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मानक लखनऊ

'RAILMANAK', Lucknow

Telephone: 50567 & 50017



भारत गणराज्य

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/EMU/SPD/BG

Dated : 11/12/97

The General Manger (Engg),

1. Central Railway, Bombay CST-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.
8. North-Eastern Railway, Gorakhpur.
9. North-Frontier Railway, Maligaon, Guwahati.

Sub.: Speed Certificate for operation of BG Diesel Hydraulic Multiple Unit manufactured by ICF/Madras with all coil ICF bogies upto a max. speed of 95 km/h.

1.0 The first prototype of Diesel Hydraulic Multiple Unit (DHMU) has been manufactured by ICF. The DHMU, consists of one Driving Power Car (DPC), one Trailer Car (TC) and one Driving Trailer Car (DTC) and can be run in multiple units of 3, 6 or 9 as per traffic demand in the section. It has been manufactured as per the following layouts :-

a) Power Car (DHMU/DPC)	:	DMU/DPC3-9-0-301
b) Trailer Car (TC)	:	DMU/TC-9-0-201
c) Driving Trailer Car (DTC)	:	DMU/DTC-9-0-201

The gross weight of DHMU/Power Car is 68.65t and the axle capacity is 20t. The general features like bogie centres, and bogie wheel base are similar to existing BG EMU motor coach bogies with 20t axle load design. The TC and DTC are fitted with 16t ICF bogies as used for mainline coaching stock. The coaches are provided with twin pipe graduated release air brake system and Schaku couplers. The Power car is fitted with spring loaded parking brakes.

2.0 In order to assess the speed potential of the Diesel Hydraulic Multiple Unit, detailed oscillation trials have been conducted on Madras - Renigunta section of Southern Railway upto a maximum test speed of 110 km/h and the results are contained in RDSO Report.No. MT 62.

Based on the results of these trials it is certified that BG Diesel Hydraulic Multiple Unit fitted with ICF all bogies may be permitted to run at a maximum speed of 95 km/h on mainline routes subject to the following conditions:-

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## 2.1 Track

2.1.1 The track shall be to a minimum standard of 90R rails on sleeper to M+4 density and depth of ballast cushion below sleepers of 200 mm, which may consist of at least 75mm clean ballast 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 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.

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 1986.

## 2.2 Bridges

2.2.1 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.

2.2.2 All other designs and designs of foundations are to be examined under the directions of the Chief Engineer concerned and certified 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.

## 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 profile of the Driving trailer car infringes clause 19(b) and the profile of power car infringes clause 19(b) and 31 of Chapter IV(A) and profile of maximum moving dimensions and others of BG schedule of dimensions (1973) as per RDSO Drg. No. SK-94014, ICF/SK-9-0-093, DMU/DFD3-9-0-301 Alt(d) and DMU/DTC-9-0-201 Alt(d). These infringements have been condoned by Railway Board vide their letter No.96/CEDO/SR/16 dt.9/7/96.

P. Bhattacharya

(P. BHATTACHARYA)

Executive Director Standards (Motive Power)

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- DA : 1) Drg.No.DMU/DPC3-9-0-301  
2) Drg.No.DMU/TC-9-0-201  
3) Drg.No.DMU/DTC-9-0-201

Copy to :

1. The General Manager (Mech/Optg.),  
i. Central Railway, Bombay CST-400001.  
ii. Eastern Railway, Fairlie Place, Calcutta-700001.  
iii. Northern Railway, Baroda House, New Delhi - 110001.  
iv. Southern Railway, Park Town, Madras - 600003  
v. South-Eastern Railway, Garden Reach, Calcutta-700043.  
vi. S.C.Railway, Rail Nilayam, Secunderabad - 500371.  
vii. Western Railway, Churchgate, Bombay-400020.  
viii. North-Eastern Railway, Gorakhpur.  
ix. North-Frontier Railway, Maligaon, Guwahati.
2. Secretary (Mechanical), Railway Board, Rail Bhawan, New Delhi
3. The General Manager (Mech.), Integral Coach Factory, Madras - 600 038.

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