

PART-III

फैक्स/ FAX : 91-0522-2458500
91-0522-2450679
तार : रेलमानक, लखनऊ
Telegram : 'RAILMANAK',
Lucknow
टेलीफोन/ Tele : 2451200 (PBX)
2450115 (DID)



प्रत्येक अर्थे

भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226 011
Government of India - Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011

मिसिल सं.: एमसी/बीएलबी/सीवीसी

दिनांक : 30.10.2006

महाप्रबन्धक (यांत्रिक)

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई- 400 001.
2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता - 700 001.
3. उत्तर रेलवे, बडौदा हाउस, नई दिल्ली - 110 001.
4. दक्षिण रेलवे, पार्क टाउन, चेन्नई - 600 003.
5. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद - 500 071.
6. दक्षिण पूर्व रेलवे, गार्डेन रीच, कोलकाता - 700 043.
7. पूर्वोत्तर रेलवे, गोरखपुर - 273 012.
8. पूर्वोत्तर सीमान्त रेलवे, मालीगाँव, गुवाहाटी - 781 011.
9. पश्चिम रेलवे, चर्चगेट, मुम्बई - 400 020.
10. पूर्व मध्य रेलवे, हाजीपुर - 844 101.
11. पूर्व तटीय रेलवे, बीडीए रेंटल कालोनी, रेलवे काम्प्लेक्स, चन्द्रशेखरपुरा, भुवनेश्वर, उड़ीसा - 751 016.
12. उत्तर मध्य रेलवे, हारिस्टिंग रोड, इलाहाबाद - 211 001.
13. उत्तर पश्चिम रेलवे, जयपुर - 302 006.
14. दक्षिण पश्चिम रेलवे, हुबली - 580 023.
15. पश्चिम मध्य रेलवे, जयलपुर - 482 001.
16. दक्षिण पूर्व मध्य रेलवे, आर ई आफिस काम्प्लेक्स, बिलासपुर - 495 004.
17. इन्टीगरल कोच फैक्ट्री, चेन्नई - 600 038.
18. रेल कोच फैक्ट्री, हुसैनपुर, कपूरथला - 144 602.

Sub: Maintenance schedule of coaching CBC.

Ref: CMI No. RDSO/2006/CG/CMI-01 dated 16.10.2006 circulated vide this office letter of even no. dated 17.10.2006.

There was slight misalignment and some errors in references in the tables related to CBC Schedules on pages 4 to 6 of the above-referred CMI. The corrected pages are enclosed. The same may please be replaced in the copy sent earlier. The inconvenience caused is regretted.

संलग्नक : यथोक्त

(सुरजित माथुर)

कृते महानिदेशक/सवारी डिब्बा

प्रति :

1. कार्यकारी निदेशक यांत्रिक इंजीनियरिंग/कोचिंग, रेलवे बोर्ड नई दिल्ली।
2. मेसर्स बी.ई.एम.एल., बेंगलूर काम्प्लेक्स, न्यू थिप्पासान्द्रा, पोस्ट बाक्स न. 7501, बेंगलूर - 560 075

संलग्नक : यथोक्त

(सुरजित माथुर)

कृते महानिदेशक/सवारी डिब्बा

Ref.:CGW 0001 (Rev.3)	Date of Issue : 16 .10.2006 Page no. 1 of 8	CMI NO. RDSO/2006/CG/CMI - 01 Revision No. Nil.
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INDIAN RAILWAYS



MASTER COPY

Controlling Officer

Signature : *[Handwritten Signature]*

Designation *Dir/CD/Car*

SCHEDULE OF INSPECTION AND MAINTENANCE
OF
TIGHTLOCK 'H' TYPE CENTRE BUFFER COUPLERS
FITTED ON
INDIAN RAILWAYS PASSENGER COACHES

S.No.	Month / Year of Issue	Revision / Amendment	Page No.	Reason for Amendment
1.	October 2006	0	NA	First Issue

ISSUED BY
RESEARCH DESIGNS AND STANDARDS ORGANIZATION
MANAK NAGAR, LUCKNOW - 226011

Ref.:CGW 0001 (Rev.3)	Date of Issue : 16 .10.2006 Page no. 4 of 8 (corrected)	CMI NO. RDSO/2006/CG/CMI - 01 Revision No. Nil.
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3. Maintenance Schedule and Action

CBC Schedule-I	Action / Check Sheet	Reference		
		APTA RP-M- 002-98	ASF	FAIVELEY
	a) Visual inspection of coupler head for damage	Para 5.3	Para 3.3.1	Para 5.1
	b) Visual inspection of knuckle for damage		Para 3.3.1	Refer para 3.3.1 of ASF
	c) Checking of coupler operating mechanism for damage, loose bolts etc.		Para 3.3.3	Para 5.4
	d) Greasing of glide rod of coupler operating mechanism (\$)		Para 3.3.3	Para 5.4
	e) Checking of telltale recess for ensuring proper coupling.		Para 3.3.2 clause 3 & 4	Para 4.2
	f) Inspection of coupler carrier/supporting device and its springs for cracks and breakage		Para 3.3.2 Clause 1 & 2	Para 5.3
	g) Inspection of loose / broken / missing nuts and bolts (M-16) of coupler pin support plate and draft gear support plate			

CBC Schedule - II	a) All items of Schedule-I			
	b) Inspection of coupler assembly by gauges: -			
	i) Checking of knuckle contour by contour maintenance gauge @	Gauge no. 31000 Para 4.2	Gauge no. 31000 Para 3.3.7	Para 5.1
	ii) Checking of free slack in the contour by contour condemning limit gauge. @	Gauge no. 34100-1 Para 4.5.1and 4.5.2	Gauge no. 34100-1 Para 3.3.9	Para 5.1

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iii) Checking of distortion of aligning wing pocket and guard arm by aligning wing limit gauge@ and guard arm distortion gauge@.	Gauge no. 32600 Para 4.3	Gauge no. 32600 Para 3.3.4 Gauge no. 36527-2 or 36527-3 and para 3.3.12	Para 5.5.2
iv) Checking of vertical height of aligning wing pocket and guard arm by vertical height aligning wing pocket and guard arm gauge.@	Gauge no. 34101-4 Para 4.3	Gauge no. 34101-4 Para 3.3.5	Para 5.5.3
v) Wear of aligning wing pocket and guard arm to be checked by vertical height condemning limit aligning wing pocket and guard arm gauge .@	Gauge no. 44250-5 Para 4.4	Gauge no. 44250-5 Para 3.3.6	Para 5.5.4
vi) Checking of knuckle nose wear and stretch limit by knuckle nose wear and stretch limit gauge @	Gauge no. 34100-2A Para 4.5.3	Gauge no. 34100-2A Para 3.3.8	Para 5.5 :
c) Inspection of anti-creep protection		Para 3.3.11	Para 5.1
d) Measurement of coupler height 1105 mm from rail level – Reference point – Vertical centre of knuckle		Para 3.3.13 and 5.2.1	Ref para 3.3.13 and 5.2.1 of ASF
e) Checking of proper locking	Para 5.5	Para 3.3.10	Ref para 3.3.10 of ASF & 5.5 of APTA
f) Cleaning of CBCs	Para 6	Para 3.3.1.1	Ref Para 3.3.1.1 of ASF and para 6 of APTA
g)Checking of functional operation of coupler	Para 3	Para 2.1 & 2.2	Para 4

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	h) Checking of operation of coupler operating mechanism		Para 3.3.3	Para 5.4
	i) Modification of locking screw as per RDSO's drawing no. CG-K6036			

