

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

No.EL/3.2.7/DC1

Feb 1979.

MODIFICATION SHEET NO. RDSO/WAM4/77

1. TITLE OF MODIFICATION

Modification to the profile of the mobile contact and its mounting arrangement on to the mobile contact lever of EP contactors, TCP-3421-25-2M, manufactured by Chittaranjan Locomotive works.

2. APPLICATION TO CLASS OF LOCO

WAM4, WAG4

Also applicable in principle to other classes of locos where similar type of contactors are used.

3. Object of the modification

There have been a number of cases of pitting, overheating, burning and melting as well as loosening of mobile contact tips of line contactors of type referred to above. Various modifications including the brazing of the mobile contact tip on to the mobile contact lever were tried and have not been found totally satisfactory. Based on the tests carried out at CLW, it is proposed to modify the profile of the moving contact tip and its mounting arrangement to on to the mobile contact lever. The modified arrangement will provide direct contact between the two and the axial gap between mobile contact lever face and the mobile contact tip face will be eliminated.

4. Modification drawing.

Drawing No. SK EL 3059 and SK EL 3062.

5. Agency for modification

Railways-On all existing locomotives.

C.L.W. - On future builds provided with same design of mobile contact arrangement.

6. Material required/rendered surplus

- (i) If the mobile contact tip is mounted on to the mobile contact lever with slotted head M6x25-8G screws (2 nos./contactor), the same may be replaced by high tensile friction grip hexagonal headed screws M6x30-8.8 property class, as per IS: 1367-1967.
- (ii) If spring washers M6A (2 Nos./contactor) have been used in the above mounting, they may be replaced by spring washers M6B to IS:3063.

7. Work to be carried out

- (a) Existing contact tips in service (Drg. No. SK EL 3059)
 - i) Remove the existing contact tip and file the tip surfaces A and B with 15 ° angle to the horizontal (i.e.30 ° included angle between surfaces) till dimension 'a' (Fig.III) is 14 mm. This shall be checked with a suitable insetion. gauge as indicated in Fig.V. Surfaces A,B and C (Fig. III) shall be filed smooth.
 - ii) File surface B(Fig.III) by another 1 mm after operation (1) above.
 - iii) Mount the above modified mobile contact tip on to the mobile contact carrier and tighten the high tensile hexagonal headed screws (3) Fig.IV with toroué of 1.0 Kg.m. Make sure that the spring washers (4) Fig. IV as specified are used.
 - iv) Check by holding the assembly against a light, that there is no gap at surfaces A1and C1 and that a clearance of about 1 mm exists at B1 after assembly.
 - v) Operate the contactor 100 times and retight the screws (Item 3) with a torque of 1.0 kg. m.
- (b) New mobile contact tips (Drg No. SK EL 3062)
 - i) In case of new mobile contacts, they may be procured as per the revised profile indicated in the drawing SK EL 3062.
 - ii) Mounting arrangement shall be as in the items(ii),(iii) and (iv) above.

8. Reference

- CLW,s Drg. No. 3 TWD 112.011 Alt. No.4 for Mobile contact.
- CLWs Drg. No. 3TWD 112.113 for Mobile contact lever.
- RDSO`s Drg. No. SK EL 1817 and 2796.

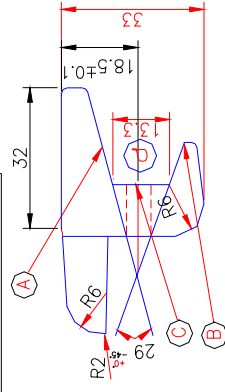
9. DISTRIBUTION

(As per list attached).

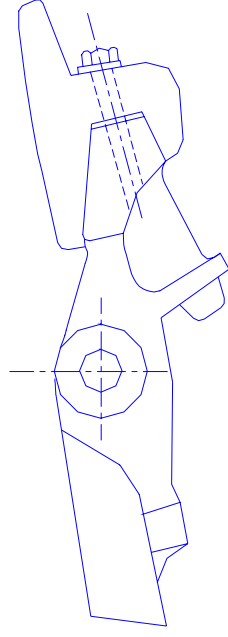


(D.S.BAWEJA)
for Director General (Elect).

SKEL-3059

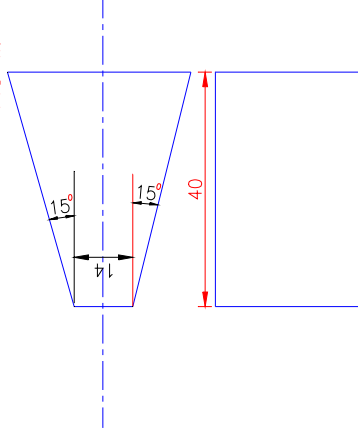


EXISTING MOBILE CONTACT TIP

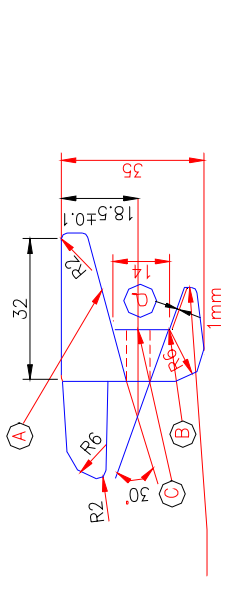


EXISTING MOUNTING ARRANGEMENT

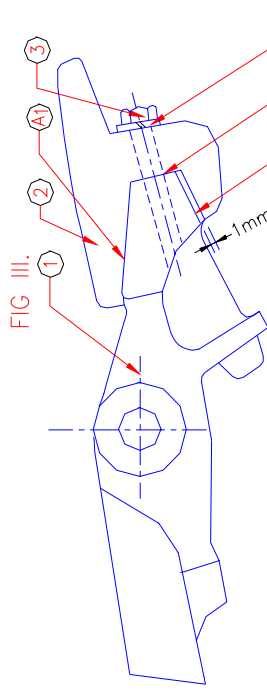
FIG. II.



INSERTION GAUGE
FIG. V.



MODIFIED MOBILE CONTACT TIP



MODIFIED MOUNTING ARRANGEMENT
FIG. IV.

4	SPRING WASHER			M-68 TO IS 3063
3	SCREW-HEX. HD.			M.6x30-8.8IS.136
2	MOBILE CONTACT TIP			EXISTING/MODIFIED
1	MOBILE CONTACT LEVER			EXISTING
PART NO.	DESCRIPTION	QTY		MTL/SPEC

REF:—	SCALE:— 1:1	APPROVED :—	FOR D.G
-------	-------------	-------------	---------

MODIFIED PROFILE & MOUNTING OF MOBILE CONTACT
FOR EP. CONTACTOR TYPE TCP 342125-2M

RDSO.ELEC.DTE.

SKEL-3059

ALT	REF NO	DESCRIPTION	SI	DATE
-----	--------	-------------	----	------

Dt.	23.2.79
D	
T	
C	

