

## CENTRAL MOTOR VEHICLES (2ND AMENDMENT) RULES, 2009.

26 150@. (W/VR3) 50% (ot) 95% EFAqaiZ5 (0-0) (Ot) 400@. (frJtri/QT) /QJT) ( 100/0 &3TR) VJT/VJT) 31R) æio. (nur f?qar THE GAZETTE OF INDIA : EXTRAORDINARY 115ZF (7) 2-d) 52 833 245 345 55 2.5 3.0 54 837 350 370 3.5 6.0 300 0.2 0.01 0.05 0.02 0.025 [PART 5165 3675 3405 22719 3104 391 5453 2160 10370 6245 12937 974 12205 3fifizrq, 590(31), 2 qq, 1989 3iR qrm.fi. 37(31), 20 GFÄü, 2009 I MINISTRY OF SHIPPING, ROAD TRANSPORT AND HIGHWAYS (Department of Road Transport and Highways) NOTIFICATION New Delhi, the 9th February, 2009 G.S.R. 84(E).— Whereas the draft of the Central Motor Vehicles Rules, 1989, were published vide number G.S.R. 522 (E) , dated the 15th July, 2008, as required by sub- section (1) of section 212 of the Motor Vehicle Act, 1988 (59 of 1988) , for inviting objections and suggestions from all persons likely to be affected thereby before expiry of the period of sixty days from the date on which copies of the Gazette of India in which the said notification was published, were made available to the public; qTT11—utrg3 i ] And whereas copies of the said Gazette notification were made available to the public on the 21st July 2008; And whereas , the objections and suggestions received from the public on the said draft rules have been considered by the Central Government; Now, therefore, in exercise of the powers conferred by section 110 of the said Motor Vehicle Act, the Central Government hereby makes the following rules further to amend the Central Motor Vehicles Rules, 1989, namely:- 1. (1) These rules may be called the Central Motor Vehicles (Second Amendment) Rules, 2009. (2) Save as otherwise specifically provided, they shall come into force the date of their publication in the Official Gazette

**2. In the Central Motor Vehicles Rules, 1989 (hereinafter referred to as the said rules), in rule 115, -**  
**(a) in sub-rule (2), in clause (i), after the third proviso, the following proviso shall be inserted, namely:- "Provided that in the case of CNG/ LPG motor vehicles operating on Bi-fuel mode, the test shall be conducted only on CNG/LPG mode."** (b) in sub-rule (14), after clause (E), the following clauses shall be inserted with effect from the 1st day of April, 2010, namely:- "(F) Mass Emission Standards (Bharat Stage III) for two and three wheelers manufactured on and from 1st April 2010 shall be as under:-  

| Vehicle Category | Two-wheelers (Gasoline) | Three-wheelers (Gasoline) | Two-wheelers and Three-wheelers (Diesel) | Pollutants | 2 co HC+NOx | Co HC+NOx | co HC+NOx                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | TA=COP norms (g/km)     |
|------------------|-------------------------|---------------------------|------------------------------------------|------------|-------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 3                | 1.0                     | 1.0                       | 1.25                                     | 1.25       | 0.50        | 0.50      | 0.05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | (Deterioration Factor 4 |
| 1.2              | 1.2                     | 1.2                       | 1.2                                      | 1.1        | 1.0         | 1.2       | Notes.- (a) (b) For vehicles operating on CNG mode, the provisions of rule 115-B shall be applicable. For vehicles operating on LPG mode, the provisions of rule 115-C shall be applicable. THE GAZETTE OF INDIA : EXTRAORDINARY [PART 5165—Sec. 2. 3. 4. 5. 6. (G) (c) The reference fuel for Diesel and Gasoline vehicle shall be as specified in Annexure IV F and Annexure IV G respectively and reference fuel for CNG and LPG shall be as available commercially. The commercial fuel for Gasoline and Diesel vehicle shall be as per BIS Specification IS: 1460-2005 (Fifth revision) for Diesel and IS: 2796-2008 (Amendment No. I-January, 2008) (Forth Revision) for Gasoline,. Specification for Commercial CNG and LPG shall be as notified from time to time. The provisions of clauses (a), (c), (d), (e) and (f) of sub-rule 12 of rule 115, except the proviso therein, shall be applicable to the said vehicles. In case of diesel vehicles, the engine power shall be measured on engine dynamometer and the measured power shall conform to the power specified in Chapter 1 of Part IV of MoSRT/CMVR/TAP — 115/116 as amended from time to time, when tested as per the procedures laid down in Chapter 6 of Part IV of MoSRT/CMVR/TAP — 115/116 as amended from time to time. (ii) The Gasoline/ CNG/LPG vehicles specified herein shall comply with the provisions of clause (i) of sub-rule (2) of rule 115. Diesel vehicles specified herein shall comply with clause (ii) of sub-rule (2) of rule 115. provisions of this sub-rule in respect of four-wheeled vehicles manufactured on and from the 1st April, 2010 shall apply to all the States and the Union territories except the National Capital Region and the cities of Mumbai, Kolkata, Chennai, Bangalore, Hyderabad including Secunderabad, Ahmedabad, Pune, Surat, Kanpur and Agra. "; after sub-rule (14), the following sub-rule shall be inserted with effect from the 1st day of April, 2010, namely:- "(15) Mass Emission Standards (Bharat Stage IV) for M and N Category vehicles - (a) the Mass Emission Standards for Bharat Stage IV shall come into force in the National Capital Region and the cities of Mumbai, Kolkata, Chennai, Bangalore, Hyderabad including Secunderabad, Ahmedabad, Pune, Surat, Kanpur and Agra in respect of four-wheeled vehicles manufactured on or after the 1st April, 2010, except the four-wheeled transport |                         |