CBC Schedule- III	Action / Check Sheet	Reference		
		APTA RP-M- 002-98	ASF	Faiveley
	a) All items of Schedule-I & II			
	b) All parts of CBC and allied accessories to be dismantled as per removal procedure and to be cleaned and overhauled as described in attached Maintenance Manual.		Para 6.1	Paras 3.8 & 5
	c) Visual inspection be made for cracks, damage, distortions etc.		Clause 5 of para 6.1.1.1	Ref. Clause 5 of para 6.1.1.1 of ASF
	d) Checking wear of toggle, lock lift lever etc.		Para 6.1.1.1	Ref para 6.1.1.1 of ASF
	e) Checking of wear of coupler shank wear plate.	Para 5.2	Clause 6 of Para 3.3.1	Ref Clause 6 of para 3.3.1 of ASF and Para 5.2 of APTA
	f) Checking of excessive wear of lock of knuckle, pivot pin of knuckle and knuckle support pin	Para 5.5	Para 6.1.1.1	Ref 6.1.1.1 of ASF
	g) Damage of draft gear rubber pads and its checking for pre-compression value		Ref para 5.2 of Faiveley	Para 5.2
	h) Final assembly be made as per procedure		Para 6.1.1.2	Para 3

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SCHEUDLE OF INSPECTION AND MAINTENANCE OF TIGHTLOCK 'H' TYPE CBCs FITTED ON INDIAN RAILWAYS PASSENGER COACHES

1. Scope

This document deals with the maintenance aspects of CBCs fitted on passenger coaches of Indian Railways. These CBCs are procured as per RDSO specification C-K009 (Rev.1). The detailed design is of the manufacturer only.

Since these couplers are manufactured as per patented drawings of APTA and the manufacturers, the details of maintenance procedure to be followed should be as per the maintenance manuals provided by the manufacturers and APTA, attached as Annexures A, B & C.

Following documents are enclosed as Annexures A, B & C.

Annexure 'A' -Maintenance Manual of Faiveley Transport India Ltd. (previously SAB WABCO)

Annexure 'B' -Maintenance Manual of ASF/Keystone/USA.

Annexure 'C' -APTA- Recommended practice for inspection and maintenance of type H tight lock couplers – APTA RP– M-002–98, RP-M-004-98.

2. Schedule And Maintenance Frequency

The schedule and set of activities to be followed depending on the state of CBC and coach should be as follows: -

Sl. No.	Position of Coupler	CBC Schedule	Frequency As per Usage		
			LHB Coach	ICF Rajdhani/ Shatabdi #	ICF Mail/ Express
01.	Coupled (in rake formation)	I	Each trip	Each trip	Each trip
02.	Uncoupled (Single coach)	II	18 months *	IOH	"C" Schedule
03.	Dismounted from coach and disassembled	III	6 years	6 years	6 years

For future reference when CBCs are introduced in ICF Rajdhani/ Shatabdi rakes.

* 18 months is the frequency of Shop Schedule I as per Railway Board's letter no. 95/M(C)/141/(LHB) Pt. Dated 22.8.2006.

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3. Maintenance Schedule and Action

CBC Schedule-I	Action / Check Sheet	Reference		
		APTA RP-M- 002-98	ASF	FAIVELEY
	a) Visual inspection of coupler head for damage	Para 5.3	Para 3.3.1	Para 5.1
	b) Visual inspection of knuckle for damage		Para 3.3.1	Para 5.4
	c) Checking of coupler operating mechanism for damage, loose bolts etc.		Para 3.3.3	Para 5.4
	d) Greasing of glide rod of coupler operating mechanism (\$)		Para 3.3.3	Para 5.4
	e) Checking of telltale recess for ensuring proper coupling.		Para 3.3.2 clause 3 & 4	Para 4.2
	f) Inspection of coupler carrier/supporting device and its springs for cracks and breakage		Para 3.3.2 Clause 1 & 2	Para 5.3
	g) Inspection of loose / broken / missing nuts and bolts (M-16) of coupler pin support plate and draft gear support plate			

CBC Schedule - II	a) All items of Schedule-I			
	b) Inspection of coupler assembly by gauges: -			
	i) Checking of knuckle contour by contour maintenance gauge @	Gauge no. 31000 Para 4.2		
	ii) Checking of free slack in the contour by contour condemning limit gauge. @	Gauge no. 34100-1 Para 4.5.1 and 4.5.2	Gauge no. 31000 Para 3.3.7	Para 5.1
	iii) Checking of distortion of aligning wing pocket and guard arm by aligning wing limit gauge@ and guard arm distortion gauge@.	Gauge no. 32600 Para 4.3	Gauge no. 34100-1 Para 3.3.9	Para 5.1

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iv) Checking of vertical height of aligning wing pocket and guard arm by vertical height aligning wing pocket and guard arm gauge.@	Gauge no. 34101-4 Para 4.3	Gauge no. 32600 Para 3.3.4 Gauge no. 36527-2 36527-3 and para 3.3.12	Para 5.5.2
v) Wear of aligning wing pocket and guard arm to be checked by vertical height condemning limit aligning wing pocket and guard arm gauge .@	Gauge no. 44250-5 Para 4.4	Gauge no. 34101-4 Para 3.3.5	Para 5.5.3 and 5.5.4
vi) Checking of knuckle nose wear and stretch limit by knuckle nose wear and stretch limit gauge @	Gauge no. 34100-2A Para 4.5.3	Gauge no. 44250-5 Para 3.3.6	Ref Gauge no. 44250-5 Para 3.3.6 of ASF
c) Inspection of anti-creep protection		Gauge no. 34100-2A Para 3.3.8	Para 5.5.1
d) Measurement of coupler height 1105 mm from rail level – Reference point – Vertical centre of knuckle		Para 3.3.11	Para 5.1
e) Checking of proper locking	Para 5.5	Para 3.3.13 and 5.2.1	Ref para 3.3.13 and 5.2.1 of ASF
f) Cleaning of CBCs	Para 6	Para 3.3.10	Ref para 3.3.10 of ASF & 5.5 of APTA
g)Checking of functional operation of coupler	Para 3	Para 3.3.1.1	Ref Para 3.3.1.1 of ASF and para 6 of APTA
h) Checking of operation of coupler operating mechanism		Para 2.2	Para 4

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	i) Modification of locking screw as per RDSO's drawing no. CG-K6036		Para 3.3.3	Para 5.4

CBC Schedule- III	Action / Check Sheet	Reference		
		APTA RP-M- 002-98	ASF	Faiveley
	a) All items of Schedule-I & II			
	b) All parts of CBC and allied accessories to be dismantled as per removal procedure and to be cleaned and overhauled as described in attached Maintenance Manual.		Para 6.1	Paras 3.8 & 5
	c) Visual inspection be made for cracks, damage, distortions etc.		Clause 5 of para 6.1.1.1	Ref. Clause 5 of para 6.1.1.1 of ASF
	d) Checking wear of toggle, lock lift lever etc.		Para 6.1.1.1	Ref para 6.1.1.1 of ASF
	e) Checking of wear of coupler shank wear plate.	Para 5.2	Clause 6 of Para 3.3.1	Ref Clause 6 of para 3.3.1 of ASF and Para 5.2 of APTA
	f) Checking of excessive wear of lock of knuckle, pivot pin of knuckle and knuckle support pin	Para 5.5	Para 6.1.1.1	Ref 6.1.1.1 of ASF
	g) Damage of draft gear rubber pads and its checking for pre-compression value		Ref para 5.2 of Faiveley	Para 5.2
	h) Final assembly be made as per procedure		Para 6.1.1.2	Para 3
	i) Checking of functional operation of coupler	Para 3.5	Para 2.1	Para 4

