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भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - २२६०११
St-1202
Government of India - Ministry of
Railways
Research, Designs & Standards
Organization, LUCKNOW - 226011

TECHNICAL CIRCULAR NO. ELRS/TC/0029 (Rev '01') - 2002 & ELRS/TC/0031 (Rev '01') - 2002

No. EL/3.6.1

Date: 15-7-2002

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Chief Electrical Engineer,

Eastern Railway, Fairlie Place, Calcutta - 700 001
Northern Railway, Baroda House, New Delhi-110 001
Southern Railway, Park Town, Chennai-600 003
South Eastern Railway, Garden Reach, Calcutta-700 043
South Central Railway, Rail Nilayam, Secunderabad-500371
Western Railway, Churchgate, Mumbai -400 020
Central Railway, CST Mumbai-400001

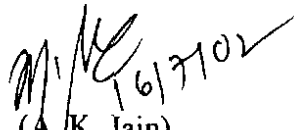
Sub: 'Must Change Items' during IOH/AOH of electric locomotives.
Ref: Item No. 4 (New item) of XXVIII MSG held at Waltair.

RDSO issued list of **must change items/components** for IOH vide Technical Circular No. 29 dt 24-8-1998 and for AOH of electric locomotives vide Technical Circular No. 31 dt 8-10-1998. The subject was discussed in last MSG (item 4 of New items) held at Waltair during December'2001 and a committee consisting of DSE-1/RDSO (convenor), CWM/BSL, Sr. DEE/CNB, BIA, MGS set up to study life cycle cost of maintenance under new item no 5 of MSG was also asked to review list of 'Must change Items'.

The committee met at CNB on 5-7-2002 and discussed the list of must change items during IOH/AOH. Committee's recommendations in regard to 'Must change items' during IOH/AOH has been considered by RDSO and the revised list of 'Must change items' are given in annexure I & II respectively. The items removed from the earlier will be changed on condition basis during IOH/AOH.

The revised recommendations are issued as revision '01' of Technical Circular No. ELRS/TC/29 dt 24-8-98 and ELRS/TC/31 dt 8-10-1998.

DA: Annexure I & II.


(A.K. Jain)
for Director General Std/Elect

CC: As per Standard Mailing List No. EL/M/0028 Ver '0'

