out magnet contact 'Q' of Q45 relay makes/breaks high inductive current (2.655A) during frequent low tension testing of electric loco in the sheds. This current is more as compared to the maximum breaking capacity of BOM contact and causing burning/welding of the contact due to severe arc. This matter has already been taken up with the firm and they have suggested to use availabe BOM contact `A` in series with BOM contact `C` by shifting the load of contact `A` to contact `B` so that the each BOM contact is loaded well. within its specified contact rating. With this change the intensity of arc across the contacts will be reduced considerably and minimise the Prematured failure of the contacts. This of fice has already acorded approval for the same and the firm shall arrange the provision of two blow out magnet contacts in series for all future supplies.

It is, therefore, recommended to implement this modification on all the English Electric Co. make Q45 relays in service as per the details given below:

2. WORK TO BE DONE

2.1 See wiring Diagram No. SK. EL. 3880.

2.2 Internal Alterations

2.2.1 Open the connecting wires on terminals 2,3 and 4.

2.2.2 Remove the internal connecting wires from the rear ends of the fixed contact strip of contact `A` and moving contact strip of contact `C` if these wires are serviceable, resolder them at soldering location of fixed and moving contact strips of contact `B` New connecting wires with appropriate crimped sockets at one end may also be used, If required. Connect crimped ends of the wires to terminal No. 3 and 4.

2.2.3 Connect BOM contact 'A' and 'S' in series internally by joining the ends of fixed contact strips and moving contact strip of contact 'C' with suitable connecting wire. Terminate the fixed contact end of the contact 'c' to terminal No.2.

2.2.4 Check the direction of current flow between the two BOM contacts in series for proper arc blow out. Magnetic blow out contacts are for D.C. only and must be connected with the positive line to the moving. Contact. If the arc blows backwards and fails to existinguish, polarity is incorrect and connections shall be reversed.

2.2.5 Clean the component. check the contact pressure of each contact, pickup and dropout voltages and get them to the specified value. if required.

2.3 EXTERNAL ALTERNATIONS

2.3.1 The external control cables which are originally connected to relay terminals 1 and 2 shall now be connected to terminals 3 and 4.

2.3.2 The external control cables which are origionally connected to relay terminals 3 and 4 shall now be connected to terminals 1 and 2.

2.3.3 The above changes shall be incorporated on the relay to be modified by the sheds/POH and also on modified relays to be supplied by the firm against the future orders.

3. APPLICATION

All English Electric make Q45 relays type VAA II.

4. Material required

- Single strand conductor size l.2 mm dia (1.0 mm^2).
- Crimping sockets as per dowel's Cat No. 7592.
- quantitive as per requirement.

5. MATERIAL RENDERED SURPLUS: NIL.

6. MODIFICATION DRAWING:

Wiring Diagram No. SK. EL. No. 3880.

