

NORTH CENTRAL RAILWAY

Head quarter's office,  
Engineering Department,  
Allahabad.

No. 355-W/One Time Movement/ Rail Borne Maintenance Vehicle NCR/Bridge, Dt 15.01.13


CPTM

**Sub:-One time movement of Rail Borne Maintenance Vehicle (RBMV) manufactured by M/s Phooltas Harsco Rail Solutions Pvt. Ltd, Patna having maximum axle load of 18.25t over PWL-AGC section of North Central Railway at a maximum speed of 65 kmph when running on its own power as well as when running in train formation as a dead vehicle.**


Based on RDSO provisional speed certificate No. TM/HM/11/31/RBMV, dated 18.12.2012, the competent authority (PCE, CME & CEE) has permitted One time movement of Rail Borne Maintenance Vehicle (RBMV) manufactured by M/s Phooltas Harsco Rail Solutions Pvt. Ltd, Patna having maximum axle load of 18.25t over PWL-AGC section of North Central Railway at a maximum speed of 65 kmph when running on its own power as well as when running in train formation as a dead vehicle. Copy of Certificate for One Time Movement, Track and Bridge certificate enclosed.

This is for information, necessary action and to circulate concerning deptt please.

DA: As above

  
15.01.13  
(Sachin Verma)  
Dy CE/Bridge/HQ

Copy to: CE/TMC for kind information and n/a please.

  
S.S. Verma


covering letter

**NORTH CENTRAL RAILWAY  
CERTIFICATE FOR ONE TIME MOVEMENT  
(No 05/Rail Borne Maintenance Vehicle/NCR/2013)**

Based on RDSO speed Certificate no. TM/HM/11/31/RBMV, dated 18.12.2012, **certified that Rail Borne Maintenance Vehicle RBMV** manufactured by M/s Phooltas Harsco Rail Solutions Pvt. Ltd. Patna, as per Drawing no. RBMV 01-00 01.00 Rev. 03 having maximum axle load of 18.25t **is safe for ONE TIME MOVEMENT over PWL-AGC section of North Central Railway at a maximum speed of 65 kmph when running on its own power as well as when running in train formation as a dead vehicle as mentioned in track certificate, subject to the following conditions:**

- (i) Observance of all permanent and temporary speed restrictions already in force/~~or those that may be imposed from time to time on various accounts.~~
- (ii) Observance of all conditions as stipulated in the RDSO speed certificate No. TM/HM/11/31/RBMV, dated 18.12.2012 along with concomitant Track and Bridge certificate.
- (iii) The profile of Rail Borne Maintenance Vehicle Model RBMV.01 does not infringe to IRSOD (BG), revised 2004.
- (iv) When the vehicle is being moved either on its own power or hauled in a train formation as a dead vehicle. It shall be ensured that all the protruding parts are withdrawn and suitably locked.

  
(S.K.Ahmed) 12/1/13  
Chief Mechanical Engineer

  
(A.K.Rawal) 11/1/13  
Chief Electrical Engineer

  
(Satish Kumar) 19/1/13  
Principal Chief Engineer

**NORTH CENTRAL RAILWAY  
BRIDGE ENGINEER'S CERTIFICATE**

Based on RDSO's speed certificate No. TM/HM/11/31/RBMV, dated 18.12.2012, certified that bridges on the sections given below are having minimum strength of super structure as indicated against the sections as per revised Bridge Rules -1964 and are safe for One time movement of Rail Borne Maintenance Vehicle (RBMV) having axle load of 18.25t when running on its own power as well as when running in train formation as a dead vehicle, up to the maximum speed indicated against the sections, subject to all temporary & permanent speed restrictions already in force and those that may be imposed from time to time.

S. N.	Section		Line	KM		% Strength	Max. Speed
	From	To		From	To		
1.	Palwal	Agra Cantt.	UP	1479.40	1343..27	100% BGML	65 Kmph

Sub structure of all the bridges on the sections given above are in satisfactory condition and are safe for One time movement of Rail Borne Maintenance Vehicle (RBMV) having axle load of 18.25t when running on its own power as well as when running in train formation as a dead vehicle, up to the proposed speeds conforming to the provisions of revised IRS Bridge Sub structure and Foundation code.