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Note : -

1. All the above-mentioned actions are common for all makes of CBCs. Wherever details are given in the manufacturers' or APTA manual, references have been given. Absence of reference to relevant para of manufacturers or APTA's manual does not mean that the activity is not required for the concerned make of CBC.
2. (\$) Once in 3 months or earlier if needed.
3. @ The following gauges are shop-issue-size gauges and not condemning gauges: -
 - i) Contour maintenance gauge
 - ii) Contour condemning limit gauge.
 - iii) Aligning wing limit gauge
 - iv) Vertical height aligning wing pocket and guard arm gauge
 - v) Knuckle nose wear and stretch limit gauge
 - vi) Vertical height condemning limit aligning wing pocket and guard arm gauge.
4. The gauges should only be procured from the suppliers of complete CBC assemblies.
5. As given in para 8.2 of APTA RP-M-004-98, no painting should be done on any part or the assembly after overhaul except where specifically advised by RDSO.
6. Only dry lubrication as per paras 4.2 and 8.3 of RP-M-004-98 should be done in Schedule III.
7. Reconditioning procedure of coupler should be followed as per Para 5 of APTA – RP-M-004-98. As mentioned in APTA – RP-M-004-98 Para 2.3, knuckles, locks, knuckle throwers, knuckle pivot pins, rotary lock life assemblies and coupler pivot pins should not be reconditioned.
8. Following instructions to be followed for welding and heat treatment processes during reconditioning of couplers. {Reference: paras 4.1 and 4.2 of G-80 (inspection and maintenance instructions for center buffer couplers used in freight cars) issued by RDSO}.
 - 8.1 Weld repair and straightening
 - 8.1.1 Repairs of components may be made by welding using qualified welders and procedures as per IS specification IS: 7318 (Part I) latest revision, in the down hand position.
 - 8.1.2 All defects must be removed prior to weld repair.
 - 8.1.3 Casting may be uniformly or locally preheated to a temperature between 150 deg. C and 320 deg. C to ensure crack free welds. Under no condition welding be performed when casting temperature is below 150 deg. C or above 320 deg. C.

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- 8.1.4 Repair welding shall be performed with low hydrogen, coated electrodes or by gas shielded welding process. Weld deposits shall provide properties equivalent to the properties of finished castings.
- 8.1.5 Heat treatment is required after weld repair or straightening.
- 8.2 Heat Treatment
 - 8.2.1 After heating for straightening prior to heat treatment, components shall be allowed to cool to a temperature below 538 deg. C at a rate that will not be injurious to the castings.
 - 8.2.2 Heat castings in the furnace so that the castings' entire body attains a temperature of 900 deg C and keep at this temperature for a minimum of 20 minutes.
 - 8.2.3 Remove castings from furnace and in less than 1 minute, submerge them completely in moving or agitated water of 65 deg. C max. at start of the quenching. Hold castings under water until cooled below 204 deg C.
 - 8.2.4 Remove castings from water and as soon as possible heat them to 571 deg. C. Hold the casting at this temperature for a minimum of 2 hrs. A higher temperature may be necessary to attain a Brinell hardness of 241-311. The casting must be re-quenched and tempered if it is too soft and re-tempered, if it is too hard.
 - 8.2.5 All castings shall necessarily be tempered as soon as possible to prevent cracking, but in no case shall the time between quenching and tempering exceed 8 hrs.
 - 8.2.6 Cool the castings in still shop air.
- 8.3 Finish
 - 8.3.1 Surface discontinuities resulting from weld repairs or service upset or service notches must be contoured and matched to the surrounding surfaces by grinding.
 - 8.3.2 All components must be cleaned sufficiently for proper inspection, reclamation and operation. Coupler must not be sand or shot blasted when assembled.
 - 8.3.3 Component must be free from cracks, fractures, sections broken out, service notches in the critical areas.

फोन/ FAX : 91-0522-2450500
91-0522-2450679
तार : रेलमानक लखनऊ
Telegram : 'RAILMANAK',
Lucknow
टेलीफोन/ Tele : 2451200 (PBX)
2450115 (DID)



भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226 011
Government of India - Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011

1084
50-1688

पत्रांक: MC/EMU/CBC

दिनांक : 06.01.09

महा प्रबंधक (यांत्रिक, विद्युत एवं मंडार) :

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुंबई- 400 001.
2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता - 700 001.
3. उत्तर रेलवे, बड़ौदा हाउस, नई दिल्ली - 110 001.
4. दक्षिण रेलवे, पार्क टाउन, चेन्नई - 600 003.
5. दक्षिण मध्य रेलवे रेल निलायम, सिकन्दराबाद - 500 071.
6. दक्षिण पूर्व रेलवे, गार्डन रोड, कोलकाता - 700 043.
7. पूर्वोत्तर रेलवे, गोखपुर - 273 012.
8. पूर्वोत्तर सीमान्त रेलवे, मालीगोंव, मुंबई - 731 011.
9. पश्चिम रेलवे, चर्चगेट, मुंबई - 400 020.
10. पूर्व मध्य रेलवे, हाजीपुर - 844 101.
11. पूर्व तटीय रेलवे, बीडीए रेंटल कालोनी, रेलवे कॉम्प्लेक्स, चन्द्रशेखरपुरा, भुवनेश्वर, उड़ीसा - 751 016.
12. उत्तर मध्य रेलवे, हारिस्टॉ रोड, इलाहाबाद - 211 001.
13. उत्तर पश्चिम रेलवे, जयपुर - 302 006.
14. दक्षिण पश्चिम रेलवे, हुबली - 580 023.
15. पश्चिम मध्य रेलवे, जबलपुर - 482 001.
16. दक्षिण पूर्व मध्य रेलवे, आर ई अफिस कॉम्प्लेक्स, बिलासपुर - 495 004.
17. इन्टीगरल कोच फैक्ट्री, चेन्नई - 600 038
18. रेल कोच फैक्ट्री, हसनपुर, कपूरथला - 144 602

Sub: Interchangeable components of semi permanent couplers

Ref: (i) Dy. CME/WS/Hqrs/ SCR letter no. M.44. WS.Coach Alter Instn.Spec.350 dated 04.8.2008
(ii) CEE(RS)/CR letter no.L.531.P.51.A dated 01.9.2008
(iii) AEME/Genl./Hqrs./SCR letter no. M.44.WS.Coach Alter Instn.Spec.330 dated 23.9.08 & 06.11.08

With the letters referred above the issues raised about interchangeability of different sub assemblies of Schaku semi-permanent couplers. Please refer this office letter dated 27.04.2007 of even no. earlier issued to Western Railway (copy enclosed) in this regard.

DA -As above

Copy:

- (i) Dy. CME/WS/Hqrs office/Rail Nilayam/Secundrabad/ SCR
- (ii) CEE(RS)/CEE/ HQ office/Parcel Bldg. 2nd floor/Mumbai CST/CR
- (iii) AEME/Genl./Hqrs./ Rail Nilayam/Secundrabad/ SCR

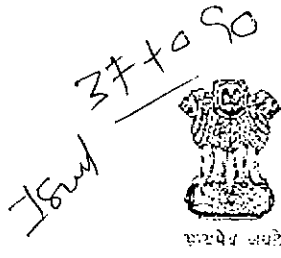
(आनन्द स्वरुप)
कुले महानिदेशक/सवारी डिवा

(आनन्द स्वरुप)
कुले महानिदेशक/सवारी डिवा

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9/c

फैक्स/ FAX : 91-0522-2458500
91-0522-2450679
तार : रेलमानक लखनऊ
Telegram : 'RAILMANAK',
Lucknow
टेलीफोन/ Tele : 2451200 (PBX)
2450115 (DID)



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

SN 1661

पत्रांक: MC/EMU/CBC

दिनांक : 23.06.09

महा प्रबंधक (यांत्रिक, विद्युत एवं भंडार) :

