

फैक्स/Fax : 91-0522-458500
तार : 'रेलमानक' लखनऊ
Telegram : 'RAILMANAK', Lucknow
टेलीफोन/Tele : 451200 (PBX)
450567 (DID)



भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226011
Government of India-Ministry of Railways
Research Design & Standards Organisation
Lucknow - 226011



SN. 913

No:EL/3.2.172

Dated : 23.4.2001.

MODIFICATION SHEET NO.ELRS/MS/0300-2000 Rev.1

1. **TITLE** : Adoption of modified earthing brush assembly on traction motor type HS-15250A.
2. **OBJECT**: It has been reported by Railways that earthing brush assembly on Hitachi traction motor type HS 15250A is not being provided on all the traction motor suspension tube assembly due to thefts since this assembly is of non-ferrous material.

The earthing brush assembly is a very important part of the traction motor assembly and is to be provided essentially on all the axles to avoid passage of current through the taper roller suspension bearings. It has been noticed that some of the taper roller suspension bearings have been damaged along with the suspension tube due to passage of current through these bearings due to non-availability of earthing brush assembly.

To avoid the theft of the earthing brush assembly, it has been decided to change the material of earthing brush body from bronze to steel. The weight of the modified earthing brush assembly has been reduced by about 20% and cost is expected to be half of the present design.

Railways are, therefore, advised to procure the modified earthing brush assembly as per the RDSO drawing No.SKEL - 4584 and its components as per part Drawing No.SKEL-4585, 4586, 4587, 4588, 4589 & 4590 only and all the deficiencies on Electric Locomotives may be made good urgently to avoid failure of costly taper roller suspension bearings and its suspension tube from damages.

This modification sheet supersedes the RDSO's Modification Sheet No.ELRS/MS/0300 - 2000 Rev.'0' alongwith its drawing No.SKEL- 4566 Rev.'0' issued to Railways vide this office letter of even number dated 30.10.2000.

3. **WORK TO BE CARRIED OUT** :

- a) Remove the existing earth brush assembly.
- b) Check the condition of earthing brush.
- c) Refit the modified earthing brush assembly procured as per RDSO Drg. No.SKEL -4584 along with the earthing brush as per usual process.

4. **APPLICATION:**

All Electric Locos fitted with TM type HS 1050Er/HS 15250A.

5. **MATERIAL REQUIRED** : Modified Earthing Brush Assembly as per RDSO Drg. No.SKEL 4584 & its components as per RDSO Drg. No.SKEL – 4585, 4586, 4587, 4588, 4589 & 4590 only to make good the deficiency of the same in the system.

6. **MATERIAL RENDERED SURPLUS** : Nil.

7. **REFERENCE** : RDSO Drawing No.SKEL 4584, 4585, 4586, 4587, 4588, 4589 and 4590.

8. **PERIODICITY OF IMPLEMENTATION** : During Schedule inspections.

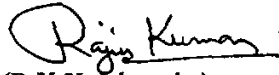
9. **AGENCY OF IMPLEMENTATION** : a) All Electric Loco Sheds.
b) All POH Work Shops.
c) All Traction Motor Manufacturers.

10. **SOURCES OF SUPPLY** :

- (i) M/s.ELCO Enterprise, 2/34 Dum Dum Road, P.O.Cossipore, Calcutta – 700 002.
- (ii) M/s.Mica-Mold, P.O.Sunder Nagar, Jamshedpur – 832 107.
- (iii) M/s.Panesar Engg. Co., Street No.1, Amargarh Colony, P.B.No.21, Kaithal – 136 027. (under development)

11. **DISTRIBUTION** : As per enclosed list .

Encl : RDSO Drawing No.SKEL-4584,
4585, 4586, 4587, 4588,4589 & 4590.


(R.K.Kulshrestha)
for Director General/Electrical

Cu - 62.5 TO 90.0
 Sn - 5.0 TO 7.0
 Zn - 3.0 TO 5.0
 Pb - 1.0 TO 3.0
 RES - 1.5 MAX.