vehicles plying on Inter-State permits or National permits or All India Tourist permits, within the jurisdiction of these cities. Explanation.- For the purposes of sub-rules (14) and (15), the "National Capital Region" shall have the same meaning as assigned to it in clause (f) of section 2 of the National Capital Region Planning Board Act, 1985 (2 of 1985); (b) NI M" Notes.- 1. 2. 3. the Mass Emission Standards for Bharat Stage IV shall be as under:- (i) the mass emission standards for Bharat Stage—IV Category M and Category N vehicles manufactured on or after the 1 April, 2010, with Gross Vehicle Weight not exceeding 3,500 kg. shall be as under: Limit Values for TA and COP Reference Mass (RW) (Kg) o All RWs 1305 1305<RWs 1760 1760<RW Mass of Carbon Monoxide (CO) (g/km) Gasoline 1.00 1.00 1.81 2.27 Mass of Hydro Carbon (g/km) Gasoline 0.10 0.10 0.13 0.16 Combined Mass of mass of Oxides of hydro Nitrogen (NOx) (g/km) carbons and oxides of Nitrogen (HC+NOx) 11 Diesel 0.50 0.50 0.63 0.74 Gasoline 0.08 0.08 0.10 0.11 Diesel 0.25 0.25 0.33 0.39 Diesel 0.30 0.30 0.39 0.46 Mass of Particulates (g/km) Diesel 0.025 0.025 0.06 These limits are not applicable for vehicles designed to carry more than six persons including driver or vehicles whose gross vehicle weight exceeds 2,500 kg. These limits are applicable for vehicles designed to carry more than six persons including driver or vehicles whose gross vehicle weight exceeds 2,500 kg. The test shall be on Chassis Dynamometer. The test including driving cycle shall be as provided in sub-rule (10) with the modifications that — (i) The exhaust gas sampling should start at the initiation of the engine start up procedure referred to in Annexure IV E. (ii) The driving cycle shall be at a maximum speed of 90 km/hour referred to in Annexure IV E. There shall be no relaxation of norms for Conformity of Production (COP) purposes. 30 4. 5. 6 7. 8. 9. 10. fl. IME GAZETTE OF INDIA : EXTRAORDINARY [PART II—SEC. in case of vehicles operating on CNG, the provisions in rule 115 B shall be applicable. In case of vehicles operating on LPG, the provisions in rule 115 C shall be applicable The reference fuel shall be as specified in Annexure IV J for Gasoline vehicles, Annexure IV K for Diesel vehicles, Annexure IV L for CNG (G20 and G25) vehicles\* and Annexure IV M for LPG (Fuel A and Fuel B) vehicles respectively. Reference Fuel as per Annexure IV L and IV M shall be used for Type Approval and Conformity of Production one year after the same available to the test agencies. Till then Commercial CNG / LPG fuel shall be used. There shall be no crankcase emissions for Gasoline driven vehicles. Evaporative emission shall not be more than 2.0 g / test from Gasoline driven vehicles. The evaporative emission test procedure for gasoline driven vehicles shall be as per the procedure specified in MoSRT/CIWR/TA/2015/116 and as amended from time to time. The Conformity of Production (COP) testing procedure shall be as described in MoSRT/CMVR/TAP-115/116 as amended from time to time. The COP frequency and samples: (i) The Conformity of Production period for each vehicle model including its variant(s) shall be once in a year; (ii) Where production volume in six months is less than 250 per model including its variants, the provisions, contained in the provisions of rule 115 shall apply, The commercial Gasoline and Diesel fuel shall be as per Annexure IV- N and IV-O in respect of the places mentioned in clause (a) of this sub-rule and in respect of all other places, the commercial fuel shall be Bharat Stage-III as per, BIS specification IS:1460-2005 (fifth revision) for Diesel and IS:2796-2008 (Amendment No. 1- January 2008) (Forth Revision) for Gasoline. Specification for commercial CNG and LPG shall be as notified from time to time. for the vehicles of the category M and Category N with Gross Vehicle Weight not exceeding 3,500 kg. 4 (i) Deterioration factor shall be given below: Engine Category Gasoline/Gaseous fuelled engines. Diesel Engines. Deterioration Factor 1.1 HC+NOx PM Not Applicable A HC 1.2 Not applicable NOx 1.2 1.0 1.0 1.2 31 (iii) (iv) 12. Alternatively, the vehicle manufacturers may opt for an ageing test of 80,000 km for evaluating deterioration factor as per MoSRT/CMVR/TAP-115/116 and as amended from time to time. The maximum lap speed at IOW, and at 11th lap shall be 72 km/hour and 90 km/hour respectively. The above ageing test should be carried out by the approved test agency specified in rule 126. For Diesel Vehicles, the emission of visible pollutants (smoke) shall not exceed the limit value of smoke density, when expressed as light absorption coefficient for various nominal flows as given in Annexure I to sub-rule (9) of rule 115 when tested at constant speeds over the full load. These smoke limits are without correction factor and engines are to be tested with conditioned air supplied to the engine to maintain atmospheric factor at 0.98 to 1.02. 13. 14

**15. In the case of Diesel vehicles, the engine power shall be measured on engine dynamometer and the measured power shall conform to the power specified in Chapter - 1 of Part IV of MoSRT/CMVR/TAP - 115/116 as amended from time to time, when tested as per the procedures**