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई - 400 001.
2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता - 700 001.
3. उत्तर रेलवे, बड़ौदा हाउस, नई दिल्ली - 110 001.
4. दक्षिण रेलवे, पार्क टाउन, चेन्नई - 600 003.
5. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद - 500 071.
6. दक्षिण पूर्व रेलवे, गार्डेन रीच, कोलकाता - 700 043.
7. पूर्वोत्तर रेलवे, गोरखपुर - 273 012.
8. पूर्वोत्तर सीमान्त रेलवे, मालीगाँव, गुवाहाटी - 781 011.
9. पश्चिम रेलवे, चर्चगेट, मुम्बई - 400 020.
10. पूर्व मध्य रेलवे, हाजीपुर - 844 101.
11. पूर्व तटीय रेलवे, बीडीए रेंटल कालोनी, रेलवे काम्पलेक्स, चन्द्रशेखरपुरा, भुवनेश्वर, उड़ीसा - 751 016.
12. उत्तर मध्य रेलवे, हार्लिंग रोड, इलाहाबाद - 211 001.
13. उत्तर पश्चिम रेलवे, जयपुर - 302 006.
14. दक्षिण पश्चिम रेलवे, हुबली - 580 023.
15. पश्चिम मध्य रेलवे, जयलपुर - 482 001.
16. दक्षिण पूर्व मध्य रेलवे, आर ई आफिस काम्पलेक्स, विलासपुर - 495 004.
17. इन्टीगरल कोच फैक्ट्री, चेन्नई - 600 038
18. रेल कोच फैक्ट्री, हुसैनपुर, कपूरथला - 144 602

Sub : Use of single piece design of bearing bolts for semi permanent coupler
#1658 Ref : M/s WSF, Kolkata note no. WSF/PS/RCF/177 dated 09.03.2009

In view of repeated cases of failures of welded bearing bolts it is advised to stop the use welded bearing bolts and to use only the single piece design and arrange to replace the existing welded bearing bolt to single piece design.

It is also advised to segregate the two-piece design bearing bolts and dispose suitably to prevent mixing with single piece.

31/6/09

(आनन्द स्वरुप)
कृते महानिदेशक/सवारी डिब्बा

9/c

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S. H. 2)72

शुभवार

फैक्स/Fax : 91-0522-2458500
तार : 'रेलमानक' लखनऊ
Telegram : 'RAILMANAK', Lucknow
टेलीफोन/Tele : 2451200 (PBX)
2450567 (DID)



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

No. MC/BLB/CBC

Dated: 26.07.2010

महाप्रबन्धक (यांत्रिक)

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई- 400 001.
2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता - 700 001.
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8. पूर्वोत्तर सीमान्त रेलवे, मालीगाँव, गुवाहाटी - 781 011.
9. पश्चिम रेलवे, चर्चगेट, मुम्बई - 400 020.
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11. पूर्व तटीय रेलवे, बीडीए रेंटल कालोनी, रेलवे काम्प्लेक्स, चन्द्रशेखरपुरा, भुवनेश्वर, उड़ीसा - 751 016.
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17. कोंकण रेलवे कारपोरेशन लि., कारपोरेट ऑफिस, बेलापुर भवन, नवी मुम्बई - 400 614
18. इन्टीगरल कोच फैक्ट्री, चेन्नई - 600 038.
19. रेल कोच फैक्ट्री, हुसैनपुर, कपूरथला - 144 602.

Sub: Check list for investigating train parting cases in passenger coaching stock.

In recent cases of train parting, it has been observed that railways are not recording the details of the incidents for analysing the reason. Following check list has been prepared with inputs from Railways:-

1. Train no. and name
2. Primary maintenance depot of the train.
3. Section and location of train parting.
4. PRO particulars of the coach involved.
5. Make of CBCs involved in train parting.

etc

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6. In case, the train parts between loco & coach,
 - i. Schedule particulars of the locomotive along with base shed should be indicated.
 - ii. Type of locomotive coupler head, whether it is 'E' type or 'H' type.
 - iii. Height CBC (Centre) of coach from rail level loaded and unloaded condition.
 - iv. Height CBC (Centre) of locomotive from rail level loaded and unloaded condition.
 - v. Vertical restrictor provided or not.
 - vi. Whether checking for overloading of SLR/ power car was done at originating station with the gauge as prescribed vide RDSO's letter no. MC/LHB/Coach dated 26.07.2010.
 - vii. Last station in which the loco was coupled
7. Locking status of knuckles of both the CBCs involved in train parting, whether knuckles were found locked or open.
8. Position of lock lift lever of CBC in which knuckle was found open, whether the lock lift lever was fully or partially dropped.
9. Locking status of manual uncoupling rod, whether it was locked.
10. Details of modification in the CBCs involved in train parting.
11. Photographs to be taken of CBCs indicating position of lock lift liver, telltale sign, relative difference in buffer heights etc.
12. Topography (index plan) of the section involved where train parting took place. Condition of track like presence of low joint, curvature etc.
13. Statement of driver, guard, operating staff and officer who attend to the train parting.
14. Operating features like caution order, emergency braking or any other prima-facie reason which could contribute towards train parting.
15. Any other factor which could have contributed towards opening out of CBC.
16. Whether any difficulties were observed at the time of coupling?

All the concerned staff/ officers should be made aware of this check list. Railways are advised to follow the above check list in recording the incidents of train parting and report to RDSO.



(Anand Swaroop)
For Director General (Carriage)

Copy to: EDME/Coaching, Railway Board, New Delhi.

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S.M. 2173

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फैक्स/Fax : 91-0522-2458500
तार : 'रेलमानक' लखनऊ
Telegram : 'RAILMANAK', Lucknow
टेलीफोन/Tele : 2451200 (PBX)
2450567 (DID)



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अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226 011

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

No. MC/BLB/CBC

Dated: 26.07.2010

महाप्रबन्धक (यांत्रिक)

1. मध्य रेलवे, छत्रपति शिवाजी-टर्मिनस, मुम्बई - 400 001.
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18. इन्टीगरल कोच फैक्ट्री, चेन्नई - 600 038.
19. रेल कोच फैक्ट्री, हुसैनपुर, कपूरथला - 144 602.

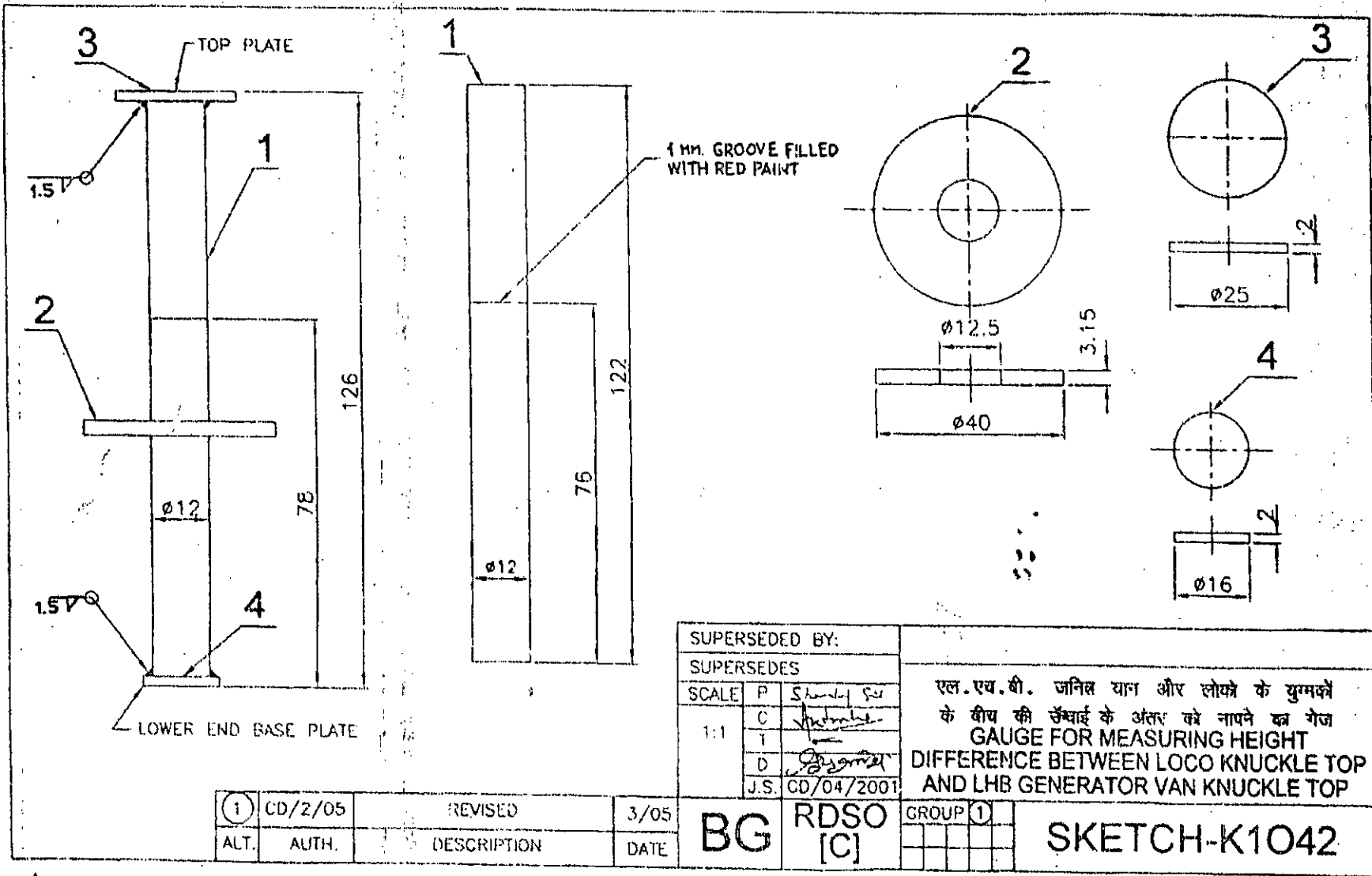
Sub: Gauge for checking difference in height of coupler of SLR/ LHB generator van and knuckle of locomotive.