o/c

1. **Secretary (Electric Traction), Railway Board, Rail Bhavan, New Delhi-110 001 (Kind Attn: EDEE (RS)/ Railway Board)**
2. **Secy.(Elect.), Railway Board: New Delhi-110 001. (Kind Attn: DEE(RS)/ Railway Board)**
3. **Chief Electrical Loco Engineer,**
 - Central Railway, Mumbai CST-400 001.
 - Eastern Railway, Fairlie-Place, Calcutta- 700-001
 - East Coast Railway, Chandrasekharapur, Bhubaneswar- 751 016.
 - Northern Railway, Baroda House, New Delhi-110 001
 - North Central Railway, Hasting Road, Allahabad- 211 001.
 - Southern Railway, Park Town, Chennai-600 003
 - South Central Railway, Rail Nilayam, Secunderabad -500 071
 - South Eastern Railway, Garden Reach, Calcutta- 700 043
 - South Western Railway, Bangalore - 560 046
 - Western Railway, Churchgate, Mumbai-400 020
 - West Central Railway, Jabalpur
 - New Zone Railway, Bilaspur
 - Chittaranjan Locomotive Works, Chittaranjan- 713 331
4. **Chief Electrical Traction Engineer,**
Central Railway, Mumbai CST- 400 001.
5. **Chief Works Manager,**
 - Electric Loco Workshop, Eastern Railway, Kancharapara, 24 Pargana (N) -743145 (W.B.)
 - Electric Loco Workshop, Central Railway, Bhusaval- 425 201.
 - Traction Motor Workshop, Central Railway, Nasik-422 101.
 - Loco, Carriage & Wagon Works, Western Railway, Dahod, P.O. Freehand Ganj - 389160 (Gujrat)
6. **Sr. Divisional Electrical Engineer (TRS), Electric Loco Shed,**
 - Central Railway, Katni (M.P.)
 - Central Railway, Jhansi - 284 001 (UP)
 - Central Railway, Bhusaval-425 201.
 - Central Railway, Itarsi (MP)
 - Central Railway, Ajni, Nagpur-440 -008
 - Central Railway, Kalyan (Maharashtra)
 - Eastern Railway, Gomoh.- 828 401
 - Eastern Railway, Asansol-713 310.
- Eastern Railway, Mughalsarai-232 101.
- Northern Railway, Ghaziabad-201 001.
- Northern Railway, Fazalganj,
- Kanpur-208 003.
- Southern Railway, Arrakonam-631 001.
- Southern Railway, Erode-638002.
- South Central Railway,
- Vijayawada- 520 009.
- South Central Railway, Lailaguda, Secunderabad-500 017.
- South Eastern Railway, Santraghanchi, Howrah-711311
- South Eastern Railway, Tatanagar-831 002.
- South Eastern Railway, BMY Complex, Bhubaneswar, Durg-490 025.
- South Eastern Railway, Vishakhapatnam- 530 001.
- South Eastern Railway, Bondamunda, Rourkela-770032.
- Western Railway, Vadodara-390 002.
- Western Railway, Vaisad-396 001.
- Western Railway, Tughlakabad, New Delhi- 110 044.
7. **Sr. Divt. Elect. Engineer**
 - Traction Motor Shop, Northern Railway, Fazalganj, Kanpur.-208003
 - Divisional Electrical Engineer, Electrical Repair Shop, Tatanagar- 831 002.
8. **Dy. Chief Electrical Engineer, POHShop/Loco Works**
 - Chaurbagh Workshop, Northern Railway, Lucknow- 260 005.
 - POH Shop, South Eastern Railway, Kharagpur (W.B.)-721301.
 - PGI Shop, Southern Railway, Perambur, Chennai-600 038.
9. **Director Inspection (Electrical), RDSO**
 - Inspection Cell at BHEL, Bhopal-462 022.
 - Director, Centre for Advanced Maintenance Technology, Indian Railways, Maharajpur, Gwalior-474 020 (MP).
 - Director, IRIEEN, Nasik Road, Post Box No.233, Nasik-422 101.
 - Principal (Electrical), Railway Staff College, Vadodara-390 004.
10. **DD/Doc./ Electrical Directorate, RDSO (Four Copies)**

TECHNICAL CIRCULAR NO. ELRS/TC/0029 (REV. 01) - 2002
'MUST CHANGE ITEMS' DURING IOH

SN	EQUIPMENTS
A.	TRACTION MOTOR
1.	Gear case for Mail/Express locomotives
2.	Traction motor bellow
3.	Sandwitch mounting assembly
4.	Lubricating pad assembly - TAO 659
5.	Plain sleeve suspension bearing (Remetalling only)
6.	Pinion of Oil Pump for suspension bearing
B.	AUXILIARY MACHINES
1.	Auxiliary motor bearings
2.	HP & LP valve of compressors
3.	Rubber kits for exhauster and compressors
4.	Oil seals of exhauster & compressors
C.	PANTOGRAPH
1.	All rubber items
2.	Plunger box assembly
3.	Piston cup for servomotor
4.	All rubber items of throttle valve assembly
D.	HEAD LIGHT
1.	Head light reflector
2.	Head light cover gasket
E.	TAP CHANGER
1.	Oil Seal Pt. No. S1434
2.	Packing Ring Pt. No. S1421
3.	Push Rod with Seal Pt. No. S3209/A4209
4.	Valve Nipple Pt. No. A4206/A3206
5.	As per OEM Maintenance Manual kit of M/s Adtranz /Vadodara Manual No.3EDU 02001-YN-1995-03-A excluding the following items i) Contact Pt No. S 2529 ii) Arcing Horn iii) Arcing Chamber iv) Contact segment (Inner) v) Contact segment (Outer) vi) Contact Roller vii) Contact Ring (Inner) viii) Contact Ring (Outer)
F.	VCB As per GEC Maintenance Manual - Book no. 1372
G.	CIRCUIT BREAKER (DJ)
1.	Piston ring of servomotor
2.	Contact finger
3.	Valve disc of main valve Pt. No. 2305

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TECHNICAL CIRCULAR NO. ELRS/TC/0029 (REV. 01) - 2002
'MUST CHANGE ITEMS' DURING IOH