NOTES:-

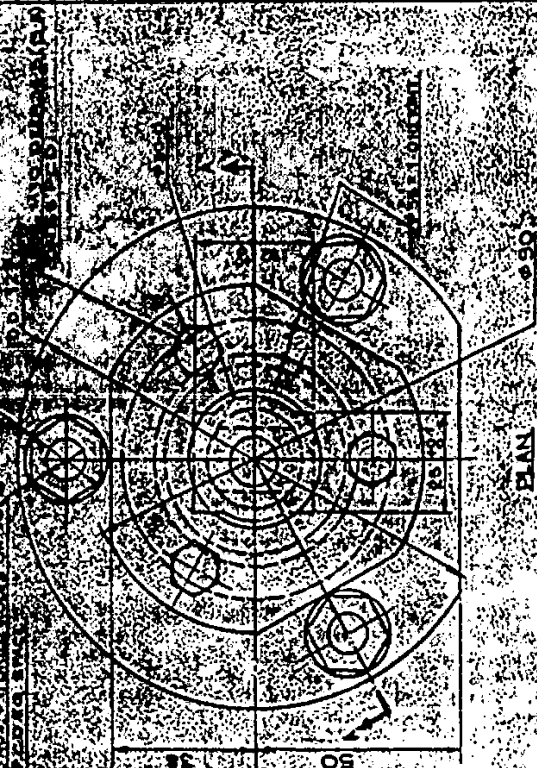
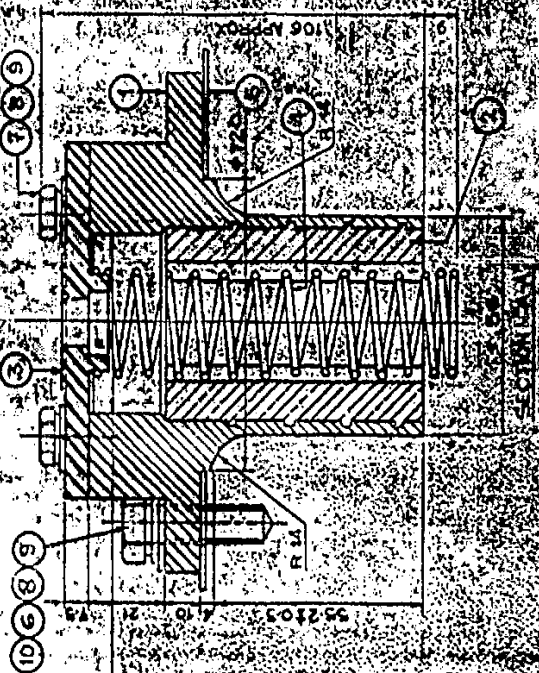
ALL DIMENSIONS ARE IN mm.

SL NO 1 M.S HOUSING'S BORE TO BE SERRATED BEFORE CASTING BRONZ

BUSINESS

SUNO. 2. BRONZE CASTING TO BE CAST IN U.S. HOUSING.

ALL STEEL PART TO BE ZINC PLATED BEFORE ASSLY.



REF. NO.	PART NO.	DESCRIPTION	DETAIL DRC. NO.	NO. USED	DATE	APPROV.
12						
10						
10		INSULATING WASHER SIZE 1/2" X 1/2" X 1/2"	SKEL-4588	10	EC 6/6/51	
9		PLAIN WASHER 1/2" O		10	DO	
8		SPRING WASHER 1/2" O		10	DO	
7		1/4" X 20 X 1/2" HEX HEAD BOLT		10	DO	
5		1/4" X 20 X 1/2" HEX HD INSULATING WASHER 1/2" O	SKEL-4587	10	DO	
5		INSULATING PLATE 1/2" X 1/2" X 1/2"	SKEL-4586	5	DO	
4		SPRING WASHER 1/2" O	SKEL-4589	5	DO	
3		TOP COVER	SKEL-4585	5	DO	
2		BUSH		5	DO	
1		HOUSING (IN ONE PIECE)		5	DO	
REF. NO.	PART NO.	DESCRIPTION	DETAIL DRC. NO.	NO. USED	DATE	APPROV.
REF. NO.	PART NO.	DESCRIPTION	DETAIL DRC. NO.	NO. USED	DATE	APPROV.

ASSEMBLY OF MODIFIED EARTHING
BRUSH BOX FOR T-M TYPE
HS-15250A

SKEL-4584

RD50: ELECT. DTE.

4584

RDSO ELECT. DTE.