**laid down in Chapter 6 of Part IV of MoSRT/CMVR/TAP —115/116 as amended from time to time.**

i) All Gasoline/ CNG/LPG vehicles specified in this sub-clause shall comply with the provisions of clause (i) of sub-rule (2) of rule 115. ii) All Diesel Fuelled Vehicles specified in this sub-clause shall comply with the provisions of clause (ii) of sub-rule (2) of rule 115. The vehicles of the Category M and Category N with Gross Vehicle Weight not exceeding 3,500 kg. shall be equipped with On-Board Diagnostic (OBD) systems for emission control which shall have the capability of identifying the likely area of malfunction by means of fault codes stored in computer memory for vehicles manufactured on and from 1st April 2010 as per the procedure laid down in MoSRT/CMVR/TAP-115/116 and as amended from time to time. The On-Board Diagnostic (OBD) systems for emission control shall be as specified in the Tables below: 32 Sr. No. 1. 2. 3. 4. 5. 6

**7. THE GAZETTE OF INDIA : EXTRAORDINARY Table I On-Board Diagnostic (OBD) systems**

**for emission control: ARTII—SEC.3** i Engine Type Gasoline En ines Gasoline E ines Category of Vehicles MI and M2 (less than 3500k G MI and M2 (less than 3500k G MI and M 2 (less than 3500k G NI Vehicles above 3,500 k GVW Table 11 Year OBD I vehicles OBD 11 vehicles Fuelled Fuelled manufactured on and from 1 April 2010 1 April 2010 1 April 2010 1 April 2010 manufactured on and from LPG or CNG Fuelled En ines LPG or CNG Fuelled En ines Compression En ines Compression En ines All Ignition Ignition 1 1 1 1 1 1 April 2013 April 2013 April 2013 April 2013 April 2013 April 2013 April 2013 Monitoring Items All Positive I nition Vehicles OBD Monitoring Items OBD I vehicles manufactured talyst isfire (Oxygen) sensor ry Air system (if provided) oolant temperature EGR, (Exhaust Gas Recirculation) (if Fuel tank leak e and eva tion uel system mission Control systems/ components Comprehensive Components) ircuit continuity for all emission related train components Distance traveled since MIL (Malfunction Indicator Lam ON on and from 1st April 2010 1st April 2010 1st April 2010 1st April 2010 1st April 2010 1st April 2010 1st April 2010 OBD 11 vehicles manufactured on and from 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 •m11—WS3 i Table III All Com ression I nition Vehicles OBD Monita-in Items OBD I Monitoring Items Catalyst Electronic fuel Injection system Particulate Trap (if provided) Coolant temperature EGR (Exhaust Gas Recirculation) (if ovided Fuel system vehicles manufactured on and from 1st April 2010 1st April 2010 1st April 2010 Emission Control systems/ components 1st April 2010 Com rehensive Com onents Circuit continuity for all emission related 1st April 2010 r train com onents Distance traveled since MIL (Malfunction 1st April 2010 Indicator Lam ON 33 OBD 11 vehicles manufactured on and from 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 1st April 2013 16. For vehicles manufactured on and from 1st April 2013, the On-Board Diagnostic—II (OBD-II) systems for emission control must indicate the failure of an emission-related component or system, as per the procedure laid down in MoSRT/CMVR/TAP-115/116 and as amended from time to time, when that failure results in an increase in emissions above the limits given in the Table below: 536 GI/09—5 34 Category NI and A THE GAZETRe OF INDIA : EXTRAORDINARY Table IV Mass of carbon Reference Mass of hydrocarbons /km Mass of oxides of nitrogen (NOx) as s 11 mass All RW s 1305 1305 < RWS 1760 1760 < RW monoxide lkm petr 01 3.2 3.2 5.8 7.3 Diese 3.2 3.2 4.0 4.8 Petro Diese Petro Diese 0.4 0.4 0.5 0.6 0.4 0.4 0.5 0.6 c.6 0.6 0.8 1.2 1.2 1.6 1.9 Mass of Partic ulates m Diesel 0.18 0.18 0.23 0.28 These limits are not applicable for vehicles designed to carry more than six persons including driver or vehicles whose gross vehicle weight exceeds 2,500 kg. These limits are applicable for vehicles designed to carry more than six persons including driver or vehicles whose gross vehicle weight exceeds 2, 500 kg. Vehicles with Gross Vehicle Weight exceeding 3,500 kg manufactured on or after the 1st April, 2010 and equipped with either the diesel engines or the CNG Engines or the LPG Engines shall conform to the following norms: - For Diesel en ines Limit values for T e A roval TA as well as COP Engine Steady State Cycle (ESC) test CO (g/kWh) HC (g/kWh) 1.5 0.46 NOx /kWh 3.5 PM (g/kWh) 0.02 (B) For diesel engines, CNG Engines or LPG Engines En ine Transient C cle ETC test CO (g/kWh) NMHC (l) /kWh 0.55 CI-14 (g/kWh) 1.1 NOx (g/kWh) 3.5 Engine Load Response ELR test Smoke (m-l) 0.5 [kWh 0.03 4.0 (1) (2) 3 A manufacturer may choose to measure the mass of total hydrocarbons (THC) instead of measuring the mass of non-methane hydrocarbon (NMHC). In this case, the limit for mass of THC should be same as for the NMHC. For CNG engines only For Diesel en ines onl 35 Notes:- 1. 2. 3. 4. 5. 6. 8. 9. 10