4.	Nozzle
5.	Contact wedge
6.	Guide sleeve
7.	Fixed contact tip
8.	All rubber items
9.	Chamber Piston disc
10.	All circlips
11.	Spring cotter 8x40 & 5x40
12.	Spring cotter to Pt. No. 2117 & 2118
13.	Disc piston Pt No 5372
14.	Main valve spring Pt No. 2304
15.	Non return valve spring for isolator operating mechanism
16.	Strossels of plunger Pt No. 2306
H.	EM & EP CONTACTORS
1.	Contact tips for mobile and fixed contact with shunt
2.	Rubber gaskets/buckets
I.	CTF/REVERSER
1.	Rubber gaskets/buckets
J.	PNEUMATIC ITEMS
1.	All rubber items including diaphragm of all pneumatic valves
2.	All spring items of all pneumatic valves
3.	Element of all suction oil filters of pipe line
4.	Rubber items of SMGR pressure reducing valve
5.	NRV in CP Circuit
6.	Wiper Assembly excluding servomotor
K.	VACUUM & AIR HOSES
1.	All vacuum and air hoses
L.	HORN & HORN VALVES
1.	All 'O' rings, bushes, gaskets & diaphragm
O.	BOGIE & COUPLER
1.	All cotter pins & split pins
2.	Snubbers & Shock Absorber
3.	Horizontal and vertical polymide bush in center pivot of WAP1/WAP4 locos
4.	'O' ring and rubber pad/bushes in axle box
5.	All liners including Horn-Check liners
6.	Brake cylinder bucket
7.	Replacement of side bearers (High adhesion bogie)
8.	All pins & bushes (except Mn - pin/ bush) of Bogie/brake rigging
9.	Knuckle for HT Transition CB Coupler
10.	Clevis for HT Transition CB Coupler
11.	Knuckle Pivot pin with washer for HT Transition CB Coupler

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TECHNICAL CIRCULAR NO. ELRS/TC/0029 (REV. 01) - 2002
'MUST CHANGE ITEMS' DURING IOH

P	Body side filter
1.	Filter element
Q	Battery
1.	Battery complete (Lead - Acid)

Note:

1. Components of AOH schedule are also to be additionally replaced along with the above items.
2. Components of IOH schedule are also to be additionally replaced during POH.

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TECHNICAL CIRCULAR NO. ELRS/TC/0031 (REV. 01) - 2002
'MUST CHANGE ITEMS' DURING AOH

SN	EQUIPMENTS
A.	TRACTION MOTOR
1.	Lubricating pad assembly of TAO 659
2.	All felt rubber items of Gear case
B.	AUXILIARY MACHINES
1.	Rubber kits for exhauster and compressors
2.	Oil seals of exhauster & compressors
3.	Floating ring blade of SLM exhauster
4.	Piston rings for compressor
5.	Set of gasket for MPH
C.	PANTOGRAPH
1.	All circlips
2.	Piston packing for servomotor
3.	All rubber items of throttle valve assembly
D.	VACUUM & AIR HOSES
1.	All vacuum and air hoses
E.	HORN & HORN VALVES
1.	All 'O' rings, bushes, gaskets & diaphragm
F.	BOGIE & COUPLER
1.	All cotter & split pins
2.	Horizontal and vertical polymide bush in centre pivot of WAP1/WAP4 locos
3.	Brake cylinder bucket
G.	EM & EP CONTACTORS
1.	Contact tips for mobile and fixed contact
2.	Rubber gaskets/buckets
H.	CTF/REVERSER
1.	Rubber gaskets/buckets
I.	PNEUMATIC ITEMS
1.	All rubber items including diaphragm of all pneumatic valves
2.	Element of all suction oil filters of pipe line
3.	Wiper blade
4.	Rubber items of SMGR pressure reducing valve
5.	Diaphragm of RAL cock
J.	HEAD LIGHT
1.	Head light reflector
2.	Head light cover gasket

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ANNEXURE-II
(Sheet 2)
(RDSO Letter No. EL/3.6.1 Dt 15/07/2002)