Please find enclosed herewith a sketch no. K1042 (Alt 1) of a gauge to check difference in height of knuckle of SLR/ LHB generator van and knuckle of locomotive fitted with AAR 'E' type coupler head. Difference in height of knuckles may arise because of overloading of SLR/ LHB generator van. The difference beyond the prescribed limit may result in train parting because of vertical slippage of couplers.

This gauge should be used by platform TXR to check the difference in height of knuckles before departure of train. By application of this gauge, the adequate overlap between loco knuckle and coach knuckle can be ensured to prevent uncoupling between the loco and the generator van.

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SUPERSEDED BY:		
SUPERSEDES		
SCALE	P	Shankar Saini
1:1	C	<i>[Signature]</i>
	T	<i>[Signature]</i>
	D	<i>[Signature]</i>
J.S. CD/04/2001		

एल.एच.वी. जनित यान और लोको के युग्मकों के बीच की सँभार के अंतर को नापने का गेज
GAUGE FOR MEASURING HEIGHT DIFFERENCE BETWEEN LOCO KNUCKLE TOP AND LHB GENERATOR VAN KNUCKLE TOP

①	CD/2/05	REVISED	3/05
ALT.	AUTH.	DESCRIPTION	DATE

BG RDSO [C] GROUP ①

SKETCH-K1042

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तार : 'रेलमानक' लखनऊ
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Government of India - Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011

No. MC/BLB/CBC

Dated: 31.07.2010

महाप्रबन्धक (यांत्रिक,

9-8

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई- 400 001.
2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता - 700 001.
3. उत्तर रेलवे, बड़ौदा हाउस, नई दिल्ली - 110 001.
4. दक्षिण रेलवे, पार्क टाउन, चेन्नई - 600 003.
5. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद - 500 071.
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8. पूर्वोत्तर सीमान्त रेलवे, मालीगाँव, गुवाहाटी - 781 011.
9. पश्चिम रेलवे, चर्चगेट, मुम्बई - 400 020.
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18. इन्टीगरल कोच फैक्ट्री, चेन्नई - 600 038.
19. रेल कोच फैक्ट्री, हुसैनपुर, कपूरथला - 144 602.

Sub: Guidelines for operation of CBC equipped coaches.

Ref: i) Railway Board's letter no. 97/M(C)/137/1 Vol.X dated 09.07.2010.

ii) CBC guidelines issued by RDSO vide this office letter of even no. dated 22.05.08 and reiterated vide letter of even no. dated 29.06.2010.

Recently IR had a few instances of uncoupling especially between CBC of loco and adjacent coach i.e. WLRRM. Analysis of the cases indicates that instructions related with CBC operation are needed to be disseminated to working staff in Railways. It is also observed that Railways are not recording cases of train parting properly to enable thorough investigation. RDSO has prepared technical document containing operating instructions and check points. It includes:-

- i. Guideline for coupling between coach to coach and coach to locomotive
- ii. Check points to ensure proper coupling.

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- iii. Points to be checked in the event of train parting
- iv. Gauges for maintenance

All the instructions related with operating of CBC issued by RDSO to Railways since introduction of centre buffer coupler in coaching stock in 2001 have been complied in the booklet. Experience of Railways has also been considered.

The document has been made attractive with pictorial illustrations and it is expected to prove useful to Railways specially when CBC equipped coaches are being introduced in large number in almost all the Railways. The Operating Instructions and Check Points are available on RDSO's website at

http://rdso.gov.in/carriage/cmris/rdso_cmris/CBC_M&OIP.pdf

RDSO has also revised maintenance instructions (MI) of CBC which is available on RDSO's website at

http://rdso.gov.in/carriage/cmris/rdso_cmris/rdso_2006_cg_cmi_01_rev1.pdf.

The MI was earlier issued by RDSO in Oct. 2006.

Electric and diesel locomotives are also being provided with AAR'H' type CBC. Proper training of the staff and supervisors for maintenance and operation of these couplers is also important.

In Railway Board's above referred letter, creating awareness and training of concerned staff has been emphasized. Railways are advised to display in attractive pictorial form sequence of coupling, tell tale sign of proper coupling, check points, etc. in training centres, drivers' lobby etc.

DA- CG -10063


(Anand Swaroop)
For Director General (Carriage)

o/c

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S.M. 2225

फैक्स/Fax : 91-0522-2458500
तार : 'रेलमानक' लखनऊ
Telegram : 'RAILMANAK', Lucknow
टेलीफोन/Tele : 2451200 (PBX)
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14/9

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लखनऊ - 226 011

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

No. MC/BLB/CBC

Dated: 10.09.2010

महाप्रबन्धक (यांत्रिक)

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई- 400 001.
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19. रेल कोच फैक्ट्री, हुसैनपुर, कपूरथला - 144 602.

