

Ref: - mc/Emu/mainline
dt. 2/5/94

2

Ref: 133/221 RDSO IN
133/221/259972

भारत सरकार - रेल मंत्रालय
Railways - RAILMANAK LUCKNOW



द्वि. फोन: 50567 & 50017
Telephones

भारत सरकार - रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन

Government of India - Ministry of Railways
RESEARCH, DESIGNS & STANDARDS ORGANISATION

वि. संख्या /
Ref. No. MC/EMU/Mainline

लखनऊ-226 011
LUCKNOW-226 011

दिनांक
Date 24-6-94

The General Manager (Engg.),

1. Central Railway, Bombay VT-400001.
2. Eastern Railway, Fairlie Place, Calcutta-700001.
3. Northern Railway, Baroda House, New Delhi-110001.
4. Southern Railway, Park Town, Madras-600003.
5. South Eastern Railway, Garden Reach Calcutta-700043.
6. S.C. Railway, Rail Nilayam, Secunderabad-500371.
7. Western Railway, Churchgate, Bombay-400020.

Sub: Speed certificate for operation of 3250mm (10'-8") wide a.c. EMU(BG) stock fitted with all coil ICF bogies upto a max. speed of 100 kmph.

The BG 3250mm (10'-8") wide ac EMU stock designed by RDSO as per directive of Railway Board has been manufactured by ICF. This EMU stock is intended to replace the slow moving loco hauled passenger trains on saturated sections of main line routes so as to improve the overall line capacity. These coaches are very similar to the existing 12 feet wide a.c. EMU coaches. The unit consists of one driving motor coach as per ICF drawing No. MEMU/DMC-9-0-001 and 3 trailer coaches as per ICF drawing No. MEMU/TC-9-0-001. The motor and trailer coaches are fitted with all coil bogies similar to the bogies fitted on existing 12' wide EMU stock. However, the suspensions have been designed to cater for ~~General~~ ~~orish~~ ~~loading~~ thus providing a maximum passenger capacity of ~~324~~ and ~~243~~ for trailer and motor coaches respectively. The max. axle load of motor and trailer coaches are ~~13.5T~~ and ~~13.5T~~ respectively. The coaches are provided with schaku couplers and Electro Pneumatic brake system as in the case of existing 12' wide EMU stock. The coaches have been provided with foot steps for boarding by passengers and also vestibule arrangement to enable intercoach movement.

2. In order to assess the speed potential of this stock detailed oscillation trials have been conducted on up line No. 2 of Khana-Maria section of Eastern Railway upto a maximum test speed of 110 kmph and the results are contained in DSO's note No. RM2/C/2 dated 20.6.94.

Based on the results of these trials it is certified that BG 3250mm (10'-8") wide ac EMU stock fitted with ICF all

coal bogies may be permitted to run at a maximum speed of 100kmph on mainline routes subject to the following conditions:

2.1 Track

2.1.1 The track shall be to a minimum standard of 80 R rails on sleepers to M+4 density and depth of ballast cushion below sleepers of 200 mm which may consist of atleast 75 mm clean and the rest in caked up condition, on compacted and stable formation.

2.1.2 For track of lower standard than that mentioned above the Chief Engineer concerned shall decide the lower maximum permissible speed. In this connection Railway Board's letter No. 65/WDO/SR/26 dated. 19/20.10.1966 may be seen. When the Chief Engineer considers that the road bed is not compacted or there is improper drainage, he may 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 the existing provisions of the Indian Railways Permanent Way Manual 1966.

2.2 Bridges

2.2.1 Bridges shall be to MBG loading-1987. RBG or BGML standard drawings.

2.2.2 For bridges of lower standard than that mentioned above, the Chief Engineer concerned shall be referred to.

2.2.3 The clearance with reference to bridges refers to standard design of girders, slabs, pipe culverts etc. issued by RDSO but not to:

- i) non standard designs
- ii) piers, abutments and foundations
- iii) bridges on curves etc.

which are to be examined under the direction of the Chief Engineer concerned and certified by him in terms of current IRS Bridge Rules, Steel Bridge Code, Bridge Sub-structures and Foundation Code etc. read with upto date correction slips.

2.3 General

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

2.3.2 The trailer coaches have been constructed within EDO 590 profile which is approved for standard BG coaching stock.

However, the profile of motor coach as shown in RDSO Sketch 94014 with the pantograph in locked down condition though generally within EDO-590, infringes the following clauses of the Schedule of dimensions - 1973 reprint:

- i) Clause 31 of Chapter-IV(A) in respect of central height and width of projection (900 + 5mm)
- ii) Clause 19(b) of Chapter-IV(A) in respect of length of coach.

These infringements have been condoned by Railway Board vide their letter No.94/CEDO/SR/10 dated 24.5.94.

M. Sinha

(N.C. SINHA)
Director Standards (Motive Power)

DA Drawing No. MEMU/DMC-9-0-001
MEMU/TC-9-0-001 & SK.94014.

