

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
RESEARCH DESIGNS AND STANDARDS ORGANISATION

MANAK NAGAR, LUCKNOW-226011

NO. EL/3.2.11

DATED 30.3.99

MODIFICATION SHEET NO. ELRS/MS/0255

1. TITLE :

MODIFIED TERMINAL BLOCK FOR 120 KVA ARNO CONVERTOR
OF M/S JYOTI MAKE.

2.0 OBJECT :

Arno convertors of 120 KVA capacity of Jyoti make have two types of terminal boards. In the old arrangement of terminal boards, the connecting lead wire coming from the over hang of the winding is connected from behind to the terminal board on a stud by brazing. The current is passing through the terminal stud and out going cables are connected from the top of the terminal stud in the terminal box. However, in this arrangement over heating of the terminal stud has been observed leading to failure at the brazing joint.

The above design of the terminal stud started giving the following types of trouble in service:

- (1) Failure of brazing between connecting lead wire and terminal stud behind the terminal board.
- (2) Stud thread worn out due to heating
- (3) Terminal stud found loose
- (4) Overheating of terminal stud.

M/s Jyoti have modified the terminal board in 1992. In the modified arrangement, current is not passing through the stud. The modified arrangement is shown in M/s Jyoti drawing No. 2EK-3030R4 and the same has been implemented on all supplies after 1992..

It is proposed to adopt the modified terminal board on existing arno convertor of old locomotives also.

3.0 WORK TO BE CARRIED OUT :

- (i) Debraze the connecting lead wire from the old type of terminal stud, and braze the connecting lead wire (70 sq.mm for 120 KVA Arno) with the terminal lug. All the three phases U, V, W and neutral shall be brazed to lugs. Finally bring three terminals and neutral duly brazed to the terminal board through the 4 holes available in the epoxy moulding. Holes should be free from burrs and sharp edges and should have rubber grommets of suitable size.
- (ii) Remove the old type of terminal board.
- (iii) Epoxy moulded terminal board to Jyoti Drg. No. 2EK 3030R4 will be fitted with terminal stud with fixing device as shown in the drawing.
- (iv) U, V & W connections from the arno winding and the out going cables may be connected as shown in the Jyoti drawing No. 2EK 3030R4.
- (v) Only suitable size of washer shall be provided as per relevant IS and of standard supplies. All washers, spring washers being used in the terminal and terminal board shall be with respect to M16 terminal stud.

4.0 APPLICATION :

All Electric Locomotives fitted with 120KVA Arno convertor of M/s Jyoti make with old type terminal board.

5.0 MATERIAL REQUIRED:

For details see the drawing No. 2EK-3030 R4.

6.0 MATERIAL RENDERED SURPLUS:

Old type terminal plates and studs.

7.0 REFERENCE: Nil.

8.0 MODIFICATION DRAWING NO:

JYOTI Drg. No. 2 EK 3030 R4.

9.0 AGENCY OF IMPLEMENTATION & PERIODICITY:

Agency: Electric Loco Sheds/Workshops


Periodicity:

