

Telex : 0535 - 2424 RDSO -IN  
Fax : 91-0522-458500  
Telephone : 454657 & 451200  
Telegram : 'RAILMANAK', LKO  
e-mail : edse.rdso@gmail.com



भारत सरकार – रेल मंत्रालय  
अनुसंधान अभिकल्प और मानक संगठन  
लखनऊ – 226011  
Government of India - Ministry of  
Railways  
**Research, Designs & Standards  
Organization, LUCKNOW – 226011**

No. EL/3.2.61

Dt. 31.12.2012

All Chief Electrical Engineers,

***SPECIAL MAINTENANCE INSTRUCTION NO. ELRS/SMI/ 0236 (REV. '1')  
--dated 31.12.2012***

**1.0 Title:**

Overhauling kits for AOH/IOH/POH of single bottle VCBs of M/s Autometers Alliance Limited (AAL), Bombardier Transportation India Limited (BTIL), M/s Schneider Electric Infrastructure Limited (formerly Areva) and M/s Biecco Lawrie Limited.

**2.0 Brief History:**

- 2.1 Overhauling kits for AOH/IOH/POH of single bottle VCBs type BVAC 25.10 of M/s AAL & BTIL and type 22 CB of M/s Areva were circulated to Railways vide RDSO's SMI No. *ELRS/SMI/ 0236 (REV. '0')* dt. 04.08.05 for implementation.
- 2.2 In the meanwhile, duty cycle of VCBs has increased due to increased outage of electric rolling stock as well as reduction in the distance between two traction substations to cater for increased demand of traffic. Also, the periodicity of AOH/IOH/POH schedule of conventional freight locomotives has been increased in the recent past. Further, based on the feedback received on the performance of VCBs with existing overhauling kits from Zonal Railways & manufacturers, updation of existing kits for scheduled maintenance of single bottle VCBs of different makes is considered necessary. This item was also discussed during Workshop on VCB held in April, 2012 at Electric Loco Shed, Tuglakabad, where the representatives of all the sheds and manufacturers had expressed the need for revising the existing kits of single bottle VCBs.
- 2.3 Based on the field performance of existing Secheron design VCBs type BVAC 25.10 supplied by M/s AAL & BTIL in the past and problems being experienced in this design, the same are being upgraded/modified by Railways as per Railway Board's guidelines contained in their letter no. 2007/Elect(TRS)/441 dt. 06.02.2008 and dt. 03.05.2010 respectively. Thus, new supplies of single bottle VCBs by M/s AAL are of upgraded/modified version and its type is VCBA 25.10 Tr. Similarly, now

BTIL is supplying the upgraded/modified version of VCBs type BVAC 25.10 M07(new) to Indian Railways. From the above, it is seen that there are two versions of VCBs of these two makes in service at present on the Zonal Railways. However, after modification/up-gradation of all VCBs of these makes as per Railway Board's guidelines, it is expected that only final version of VCBs (upgraded/modified) of these makes as mentioned above would remain in the Railways.

- 2.4 Accordingly, two lists of AOH/IOH/POH kits of M/s AAL and M/s BTIL makes have to be prepared and incorporated in this SMI, with one list containing the revised kits for AOH/IOH/POH of VCBs of old/original type of these two makes and the second list would contain overhauling kits for AOH/IOH/POH of new versions of VCBs type VCBA 25.10 Tr of M/s AAL and BVAC 25.10 M07(new) of M/s BTIL. It is suggested that Railways should plan for up-gradation of old/original VCBs of these two makes to modified ones as per the respective instructions issued by Railway Board for both the makes at the earliest in order to improve the reliability of these VCBs and also to have one type of kit for these make VCBs.
- 2.5 Existing overhauling kits for AOH/IOH/POH of single bottle VCBs Schneider(formerly Areva) are also request to be revised based on the feedback from the user Railways and manufacturers.
- 2.6 Overhauling kits for AOH/IOH/POH of single bottle VCBs type TVCB of M/s Biecco Lawrie, Kolkata has been introduced in this SMI for maintaining the limited number of VCBs of this make working on IR.

### **3.0 Object:**

To standardize the list of components/parts required to be replaced during AOH, IOH and POH for single bottle VCBs type BVAC 25.10 & VCBA 25.10 Tr of M/s AAL , type BVAC 25.10 & BVAC 25.10 M07(new) of M/s BTIL, type 22 CB of M/s Schneider and type TVCB of M/s Biecco Lawrie.

