AUTOMOTIVE INDUSTRY STANDARD

Information on Technical Specifications to be submitted by the Vehicle Manufacturer

(Revision 5)

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ON BEHALF OF
AUTOMOTIVE INDUSTRY STANDARDS COMMITTEE

UNDER
CENTRAL MOTOR VEHICLE RULES – TECHNICAL STANDING COMMITTEE

SET-UP BY
MINISTRY OF ROAD TRANSPORT and HIGHWAYS
(DEPARTMENT OF ROAD TRANSPORT and HIGHWAYS)
GOVERNMENT OF INDIA

June 2014

Status chart of the Standard to be used by the purchaser for updating the record

Sr. No.	Corrigenda.	Amendment	Revision	Date	Remark	Misc.

General remarks:

Information on Technical Specifications to be submitted by the Vehicle Manufacturer

1. INTRODUCTION:

This document consolidates the information to be provided by the motor vehicle manufacturer, construction equipment vehicle manufacturer and agricultural tractor manufacturer while applying for a certificate of Compliance to CMVR. Subsequent to the decisions of the CMVR – Technical Standing Committee, this standard was revised to take care of the new regulations and requirements in CMVR and to simplify the existing procedure. The panel constituting the testing agencies and the manufacturers discussed and decided upon the technical details that are required to be provided by the vehicle manufacturers at the time of applying for the type approval. The AIS-007 (Revision 5) documents were finalized in the month of March 2014, taking into consideration the new standards that were decided to be implemented under CMVR, by Automotive Industry Standards Committee and CMVR-Technical Standing Committee. The revision of 2, 3 and 4 wheeler automotive vehicle specifications have been carried out considering the introduction of the following new standards which are under the process of getting notified under CMVR, namely,

a) AIS-004(Part 3) – EMC
b) AIS-091 – Mechanical Coupling Devices
c) AIS-092 – Close Coupling Devices
d) AIS-047 – Interior fittings for other than M1 vehicles.
e) AIS-071(Part 1 & 2) – Controls , Tell tales & Symbols
f) AIS-075 – Vehicle Alarm Systems
g) AIS-076 – Anti-theft devices
h) AIS-072 – Child Restraint Systems
i) AIS-096 – Head –On Collision
j) AIS-098 – Offset frontal Collision
k) AIS-099 – Lateral Collision
l) AIS-100 – Pedestrian Protection
m) AIS-102 (Part 1 & 2) – Hybrid vehicles
n) AIS-110 –Temporary Use Spare Wheel
o) AIS-084 (Part 1 & 2) – Defrost / Demist Systems
p) AIS-083 – Headlamp Cleaning Devices
q) AIS-052 (Rev. 1) – Bus Body Code
r) AIS-093 – Truck Body Code
s) AIS-063 – School Bus Code
t) AIS-068 – Window Frames for buses

u) OBD- II requirements for BS-IV Emission norms

v) IS 14664- Brake 2 & 3 Wheeler with ABS

The technical specifications for the 2 & 3 wheelers (L1, L2 and L5 category) have been aligned to 2002/24/EC of 18th march 2002 repealing Council Directive 92/61/EEC, to the fullest extent possible. The Automotive Industry Standards Committee responsible for preparation of this standard is given in Annex I

2. APPLICATION FOR TYPE APPROVAL:

2.1 Application for Type Approval of Automotive Vehicles:

While applying for the Type Approval, the application shall be accompanied by the following documents, as applicable to the provisions for which such compliance is sought:

a) List of provisions for which compliance is sought to be established.

b) The Technical Specifications as per formats given in Table 1 to 13 as applicable.

c) Details of location of Chassis number and code for month and year of manufacture as per Rule 122 of CMVR, in Table –11.

d) Copies of certificates or test reports of compliance to various provisions, which may have already been obtained from authorized Testing Agencies. This may be attached along with Table–8.

d) Information indicated in Table-10, regarding the Criteria for Extension of Approval (CEA) for selecting the model/(s) to be tested, in case variant/(s) are to be approved.

e) Copies of previous certificates or test reports for other models, if any, which can be used for establishing compliance of the model to be type approved, with a note explaining the details. (Refer Table-9)

f) The details of CNG components for CNG OE vehicles as per Table-20.

g) The details of LPG components for LPG OE vehicles as per Table-21.

h) Publications available (Owner's Manual and service manual)

2.2 Application for Type Approval of Construction Equipment Vehicles:

While applying for the Type Approval, the application shall be accompanied by the following documents, as applicable to the provisions for which such compliance is sought:

a) List of provisions for which compliance is sought to be established.

b) The Technical Specifications as per formats given in Table 14 & 15.

c) Details of location of Chassis number and code for month and year of manufacture as per Rule 122 of CMVR, in Table –11.

d) Copies of certificates or test reports of compliance to various provisions, which may have already been obtained from authorized Testing

Agencies. This may be attached along with the Table-18. (Refer Table – 18).

e) Copies of previous certificates or test reports for other models, if any, which can be used for establishing compliance of the model to be type approved, with a note explaining the details.(Refer Table - 19).

f) Publications available (Owner's Manual and service manual)

Note: In case these publications are not available at the time of submitting the prototype vehicle, they shall be submitted by the manufacturer as and when they are ready but not later than beginning of commercial production. In case these publications are not available at the time of prototype testing, the relevant information required by the test agency, shall be provided by the manufacturer**.**

2.3 **Application for Type Approval of Agricultural Tractors:**

While applying for the Type Approval, the application shall be accompanied by the following documents, as applicable to the provisions for which such compliance is sought:

a) List of provisions for which compliance is sought to be established.

b) The Technical Specifications of the agricultural tractor are as per formats given in Table-16 & 17

c) The technical details of the engine fitted to agricultural tractors shall be as per Table -4D.

d) Details of location of Chassis number and code for month and year of manufacture as per Rule 122 of CMVR, in Table-11.

e) Copies of certificates or test reports of compliance to various provisions, which may have already been obtained from authorized Testing Agencies. This may be attached along with the Table-18. (Refer Table -18)

f) Copies of previous certificates or test reports for other models, if any, which can be used for establishing compliance of the model to be type approved, with a note explaining the details. (Refer Table- 9).

g) Publications available (Owner's Manual and service manual)

Note: In case these publications are not available at the time of submitting the prototype vehicle, they shall be submitted by the manufacturer as and when they are ready but not later than beginning of commercial production. In case these publications are not available at the time of prototype testing, the relevant information required by the test agency, shall be provided by the manufacturer**.**

3. BRIEF TECHNICAL SPECIFICATION :

3.1. **Motor Vehicles:** The format for brief technical specifications to be submitted by the manufacturer is given in Table - 7, which is essentially an enclosure to the certificate of CMVR compliance. The details of all the variant to be

covered in one certificate shall be included in one document. In case more information is to be provided separate Tables and Annexures could be included.

3.2. Construction Equipment Vehicles: The format for brief technical specifications to be submitted by the construction equipment vehicle manufacturer is given in Table -14, which is essentially an enclosure to the certificate of CMVR compliance. The details of all the variant to be covered in one certificate shall be included in one document. In case more information is to be provided separate Tables and Annexures could be included.

3.3. Agricultural Tractors: The format for brief technical specifications to be submitted by the manufacturer is given in Table-16, which is essentially an enclosure to the certificate of CMVR compliance. The details of all the variant to be covered in one certificate shall be included in one document. In case more information is to be provided separate Tables and Annexures could be included.

4. DETAILED TECHNICAL SPECIFICATIONS :

4.1. **Motor vehicles:** The format for detailed technical specifications for two and three wheelers is given in Table-1. The formats for detailed specifications for four wheelers and above are given in Tables-2 to 6. In case the application is being made for establishing conformity against specific provision, the details specified in the standard/document for that provision shall be submitted. This may be in the format specified in the applicable standard or a combination of Tables -2 and Tables - 3 to 6, as appropriate by which the information needed is complete.

4.2. **Construction Equipment Vehicles:** The format for detailed technical specifications for construction equipment vehicles are given in Table-15. In case the application is being made for establishing conformity against specific provision, like engine testing / type approval, the details specified as per this format shall be submitted to the testing agencies.

4.3. **Agricultural Tractors:** The format for detailed technical specifications for agricultural tractors is given in Table - 17. In case the application is being made for establishing conformity against specific provision, like engine testing / type approval, the details specified as per this format shall be submitted to the testing agencies. The details of the test reports of the safety critical components shall be submitted in Table -18 format to the testing agencies.

4.4. **Application for approval of Bus bodies as per AIS-052 (Rev. 1) :** The format of technical specifications to be submitted by the Bus Body Builder or the Bus Manufacturer for approval of the bus body are as given in Table - 22 and Table - 22A. The Original Equipment Manufacturers who have already

submitted the component or system approval details during the certification of their Chassis variants (Drive Away Chassis / Cowl and Chassis/ Cabin and Chassis/ Chassis with Front End Structure etc.,) in Table - 8 need not submit the information in Table - 22A format.

4.5. **Additional specifications for approval for Electric / Hybrid vehicles :** The format of technical specifications to be submitted by the vehicle manufacturer for specific details of electric / hybrid vehicles are as given in Table - 23.

5. GENERAL INFORMATION :

5.1 The above said technical information is to be submitted in sheets of A4 size or should be foldable in A4 size. The letter and figures shall be legible and in a minimum font size not less than 10.

5.2 Each of these documents should have a unique identification number, indicated on each sheet. Appropriate numbering scheme shall be used by the manufacturer to indicate the revision status also.

5.3 Information, for which the space provided in the format is not sufficient, may be submitted in a separate document. Such a document should have a unique identification number, indicating the modification status, and this number should be referred in the Technical Specifications appropriately**.**

5.4 The technical specification shall be submitted in the number of copies as desired by the testing agency. One set of the technical specifications shall be the original with the original signatures of the authorized person of the company and the other sets may be the Photostat copies of the original.

5. If the item in any clause is not applicable, for any particular model, the manufacturer should indicate “Not Applicable” or “NA” against the main heading and sub-clauses need not be answered in such cases. The serial numbers indicated against each entry shall not be changed.

6. The technical specifications of CNG and LPG kits shall be provided to the testing agencies as per the format specified in the relevant AIS-024 and AIS-025 standards respectively.

6. OTHER INFORMATION :

6.1. The details of information to be submitted by the automotive vehicle manufacturer regarding test reports/certificates, already obtained, for establishing compliance of the model, sought to be type approved, are given in Table - 8 and Table - 8A. For construction equipment vehicles and agricultural tractors, the same information is given in Table -18.

6.2 The details of information to be submitted by the automotive vehicle manufacturer regarding test reports / certificates for other models which can be used as proof of compliance of the model which is sought to be type approved, are listed in Table - 9. For construction equipment vehicles and agricultural tractors, the same information is given in Table - 19.

6.3 Information regarding the Worst Case Criteria for selecting the model/(s) to be tested, in case variant/(s) are to be approved, is given in Table -10. This would apply to the category of vehicles for which the worst case criteria is available as per the respective standards.

6.4 The format for declaring the location of chassis number and code for the year and month of manufacture is given in Table-11. This would apply to motor vehicles, construction equipment vehicles and agricultural tractors.

5. The changes in the technical specifications for the already certified models or new variants with slight engineering changes shall be intimated in the format given in Table -12 and Table -12 A.

6. The additional technical information to be submitted for the Battery Operated Vehicles is given in Table-13. This shall be given in addition to the other specifications wherever applicable.

6.7 The agricultural tractor manufacturer or the engine manufacturer shall submit their application to the test agency for testing or approval of the agricultural tractor engine, as per Table-4D format.

7. TRANSITORY PROVISIONS :

1. For all items, for which the compliance is to be established to the notified standard, the requirement of “Identification Number” has been called for. This may be filled up to the extent possible.

2. This revised format takes into account all the requisite technical parameters for the respective standards that were finalized by AISC and decided to be implemented by CMVR-Technical Standing Committee after April 2011. The vehicle manufacturer may not fill the data for those technical requirements which are not notified, as applicable at the time of submitting their application to the testing agencies.

Table 1 AIS-007 (Revision 5)
DETAILED TECHNICAL SPECIFICATIONS

INFORMATION RELATING JOINTLY TO L1, L2 AND L5 CATEGORY VEHICLES (2 and 3 Wheelers)					
0.0	**General**				
0.1	Make	:			
0.2	Type (state any possible variants and versions: each variant and each version must be identified by a code consisting of numbers or a combination of letters and numbers)	:			
0.2.1	Commercial name (s)	:			
0.3	Means of type identification if stated on vehicle	:			
0.3.1	Location of that means of identification	:			
0.4	Vehicle category (AIS-053)	:			
0.5	Name and address of manufacturer with contact persons' name, designation, e-mail, phone nos. etc. Provide details of importer, if applicable.	:			
0.5.1	Name(s) and address (es) of assembly plants	:			
0.5.2	Name and address of the vehicle importer				
0.6	Name and address of manufacturer's authorized representative. if any	:			
0.7	Method of inscription of VIN on the chassis	:			
0.7.1	The serial numbering (of production vehicles) of the type begins with No	:			
0.8	Position and method of affixing the component type-approval mark for components and separate technical units	:			
1.0	**General arrangement of the vehicle**				
1.1	Photos and/or drawings of a typical vehicle	:			

1.2	Drawing of the complete vehicle indicating overall length, width, track and height.	:			
1.2.1	Wheelbase	:			
1.3	Number of axles and wheels (where appropriate. number of crawler tracks or belts):	:			
1.4	Position and arrangement of engine	:			
1.5	Number of seating positions	:			
2.0	**Weights (in kg)**				
2.1	Vehicle kerb weight(9)	:			
2.1.1	Distribution of that weight between the axles	:			
2.2	Vehicle kerb weight together with rider (reference weight)	:			
2.3	**Gross Vehicle Weight**	:			
2.3.1	Division of that weight between the axles	:			
2.3.2	Maximum technically permissible weight (maximum permissible axle weight) on each of the axles				
2.3.2.1	Front Axle	:			
2.3.2.2	Rear Axle	:			
2.4	Maximum hill-starting ability (Gradeability) at the maximum technically permissible mass declared by the manufacturer	:			
2.5	Maximum towable weight (where applicable)	:			
2.6	Maximum weight of the combination.	:			
3.0	**Engine(10)**				
3.1	Manufacturer	:			
3.1.1	Make	:			
3.1.2	Type (stated on the engine. or other means of identification):	:			
3.1.3	Location of engine number (if applicable):	:			
3.2	**Spark- or compression-ignition engine**	:			

3.2.1	Specific characteristics of the engine				
3.2.1.1	Operating cycle (four or two-stroke. spark or compression ignition)	:			
3.2.1.2	Number. arrangement and firing order of cylinders	:			
3.2.1.2.1	Bore: mm(6)	:			
3.2.1.2.2	Stroke: mm(6)	:			
3.2.1.3	Cylinder capacity(7): cm^3	:			
3.2.1.4	Compression ratio	:			
3.2.1.5	Drawings of cylinder head. piston(s). piston rings and cylinder(s)	:			
3.2.1.6	Idling speed , min^{-1} (specify tolerance)	:			
3.2.1.7	Maximum net power output: kW at min^{-1} (specify standard and tolerance)	:			
3.2.1.8	Net maximum torque: Nm at min^{-1} (specify standard)	:			
3.2.1.9	In case of compression ignition engines, the max power and max torque shall also be specified as per conditions given in MST/ CMVR/TAP 115/116	:			
3.2.2	Fuel: diesel/petrol/mixture/LPG/ other (1)	:			
3.2.3	**Fuel tank**				
3.2.3.1	Capacity (Nominal in liters)	:			
3.2.3.2	Material used (Metallic/ Nonmetallic)	:			
3.2.3.3	Diagram clearly indicating the position of the tank on the vehicle	:			
3.2.3.4	Type Approval number or BIS license no of the fuel tank fitted	:			

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3.2.4	**Fuel supply**				
3.2.4.1	Via carburettor(s): yes/no	:			
3.2.4.1.1	Make(s):	:			
3.2.4.1.2	Type(s) and Identification mark:	:			

3.2.4.1.3	Number fitted	:			
3.2.4.1.4	Settings	:			
3.2.4.1.4.1	Jets (indicate venture dia, main jet, pilot jet)	:			
3.2.4.1.4.2	Maximum Level in float chamber	:			
3.2.4.1.4.3	Mass of float	:			
	OR	:			
3.2.4.1.4.4	Fuel curve as a function of the air flow and setting required in order to maintain that curve	:			
3.2.4.1.5	Cold-starting system: manual/ automatic	:			
3.2.4.1.5.1	Operating principle(s):	:			
3.2.4.2	By fuel injection : yes/no (For CI engines)	:			
3.2.4.2.1	Description of system	:			
3.2.4.2.2	Operating principle: direct/ indirect/turbulence chamber injection	:			
3.2.4.2.3	Injection pump	:			
	Either	:			
3.2.4.2.3.1	Make(s):	:			
3.2.4.2.3.2	Type(s):	:			
	or	:			
3.2.4.2.3.3	Maximum fuel flow rate, mm^3 per stroke or cycle(1) at a pump rotational speed of: min^{-1} or characteristic diagram	:			
3.2.4.2.3.4	Injection advance	:			
3.2.4.2.3.5	Injection advance curve	:			
3.2.4.2.3.6	Calibration procedure: test bench/ engine	:			

3.2.4.2.4	Regulator			
3.2.4.2.4.1	Type	:		
3.2.4.2.4.2	Cut-off point			
3.2.4.2.4.2.1	Cut-off point under load: ..... min-	:		
3.2.4.2.4.2.2	Cut-off point under no load: ..... min^{-1}	:		
3.2.4.2.4.3	Idling speed: min^{-1}	:		
3.2.4.2.5	Injection pipe work			
3.2.4.2.5.1	Length: ..... mm	:		
3.2.4.2.5.2	Internal diameter: ..... mm	:		
3.2.4.2.6	Injector(s)			
	either	:		
3.2.4.2.6.1	Make:	:		
3.2.4.2.6.2	Type:	:		
	or	:		
3.2.4.2.6.3	Description of system	:		
3.2.4.3	By fuel injection (solely in the case of spark-ignition): yes/no	:		
	either:	:		
3.2.4.3.1	Description of system	:		
3.2.4.3.2	Operating principle: injection into induction manifold (single/ multiple point) (1) / direct injection/other (state which)			
	or	:		
3.2.4.3.2.1	Make(s) of the injection pump	:		
3.2.4.3.2.2	Type(s) of the injection pump	:		
3.2.4.3.3	Injectors: opening pressure (state tolerance) kPa	:		
	or characteristic diagram (state tolerance)	:		
3.2.4.3.4	Injection advance	:		

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3.2.4.3.5	Cold-starting system			
3.2.4.3.5.1	Operating principle(s):	:		

3.2.4.3.5.2.	Operating/setting limits (1) (state tolerance)	:		
3.2.4.4.	Fuel pump: yes/no(1)	:		
3.2.5.	**Electrical equipment**			
3.2.5.1.	Nominal voltage: ..... V, positive/negative earth(1)	:		
3.2.5.2.	Generator	:		
3.2.5.2.1.	Type	:		
3.2.5.2.2.	Nominal power: ..... W	:		
3.2.6.	**Ignition**	:		
3.2.6.1.	Make(s)	:		
3.2.6.2.	Type(s)	:		
3.2.6.3.	Operating principle	:		
3.2.6.4.	Ignition advance curve or operating set point (state tolerance)	:		
3.2.6.5.	Static timing (state tolerance): ..... before TDC	:		
3.2.6.6.	Points gap (state tolerance): ..... mm	:		
3.2.6.7.	Dwell angle (state tolerance) : ..... degrees	:		
3.2.6.8	Spark plug	:		
3.2.6.8.1	Make	:		
3.2.6.8.2	Type and designation	:		
3.2.6.8.3	Number of Spark Plug in each cylinder	:		
3.2.6.8.4	Spark-gap setting	:		
3.2.6.8.5	Nominal resistance (kilo ohm) (if resistive type)	:		
3.2.6.9	Anti-radio interference system			
3.2.6.9.1.	Terminology and drawing of anti-radio interference equipment	:		
3.2.6.9.2.	Indication of the nominal DC resistance value and, in the case of resistive ignition leads, statement of nominal resistance per meter	:		

3.2.6.10.2	Type			
3.2.6.10.3	Type/Part no./Identification number(ID)/Drawing No.	:		
3.2.6.11	Ignition condenser(If fitted)	:		
3.2.6.11.1	Make	:		
3.2.6.11.2	Type	:		
3.2.6.11.3	Type/Part no./Identification number(ID)/Drawing No.	:		
3.2.6.12	HT cable(if resistive)	:		
3.2.6.12.1	Type/Part no./Identification number(ID)/Drawing No.	:		
3.2.6.12.2	Nominal resistance per unit length	:		
3.2.6.12.3	Nominal length with tolerance	:		
3.2.6.13	Alternator/ Generator	:		
3.2.6.13.1	Identification number(ID), if resistive type	:		
3.2.7.	**Cooling system (liquid/air)(1)**	:		
3.2.7.1.	Nominal setting for the engine-temperature control device	:		
3.2.7.2	Cooling system temperatures permitted by the manufacturer			
3.2.7.3.	Liquid			
3.2.7.3.1.	Nature of liquid	:		
3.2.7.3.2.	Circulating pump(s): yes/no(1)	:		
3.2.7.3.3	Maximum temperature at outlet: .... °C			
3.2.7.4.	Air			
3.2.7.4.1.	Blower: yes/no (1)	:		
3.2.7.4.2	Reference point	:		
3.2.7.4.3	Maximum temperature at reference point: ……°C	:		
3.2.7.4.4	Max. Exhaust temperature (Except Engine <200 cc)	:		
3.2.7.5	Cooling Fan (if provided)	:		
3.2.7.5.1	No of blades	:		
3.2.7.5.2	Diameter of fan	:		
3.2.7.5.3	RPM of fan	:		

3.2.7.5.4	Material of fan	:		
3.2.8.	**Induction system**			
3.2.8.1.	Supercharging: yes/no(1)	:		
3.2.8.1.1.	Make(s)	:		
3.2.8.1.2.	Type(s)	:		
3.2.8.1.3.	Description of system [example: maximum boost pressure …..... kPa, waste gate (where appropriate)]	:		
3.2.8.2.	Intercooler: with/without(1)	:		
3.2.8.3.	Description and drawings of induction pipe work and accessories (plenum chamber, heating device, additional air intakes, etc.):	:		
3.2.8.3.1.	Description of induction manifold (with drawings and/or photos):	:		
3.2.8.3.2.	Air filter,	:		
3.2.8.3.2.1.	Make	:		
3.2.8.3.2.2.	Type	:		
3.2.8.3.2.3	Part no./Identification number(ID)/Drawing No.	:		
3.2.8.3.2.4	Schematic dimensional drawing	:		
3.2.8.3.3.	Inlet silencer, drawings	:		
	or	:		
3.2.8.3.3.1.	Make(s)	:		
3.2.8.3.3.2.	Type(s)	:		
3.2.9.	**Exhaust system**			
3.2.9.1.	Drawing of complete exhaust system with identification (if proprietary) or part no (if non-proprietary)	:		
3.2.9.2	Silencer (if proprietary)	:		
3.2.9.2.1	Make	:		
3.2.9.2.2	Type	:		
3.2.9.2.3	Number	:		
3.2.9.2.4	Part no./Identification number (ID)/Drawing No.			
3.2.10.	Minimum cross-section of the inlet and exhaust ports	:		