7. AGENCY FOR IMPLEMENTATION

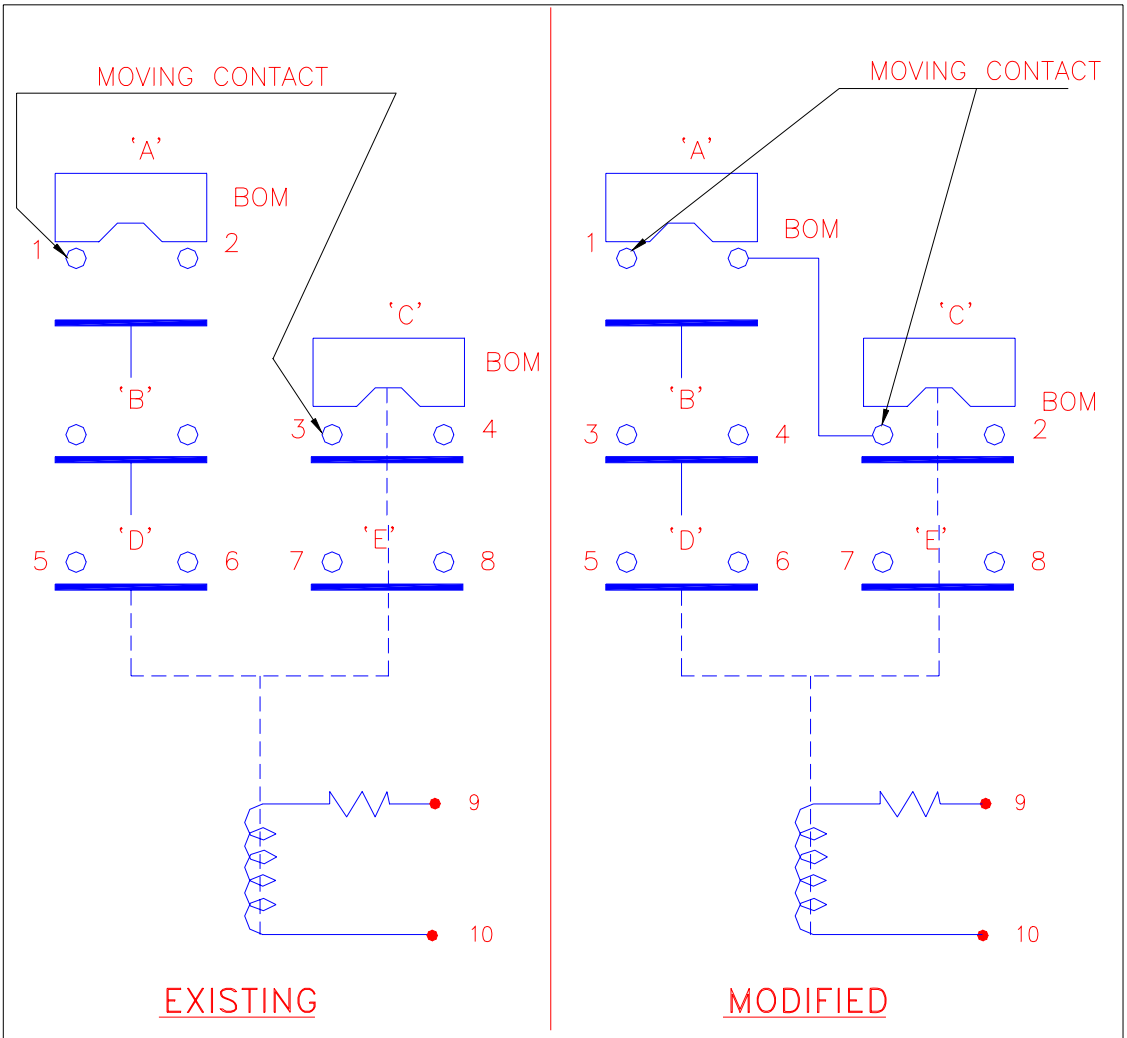
- CLW To carryout the modification on EE make Q45 relays available in the stock. It is also to ensure the procurement of only modified relays for all the current and future production requirements.
- Electric Loco Sheds and POH Shops for locos in service.
- M/s. English Electric Co. for current and future supplies.

8. DISTRIBUTION

8.1 As per Mailing List attached.

Encl. SK. EL. 3880
Mailing list.

(S. S. KHURANA)
for Director General/Elect.



NOTE:–

1. STANDARD CONTACT 'B' WILL BE WIRED TO TERMINALS 3 AND 4.
2. BOM CONTACT 'C' WILL BE CONNECTED IN SERIES WITH ALREADY AVAILABLE BOM CONACT 'A' AND BOTH THESE CONTACTS CONNECTED IN SERIES WILL BE WIRED TO TERMINALS 1 AND 2.
3. SINGLE STRAND CONDUCTOR SIZE 1.2mm DIA (1.0mm2) WITH CRIMPING SOCKETS AS PER DOWEL'S CATALOGUE NO. 7592 SHALL BE USED FOR MAKING SERIES CONNECTION OF THE BOM CONTACTS.

REF:– ENGLISH ELECTRIC CO DRG NO.MYDZ 151	SCALE:– NTS	APPROVED BY:– FOR D.G.

WIRING DIAGRAM OF Q45 RELAY

RDSO.ELEC.DTE.	SKEL–3880

Dt.	16.2.79
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T	
C	