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भारत सरकार - रेल मंत्रालय  
अनुसंधान अभिकल्प और मानक संगठन

लखनऊ - 226011

Government of India-Ministry of Railways  
Research Designs & Standards Organisation  
LUCKNOW - 226011

No.MC/TW

Dated: १. ४. 99

**The General Manager (Engg.),**

1. South Central Railway, Rail Nilayam, Secunderabad-500371.
2. Eastern Railway, Fairlie Place, Calcutta - 700 001.
3. South Eastern Railway, Garden Reach, Calcutta - 700 043.
4. Central Railway, Mumbai - 400 001.
5. Western Railway, Churchgate, Mumbai - 400020.
6. Northern Railway, Baroda House, New Delhi - 110001.
7. Southern Railway, Park Town, Chennai - 600003.

Sub.: Final maximum permissible Speed Certificate for operation of BG 4-wheeler over head equipment inspection car manufactured by M/s. Ventra Locomotive Co. Ltd., Hyderabad..

1. Railway Board vide their contract No.RE(S)/11/95/0003/7/30492 dated 6.9.95 have placed orders on M/S.Ventra Locomotive Co.Ltd., Hyderabad, for manufacture of 5 Nos. of self propelled 4-wheeler BG OHE inspection cars. The OHE car to drawing No.GAM-0110 Alt.4 (Sheet-1&2) is completely designed and manufactured by M/S.Ventra Locomotives Co.Ltd., Hyderabad, for an operational speed of 75 km/h. The maximum axle load under gross load condition is 16t.
  - 1.1 The OHE car is a self propelled vehicle and has a single stage primary coil suspension with spherical roller bearings. It is fitted with screw coupling and side buffers at head stocks and has been provided with air brake system.
  2. In order to assess the speed potential of the OHE car, detailed oscillation trials were conducted upto a maximum test speed of 85 km/h on Secunderabad-Wadi section of South Central Railway, the results of which are contained in RDSO's Report No. MT-172 of March, 1999. The results have indicated satisfactory riding of the OHE car upto the maximum test speed of 85 km/h on straight track and station yard and upto 75 km/h on 1.91 degree curved track.
  3. Based on the above results, it is certified that B.G. 4-wheeler OHE inspection car manufactured by M/s. Ventra Locomotive Co. Ltd., Hyderabad to their drawing No. GAM-0110 alt. 4 (Sheet 1&2) may be permitted to run at maximum speed of 65 km/h subject to the following conditions:

### 3.1 Track

- 3.1.1 The track shall be to a minimum standard of 90R rails on sleepers to M+4 density and depth of ballast cushion below sleepers of 200mm, which may consist of at least 75mm clean ballast and the rest in caked up condition, on compacted and stable formation.
- 3.1.2 For track of lower standard than that mentioned above the Chief Engineer concerned shall decide the maximum permissible speed in terms of Railway Board's letter No.65/WDO/SR/26 dated 19/20-10-1966. 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.
- 3.1.3 The maximum permissible speed on curves shall be decided on the basis of the existing provisions of the Indian Railways Permanent Way Manual, 1986.

### 3.2 Bridges

- 3.2.1 The clearance in regard to bridges refers to standard design of girders, slabs, pipe, culverts, pier and abutments etc. issued by RDSO for BGML, RBG & MBG - 1987 standard loadings.
- 3.2.2 All other designs of superstructures and sub-structures are to be examined under the directions of the Chief Engineer concerned and certified safe by him in terms of current IRS Bridge Rules, Steel Bridge Code, Bridge Sub-structure and Foundation Code etc. read with up-to-date correction slips.
- 3.2.3 The clearance is subject to the following parameters:-

Max. axle load	=	16.0 t
Max. tractive efforts	=	6.6 t (for one driving axle only)
Max. braking force	=	5.963 t

### 3.3 Signaling

- 3.3.1 The speed of inspection car while running through a station will be decided by Zonal Railway depending upon type of route release circuit adopted, length of FVT track circuit provided ahead of last stop signal and standard of interlocking existing at a station.

### 4. General

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

- 4.2 The pantograph shall be in locked down condition and the lifting-cum-swiveling platform held in collapsed condition as shown in Drawing No.GAM-0110 Alt.4 (Sheet 1&2).
- 4.3 The design of OHE Inspection Car infringes Clauses 31 & 32 of Chapter IV(A) of BG Schedule of Dimensions 1929 (reprint 1973). These infringements have been condoned by Railway Board vide letter No.98/CEDO/SR/3 dated 7.4.98. The profile of the OHE car falls within the double decker coach profile to RDSO Sk.72227 and will attract all restrictions imposed on the movement of the double decker coaches vide Railway Board's letter No.72/WDO/SR/31 dated 22.2.1974.
- 4.4 The OHE inspection car is provided with straight air brake system. It will operate as single unit only. However, provision has been made for towing of OHE inspection car by another self propelled vehicle. Before towing, the cardan shaft shall be disconnected from the axle drive gear box end.

DA.: 1.Drg.No.GAM.0110 Alt.4 (Sheet 1&2),  
2.Copy of Railway Board's letter  
No.98/CEDO/SR/3 dated 7.4.98.

(A.K. SANWALKA)  
EXE. DIRECTOR STANDARDS (MOTIVE POWER)

Copy to :

1. The General Manager(Mech./Optg./Elect.),
  - i) South-Central Railway, Rail Nilayam, Secunderabad – 500 371.
  - ii) Eastern Railway, Fairlie Place, Calcutta – 700 001.
  - iii) South Eastern Railway, Garden Reach, Calcutta – 700 043.
  - iv) Central Railway, Mumbai – 400 001.
  - v) Western Railway, Churchgate, Mumbai – 400020
  - vi) Northern Railway, Baroda House, New Delhi – 110001
  - vii) Southern Railway, Park Town, Chennai – 600003.
2. Secretary(Electrical), Railway Board, Rail Bhawan, New Delhi-110 001.
3. The Director(Operation), Ventra Locomotive Co.Ltd., Post Box No.26, 8-2-608/12, Road No.10, Banjara Hills, Hyderabad-34.

  
(A.K. SANWALKA)  
EXE. DIRECTOR STANDARDS (MOTIVE POWER)