3.2.11.	Induction system or equivalent data			
3.2.11.1.	Maximum valve lift, opening and closing angles in relation to the dead centers, or data concerning the settings of other possible systems	:		
3.2.11.2.	Reference and/or setting ranges(1)	:		
3.2.12.	**Anti-air pollution measures adopted**			
3.2.12.1.	Crankcase-gas recycling device, solely in the case of four-stroke engines description and drawings):	:		
3.2.12.2.	Additional anti-pollution devices, if any (where present and not included under another heading)	:		
3.2.12.2.1.	Catalytic converter make and identification	:		
3.2.12.2.1.1	Type	:		
3.2.12.2.1.2	Number of catalytic converters and elements	:		
3.2.12.2.1.3	Dimensions, shape and volume of the catalytic converter(s)	:		
3.2.12.2.1.4	Substrate(structure and material)	:		
3.2.12.2.1.5	Cell density	:		
3.2.12.2.1.6	Type of casing for the catalytic converter(s)	:		
3.2.12.2.3	Total charge of precious metal g/ vehicle.	:		
3.2.12.2.4	Relative concentration (%) of Pt : Rh : Pd	:		
3.2.12.2.5	Diagram indicating the arrangement and position of catalyst w.r.t. exhaust manifold.	:		
3.2.13	**Secondary Air Injection (yes/ no) (1)**	:		
3.2.13.1	Make and identification	:		
3.2.14	**Fuel temperature 0C: (for diesel engines at the injection pump inlet)**	:		

3.2.14.1	Minimum	:		
3.2.14.2	Maximum	:		
3.2.15	**Lubricant Temperature 0C (Location of measurement be specified)**	:		
3.2.15.1	Minimum	:		
3.2.15.2	Maximum	:		
3.3.	Electric traction motor (yes / no)	:		
3.4.	**Lubrication system**			
3.4.1.	Description of system	:		
3.4.1.1	Location of oil reservoir (if any)	:		
3.4.1.2	Feed system (pump/injection into induction system/mixed with the fuel, etc.)(1)	:		
3.4.1.3	Lubrication oil grade	:		
3.4.2.	Lubricant mixed with the fuel	:		
3.4.2.1.	Percentage	:		
3.4.3.	**Oil cooler: yes/no(1)**	:		
3.4.3.1.	Drawing(s):	:		
	Or	:		
3.4.3.1.1.	Make(s)	:		
3.4.3.1.2.	Type(s):	:		
3.5	**Electronic Control Unit (ECU)**	:		
3.5.1	Make	:		
3.5.2	Type/Part no./Identification number(ID)/Drawing No.	:		
3.5.3	Calibration Identification number(ID) (If applicable)	:		
3.5.4	Adjustment possibilities ,(Yes / No)	:		
3.6	**Exhaust Gas Re-circulating System**	:		
3.6.1	Brief description of the system	:		
3.6.2	Type (Cooled / Non-cooled/ Progressive/ On-Off/ Any Other)	:		
3.6.3	EGR Valve	:		
3.6.3.1	Make	:		
3.6.3.2	Type	:		

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3.6.3.3	Type/Part no./Identification number(ID)/Drawing No.	:		
3.7	**Canister**	:		
3.7.1	Working capacity	:		
3.7.2	Make	:		
3.7.3	Identification number(ID) / Part No./Drawing No	:		
3.7.4	Schematic diagram	:		
3.7.5	Canister bed volume (1)	:		
3.8	**Lambda Sensor (If provided)**	:		
3.8.1	Make	:		
3.8.2	Identification number(ID) / Part No./Drawing No.	:		
3.8.3	Location	:		
4.0	**Transmission**[8]			
4.1.	Diagram of transmission system	:		
4.2.	Type (mechanical, hydraulic, electrical, etc.) [(1)]:	:		
4.3.	Clutch (type)	:		
4.4.	**Gearbox**			
4.4.1.	Type: automatic/manual[(1)]	:		
4.4.2.	Method of selection: by hand/ foot[(1)]	:		
4.4.2.1	Gear shifting pattern	:		
4.4.3.	**Gear ratios**			
4.4.3.1	Primary ratio	:		
4.4.3.2	Secondary ratio	:		
4.4.3.3	Individual and Overall ratios			
4.4.3.3.1	First gear	:		
4.4.3.3.2	Second gear	:		
4.4.3.3.3	Third gear	:		
4.4.3.3.4	Fourth gear	:		
4.4.3.3.5	Fifth gear	:		
4.4.3.3.6	Sixth gear	:		

4.4.3.4	Minimum continuously Variable transmission	:		
4.4.3.5	Maximum continuously Variable transmission	:		
4.4.3.6	Reverse Gear	:		
4.5.	Brief description of the ECUs used in the transmission	:		
4.6.	Maximum speed of vehicle and gear in which it is reached (in km/h)(9)	:		
4.7.	**Speedometer**			
4.7.1	Make(s)	:		
4.7.2.	Type(s)	:		
4.7.3.	Photographs and/or drawings of the complete system	:		
4.7.4.	Speed range displayed	:		
4.7.5.	Tolerance of the measuring mechanism of the speedometer	:		
4.7.6.	Technical constant of the speedometer	:		
4.7.7.	Method of operation and description of the drive mechanism	:		
4.7.8.	Overall transmission ratio of the drive mechanism or pulse / wheel revolution (in case of digital speedometer)	:		
5.0	**Suspension**			
5.1	**Drawing of suspension arrangement**	:		
5.1.1.	Brief description of the ECUs used in the suspension	:		
5.1.2	Springs front and rear	:		
5.1.3	Anti-roll bar	:		
5.1.4	Shock Absorbers front and rear	:		

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Manufacturer :		Document No :	Test Agency :	Cert No :
5.2.	**Tyres (standard type): (Enclose annexure, if required)**			
Signature			Signature	
			Name	Seal
Name		Sheet No	Designation	
Designation		Date	Date of Issue	Page No of

Tyre Variant / version Type Size designation with speed category symbol and load capacity index Make (s) Type Approval Number or BIS license number or identification Dynamic Rolling Radius Front Rear Any other				
5.2.1	Tyre pressures recommended by the manufacturer:	:		
5.2.1.1	Laden (kg/cm2 / kPa)	:		
5.2.1.2	Unladen (with driver) (kg/cm2 / kPa)	:		
5.2.2	Tyre/wheel (rim) combinations	:		
5.2. 3	Minimum-speed category symbol compatible with the theoretical maximum design speed of the vehicle	:		
5.2.4	Minimum load-capacity index with the maximum load on each tyre:	:		
5.2.5	Categories of use compatible for the vehicle	:		
5.3	**Wheel rims**			
5.3.1	Designation (front and rear)	:		
5.3.2	Type (Alloy / Sheet metal / spoke)	:		
5.3.3	Maximum design loading capacity	:		
6.0	**Steering**			
6.1	**Steering gear and control**	:		
6.1.1	Type of steering control(handle bar/ wheel)			
6.1.2	Location of Steering Wheel (centre / offset)			
6.1.3	Type of gear	:		
6.1.4	Brief description of the ECUs used in the steering system	:		

7.2	Front and rear brakes, disc and/or drum (1) and their numbers	:		
7.2.1.	Make(s)	:		
7.2.2.	Type(s) (Hydraulic / Mechanical / Other)	:		
7.3	**Drawing of parts of the brake system**	:		
7.3.1	Shoes and/or pads (1)	:		
7.3.2	Linings and/or pads (Indicate make, grade of material or identification mark) (1)	:		
7.3.3	Brake levers and/or pedals(1)	:		
7.3.4	Hydraulic reservoirs (where applicable)	:		
7.3.5	Front and rear pad/liner dimensions	:		
7.3.6	Front and rear braking area	:		
7.3.7	Diameter of front and rear disc or drum	:		
7.3.8	**ABS (Yes/No)**	:		
7.3.8.1	Directly controlled wheels (Front or rear)	:		
7.3.8.2	Sensors (Make)(front /Rear)	:		
7.3.8.2.1	Identification number(ID) / Part No./Drawing No.	:		
7.3.8.3	Make of modulator(front /rear)	:		
7.3.8.3.1	Identification number(ID) / Part No./Drawing No.	:		
7.3.8.4	Make of ABS ECU	:		
7.3.8.4.1	Make of controller	:		
7.3.8.5	Identification number(ID) / Part No./Drawing No.	:		
7.4	Other devices (parking brake, etc.) (where applicable): drawing and description	:		
7.5	Brief description of the ECUs used in the braking system	:		
7.6	Brake hose – make(s) and Type Approval Number or BIS license number or identification:	:		
7.7	Brake fluid – make(s)	:		
7.8	Control cables (in case of 2 wheelers below 50cc)			
7.8.1	Make			

7.8.2	Cable Diameter			
8.0	**Lighting and light-signaling devices**			
8.1	List of all devices (Enclose annexure, if required)	:		

Device Variant / Version Number make Type Approval Number Lens Colour Tell-tale Colour Head Lamp High beam Head Lamp dipped beam Front position light Tail / stop light Number plate illumination light Direction indicator lights, front and rear Parking lights Reversing light(s) Reflex reflector rear Reflex reflector side(if provided) Hazard warning lamp (wherever applicable)				
8.1.1	Maximum intensity of Head lamp	:		
8.2	Diagram showing the location of the lighting and light-signaling devices on vehicle with relevant dimensions (see AIS-009)	:		
8.3	Additional requirements relating to special vehicles	:		
8.4	Brief description of the ECUs used in the lighting system and in the light-signaling system	:		

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8.5	List of all bulbs (Enclose annexure, if required.)			

Bulb used for Variant / Version number make Type Approval Number colour Designation
as per AIS-034
Head lamp high beam / low beam
Front position light
Tail / stop light
Number plate illumination light
Direction indicator lights
Parking light
Reversing light (s)
Hazard warning lamp

9.0	**Equipment**			
9.1	Coupling devices (where applicable)			
9.1.1	Type: hook/ring/other(1)	:		
9.1.2	Photograph and/or drawings showing the position and the construction of the coupling devices	:		
9.2	Arrangement and identification of controls, tell-tales and indicators (as per AIS-071as applicable)			
9.2.1	Photographs and/or drawings of the arrangement of the symbols, controls, tell-tales and indicators	:		
9.3	Statutory inscriptions			
9.3.1	Photographs and/or drawings showing the location of VIN.	:		
9.3.2	Height of VIN characters.	:		
9.4	Device(s) to protect against unauthorized use			
9.4.1	Type of device(s) as per AIS-074	:		
9.4.1.1	Make(s)			

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9.4.2	Summary description of device(s) used	:		
9.5	**Audible warning device(s)**	:		

9.5.1	Summary description of device(s) used such as horn and their purpose	:		
9.5.2	Make(s)	:		
9.5.3	Type(s)	:		
9.5.3.1	Operating voltage	:		
9.5.3.2	Nos of audible warning devices installed	:		
9.5.4	TAC No. / BIS license number/ "E" marking	:		
9.5.5	Drawing(s) showing the location of the audible warning device(s) in relation to the structure of the vehicle	:		
9.5.6	Dimensional & material Details of the part in front of the Horn(s) which may obstruct audibility	:		
10.0	**Rear-view mirrors (please provide the following information for each rear-view mirror)**			
10.1	Make (s)	:		
10.1.1	Type Approval Number / E-marking / BIS License No.			
10.2	Class of the Mirror as per AIS-002	:		
10.3	Drawing(s) showing the location & Installation Dimension Details of the rear-view mirror(s) in relation to the structure of the vehicle	:		
10.4	Precise information concerning the type of attachment, including that part of the vehicle structure to which the rear-view mirror is attached	:		
11.0	**Provision for Devices for pillion rider and/or passenger(s)**			
11.1	Nos of Handholds for pillion Rider in case of 2 Wheeler	:		
11.1.1	Type: strap and/or handle(1)	:		

Table 1 AIS-007 (Revision 5)

11.1.2	Drawings showing dimensional and material details of strap / handhold(s) and its fixing / bolting details	:		
11.1.3	Nos. of Handholds for passenger(s) in case of 3 Wheeler			

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11.2	Foot rest for rider and pillion	:		
11.3	Protective device covering half of the rear wheel.(as applicable) along with Schematic drawing.	:		
12.0	**Spray suppression device (as applicable)**	:		
12.1	Diagram showing general arrangement of spray suppression system, Angle θ and relevant dimensions as specified in AIS-103 : 2009			
12.2	Tyre Overall Width (Maximum of variants and tyre makes)			
13.0	**List of Electrical/Electronic Systems which are not previously listed**			
13.1	**List of all subassemblies, which includes an electronic oscillator or switching frequency greater than 9kHz (like ECU, instrument Cluster, Body Control Module etc.)**			
13.1.1	Device Name			
13.1.2	Make			
13.1.3	Identification number(ID) / Part No./Drawing No.			
13.2	**List of all Electrical components, which include Broadband EMI sources (like HAVC Motor, Wiper Motor and Horn etc.)**			
13.2.1	Device Name			
13.2.2	Make			
13.2.3	Identification number(ID) / Part No./Drawing No.			
14.0	**Any other features manufacturer desires to declare**			

Table 1 AIS-007 (Revision 5)

	INFORMATION RELATING SOLELY TO L5 CATEGORY VEHICLES			
1.0	**Dimensions and weights** (in mm and kg) (where necessary, refer to drawings)			
1.1.	**Dimensions to be complied with when building un-bodied chassis**	:		
1.1.1.	Length	:		
1.1.2.	Width	:		

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1.1.3.	Unladen height	:		
1.1.4.	Front overhang	:		
1.1.5.	Rear overhang	:		
1.2.	**Weights**			
1.2.1.	Maximum payload declared by manufacturer	:		
2.0	**Equipment**			
2.1	**Windscreen and other glazing**	:		
2.1.1.	Windscreen	:		
2.1.1.1	Make and Materials used	:		
2.1.1.2	Type Approval Number/E-marking / BIS license number:	:		
2.1.2	Other glazing	:		
2.1.2.1	Make and Materials used	:		
2.1.2.2	Type Approval Number/E-marking / BIS license number:	:		
2.2	**Windscreen wiper(s)**	:		
2.2.1	Detailed technical description : Layout including location of "R" Point, "H' Point and related dimensions of wiping area and related dimensions of wiper arm(s) and co-ordinates of mounting (see AIS-045)	:		
2.3	**Seats**	:		
2.3.1	Number	:		
2.3.2	Location	:		
2.3.3	Coordinates or drawing of the R point declared by manufacturer	:		
2.3.3.1	Driving seat	:		

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2.3.4	Intended seat-back inclination	:		
2.3.4.1	Driving seat	:		

Footnotes: -

1) State as appropriate

2) Where a device has been component type-approved, the description may be replaced by a reference to that component type-approval. Likewise, no description is needed where a component's structure is clear from the diagrams or drawings attached to the certificate. State the numbers of the corresponding Annexes for each heading where photographs and drawings must be attached.

Where used, means of identification may appear only on vehicles, separate technical units or components falling within the scope of the AIS / IS governing components type-approval.

3) Classification in accordance with AIS-053.

4) Maximum payload declared by the manufacturer: - load obtained by subtracting the weight defined in 2.2, from the mass defined in 2.3.
5) The mass of the rider is taken to be a round figure of 75 kg.
6) This figure should be to the nearest tenth of a millimeter.
7) This value should be calculated with pi = 3,1416 to the nearest cm^3
8) The information requested should be supplied for a possible variant.
9) A tolerance of 5 % is permitted provided that the limit values pursuant to AIS-017 are not exceeded.
10) Where unconventional engines and systems are fitted, information equivalent to that referred under this heading must be supplied by their manufacturer.
11) In case of CNG / LPG vehicles the additional details in Table 21 format shall be applicable. In case BOV, additional details as per table 13 shall be applicable.

Table 2 of AIS-007 (Revision 5)
TECHNICAL SPECIFICATION – M & N CATEGORY OF VEHICLES

(FOUR WHEELERS AND ABOVE)
PART A – GENERAL

Clause No.	Description
A1.0	**Details of Vehicle manufacturer :**
A1.1	Name & address of the manufacturer
A1.2	Telephone No
A1.3	Fax No.
A1.4	E-mail address
A1.5	Contact Person
A1.6	Name of model and variants (Features differentiating the model and its variants to be given in a separate table)
A1.7	**Plant/(s) of manufacture**
A1.7.1	Name and address of vehicle manufacturing plant

Manufacturer :	Document No :	Test Agency :	Cert No :
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A1.7.2	Name and address of engine manufacturing plant In case of imported vehicles, above details shall be supplied for importer also.
A1.8	**Importer's Name and address**
A1.8.1	Telephone No.
A1.8.2	Fax. No.
A1.8.3	E mail address
A1.8.4	Contact person
A2.0	**Vehicle type:**
A2.1	Type of vehicle (Rigid / articulated / Tractor- Trailer combination / others
A2.1.1	Usage (goods / passenger / others)
A2.1.2	Control (Forward / semi-forward / normal / others)
A2.1.3	Drive (4x2 or 4x4 or 6x2 or 6x4 or others)
A2.1.4	Cab type (Fully built cab (Tiltable / Non-Tiltable) / sleeper cab / Front end structure / Cowl with wind shield / Cowl without wind shield)
A2.1.5	Load body (fitted / not fitted)
A2.2	Category of vehicle as per AIS-053
A3.0	**Vehicle Performance:**
A3.1	Max. recommended gradeability (Stand-start) – in degrees
A3.2	Max. design speed (km/h)

Table 3 of AIS-007 (Revision 5)
TECHNICAL SPECIFICATION – FOUR WHEELERS AND ABOVE
PART B – VEHICLE OVERALL

Clause No.	Description
B1.0	**Vehicle Dimensions :**
B1.1	Length mm
B1.1.1	Total length (mm) (for articulated/combination vehicles)
B1.2	Width mm
B1.3	Height (Unladen) (mm)
B1.4	Wheel base (mm)
B1.4.1	Axle spacing in case of multi axle vehicles.
B1.5	**Wheel track (mm)**
B1.5.1	Front
B1.5.2	Rear
B1.5.3	Other axles (for articulated/combination vehicles)
B1.6	**Body overhang (mm)**
B1.6.1	Front end

B1.6.2	Rear end
B1.7	**Frame overhang mm (in case of vehicles without complete body)**
B1.7.1	Front end
B1.7.2	Rear end
B1.8	**Inner dimensions of room or platform (For goods carriage vehicles only)**
B1.8.1	Length
B1.8.2	Width
B1.8.3	Height
B1.9	Lateral projection
B2.0	**Weights :**
B2.1	**Vehicle kerb weight kg**
B2.1.1	Front axle 1
B2.1.2	Front axle 2
B2.1.3	Rear axle
B2.1.4	Trailer axle (applicable for articulated/combination vehicles)
B2.1.5	Total
B2.2	**Gross vehicle weight kg (for rigid vehicles)**
B2.2.1	Maximum permissible axle weights (kg)
B2.2.2	Front axle
B2.2.3	Rear axle
B2.2.4	Other axle

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B2.3	**Gross combination weight kg (applicable for articulated / Tractor Trailer combination vehicles)**
B2.3.1	Front axle
B2.3.2	Rear axle
B2.3.3	Trailer axle / other axles
B2.4	Reference mass (for vehicles with GVW less than or equal to 3.5 ton) (kg.)
B2.5	**Seating capacity**
B2.5.1	Maximum (Including driver) for completely built vehicles
B3.0	**Tyres :**
B3.1	Make
B3.2	*No. and arrangement of wheels*
B3.2.1	Front

B3.2.2	Rear
B3.2.3	Spare wheel
B3.2.4	Others (for articulated/combination vehicles)
B3.3	**Tyre type (Radial/cross ply) (with Tube / Tube less), size designation including ply rating, speed rating, Load rating or Load index. Use symbols as per IS 15633 / IS 15636 as may be applicable.**
B3.3.1	Front wheel
B3.3.2	Rear wheel
B3.3.3	Spare wheel (Other than temporary use spare wheel)
B3.3.4	Other (for articulated/combination vehicles)
B3.4	Dynamic rolling radius, mm, as per IS 15633 / IS 15636
B3.5	**Inflation pressure – Unladen (kg/cm^2 / kPa)**
B3.5.1	Front
B3.5.2	Rear
B3.5.3	Other
B3.6	**Inflation pressure – Laden (kg/cm^2 / kPa)**
B3.6.1	Front
B3.6.2	Rear
B3.6.3	Other
B3.7	Tyre Pressure Monitoring System (TPMS) / Run Flat Warning System as applicable for Run-Flat tyres - as per AIS-110 (If Provided)
B3.7.1	Make (If Applicable)
B3.7.2	Brief Description of the system

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B3.8	**Temporary Spare Wheel / RFT- as per AIS-110 (If Provided)**
B3.8.1	Type as per AIS-110
B3.8.2	Make
B3.8.3	Size
B3.8.4	Load and speed rating
B3.8.5	Recommended max speed
B4.0	**Transmission :**

Manufacturer :	Document No :	Test Agency :	Cert No :
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B4.1	Type (Manual/Automatic/semi-automatic) (**Note**: If automatic give all pertinent data)
B4.2	Clutch Type (wet/Dry/Single plate/ Multi plate / Hydraulic)
B4.3	**Gear box**
B4.3.1	Type
B4.3.2	Model name (if any)
B4.3.3	Gear shifting control system (Sketch showing gear shifting arrangement)
B4.3.4	No. of gears
B4.4	Stall ratio of torque converter
B4.5	**Sub transmission**
B4.5.1	Type
B4.5.2	Control system
B4.5.3	Gear ratio High Low
B4.6	**Final Drive** **Front / Rear / Both**
B4.6.1	Type
B4.6.2	Reduction ratio
B4.6.3	Differential type
B4.6.4	Final Drive ratio
B4.7	**Gear ratio** **Gear box ratio** **Overall ratio** **1st** **2nd** **3rd** **4th** **5th** **6th** **Over drive** **Reverse**

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B4.8	**Hydraulic transmission**
B4.8.1	Type

Manufacturer :	Document No :	Test Agency :	Cert No :
B5.0 Signature	**Number of axles :** Steered Non-steered Driven Non-driven	Signature	
		Name	Seal
B6.0 Name	**Front axle :**	Sheet No	Designation
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B6.1	Type (Single / Multi / Retractable)
B6.2	Toe-in / Toe out (mm)
B6.3	Camber angle
B6.4	Caster angle
B6.5	King pin angle
B7.0	**Rear axle :**
B7.1	Type (Single / Tandem / Tridem / Multi/ Retractable)
B7.2	Toe-in/ Toe out mm, if applicable
B7.3	Camber angle, if applicable
B7.4	Caster angle, if applicable
B7.5	King pin angle, if applicable
B8.0	**Steering system :**
B8.1	Make
B8.1.1	Type (Manual / Power assisted – Hydraulic / Power assisted – Electric / Other)
B8.2	**Steering wheel**
B8.2.1	Identification Mark / Part No./Drawing No.
B8.2.2	Position (center/offset)
B8.2.3	Outside dia. (mm)
B8.2.4	**Steering column**
B8.2.4.1	Make
B8.2.4.2	Type / Model
B8.2.4.3	Detailed drawing with material specifications
B8.2.5	**Intermediate shaft**
B8.2.5.1	Make
B8.2.5.2	Type / Model
B8.2.5.3	Detailed drawing with material specifications
B8.3	Maximum No. of rotation of steering wheel from lock to lock

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B8.4	Details of single / multiple combinations to be given in the form of an Annexure with reference to IS 11939:1996
B8.5	Detailed drawing of the mounting arrangement of Steering control assembly showing vertical / tilt / actual angle.