033475

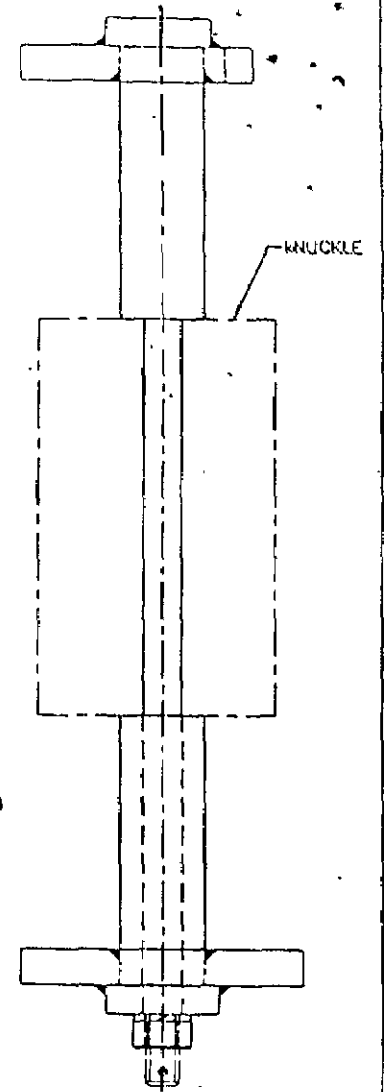
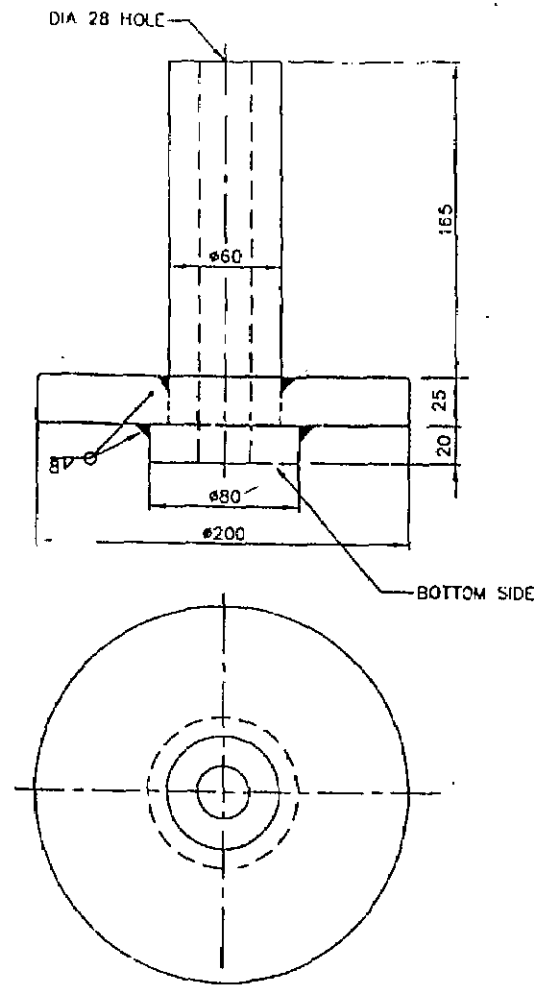
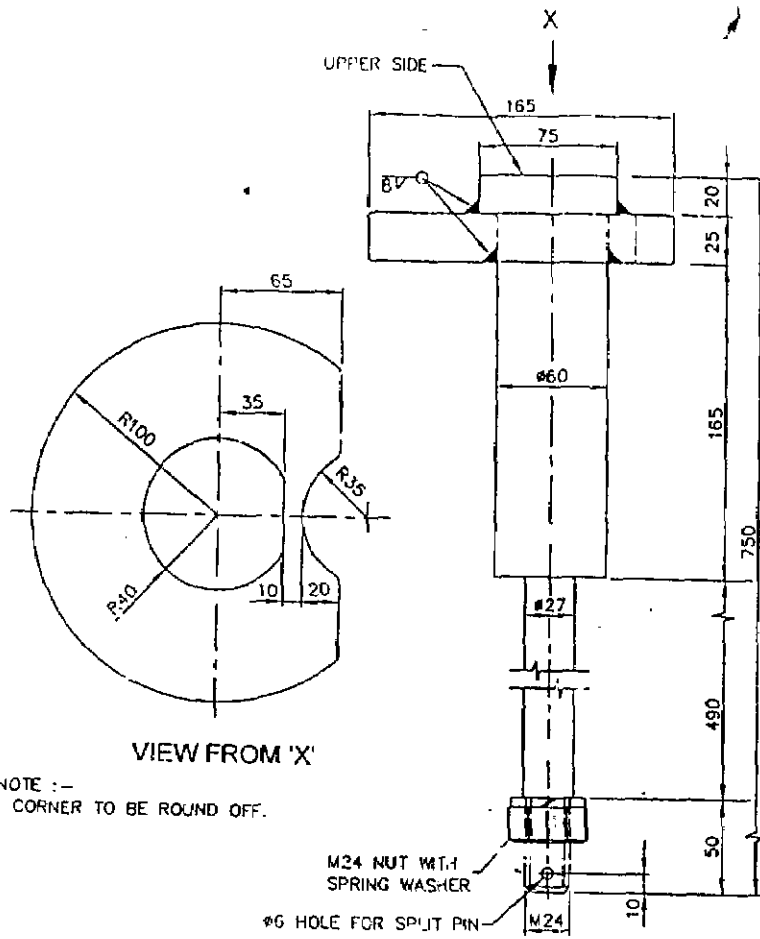
Sub: Use of modified vertical restrictor in CBC equipped power car and SLR.

There was a case of uncoupling between locomotive and SLR (hybrid coach). On investigation, it was found that the train parting happened because of vertical slippage between AAR'E' type locomotive coupler and AAR'H' type tight lock coupler in SLR. The knuckle of SLR coupler slipped from the top hence, vertical restrictor could not prevent the slippage. RDSO have issued a modified restrictor drawing no. CG-10063 vide letter of even dated 31.07.2010. The modified restrictor prevents couplers from vertical slippage from the top as well as the bottom. It is advised to use the vertical restrictor as per the modified drawing which is enclosed.

Encl.: RDSO drawing no. CG-10063

(Anand Swaroop)
For Director General (Carriage)

9/c



MATERIAL:- IS:8500-1991 Gr. Fe 540

SUPERSEDES -			
SUPPLEMENTED BY		ICF & RCF COACHES WITH CBCs	
SCALE	P	MODIFIED RESTRICTOR ON CBCs FOR SLR & GENERATOR VAN	
C	1		
D	SPAWORTH T/10		
JS	CG/4/10		
PLT		GROUP	
ACT	AUTHY	DESCRIPTION	DATE
		BG RDSO (C)	CG-10063

003416

S.M. 2289

7887 55 72
17
22/11

फैक्स/ FAX : 91-0522-2458500
91-0522-2450679
तार : रेलमनक, लखनऊ
Telegram : 'RAILMANAK',
Lucknow
टेलीफोन/ Tele : 2451200 (PBX)
2450115 (DID)



भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकरण और मानक संगठन
लखनऊ - 226 011
Government of India - Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011

MC/BLB/CBC

Dt. 19 -11-2010

The General Manager (Mech.):

1. Central Railway, Chhatrapati Shivaji Terminus, Mumbai - 400 001
2. Eastern Railway, Fairlie Place, Kolkata - 700 001
3. Northern Railway, Baroda House, New Delhi - 110 001
4. North Eastern Railway, Gorakhpur - 273 001
5. Northeast Frontier Railway, Maligaon, Guwahati - 781 011
6. Southern Railway, Park Town, Chennai - 600 003
7. South Central Railway, Rail Nilayam, Secunderabad - 500 071
8. South Eastern Railway, Garden Reach, Kolkata - 700 043
9. Western Railway, Churchgate, Mumbai - 400 020
10. East Central Railway, Hajipur - 844 101
11. East Coast Railway, Chandrasekharapur, Bhubaneswar - 751 016
12. North Central Railway, Allahabad - 211 001
13. North Western Railway, Jaipur - 302 006
14. South East Central Railway, Bilaspur - 495 004
15. South Western Railway, Hubli - 580 023
16. West Central Railway, Jabalpur - 482 008
17. Integral Coach Factory, Chennai - 600 038
18. Rail Coach Factory, Hussainpur, Kapurthala, Punjab - 144 602

Managing Director, Konkan Railway Corporation, Belapur, Navi Mumbai-400614.

Subject : Drawing of Key for locking screw of manual uncoupling device of H type tight lock CBC for coaches

Please find enclosed herewith drawing no. CG-10100 of key for locking screw of manual uncoupling device of AAR H type tight lock coupler fitted with coaching stocks with which locking screw of all makes can be opened.

The key should be kept with loco pilots, guard and C&W staff as per joint procedure order issued by Railways.