DATE _____

BY

AP

11

32

7

OK

2

SN

15

10

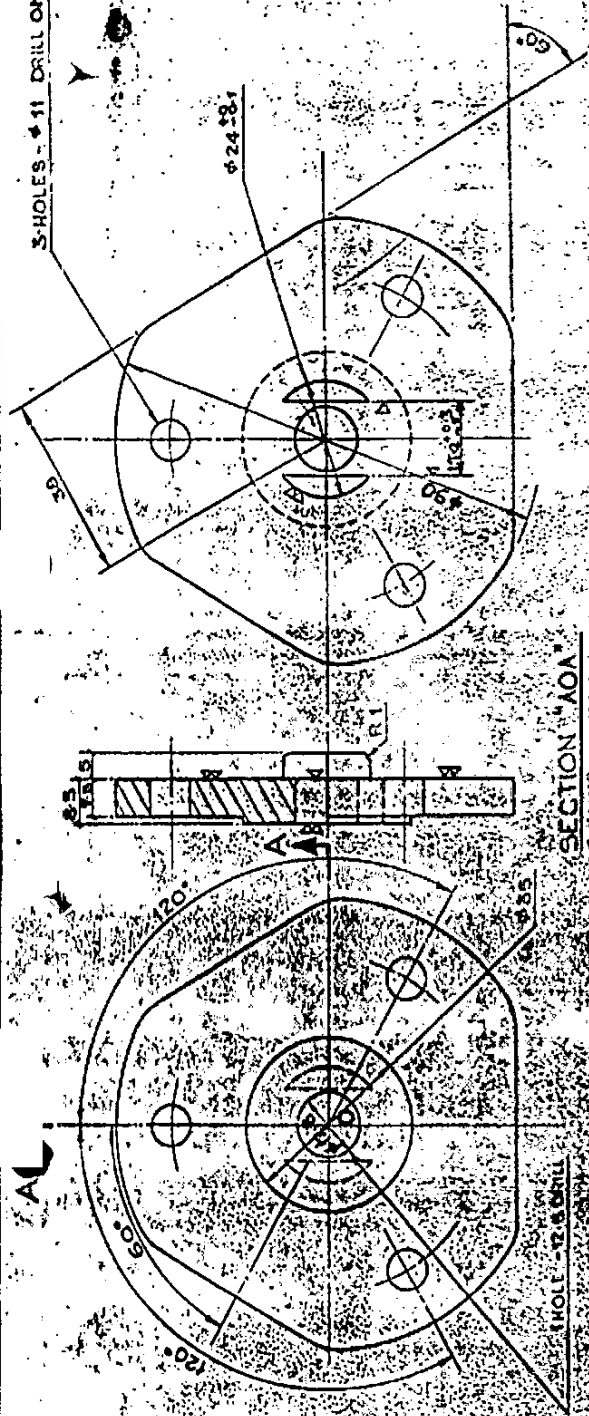
10

五

11

218

3 HOLES - #11 DRILL ON 66 RCD



NOTE: TO BE ZINC PLATED

U PLT. MATL - STEEL AS PER IS: 2062-92

REF. NO.	PART NO.	DESCRIPTION	DETAIL DRG. NO.	NO. / LOCO.	MATL.	SPEC.
3		COVER		6	BC-7	HS H3111
MITACHI DRG. NO. 105-807-264 SCALE 1:1 APPD. BY (Signature) (FOR DG)						

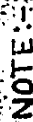
COVER						
T.M. HS-15250A						
FIRST ISSUED						
SUPERSEDES						
SUPERSEDED BY						

RD50. ELECT. DTE.			SKEL-4585		
-------------------	--	--	-----------	--	--

STATUS	ALT.	REF. NO.	DESCRIPTION	APPD. BY	DATE
--------	------	----------	-------------	----------	------

207054

DR	20.3.2001
D	S. KUMAR
CR	(Signature)
TR	01/3.3.72



- ### 3. TO BETZING & PLATED

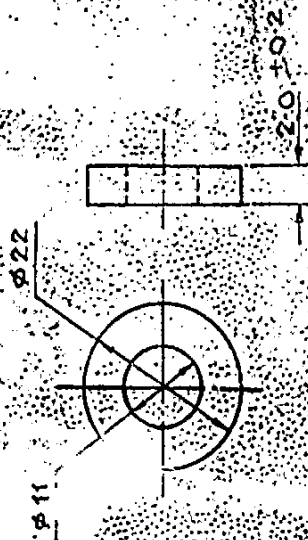
T.M. HS-15250A	INSULATING BOLT	FIRST ISSUED	SUPERSEDES
----------------	-----------------	--------------	------------