B8.6	Offset of the steering column with respect to the seat
B8.7	**Steering Gear**
B8.7.1	Type of steering gear (Re-circulating ball / Worm & Roller / Rack & Pinion / Others)
B8.7.2	Make
B8.7.3	Steering gear ratio
B8.8	**Wheel lock angle (deg.)** **Inner** **Outer**
B8.8.1	Left
B8.8.2	Right
B8.9	**Power Assistance**
B8.9.1	Type of assistance
B8.9.2	Make
B8.9.3	Identification No./ Part No.
B8.9.4	Pressure setting (kg/cm2 / bar / kPa)
B8.10	Min turning circle diameter (mm) (as per IS 12222)
B8.11	Min. turning circle clearance diameter (mm)
B8.12	Coordinates of point defining test turning circle. (Applicable in case of vehicles without complete body which does not cover this point)
B9.0	**Clearance (Requirement as per AIS-053, If applicable):**
B9.1	Minimum road clearance
B9.2	Road clearance from floor (for buses)
B9.3	Approach angle
B9.4	Departure angle
B9.5	Ramp-over angle
B9.6	Minimum Ground Clearance as per IS 9435:2004
B10.0	**Max. stable inclination (For buses as per AIS-031) :**
B10.1	Left
B10.2	Right
B11.0	**Suspension :**
B11.1	**Type and description (Leaf / Coil / Air / Semi-pneumatic / Torsion bar)**
B11.1.1	Front
B11.1.2	Rear

B11.2	**Make**
B11.2.1	Front
B11.2.2	Rear
B11.3	Type of spring
B11.4	**If leaf spring**
B11.4.1	**Main spring**
B11.4.1.1	Stack height, at center
B11.4.1.2	Width at the center point / stack point
B11.4.1.3	Flat length
B11.4.1.4	Free camber
B11.4.1.5	No. of leaves Left Right No. of leaves No. of spacers
B11.4.2	**Auxiliary Spring**
B11.4.2.1	Stack height at, at center
B11.4.2.2	Width at the center point / stack point
B11.4.2.3	Flat length
B11.4.2.4	Free camber
B11.4.2.5	No. of leaves Left Right No. of leaves No. of spacers
B12.0	**Suspension- Shock absorber :**
B12.1	**Type and Number**
B12.1.1	Front
B12.1.2	Rear
B13.0	**Suspension- Stabilizer :**
B13.1	Front
B13.2	Rear
B14.0	**Chassis frame :**
B14.1	Type
B15.0	**Displays and tell tales ☹Indicate the type and if the tell tales provided and whether they are symbols or letter. (AIS-071 part 1 and 2 or corresponding Indian Standard))**
B15.1	Head lamp – upper / lower control

B15.2	Ignition cut-off
B15.3	Turn signal

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B15.4	Fuel Gauge
B15.5	Engine coolant temperature
B15.6	Engine low oil pressure
B15.7	High beam indicator
B15.8	Electrical charge indicator (Battery charge)
B15.9	Brake failure
B15.10	Front fog light
B15.11	Rear fog light
B15.12	Horn
B15.13	Others (such as ABS failure, Airbag, HVAC, Seat belt, Content gauge, LPG / CNG changeover switch etc.,)
B16.0	**Hood latch :**
B16.1	Make
B16.2	Type
B16.3	Identification No. / Part No.
B17.0	**Wheel guard (IS 13943 for passenger cars)**
B17.1	Dimension C
B17.2	Dimension p
B17.3	Dimension q
B18.0	**External Projections**
B18.1	Ornaments
B18.2	Projection for head light
B18.3	Radiator grills (Applicable of on external surface)
B18.3.1	Gap between individual elements
B 18.3.2	Radius of curvature of individual element
B18.4	Body Panel (In case of radius of curvature of folds in body panels are less than 2.5mm the scaled drawing of folds contour and H value as per IS 13942 is required to be submitted)
B18.5	Radius of curvature of lateral Rain/Air deflector

B19.0	**Speedometer:**
B19.1	Type
B19.2	Make, and Identification No. / Part No./ Drawing No.
B19.3	Range
B19.4	Major marking
B19.5	Minor marking
B19.6	Speedometer ratio
B19.7	Ratio of Speedo drive

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B20.0	**Odometer : (only in case of CNG buses)**
B20.1	Make
B20.2	Type and Identification No. / Part No.
B21.0	**Safety belt anchorages – specifications**
B21.1	Design of the type of belts and retractors authorized for fit to the anchorages with which vehicle is equipped :
B21.2	Section views of all the seat belt anchorages.

Anchorage Position	**Anchorage on (*)**
	Vehicle Structure **Seat Structure**
Front	Right-hand seat Lower anchorage Outboard Inboard Upper anchorage Middle seat Lower anchorage Right Left Lower anchorage Left-hand seat Lower anchorage Outboard Inboard Upper anchorage
Rear	

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B21.3	Reference point on body used for vehicle and seat co-ordinate measurement, X, Y, Z co-ordinates of all the seat belt anchorage points.
B21.4	Weight of seats
B21.5	C.G. of seats (Sketch, showing the C.G. location form reference point or from seat anchorage point).
B22.0	**Seats, their anchorages and head restraints**
B22.1	**Seats, their anchorages and head restraints-specifications for M1 category.**
B22.1.1	Description of seats
B22.1.1.1	Make
B22.1.1.2	Number of seats fitted or capable of being fitted with head restraints, adjustable or not adjustable.
B22.1.1.3	Description of the adjustment, displacement and locking systems of the seat or of its parts and a description of occupant protection system against displacement of luggage.
B22.1.2	Description of seat anchorage
B22.1.2.1	Longitudinal position of the seats during the tests.

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B22.1.2.2	Drawings, diagrams and plans of the seats, their anchorages on the vehicle, the adjustment and displacement system of the seats and their parts, and their locking devices and of additional occupant protection system against displacement of luggage.
B22.1.2.3	In the case of seats fitted with head restraints, the head restraint shall be shown on all drawings, diagrams and photographs.
B22.1.3	Seat Drawings showing 'H point co-ordinates with respect to reference point on body shell
B22.1.4	All designed positions i.e. Slider, Height Adjuster, Manikin settings, Torso Angle etc.
B22.1.5	Seat Identification No. / Part No.
B22.2	**Seats, their anchorages and head restrains (for passenger vehicles of categories other than M1 and goods vehicles of category N).**
B22.2.1	Make
B22.2.2	Brief description of the seat type, its attachment fittings and its adjustment, displacement and locking systems including the minimum distance between fitting points.
B22.2.3	Position and arrangement of seats including seat layout.
B22.2.4	Seats if any which incorporate a safety belt anchorage.
B22.2.5	Seat Identification No./ Part No.
B23.0	**Rear Under run Protective device**
B23.1	Height of lower edge of the device from the ground (mm).
B23.2	Width of the device (mm).
B23.3	Drawing of the rear under-run protective device with dimensions.
B23.4	Installation drawing showing rear extremity of vehicle, chassis rear overhang, chassis cross section details etc.
B23.5	Material (Metal / Fibre / etc.)

B24.0	**Lateral Protection (Side Guards)**
B24.1	Height of the lower edge of the Side Guard.
B24.2	Drawing of the lateral protection device with dimensions.
B24.3	Installation drawing of the lateral protective device with dimensions.
B24.4	Material (Metal / Fiber / etc.)
B25.0	**Controls - Specify method of operation, hand operated - left / right, foot operated - left / right Ref. SS 12.1 or corresponding Indian Standard).**
B25.1	Ignition
B25.2	Horn
B25.3	Lamps (Head lamp, Tail lamp, Parking lamp and Number plate lamp)
B25.4	Turn signal
B25.5	Transmission shift lever

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B25.6	Wind shield wiper
B25.7	High beam/low beam
B25.8	Parking brake
B25.9	Master switch for electrical
B25.10	Hazard warning signal
B25.11	Service Brake
B25.12	Accelerator Pedal (Floor hinged/hanging type)
B25.13	Others
B26.0	**Safety glass**
B26.1	**Front wind shield (laminated)**
B26.1.1	Make
B26.1.2	Identification: TAC No. / BIS License No. / E- Marking
B26.1.3	Type (flat/curved, clear/tinted)
B26.1.4	Thickness (mm)
B26.1.5	No. of pieces
B26.1.6	Radius of curvature (if curved)
B26.1.7	Method of fixing (for approval of Demisting / Defrosting system)
B26.2	**Side Windows (Left & Right)**
B26.2.1	Make
B26.2.2	Identification: TAC No. / BIS License No. / E- Marking
B26.2.3	Type(flat/curved, clear/tinted, toughened/laminated)
B26.2.4	Thickness mm

B26.3	**Rear Window**
B26.3.1	Make
B26.3.2	Identification: TAC No. / BIS License No. / E- Marking
B26.3.3	Type(flat/curved, clear/tinted, toughened/laminated)
B26.3.4	Thickness mm
B26.3.5	Radius of curvature (if curved)
B27.0	**Rear view mirror : [As applicable to the category of vehicle]**
B27.1	**Interior mirror (Class-I)**
B27.1.1	Make
B27.1.2	Identification: TAC No. / BIS License No. / E- Marking
B27.1.3	Area of mirror and radius of curvature of reflecting surface

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B27.2	**Main mirror (Large) (Class-II)**
B27.2.1	Make
B27.2.2	Identification: TAC No. / BIS License No. / E- Marking
B27.2.3	Area and radius of curvature of the mirror glass reflecting surface
B27.3	**Main mirror (Small) (Class-III)**
B27.3.1	Make
B27.3.2	Identification: TAC No. / BIS License No. / E- Marking
B27.3.3	Area and radius of curvature of the mirror glass reflecting surface
B27.4	**Wide angle mirror (Class-IV)**
B27.4.1	Make
B27.4.2	Identification: TAC No. / BIS License No. / E- Marking
B27.4.3	Area and radius of curvature of the mirror glass reflecting surface
B27.5	**Close proximity mirror (Class-V)**
B27.5.1	Make
B27.5.2	Identification: TAC No. / BIS License No. / E- Marking
B27.5.3	Area and radius of curvature of the mirror glass reflecting surface
B27.6	**Front mirror (Class-VI)**
B27.6.1	Make

B27.6.2	Identification: TAC No. / BIS License No. / E- Marking
B27.6.3	Area and radius of curvature of the mirror glass reflecting surface
B27.7	**Devices for indirect vision other than mirrors:**
B27.7.1	Make
B27.7.2	Identification: TAC No. / BIS License No. / E- Marking
B27.7.3	Area and radius of curvature of the mirror glass reflecting surface
B27.8	Brief drawing showing installation dimensions of all mirrors provided on the vehicle and drivers ocular point angle with RH mirror
B28.0	**Information on safety belt / restraint system :**
B28.1	**Safety belt**
B28.1.1	Make of seat belt
B28.1.2	Type and configuration
B28.1.3	Identification No. / Part No.
B28.2	**Restraint system**
B28.2.1	Make
B28.2.2	Type and configuration
B28.2.3	Identification No. / Part No.

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B28.2.4	Drawings of the relevant parts of the vehicle structure and any seat anchorage reinforcements
B28.2.5	Drawings of the seat, showing its structure, adjustment system and fixing components, with an indication of the materials used.
B28.2.6	Drawing or photograph of the restraint system as installed.
B28.2.7	Drawing showing the installation of belts on the vehicle.
B28.3	**Safety belts and / or other restraint systems :**

B28.3.1	Number and position of safety belts and restraint systems and seats on which they can be used **Row of Seat (if applicable) Location* Type of seat belt Variant Belt adjustment device for height (indicate yes/no/optional)** First row of seats L C R Second row of seats L C R The table may be extended as necessary for vehicles with more than two rows of seats there are more than three seats across the width of the vehicle. *(L = left-hand side, R= right-hand side, C = centre)
B28.4	**Emergency exit**
B28.4.1	Position
B28.4.2	Size
29.0	**Fuel tank :**
B29.1	Make
B29.2	Material (Metallic / Plastic etc.)
B29.3	Nominal thickness mm
B29.4	Capacity, litre
B29.5	Detailed drawing of the fuel tank assembly with material specifications
B29.6	Detailed drawing indicating the position / location of the fuel tank (s) in the vehicle.
B29.7	Identification No. / Part No.
B30.0	**Wheel rim**
B30.1	Size
B30.1.1	Front
B30.1.1.1	Make
B30.1.2	Rear
B30.1.2.1	Make

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B30.1.3	Others
B30.2	Make
B30.3	Identification No. / Part No.
B31.0	**Door, Door locks and hinges :**
B31.1	**Doors**
B31.1.1	No. of doors
B31.1.2	Position and type of door
B31.1.3	Detailed drawing of the door including location of the door strengthening bars, cross section of the bars, material specification of the bar and door sheet metal, number of reinforcements and details of welding / bolting etc.,(for side door impact test)
B31.2	**Door lock / latch**
B31.2.1	**Front**
B31.2.1.1	Make
B31.2.1.2	Identification No. / Part No.
B31.2.2	**Rear**
B31.2.2.1	Make
B31.2.2.2	Identification No. / Part No.
B31.3	**Door hinge**
B31.3.1	**Front**
B31.3.1.1	Make
B31.3.1.2	Identification No. / Part No.
B31.3.2	**Rear**
B31.3.2.1	Make
B31.3.2.2	Identification No. / Part No.
B32.0	**Wheel Fastener(s) and Hub cap :**
B32.1	**Wheel Nut (s) / Bolt (s)**
B32.1.1	Make
B32.1.2	Size
B32.1.3	No. per wheel
B32.1.4	Tightening torque on vehicle (recommended by Vehicle Manufacturer)
B32.1.5	Detailed dimensional drawing along with material specifications
B32.2	**Wheel cap (if provided)**
B32.2.1	Detailed dimensional drawing along with press fit diameter as applicable

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B32.3	**Hub cap**
B32.3.1	Make
B32.3.2	Method of fitment (Press/bolted/others)
B32.3.3	Brief dimensional drawing along with pressfit diameter as applicable
B33.0	**Towing devices :**
B33.1	Type
B33.2	Make
B33.3	Capacity
B34.0	**Coupling devices (for trailers) :**
B34.1	Make
B34.2	Identification mark
B34.3	Type of coupling device for mechanical
B34.4	Type of coupling device for electrical
B34.5	Type of coupling device for brake
B34.6	Dia. Of king pin (mm)
B35.0	**Spray Suppression System**
B35.1	Make
B35.2	Type (Water separator / Pulveriser)
B35.3	Identification No. / Part
B35.4	Size
B35.5	Detailed engineering drawing as specified in AIS-013 or photographs showing the mounting details with dimensions.
B36.0	**Interior Fittings as per IS 15223 or AIS-047, as applicable**
B36.1	Instrument Panel (Dash Board)
B36.2	Make
B36.3	Identification No. / Part No.
B36.4	Drawing showing the mounting details, overall size and all control switches with dimensions
B36.5	Additional details for interior fitting tests to be given (if test is already conducted, this information need not be submitted).

B36.5.1	Instrument Panel Variants with photographs (With / without Airbag, Music system, AC)
B36.5.2	Material used for instrument Panel
B36.5.3	Drawings
B36.5.3.1	Instrument Panel mounting (With hardware details)
B36.5.3.2	'H' point co-ordinates for each seating position
B36.5.3.3	Cross sectional drawings for each projection more than 3.2

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B36.5.3.4	Cross sectional Drawing of Gear shift lever
B36.5.3.5	Drawing of Grab handle with cross section
B36.5.3.6	Drawing of Sun visor with details of metal wire used
B36.5.3.7	Drawing of lamp assembly mounted at roof
B37.0	**Bumper (for M1 category vehicle) :**
B37.1	Make
B37.2	Identification No. / Part No./Drawing No.
B37.3	Installation drawing showing location of Bumper in the front and rear, fitment of the Bumper, dimensions of Bumper, mounting points, details of mounting fasteners and additional fitments on it.
B37.4	Material of Bumper with details (metallic / non-metallic)
B37.5	Test method to be adopted by the test agency (Pendulum impact test, Component level vibration test, or Vehicle level four poster test)
B 38.0	**Flammability requirements of interior materials as per IS 15061, as applicable.**
B 38.1	**Seat Upholstery**
B 38.1.1	Make
B 38.1.2	Material and Composition
B 38.1.3	Identification No. / Part No./Drawing No.
B 38.2	**Roof lining**
B 38.2.1	Make
B 38.2.2	Material and Composition
B 38.2.3	Identification No. / Part No./Drawing No.
B 38.3	**Floor lining**
B 38.3.1	Make
B 38.3.2	Material and Composition
B 38.3.3	Identification No. / Part No./Drawing No.
B 38.4	**Side wall lining**
B 38.4.1	Make.
B 38.4.2	Material and Composition
B 38.4.3	Identification No. / Part No./Drawing No.

B 38.5	**Rear wall lining**
B 38.5.1	Make
B 38.5.2	Material and Composition
B 38.5.3	Identification No. / Part No./Drawing No.
B 38.6	**Interior lining of luggage racks**
B 38.6.1	Make
B 38.6.2	Material and Composition
B 38.6.3	Identification No. / Part No./Drawing No.

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B 38.7	**Heating and ventilation pipe**
B 38.7.1	Make
B 38.7.2	Material and Composition
B 38.7.3	Identification No. / Part No./Drawing No.
B 38.8	**Curtain / Blinds / Hanging material**
B 38.8.1	Make
B 38.8.2	Material and Composition
B 38.8.3	Identification No. / Part No./Drawing No.
B 38.9	**Material for Luminaries**
B 38.9.1	Make
B 38.9.2	Material and Composition
B 38.9.3	Identification No. / Part No./Drawing No.
B 38.10	**Separation wall**
B 38.10.1	Make
B 38.10.2	Material and Composition
B 38.10.3	Identification No. / Part No./Drawing No.
B39.0	**Hand holds (as per AIS-046)**
B39.1	No. of hand holds
B39.2	Details and dimension of hand hold indicating length, clearance between the hand hold and body and cross sectional area. Of every hand hold (if required , details may be provided as a separate Annexure)
B39.2.1	Make
B39.2.2	Identification No. / Part No./Drawing No.
B39.2.3	Type (Grab handle / Strap / Hand Rail)
B39.2.4	Material
B39.2.5	Size
B39.3	Installation drawing of hand hold, showing location of mounting for every seating position, passengers details of mounting fasteners and additional fitments on it

B 40.0	**Arrangement of foot controls (For M1 category as per AIS-035)**
B 40.1	Distance between the contour points of the orthogonal projections on to plane “P” of the accelerator pedal and service brake pedal bearing surfaces, “E” in mm.
B 40.2	Distance between the projection of the service brake pedal on to the reference plane “P”, to the right, “H” in mm.
B 40.3	Distance between the projection of the service brake pedal on to the reference plane “P”, to the left, “J” in mm.
B 40.4	Drawing showing the parts and arrangement of the foot controls along with dimensions “E”, “H” and “J”

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B41.0	**Statutory Plates – Vehicle Identification Number (As per AIS-065)**
B41.1	Drawings and/or photographs of the locations of the statutory plates and inscriptions and of the vehicle identification number
B41.2	Drawings and / or photographs of the official part of the plates and inscriptions (completed example with dimensions)
B41.3	Drawings and / or photographs of the Body Builder’s Plates and its location on the vehicle
B41.4	World Manufacturer’s Identifier (WMI) code and its location in Vehicle Identification Number (VIN)
B41.5	Location of Vehicle Descriptor Section (VDS) in Vehicle Identification Number (VIN)
B41.6	Location of Vehicle Indicator Section (VIS) in Vehicle Identification Number (VIN)
B41.7	Height of characters in VIN (mm)
B42.0	**Window retention and release for Buses as per IS 13944**
B42.1	**Window safety glass**
B42.1.1	Method of Window Fixing (sliding or sealed or opening outside etc.)
B42.1.2	Brief description of the Provision for emergency exit provided in case of sealed windows
B42.1.3	Name of the Window Manufacturer
B42.2	Drawing (including Drawing no. & Revision no.) including Plan view, Elevation, LH, RH view of Vehicle showing the dimensions of all windows, seating layout and location of emergency exit.
B42.3	Detailed Brief dimensional drawing of emergency exit indicating its location(s)
B42.4	Number of passenger compartment doors provided in addition to driver’s door.
B42.5	Dimensions Emergency exit identification
B42.5.1	Number(s) and Dimensions of Roof Exit (if provided)
B42.6	Dimensions of the instructions describing each motion necessary to unlatch and open the exit are provided from the release mechanism.
B 43.0	**Front Under run Protective devices as per AIS-069**

B 43.1	Drawing of the vehicle parts relevant to the front under run protection, i.e, drawing of the vehicle and/or chassis with position and mounting and/or fitting of the front under run protective device. If the under run protection is by no special device, the drawing should clearly show as how the required dimensions are met.
B 43.2	In the case of special device, full description and/or drawing of the front under run protection (including mountings and fittings).