This clearance is subject to the following parameters of RBMV –

1.	Maximum axle load	18.25t
2.	Maximum Bracking Force at Rail level per wheel	3.2115t
3.	Maximum Tractive Effort	13.788t
4.	Max. CG height from rail level	1263 mm.

In train formation, specific restrictions shall be applicable as indicated in relevant speed certificates of hauling locomotives issued by RDSO.

Countersigned

*B. Chowdhary*  
21/13

**(B.Chowdhary)  
Chief Bridge Engineer**

*Sachin Verma*  
08.01.13  
**(Sachin Verma)  
Dy.CE/Bridge/HQ**

**NORTH CENTRAL RAILWAY**  
**TRACK CERTIFICATE**

Certified that track on the following section of North Central Railway, the weakest portion of which as per details given under is to the required strength, which can safely permit for 'One time movement of Rail Borne Maintenance Vehicle (RVMB) manufactured by M/s Phooltas Harsco Rail Solutions Pvt. Ltd. Patna, having maximum axle load of 18.25t at a maximum speed of 65 Km/h when running on its own power as well as when running in train formation as a dead vehicle' up to maximum speed as indicated against each section as under, subject to observance of all temporary and permanent speed restrictions in force and/or imposed from time to time on various accounts. All conditions stipulated in RDSO's speed certificate no. TM/HM/11/31/RBMV dt. 18.12.2012 for tracks is fulfilled.

Line	Section		Kms		Rails		Sleepers		Ballast cushion (in mm) Total/Clean	Max. speed proposed (kmph)	Max. sectional speed existing in the section (kmph)	
	From	To	From	To	Type	% of wear or year of laying	Type	Year of laying				Density
UP	PWL	AGC	1479.40	1343.27	52Kg,90UTS	2003	PSC-5	84-85	M+8	250/100	65	150

Countersigned

*(Handwritten Signature)*

(S.N. Agrawal)  
CTE

(S.K. Srivastava)  
Dy.CE/TP



भारत सरकार - रेल मंत्रालय  
अनुसंधान अधिकल्प और मानक संगठन  
लखनऊ - 226 011  
EPBX (0522) 2451200  
Fax (0522) 2458500

Government of India-Ministry of Railways  
Research Designs & Standards Organisation  
Lucknow - 226 011  
DID (0522) 2460115  
DID (0522) 2465310



No. TM/HM/11/31/RBMV

Date: 18.12.2012

महा प्रबन्धक (इंजीनियरिंग),

1. मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुंबई- 400 001
2. पूर्व रेलवे, फेयरली प्लेस, कोलकाता- 700 001
3. उत्तर रेलवे, बडीदा हाऊस, नई दिल्ली- 1100 01
4. पूर्वोत्तर रेलवे, गोरखपुर- 237 012
5. पूर्वोत्तर फ्रिंटर रेलवे, मालीगॉव गुवाहाटी- 781 011
6. दक्षिण रेलवे, एनेक्सी, पार्क टाऊन, चेन्नई- 600 003
7. दक्षिण मध्य रेलवे, रेल निलायम, सिकन्दराबाद- 500 071
8. दक्षिण पूर्व रेलवे, गार्डनरीच, कोलकाता- 700 043
9. पश्चिम रेलवे, चर्चगेट, मुंबई- 400020
10. उत्तर मध्य रेलवे, इलाहाबाद- 211 001
11. उत्तर पश्चिम रेलवे, जयपुर- 302 006
12. पूर्व मध्य रेलवे, छाजीपुर- 844 101
13. पूर्व तटीय रेलवे, बी.डी.ए. रेन्टल कालोनी, चन्द्रशेखरपुर, भुवनेश्वर- 751 023
14. दक्षिण पश्चिम रेलवे, हुबली- 580 023
15. पश्चिम मध्य रेलवे, जबलपुर- 482 001
16. दक्षिण पूर्व मध्य रेलवे, आर. ई. आफिस काम्प्लेक्स, बिलासपुर- 495 004

Sub: Provisional speed certificate for Rail Borne Maintenance Vehicle (RBMV) Model RBMV.01 manufactured by M/s Phooltas Harsco Rail Solutions Pvt. Ltd. Patna upto a maximum speed of 65 kmph when running on its own power as well as when running in train formation as a dead vehicle.