**11. The test shall be done on engine dynamometer.** There shall be no relaxation of norms for Conformity of Production (COP) purposes. In case of vehicles operating on diesel fuelled engines, the gaseous and particulate emissions shall be as per Engine Steady State Cycle (ESC) and Engine Transient Cycle (ETC) and smoke test shall be as per Engine Load Response (ELR) as specified in MoSRTTH/CMVR/TAP-115/116 and as amended from time to time. In case of vehicles operating on CNG or LPG fuelled engines, the gaseous emissions are to be determined only on the Engine Transient Cycle (ETC) test as specified in MoSRTTH/CMVR/TAP-115/116 as amended from time to time. The smoke opacity is to be determined on the Engine Load Response (ELR) test as specified in Part XII of MoSRTTH/CMVR/TAP-115/116 as amended from time to time. In case of vehicles operating on CNG or LPG mode, the provisions of rules 115-B and 115-C shall be applicable respectively. The reference fuel shall be as specified in Annexure IV K for Diesel vehicles, Annexure IV L for CNG (G20, G23 and G25) vehicles and Annexure IV M for LPG (Fuel A and Fuel B) vehicles respectively. Reference Fuel as per Annexure IV L and IV M shall be used for Type Approval and Conformity of Production, one year after the same is available to the test agencies. Till then, Commercial CNG / LPG fuel shall be used. The Conformity of Production (COP) testing procedure shall be as specified in MoSRTTH/CMVR/TAP-115/116 as amended from time to time. The Conformity of Production (COP) frequency and samples: The Conformity of Production period for each engine model including its variant (s) shall be once a year; (ii) Where production volume in six months is less than 250 per model including its variants, the provisions contained in the provisos to rule 126-A shall apply. For diesel engine vehicles, the emission of visible pollutants (smoke) shall not exceed the limit value of smoke density, as per Annexure I to sub-rule (9) of rule 115. These smoke limits are without correction factor and engines are to be tested with conditioned air supplied to the engine to maintain atmospheric factor of 0.98 to 1.02. The commercial Diesel fuel shall be as per Annexure IV-O in respect of the places mentioned in sub-clause (i) of clause (a) of this sub-rule and in respect of all other places, the commercial fuel shall be as per BIS specification 36 12. 13. 14. 11-IEGAZEITE OF INDIA : EXTRAORDINARY IS: 1460-2005 (fifth revision) for Diesel. Specification for Commercial CNG and LPG shall be as notified from time to time. For vehicles with Gross Vehicle Weight exceeding 3,500 kg manufactured on or after the 1st April, 2010, - deterioration factor shall be as given in the Table below:

| Engine type | Diesel engine | CNG  | LPG  | Gaseous fuelled engine | Test cycle | ESC | ETC | ETC  | 1.1  | 1.1  | 1.1 | HC  |
|-------------|---------------|------|------|------------------------|------------|-----|-----|------|------|------|-----|-----|
| 1.05        | 1.05          | 1.05 | NMHC | 1.05                   | CH4        | 1.2 | NOx | 1.05 | 1.05 | 1.05 | 1.1 | 1.1 |

alternatively, the vehicle manufacturers may opt for evaluation of deterioration factor as specified in amended from time to time. Category of Vehicle in which engine will be installed Category N1 Vehicles Category N2 Vehicles Category N3 Vehicles with GVW equal to or less than 16 000 k Category N3 Vehicles with GVW above 16 000 k Category M2 Vehicles Category M3 Vehicles with GVW equal to or less than 7,500 Category M3 Vehicles with GVW above 7 500 k MoSRTTH/CMVR/TAP-115/116 as Minimum Service accumulation period 100 000 km 125 000 km 125,000 km 167,000 km 100 000 km 125,000 km 167,000 km The above ageing test should be carried out by the approval test agency. In the case of Diesel vehicles, the engine power shall be measured on engine dynamometer and the measured power shall not differ from the specified power as given in Chapter - 1 of Part IV of MoSRTTH/CMVR/TAP - 115/116 as amended from time to time when tested as per procedures laid down in Chapter — 6 of Part IV of MoSRTTH/CMVR/TAP — 115/116 as amended from time to time. (i) The CNG and LPG vehicles specified in this sub-clause shall comply with the provisions of clause (i) of sub-rule (2) of rule 115. All Diesel Fuelled Vehicles specified in this sub-clause shall comply with the provisions of clause (ii) of sub-rule (2) of rule 115. The extension of type approval to engine family and engine after treatment system family shall be as described in MoSRTTH/CMVR/TAP- 115/116 as amended from time to time. The vehicles specified in this sub-clause shall be equipped with an On- Board Diagnostic systems for emission control which shall have the capability of identifying the likely area of malfunction by means of fault codes stored in computer memory for vehicle manufactured on and from 1st April 2013, as per procedure laid down in MoSRTTH/CMVR/TAP- 115/116 and as amended from time to time. The Diesel engine NOx reduction agent AUS 32 (Aqueous Urea Solution) shall conform to Part 1 and Part 2 of ISO 22241-2006." 3. In the said rules, in rule 115A, after sub-rule (6), the following sub-rule shall be inserted, namely: — "(7) Every diesel driven agricultural tractor manufactured on and from the date specified in column (2) of the Table 1 shall comply with the Bharat (Trem) Stage-III A norms and the weighted average mass of Carbon Monoxide (CO), Hydrocarbon (HC) and Oxides of Nitrogen (NOx) and Particulate Matters (PM) in grams

per kilo Watt/hour emitted by them in addition to those of visible pollutants as provided in sub-rule (2), when tested for Type Approval (TA) and Conformity of Production (COP) in accordance with the procedure specified in ISO 8178 Part-4 (1996) 'CI' 8 mode cycle, shall not exceed the limits given in columns (3), (4) and (5) respectively, of the said Table. Table 1 Limit Values for Type Approval (TA) and Conformity of Production (COP) Category < 8kW 19 kW < 37 37 kW < 56 56 kW < 75 75 130 kW < 560

