

Sl.No	Question ID	Question Type	Question Label	Parent Question ID	Options	Correct Option(s) Answer	Action	Maximum Marks	Negative Marks	Question Page No.
1	1	MCQ	1	1	4	D	CORRECT OPTION	1	1/3	1
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110	110	MCQ	110	110	4	C	CORRECT OPTION	1	1/3	18



भारत सरकार - रेल मंत्रालय  
अनुसंधान अभिकल्प 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) 2450115  
DID (0522) 2465310



by fax also

2291

No.MC/APB/BMBC

Dated: 12.04.2012

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मुख्य यांत्रिक अभियंता

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.

3/4  
Fax no - 022-21697221  
Fax no - 033-22305641  
Fax no - 011-23387656

Sub: Brake Binding in GS & SLR coaches fitted with Bogie Mounted Brake Cylinder (BMBC)  
Ref.: This office letter of even number dated 31.10.2011 and followed by reminders dated 07.12.2011, 10.02.2012 & 21.03.2012.

Some Railways have reported the problem of brake binding in unreserved coaches such as GS and SLR fitted with bogie mounted brake system. The problem was studied and observations are as under:

- i. Bogie mounted brake cylinders are capable of 'paying out' but 'paying in' is not possible due to single acting slack adjuster arrangement of BMBC.
- ii. Due to overloading in GS and SLR coaches, brake blocks along with entire brake rigging moves down from center to lower location and gap between brake block and wheel increases. When the coach is unloaded, brake blocks moves up and then the gap between brake blocks and wheels get reduces.
- iii. It is learnt that some railways are increasing piston stroke of existing brake cylinders (which are designed for 32 mm piston stroke) to limit the problem of brake binding.
- iv. Brake Cylinders are designed in such a manner that if due to wear or otherwise gap between brake blocks and wheels increases, the brake cylinders pays out by 0.35 mm in each stroke if stroke is more than 32 mm. So if stroke is increased from 32 mm, then after subsequent brake applications it will again attain a stroke of 32 mm after repeated brake application. This require piston stroke to be adjusted either in every trip or after few trips.

Vide above referred letter, it was advised to conduct trial with Brake Cylinders having 40 mm working piston stroke (Drawing no.SK-81057 Alt. 9 item 2) which are being used in EMU and DEMU coaches.

WR has conducted trial with increasing piston stroke of existing 32 mm working stroke brake cylinder to 38 mm and 40 mm working piston stroke brake cylinder as suggested by RDSO. As per trial report of WR, the piston stroke of 32 mm brake cylinder get reduced to 23 mm after 4-5 trips while piston stroke of 40 mm brake cylinder does not get reduced below 28 mm even after 8-9 trips.

It is suggested that trials as per trial scheme no RDSO/2011/CG/TS-20 is done and feedback should be given as per proforma given in trial scheme. This would enable to standardize BMBC with 40 mm working stroke for unreserved coaches such as GS and SLR.

DA: As above.

12/04/2012  
( सी. के. अग्रवाल )  
कार्यकारी निदेशक/सवारी डिब्बा

36341

**SHORTER WHEEL BASE** 2560 mm– FOR BETTER CURVE NEGOTIATION WITHOUT WHEEL SKIDDING

**FLEXICOIL SOFTER SECONDARY SUSPENSION** :- FOR BETTER RIDE QUALITY IN VERTICAL & LATERAL DIRECTION

**CARTRIDGE TAPER ROLLER BEARING** :- FOR BETTER LIFE CYCLE AGAINST AXIAL LOADS & EASE OF FITMENT

**ANTI ROLL BAR** – TO CONTROL ROLL FREQUENCY & DISPLACEMENT

**DISC BRAKE ARRGT.** – FOR SHORTER EMERGENCY STOPPING DISTANCE

**YAW DAMPER** – TO SUPPRESS HUNTING FORCES

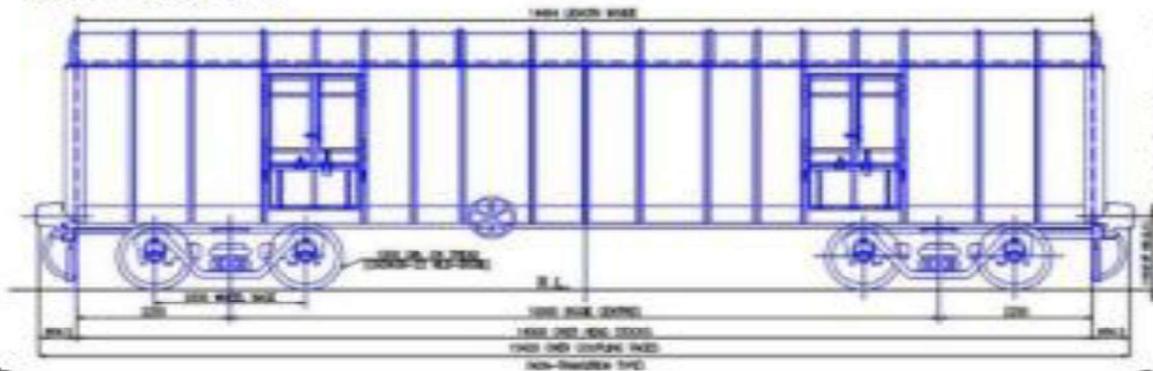
**LATERAL & LONGITUDINAL BUMP STOP, CURVE ROLL** - TO CONTROL COACH MOVEMENT WITH RESPECT TO BOGIE.

**BOGIE BODY CONNECTION** – FOR ISOLATION OF NOISE AND VIBRATIONS AND NON DETACHMENT OF SHELL – BOGIE DURING DERAILMENT.



## BCN COVERED WAGON

This bogie covered wagon designed at 20.32t axle load in 1984. The construction of wagon was purely riveted. The wagon was designed for transportation of bag commodities.



## STANDARD FEATURES OF 'BCN' COVERD WAGON

S.No	PARTICULARS	Parameter
1.	Length over head stock (mm)	14500
2.	Length over couplers (mm)	15429
3.	Width inside / Width Overall (mm)	2944 / 3100
4.	Height inside / Height (max.) from RL.	2446 / 3788
5.	Bogie centers (mm)	10000
6.	Cubic Capacity (Cu.M)	104.00
7.	Axle load (tonne)	20.32
8.	Tare Weight (tonne)	27.20
9.	Pay load (tonne)	54.08
10.	Gross load (Pay+Tare) (tonne)	81.28

## Cast steel Bogie type LCCF 20(C)

- BLC wagons are mounted on two nos. of cast steel bogies **similar to CASNUB bogies.**
- Salient features -
  - Axle load** – 20.32 t
  - Wheel dia.** – 840(new)/780 mm (worn)
  - Wheel base** – 2000 mm
  - Type of roller bearing** – CTRB
  - Distance bet. Journal centers-** 2260 mm
  - Distance bet. Side bearers** – 1750 mm
  - Side bearers** – Spring loaded side bearers