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B 44.0	**Coupling Device (for T Category)**
B 44.1	Trade name or mark / approval No(s):
B 44.2	Type (Mechanical / Close):
B 44.3	Class of coupling device
B 44.4	Maximum permissible static mass on coupling ball (kg)
B 44.5	Maximum permissible static vertical load on coupling ball (kgf)
B 44.6	Drawing showing details of mounting points on the vehicle
B 44.7	D............. kN Dc................ kN S............... kg U...............tonnes V............. …kN
B 45.0	Make of the rear marking plate:
B 45.1	Rear marking plate type:
B 45.2	Rear marking plate class:
B 45.3	Position and nature of the marking:
B 46.0	Anti-theft devices (Mechanical / Retro-mechanical devices as per AIS-075)
B 46.1	Make
B 46.2	Identification No. / Part No./Drawing No.
B 46.3	Type of protective device (s) (Ref. Clause No. 10.3 of AIS-075)
B 46.4	No. of combinations used in the protective device
B 46.5	Description of device or sketch drawing location, relevant dimension of protective device, material and physical property of the locking element of the device which engages with the steering / transmission / gearshift (as the case may be)
B 46.6	Any device specific information (As per Clause 13.0)
B 46.7	Devices provided additionally, acoustic or visual (if visual, duration and type of optical signal be specified)
B 47.0	Vehicle Alarm Systems and Immobilisers (as per AIS-076, for M1 & N1 Category Vehicles)
B 47.1	Make

B 47.2	Type
B 47.3	Identification No. / Part No./Drawing No.
B 47.4	A detailed description of the alarm system and of the vehicle parts related to alarm system installed.
B 47.5	A list of main components comprising the alarm system
B 47.6	Measures against false alarm
B 47.7	Range of protection offered by the device

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B 47.8	Method of setting / unsetting the device
B 47.9	Number of interchangeable codes, if applicable
B 47.10	List of main components comprising the device
B 47.11	Description of the method of installation illustrated by photographs and / or drawings.
B 48.0	Child Restraint system (CRS) ;
B 48.1	Seating Positions for Child restraint system (As per AIS-072)

Mass Group	Seating position (or other site)				
	Front Passenger	Rear Outboard	Rear Centre	Intermediate Outboard	Intermediate Centre
Group 0 up to 10 kg					
Group 0+ up to 13 kg					
Group I 9 to 18 kg					
Group II 15 to 25 kg					
Group III 22 to 36 kg					

Key of letters to be inserted in the above table:

U = Suitable for "universal" category restraints approved for use in this mass group.

UF = Suitable for forward-facing "universal" category restraints approved for use in this mass group.

L = Suitable for particular child restraints given on attached list. These restraints may be of the "specific vehicle", "restricted" or "semi-universal" categories.

B = Built-in restraint approved for this mass group.

X = Seat position not suitable for children in this mass group.

B 48.2	Details of CRS (To be provided if the CRS is not of Universal category (U/UF))
B 48.3	Category of CRS(Semi Universal, Restricted or specific vehicle)
B 48.4	Belt type: (adult) three-point belt (adult) lap belt/ special type belt/retractor;

B 48.5	Trade name or mark
B 48.6	Drawings, Diagrams and plans of the child restraint, including any retractor, chair assembly, impact shield fitted
B 48.7	Drawings, Diagrams and plans of the child restraint, including any retractor, chair assembly, impact shield fitted;
B 48.8	Drawings, Diagrams and plans of the vehicle structure and the seat structure, as well as of the adjustment system and the attachments, including any energy absorber fitted;
B 48.9	Photographs of the child restraint and/or vehicle structure and seat structure;

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B 49.0	Head-On Collision as per AIS-096 and Off-set frontal collision as per AIS-098
B 49.1	Brief description of the vehicle type as regards its structure, dimensions, lines and constituent materials:
B 49.2	Description of the protective system installed in the vehicle:
B 49.3	Description of interior arrangements or fittings that might affect the tests:
B 49.4	(Photographs and/or diagrams and drawings permitting the basic identification of the type(s) of vehicle and its possible variants which are covered by the approval)
B 50.0	Side-Impact resistance as per AIS-099
B 50.1	A detailed description, including photographs and/or drawings, of the vehicle type with respect to the structure, the dimensions, the design and the constituent materials, the side walls of the passenger compartment (exterior and interior), including specific details of the protection system, where applicable:
B 51.0	Pedestrian protection as per AIS-100 :
B 51.1	A detailed description, including photographs and/or drawings, of the vehicle with respect to the structure, the dimensions, the relevant reference lines and the constituent materials of the frontal part of the vehicle (interior and exterior) shall be provided. This description should include detail of any active protection system installed.
B 52.0	Speed Governor (As applicable)
B 52.1	Type of Speed Governer (SLD / SLF)
B 52.2	Speed Limiting Device (SLD) [For vehicles with max. speed above 80 kmph in unladen condition as per AIS-018]
B 52.3	Make
B 52.4	Model
B 52.5	Identification: TAC No. / BIS License No.
B 52.6	SLD approved for speed/s (Annexure to be provided including information for every Vehicle Model / Variants indicating various SLD approved speeds contributed due to declared transmission options)
B 53.0	Temporary Cabin for drive away chassis :
B 53.1	Width of the temporary cabin (mm)
B 53.2	Height of the temporary cabin (from seat top surface to canopy) (mm)
B 53.3	Depth or Length of the temporary cabin (Clearance from the rear most back rest when the seat is taken at the rear-most position) (mm)
B 53.4	Windshield type

B 53.5	Drawing showing the mounting and relevant dimensions

Table 4 of AIS-007 (Revision 5) TECHNICAL SPECIFICATION – FOUR WHEELERS AND ABOVE PART C - ENGINE	
Clause No.	**Description**
C1.0	**Description of Engine:**
C1.1	Type (Compression Ignition / Positive Ignition)
C1.1.1	Compliance sought for emission norms (BS-III /BS -IV /Any other)
C1.2	Make
C1.3	Name and address of the engine manufacturing plant
C1.4	Working principle: (Four / two stroke), (DI / IDI) (NA/TC/TCIC/ Any other)
C1.5	Model name and identification
C1.6	Type of fuel used
C1.7	No.& Layout of cylinders & firing order
C1.8	Swept volume cc
C1.9	Bore (mm)
C1.10	Stroke (mm)
C1.11	Compression ratio (specify tolerance)
C1.12	**Engine performance (declared by the manufacturer):**
C1.12.1	Max. Net power of engine on bench (kW @ rpm)(Specify standard and tolerance)
C1.12.2	Maximum net torque on bench (Nm @ rpm) **Note** : In case of diesel engines the max. Power and max. Torque shall be specified as per conditions given in Chapter 6 of Part IV of Doc. MoRTH / CMVR / TAP-115 / 116 Issue No.3
C1.13	Location of engine (Front / Rear)
C2.0	**Combustion System:**
C2.1	Type of combustion chamber (Hemispherical/ squish/others)
C2.2	Drawing(s) of combustion chamber and piston crown (Enclose the drawing & Mention the drawing no. & Part no.)
C2.3	Minimum cross section area of ports
C2.3.1	Inlet (cm2)
C2.3.2	Outlet (cm2)
C3.0	**Ignition System (Spark Ignition engines only):**
C3.1	Type
C3.2	Nominal Voltage
C3.3	Operating Principle
C3.4	CDI
C3.5	Table of Combination for EMI test

C3.6	Ignition advance curve (specify tolerance) & enclose the curve
C3.7	Ignition timing (specify tolerance)
C3.8	Contact point gap and dwell angle (specify tolerance)
C3.9	Type and make of distributor
C3.10	**Sparking plugs**
C3.10.1	Make
C3.10.2	Type and designation
C3.10.3	Spark-gap setting
C3.10.4	Nominal resistance (kilo ohm) (if resistive type)
C3.11	**Ignition coil**
C3.11.1	Make
C3.11.2	Type
C3.11.3	Identification
C3.12	**Ignition condenser**
C3.12.1	Make
C3.12.2	Type
C3.12.3	Identification
C3.13	**EMI suppressor cap / Device / Electronic unit**
C3.13.1	Make
C3.13.2	Type (Resistive/Capacitive)
C3.13.3	identification
C3.13.4	Nominal resistance (kilo ohm)
C3.13.5	Terminology and Drawing of interference Suppression equipment
C3.14	**H.T. Cable**
C3.14.1	Make and Place
C3.14.2	Type (Resistive/Non-resistive)
C3.14.3	Length mm (if resistive type)
C3.14.4	Outside dia. mm (if resistive type)
C3.14.5	Nominal resistance kilo ohm, (if resistive type)
C4.0	**Cooling system :**
C4.1	**Liquid cooling system**

C4.1.1	Nature of liquid
C4.1.2	Circulating pump yes/no

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C4.1.3	Characteristics of Circulating pump or make(s) & type(s)
C4.1.3.1	Drive ratio
C4.1.4	Nominal temperature setting of the engine temperature control mechanism
C4.1.5	Radiator drawing(s)
C4.1.5.1	Make(s)
C4.1.5.2	Type(s)
C4.1.5.3	Relief valve pressure setting
C4.1.6	Fan characteristics (Fan power, kW) Enclose the fan power curve corresponding to full load (v/s engine speed) of viscous fan.
C4.1.6.1	Make(s)
C4.1.6.1.1	No. of blades
C4.1.6.1.2	Material of blades (metal / plastic)
C4.1.6.2	Type(s) [Fixed / Viscous / Electrical driven]
C4.1.6.3	Drive ratio
C4.1.6.4	Fan diameter (mm)
C4.1.6.5	Max. Speed of fan (in rev/min)
C4.1.7	Radiator core open area (cm^2)
C4.2	**Air Cooling system**
C4.2.1	**Blower characteristics**
C4.2.1.1	Make
C4.2.1.2	Type(s)
C4.2.1.3	Drive ratio(s)
C4.2.2	Air ducting (std production)
C5.0	**Temperature permitted by manufacturer in ^0C for liquid cooling (Location of measurement be specified)**
C5.1	Max. temp. at engine outlet
C6.0	**Temperature permitted by manufacturer in ^0C for Air cooling (Location of measurement be specified)**

C6.1	Reference point
C6.2	Max. temperature at reference point
C6.3	Max. Temperature of the intercooled-air (Location of measurement be specified)
C6.4	Max. Exhaust temperature (in case of diesel engines, at the point in the exhaust pipe(s) adjacent in outlet flange(s) of exhaust manifolds), Specify the distance from the outlet flange.

C7.0	**Fuel temperature ^{0}C: (for diesel engines at the injection pump inlet)**
C7.1	Minimum
C7.2	Maximum
C8.0	**Lubricant Temperature ^{0}C (Location of measurement be specified)**
C8.1	Minimum
C8.2	Maximum
C9.0	**Intake system : (Attach drawing, mention Drawing No. & Part No.)**
C9.1	**Supercharger / Turbocharger - yes/no**
C9.1.1	Description of system
C9.1.2	Make(s)
C9.1.3	Type(s)
C9.1.4	Description of system (e.g. Charge pressure @ max. power and torque speed, waste gate, if applicable)
C9.2	**Intake manifold (Enclose drawing with drawing No. & Part No.)**
C9.2.1	Description
C9.2.2	Identification No / Part No./ Drawing No.
C9.2.3	Schematic dimensional drawing
C9.3	**Air filter**
C9.3.1	Make
C9.3.2	Type
C9.3.3	Identification No / Part No./ Drawing No.
C9.3.4	Schematic dimensional drawing
C9.4	**Intake silencer**
C9.4.1	Make
C9.4.2	Type / Description
C9.4.3	Identification No / Part No./ Drawing No.
C9.4.4	Schematic dimensional drawing of inlet pipe and their accessories (dash pot, heating devices, additional air intake etc.)
C9.5	**Inter cooler**
C9.5.1	Make
C9.5.2	Identification No./ Part No./ Drawing No.

C9.5.3	Air pressure drop across the inter-cooler
C10.0	**Fuel feed: (By carburetor)**
C10.1	Number
C10.2	Make
C10.3	Type

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C10.4	**Adjustments (specify tolerance)**
C10.4.1	Jets
C10.4.2	Venturies
C10.4.3	Float-chamber level
C10.4.4	Mass of float
C10.4.5	Float needle
C10.5	Dimensions of mixture duct
C10.6	Choke: Type (Manual/automatic) and closure setting
C10.7	**Feed pump**
C10.7.1	Pressure (specify tolerance) or characteristic diagrams
C10.7.2	Type of fuel feed pump
C11.0	**Fuel feed: {By fuel injection}**
C11.1	Injection system description
C11.2	Working principle: intake manifold/ direct injection / indirect injection / swirl chamber/others
C11.3	**Fuel Pump**
C11.3.1	Make(s)
C11.3.2	Type(s)
C11.3.3	Pressure / characteristic diagram
C11.4	Delivery mm^3/ per stroke at max net power speed in case of Diesel Engine& specify delivery in kg/h at max net power speed in case of gas engines(specify tolerance) and enclose characteristic diagram (specify tolerance).If boost control is supplied, state the characteristics fuel delivery andboost pressure versus engine speed.
C11.5	Calibration Method (on engine/pump bench)
C11.6	Static Injection timing
C11.7	Injection advance curve (Diagram be enclosed)
C11.8	Injection advance (specify the tolerance)
C11.9	**Injector (s)**
C11.9.1	Type (s) (mention holder, nozzle and assembly no(s))
C11.9.2	Make (s)
C11.9.3	Opening pressure (specify tolerance) or characteristic diagram
C11.9.4	**Injection piping**
C11.9.4.1	Length mm
C11.9.4.2	Internal diameter mm
C 12.0	**Device for recycling crank-case gases**
C12.1	Description & drawings

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C13.0	**Governor**
C13.1	Type(s)
C13.2	Speed at which Cut off starts under load (rev/min)
C13.3	Max. speed without load (rev/min)
C13.4	Idle Speed (rev/min)
C14.0	**Cold start device (starting aid)**
C14.1	Make
C14.2	Type(s)
C14.3	System description
C15.0	**Starting System :**
C15.1	Type(s)
C15.2	System description
C16.0	**Valve timing / Port timing or equivalent data**
C16.1	Max. lift of valves
C16.1.1	Inlet mm
C16.1.2	Exhaust mm
C16.2	**Angle of valves / port (w.r.t. top dead center)**
C16.3	**Inlet**
C16.3.1	Opening
C16.3.2	Closing
C16.4	**Exhaust**
C16.4.1	Opening
C16.4.2	Closing
C16.5	**Transfer**
C16.5.1	Opening
C16.5.2	Closing
C16.6	Reference or setting ranges
C16.7	**Valve gap (Hot or Cold as applicable)**
C16.7.1	Inlet
C16.7.2	Exhaust

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C16.8	**Distribution by ports**
C16.8.1	Volume of crank-case cavity with piston at TDC
C16.8.2	Reed valve fitted (Yes / No)
C16.8.3	Description of inlet ports, scavenging and exhaust ports with corresponding timing.

C17.0	**Lubrication system**
C17.1	Description of system
C17.2	Position of lubricant reservoir
C17.3	Feed system (pump, injection in to intake mixing with fuel etc.,)
C17.4	**Lubricating pump**
C17.4.1	Type
C17.5	Mixture with fuel: yes/no, and if yes % (for 2 stroke engines)
C17.6	Oil cooler : yes/no, and if yes Enclose dimensional drawings, make(s) & type(s)
C18.0	**Electrical equipment**
C18.1	Generator/alternator characteristics (specify tolerance) or
C18.1.1	Make
C18.1.2	Identification No / Part No./ Drawing No.
C19.0	**Other engine driven auxiliaries**
C19.1	Enumeration & brief description, if necessary
C20.0	**Idling System:**
C20.1	Idling speed (rpm) (specify the tolerance)
C20.2	Description of settings and relevant requirements
C20.3	Carbon monoxide and HC content by volume in the exhaust gas with the engine idling, per cent (for SI engines only) (manufacturer's standard)
C20.4	High Idle (2500 ± 200 rpm) Lambda value(For petrol driven four wheeled vehicles only) (1± 0.03 or as specified by the vehicle manufacturer)
C 21.0	**Requirements for engine test**
C21.1	Maximum permitted depression of air intake at characteristic place in kPa (Specify location of measurement))
C21.2	Exhaust back pressure at maximum net power and location of measurement (kPa)
C21.3	Effective volume of exhaust-system (specify the tolerance & range) in liters (from exhaust manifold / TC outlet to tail pipe end), Enclose the exhaust system dimensional drawing and indicate the volume of each parts clearly.
C21.4	Moment of inertia of combined flywheel & transmission at condition when no gear is engaged
C21.5	Maximum rated speed (Specify the tolerance)
C21.6	Minimum rated speed (Specify the tolerance)

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C21.7	Max. Net Torque on bench ……. Nm at ……..rpm (specify tolerance)
C21.8	Max. net Power on bench, ……. Nm at ……..rpm (specify tolerance)

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C21.9	**Engine Performance** **Declared speed and powers of the engine submitted for type approval) (Speeds to be agreed with the testing agency)**
C21.9.1	Engine Speeds (For ESC & ELR cycles)
C21.9.2	Low Speed (nlo) (rpm)
C21.9.3	High Speed (nhi) (rpm)
C21.9.4	Speed A (rpm)
C21.9.5	Speed B (rpm)
C21.9.6	Speed C (rpm)
C21.9.7	**Engine Power Table** **Measurement point* Engine speed rpm New Power kW**** (1) (2) (3) (4) (5) (6) * See Chapter 3 of Part IV of Doc.MoRTH/CMVR/TAP115/116 Issue No.4 ** Net power according to Chapter 6 of Part IV of Doc. MoRTH/CMVR/TAP115/116 Issue No.4. **Note**: In case, if data regarding the Moment of Inertia, is required by the test agency for carrying out the Full Throttle performance test for both the CI / SI engines, the same shall be provided by the manufacturer.
C22.0	**Exhaust system**
C22.1	**Silencer**
C22.1.1	Type
C22.1.2	Make
C22.1.3	Number
C22.1.4	Silencer identification No. / Part No.
C22.2	Internal diameter of exhaust pipe (mm)
C22.3	Description with general arrangement of exhaust system along with its routing indicating the lengths of exhaust pipe, tail pipe and exhaust outlet location, indicated in a Schematic dimensional drawing.
C22.4	Minimum distance between exhaust pipe(s) and the fuel line
C22.5	Auxiliary Noise shields for compliance to IS 3028 and / OR AIS-020 (If Provided)
C22.5.1	Material

C22.5.2	Layout of noise shield / Photographs / Diagram Showing arrangements indicating fitment on vehicle.

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C23.0	**Additional emission control devices, such as catalytic converter etc. (if any & if not covered by another heading)**
C23.1	Catalyser make, number
C23.2	Identification No / Part No./ Drawing No.
C23.3	Type of catalytic action (One/two/three way)
C23.4	Total charge of precious metal (g/vehicle)
C23.5	**Relative concentration (%)**
C23.5.1	Platinum
C23.5.2	Rhodium
C23.5.3	Palladium
C23.6	Substrate (Monolithic metal/ Ceramic/ honeycomb)
C23.6.1	Cell density (cells per sq. inch / cm)
C23.7	Type of casing for catalyser
C23.8	**Diagram indicating the arrangement and position of catalytic converter w.r.t. exhaust manifold)**
C23.9	**Lambda Sensor**
C23.9.1	Make
C23.9.2	Type / Part No.
C23.9.3	Identification No / Part No./ Drawing No.
C23.9.4	Location
C 23.10	**Regeneration systems/method of exhaust after-treatment systems, description:**
C 23.10.1	The number of Type I operating cycles, or equivalent engine test bench cycles, between two cycles where regenerative phases occur under the conditions equivalent to Type I test (Distance "D" in figure 1 in Chapter 15 of TAP Document) :
C 23.10.2	Description of method employed to determine the number of cycles between two cycles where regenerative phases occur:
C23.10.3	Parameters to determine the level of loading required before regeneration occurs (i.e. temperature, pressure etc.):
C23.10.4	Description of method used to load system in the test procedure described in paragraph 3.1., (Refer Chapter 15 of TAP Document) :
C 23.11	**Oxygen sensor: type**
C 23.11.1	Location of oxygen sensor:
C23.11.2	Control range of oxygen sensor:
C 23.11.3	Regeneration system/method - Description and drawing:
C23.12	**Electronic Control Unit (ECU)**
C23.12.1	Make

C23.12.2	Identification mark
C23.12.3	Calibration Identification No.
C23.12.4	Adjustment possibilities (Yes / No)

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C23.13	**Secondary Air Injection**
C23.13.1	Make
C23.13.2	Identification mark
C23.14	**Exhaust Gas Re-circulating System**
C23.14.1	Brief description of the system
C23.14.2	Type (Cooled / Non-cooled/Progressive/ On-Off/ Any Other)
C23.14.3	EGR Valve
C23.14.3.1	Make
C23.14.3.2	Type
C23.14.3.3	Identification No / Part No./ Drawing No.
C23.14.4	**EGR Electronic Control Unit**
C23.14.4.1	Make
C23.14.4.2	Identification No / Part No./ Drawing No.
C24.0	**Additional information for evaporative emission**
C24.1	**Evaporative emission control system**
C24.2	Type
C24.3	Make
C24.4	Complete detailed description of devices and their state of tune
C24.5	Drawing of the evaporative control system
C24.6	Drawing of the fuel tank with indication of capacity and material
C24.7	**Canister**
C24.7.1	Working capacity
C24.7.2	Make
C24.7.3	Identification No / Part No./ Drawing No.
C24.7.4	Schematic diagram
C24.7.5	Canister bed volume (1)
C 25.0	**On Board Diagnosis (OBD)**
C 25.1	Written description and/or drawing of the Malfunction Indicator(MI).
C 25.2	List and purpose of all components monitored by the OBD system.
C 25.3	Written description (general working principles) for ;
C 25.3.1	Positive-ignition engines.
	Catalyst monitoring

C 25.3.1.1	Misfire detection
C 25.3.1.2	Oxygen sensor monitoring
C 25.3.1.3	Other components monitored by the OBD system

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25.3.2	**Compression-ignition engines**
	Catalyst Monitoring
C 25.3.2.1	Particulate trap monitoring
C 25.3.2.2	Electronic fuelling system monitoring
C 25.3.2.3	deNox system monitoring
C 25.3.2.4	Other components monitored by the OBD system
C 25.4	Criteria for MI activation (fixed number of driving cycles or statistical method)
C 25.5	List of all OBD output codes and formats used (with explanation of each).
C 25.6	The following additional information shall be provided by the vehicle manufacturer for the purposes of enabling the manufacture of OBD-compatible replacement or service parts and diagnostic tools and test equipment, unless such information is covered by intellectual property rights or constitutes specific know-how of the manufacturer or the OEM supplier(s).
C 25.6.1	A description of the type and number of the pre-conditioning cycles used for the original type approval of the vehicle.
C 25.6.2	A description of the type of the OBD demonstration cycle used for the original type-approval of the vehicle for the component monitored by the OBD system.
C 25.6.3	A comprehensive document describing all sensed components with the strategy for fault detection and MI activation (fixed number of driving cycles or statistical method), including a list of relevant secondary sensed parameters for each component monitored by the OBD system. A list of all OBD output codes and format used (with an explanation of each) associated with individual emission related power-train components and individual non-emission related components, where monitoring of the component is used to determine MI activation. In particular, a comprehensive explanation for the data given in service $05 Test ID $21 to FF and the data given in service $06 must be provided. In the case of vehicle types that use a communication link in accordance with ISO 15765-4 “Road vehicles, diagnostics on controller area network (CAN) – part 4: requirements for emissions-related systems”, a comprehensive explanation for the data given in service $06 Test ID $00 to FF, for each OBD monitor ID supported, must be provided. This information may be defined in the form of a table, as follows: **Component Fault code Monitoring strategy MI activation criteria Secondary parameters Pre-conditioning Demon-stration test** Catalyst P0420 Oxygen sensor 1 and 2 signals 3rd cycle Engine speed, engine load, A/F mode, catalyst temperature Two type 1 cycles Type 1’