- 1.0 Broad Gauge Rail Borne Maintenance Vehicle Model RBMV.01 manufactured by M/s Phooltas Harsco Rail Solutions Pvt. Ltd. Patna against Railway Board contract No. 2009/Track III/MC/7 dt. 01.09.2010 is a self propelled vehicle as per their Drg. No. RBMV01-00 01.00 Rev.03. The vehicle is used for carrying permanent way materials and small track machines/tools to site of work for maintenance of permanent way.
- 1.1 Bogie general arrangement of the vehicle is used as per ICF Drg. No DHMU/DPC-0-0-001. The maximum axle load and wheel diameter of vehicle are 18.25t and 952mm respectively and fitted with air brake system. Nucars Dynamic Simulation results are found satisfactory upto speed of 70 kmph. The design speed of machine is 105 kmph when running on its own power as well

as when running in train formation as a dead vehicle. The tare and gross weight of RBMV are 58t and 73t respectively.

2.0 Based on design features and satisfactory dynamic simulation results of the vehicle supplied by M/s Phooltas Harsco Rail Solutions Pvt. Ltd. Patna, it is certified that Rail Borne Maintenance Vehicle may be provisionally permitted to run at maximum speed of 65 kmph when running on its own power as well as when running in train formation as a dead vehicle, subject to the following conditions.

2.1 **TRACK:**

2.1.1 The track shall be to a minimum standard of 52kg rails on sleepers laid to M+7 density and 250mm depth of ballast cushion below sleepers, which may consist of at least 100mm clean and the rest in caked up condition, on compacted and stable formation.

2.1.2 For track maintained to lower standard than that mentioned above, the Chief Engineer shall decide the lower maximum permissible speed on the basis of maintenance condition. In this connection, Railway Board's letter No.65/WDO/SR/26 dt.19/20.10.66 may be seen. When the Chief Engineer considers that the road bed is not compacted or there is improper drainage, he shall suitably restrict the maximum permissible speed depending on the local conditions.

2.1.3 The maximum permissible speed on curves shall be decided on the basis of existing provisions of the Indian Railways Permanent Way Manual second reprint -2004.

2.1.4 Joggled fish plating of welds shall be done as per provisions of para 6.4 and para 6.6 of USFD Manual and para-6.3 of AT Welding Manual and policy instructions of Railway Board. Fish plating of rail shall also be ensured as per para 251 of IRPWM-2004 regarding maintenance of rail joints.

2.1.5 Railway shall ensure further detailed examination of track as deemed fit based on age cum condition basis, overdue renewal and condition of formation etc. as per provisions of Chapter-III of IRPWM-2004 regarding permanent way renewals.

2.2 **BRIDGES:**

2.2.1 The clearance refers to bridges with standard design of girders, slabs, pipe culverts, piers and abutments etc. Issued by RDSO for BOML, RBG and MBG-1987 standard loadings.

2.2.2 Superstructures and bearings of non standard spans including Arches and Sub-Structures of all bridges shall be examined under the directions of the Chief Bridge Engineer concerned and certified safe with respect to current Indian Railway standard codes with up-to-date correction slips.

2.2.3 The above clauses have been arrived considering bridges are in physically sound condition. Zonal Railways shall certify the adequacy of bridges for permitting rolling stock based on physical condition of bridges.

2.2.4 Location of bridges on which speed restrictions have been imposed shall be notified by the Railways and incorporated in the working timetable.

2.2.5 The clearance is subject to the following parameters of RBMV -

i)	Maximum axle load	: 18.25t
ii)	Maximum braking force at rail level per wheel	: 3.2115t
iii)	Maximum tractive effort	: 13.788t
iv)	Maximum C.G. height from rail level	: 1263mm

2.2.6 In train formation, specific restrictions shall be applicable as indicated in relevant speed certificates of hauling locomotives issued by RDSO.