TECHNICAL CIRCULAR NO. ELRS/TC/0031 (REV. 01) - 2002
'MUST CHANGE ITEMS' DURING AOH

K.	TAP CHANGER
1.	Oil Seal Pt. No. S1434
2.	Packing Ring Pt. No. S1421
3.	Push Rod with Seal Pt. No. S3209/A4209
4.	Valve Nipple Pt. No. A4206/A3206
5.	As per OEM Maintenance Manual kit of M/s Adtranz /Vadodara Manual No.3EDU 02001-YN-1995-03-A excluding the following items i) Contact Pt No. S 2529 ii) Arcing Horn iii) Arcing Chamber iv) Contact segment (Inner) v) Contact segment (Outer) vi) Contact Roller vii) Contact Ring (Inner) viii) Contact Ring (Outer) ix) Auxiliary Cam Switch of Air motor
L.	VCB As per GEC Maintenance Manual Book No. 1372
M.	CIRCUIT BREAKER (DJ)
1.	All rubber item
2.	Contact finger for DJ to HBB PT 6033 CAT SWT 5103 SH 26 of 33
3.	Nozzle for DJ to HBB Pt No. 517 CAT REF SWT 5103 SH 23 to 33
4.	Guide sleeve of DJ to ABB PT No. 2404 & 2408
5.	Piston ring of servomotor
6.	All Circlips

1. Secretary (Electric Traction), Railway Board, Rail Bhavan, New Delhi-110 001 (Kind Attn: EDEE (RS)/ Railway Board)
2. Secy.(Elect.), Railway Board; New Delhi-110 001. (Kind Attn: DEE(RS)/ Railway Board)
3. Chief Electrical Loco Engineer,
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 - North Central Railway, Hasting Road, Allahabad- 211 001.
 - Southern Railway, Park Town, Chennai-600 003
 - South Central Railway, Rail Nilayam, Secunderabad -500 071
 - South Eastern Railway, Garden Reach, Calcutta- 0043
 - South Western Railway, Bangalore - 560 046
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 - New Zone Railway, Bilaspur
 - Chittaranjan Locomotive Works, Chittaranjan- 7113 331
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 - Central Railway, Itarsi (MP)
 - Central Railway, Ajni, Nagpur-440 -008
 - Central Railway, Kalyan (Maharashtra)
 - Eastern Railway, Gomoh.- 828 401
 - Eastern Railway, Asansol-713 310.
- Eastern Railway, Mughalsarai-232 101.
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9. Director Inspection (Electrical), RDSO
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 - Director, Centre for Advanced Maintenance Technology, Indian Railways, Maharajpur, Gwalior-474 020 (MP).
 - Director, IRIEEN, Nasik Road, Post Box No. 233, Nasik-422 101.
 - Principal (Electrical), Railway Staff College, Vadodara-390 004.
10. DD/Doc/ Electrical Directorate, RDSO (Four Copies)

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o/c

Worked
8/1/02
17-7-02

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Government of India - Ministry of
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ST/1201

TECHNICAL CIRCULAR NO. ELRS/TC/0029 (Rev '01') - 2002 & ELRS/TC/0031 (Rev '01') - 2002

No. EL/3.6.1

Date: 15-7-2002

Chief Electrical Engineer,

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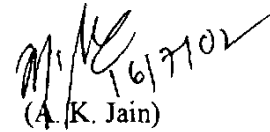
Sub: 'Must Change Items' during IOH/AOH of electric locomotives.
Ref: Item No. 4 (New item) of XXVIII MSG held at Waltair.

RDSO issued list of **must change items/components** for IOH vide Technical Circular No. 29 dt 24-8-1998 and for AOH of electric locomotives vide Technical Circular No. 31 dt 8-10-1998. The subject was discussed in last MSG (item 4 of New items) held at Waltair during December 2001 and a committee consisting of DSE-1/RDSO (convenor), CWM/BSL, Sr. DEE/CNB, BIA, MGS set up to study life cycle cost of maintenance under new item no 5 of MSG was also asked to review list of 'Must change Items'.

The committee met at CNB on 5-7-2002 and discussed the list of must change items during IOH/AOH. Committee's recommendations in regard to 'Must change items' during IOH/AOH has been considered by RDSO and the revised list of 'Must change items' are given in annexure I & II respectively. The items removed from the earlier will be changed on condition basis during IOH/AOH.

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DA: Annexure I & II.


(A.K. Jain)

for Director General Std/Elect

CC: As per Standard Mailing List No. EL/M/0028 Ver '0'

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