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C 25.7	Torque limiter (yes/No) (for vehicles with GVW above 3500 kg)
C25.7.1	Description of the torque limiter activation
C25.7.2	Description of the full load curve limitation
C 26.0	Particulate trap (Yes / No)
C 26.1	Dimensions and shape of the particulate trap (capacity):
C 26.2	Type of particulate trap and design:
C 26.3	Location of the particulate trap (reference distances in the exhaust system):
C 26.4	Regeneration system/method - Description and Drawing:
C 26.4.1	The number of Type I operating cycles, or equivalent engine test bench cycle, between two cycles where regeneration phases occur under the conditions equivalent to Type I test (Distance 'D' in figure 1 in Chapter 15 of TAP Document) :
C 26.4.2	Description of method employed to determine the number of cycles between two cycles where regenerative phases occur:
C 26.4.3	Parameters to determine the level of loading required before regeneration occurs (i.e. temperature, pressure, etc.):
C 26.4.4	Description of method used to load system in the test procedure described in paragraph 3.1., Chapter 15 of TAP Document :

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Essential Characteristics of the Engine family–For Engines fitted on vehicles with GVW greater than 3500 kg specifically for BS-IV compliance

C 1.0	Common parameters	
C 1.1	Combustion Cycle	
C 1.2	Cooling Medium	
C 1.3	Number of cylinders	
C 1.4	Individual cylinder displacement	
C 1.5	Method of air aspiration	
C 1.6	Combustion chamber type /design	
C 1.7	Valve and Porting – Configuration, size and number	
C 1.8	Fuel System	
C 1.9	Ignition System (gas engines)	
C 1.10	Miscellaneous features	
C 1.10.1	Charge Cooling System	
C 1.10.2	Exhaust gas Recirculation	
C 1.10.3	Water Injection Emulsion	
C 1.10.4	Air Injection	
C 1.11	Exhaust After treatment – Proof of identical (or lowest for the parent engine) ratio: system capacity/fuel delivery per stroke, pursuant to diagram number	
C 2.0	Engine family listing	
C 2.1	Name of diesel engine family	

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Manufacturer :	Document No		Test Agency :			Cert No :
C 2.1.1	Specifications of engines within the family					
			Signature			Parent engine
	Engine type		Name			Seal
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	Rated speed (rpm)					
	Fuel delivery per stroke(mm^3)					
	Rated net Power(kW)					
	Maximum torque speed(rpm)					
	Fuel delivery per stroke (mm^3)					
	Max torque (Nm)					
	Low idle speed(rpm)					
	Cylinder displacement (in % of parent engine)					
C 2.2	Name of gas engine family					
C 2.2.1	Specifications of engine within the family					
						Parent engine
	Engine type					
	Number of cylinders					
	Rated speed (rpm)					
	Fuel delivery per stroke(mm3)					
	Rated net Power(kW)					
	Maximum torque speed(rpm)					
	Fuel delivery per stroke (mm^3)					
	Max torque (Nm)					
	Low idle speed(rpm)					
	Cylinder displacement (in % of parent engine)					
	Spark timing					
	EGR flow					
	Air pump (yes/ no)					
	Air pump actual flow					

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TECHNICAL SPECIFICATION – FOUR WHEELERS AND ABOVE
PART C - Technical specification of the Parent Engine fitted on vehicles with GVW greater than 3500 kg

Clause No.	Description
C1.0	**Description of Engine:**
C1.1	Type (Compression Ignition / Positive Ignition)
C1.2	Make
C1.3	Name and address of the engine manufacturing plant
C1.4	Working principle: (Four / two stroke), (DI / IDI) (NA/TC/TCIC/ Any other)
C1.5	Model name and identification
C1.6	Type of fuel used
C1.7	No.& Layout of cylinders & firing order
C1.8	Swept volume cc
C1.9	Bore (mm)
C1.10	Stroke (mm)
C1.11	Compression ratio (specify tolerance)
C1.12	**Engine performance (declared by the manufacturer):**
C1.12.1	Max. Net power of engine on bench (kW @ rpm)(Specify standard and tolerance)
C1.12.2	Maximum net torque on bench (Nm @ rpm) **Note** : In case of diesel engines the max. Power and max. Torque shall be specified as per conditions given in Chapter 6 of Part IV of Doc. MoSRTH / CMVR / TAP-115 / 116 Issue No.3
C1.13	Location of engine (Front / Rear)
C2.0	**Combustion System:**
C2.1	Type of combustion chamber (Hemispherical/ squish/others)
C2.2	Drawing(s) of combustion chamber and piston crown (Enclose the drawing & Mention the drawing no. & Part no.)
C2.3	**Minimum cross section area of ports**
C2.3.1	Inlet (cm2)
C2.3.2	Outlet (cm2)
C3.0	**Ignition System (Spark Ignition engines only):**
C3.1	Make
C3.2	Type
C3.3	Nominal Voltage
C3.4	Operating Principle

C3.5	CDI
C3.6	Table of Combination for EMI test
C3.7	Ignition advance curve (specify tolerance) & enclose the curve
C3.8	Ignition timing (specify tolerance)
C3.9	Contact point gap and dwell angle (specify tolerance)
C3.10	Type and make of distributor
C3.11	**Sparking plugs**
C3.11.1	Make
C3.11.2	Type and designation
C3.11.3	Spark-gap setting
C3.11.4	Nominal resistance (kilo ohm) (if resistive type)
C3.12	**Ignition coil**
C3.12.1	Make
C3.12.2	Type
C3.12.3	Identification
C3.13	**Ignition condenser**
C3.13.1	Make
C3.13.2	Type
C3.13.3	Identification
C3.14	**EMI suppressor cap / Device / Electronic unit**
C3.14.1	Make
C3.14.2	Type (Resistive/Capacitive)
C3.14.3	identification
C3.14.4	Nominal resistance (kilo ohm)
C3.14.5	Terminology and Drawing of interference Suppression equipment
C3.15	**H.T.Cable**
C3.15.1	Make and Place
C3.15.2	Type (Resistive/Non-resistive)
C3.15.3	Length mm (if resistive type)
C3.15.4	Outside dia. mm (if resistive type)
C3.15.5	Nominal resistance kilo ohm, (if resistive type)
C3.16	**Systems incorporating electronic oscillator with an operating frequency greater than 9 kHz**

C4.0	**Cooling system :**
C4.1	**Liquid cooling system**
C4.1.1	Nature of liquid and capacity

C4.1.2	Circulating pump yes/no
C4.1.3	Characteristics of Circulating pump or make(s) & type(s)
C4.1.3.1	Drive ratio
C4.1.4	Thermostat type and setting
C4.1.5	Radiator drawing(s)
C4.1.5.1	Make(s) and Place
C4.1.5.2	Type(s)
C4.1.5.3	Relief valve pressure setting
C4.1.6	Fan characteristics (Fan power, kW) Enclose the fan power curve corresponding to full load (v/s engine speed) of viscous fan.
C4.1.6.1	Make(s)
C4.1.6.1.1	No. of blades
C4.1.6.1.2	Material of blades (metal / plastic)
C4.1.6.2	Type(s) [Fixed / Viscous / Electrical driven]
C4.1.6.3	Fan drive system
C4.1.6.4	Drive ratio
C4.1.6.5	Fan cowl
C4.1.6.6	Fan diameter (mm)
C4.1.6.7	Max. Speed of fan (in rev/min)
C4.1.7	Radiator core open area (cm²)
C4.2	**Air Cooling system**
C4.2.1	**Blower characteristics**
C4.2.1.1	Make
C4.2.1.2	Type(s)
C4.2.1.3	Drive ratio(s)
C4.2.2	Air ducting (std production)
C5.0	**Temperature permitted by manufacturer in 0C for liquid cooling (Location of measurement be specified)**
C5.1	Max. temp. at engine outlet
C6.0	**Temperature permitted by manufacturer in 0C for Air cooling (Location of measurement be specified)**
C6.1	Reference point
C6.2	Max. temperature at reference point
C6.3	Max. Temperature of the intercooled-air (Location of measurement be specified)
C6.4	Max. Exhaust temperature (in case of diesel engines, at the point in the exhaust pipe(s) adjacent in outlet flange(s) of exhaust manifolds), Specify the distance from the outlet flange.

C7.0	**Fuel temperature 0C:** **(for diesel engines at the injection pump inlet)**
C7.1	Minimum
C7.2	Maximum
C8.0	**Lubricant Temperature 0C (Location of measurement be specified)**
C8.1	Minimum
C8.2	Maximum
C9.0	**Intake system : (Attach drawing, mention Drawing No. & Part No.)**
C9.1	**Supercharger / Turbocharger - yes/no**
C9.1.1	Description of system
C9.1.2	Make(s) ,
C9.1.3	Type(s) and part no.
C9.1.4	Description of system (e.g. Charge pressure @ max. power and torque speed, waste gate, if applicable)
C9.2	**Intake manifold (Enclose drawing with drawing No. & Part No.)**
C9.2.1	Description
C9.2.2	Identification No / Part No./ Drawing No.
C9.2.3	Schematic dimensional drawing
C9.3	**Air filter**
C9.3.1	Make
C9.3.2	Type
C9.3.3	Identification No / Part No./ Drawing No.
C9.3.4	Schematic dimensional drawing
C9.4	**Intake silencer**
C9.4.1	Make
C9.4.2	Type / Description
C9.4.3	Identification No / Part No./ Drawing No.
C9.4.4	Schematic dimensional drawing of inlet pipe and their accessories (dash pot, heating devices, additional air intake etc.)
C9.5	**Inter cooler**
C9.5.1	Make
C9.5.2	Identification No / Part No./ Drawing No.
C9.5.3	Air pressure drop across the inter-cooler
C10.0	**Fuel feed: (By carburetor)**
C10.1	Number
C10.2	Make
C10.3	Type

C10.4	**Adjustments (specify tolerance)**
C10.4.1	Jets
C10.4.2	Venturies
C10.4.3	Float-chamber level
C10.4.4	Mass of float
C10.4.5	Float needle
C10.5	Dimensions of mixture duct
C10.6	Choke: Type (Manual/automatic) and closure setting
C10.7	**Feed pump**
C10.7.1	Pressure (specify tolerance) or characteristic diagrams
C10.7.2	Type of fuel feed pump
C11.0	**Fuel feed: {By fuel injection}**
C11.1	Injection system description
C11.2	Working principle: intake manifold/ direct injection / indirect injection / swirl chamber/ others
C11.3	**Fuel Pump**
C11.3.1	Make(s)
C11.3.2	Type(s)
C11.3.3	Pressure / characteristic diagram
C11.4	Delivery mm^3/ per stroke at max net power speed in case of Diesel Engine& specify delivery in kg/h at max net power speed in case of gas engines(specify tolerance) and enclose characteristic diagram (specify tolerance).If boost control is supplied, state the characteristics fuel delivery andboost pressure versus engine speed.
C11.5	Calibration Method (on engine/pump bench)
C11.6	Static Injection timing
C11.7	Injection advance curve (Diagram be enclosed)
C11.8	Injection advance (specify the tolerance)
C11.9	**Injector (s)**
C11.9.1	Type (s) (mention holder, nozzle and assembly no(s))
C11.9.2	Make (s)
C11.9.3	Opening pressure (specify tolerance) or characteristic diagram
C11.9.4	**Injection piping**
C11.9.4.1	Length mm
C11.9.4.2	Internal diameter mm
C 12.0	**Device for recycling crank-case gases**
C 12.1	Description & drawings

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C13.0	**Governor**
C13.1	Make(s)
C13.2	Type(s)
C13.3	Speed at which Cut off starts under load (rev/min)
C13.4	Max. speed without load (rev/min)
C13.5	Idle Speed (rev/min)
C14.0	**Cold start device (starting aid)**
C14.1	Make
C14.2	Type(s)
C14.3	System description
C15.0	**Starting System :**
C15.1	Make
C15.2	Type(s)
C15.3	System description
C16.0	**Valve timing / Port timing or equivalent data**
C16.1	Max. lift of valves
C16.1.1	Inlet mm
C16.1.2	Exhaust mm
C16.2	**Angle of valves / port (w.r.t. top dead center)**
C16.3	**Inlet**
C16.3.1	Opening
C16.3.2	Closing
C16.4	**Exhaust**
C16.4.1	Opening
C16.4.2	Closing
C16.5	**Transfer**
C16.5.1	Opening
C16.5.2	Closing
C16.6	Reference or setting ranges
C16.7	**Valve gap (Hot or Cold as applicable)**
C16.7.1	Inlet
C16.7.2	Exhaust
C16.8	**Distribution by ports**
C16.8.1	Volume of crank-case cavity with piston at TDC
C16.8.2	Reed valve fitted (Yes / No)

C16.8.3	Description of inlet ports, scavenging and exhaust ports with corresponding timing.

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C17.0	**Lubrication system**
C17.1	Description of system
C17.2	Lubrication oil capacity lit
C17.3	Position of lubricant reservoir
C17.4	Lubricating oil grade
C17.5	Feed system (pump, injection in to intake mixing with fuel etc.,)
C17.6	**Lubricating pump**
C17.6.1	Make
C17.6.2	Type
C17.7	Mixture with fuel: yes/no, and if yes % (for 2 stroke engines)
C17.8	Oil cooler : yes/no, and if yes Enclose dimensional drawings, make(s) & type(s)
C18.0	**Electrical equipment**
C18.1	Generator/alternator characteristics (specify tolerance) or
C18.1.1	Make
C18.1.2	Type
C18.1.3	Identification No / Part No./ Drawing No.
C19.0	**Other engine driven auxiliaries**
C19.1	Enumeration & brief description, if necessary
C20.0	**Idling System:**
C20.1	Idling speed (rpm) (specify the tolerance)
C20.2	Description of settings and relevant requirements
C20.3	Carbon monoxide and HC content by volume in the exhaust gas with the engine idling, per cent (for SI engines only) (manufacturer's standard)
C20.4	High Idle (2500 ± 200 rpm) Lambda value(For petrol driven four wheeled vehicles only) (1± 0.03 or as specified by the vehicle manufacturer)
C 21.0	**Requirements for engine test**
C21.1	Maximum permitted depression of air intake at characteristic place in kPa (Specify location of measurement))
C21.2	Exhaust back pressure at maximum net power and location of measurement (kPa)
C21.3	Effective volume of exhaust-system (specify the tolerance & range) in liters (from exhaust manifold / TC outlet to tail pipe end), Enclose the exhaust system dimensional drawing and indicate the volume of each parts clearly.
C21.4	Moment of inertia of combined flywheel & transmission at condition when no gear is engaged
C21.5	Maximum rated speed (Specify the tolerance)
C21.6	Minimum rated speed (Specify the tolerance)

C21.7	Max. Net Torque on bench ……. Nm at ……..rpm (specify tolerance)
C21.8	Max. net Power on bench, ……. Nm at ……..rpm (specify tolerance)

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C21.9	**Engine Performance** **Declared speed and powers of the engine submitted for type approval) (Speeds to be agreed with the testing agency)**
C21.9.1	Engine Speeds (For ESC & ELR cycles)
C21.9.2	Low Speed (nlo) (rpm)
C21.9.3	High Speed (nhi) (rpm)
C21.9.4	Speed A (rpm)
C21.9.5	Speed B (rpm)
C21.9.6	Speed C (rpm)
C21.9.7	Engine Power Table **Measurement point*** **Engine speed** **rpm** **New Power kW**** (1) (2) (3) (4) (5) (6) * See Chapter 3 of Part IV of Doc. MoRTH/CMVR/TAP115/116 Issue No.4 ** Net power according to Chapter 6 of Part IV of Doc MoRTH/CMVR/TAP115/116 Issue No.4. **Note**: In case, if data regarding the Moment of Inertia, is required by the test agency for carrying out the Full Throttle performance test for both the CI / SI engines, the same shall be provided by the manufacturer.
C22.0	**Exhaust system**
C22.1	**Silencer**
C22.1.1	Type
C22.1.2	Make
C22.1.3	Number
C22.1.4	Silencer identification No. (if proprietary) / Part No. (if not proprietary)
C22.2	Internal diameter of exhaust pipe (mm)
C22.3	Description with general arrangement of exhaust system along with its routing indicating the lengths of exhaust pipe, tail pipe and exhaust outlet location, indicated in a Schematic dimensional drawing.
C22.4	Minimum distance between exhaust pipe(s) and the fuel line

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C23.0	**Additional emission control devices, such as catalytic converter etc. (if any & if not covered by another heading)**
C23.1	Catalyser make, number
C23.2	Identification Mark / Part No. / Drawing No.
C23.3	Type of catalytic action (One/two/three way)
C23.4	Total charge of precious metal (g/vehicle)
C23.5	**Relative concentration (%)**
C23.5.1	Platinum
C23.5.2	Rhodium
C23.5.3	Palladium
C23.6	Substrate (Monolythic metal/ Ceramic/ honeycomb)
C23.6.1	Cell density (cells per sq. inch / cm)
C23.7	Type of casing for catalyser
C23.8	**Diagram indicating the arrangement and position of catalytic converter w.r.t. exhaust manifold)**
C23.9	**Lamda Sensor**
C23.9.1	Make
C23.9.2	Type / Part No.
C23.9.3	Identification No. / Part No. / Drawing No.
C23.9.4	Location
C 23.10	**Regeneration systems/method of exhaust after-treatment systems, description:**
C 23.10.1	The number of Type I operating cycles, or equivalent engine test bench cycles, between two cycles where regenerative phases occur under the conditions equivalent to Type I test (Distance "D" in figure 1 in Chapter 15 of TAP Document) :
C 23.10.2	Description of method employed to determine the number of cycles between two cycles where regenerative phases occur:
C23.10.3	Parameters to determine the level of loading required before regeneration occurs (i.e. temperature, pressure etc.):
C23.10.4	Description of method used to load system in the test procedure described in paragraph 3.1., (Refer Chapter 15 of TAP Document) :
C 23.11	**Oxygen sensor; type**

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C 23.11.1	Location of oxygen sensor:
C23.11.2	Control range of oxygen sensor:
C 23.11.3	Regeneration system/method - Description and drawing:

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C23.12	**Electronic Control Unit (ECU)**
C23.12.1	Make
C23.12.2	Identification mark
C23.12.3	Calibration Identification No.
C23.12.4	Adjustment possibilities (Yes / No)
C23.13	**Secondary Air Injection**
C23.13.1	Make
C23.13.2	Identification mark
C23.14	**Exhaust Gas Re-circulating System**
C23.14.1	Brief description of the system
C23.14.2	Type (Cooled / Non-cooled/Progressive/ On-Off/ Any Other)
C23.14.3	EGR Valve
C23.14.3.1	Make
C23.14.3.2	Type
C23.14.3.3	Identification No / Part No. / Drawing No.
C23.14.4	**EGR Electronic Control Unit**
C23.14.4.1	Make
C23.14.4.2	Identification No. / Part No. / Drawing No.
C24.0	**Additional information for evaporative emission**
C24.1	**Evaporative emission control system**
C24.2	Type
C24.3	Make
C24.4	Complete detailed description of devices and their state of tune
C24.5	Drawing of the evaporative control system
C24.6	Drawing of the fuel tank with indication of capacity and material
C24.7	**Canister**

C24.7.1	Working capacity
C24.7.2	Make
C24.7.3	Identification No. / Part No. / Drawing No.
C24.7.4	Schematic diagram
C24.7.5	Canister bed volume (1)

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C 25.0	**On Board Diagnosis (OBD)**
C 25.1	Written description and/or drawing of the Malfunction Indicator (MI).
C 25.2	List and purpose of all components monitored by the OBD system.
C 25.3	**Written description (general working principles) for ;**
C 25.3.1	Positive-ignition engines.
C 25.3.1.1	Catalyst monitoring
C 25.3.1.2	Misfire detection
C 25.3.1.3	Oxygen sensor monitoring
C 25.3.1.4	Other components monitored by the OBD system
C 25.3.2	Compression-ignition engines
C 25.3.2.1	Catalyst monitoring
C 25.3.2.2	Particulate trap monitoring
C 25.3.2.3	Electronic fuelling system monitoring
C 25.3.2.4	deNox system monitoring
C 25.3.2.5	Other components monitored by the OBD system
C 25.4	Criteria for MI activation (fixed number of driving cycles or statistical method)
C 25.5	List of all OBD output codes and formats used (with explanation of each).
C 25.6	The following additional information shall be provided by the vehicle manufacturer for the purposes of enabling the manufacture of OBD-compatible replacement or service parts and diagnostic tools and test equipment, unless such information is covered by intellectual property rights or constitutes specific know-how of the manufacturer or the OEM supplier(s).
C 25.6.1	A description of the type and number of the pre-conditioning cycles used for the original type approval of the vehicle.
C 25.6.2	A description of the type of the OBD demonstration cycle used for the original type-approval of the vehicle for the component monitored by the OBD system.

