

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

No. EL/3.2.30/CG

Dated : 4.4.1984

**SPECIAL MAINTENANCE INSTRUCTION NO. RDSO/ELRS/SMI/117**

**BREAKGE OF NEEDLE BEARING ROLLER (PART 2311) OF TAP  
CHANGER TYPE NO 32 OF HBB MAKE.**

**1. Object**

Railways have reported a few cases of breakage of needle bearing roller of tap changer. Investigation has shown that in a number of cases, the failures are mainly due to the grease of the needle bearing being removed/washed away during cleaning of contact lever (2306) with petrol in the regular Maintenance schedule resulting breakage of the needle bearing, thus being dry/starved of the grease.

**2. INSTRUCTIONS**

- Needle bearing (2311) is generally with high temperature grease. It does not require replacement for 10-12 years.
- Replace during second POH as per BBC overhaul in instructions HAMT 300 74 E the contact lever assembly 2306 (i.e. alongwith needle bearing 2311).
- In any case if the contact lever (2306) is cleaned with petrol resulting in the removal of the grease of the needle bearing during maintenance, Re-grease the bearing as under:
  - Remove the bearing as per Pt 7.3.1, page 30 of BBC Manual AM 910018 E.
  - Clean the bearing with petrol and remove the old grease.
  - Fill the Benonite grease (grease used for high temperature application) covering 50 to 60% of empty space of bearing.
  - Refit the bearing in the contact lever assembly (2306).

Note: In case of non-availability of Benonite grease, the equivalents are : (a) NORVA 275 (ESSO); (b) DARINA-2 (SHELL) (c) ENERGREASE HTB2 (BP) and (d) SERVOFEX EP2 (IOC)

3. **Reference**

i) Item 5 (Page 9) of the minutes of the meeting held between Railway and M/s HBB in August 83 and minutes circulated Vide RDSO letter No EL/3.2.30/CG dt 24-9-83.

ii) HBB's letter No PWSAS/S43/5/Tap/KTR dated 11-10-83.,

4. **Instruction drawing :**

Nil

5. **Application to class of locomotive**

All locomotives fitted with No 32 tap changer of HBB make.

6. **Agency of implementation**

Sheds/shops on existing locomotives.

7. **Periodicity of implementation**

Wherever grease of needle bearing removed washed away during maintenance of contact lever (2306).

During 2<sup>nd</sup> POH, replace contact lever assembly (2306) alongwith bearing (2311).

8. **Distribution :**

As per list attached.



(K. Viswakumar)  
for Director General (Elec)

Encl. Nil