### **4.0 Modified Instructions:**

- 4.1 Up-gradation/modification of existing Secheron design VCBs type BVAC 25.10 supplied by M/s AAL & BTIL has been approved by Railway Board and circulated to Railways for carrying out the same as per Railway Board's letters No. 2007/Elect(TRS)/441/10 dt. 06.02.2008 & 03.05.2010 respectively. However, the old design VCBs which have not yet been planned for up-gradation/modification and their scheduled maintenance becomes due in the meantime before up-gradation, may be overhauled with the revised kits enclosed as Annexure A for AAL make VCBs & Annexure B for BTIL make VCBs.

- 4.2 Overhauling kits of VCBs for AOH/IOH/POH of up-graded/modified VCB type VCBA 25.10 Tr. which is presently being supplied by M/s AAL is enclosed as Annexure A1. This may be followed for new VCBs type VCBA 25.10 Tr being supplied by M/s AAL now as well as for old VCBs of M/s AAL after their up-gradation/modification as per Railway Board's letter no. 2007/Elect(TRS)/441/10 dt. 06.02.2008.
- 4.3 Overhauling kits of VCBs for AOH/IOH/POH of up-graded/modified VCB type BVAC 25.10 M07(New) which is presently being supplied by M/s BTIL is enclosed as Annexure B1. This may be followed for new VCBs type BVAC 25.10 M07(new) being supplied by M/s BTIL now as well as for old VCBs of M/s BTIL after their up-gradation/modification as per Railway Board's letter no. 2007/Elect(TRS)/441/10 dt. 03.05.2010.
- 4.4 Revised overhauling kits for AOH/IOH/POH for VCBs type 22CB of M/s Schneider Electric Infrastructure Ltd., Vadodara is enclosed as Annexure C. This should be followed by Railways for this type of VCBs.
- 4.5 Overhauling kits of VCBs for AOH/IOH/POH of VCB type TVCB which is presently being supplied by M/s Bienco Lawrie is enclosed as Annexure D. This should be followed by Railway for this type of VCBs.
- 4.6 Summarizing the instructions in Para 4.1 to 4.5 above, components required for replacement during scheduled maintenance AOH, IOH and POH of single bottle VCBs of various makes are enclosed as Annexure A & A1(for old and up-graded/modified versions of AAL make VCBs), Annexure B & B1(for old & up-graded/modified version of BTIL make VCBs), Annexure C(for Schneider make VCBs) and Annexure D( for Bienco make VCBs) indicating respective reference drawings, Part numbers and quantity per VCB in each schedule. Railways are advised to procure VCB spares required for carrying out scheduled maintenance of single bottle VCBs of different makes and types during AOH/IOH/POH in kit form only as indicated in these annexures.
- 4.7 The suggested kits are for scheduled maintenance of the single bottle VCBs. However, Railways should also equip themselves to carry out any break down maintenance of these VCBs and accordingly based on their past experience, material may be procured from the manufacturers in reference with the description given in the maintenance manuals.
- 4.8 This version of SMI no. ELRS/SMI/0236 (Rev 1) supersedes the earlier version no. ELRS/SMI/0236 (Rev 0).

## **5.0 Application to the Class of Locomotives:**

All electric locomotives and EMUs fitted with single bottle VCBs type BVAC 25.10 of M/s AAL & BT, type VCBA 25.10 Tr of M/s AAL, type

BVAC 25.10 M07(New) of M/s BTIL, type 22 CB of M/s Schneider/Areva/Alstom and type TVCB(M) of M/s Biecco Lawrie.

**6.0 Agency of Implementation:**

All Electric Loco Sheds, EMU Car sheds and POH Workshops.


**7.0 Periodicity of Implementation:**

AOH, IOH and POH overhauling schedules.

**8.0 Distribution:**

- As per mailing list
- M/s. Autometers Alliance Limited,  
C-63, Sector-57,  
NOIDA-201 301
- M/s. Bombardier Transportation India Ltd.,  
ERDA Road, Maneja,  
Vadodara-390 013
- M/s Schneider Electric Infrastructure Ltd.,  
Milestone 87, Halol Highway, Kotambi  
Vadodara – 391510
- M/s. Biecco Lawrie Limited,  
P-54, Hide Road Extension,  
Kolkata-700 088

DA: As above

  
31/12/2012  
(Sanjiv Swarup)  
**for Director General (Elec.)**