Manufacturer :	**Document No :**	**Test Agency :**	**Cert No :**
Signature		**Signature**	Seal
		Name	
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C 25.6.3	A comprehensive document describing all sensed components with the strategy for fault detection and MI activation (fixed number of driving cycles or statistical method), including a list of relevant secondary sensed parameters for each component monitored by the OBD system. A list of all OBD output codes and format used (with an explanation of each) associated with individual emission related power-train components and individual non-emission related components, where monitoring of the component is used to determine MI activation. In particular, a comprehensive explanation for the data given in service $05 Test ID $21 to FF and the data given in service $06 must be provided. In the case of vehicle types that use a communication link in accordance with ISO 15765-4 "Road vehicles, diagnostics on controller area network (CAN) – part 4: requirements for emissions-related systems", a comprehensive explanation for the data given in service $06 Test ID $00 to FF, for each OBD monitor ID supported, must be provided. This information may be defined in the form of a table, as follows: **Component Fault code Monitoring strategy MI activation criteria Secondary parameters Pre-condit-ioning Demonstr- ation test** Catalyst P0420 Oxygen sensor 1 and 2 signals 3rd cycle Engine speed, engine load, A/F mode, catalyst temperature Two type 1 cycles Type 1'
C 25.7	Torque limiter (yes/No) (for vehicles with GVW above 3500 kg)
C25.7.1	Description of the torque limiter activation
C25.7.2	Description of the full load curve limitation
C 26.0	Particulate trap (Yes / No)
C 26.1	Dimensions and shape of the particulate trap (capacity):
C 26.2	Type of particulate trap and design:
C 26.3	Location of the particulate trap (reference distances in the exhaust system):
C 26.4	Regeneration system/method - Description and Drawing:
C 26.4.1	The number of Type I operating cycles, or equivalent engine test bench cycle, between two cycles where regeneration phases occur under the conditions equivalent to Type I test (Distance 'D' in figure 1 in Chapter 15 of TAP Document) :
C 26.4.2	Description of method employed to determine the number of cycles between two cycles where regenerative phases occur:
C 26.4.3	Parameters to determine the level of loading required before regeneration occurs (i.e. temperature, pressure, etc.):
C 26.4.4	Description of method used to load system in the test procedure described in paragraph 3.1., Chapter 15 of TAP Document :

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TECHNICAL SPECIFICATION-FOUR WHEELERS AND ABOVE

PART C - Technical Specification for the individual Engine of the Engine family fitted on vehicles with GVW greater than 3500 kg

Clause No.	Description
C1.0	**Description of Engine:**

Manufacturer : Document No : Test Agency : Cert No :

Signature Signature Seal

Name Sheet No Designation

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C1.1	Type (Compression Ignition / Positive Ignition)
C1.2	Make
C1.3	Name and address of the engine manufacturing plant
C1.4	Working principle: (Four / two stroke), (DI / IDI) (NA/TC/TCIC/ Any other)
C1.5	Model name and identification
C1.6	Type of fuel used
C1.7	No.& Layout of cylinders & firing order
C1.8	Swept volume cc
C1.9	Bore (mm)
C1.10	Stroke (mm)
C1.11	Compression ratio (specify tolerance)
C1.12	**Engine performance (declared by the manufacturer):**
C1.12.1	Max. Net power of engine on bench (kW @ rpm)(Specify standard and tolerance)
C1.12.2	Maximum net torque on bench (Nm @ rpm) **Note** : In case of diesel engines the max. Power and max. Torque shall be specified as per conditions given in Chapter 6 of Part IV of Doc. MoRTH / CMVR / TAP-115 / 116 Issue No.3
C1.13	Location of engine (Front / Rear)
C2.0	**Combustion System:**
C2.1	Type of combustion chamber (Hemispherical/ squish/others)
C2.2	Drawing(s) of combustion chamber and piston crown (Enclose the drawing & Mention the drawing no. & Part no.)
C2.3	**Minimum cross section area of ports**
C2.3.1	Inlet (cm^2)
C2.3.2	Outlet (cm^2)
C3.0	**Ignition System (Spark Ignition engines only):**
C3.1	Make
C3.2	Type
C3.3	Nominal Voltage
C3.4	Operating Principle
C3.5	CDI
C3.6	Table of Combination for EMI test

C3.7	Ignition advance curve (specify tolerance) & enclose the curve
C3.8	Ignition timing (specify tolerance)
C3.9	Contact point gap and dwell angle (specify tolerance)
C3.10	Type and make of distributor
C3.11	**Sparking plugs**
C3.11.1	Make
C3.11.2	Type and designation
C3.11.3	Spark-gap setting
C3.11.4	Nominal resistance (kilo ohm) (if resistive type)
C3.12	**Ignition coil**
C3.12.1	Make
C3.12.2	Type
C3.12.3	Identification
C3.13	**Ignition condenser**
C3.13.1	Make
C3.13.2	Type
C3.13.3	Identification
C3.14	**EMI suppressor cap / Device / Electronic unit**
C3.14.1	Make
C3.14.2	Type (Resistive/Capacitive)
C3.14.3	identification
C3.14.4	Nominal resistance (kilo ohm)
C3.14.5	Terminology and Drawing of interference Suppression equipment
C3.15	**H.T.Cable**
C3.15.1	Make and Place /
C3.15.2	Type (Resistive/Non-resistive)
C3.15.3	Length mm (if resistive type)
C3.15.4	Outside dia. mm (if resistive type)
C3.15.5	Nominal resistance kilo ohm, (if resistive type)
C3.16	Systems incorporating electronic oscillator with an operating frequency greater than 9 kHz

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C4.0	**Cooling system :**
C4.1	**Liquid cooling system**
C4.1.1	Nature of liquid and capacity
C4.1.2	Circulating pump yes/no
C4.1.3	Characteristics of Circulating pump or make(s) & type(s)
C4.1.3.1	Drive ratio
C4.1.4	Thermostat type and setting
C4.1.5	**Radiator drawing(s)**
C4.1.5.1	Make(s) and Place
C4.1.5.2	Type(s)
C4.1.5.3	Relief valve pressure setting
C4.1.6	**Fan characteristics (Fan power, kW) Enclose the fan power curve corresponding to full load (v/s engine speed) of viscous fan.**
C4.1.6.1	Make(s)
C4.1.6.1.1	No. of blades
C4.1.6.1.2	Material of blades (metal / plastic)
C4.1.6.2	Type(s) [Fixed / Viscous / Electrical driven]
C4.1.6.3	Fan drive system
C4.1.6.4	Drive ratio
C4.1.6.5	Fan cowl
C4.1.6.6	Fan diameter (mm)
C4.1.6.7	Max. Speed of fan (in rev/min)
C4.1.7	Radiator core open area (cm²)
C4.2	**Air Cooling system**
C4.2.1	Blower characteristics
C4.2.1.1	Make
C4.2.1.2	Type(s)
C4.2.1.3	Drive ratio(s)
C4.2.2	Air ducting (std production)
C5.0	**Temperature permitted by manufacturer in 0C for liquid cooling (Location of measurement be specified)**
C5.1	Max. temp. at engine outlet

C6.0	**Temperature permitted by manufacturer in 0C for Air cooling (Location of measurement be specified)**
C6.1	Reference point

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C6.2	Max. temperature at reference point
C6.3	Max. Temperature of the intercooled-air (Location of measurement be specified)
C6.4	Max. Exhaust temperature (in case of diesel engines, at the point in the exhaust pipe(s) adjacent in outlet flange(s) of exhaust manifolds), Specify the distance from the outlet flange.
C7.0	**Fuel temperature ^{0}C: (for diesel engines at the injection pump inlet)**
C7.1	Minimum
C7.2	Maximum
C8.0	**Lubricant Temperature ^{0}C (Location of measurement be specified)**
C8.1	Minimum
C8.2	Maximum
C9.0	**Intake system : (Attach drawing, mention Drawing No. & Part No.)**
C9.1	Supercharger / Turbocharger - yes/no
C9.1.1	Description of system
C9.1.2	Make(s)
C9.1.3	Type(s) and Part no.
C9.1.4	Description of system (e.g. Charge pressure @ max. power and torque speed, waste gate, if applicable)
C9.2	**Intake manifold (Enclose drawing with drawing No. & Part No.)**
C9.2.1	Description
C9.2.2	Identification No / Part No.
C9.2.3	Schematic dimensional drawing
C9.3	**Air filter**
C9.3.1	Make
C9.3.2	Type
C9.3.3	Identification No / Part No./ Drawing No.
C9.3.4	Schematic dimensional drawing

C9.4	**Intake silencer**
C9.4.1	Make
C9.4.2	Type / Description
C9.4.3	Identification No / Part No./ Drawing No.
C9.4.4	Schematic dimensional drawing of inlet pipe and their accessories (dash pot, heating devices, additional air intake etc.)

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C9.5	**Inter cooler**
C9.5.1	Make
C9.5.2	Identification No / Part No./ Drawing No.
C9.5.3	Air pressure drop across the inter-cooler
C10.0	**Fuel feed: (By carburetor)**
C10.1	Number
C10.2	Make
C10.3	Type
C10.4	**Adjustments (specify tolerance)**
C10.4.1	Jets
C10.4.2	Venturies
C10.4.3	Float-chamber level
C10.4.4	Mass of float
C10.4.5	Float needle
C10.5	Dimensions of mixture duct
C10.6	Choke: Type (Manual/automatic) and closure setting
C10.7	**Feed pump**
C10.7.1	Pressure (specify tolerance) or characteristic diagrams
C10.7.2	Type of fuel feed pump
C11.0	**Fuel feed: {By fuel injection}**
C11.1	Injection system description
C11.2	Working principle: intake manifold/ direct injection / indirect injection / swirl chamber/others
C11.3	**Fuel Pump**

C11.3.1	Make(s)
C11.3.2	Type(s) and Part no.
C11.3.3	Pressure / characteristic diagram
C11.4	Delivery mm^3/ per stroke at max net power speed in case of Diesel Engine& specify delivery in kg/h at max net power speed in case of gas engines(specify tolerance) and enclose characteristic diagram (specify tolerance).If boost control is supplied, state the characteristics fuel delivery andboost pressure versus engine speed.
C11.5	Calibration Method (on engine/pump bench)
C11.6	Static Injection timing
C11.7	Injection advance curve (Diagram be enclosed)
C11.8	Injection advance (specify the tolerance)

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C11.9	**Injector (s)**
C11.9.1	Type (s) (mention holder, nozzle and assembly no(s))
C11.9.2	Make (s)
C11.9.3	Opening pressure (specify tolerance) or characteristic diagram
C11.9.4	**Injection piping**
C11.9.4.1	Length mm
C11.9.4.2	Internal diameter mm
C 12.0	**Device for recycling crank-case gases**
C12.1	Description & drawings
C13.0	**Governor**
C13.1	Make(s)
C13.2	Type(s)
C13.3	Speed at which Cut off starts under load (rev/min)
C13.4	Max. speed without load (rev/min)
C13.5	Idle Speed (rev/min)
C14.0	**Cold start device (starting aid)**
C14.1	Make
C14.2	Type(s)
C14.3	System description
C15.0	**Starting System :**
C15.1	Make
C15.2	Type(s)

C15.3	System description
C16.0	**Valve timing / Port timing or equivalent data**
C16.1	Max. lift of valves
C16.1.1	Inlet mm
C16.1.2	Exhaust mm
C16.2	**Angle of valves / port (w.r.t. top dead center)**
C16.3	**Inlet**
C16.3.1	Opening
C16.3.2	Closing
C16.4	**Exhaust**
C16.4.1	Opening
C16.4.2	Closing
C16.5	**Transfer**
C16.5.1	Opening
C16.5.2	Closing
C16.6	Reference or setting ranges

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C16.7	**Valve gap (Hot or Cold as applicable)**
C16.7.1	Inlet
C16.7.2	Exhaust
C16.8	**Distribution by ports**
C16.8.1	Volume of crank-case cavity with piston at TDC
C16.8.2	Reed valve fitted (Yes / No)
C16.8.3	Description of inlet ports, scavenging and exhaust ports with corresponding timing.
C17.0	**Lubrication system**
C17.1	Description of system
C17.2	Lubrication oil capacity lit
C17.3	Position of lubricant reservoir
C17.4	Lubricating oil grade
C17.5	Feed system (pump, injection in to intake mixing with fuel etc.,)
C17.6	**Lubricating pump**
C17.6.1	Make
C17.6.2	Type
C17.7	Mixture with fuel: yes/no, and if yes % (for 2 stroke engines)
C17.8	Oil cooler : yes/no, and if yes Enclose dimensional drawings, make(s) & type(s)
C18.0	**Electrical equipment**
C18.1	Generator/alternator characteristics (specify tolerance) or
C18.1.1	Make
C18.1.2	Type
C18.1.3	Identification No / Part No./ Drawing No.
C19.0	**Other engine driven auxiliaries**
C19.1	Enumeration & brief description, if necessary
C20.0	**Idling System:**
C20.1	Idling speed (rpm) (specify the tolerance)
C20.2	Description of settings and relevant requirements
C20.3	Carbon monoxide and HC content by volume in the exhaust gas with the engine idling, per cent (for SI engines only) (manufacturer's standard)
C20.4	High Idle (2500 ± 200 rpm) Lambda value(For petrol driven four wheeled vehicles only) (1± 0.03 or as specified by the vehicle manufacturer)

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C21.0	**Requirements for engine test**

C21.1	Maximum permitted depression of air intake at characteristic place in kPa (Specify location of measurement))
C21.2	Exhaust back pressure at maximum net power and location of measurement (kPa)
C21.3	Effective volume of exhaust-system (specify the tolerance & range) in liters (from exhaust manifold / TC outlet to tail pipe end), Enclose the exhaust system dimensional drawing and indicate the volume of each parts clearly.
C21.4	Moment of inertia of combined flywheel & transmission at condition when no gear is engaged
C21.5	Maximum rated speed (Specify the tolerance)
C21.6	Minimum rated speed (Specify the tolerance)
C21.7	Max. Net Torque on bench ……. Nm at ……..rpm (specify tolerance)
C21.8	Max. net Power on bench, ……. Nm at ……..rpm (specify tolerance)
C21.9	**Engine Performance** **Declared speed and powers of the engine submitted for type approval) (Speeds to be agreed with the testing agency)**
C21.9.1	Engine Speeds (For ESC & ELR cycles)
C21.9.2	Low Speed (nlo) (rpm)
C21.9.3	High Speed (nhi) (rpm)
C21.9.4	Speed A (rpm)
C21.9.5	Speed B (rpm)
C21.9.6	Speed C (rpm)
C21.9.7	**Engine Power Table** **Measurement point*** **Engine speed rpm** **New Power kW**** (1) (2) (3) (4) (5) (6) * See Chapter 3 of Part IV of Doc. MoRTH/CMVR/TAP115/116 Issue No.4 ** Net power according to Chapter 6 of Part IV of Doc. MoRTH/CMVR/TAP115/116 Issue No.4. **Note**: In case, if data regarding the Moment of Inertia, is required by the test agency for carrying out the Full Throttle performance test for both the CI / SI engines, the same shall be provided by the manufacturer.

C22.0	**Exhaust system**
C22.1	**Silencer**
C22.1.1	Type
C22.1.2	Make
C22.1.3	Number
C22.1.4	Silencer identification No. (if proprietary) / Part No. (if not proprietary)
C22.2	Internal diameter of exhaust pipe (mm)
C22.3	Description with general arrangement of exhaust system along with its routing indicating the lengths of exhaust pipe, tail pipe and exhaust outlet location, indicated in a Schematic dimensional drawing.
C22.4	Minimum distance between exhaust pipe(s) and the fuel line
C23.0	**Additional emission control devices, such as catalytic converter etc. (if any & if not covered by another heading)**
C23.1	Catalyser make, number
C23.2	Identification Mark / Part No.
C23.3	Type of catalytic action (One/two/three way)
C23.4	Total charge of precious metal (g/vehicle)
C23.5	**Relative concentration (%)**
C23.5.1	Platinum
C23.5.2	Rhodium
C23.5.3	Palladium
C23.6	Substrate (Monolythic metal/ Ceramic/ honeycomb)
C23.6.1	Cell density (cells per sq. inch / cm)
C23.7	Type of casing for catalyser
C23.8	**Diagram indicating the arrangement and position of catalytic converter w.r.t. exhaust manifold)**
C23.9	**Lamda Sensor**
C23.9.1	Make
C23.9.2	Type / Part No.
C23.9.3	Identification No. / Part No.
C23.9.4	Location

C 23.10	**Regeneration systems/method of exhaust after-treatment systems, description:**
C 23.10.1	The number of Type I operating cycles, or equivalent engine test bench cycles, between two cycles where regenerative phases occur under the conditions equivalent to Type I test (Distance "D" in figure 1 in Chapter 15 of TAP Document) :
C 23.10.2	Description of method employed to determine the number of cycles between two cycles where regenerative phases occur:
C23.10.3	Parameters to determine the level of loading required before regeneration occurs (i.e. temperature, pressure etc.):
C23.10.4	Description of method used to load system in the test procedure described in paragraph 3.1., (Refer Chapter 15 of TAP Document) :
C 23.11	**Oxygen sensor: type**
C 23.11.1	Location of oxygen sensor:
C23.11.2	Control range of oxygen sensor:
C 23.11.3	Regeneration system/method - Description and drawing:
C23.12	**Electronic Control Unit (ECU)**
C23.12.1	Make
C23.12.2	Identification mark
C23.12.3	Calibration Identification No.
C23.12.4	Adjustment possibilities (Yes / No)
C23.13	**Secondary Air Injection**
C23.13.1	Make
C23.13.2	Identification mark
C23.14	**Exhaust Gas Recirculating System**
C23.14.1	Brief description of the system
C23.14.2	Type (Cooled / Non-cooled/Progressive/ On-Off/ Any Other)
C23.14.3	EGR Valve
C23.14.3.1	Make
C23.14.3.2	Type
C23.14.3.3	Identification No / Part No./ Drawing No.
C23.14.4	**EGR Electronic Control Unit**
C23.14.4.1	Make
C23.14.4.2	Identification No / Part No./ Drawing No.

C24.0	**Additional information for evaporative emission**
C24.1	**Evaporative emission control system**
C24.2	Type
C24.3	Make
C24.4	Complete detailed description of devices and their state of tune
C24.5	Drawing of the evaporative control system
C24.6	Drawing of the fuel tank with indication of capacity and material
C24.7	**Canister**
C24.7.1	Working capacity
C24.7.2	Make
C24.7.3	Identification No / Part No./ Drawing No.
C24.7.4	Schematic diagram
C24.7.5	Canister bed volume (1)
C 25.0	**On Board Diagnosis (OBD)**
C 25.1	Written description and/or drawing of the Malfunction Indicator(MI).
C 25.2	List and purpose of all components monitored by the OBD system.
C 25.3	Written description (general working principles) for ;
C 25.3.1	Positive-ignition engines.
C 25.3.1.1	Catalyst monitoring
C 25.3.1.2	Misfire detection
C 25.3.1.3	Oxygen sensor monitoring
C 25.3.1.4	Other components monitored by the OBD system
C 25.3.2	**Compression-ignition engines**
C 25.3.2.1	(Catalyst monitoring)
C 25.3.2.2	Particulate trap monitoring
C 25.3.2.3	Electronic fuelling system monitoring
C 25.3.2.4	deNox system monitoring
C 25.3.2.5	Other components monitored by the OBD system
C 25.4	Criteria for MI activation (fixed number of driving cycles or statistical method)

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C 25.5	List of all OBD output codes and formats used (with explanation of each).
C 25.6	The following additional information shall be provided by the vehicle manufacturer for the purposes of enabling the manufacture of OBD-compatible replacement or service parts and diagnostic tools and test equipment, unless such information is covered by intellectual property rights or constitutes specific know-how of the manufacturer or the OEM supplier(s).
C 25.6.1	A description of the type and number of the pre-conditioning cycles used for the original type approval of the vehicle.
C 25.6.2	A description of the type of the OBD demonstration cycle used for the original type-approval of the vehicle for the component monitored by the OBD system.
C 25.6.3	A comprehensive document describing all sensed components with the strategy for fault detection and MI activation (fixed number of driving cycles or statistical method), including a list of relevant secondary sensed parameters for each component monitored by the OBD system. A list of all OBD output codes and format used (with an explanation of each) associated with individual emission related power-train components and individual non-emission related components, where monitoring of the component is used to determine MI activation. In particular, a comprehensive explanation for the data given in service $05 Test ID $21 to FF and the data given in service $06 must be provided. In the case of vehicle types that use a communication link in accordance with ISO 15765-4 “Road vehicles, diagnostics on controller area network (CAN) – part 4: requirements for emissions-related systems”, a comprehensive explanation for the data given in service $06 Test ID $00 to FF, for each OBD monitor ID supported, must be provided. This information may be defined in the form of a table, as follows: **Component Fault code Monitoring strategy MI activation criteria Secondary parameters Pre-condit-ioning Demonstr- ation test** Catalyst P0420 Oxygen sensor 1 and 2 signals 3rd cycle Engine speed, engine load, A/F mode, catalyst temperature Two type 1 cycles Type 1’
C 25.7	Torque limiter (yes/No)
C25.7.1	Description of the torque limiter activation
C25.7.2	Description of the full load curve limitation

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C 26.0	Particulate trap (Yes / No)
C 26.1	Dimensions and shape of the particulate trap (capacity):
C 26.2	Type of particulate trap and design:
C 26.3	Location of the particulate trap (reference distances in the exhaust system):
C 26.4	Regeneration system/method - Description and Drawing:
C 26.4.1	The number of Type I operating cycles, or equivalent engine test bench cycle, between two cycles where regeneration phases occur under the conditions equivalent to Type I test (Distance 'D' in figure 1 in Chapter 15 of TAP Document) :
C 26.4.2	Description of method employed to determine the number of cycles between two cycles where regenerative phases occur:
C 26.4.3	Parameters to determine the level of loading required before regeneration occurs (i.e. temperature, pressure, etc.):
C 26.4.4	Description of method used to load system in the test procedure described in paragraph 3.1., Chapter 15 of TAP Document :

1.0	**Description of Vehicle**	
1.1	Trade Name or mark of the Vehicle	
1.2	Vehicle Type	
1.3	Declared maximum PTO Power (kW)	
1.4	Declared Rated PTO power (kW)	
1.5	CFMTTI Test report no.	
2.0	**Manufacturer's name and address**	
2.1	Telephone No.	
2.2	Fax No.	
2.3	Email	
3.0	**Brief Details of Agricultural Tractor**	
3.1	Unladen mass of vehicle (kN)	
3.2	Reference mass of the vehicle	
3.3	Gross vehicle Weight	
3.4	Gear Box	
3.5	Manual or Automatic (If it is automatic, give all the pertinent data)	
3.6	Number of Gears	
3.7	Transmission Ratio	
3.7.1	First Gear	
3.7.2	Second Gear	
3.7.3	Third Gear	
3.7.4	Fourth Gear	
3.7.5	Overdrive	
3.8	Gear Shifting Pattern	
3.9	Final Drive Ratio	
3.10	Tyre	
3.10.1	Dimensions	
3.10.2	Dynamic Rolling Circumference	
3.10.3	Type	
3.10.4	Ply Rating	
3.10.5	Tyre Pressure	
3.10.5.1	Front	

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3.10.5.2	Rear	
3.11	Wheel Drive	
3.11.1	Front	
3.11.2	Rear	
3.12	Vehicle Performance (Declared by Manufacturer)	
3.13	Vehicle Max Speed	
3.14	Acceleration (Max.)	
4.0	**Essential Characteristics of Engine Family**	
4.1	Common Parameters	
4.2	Combustion Cycle	
4.3	Cooling Medium	
4.4	Method of Air Aspiration	
4.5	Combustion chamber type / Design	
4.6	Valve and porting – Configuration, size and number	
4.7	Fuel System	
4.8	Engine Management Systems	
4.9	Proof of Identity pursuant to drawing number(s):	
4.9.1	Charge cooling system	
4.9.2	Exhaust gas Recirculation	
4.9.3	Water Injection / Emulsion	
4.9.4	Air Injection	
4.9.5	Exhaust gas after treatment system	
4.10	Proof of Identical (or lowest for the parent engine) ratio	
4.11	System capacity / fuel delivery per stroke, pursuant to diagram number(s)	
5.0	**Engine Family Listing**	
5.1	Name of Engine family	

Engine Type					Parent Engine
No. of Cylinders					
Rated Speed (rpm)					
Rated gross power (kW)					
Max torque speed (rpm)					
Fuel delivery per stroke at rated speed (mm^3)					
Fuel delivery per stroke at Max Torque Speed (mm^3)					
Max Torque (Nm)					
Low idle speed (rpm)					
Cylinder displacement (in % of parent engine)					100

6.0 (A)	**Engine (Type within the Family)**	
6.1	Type (NA/TC/TCIC, DI/IDI)	
6.2	Manufacturer's name & Manufacturing Plant address.	
6.3	Working principle (four / two stroke)	
6.4	Model name and identification	
6.5	Type of fuel used	
6.6	No.& Layout of cylinders & firing order	
6.7	Swept volume cc	
6.8	Bore(mm)	
6.9	Stroke (mm)	
6.10	Compression ratio (specify tolerance)	
6.11	Engine performance (declared by the manufacturer,)	
6.11.1	Max. Gross power of engine on bench kW (Specify standard and tolerance)	
6.11.2	Maximum Gross torque on bench Nm @ rpm	
6.11.3	Engine RPM at max. Power (specify tolerance)	
Note:	In case of diesel engines the max. Power and max. Torque shall be specified as per conditions given in Chapter 6 of Part IV of Doc. MoSRTH / CMVR / TAP-115 / 116 Issue No 3. 4	
6.12	Location of engine (Front / Rear)	

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	Table-4D of AIS-007 (Revision 5)	Name	Seal
Name **7.0**	**Combustion :** Sheet No	Designation	
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7.1	Type of combustion chamber (Hemispherical / squish/others)	
7.2	Drawings of combustion chamber and piston crown (mention drawing no)	
7.3	Minimum cross section area of ports	
7.3.1	Inlet mm^2	
7.3.2	Outlet mm^2	
8.0	**Cooling system :**	
8.1	Liquid cooling system	
8.1.1	Nature of liquid and capacity	
8.1.2	Circulating pump yes/no	
8.1.3	Characteristics of Circulating pump or make(s) & type(s)	
8.1.3.1	Drive ratio	
8.1.4	Thermostat type and setting	
8.2	Air Cooling system	
8.2.1	Blower characteristics	
8.2.1.1	Make(s)	
8.2.1.2	Type(s)	
8.2.1.3	Drive ratio(s)	
8.2.2	Air ducting(std production)	
9.0	**Temperature regulating system (yes/no)**	
9.1	Brief description	
10.0	**Temperature permitted by manufacturer ˚C**	
10.1	Liquid cooling:-	
10.1.1	Max. Temp. at engine Outlet	
10.2	Air cooling:-	
10.2.1	Reference point	
10.2.2	Max. temperature at reference point	
10.3	Max. outlet temperature of the intercooled-air	
10.4	Maximum exhaust temperature ˚C	
10.4.1	Max. exhaust temperature (in case of diesel engines, at the point in the exhaust pipe(s) adjacent in outlet flange(s) of exhaust manifolds)	

11.0	**Fuel temperature °C :**	
11.1	Minimum	
11.2	Maximum	
12.0	**Lubricant Temperature °C :**	
12.1	Minimum	
12.2	Maximum	
13.0	**Intake system :**	
13.1	Supercharger / Turbocharger - yes/no	
13.1.1	Description of system	
13.1.2	Make(s)	
13.1.3	Type(s) & Part No.	
13.2	**Intake manifold**	
13.2.1	Description & Drawings	
13.3	**Air filter**	
13.3.1	Make	
13.3.2	Type & Part No.	
13.4	**Intake silencer**	
13.4.1	Make	
13.4.2	Type	
13.5	Description & diagrams of inlet pipe & their accessories (dash pot, heating device, additional air intake etc.)	
13.6	Inter cooler	
13.6.1	Make	
13.6.2	Identification mark / & Part No.	
14.0	**Fuel feed:**	
14.1	Injection system description	
14.2	Working principle: intake manifold/ direct injection/ indirect injection/swirl chamber/others	
14.3	Fuel Pump	
14.3.1	Make(s) &	
14.3.2	Type(s) & Part No.	