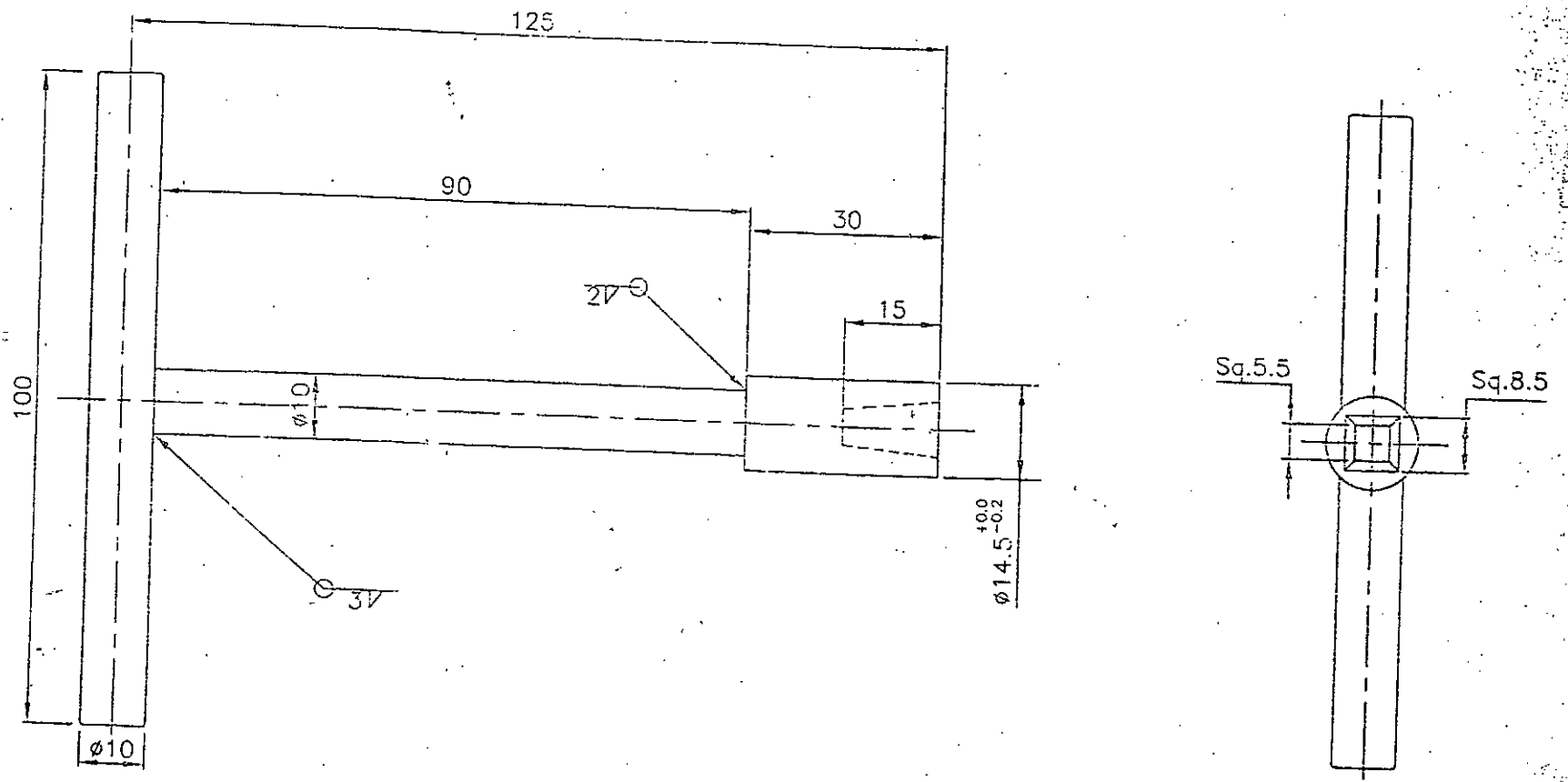
DA:As above

(Anand Swaroop)
For Director General/ Carriage

002276

o/c

002277



MATERIAL— CLASS 3, IS:1875
 REMOVE SHARP EDGES AND CORNERS
 ALL DIMENSIONS ARE IN mm.

SUPERSEDED BY:			
SUPERSEDES:		ICF/RCF,CBC COACHES	
REFERENCE :- RDSO DRG. No. CG-K6035	SCALE	P	
	NTS	C	<i>[Signature]</i> /10/10
		D	SPAwasthi <i>[Signature]</i>
		J.S.	CD/7/10
CDIC No.:- 1009	BG R.D.S.O. (CG)		
KEY FOR LOCKING SCREW OF MANUAL UNCOUPLING DEVICE			CG-10100

S No 768

फैक्स/Fax : 91-0522-2458500
तार : 'रेलमानक' लखनऊ
Telegram : 'RAILMANAK', Lucknow
टेलीफोन/Tele : 2451200 (PBX)
2450567 (DID)



भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226 011
Government of India - Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011

No. MC/CB/AC/DD

Dated: 08.06.2011

महाप्रबन्धक / इंजीनियरिंग

1. उत्तर रेलवे, बड़ौदा हाउस, नई दिल्ली - 110 001.
2. पश्चिम रेलवे, चर्चगेट, मुम्बई - 400 020.
3. उत्तर पश्चिम रेलवे, जयपुर - 302 006.

Sub: Introduction of double decker trains over IR - Announcement made by Hon'ble MR in the Railway Budget 2011.

- Ref: i) Railway Board's letter no. 2006/CEDO/SR/8 dt. 05.09.2006.
ii) This office letter no. MC/CB/AC/DD dated 04.01.10

In compliance to Hon'ble MR's announcement of introducing double decker train in JP-Delhi and ADI-Mumbai route while presenting Railway Budget of 2011, AC Double Decker coaches presently under manufacture at Rail coach factory, Kapurthala are expected to be ready to put in service by the end of this year. The coaches have higher height and may require **removal of infringements on existing fix structures** to enable their operation.

A) Issues related with infringements with fixed structure except platform -

This issue can be resolved in following two ways.

Option I

Indian Railways SOD Rev 2004 Chapter I Para 8(ii) stipulates following dimensions of fixed structure (Except Platform) -

- | | |
|--|-------------------------------|
| (a) From 305mm above rail level to 1065 mm - | 1905 mm increasing to 2360 mm |
| (b) From 1065 mm above rail level to 3355 mm - | 2360 mm |
| (c) From 3355 mm above rail level to 4420 mm - | 2360 mm decreasing to 2195 mm |

The clause is applicable for new works or alteration of existing works. The fixed structures altered as per this dimensions will provide adequate clearance not only to the proposed AC Double Decker coach but also to future coaches of higher height.

Option II

Railways on the basis of loading gauge or kinematic envelope of higher height Garibrath and AC Double Decker Coach have been requested vide letter at reference ii) above to remove infringements on existing structures to enable operation of Garibrath (of higher height) and AC Double Decker trains. The extent of work needed for removal of infringement is expected to be less in this option. A write-up on how to ensure the requisite clearance along with RD&SO Sketch No CG-11040 is enclosed.

B) Issues related with infringements with platform –

The body of double decker coach extends below platform level. It is important to ensure that platform coping distance from centre line of the track is maintained as per provision in Indian Railways SOD Rev 2004 Chapter II Para 3(ii). It specifies following dimensions-

- (a) Horizontal distance from centerline of the track to face of passenger/ goods platform coping

Maximum – 1680 mm Minimum – 1670 mm

- (b) Horizontal distance from centerline of the track to face of any platform wall.

Maximum – 1905 mm Minimum – 1675 mm

- (c) New platform walls should be built to maximum dimensions and the coping corbelled out to 1675 mm.

All the above dimensions are specified for straight platforms. Curve platforms require **extra clearance**. A guideline for provision of *extra clearance* is provided in annexure-I of IR SOD Rev 2004. *Extra clearance* shown in Annexure-I of SOD is only for guidance and it is required to be worked out on the basis of actual super elevation provided on the curved platform line.

