

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

No.EL/3.2.1/2

Dated 25.8.1991.

**MODIFICATION SHEET NO. RDSO/WAM4/160**

**Modification to improve the oil circulation in the neck portion of the locomotive transformer.**

**1. OBJECT**

Railways have reported cases of insulation deterioration/failure of transformer auto winding leads. Investigations have revealed that the main reason for such failures is the presence of large amount of sludge in the neck portion with practically no movement of oil in the region. In order to overcome the problem it has been decided that the oil circulation in the transformer neck area should be increased by bleeding a small amount of oil from the bottom of the radiator and injecting the same in the neck of the transformer as shown in SK. EL.-4012.

**2. WORK TO BE CARRIED OUT**

Assemble an equalising pipe from the bottom of the radiator to the neck of the transformer as shown in schematic sketch SK. EL.-4010.

**3. APPLICATION TO CLASS OF LOCOMOTIVES**

All AC electric locomotives.

**4. MATERIAL REQUIRED**

As per SK. EL.-4018

**5. MATERIAL REQUIRED SURPLUS**

Nil.

**6. REFERENCE**

BHEL Drg.No 24665650001/Rev.02

BHEL Drg. No G-6020047/Rev.3J

**7. MODIFICATION DRAWING**

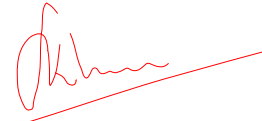
RDSO SK. EL.-4018 and SK. EL.-4010.

**8. AGENCY OF IMPLEMENTATION**

- (i) All Electric Loco Sheds and POH Shops.
- (ii) Incorporated on the transformer manufactured/repaired by M/s BHEL from transformer S. No. 20089 onwards.

**9. DISTRIBUTION**

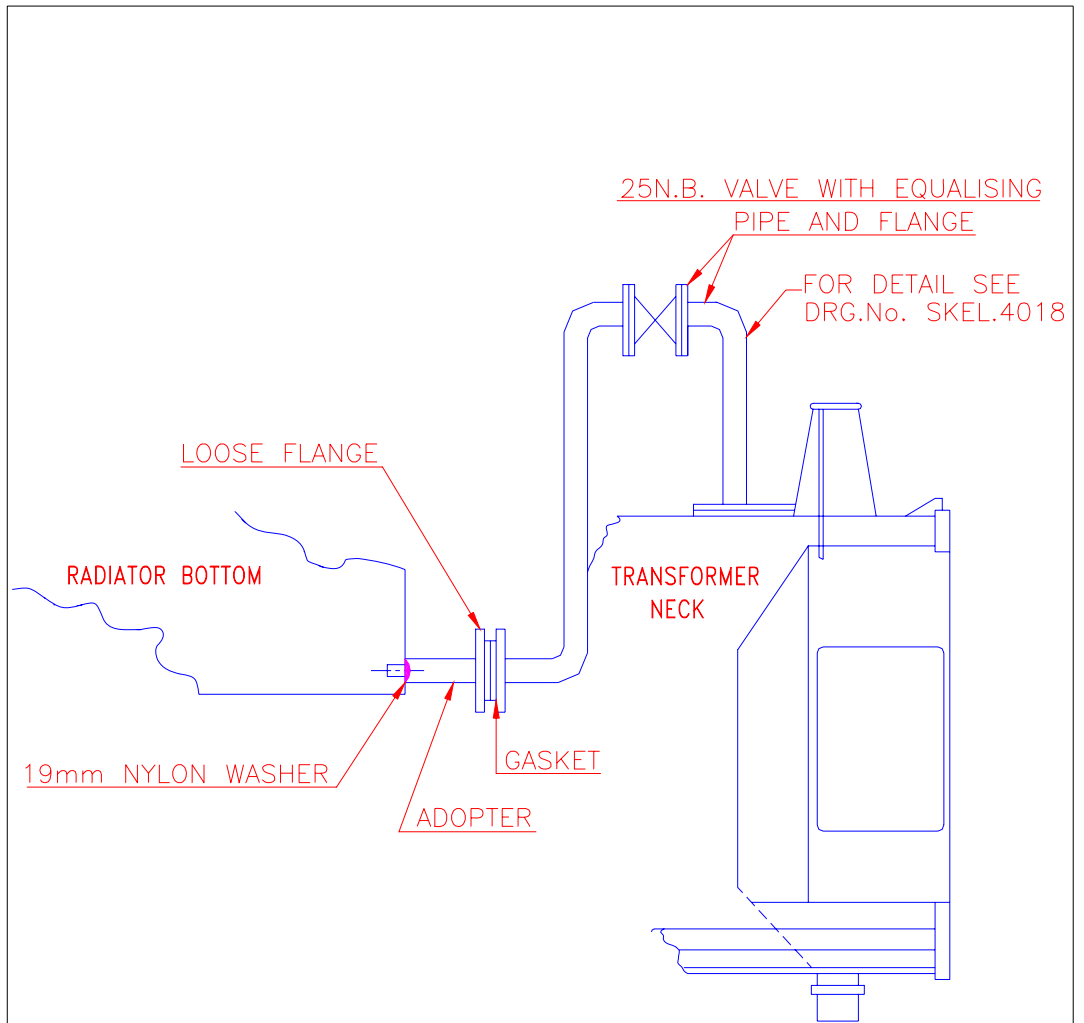
As per list attached.



(S.S.KHURANA)  
for Director General (Elect.)

Encl: Drg,No. SK. EL.-4018,  
SK. EL.-4019 &  
Mailing list.

DETAILS OF MODIFIED OIL CIRCULATION SYSTEM IN FREIGHT LOCO TRANSFORMER	
R.D.S.O. ELEC. DTE.	SKEL - 4018



REF:-BHEL DRG.NO.G6020047/3J  
REV.

SCALE:-

APPROVED:-

PROVISION OF EQUALISING PIPE FROM  
RADIATOR TO NECK OF TRANSFORMER

RDSO.ELEC. DTE.

SKEL-4019

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