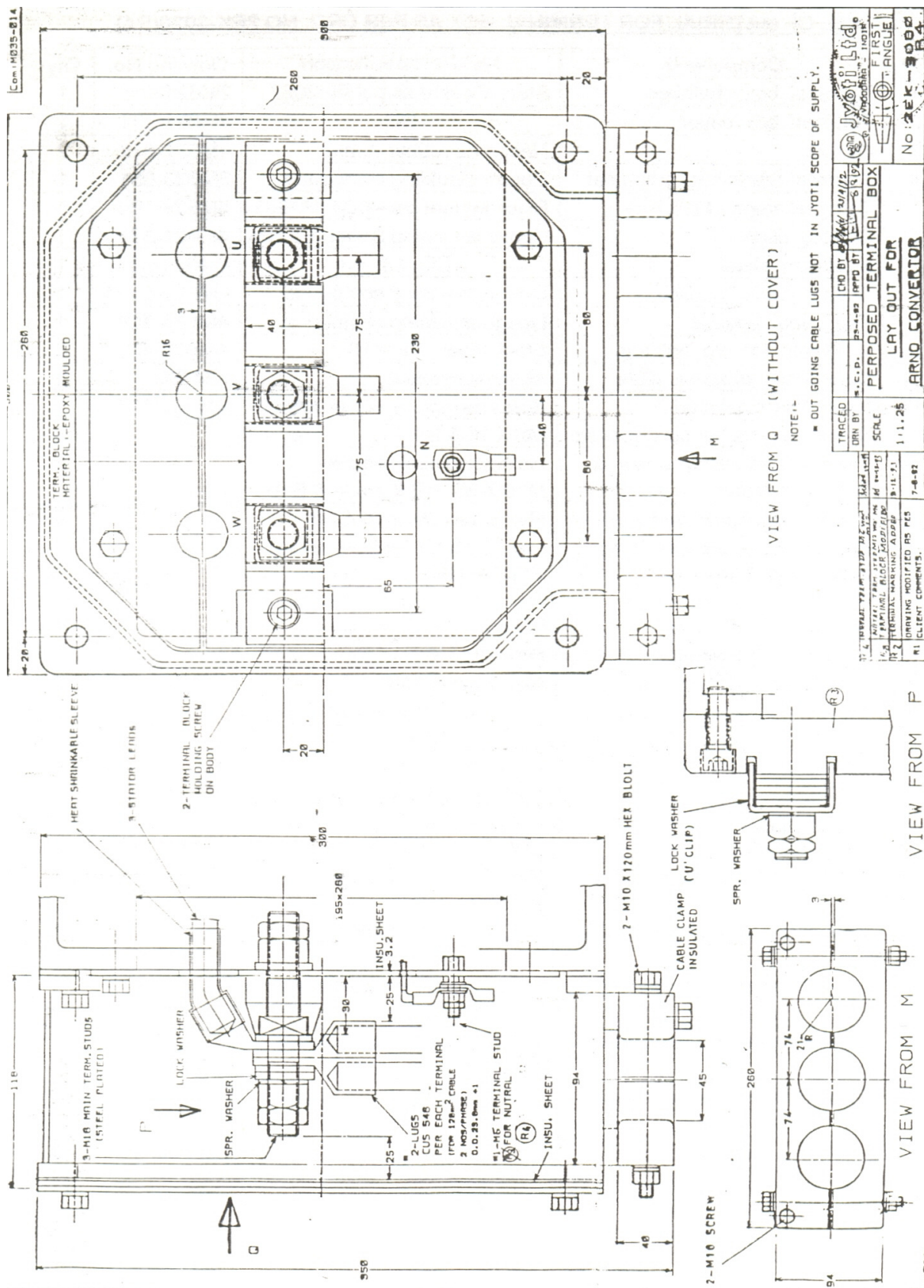
- i) During POH of Electric Locomotives.
- ii) During rewinding of Arnos.

10.0 DISTRIBUTION :

As per enclosed list.

Encl: M/s Jyoti Drg. No.2EK 3030R4


(R K Kulshrestha)
for Director General (Elec)