14.4	Delivery mm^3/per stroke at Rated speed and at Max Torque speed (specify tolerance) Or characteristic diagram (specify tolerance)		

14.5	Calibration procedure on engine/pump bench	
14.6	Injection timing deg BTDC (specify tolerance)	
14.7	Injection advance curve (attach the same)	
14.8	Injection advance (specify the tolerance)	
14.9	**Injectors**	
14.9.1	Type, (mention Holder & Nozzle no(s))	
14.9.2	Make	
14.9.3	Opening pressure (specify tolerance) or characteristic diagram	
14.9.4	Injection piping	
14.9.5	Length mm	
14.9.6	Internal diameter mm	
15.0	**Device for recycling crank-case gases :**	
15.1	Description & diagrams	
16.0	**Governor :**	
16.1	Make(s) &	
16.2	Type(s)	
16.3	Cut off point under load (rpm)	
16.4	Max. Speed without load (rpm)	
16.5	Idle Speed (rpm)	
17.0	**Cold start device (starting aid):**	
17.1	Make(s)	
17.2	Type(s)	
17.3	System description	
18.0	**Starting System :**	
18.1	Make(s)	
18.2	Type(s)	
18.3	System description	
19.0	**Valve timing / Port timing or equivalent data :**	
19.1	Max. lift of valves	
19.1.1	Inlet mm	

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Manufacturer :	**Document No :**	**Test Agency :**	**Cert No :**
19.1.2	Exhaust mm		
19.2	Angle of valves / port (w.r.t. top dead center)		
19.3	Inlet		

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19.3.1	Opening	
19.3.2	Closing	
19.4	Exhaust	
19.4.1	Opening	
19.4.2	Closing	
19.5	Transfer	
19.5.1	Opening	
19.5.2	Closing	
19.6	Reference or setting ranges	
19.7	Valve gap (Hot & Cold)	
19.7.1	Inlet	
19.7.2	Exhaust	
19.8	Distribution by ports	
19.8.1	Volume of crank-case cavity with piston at TDC	
19.8.2	Description of reed valve if any with drawing	
19.8.3	Description (with drawing) of inlet ports, scavenging and exhaust ports with corresponding timing. (The drawing should include one representing the inner surface of the cylinder)	
20.0	**Lubrication system :**	
20.1	Description of system	
20.2	Lubrication oil capacity lit	
20.3	Position of lubricant reservoir	
20.4	Lubricating oil grade	
20.5	Feed system(pump, injection in to intake mixing with fuel etc.,)	
20.6	Lubricating pump	
20.6.1	Make	
20.6.2	Type	
20.7	Mixture with fuel : yes/no, and if yes %	
20.8	Oil cooler : yes/no, and if yes Drawings/ makes & types	

21.1	Generator/alternator characteristics (specify tolerance) or	
21.1.1	Make	
21.1.2	Type	
22.0	**Other engine driven auxiliaries:**	
22.1	Enumeration & brief description, if necessary	
23.0	**Idling System :**	
23.1	Idling speed (rpm) (specify the tolerance)	
23.2	Description of settings and relevant requirements	
24.0	**Additional requirements for diesel engines:**	
24.1	Maximum permitted depression of air intake at characteristic place (Specify location of measurement) (kPa)	
24.2	Exhaust back pressure at maximum Gross power and location of measurement (kPa)	
24.3	Effective volume of exhaust-System (specify the tolerance & range) in liters (from exhaust manifold / TC outlet to tail pipe end), Enclose the exhaust system drawing and indicate the volume of each parts clearly.	
24.4	Moment of inertia of combined flywheel & transmission at condition when no gear is engaged	
24.5	Maximum rated speed (Specify the tolerance)	
24.6	Minimum rated speed (Specify the tolerance)	
24.7	Power absorbed by fan kW (specify the tolerance)	
24.8	Max. Gross torque on bench, Nm@ rpm	
24.9	Declared speed and powers of the engine/ submitted for type approval) (Speeds to be agreed with the testing agency)	

Measurement point*	Engine speed rpm	Gross Power kW**	

*	See Chapter 3 of Part IV of Doc.MoSRTHST/CMVR/TAP115/116 Issue No 3. 4
**	Gross power according to Chapter 6 of Part IV of Doc.MoSRTHST/CMVR/TAP115/116 Issue No 3. 4

25.1	Silencer, Number, Type and make	
25.2	Identification mark (If proprietary) / Part No.	
25.3	Internal dia of exhaust pipe	
25.4	Description (with a general arrangement drawing of exhaust system along with its routing indicating the lengths of exhaust pipe, tail pipe and exhaust outlet location)	
25.5	Minimum distance between exhaust pipe(s) and the fuel line	
26.0	**Additional emission control devices, such as catalytic converter etc. (if any & if not covered by another heading)**	
26.1	Catalyser make, Number	
26.2	Identification Mark / Part No	
26.3	Type of catalytic action (One/two/three way)	
26.4	Total charge of precious metal (g/vehicle)	
26.5	**Relative concentration (%)**	
26.5.1	Platinum	
26.5.2	Rhodium	
26.5.3	Palladium	
26.6	Substrate (Monolythic metal/ Ceramic/ honeycomb)	
26.7	Cell density (cells per sq.inch)	
26.8	Type of casing for catalyser	
26.9	Diagram indicating the arrangement and position of catalytic converter w.r.t exhaust manifold)	
26.10	**Electronic Control Unit (ECU)**	
26.10.1	Make	
26.10.2	Identification mark	
26.10.3	Calibration Identification No.	
26.11	**Secondary Air Injection**	
26.11.1	Make	
26.11.2	Identification mark	
26.12	**Exhaust Gas Recirculation System**	
26.12.1	Make	
26.12.2	Type	
26.12.3	Identification mark	

Clause No.	Description
D1.0	**Service brakes :**
D1.1	Make
D1.2	Type (Mechanical/hydraulic/air/air assisted/vacuum assisted/others)
D1.3	Control system & braking wheel
D1.4	Schematic layout indicating method of split of brake system, location of valves, reservoirs, ABS components etc. (Attach drawing and indicate the drawing number)
D1.5	**Anti-Lock braking system Provided (Yes/No/Optional)**
D1.5.1	If yes, details of ABS
D1.5.2	Make
D1.5.3	Category of ABS
D1.5.4	Nos. of directly controlled wheel(s)
D1.5.5	Brief description of failure warning tell–tale
D1.5.6	**Wheel Speed Sensors**
D1.5.6.1	No. of sensors
D1.5.6.2	Make of sensors
D1.5.6.3	Type of sensors
D1.5.7	**Modulator**
D1.5.7.1	Nos. of Modulators
D1.5.7.2	Make of Modulators
D1.5.7.3	Identification No. / Part No. of Modulator
D1.5.7.4	Brief description and features
D1.5.8	**Controller**
D1.5.8.1	Nos. of Controller
D1.5.8.2	Make of Controller
D1.5.8.3	Identification No. / Part No. of Controller
D1.5.8.4	Brief description and features
D1.5.9	**Height of Center of Gravity (mm)**
D1.5.9.1	Un laden condition
D1.5.9.2	Laden condition
D 1.5.10	**Slack adjuster**
D 1.5.10.1	Front (Automatic / Manual)
D 1.5.10.1.1	Type

D 1.5.10.2	Rear (Automatic / Manual)
D 1.5.10.2.1	Type
D2.0	**Brake lining or pad**
D2.1	Nominal Dimensions, (mm) (Length x Width x thickness)
D2.1.1	Front wheel
D2.1.2	Rear wheel
D2.1.3	Others
D2.1.4	Type of liner wear indicator (window/ acoustic/ optical/ any other)
D2.2	Effective area per axle (cm^2)
D2.2.1	Front
D2.2.2	Rear
D2.2.3	Others
D2.3	Make
D2.3.1	Front wheel / axle
D2.3.2	Rear wheel / axle
D2.3.3	Others
D2.3.4	Whether asbestos or asbestos-free
D3.0	**Brake drum or disc**
D3.1	Front axle (Disc / Drum)
D3.1.1	Effective Diameter (mm)
D3.2	Rear axle (Disc / drum)
D3.2.1	Effective Diameter (mm)
D3.3	Other axle (Disc / Drum)
D3.3.1	Effective diameter (mm)
D4.0	**Master cylinder or brake valve**
D4.1	Make
D4.2	Inner diameter of the master cylinder (mm)
D4.3	Operating stroke (mm)
D5.0	**Wheel cylinder / Wheel Chamber**
D5.1	Diameter (mm)
D5.1.1	Front

D5.1.2	Rear
D5.1.3	Others
D5.2	Type (single acting/double acting)
D5.2.1	Front
D5.2.2	Rear
D5.2.3	Others
D5.2.4	Make of wheel cylinder / slave cylinder

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D6.0	**Booster :**
D6.1	Make
D6.2	Type
D6.3	Boost ratio
D6.4	Size of the booster (mm) (diameter)
D7.0	**Vacuum or air assistance**
D7.1	Pressure
D7.1.1	Nominal (P2 as per IS 11852)
D7.1.2	Cut in
D7.1.3	Cut out
D7.2	Type of vacuum pump or air compressor
D 7.2.1	Air compressor cubic capacity (cc)
D7.3	Type of pressure regulator
D7.4	No. of tanks
D7.5	Tank Capacity (l) Description Capacity
D7.5.1	Tank 1
D7.5.2	Tank 2
D7.5.3	Tank 3
D7.5.4	Tank 4
D7.6	Brake Chamber Front Rear Parking
D7.6.1	Make and type
D7.6.2	Size mm
D7.6.3	Inner diameter mm
D7.6.4	Stroke mm
D8.0	**Brake hose (if Hydraulic)**
D8.1	Make, and Identification No.

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D8.1.1	Type of expansion (HL / HR)
D8.2	Free Length of hoses
D8.3	Thickness of lining (mm)
D8.4	Nominal bore dia. (mm)
D9.0	**Failure Warning device for braking**
D9.1	Type (Visual display/ audible/others)
D9.2	Operation pressure (kg/cm2 / bar / kPa)
D9.3	Type of safety device

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D10.0	**Parking brake**
D10.1	Make
D10.2	Type (mechanical/spring brake)
D10.3	Acting on Transmission/wheel
D10.4	Control System & Braking wheel
D10.5	Lining/pad
D10.6	Name of producer
D10.7	Dimension (mm)
D10.8	Area (cm 2)
D10.9	Material
D10.10	Diameter of brake drum/disc (mm)
D11.0	**Secondary brake**
D11.1	Type
D11.2	Description
D12.0	**Additional retarding devices**
D12.1	Type
D12.2	Description
D12.3	Deceleration at 30 km/h, m/s2
D13.0	**Brake fluid**
D13.1	Make
D13.2	Trade name
D13.3	Specification/ grade as per Indian standard

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D14.0	**Load distribution :** **Laden kg Unladen kg Unladen F/R** **Ratio** **Front axle** **Rear axle** **Other axle** **Total**
D15.0	**Proportioning valve**
D15.1	Make
D15.2	Characteristics
D15.3	Identification

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D16.0	**Apportioning valve**
D16.1	Make
D16.2	Characteristics
D16.3	Identification
D17.0	**Load sensing valve**
D17.1	Make
D17.2	Characteristics
D17.3	Identification
D18.0	**valve**
D18.1	Make
D18.2	Characteristics
D18.3	Identification
D19.0	**Other valves**
D19.1	Function
D19.2	Make

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D19.3	Characteristics
D19.4	Identification

Table 6 of AIS-007 (Revision 5) TECHNICAL SPECIFICATION – FOUR WHEELERS AND ABOVE PART E – ELECTRICAL	
Clause No.	**Description**
E1.0	**Battery**
E1.1	Type & number
E1.2	Voltage
E2.0	**Wind Screen Wiper**
E2.1	Type (Manual/power)
E2.2	No. of wipers
E2.3	**Wiper motor**
E2.3.1	Make
E2.3.2	Type
E2.3.3	Identification mark
E2.3.4	Rated voltage
E2.3.5	Number of sweep Frequencies
E2.3.6	Highest sweep frequency (Cycles/min)
E2.3.7	Lowest sweep frequency (Cycles/min)
E2.4	**Wiper arm**

E2.4.1	Length
E2.4.2	Make
E2.5	**Wiper blade**
E2.5.1	Length
E2.5.2	Make
E2.5.3	Identification
E2.6	**H Point**
E2.7	**Washer tank**
E2.7.1	Type
E2.7.2	Make
E2.7.3	Identification No. / Part No
E2.7.4	Capacity l
E2.7.5	Material
E2.7.6	Washer tank motor / Washer Pump
E2.7.6.1	Make
E2.7.6.2	Model
E2.7.7	Nozzle(s)
E2.7.7.1	No. Of Nozzles

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E2.8	**Defroster / Demist**
E2.8.1	Make
E2.8.2	Details of Demisting and / or Defrosting system
E2.8.2.1	Schematic Diagram of Engine cooling system
E2.8.2.2	Schematic Diagram of Heating system
E2.8.2.3	Cross sectional view of complete air handling system including position of louvers (vents) on dash board
E2.8.2.4	Blower identification
E2.8.2.4.1	Blower Voltage and capacity (Watts)
E2.8.2.5	If defrost system is fitted, specify defrost test temprature (-8 +/- 2 deg C / -18 +/- 3 deg C)
E2.9	Drawing indicating the seat back angle, seat travel, H point, Rake angle, F point, steering wheel position, Driver's vision points, Angle obstruction of the 'A' pillar and the related dimensions as per related standards.
E3.0	**Horn**
E3.1	Make
E3.2	Type (As per IS 1884:1993)
E3.3	Operating voltage

E3.4	Identification: TAC No. / BIS License No. / E- Marking
E3.5	Number
E3.6	Sketch showing mounting of horn
E3.7	Brief Dimensional Drawing indicating the shape and material of the body work at the front of the horn, which might affect the level of the sound, emitted by the horn and have a masking effect
E3.8	Maximum vehicle speed for continuous operation (km/h) (Only for AC horns)
E4.0	**Lighting Installation requirements**
E4.1	Brief Dimensional Drawing indicating installation details of all light & light signalling devices of the vehicle as per AIS-008
E4.2	Head lamp leveling system (manual / automatic)
E4.2.1	Stop position (if manual)
E4.2.2	Initial inclination
E4.2.3	Drawing showing initial inclination angle on the head lamp
E4.2.4	Drawing showing type and controls of dipped beam leveling device with table showing positions of switch for various vehicle loading condition
E4.3	Tell-Tale for leveling switch
E4.3.1	Description and sketch showing the detail positions of Tell-Tale and seating layout (for M category vehicles)

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E5.0	**Head lamp**
E5.1	**Main beam**
E5.1.1	Make
E5.1.2	Type of lens (Glass / Plastic)
E5.1.3	Identification: TAC No. / BIS License No. / E- Marking
E5.1.4	Number and Colour of Lens
E5.2	**Dipped beam**
E5.2.1	Make
E5.2.2	Type of lens (Glass / Plastic)
E5.2.3	Identification: TAC No. / BIS License No. / E- Marking
E5.2.4	Number and Colour of Lens
E5.3	**Head Lamp cleaning device provided (Yes / No) (For Headlamps having intensity more than 2000 lumen)**
E5.3.1	Cleaner Type as per AIS-083
E5.3.1.1	Make
E5.3.2	A list, specifying the parts which constitute the headlamp cleaner and drawings thereof, (e.g. pumps, nozzles, valves, motors and wipers);

E5.3.3	A brief technical description indicating the length of the cleaning period, the consumption of cleaning fluid during the cleaning period and the minimum capacity of the container provided;
E5.3.4	Capacity class of the fluid container: 25/50
E5.3.5	Drawings showing the installation to a vehicle
E5.3.6	Drawings showing the relative attachment between the headlamp(s) and the wiper(s), nozzle(s), or corresponding parts,
E5.3.7	Drawings showing the cleaning principle employed
E5.3.8	where appropriate, the part of the illuminating surface of the headlamp relevant to the cleaner shall also be shown
E5.4	**Bend Lighting , provided (Yes / No)**
E5.4.1	Cornering Lamp (if provided)
E5.4.2	Make
E5.4.3	Identification: TAC No. / BIS License No. / E- Marking
E5.4.4	Type of lens (Glass / Plastic)
E5.4.5	Number and Colour of Lens
E5.5	**Day Time Running Lamp (if provided)**
E5.5.1	Make
E5.5.2	Identification: TAC No. / BIS License No. / E- Marking
E5.5.3	Type of lens (Glass / Plastic)
E5.5.4	Number and Colour of Lens

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E6.0	**Front Fog Lamp**
E6.1	Make
E6.2	Type of lens (Glass / Plastic)
E6.3	Identification: TAC No. / BIS License No. / E- Marking
E6.4	Number and Colour of Lens
E7.0	**Rear Fog Lamp**
E7.1	Make
E7.2	Identification: TAC No. / BIS License No. / E- Marking
E7.3	Number and Colour of Lens
E8.0	**Side Marker lamps**
E8.1	Make
E8.2	Identification: TAC No. / BIS License No. / E- Marking
E8.3	Number and Colour of Lens
E9.0	**Registration Plate lamp**
E9.1	Make
E9.2	Identification: TAC No. / BIS License No. / E- Marking

E9.3	Number and Colour of Lens
E10.0	**Position lamp / Parking Lamp – Front**
E10.1	**Front Position Lamp**
E10.1.1	Make
E10.1.2	Identification: TAC No. / BIS License No. / E- Marking
E10.1.3	Number and Colour of Lens
E10.2	**Front Parking Lamp**
E10.2.1	Make
E10.2.2	Identification: TAC No. / BIS License No. / E- Marking
E10.2.3	Number and Colour of Lens
E11.0	**Position lamp / Parking Lamp – Rear**
E11.1	**Rear Position Lamp**
E11.1.1	Make
E11.1.2	Identification: TAC No. / BIS License No. / E- Marking
E11.1.3	Number and Colour of Lens
E11.2	**Rear Parking Lamp**
E11.2.1	Make
E11.2.2	Identification: TAC No. / BIS License No. / E- Marking
E11.2.3	Number and Colour of Lens

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E12.0	**Stop lamp (S1 / S2)**
E12.1	Make
E12.2	Identification: TAC No. / BIS License No. / E- Marking
E12.3	Number and Colour of Lens
E13.0	**Stop lamp (S3) for M1 category & N category as applicable**
E13.1	Make
E13.2	Identification: TAC No. / BIS License No. / E- Marking
E13.3	Number and Colour of Lens
E14.0	**Reversing lamp**
E14.1	Make
E14.2	Identification: TAC No. / BIS License No. / E- Marking
E14.3	Number and Colour of Lens
E15.0	**Direction indicator Lamp**
E15.1	**Front**
E15.1.1	Make
E15.1.2	Identification: TAC No. / BIS License No. / E- Marking

E15.1.3	Number and Colour of Lens
E15.2	**Rear**
E15.2.1	Make
E15.2.2	Identification: TAC No. / BIS License No. / E- Marking
E15.2.3	Number and Colour of Lens
E15.3	**Side**
E15.3.1	Make
E15.3.2	Identification: TAC No. / BIS License No. / E- Marking
E15.3.3	Number and Colour of Lens
E15.4	**Flasher for Direction Indicators**
E15.4.1	Flashing Frequency (No of flashes / minute)
E16.0	**Hazard warning signal**
E16.1	**Front**
E16.1.1	Make
E16.1.2	Identification: TAC No. / BIS License No. / E- Marking
E16.1.3	Number and Colour of Lens
E16.2	**Rear**
E16.2.1	Make
E16.2.2	Identification: TAC No. / BIS License No. / E- Marking
E16.2.3	Number and Colour of Lens

