

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

No. EL/3.2.30/CG

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**SPECIAL MAINTENANCE INSTRUCTIONS NO.
RDSO/ELRS/SMI/129**

**REPLACEMENT PROCEDURE FOR BEVEL GEAR 1924/1925
OF NO. 32 TAP CHANGER OF HBB MAKE**

1. OBJECT :

Railways have reported a few cases of breakage of teeth of Bevel gear 1924/1925. In such cases defective Bevel gear is to be replaced by new Bevel gear as per the following instructions.

2. INSTRUCTION :

Replacement of Bevel Gear 1925 :

1. Remove air motor by loosening bolts 1914.
2. Remove the circlip in front of gear 1925.
3. Remove only gear 1925 from its assembly. The gear holder which is secured firmly to the main shaft 1401 with roll pins will remain in position with the six pins and rubber bushes.
4. Push in new Bevel Gear 1925 on to the holder taking care to see that the red dot on the gear is positioned just above the top most pin of gear holder. After completely pushing the gear to its final position ensure that there is no gap between mating surface of gear/holder by lightly tapping the gear with Nylon Hammer; put the circlip into position.
5. Fit the air motor on to the support 1911 with the help of bolt 1913 spring washer 1914 and nut 1915. Ensure that the gear 1924 meshes correctly with gear 1925 and without play. The two red dots of gear 1923 should coincide with one red dot of gear 1924.

Replacement of Bevel Gear 1924 :

After dismantling air motor, remove the circlip and spacer in front of gear 1924, pull out the bevel gear 1924 from the crankshaft using a puller. Push in a new bevel gear making use of M10 threaded hole of crankshaft and a spacer. Put back the spacer and circlip in their respective position. Assemble the air motor on to the tap changer as indicated under pt. 5.

The dismantling and assembly is to be done in tap zero position and it is required to lock the load switch shaft to prevent movement of main shaft during working.

3. **REFERENCE :**

HBB Instructions No. SWT 5101

4. **INSTRUCTION DRAWING :**

Nil

5. **APPLICATION :**

Electric locomotives fitted with No. 32 tap changer of M/s HBB

6. **AGENCY OF IMPLEMENTATION :**

All electric loco sheds and POH workshops.

7. **PERIODICITY OF IMPLEMENTATION :**

Whenever Bevel Gear 1924 and 1925 required replacement.

8. **DISTRIBUTION :**

As per list attached.



(S.S. Khurana)
for Director General/Elec.