Notes:- Applicable from 2 1.4.2010 1.4.2010 1.4.2010 1.4.2011 1.4.2011 1.4.2011 1.4.2011 co 3 5.5 5.5 5.5 5.0 5.0 5.0 3.5 HC+ NOx PM 4 8.5 8.5 7.5 4.7 4.7 4.0 4.0 5 0.8 0.8 0.6 0.4 0.4 0.3 0.2 1. The test shall be on Engine Dynamometer. 38 THE GAZETTE OF INDIA : EXTRAORDINARY (PART 11—Sæ

**2. The test procedure for measurement of Gross Power (without Fan) shall be as per Part IV of MoSRTTH/CMVRffAP-115/116 Issue No.3**

3. The test procedure for measurement of emission of visible and gaseous pollutants and Particulate Matter shall be as per MoSRTTH/CMVR/TAP-115/116 Part X (Sub- part A)

**4. Test fuel shall be the reference fuel as specified in Annexure- IV P 5.** The emission of visible pollutants, when tested as provided in sub-rule (3) of rule 115-A, shall not exceed the limit values given therein

**6. To meet Bharat (Trem) Stage-III A norms with effect from the date specified in cci.umn (2) of Table 1,** the engine manufacturer may opt ior an aging test as specified in Table 2 for evaluating deterioration factors as per Annexure V of Part X (Sub-part-B) of MoSRTTH/CMVRfTAP/115-116 Issue No.3 or fixed deterioration factors as per Table 3. Table 2 Category (power band) kW > 37 kW co 1.1 HC 1.05 Table 3 NOx 1.05 Useful life (hours) (Emission Durability Period) 3000 5000 8000 1.1 7. There shall be no relaxation of norms for Conformity of Production (COP) purposes

8. Conformity of Production (COP) Selection Procedure shall be as per MoSRTTH/CMVR/TAP-115/116 Part VI

**9. Conformity of Production (COP) Frequency shall be as per Part X (Sub-part A) of MoSRTTH/CMVR/TAP-115/116.** IO. The extension of Type Approval (TA) to engine family and engine after- treatment system family shall be specified in MoSRTTH/CMVR/TAP-115/116 as amended from time to time. Explanation 1. - The term "engine family" includes a range of engines having similar design parameters for emission levels. 39 Explanation 2. - The term "engine after-treatment system family" means if same after-treatment system consisting of catalyst, particulate traps etc., is used on a series of engines, then the deterioration factor based on one engine test shall be applicable to the entire series." 4. In the said rules. in rule 115 B,- (1) in item A, - (a) in sub-item (I), for clauses (c), (d) and (e), the following clauses shall be. substituted, namely:- "(c) vehicle models and variants having option for bi-fuel operation and fitted with limp-home Gasoline tank of capacity not exceeding two litres, three litres and five litres respectively on two-whaeler, free-wheeler and four-wheeler shall be exempted from mass emission tests including all tests specified under sub-ru:e (2), iqOtes 6 and 7 mentioned below clause (C) of sub-rule (14) and Notes 6, 7, 15 and 16 of sub-clause (i) of clause (b) of sib-rule (15) of rule 115 in Gasoline mode; (d) prevalent conformity of production procedure shall also be applicable. "; (b) in sub-item (11), in clause (a), after sub-clause (iii), the following sub- clause shall be inserted, namely:- "(iv) for the vehicles manufactured on and after the 1st day of April 2010, the type approval norms as applicable, subject to minimum of Bharat Stage- IV emission norms for Category M and Category N Vehicles with Gross Vehicle Weight not exceeding 3,500 kg and Bharat Stage-III emission norms for two and three wheelers. "; (c) in the Explanation, in clause (a), in the Table, for serial number (iii) and the entries relating thereto, the following serial number and entries shall be substituted, namely:- 1 2 S. No. 31 of the notification "(iii) Fuel Consumption number S.O. 1365 (E), dated the 13th December 2004" test (2) in item B,- (a) in sub-item (11), in clause (c), after sub-clause (iii), the following sub-clause shall be inserted, namely:- "(iv) for the vehicles manufactured on and after 1st April 2010, the type approval norms as applicable, shall be subject to minimum of Bharat Stage- IV emission norms in case of four wheelers and Bharat Stage- THE GAZETTE OF : EXTRAORDINARY ART 11—SFC.3 Ill emission norms in case of two and three wheelers till the validity of these norms"; (b) in the Explanation, in clause (a), in the table, for serial number (iv) and the entries relating thereto, the following serial number and entries shall be substituted, namely:- "(iv) Fuel Consumption test 2 S. No. 31 of the notification number S.O. 1365 (E), dated the 13th December 2004"• (3) in item C, in the table, for serial. number (vii) and the entries relating thereto, the