INSULATING BOLT

RDSO. ELECT. DTE.	SKEL-4587
-------------------	-----------

STATUS	ALT.	REF. NO.	DESCRIPTION	APP'D. BY	DATE
		00707			

Dt	20-3-2001
D	SKUMAR
C	Billor
FILE	6432-172



NOTE:-

1. ALTMAT: EPOXY RESIN BOND / GLASS FIBRE (NOVEN FABRIC) SHEET TO GRADE EP-3 OF IS: 10192-82.

2. COAT MACHINED FACE WITH EPOXY VARNISH AND DRY IT FOR 12 HOUR AT 120°C

D1	20-3240
D	S. KUMAR
C	D. V. V.
FILE	EL/52/72

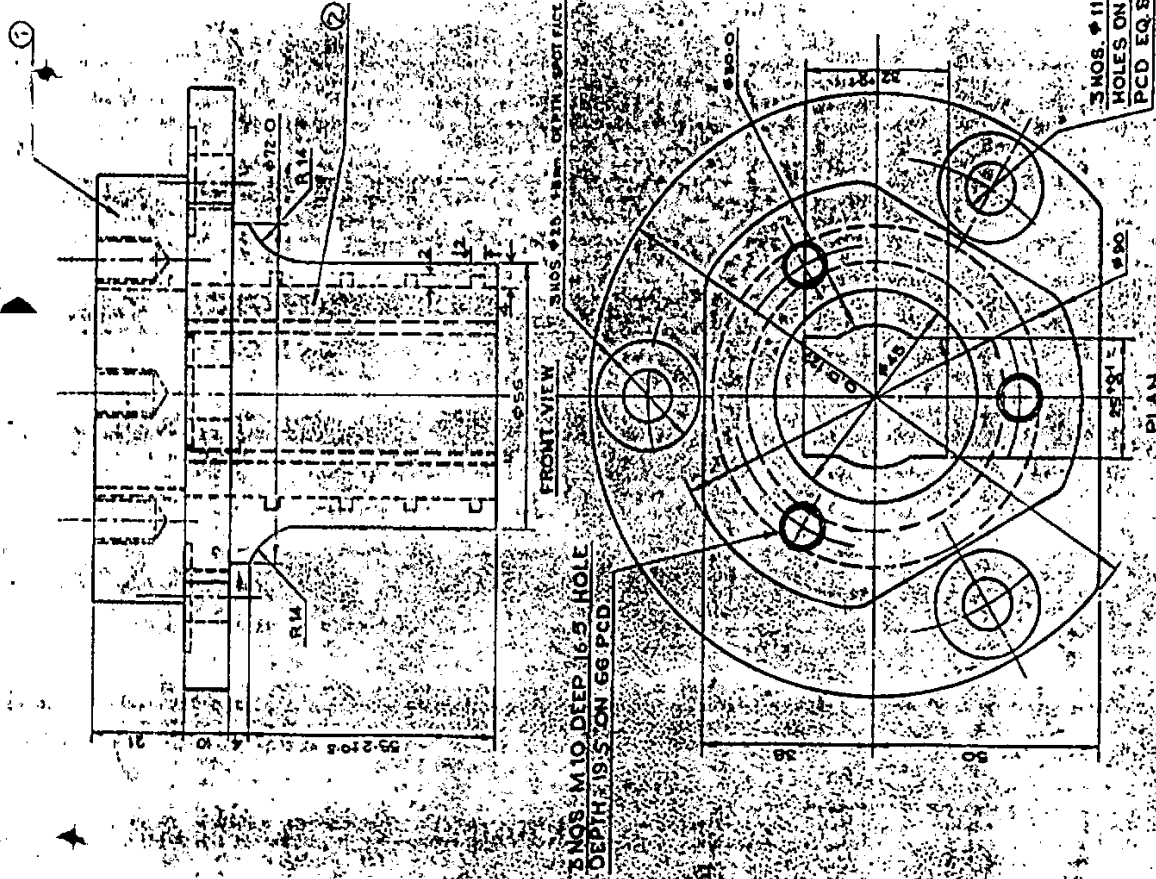
10	INSULATING WASHER	DETAIL DRG. NO.	LOC. NO.	MATL. SPEC.
REF. NO.	PART NO.	DESCRIPTION	SCALE: 1:1	APPD. BY DATE
HITACHI DRG. NO. 10T 824-711		SCALE: 1:1		APPD. BY DATE
T.M. HS-15250A				
INSULATING WASHER				
RDSO. ELECT. DIE			SKEL-4588	SUPERSEDED BY
STATUS ALT.			REF. NO.	DESCRIPTION
201057				
APPD. BY DATE				

BRONZE MATERIAL COMPOSITION:-

Cu - 85.0 TO 90.0
 Sn - 7.0 TO 7.5
 Zn - 3.0 TO 5.0
 Pb - 1.0 TO 3.0
 IMPURITIES - 1.5 MAX.

NOTE:-

1. M.S. HOUSING'S BORE TO BE SERRATED BEFORE CASTING BRONZE BUSH.
2. BRONZE CASTING TO BE CAST IN M.S. HOUSING.
3. ALL STEEL PART TO BE ZINC PLATED BEFORE AGSY.
4. ALL DIMENSIONS ARE IN MM.



2.	BUSH	6	BRONZE	15.75 IN	6.80
1.	HOUSING (IN ONE PIECE)	6	STEEL	15.75 IN	6.80
REF. NO.	DESCRIPTION	DETAIL DRG. NO.	NO. / LOCO	HATL	SPEC
REF.	SCALE: 1:1	APPD. BY	30/08/00	20/08/00	20/08/00
T.M. HS-15250A					
HOUSING					
FIRST ISSUED					
SUPERSEDES					
SUPERSEDED BY					
RD50. ELECT. DTE			SKEL-4590		

20-4-2001	SKUMAR	20/08/00	20/08/00
D	SKUMAR	20/08/00	20/08/00
C	20/08/00	20/08/00	20/08/00
20/08/00	20/08/00	20/08/00	20/08/00

207059