### 2.3 SIGNALLING:

2.3.1 Provisions of GR, SR, SEM and all extant instructions issued from time to time, shall be complied with.

2.3.2 While running through a station, speed of the train shall be restricted to the maximum permissible speed as per standard of interlocking provided at the station.

2.3.3 The speed of vehicle while running through the station shall be decided by the Zonal Railways depending upon type of Track relay used, type of route release circuit adopted, length of First Vehicle Track circuit provided ahead of last stop signal and standard of interlocking existing at the station.

### 2.4 ROLLING STOCK:

2.4.1 Before operation of the vehicle, Chief Engineer/Track Machine of the concerned Railways shall certify the track worthiness and safety of rolling stock. He shall also ensure the proper maintenance of the rolling stock.

### 2.5 GENERAL:

2.5.1 Maximum speed on Points and Crossing shall be as per item (6) of para 1227 of Indian Railways Permanent Way Manual second reprint-2004.

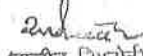
✓ 2.5.2 The profile of Rail Borne Maintenance Vehicle Model RBMV.01 does not infringe to IRSOD (BG), revised 2004.

2.5.3 All the permanent and temporary speed restrictions in force and those that may be imposed from time to time due to track, bridges, curves, signalling and interlocking etc. shall also be observed.

2.5.4 When the vehicle is being moved either on its own power or hauled in a train formation as a dead vehicle, it shall be ensured that all the protruding parts are withdrawn and suitably locked.

2.5.5 This provisional speed certificate for operation of Rail Borne Maintenance Vehicle Model RBMV.01 shall remain valid upto 5 years from date of issue or before date of issuance of relevant final speed certificate, whichever is earlier.

संलग्नक: Drg. No. RBMV 01 -00 01.00 Rev. 03

  
(राजीव विश्नोई)

वरिष्ठ कार्यकारी निदेशक मानक/चालन शक्ति

प्रतिलिपि:

1. सचिव (यांत्रिक/इंजीनियरिंग(जी.)), रेलवे बोर्ड, रेल भवन, नई दिल्ली-110 001
2. मुख्य रेल संस्था आयुक्त, अशोक मार्ग लखनऊ-226001

3. महा प्रबन्धक (यांत्रिक/परिचालन/संकेत एवं दूर संचार )

- i) मध्य रेलवे, छत्रपति शिवाजी टर्मिनस, मुम्बई- 400 001
- ii) पूर्व रेलवे, फेयरलीप्लेस, कोलकाता- 700 001
- iii) उत्तर रेलवे, बडौदा हाऊस, नई दिल्ली- 1100 01
- iv) पूर्वोत्तर रेलवे, मोरखपुर- 237 012
- v) पूर्वोत्तर फन्टियर रेलवे, मालीगाँव गुवाहाटी- 781 011
- vi) दक्षिण रेलवे, एनेक्सी, पार्कटाऊन, चेन्नई- 600 003
- vii) दक्षिण मध्य रेलवे, रेलनिलायम, सिकन्दराबाद- 500 071
- viii) दक्षिण पूर्व रेलवे, गार्डनरीच, कोलकाता- 700 049
- ix) पश्चिम रेलवे, चर्चगेट, मुम्बई- 400020
- x) उत्तर मध्य रेलवे, इलाहाबाद- 211 001
- xi) उत्तर पश्चिम रेलवे, जयपुर- 302 006
- xii) पूर्व मध्य रेलवे, हाजीपुर- 844 101
- xiii) पूर्व तटीय रेलवे, बी.डी.ए. रेन्टन कालोनी, चन्द्रशेखरपुर, भुवनेश्वर- 751 023
- xiv) दक्षिण पश्चिम रेलवे, हुबली- 580 023
- xv) पश्चिम मध्य रेलवे, जबलपुर- 482 001
- xvi) दक्षिण पूर्व मध्य रेलवे, आर. ई. आफिस काम्प्लेक्स, विलासपुर-495 001

संलग्नक: Drg. No. RBMV 01 -00 01.00 Rev. 03

  
(राजीव विश्नोई)

वरिष्ठ कार्यकारी निदेशक मानक/चालन शक्ति