following serial number and entries shall be substituted, namely:- (1) "(vii) Fuel Consumption test (2) S. No. 31 of the notification number S.O. 1365 (E), dated the 13th December, 2004" (4) for item D, the following item shall be substituted, namely: "D. Applicable Emission Norms Category (i) OE CNG Category M and Category N Vehicles with GVW equal to or less than 3,500 kg, Three wheelers and Two wheelers. (ii) CNG Category M and Category N vehicles with GVW equal to or less than 3,500 kg. Three and Two wheelers retro fitment from gasoline vehicles. (iii) CNG Category M and Category N vehicles with GVW equal to or less than 3,500 kg. Three and Two wheelers retro fitment from diesel vehicles. Applicable Emission Norms Prevailing gasoline norms Prevailing gasoline norms Prevailing diesel norms 41 5. (iv) CNG engines Category M and Category N vehicles with GVW greater than 3,500 kg manufactured upto 1st April 2010. (v) CNG engines for Category M and Category N vehicles with GVW greater than 3,500 kg manufactured on and from 1st April 2010 In the said rules, in rule 115 C,- (A) in sub-rule (2),- Prevailing diesel engine norms based on 13-mode steady-state engine dynamometer test or 13- mode Engine Steady State Cycle as applicable. Prevailing diesel engine emission norms. (ii) for clause (a), the following clause shall be substituted, namely:- "(a) in case of LPG fitments done by vehicle manufacturers on new gasoline vehicles, each model manufactured by vehicle manufacturers shall be type approved as per the prevailing mass emission norms as applicable for the category of new vehicles in respect of the place of its use. for clauses (c), (d) and (e) the following clauses shall be substituted, namely:- (d) (B) in sub-rule (3),- vehicle models and variants having option for bi- fuel operation and fitted with limp-home Gasoline tank of capacity not exceeding two litres, three litres and five litres respectively on two-wheeler, three-wheeler and four-wheeler shall be exempted from mass emission tests including all tests specified under sub-rule (2), Notes 6 and 7 mentioned below clause (C) of sub-rule (14) and Notes 6, 7, 15 and 16 of sub-clause (i) of clause (b) of sub-rule (15) of rule 115 in Gasoline mode; prevalent conformity of production procedure shall also be applicable."; in clause (a), after sub-clause (iii), the following sub-clause shall be inserted, namely:- **THE GAZETTE OF INDIA : EXTRAORDINARY [PART 11—SEC. (iv)** for the vehicles manufactured on and after the 1st day of April 2010, the type approval norms as applicable, subject to minimum of Bharat Stage- IV emission norms for Category M and Category N Vehicles with Gross Vehicle Weight not exceeding 3,500 kg and Bharat Stage- III emission norms for two and three wheelers. in clause (b), for sub-clause (ii), the following sub-clause shall be substituted, namely:- separate type approval shall be necessary for the following types of vehicles - (a) two stroke four stroke (b) (c) carbureted single point fuel injected; and (d) (e) multi point fuel injected. "; (C) in sub-rule (6), in the Explanation, in clause (a), in the table, for Sl. No. 4 and the entries relating thereto, the following Sl. No. and entries shall be substituted, namely:- 1 2 Fuel Consumption test 3 S. No. 31 of the notification number S.O. 1365 (E), dated the 13th December, 2004"; (D) in sub-rule (7), in the table, for Sl. No. 4 and the entries relating thereto, the following Sl. No. and entries shall be substituted, namely:- 1 2 Fuel Consumption test (E) in sub-rule (8), for the table, namely:- Category 3 S. No. 31 of the notification number S.O. 1365 (E), dated the 13th December, 2004" the following table shall be substituted, Applicable Emission Norms (i) OE LPG Category M and Prevailing gasoline norms Category N Vehicles with GVW equal to or less than 3,500 kg, Three wheelers and Two wheelers. (ii) LPG Category M and Prevailing gasoline norms Category N vehicles with GVW equal to or less than 3,500 kg. Three and Two wheelers retro fitment from gasoline vehicles. (iii) LPG Category M and Category N vehicles with GVW equal to or less than 3,500 kg, Three and Two wheelers retro fitment from diesel vehicles. (iv) LPG engines Category M and Category N vehicles with GVW greater than 3,500 kg manufactured upto 1st April 2010. (v) LPG engines for Category M and Category N vehicles with GVW greater than 3,500 kg manufactured on and from 1st April 2010 Prevailing diesel norms Prevailing diesel engine norms based on 13-mode steady- state engine dynamometer test or 13-mode Engine Steady State Cycle as applicable. Prevailing diesel engine emission norms."

**6. In the said rules, in rule 126, after the words "the International Centre for Automotive Technology, Manesar", the words "or the Northern Region Farm Machinery Training and Testing Institute, Hissar (for testing of combine harvester)" shall be substituted.** In the said rules, after Annexure IV-I, the following Annexures shall be inserted, namely:- 536 01/09—7 **THE GAZETTE OF INDIA • EXTRAORDINARY "ANNEXURE IV [See rule 115(15)] [PART II—SEC. Technical Specification of the Reference Fuel to be used for testing vehicles equipped with Gasoline engines. Parameter Research octane number, RON Motor octane number, MON Density at 15 degrees C Reid**