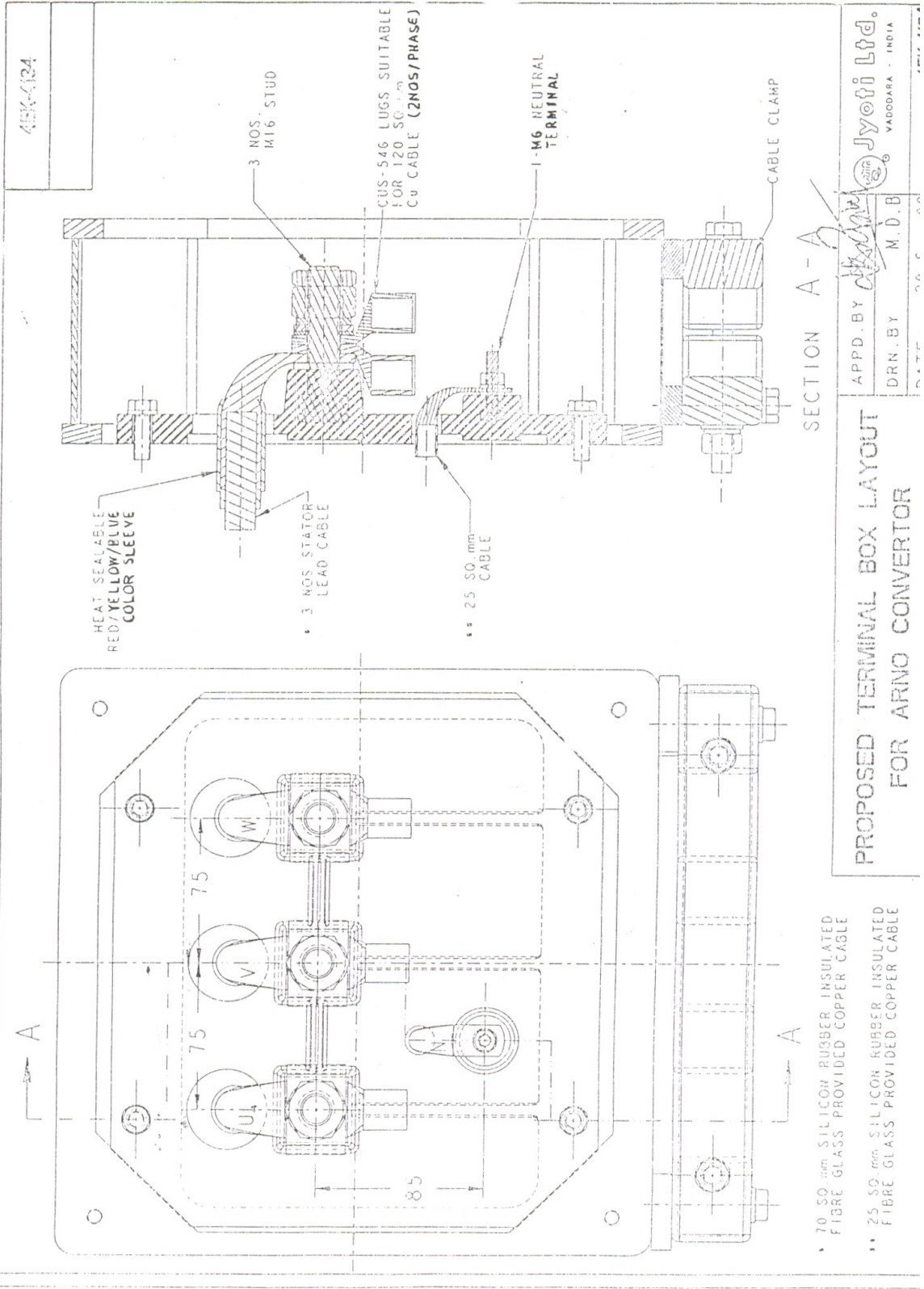
VIEW FROM Q (WITHOUT COVER)

NOTE :-

■ OUT GOING CABLE LUGS NOT IN JYOTI SCOPE OF SUPPLY.

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and any unauthorized use thereof by
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is strictly prohibited



• 70 SQ. mm SILICON RUBBER INSULATED
FIBRE GLASS PROVIDED COPPER CABLE

• 25 SQ. mm SILICON RUBBER INSULATED
FIBRE GLASS PROVIDED COPPER CABLE

APPD. BY *M.D.B.*
DRN. BY *M.D.B.*

Jyoti Ltd.
VADODRA - INDIA