

GOVERNMENT OF INDIA

Ministry of Railways

Research Designs & Standard Organisation

Manak Nagar, Lucknow – 226 011

EL/3.2.5

Dated : 30.10.2000

Modification Sheet No.ELRS/MS/0301-2000 Rev-'0'

1. **Title** : Adoption of modified terminal box cover on TAO-659 traction motor.
2. **Object** : Railways have reported the cases of dropping of terminal box cover of TAO-659 traction motor on line. This is mainly due to shear off/loosening/slackness of its Hex.Head bolts size M 14 . This dropping of terminal box cover some times may cause hitting the power cable damaging its insulation or leads to breakage of vaccum reservoir pipe/drain cock of auxiliary reservoir.

Presently, the terminal box of the traction motor type TAO-659 is made from 6 mm thick mild steel plate with a 0.8 mm thick neoprene gasket pasted on its one side to avoid flashovers (Ref: RDSO Modification Sheet No.RDSO/WAM-4/67 of April'78) and its weight is 5.75 kgs (approx.) .

As per the advise of RDSO, M/s.Mica Ply, Bhopal has developed terminal box cover of fibre glass material as per RDSO Drg. No.SKEL-4567 Rev.'0' and the same has been tried and found acceptable. The weight of fibre glass terminal box cover is approximately 2 kg only. No Neoprene gasket is required to be pasted in the terminal box cover.

To overcome the above problems and also to improve the performance of Traction Motor type TAO-659, Railways are advised to adopt fibre glass made terminal box cover as per RDSO Drg.No.SKEL-4567 Rev.'0' instead of mild steel terminal box covers on TAO-659 TM. However, this modification may be implemented in a phased manner.

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

- Remove the existing terminal box cover.
- Check the condition of tapped holes; if thread found in damaged condition then repair the damaged thread hole in the usual process i.e. blocking these holes by welding and then re-drilling & re-tapping. etc.
- Mount fibre glass made terminal box cover procured as per RDSO Drg. No.SKEL-4567 Rev.'0' on the TM.

- Tighten all six Hex –Head bolts size M 14 in the proper way at the specified torque as per usual practice.

4. **Application :**

- All AC Electric Locos fitted with TAO-659 TMs.

5. **Material required :**

- Fibre glass made terminal box cover as per RDSO Drg. No.SKEL-4567 – Rev.'0'.

6. **Material rendered surplus :**

- Existing Mild Steel made Terminal box cover along with the neoprene gasket .

7. **Reference :** (I) Rly.Board's letter No.98/Elect(TRS)/441/14, dtd. 8.8.2000.
(ii) RDSO Drg.,No.SKEL- 4567 Rev.'0'.

8. **Source of Suppliers :**

Approved supplier on regular basis :

M/s. Mica Ply,
23-24, New Sector, Industrial Area,
Mandideep – 462 046.
Near Bhopal, Distt – Raisen (M.P)

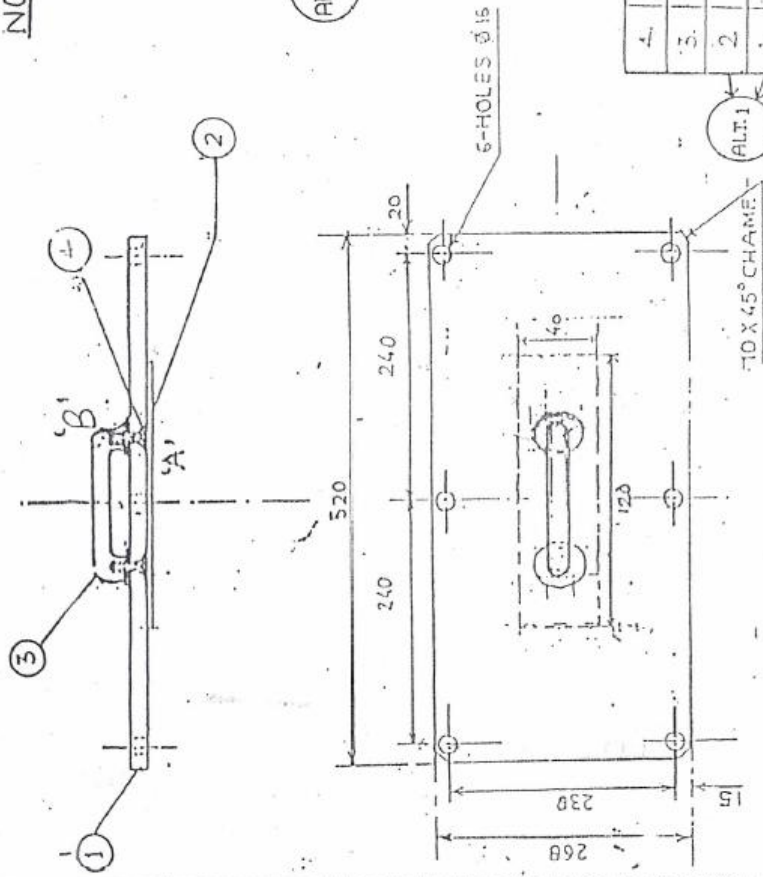
Approved supplier on developmental basis:

- M/s.Hatim Dielectric Pvt. Ltd.,
90, Rippon Street,
Calcutta – 700 016.
- M/s.Hind Engg. Co.,
Todi Corner.
32, Ezra Street,
3rd Floor, Room No.356,
Calcutta – 700 001.
- M/s.Atual Industries,
E-925, Dabua Colony,
New Industrial Township,
Faridabad – 121 001.
Haryana.

NOTE:

1. TO WITHSTAND 5 KV rms FOR 1 MINUTE BETWEEN POINT A & B.
2. GLASS FABRIC COMPOSITE SHEET 1 & 2 IS TO BE TESTED AS PER NEMA GRADE 6-H FOR VARIOUS PROPERTIES.
3. USE LOCTITE ON THE THREADED PORTION OF M5 SCREW (REF. 4) WHILE FIXING.
4. MATERIAL SPECIFICATION CHANGED TO IS: 10192, 1982 (GRADE: EP-2)

ALT-1



REF. NO.	PART NO.	DESCRIPTION	DETAILS/ENGINE	NO. LOCOS	MATL.	SPEC.
1	1	8mm. HUCK GLASS FABRIC COMPOSITE SHEET	-	6	GLASS FABRIC	IS: 10192 (EP-2)
2	2	2mm. HUCK GLASS FABRIC COMPOSITE SHEET	-	6	GLASS FABRIC	IS: 10192 (EP-2)
3	3	HANDLE	-	6	STEEL EPONY	-
4	4	SCREW M5	-	12	STEEL	-

REF: SCALE: NTS APPD. BY: (FOR D.G.)

T.M. TYPE TAO-659
MOD. TERMINAL BOX COVER

RDSO ELEC. DTE. SKEL-4567 (ALT-0)
SUPERSEDED BY

STATUS	ALT. REF. No.	DESCRIPTION	APPD. BY	DATE
1		MATERIAL CHANGED		

2510-2009
D SKUMAR
C D. D. D. S.
P. L. E. D. S.