vapour pressure Distillation : -evaporated at 70 degrees C -evaporated at 100 degrees C -evaporated at 150 degrees C -final boiling point Residue H rocarbon anal s : -olefins -aromatics -benzene -saturates Carbon / Hydrogen ratio Induction period (2) Oxygen content Existent gum Sulphur content (3) Copper corrosion Lead content Phosphorus content Unit m3 v/v Wv v/v ree v/v v/v v/v v/v Wv minutes m/m kg Limits inimum 95.0 85.0 740 56.0 24.0 50.0 83.0 190 29.0 Report Report 480 aximum 754 60.0 40.0 58.0 89.0 210 2.0 10.0 35.0 1.0 Report 1.0 0.04 10 Class 1 5 1.3 Test Method EN 25164 EN 25163 ISO 3675 PrEN ISO; 13016-1; DVPE EN-ISO 3405 EN-ISO 3405 EN-ISO 3405 EN-ISO 3405 EN-ISO 3405 ASTM D 1319 ASTM D 1319 ASTM D 1319 Pr. EN 12177 ASTM D 1319 EN-ISO 7536 EN 1601 EN-ISO 6246 ASTM D 5453 EN-ISO 2160 EN 237 ASTM D 3231 The values in the specifications are 'true values". In establishment of their limit values the terms of 4259 Petroleum products — Determination and application of precision data in relation to methods of test have applied and in a minimum value, a minimum difference of 2R above zero has been taken into account; in fixin a maximum and minimum value, the minimum difference is 4R (R=reproducibility). Notwithstanding this measure which is necessary for technical reasons, the manufacturer Of fuels should nevertheless aim at a zero value whe the stipulated maximum value is 2R and at the mean value in the case Of quotations of maximum and minim limits. Should it be necessary to clarify the questions as to whether a fuel meets the requiremene of specifications, the terms of ISO 4259 should be applied. (2) The fuel may contain oxidation inhibitors and metal deactivators normally used to stabilize refinery gasoline streams, but detergent,/dispersive additives and solvent oils must not be added. (3) The actual sul hur content of the fuel used for the I test shall be re 45 ANNEXURE - K [See rule Technical Specification of the Reference Fuel to be used for testing vehicles equipped with Besel engines. Parameter Cetane number at 15 reesc Limits Distillation : -50% nt -95% nt - final boili Flash nt d nt ree C ree C ree C ree C Minimum 52.0 833 245 345 55 2.3 3.0 at 40 d reesc Polycyclic aromatic rocarbons Sul ur content Cmrads on arbon residue Ash content Water content Neutralisation (strong add) number Oxidation stabili 4 Lubricity (HFRR wear scan diameter at 60 rees C FAME mm s % m/m % m/m mg KOH/g ml Micrometer m Prohibited Maximum 54.0 837 350 370 -5 3.3 6.0 10 Class i 0.2 0.01 0.02 0.02 0.025 Test metmci EN-ISO 5165 EN-ISO 3675 EN-ISO 3405 EN-ISO 3405 EN-ISO 3405 EN 22719 EN 116 EN-ISO 3104 IP 391 D 5453 EN-ISO 2160 EN-ISO 10370 EN-ISO 6245 EN-ISO 12937 ASTM D 974 EN-ISO 12205 CEC F-06-A-96 The values quoted in the specifications are "true values". In establishment of their limit values the terms of ISO 4259 Petroleum products- Determination and application of precision data in relation to methods of test have been applied and in fixing a minimum value, a minimum difference of 2R above zero has been taken into account; in fixing a maximum and minimum value, the minimum difference is 4R (R=reproducibility). Notwithstanding this measure, which is tE.essary for technical reasons, the manufacturer of fuels should nevertheless aim at a zero value where the stipulated maximum value is 2R and at the mean value in the case of quotations of maximum and minimum limits. Should it be necessary to darify the questions as to whether a fuel meets the requirements of the specifications, the terms of ISO 4259 should be applied. (2) The range for cetane number is not in accordance with the requirements of a minimum range of 4R. However, in the case of a dispute between fuel supplier and ftæl user, the terms of ISO 4259 may be used to resolve such disputes provided replicate measurements, of sufficient number to archive the necessary precision, are made in preference to single determinations. (3) The actual sulphur content of the fuel used for the Type I test shall be reported (4) Even though oxidation stability is controlled, it is likely that shelf life will be limited. Advice should be so htfrom the su lier as to stora conditions and life. THE GAZETTE OF INDIA : EXTRAORDINARY ANNEXURE - IV L [See rule 115(15)] Specification of reference fuel for CNG Reference fuel G Methane Balame Sul content Wobbe Ir.Gex net Refere. ce fuel G Methane Balance Sul ur content Wobbe Index Units % mole % mole % mole MJ m % mole % mole % mole Basis 100 48.2 86 14 39.4 Limits minimum maximum 99 47.2 84 12 38.2 100 1 10 49.2 88 1 16 10 40.6 (I) Inerts (different from N2) + C2 + C2+. (2) value to be determined at 293, 2 K (200 C) and 101.3 kPa. 3 Value to be determined at 273 2K 00 C and 101.3 kPa. TIE bove O•pe of vehkle be tested with both types of Referencø Fuels CNG Reference Fuel for Vehicles above 3,500 Kgs GVW Reference fuel G Methane Ethane Balance Sul ur content (I) Inerts + C2+ Units % - mole Basis 87 13 Limits Minimum Maximum 84 11 89 15 1 10 2 Value to be determined at standard conditions 293.2 K (2 and 101.3 kPa Characteristic Reference fuel G Methane Balance Sul ur content Units % - mole Limits Basis Minimum Maximum 92.5 7.5 91.5 6.5 93.5 1 8.5 10 (I) Inerts (different form N2)+ C2+C2+. ART II—SEC. J i Test method ISO

