

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

No.EL/3.2.1/DC2

29th May 1979

MODIFICATION SHEET NO RDSO/WAM4/80

REPLACEMENT OF EXISTING 'L' CLAMP BY PALM CLAMP FOR THE
CABLE CONNECTION OF (a0-a1) BUSHING OF INDIGENOUS
TRANSFORMERS TYPE BOT 3460

1. OBJECT OF MODIFICATION

A number of cases of overheating and flashing of a0-a1 bushing of the indigenous transformers (especially BHEL built) fitted with 16 mm dia bushing studs have been reported. Investigations have revealed that the basic problem of overheating of this bushing is due to loss of contact force between the threads of the nut and the stud as a result of vibration.

It is proposed to replace the 'L' type clamp by a palm type in which the threads in the clamp are pressed laterally into the threads of the stud. This design has been used on the main bushing and has given satisfactory service.

2. WORK TO BE CARRIED OUT

Replace the 'L' type clamp by palm-clamp (see Drawing No. SK. EL. 3116). Tighten the palm-clamp with two sets of M-8 size hexagonal screw. It should be ensured that the slit does not close fully after tightening, these screws. In case the slit closes on tightening, the slit may have to be enlarged or the stud may have to be replaced if worn out badly. In order to reduce the strain on external cable connections, the M-8 screws on the clamp may be tightened after the cable connections are made and tightened fully.

3. APPLICATION TO CLASS OF LOCOMOTIVE

- (i) All electric locomotives fitted with indigenous transformer type BOT 3460 with 16 mm dia studs of the a0-a1 bushing.
- (ii) WAG4, WAM4 and WCAM1.

4. MATERIAL REQUIRED

- | | | |
|-------|---|--------|
| (i) | Palm clamp as per the details indicated in the drawing. | 1 No. |
| (ii) | Hexagonal screw M8x36-B.S.8 as per IS: 1367-1967. | 2 Nos. |
| (iii) | Spring washer as per M-8B IS: 306. | 3 Nos. |

5. MATERIAL RENDERED SURPLUS

Existing `L` type clamp along with nuts and washer.

6. REFERENCE

BHEL Drawing No.34660250000

7. MODIFICATION DRAWING

RDSO SK EL 3116

8. AGENCY FOR MODIFICATION

Electric loco sheds and POH shops of the Railways for locomotives in service.

9. DISTRIBUTION

As per list attached.



Encl: 1. Mailing list
2. Drg SK EL 3116.

(M. M. TANDON)
For Director General (Electrical)
RDSO, Lucknow.

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19.5.79	--	
DATE	DRN.	CHKD.

3	SPRING WASHER MB-BB.6	4	IS. 3063
2	HEX. SCREW M8X36-B	4	IS. 1367 (1967)
1	PALM CLAMP (BRASS CASTING)	2	IS. 292 (1961) Gr.3
PART NO.	DESCRIPTION	QTY./TM.	MAT'L./SPECN.
REF. :-	BHIL. DRG. NO. 34606250060	SCALE:-	NTS.
NOTED			APPROVED:-

PALM CLAMP FOR a0 & a1 BUSHING OF THE TRANSFORMER TYPE BOT 3460

RDSO.ELEC. DTE. SKEL-3116

