

**Government of India
Ministry of Railways
Research, Designs & Standards Organisation**

No. EL/1.3.10

Dated 31.08.1998

SPECIAL MAINTENANCE INSTRUCTION

NO. RDSO/ELRS/SMI/TM/0205-98 (REV. 0)

1. **Title:**

Procedure for tightening of axle cap fixation bolts of Traction Motor type TAO-659.

2. **Object:**

It is observed that during assembly of axle cap on Traction Motor type TAO-659, the shed staff do not tighten the axle cap results in the failure of suspension bearings as well as leakage of suspension bearings oil in service.

In the past MP Dte, of RDSO had issued maintenance instruction No, MP.MI - 71/78 in Oct. 78 with its Rev. in July 92 and MP/MI - 36/73 Alt. 1 in April 79, which had stated that axle cap fixation bolts should be tightened at the torque value of 50 Kgm.

However, in the Maintenance Manual of Hitachi Traction Motor type Hs1050 Er/ HS15250A issued by M/s Hitachi, the specified torque value for M36 bolts for axle cap/suspension tube is 121-145 Kgm.

In view of the above, it is advised that all Zonal Railways/Traction Motor Manufacturers. Workshops should follow the torque value of 121-145 Kgm, for tightening of axle cap bolts (for dry condition) of Traction Motor type TAO 659.

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

- 3.1 Mount the axle cap on the magnet frame as per usual process and secure with 8 hex - Head bolt size M36 × 200L.
- 3.2 Tighten the 8 Hex - Head bolts size M36 × 200L with spring washer with torque wrench at the specified value of 121-145 Kgm. Do not fully tighten each bolt in a stroke.
- 3.3 After tightening the Hex - Head bolts, lock these bolts with the help of locking wire.

4. **Application to the class of Locomotives:**
TAO -659 Traction Motors fitted on Electric Locomotives - WAM4, WAP1 & 3, WCAM 1 & 2 , WAG5.
5. **Material Required:**
 - Torque wrench - 150 Kgm (max.)
 - 8 Hex - Head bolts size M36 × 200L, Grade 8.8 as per is 1367 (Pt.3) 1991 with locking hole.
 - Locking wire of mild steel size 2 mm dia.
6. **Material required surplus:** Nil
7. **Reference:**
Hitachi Maintenance Manual for Traction Motor type HS 1050Er/HS15250A.
8. **Modification Drawing:** Nil
9. **Agency of implementation:**
 - All electric Loco Sheds
 - All POH/Repair Shops
 - All Traction Motor Manufacturers
10. **Periodicity of Implementation:**
During IC, AOH, IOH and POH.
11. **Distribution:**
As per enclosed list

Encl: Nil.



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