6974 ISO 6974 ISO 6974 TSO 6326- ISO 6974 ISO 6974 ISO 6974 ISO 6326-5 Test method ISO 6974 ISO 6326-5 Test method ISO 6974 ISO 6326-5 2 Value to be determined at standard conditions 293.2 K 200C and 101.3 kPa . 47 auracterjstic Reference fuel G Methane Balance Sul ur content Units % - mole Basis 86 14 minimum 84 12 Limits maximum 89 1 16 10 Test ISO 6974 ISO 6326-5 (1) merts (different from ND + C2 + C2+. 2 Value to be determined at standard conditions 293.2 K 2 and 101.3 kPa . ANNEXURE - M [See rule 115(15)] (Specification of reference fuel for LPG) Parameter C tent -content >C4 Olefins on residue Eva Water at 00 C Total sul hur content sul hide stri corrosion Motor octane number Unit % vol. % vol. % vol. % vol. k Rati Fuel A 30+2 balance maximum 2 Maximum 12 maximum 50 maximum IO Class 1 Characteristic minimum 89 Fuel B 85 2 balance maximum 2 maximum 15 maximum 50 free maximum IO Class I Characteristic Minimum 89 Test method iSO 7941 ISO 13757 Visual in EN 24260 ISO 8819 ISO 6251 EN 589 Annex B This method may not accurately determine the presence of corrosive materials if the sample ontains corrosion inhibitors or other chemicals which diminish the corrosivity of the sample to the copper <rip. Therefore, the addition of such compounds for the sole purpose of biasing the test method is Parameter -content -content Olefins Evaporation Water at 00 C Total sulphur ontent sul ide Copper strip Motor octane number ibited. Unit % vol % vol % vol % vol mg/kg mg/kg rating Fuel A 50+2 balance max. 2 max. 12 max. 50 max. IO Class 1 characteristic min. 92.5 Fuel B 85+2 balance max. 2 max. 14 max.50 max. IO Class I diaracteristic min. 92.5 Test method ISO 7941 ISO 13757 visual ins EN 24260 ISO 8819 ISO 6251 on EN 589 Annex B This method may not accurately determine the presence of corrosive materials if the sample mntajns corrosion inhibitors or other chemicals which diminish the corrosivity of the sample to the copper strip. Therefore, the addition of such compounds for the sole purpose bf biasing the test method is ibited. 48 S Chara&-ristics Color visual Densi 1 Distillation : THE GAZETTE OF INDIA : EXTRAORDINARY ANNEXURE - IV N [See rule 115(15)] ecification of Commercial Gasoline Fuel [PART 11—SEC. Unit m3 % volume % volume % volume % volume 100ml minutes kPa % volume Rating % volume % volume % mass % volume % volume % volume % volume % volume % volume R uirements Unleaded regular Unleaded b Recove t070 E70 to 100 E 100 u to 150 E 150 d Final Boili Point FBP mm• e Residue max Researcdl Octane Number RON) min Motor Octane Number MON min Gum ontent solvent washed max Oxidabon Stabili min Sul ur total max Lead content as Pb max Reid Va Pressure RVP max Va Lock Index LI a Summer max b Other months max Benzene Content max Copper strip corrosion for 3 hrs @ 50 C, max Olefin conten max Aromatics content max conte max nates Content a Methanol max b Ethanol max c Iso-alcohol max d Iso-B alcohol max e Tertia - alcohol max f) Ethers containing 5 or more carbon atoms r molecule max Other o nates max Oran 720-775 10-45 40-70 75 min 210 2 91 81 5 360 50 0.005 60 750 950 1 Class I 21 35 2.7 3 5 10 10 7 15 8 emium Red 720-775 10-45 40-70 75 min 210 2 95 85 5 360 50 0.005 60 750 950 1 Class 1 18 35 2.7 3 5 10 10 7 15 8 Note : 1. 2. 3

**4. Test methods and other provisions details along with the requirements as given above shall be issued by Bureau of Indian Standards.** Petrol of 89 RON and 79 MON and having all other properties as the unleaded regular grade indicated above shall also be available for meeting requirements of the older vehicles which will be conforming to pre-Euro III equivalent vehicular emission norms. Type test for Phosphorous content in petrol shall be introduced These standards spedfications have been finalized by the Expert Committee after discussions with the automobile and oil industry as per Auto Fuel Policy. ANNEXURE - IV O [See rule 115(15)] Specification of Commercial Diesel Fuel Claracteristics Ash max Carbon Residue (Ramsbottom) on IO % residue max Cetane number min Cetane Index CI min Distillation : 95% vol. recove at max Flash nt : a Abel min Kinematic Viscosi Den • 15 Total Sul hur max. Water content max 40 Unit % mass % mass c c c % mass microns Rating R uirements 0.01 0.3 without additives 51 46 360 35 2.0-4.5 820-845 Cold filterPl i int CFPP a Summer max b Winter max Total contaminations max Oxidation stabili max Polycyclic Aromatic Hydrocarbon PAH max Lubricity, corrected wear scar diameter wsd 1 4 60 OC max Copper strip corrosion for 3 hrs @ 50 200 18 6 24 25 11 Class -1 50 c Note : I. 2. 3

**4. These density and 95 per cent distillation recovery temperature limits shall be company pool average values.** However, all samples shall meet the density @ 150C limit of 820-860 kg/m<sup>3</sup> and 95 per cent minimum distillation recovery at 3700c For diesel processed from Assam crude, relaxation of CN & CI by 3 units and density shall be applicable as provided in the present BIS specification Test methods and other provisions / details along with the requirements as given above shall be issued by Bureau of Indian

Standards. These standards specifications have been finalized by the Expert Committee after discussions with the automobile and oil industry as Auto Fuel Polysulfur Content at 150°C m<sup>3</sup> Distillation: in % at 95% Final Boiling Point Flash Point at 400°C mm<sup>2</sup> s THE GAZETTE OF INDIA : EXTRAORDINARY ANNEXURE IV P (See Rule 115A (7)) Diesel Fuel Specifications Minimum 52 833 245 345 55 2.5 3.0 Polycyclic aromatic hydrocarbons (% Sulfur Content maximum 0.5 Corrosion Conradson carbon residue Ash Content % maximum 0.1 Water Content % maximum 0.05 Neutralisation (strong add) No. (mg KOH Oxidation Stability (mg/ml) Maximum 54 837 350 370 -5 3.5 6.0 300 Class 1 0.2 0.01 0.05 0.02 0.025 Test Method EN-ISO 5163 EN-ISO 3675 EN-ISO 3405 EN 22719 EN 116 EN-ISO 3104 IP 391 ASTM D 5453 EN-ISO 2160 EN-ISO 10370 EN-ISO 6245 EN-ISO 12937 ASTM D 974 EN-ISO 12205 [F. No. RT-11028/2/2007-MVL] SAROJ KUMAR DASH, Jt. secy. Foot Note : The principal rules were published vide number G.S.R. 590(E), dated the 2nd June, 1989 and was last amended vide number G.S.R. 37(E), dated 20th January, 2009. Printed by the Manager, Govt. of India Press, Ring Road, Mayapuri, New Delhi-110064 and Published by the Controller of Publications, Delhi-110054.

