

**GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RESEARCH DESIGNS AND STANDARDS ORGANISATION
Manak Nagar Lucknow - 226 011**

No. EL/3.2.115

Dated 8-10-98

**SPECIAL MAINTENANCE INSTRUCTIONS NO.
RDSO/ELRS/SMI/0206-98 (REV – ‘O’)**

1.0 TITLE :

Use of Helisert Insert to prevent TAO-659 Motor Gear case screws from falling.

2.0 BRIEF HISTORY :

Falling of top and bottom boss screws of TAO-659 traction motors gear cases are very common. It is basically due to improper locking arrangement and worn out threads. Based on experience of Vijayawada Shed, Railways were advised by RDSO vide letter no.EL/2.1.8 date 7/9.1.98 about the utility of Helisert Insert for such application. However during 25th MSG meeting held at S.C. Railway, Secunderabad, group had recommended that RDSO should issue a SMI on the subject.

3.0 OBJECT :

Repair procedure/improvement of top/bottom boss threads of TAO-659 traction motor gear case to eliminate the cases of gear case screws falling due to worn out/improper threads.

4.0 APPLICATION :

TAO-659 gear cases.

5.0 INSTRUCTIONS :

5.1 Check the condition of top and bottom mounting boss of gear case.

5.2 If the threads are in damaged condition redrill the threaded bore with drill
size 30.75 mm for
M-30 size of screws.

5.3 After operation as in 5.2 above, use the following taps strictly as per
sequences in the redrilled bore;

5.3.1 Roughing tap size MC 30 R.

5.3.2 Finishing plug tap size MC 30 P.

5.3.3 Finishing bottoming tap size MC 30B.

- 5.4 After properly tapping the drilled boss bore. clean it and check the tapped hole size by MC 30 GN gauge for proper size.
- 5.5 Install the insert C30 CN on prewinder inserting tool type MC-30 IP of M/s Helsert and fix the insert inside the tapped bore of boss.
- 5.6 Use long nosed pliers to break off TANG. After fixing the insert inside boss, the size of the tapped hole will be of original size i.e. fit for M-30 size screws, which are used for mounting of gear cases of TAO-659 Traction motor.
- 5.7 All the operations described in steps 5.1 to 5.6 above can also be performed on new boss before its welding on gear case. Alternatively gear case drawing for fresh procurement may be modified accordingly.
- 5.8 In case helisert is to be removed or changed due to any reason then extracting tool type 1227-24 is to be used for this purpose.
- 5.9 Heliserts are also available in other sizes for different applications in locomotives.

6.0 INSTRUCTION DRAWING / SHEETS :
SKEL-4483 & SKEL-4484

7.0 AGENCY FOR IMPLEMENTATION :
All Electric Loco sheds/Workshops

8.0 DISTRIBUTION :
As per enclosed list.

Encl : As above



(O.H. Pande)
for Director General/Elect.

