

**Government of India
Ministry of Railways
Research Designs & Standards Organisation
Manak Nagar , Lucknow – 226011**

No. EL/3.2.70

Dated : May, 1997

MODIFICATION SHEET NO. RDSO/WAM4/189 (Amentment-1)

1. TITLE OF MODIFICATION :

To provide capacitors across U, V, & W terminals of MCP and Arno convertors.

2. APPLICATION TO CLSS OF LOCOMOTIVES.

All A.C. electric locomotives provided with Arno and MCP's both.

3. OBJECT OF MODIFIVCATION :

Railways have reported the failure of stator winding of MCP and Arno convertors. Detailed investigation into the failure revealed that one of the cause may be due to the presence of switching `on` and `OFF` surges. In order to arrest the failure of Stator winding, this modification is being issued.

4. MATERIAL REQUIRED :

4.1 0.5 Microfarad, 1000V, AC capacitors - 3 nos.

4.2 Bakelite board and transparent plastic box of suitable size.

5. DETAILS OF MODIFICATION OR WORK TO BE CARRIED OUT.

5.1 Provide one number each of capacitor of 0.5 microfarad, 1000 V AC across U, V & W terminals and earth of MCP and Arno convertors as shown in drawing SK. EL. 4346 Alt (1).

5.2 The capacitors should be fixed on a bakelite board and mounted in a transparent plastic box and 4 terminals should be brought out for connections between U, V & W and earth.

5.3 Mount the plastic box containing the capacitors in the frame of motor compressor set and at suitable place near Arno convertors.

5.4 Mounting bolt for fixing the box should be strong enough to resist vibration encountered in service.

5.5 Mounting should not infringe with the parts available in surrounding, e.g., the motor compressor set and Arno convertor.

6. MODIFICATION DRAWING No. SK. EL. -4345 Alt (1)

7. Agency for Implementation :

All Electric Loco Sheds and Shops of Indian Railways.

8. Periodicity of Modification :

To be carried out during AOH, IOH & POH.

9. BIBLIOGRAPHY :

“Report on a Reliability Engineering Study on Electric Locomotives” prepared by RITES on Arno and Auxiliary motors failure.

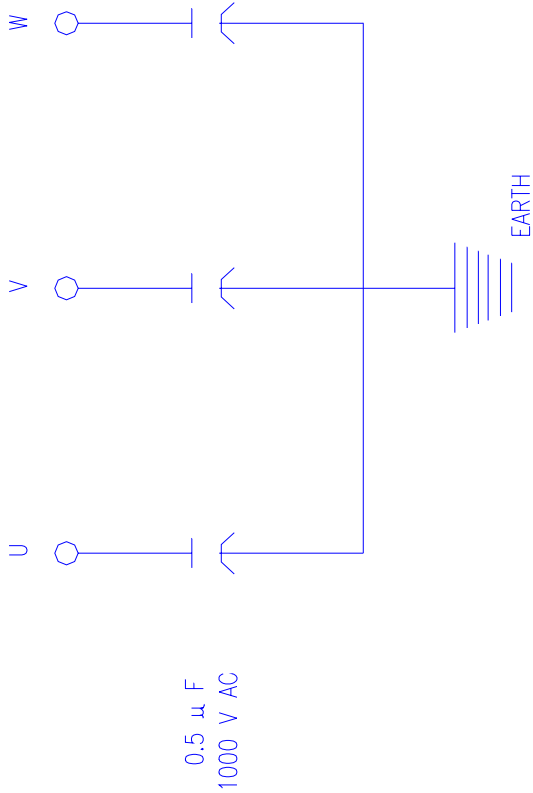
10. DISTRIBUTION :

As per enclosed list



(R.K. Kulshrestha)
for Director General (Elec)

Dt.	
T	
D	



1	FIG.2 OF MODIFICATION NO. WAM4–189 OF 24.5.95 DELETED		DSC 3		
ALT.	DESCRIPTION		AUTHORITY	MANUAL	DATE
REF :		SCALE : NTS	APPROVED		
PROVISION OF CAPACITORS BETWEEN U,V,W TERMINALS AND EARTH ON MCP,S AND ARNO CONVERTOR					
R.D.S.O. ELECT. DTE.			SKEL 4345 ALT 1		