AC Double Decker train is being introduced for the first time in Howrah-Dhanbad section. During the trial in Howrah-Dhanbad section, it was found that platform coping distance from centerline of the track were not maintained as per the SOD and ER had to undertake massive work of modifying platform coping.

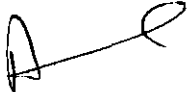
In view of this, Railways are advised to ensure removal of infringement as specified above well in advance for timely introduction of AC Double Decker Train. Also, Railways are requested to provide following information on **inside curved platform** between the proposed route of JP-Delhi and ADI-Mumbai section.

Station Name	Platform	Any Permanent Speed Restriction. If yes, speed in kmph	Degree of Curve	Cant Elevation
(A)	1.			18139
	2.			
			
			
(B)	1.			
	2.			
			
			
(C)	1.			
	2.			
			

The data is required for **inside curved platform** only and it will be used for analysis of clearance between coach body and platform coping.

Apart from conducting regular COCR in the section, RDSO may conduct trials for platform clearance once written confirmation of maintaining platform coping distance from centerline of the track is received from Railways.

Encl.: As above.


(Anand Swaroop)
Director Carriage
For Director General (Carriage)

Copy to: i) EDME/Coaching, Railway Board, New Delhi.
 ii) CMEs of NR, NWR and WR Railways.
 iii) ED/Track-I, RDSO, Lucknow.

92
7/6/11

o/c

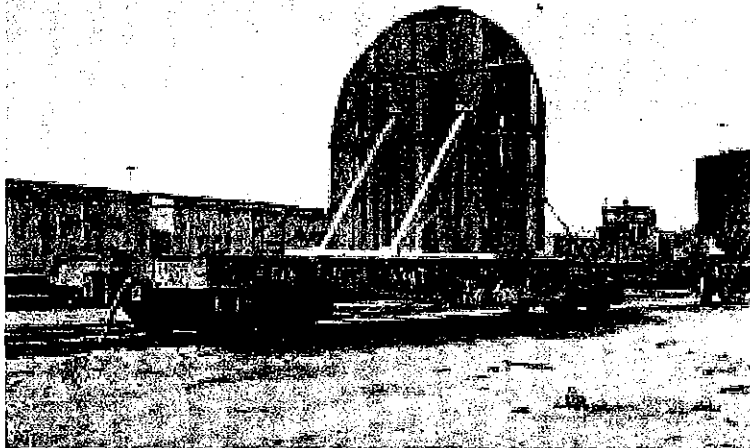
18174J

Clearance Car

A clearance car is a type of rail car for maintenance of way service. Its purpose is to check the clearances around the tracks and ensure that trains conforming to the loading gauge or kinematic envelope will not encounter any obstruction.

A simple clearance car may consist of an outline of the system loading gauge/ Kinematic envelop attached to a coach or a wagon, which could be towed along the route to ensure the clearances were still sufficient.

Modern clearance car uses lasers for measurement of three dimensional position of fixed structure. It is understood that personnel of Engineering Department of Railways have been trained in the past (Year 2006-07) for laser based measurement of three dimensional position of fixed structure.

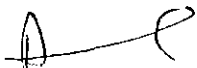


A simple clearance car consists of a wooden outline.

RDSO has made a drawing of kinematic envelop (Drawing No – CG-11040) of Proposed AC Double Decker Coach.

Railways were requested to remove infringements on existing structures to enable operation of AC Double Decker trains vide ED/Track/RDSO's letter no. CT/DHS/3/Coaches dated 08.06.07 and the same was reiterated vide RDSO letter no MC/CB/AC/DD 04.01.10. The kinematic envelop shown in the new drawing is within that of advised earlier.

The profile of wooden outline has been made in such a way that when clearly passed on straight line in quasi static condition, the minimum side (excluding platform) and overhead clearance required for running AC Double Decker trains is ensured. The wooden outline when placed longitudinally in middle of a rolling stock having bogie centre distance between 14785mm and 14900mm (LHB/ICF), will approximately take care of requirement of extra clearance as per provision in SOD on inside curve. Similarly, the wooden outline when placed longitudinally at the end of ICF coach will approximately take care of requirement of extra clearance on outside curve. AC Double Decker coach (length equal to that of LHB coach) though longer than ICF coach has same requirement of extra clearance on outside curve.


(Anand Swaroop)
Director /Carriage/RDSO



भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ - 226 011
E/IBX (0522) 2451200
F. x (0522) 2458300

Ministry of India, Ministry of Railways
Research Designs & Standards Organisation
Lucknow - 226 011
DID (0522) 2450115
DID (0522) 2455310



पत्रांक : MC/BLB/CBC

महा प्रबंधक (यांत्रिक) :

S. No. 279

दिनांक: 30.9.2011

2/10

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई - 400 001.
2. पूर्व रेलवे, फेरवली प्लेस, कोलकाता - 700 001.
3. उत्तर रेलवे, बगौदा हाउस, नई दिल्ली - 110 001.
4. दक्षिण रेलवे, पार्क टाउन, चेन्नई - 600 003.
5. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद - 500 071.
6. दक्षिण पूर्व रेलवे, गार्डन रीच, कोलकाता - 700 043.
7. पूर्वोत्तर रेलवे, गोरखपुर - 273 012.
8. पूर्वोत्तर सीमान्त रेलवे, भालीगोच, युवाहाली - 781 011.
9. पश्चिम रेलवे, आर्चगेट, मुम्बई - 400 020.
10. पूर्व मध्य रेलवे, हाजीपुर - 844 101.
11. पूर्व तटीय रेलवे, बीडीए रेंटल कालोनी, रेलवे काम्पलेक्स, चन्द्रशेखरपुरा, भुवनेश्वर, उड़ीसा - 751 016.
12. उत्तर मध्य रेलवे, हास्टिंग रोड, इलाहाबाद - 211 001.
13. उत्तर पश्चिम रेलवे, जयपुर - 302 006.
14. दक्षिण पश्चिम रेलवे, हुबली - 580 023.
15. पश्चिम मध्य रेलवे, जबलपुर - 482 001.
16. दक्षिण पूर्व मध्य रेलवे, आर ई आफिस काम्पलेक्स, विलासपुर - 495 004.
17. कोंकण रेलवे कारपोरेशन लि. कारपोरेट आफिस वेलापुर भवन रांची मुंबई - 400 614

Sub: Checking of crack in shank of FTIL make AAR 'H' type Centre Buffer Coupler of main line coaches

Ref: This office letter of even no. dated 01.7.2011, 5.7.2011 & 16.8.2011

Vide letter quoted under reference, reports of Eastern Railway regarding cases of surface cracks confirmed by dye penetrant testing in CBC of M/s FTIL make during scheduled maintenance were intimated to all Railways. The cracks were found near pin on the shank which provides back support to UIC linkage.

The Railways were advised to get M/s FTIL make Centre Buffer Couplers examined for cracks on its shank at the first possible opportunity during maintenance and inform RDSO regarding the details of the nature and sizes of the cracks observed, if any (photographs be enclosed for better appreciation). They were also advised to get the required rectification done with the help of the firm as the firm had agreed to provide support. No details have been received from any Railway (other than Eastern Railway and North Western Railway) till date.

Centre Buffer Couplers are an extremely critical safety item of coach with an important bearing on the safety of passengers during normal train running and also during accident situation. Cracks in this item may be detrimental to safety in train operations. In this context, the Railways are once again requested to urgently send the above mentioned information for facilitating an assessment of the magnitude and severity of the problem and initiation of remedial measures required. Information may please be sent by mail at email address- dircarrcdc@gmail.com.

(अनूपम कुमार दीक्षित) 30/09/11
कृते महानिदेशक/सवारी डिव्वा

9/c