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

No. EL/3.2.5 Dated 03.02.1995

SPECIAL MAINTENANCE INSTRUCTION NO. RDSO/ELRS/SMI/169

1. Title :

Cleaning of the Commutator of TAO-659 Traction Motors in the locomotives.

2. Application :

All electric locomotives fitted with TAO-659 Traction Motors.

3. Object :

Prevention of flashovers on the commutator surface.

4. Procedure :

Following paras describes the method of cleaning of commutator.

4.1 In the maintenance manual it is written that "while inspecting (TAO 659 Traction Motors) clean the commutator with 1 dry clean rag(rotate the armature)".

4.2 Cleaning of commutator in para 4 means cleaning in between the copper bars, on the surface of the mica segment at a depth of about 1.8 mm below the copper surface.

4.3 Clean the mice segment at the depth as mentioned under para 4.2, by axial rubbing with the dry rag with adequate pressure so that the cloth gets pressed between the bars and cleans the mica.

4.4 Thorough cleaning under para 4.3 should done by rotating the armature on the portion of commutator which is accessible between brush boxes.

4.5 Repeat the cleaning under para 4.3 and 4.4 eight times since only about one eight of the commutator surface can be cleaned in one position. In order to get 1/8th portion of the commutator surface for clean, locomotives will have to be moved by few inch. In view of this loco should be moved in such a way that commutator surface may be accessed easily.

4.6 In order to check the positive cleaning by a rag, rub between the segment with a steel rular wrapped with a piece of clean white cloth, amount of carbon deposited on the cloth would show the effectiveness of the cleaning.

5.0 **Drawing/Sketch -** Nil

6.0 **Agency for Implementation :**

All electric shed and shop of Indian Railways.

7.0 **Periodicity of Implementation :**

During every IC/AOH

8.0 **Reference :**

Reliability Engineering study on electric locos Part-11 for TAO 659 flashovers, BBCR and Commutator soldered run out prepared by RITES, New Delhi.

8.0 **Distribution :**

As per enclosed list.

Rajiv Kumar

(R. K. Kulshrestha)
for Director General/Electrical

DA: As Above.