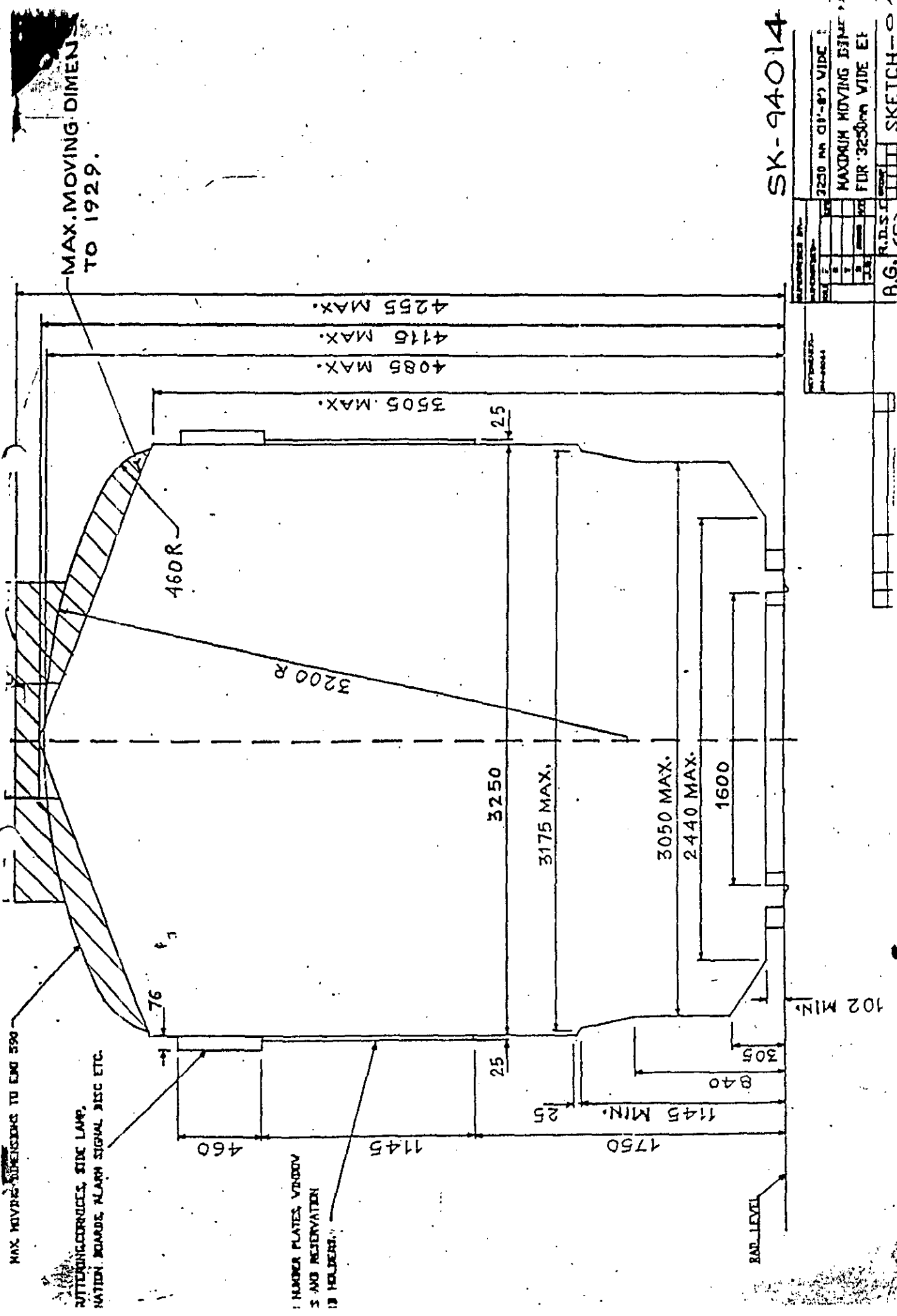
Copy to:

Secretary (Mech/Elect/Engg), Railway Board, Rail Bhavan, New Delhi.

(N.C. SINHA)
Director Standards (Motive Power)

Copy to P.P.S. / 21. 11/1

HISC/EMUSPDCE



MAX. MOVING DIMEN TO 1929.

MAX MOVING DIMENSIONS TO END 590
 DUTTERING CORRIDORS, SIDE LAMP,
 NATIONAL BOARDS, ALARM SIGNAL DISC ETC.

HANGER PLATES, WINDOW
 S AND RESERVATION
 IS HOLDERS

REF. LEVEL

SK-94014

PROPOSED BY	
DATE	
SCALE	
REVISIONS	
NO.	
DATE	
BY	
CHECKED BY	
DATE	
APPROVED BY	
DATE	
A.G. 2001	

3250 MAX. 01'-8 1/2" WIDE
 MAXIMUM MOVING DIMENSIONS
 FOR 3250mm WIDE ET

SKETCH-01