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E16.3	**Side**
E16.3.1	Make
E16.3.2	Identification: TAC No. / BIS License No. / E- Marking
E16.3.3	Number and Colour of Lens
E17.0	**Reflector**
E17.1	**Front**
E17.1.1	Make
E17.1.2	Type
E17.1.3	Identification: TAC No. / BIS License No. / E- Marking
E17.1.4	Number and Colour of Lens
E17.1.5	Reflective surface Area
E17.1.6	Shape (Square / rectangular / circular / elliptical /other)
E17.2	**Rear**
E17.2.1	Make

E17.2.2	Type
E17.2.3	Identification: TAC No. / BIS License No. / E- Marking
E17.2.4	Number and Colour of Lens
E17.2.5	Reflective surface Area
E17.2.6	Shape (Square / rectangular / circular / elliptical /other)
E17.3	**Side**
E17.3.1	Make
E17.3.2	Type
E17.3.3	Identification: TAC No. / BIS License No. / E- Marking
E17.3.4	Number and Colour of Lens
E17.3.5	Reflective surface Area
E17.3.6	Shape (Square / rectangular / circular / elliptical /other)
E18.0	**End-outline marker lamp (Top light)**
E18.1	**Front**
E18.1.1	Make
E18.1.2	Type of lens (Glass / Plastic)
E18.1.3	Identification: TAC No. / BIS License No. / E- Marking
E18.1.4	Number and colour of Lens
E18.2	**Rear**
E18.2.1	Make

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E18.2.2	Type of lens (Glass / Plastic)
E18.2.3	Identification: TAC No. / BIS License No. / E- Marking
E18.2.4	Number and colour of Lens
E 5.0 to E 18.0 - Installation details.	Diagram of vehicle indicating location, reference axis, mark of apparent surface, contour of vehicle parts limiting geometric visibility of all lights and light signaling devices, location of extreme outer edges and longitudinal median plane of vehicle including following dimensions in mm. Along width of vehicle-horizontal distance between inner illuminating surfaces, distance between inner illuminating surfaces and outer most part of vehicle and distance between nearest point of illuminating surfaces of indicators and dipped-beam head lamp. Along length of vehicle (where applicable) – distance between the transverse plane corresponding to the longitudinal rearmost extremity to center of reference of rear indicators. Heights of highest and lowest point of illuminating surfaces.
E19.0	**Automotive bulbs**
E19.1	**Head lamp bulb (main beam ~~and dip~~)**
E19.1.1	Make
E19.1.2	Category as per AIS-034

E19.1.3	Identification: TAC No. / BIS License No. / E- Marking
E19.1.4	**Head lamp bulb (Dipped beam)**
E19.1.5	Make
E19.1.6	Category as per AIS-034
E19.1.7	Identification: TAC No. / BIS License No. / E- Marking
E19.2	**Parking Lamp bulb – Front**
E19.2.1	Make
E19.2.2	Category as per AIS-034
E19.2.3	Identification: TAC No. / BIS License No. / E- Marking
E19.3	**Parking Lamp bulb – Rear**
E19.3.1	Make
E19.3.2	Category as per AIS-034
E19.3.3	Identification: TAC No. / BIS License No. / E- Marking
E19.4	**Direction indicator lamp bulb - front**
E19.4.1	Make
E19.4.2	Category as per AIS-034
E19.4.3	Identification: TAC No. / BIS License No. / E- Marking
E19.5	**Direction indicator lamp bulb - rear**
E19.5.1	Make
E19.5.2	Category as per AIS-034
E19.5.3	Identification: TAC No. / BIS License No. / E- Marking

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E19.6	**Direction indicator lamp bulb - side**
E19.6.1	Make
E19.6.2	Category as per AIS-034
E19.6.3	Identification: TAC No. / BIS License No. / E- Marking
E 19.7	**Front Position Lamp bulb**
E 19.7.1	Make
E 19.7.2	Category as per AIS-034
E 19.7.3	Identification: TAC No. / BIS License No. / E- Marking
E19.8	**Rear Position Lamp (tail lamp)Bulb**
E19.8.1	Make
E19.8.2	Category as per AIS-034
E19.8.3	Identification: TAC No. / BIS License No. / E- Marking
E19.9	**Stop lamp bulb**
E19.9.1	Make

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E19.9.2	Category as per AIS-034
E19.9.3	Identification: TAC No. / BIS License No. / E- Marking
E19.10	**Number plate lamp bulb**
E19.10.1	Make
E19.10.2	Category as per AIS-034
E19.10.3	Identification: TAC No. / BIS License No. / E- Marking
E19.11	**End out Marker bulb**
E19.11.1	Make
E19.11.2	Category as per AIS-034
E19.11.3	Identification: TAC No. / BIS License No. / E- Marking
E19.12	**Reversing lamp bulb**
E19.12.1	Make
E19.12.2	Category as per AIS-034
E19.12.3	Identification: TAC No. / BIS License No. / E- Marking
E19.13	**Stop Lamp Bulb (S3)**
E19.13.1	Make
E19.13.2	Category as per AIS-034
E19.13.3	Identification: TAC No. / BIS License No. / E- Marking
E19.14	**Front Fog Lamp Bulb**
E19.14.1	Make
E19.14.2	Category as per AIS-034
E19.14.3	Identification: TAC No. / BIS License No. / E- Marking

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E19.15	**Rear Fog Lamp Bulb**
E19.15.1	Make
E19.15.2	Category as per AIS-034
E19.15.3	Identification: TAC No. / BIS License No. / E- Marking
E19.16	**Side Marker Lamp Bulb**
E19.16.1	Make
E19.16.2	Category as per AIS-034
E19.16.3	Identification: TAC No. / BIS License No. / E- Marking
E19.17	**Cornering lamp bulb (if provided)**
E19.17.1	Make
E19.17.2	Designation Category as per AIS-034

E19.17.3	Identification: TAC No. / BIS License No. / E- Marking
E19.18	**Day time Running lamp bulb (if provided)**
E19.18.1	Make
E19.18.2	Designation Category as per AIS-034
E19.18.3	Identification: TAC No. / BIS License No. / E- Marking
E19.19	**Bending lamp bulb (if provided)**
E19.19.1	Make
E19.19.2	Designation Category as per AIS-034
E19.19.3	Identification: TAC No. / BIS License No. / E- Marking
E20.0	**Warning Triangle**
E20.1	Make
E20.2	Identification: TAC No. / BIS License No. / E- Marking
E21.0	**Reflective tape (AIS-090)**
E 21.1	Make
E 21.2	Width of tape(s) in mm
E 21.3	Identification: TAC No. / BIS License No. / E- Marking
E 21.4	Dimensional Drawing indicating installation details of reflective Tapes at front, Rear & side of the vehicle / load body / container / Tanker etc., as per AIS-090
E 22.0	**Electromagnetic Compatibility as per AIS-004 (Part 3)**
E 22.1	Description and drawings/photographs of the shapes and constituent materials of the part of the body forming the engine compartment and the part of the passenger compartment nearest to it:
E 22.2	Drawings or photographs of the position of the metal components housed in the engine compartment (e.g. heating appliances, spare wheel, air filter, steering mechanism, etc.):

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<table>
<tr><td>E 22.3</td><td>List of Electrical/Electronic Systems which are not previously listed</td></tr>
<tr><td>E 22.4</td><td>List of all subassemblies, which includes an electronic oscillator or switching frequency greater than 9kHz (like ECU,steering, suspension,Body Control Module, etc.). The list shall include Device name, Make and Part No./Type ID/Drawing No</td></tr>
<tr><td>E 22.4.1</td><td>List of all Electrical components, which include Broadband EMI sources (like HAVC Motor, Wiper Motor, Window motor and Horn etc.)The list shall include Device name, Make and Part No./Type ID/Drawing No.</td></tr>
<tr><td>E 22.5</td><td>Table of installation and use of RF transmitters in the vehicle(s), if applicable (see paragraph 3.1.8. of this standard):
<table>
<tr><td>frequency bands [Hz]</td><td>max. output power [W]</td><td>antenna position at vehicle, specific conditions for installation and/or use</td></tr>
</table>
</td></tr>
<tr><td>E 22.6</td><td>Vehicle equipped with 24 GHz short-range radar equipment: yes/no/optional</td></tr>
<tr><td>E 23.0</td><td>Any other features (As declared by the vehicle manufacturer)</td></tr>
</table>

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BRIEF TECHNICAL SPECIFICATIONS FOR MOTOR VEHICLES

A. Manufacturer's name and address	
Importer's name and address (in case of CBU)	
Vehicle data	
Basic model	
Type / Description	
Category of the vehicle	
Variant(s)	
Type / Description	
Category of variant(s)	
Engine	
Make	
Model	
Type	
Bore x stroke (mm)	
No. of cylinders	
Displacement	
Compression ratio	
Max. Engine output (kW @ rpm)	
Max. Torque (Nm @ rpm)	
Air cleaner type	
Clutch	
Type	
Gear box	
Make model	
Type	
No. of gears	
Gear ratio 1st 2nd 3rd 4th 5th 6th Reverse	
Drive Axle (Front / Rear / All)	

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Front axle ratio	

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Rear axle ratio	
Steering	
Type / Description	
Steering wheel diameter mm	
Ratio	
Frame	
Long member size (mm)	
Number of cross members	
Suspension	
Type / Description	
Spring	
Anti-roll bar	
Shock absorbers	
Brake	
Service brake (Brief description)	
Auto Slack Adjuster Fitted (Yes / No / Optional)	
ABS Fitted (Yes / No / Optional)	
Front (Disc / Drum)	
Rear (Disc / Drum)	
Total braking area (cm^2)	
Parking brake	
Secondary brake	
Wheels and tyres	
Wheel rim size	
Tyre size designation including ply rating	
Speed index	
Load index / Load rating	
Tyre Type (Radial / Cross / Tube / Tubeless)	
Laden Tyre pressure (front & rear) (kg/cm^2)	
Electrical system	

System voltage (V)	
Battery rating (Ah)	
Wiper motor	
Wiping system (Brief description)	
Fuel tank	
Material	
Capacity (l)	

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Dimensions	
Wheel base (mm)	
Overall width (mm)	
Overall length (mm)	
Overall height (mm)	
Front track (mm)	
Rear track (mm)	
Min. ground clearance (mm)	
Cargo box dimensions (mm)	
Load body platform area	
Weights	
Maximum GVW kg (for rigid vehicles)	
Maximum GCW kg (for articulated / combination vehicles)	
Maximum FAW (kg)	
Maximum RAW (kg)	
Kerb weight with 90% fuel (with spare wheel , tools, etc.) (kg)	
Maximum gradeability in 1st gear	
Seating	
Seating capacity	
Sketch showing seating layout with dimensions	

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Rule No.	Subject	Name of the Manufacturer (Please give information for every supplier / vendor under the same para, separate lines)	TAC No. / BIS License No / Test Report No. as applicable. (indicate validity date) (Application Ref No. allotted by concerned Test Agency, If approval is in the process)	Possible date of submission of required approval, if the same is in process	CoP Cert No. with validity date (wherever applicable)
95	**Tyres** (Compliance to IS 15633 / IS 15627/IS 15636)				
	Front				
	Rear				
	Spare wheel (as applicable)				
100	**Safety Glass** a) Windscreen b) Side c) Rear (For 3 & 4 Wheeler)				
101	**Windscreen Wiping System** a) Wiping System b) Washing System c) Wiper Blade (For 3 & 4 Wheelers)				
104	**Reflex Reflector** a) Front, White b) Rear, Red c) Side, Amber				
	CNG / LPG Kit Components				
	Cylinder (as per Gas Cylinder Rule, 2004)				
	Cylinder Valve / Multi Function Valve (as per Gas Cylinder Rule, 2004)				
	CNG / LPG Pressure Regulator				
	CNG / LPG Gas Solenoid Valve				
	CNG / LPG Gas Air Mixer				

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	Petrol Solenoid valve				
	CNG/LPG Rigid Pipe				
	CNG/ LPG High Pressure Flexible Hose				
	CNG/ LPG Low Pressure Flexible Hose				
	Electrical Fuses				
	Ventilation Hose/ Conduit				
	Electrical Wiring Harness				
	Seat Upholstery, Roof, Side linings				
	Non-moisture retaining Hard rubber for cylinder mounting (as applicable)				
118	**Speed Limiter Installation Test Report as per AIS-018 (SLD / SLF)**				
119	**Horns(s)** Horn Installation (For all vehicles)				
123	**Pillion Hand Holds** (For all vehicles)				
124/ 1	**Automotive Bulbs** (Mention category of bulb/s as per AIS-034)				
	Main Beam head Lamp				
	Dipped Beam Head Lamp				
	Daytime Running Lamp				
	Cornering Lamp				
	Front Position / parking lamp				
	Front Fog Lamp				
	Front Direction Indicator Lamp				
	Front End-out Marker Lamp				
	Side Direction Indicator lamp				
	Side Marker lamp				
	Stop Lamp				

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	Rear Direction indicator Lamp				
	Rear Position / Parking Lamp				

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	Reversing Lamp				
	Rear Fog Lamp				
	Rear Registration Plate Lamp				
	Rear End-out Marker Lamp				
	High Mounted Stop Lamp				
124/2	Hydraulic Brake Hose (For all vehicles – as applicable)				
124/3	Hydraulic Brake Fluid (For all vehicles – as applicable)				
124/5	Steering Impact a) Head Form Test b) Body Block Test c) Crash Test (For M1 category having GVW not more than 1500 kg)				
124/6	Side Door Impact Test (For passenger cars)				
124/7	Fuel Tank (Provide details in case of multiple capacities / suppliers)				
	i) Fuel Tank (metallic) or ii) Fuel Tank (plastic) (For Four Wheelers)				
124/8	Wheel Rims (For Four wheelers)				
124/9	Control Cables (For two wheelers below 50 CC)				
124/10	Pneumatic Coupling (For N category of vehicles)				
124/12	Bus Window Retention (Only for Buses)				
124/14	Wheel Nuts /Bolts, Wheel Caps / Hub Caps (Only for Four Wheelers)				

124/15	Accelerator Control Systems (Only for Four Wheelers)				

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124/16	Door Locks & Hinges (Only for Four Wheelers)				
	Door Hinges				
	Front Door Hinges				
	Rear Door Hinges				
	Door Locks				
	Front Door Lock				
	Rear Door Lock				
124/17	Hood Latch (For passenger cars)				
124/20	**i)** Lighting Signalling & Indicating Systems (For 4 Wheelers)				
	Head Lamp (Main Beam)				
	Head Lamp (Dipped Beam)				
	Front Position / Parking Lamp				
	Cornering Lamp (if provided)				
	Front Direction Indicator				
	Front Fog lamp				
	Day-Time Running Lamp (if provided)				
	Front end-out marker Lamp / Top Lights				
	Rear end-out marker Lamp / Top Lights				
	Stop Lamp				
	Rear Position / Parking Lamp				
	Rear Direction Indicator				
	Reversing lamp				
	Rear Fog lamp				
	High mounted stop Lamp				

	Rear Registration Plate Lamp				
	Side Direction Indicator Lamp				
	Side Marker lamp				
	Head Lam Cleaning Device				

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	ii) Lighting and Signalling Installation Requirements (for 4 wheelers)				
	Report No(s). for Base Model / Variants (if already issued)				
124/21	Electromagnetic Radiation (EMI) (for all combinations of spark plug, ignition coil, HT cable, Ignition System, ECU and suppress cap) (For all vehicles)				
124/22	Towing Devices (For 4 wheelers) as applicable				
124/24	Lighting and Signaling installation requirements for 2 & 3wheelers, including Trailers, semi-Trailers				
	Report No(s). for Base Model / Variants (if already issued)				
124/25	Fuel Tank for 2 & 3wheelers (metallic or Non-Metallic) (Indicate Nominal capacity)				
124/32	Lighting and light signaling devices for 2 wheelers, 3 wheelers and their trailers and semi trailers.				
	Head Lamp				
	Front Position / Parking Lamp				
	Front Direction Indicator				
	Stop Lamp				

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	Rear Position / Parking Lamp				
	Rear Direction Indicator				
	Reversing lamp for 3 Wheeler				
	Rear Registration Plate Lamp				
	Side Direction Indicator Lamp				

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124/33	Spray Suppression System Installation test report as per AIS-013				
124/34	Drivers field of vision for M1 category of vehicles.				
124/35	Survival space for protection of occupants in a cab.				
124/36	Strength of superstructure of passenger vehicles.				
124/37	Flammability requirements for M3 category vehicles with more than 22 passengers.				
124/38	Interior fittings for M1 category				
124/39	Windscreen wiping system requirements for 3 wheelers				
124/42	Handholds for L5, M & N category vehicles				
124/43	Wheel Rims for L category vehicles				
124/44	Protective Devices for L category vehicles				
124/46	Defrost & Demist Systems for M1 category vehicles				
124/48	Spray Suppression test for 2-Wheelers				
124/49	Traction Battery used in Battery Operated Vehicles				

124/1 A	Vehicle Rear Under run Protection And Lateral Protection (For four wheelers)				
125/1 A	Safety Belt and Safety Belt Anchorages (For four wheelers)				

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125/ (2)	Rear View Mirror and Rear View Mirror Installation Requirements as per AIS-002 (For all vehicles as referred in AIS-001)				
	Interior Mirror (Class-I)				
	Main Mirror large (Class-II)				
	Main Mirror small (Class-III)				
	Wide Angle Mirror (Class-IV)				
	Close proximity Mirror (Class-V)				
	Front Mirror (Class-VI)				
	Mirrors for L category vehicle with bodywork (Class-VII)				
125/1 C	Seat Size, Anchorages and Head Restraints (For four wheelers)				
138	Warning Triangles				

Note :

1) Please enclose copies for TAC / CoP / BIS License / ECE Certificate / Test Reports wherever required by the testing agency.
2) Fill all the columns. If any clause is not applicable, mention "NA" in corresponding column. Do not keep it blank.
3) In case samples are submitted to testing agency, please provide Reference No. if the approval is in process.)

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INFORMATION ON TEST REPORTS FOR VEHICLE LEVEL AND SYSTEM LEVEL COMPLIANCE

Rule No.	Subject	Model	No. of test report / certificate *	Issued by	Justification for applicability as per CEA for the model under consideration

* Xerox copies of the certificates to be submitted in case if it is from another testing agency or whenever necessary.

Manufacturer :	Document No :	Test Agency :	Cert No :
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INFORMATION NEEDED FOR APPLYING CRITERIA FOR EXTENSION OF APPROVAL

Rule No:	Subject:	Notified Standard	CEA as per doc. no.

Value for each variant

Variants / CEA Parameters	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1)									
(2)									
(3)									
(4)									
(5)									
(6)									
(7)									
(8)									
(9)									
(10)									
(11)									
(12)									
(13)									

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(14)									

Additional information required in the case of application for extension based on an already tested model:

1. Test report No:
2. Specification No.
3. Detailed justification and logic for applicability of CEA.
4. Copies of Test report and specification should be enclosed in case they are not already available with the Test Agency.
5. Column (1) should indicate the parameters for the tested model.

Note: Where practically not possible to provide the information in the above form, it may be given in separate sheets / tables with designated sheet nos.

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DETAILS OF LOCATION OF CHASSIS NUMBER AND CODE FOR MONTH AND YEAR OF MANUFACTURE AS PER RULE 122 OF CMVR

Name of the Vehicle Manufacturer & Address :	
Name of the basic model :	
Name of Variants, if any :	
Place of Embossing or etching the Chassis Number (Vehicle Identification Number). Supporting details by drawing or pictures may be provided if necessary.	

Code for month and year of production:

Manufacturer :	Document No :	Test Agency :	Cert No :
Code for month of production:		**Code for year of production:**	
Signature		Signature	
Month / Code		Year / Code	
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February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

Position of the code for month of production in the Chassis number :	
Position of the code for year of production in the Chassis number :	
Height of the Chassis number (Vehicle Identification Number) :	

Example of Engine/Motor No. :-

Example of Chassis No. (Vehicle Identification Number) with Month & Year of Manufacture:-

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DETAILS OF CHANGE IN TECHNICAL SPECIFICATION

Manufacturers name and address :		
Name of the model and variants:		
CMVR Certificate No.	Date	Specification No.
3.1		
3.2		
Valid Extension		
4.1 Dated		

Manufacturer :	Document No :	Test Agency :	Cert No :
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4.2	Specifications Revision	
Nature of Change:		
Changes in the Specifications		

Sr. No.	Specifications No. and Clause No.	Description	Parameter (Earlier)	Parameter (New Extension)
6.1				
6.2				
6.3				
6.4				

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TECHNICAL SPECIFICATIONS - BATTERY OPERATED VEHICLES

1.0	**General description of vehicle**
1.1	Vehicle Model
1.2	Vehicle Type
1.3	Drawing and /or photographs of the vehicle
2.0	**Description of The Traction Battery**
2.1	Trade Name and Mark of the Battery
2.2	Kind of Electro – Chemical Couple
2.3	Nominal Voltage (V)
2.4	Battery Maximum Thirty Minutes Power (Constant Power Discharge) (kW)

2.5	Battery Performance in 2 h Discharge (Constant Power or Constant Current)
2.5.1	Battery Energy (kWh)
2.5.2	Battery Capacity , Ah in 2 h
2.6	End of Discharge Voltage Value (V)
2.7	Provision of ventilation for battery Yes / No
2.7.1	Brief description of the ventilation system adopted in the vehicle. (Refer AIS-038/2003 Clause 3.1.1). Provide drawing if necessary.
2.7.2	Brief description of the ventilation system adopted in the battery compartment. (Refer AIS-038/2003, Clause 3.1.2). Provide drawing if necessary.
2.8	On-board Indication of battery state of charge
2.8.1	Details of indication when state of charge of the battery reaches a level when the manufacturer recommends re-charging.
2.8.1.1	Indication format.
2.8.1.2	Relationship of state of charge indicator and the indication.
2.8.1.3	Make
2.8.1.4	Model
2.8.2	Indication of state of charge of battery reaches a level at which driving vehicle further may cause damage to batteries
2.8.2.1	Indication format.
2.8.2.2	Relationship of state of charge indicator and the indication.
2.9	Battery Mass (kg)
2.10	Brief description of maintenance procedure, if any
3.0	**Description of The Drive Train**
3.1	General
3.1.1	Make
3.1.2	Type
3.1.3	Use : Mono motor / multi motors (number)

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3.1.4	Transmission Arrangement parallel / transaxial / others to precise
3.1.5	Test Voltage (V)
3.1.6	Motor Nominal Speed (Min $^{-1}$)
3.1.7	Motor Maximum Speed, Min $^{-1}$ or by default reducer outlet shaft / gear box speed (specify gear engaged)
3.1.8	Maximum Power Speed (Min $^{-1}$) and (km/h)
3.1.9	Maximum Power (kW)
3.1.10	Maximum Thirty Minutes Power (kW)
3.1.11	Maximum Thirty Minutes speed km/h (Reference in AIS-039/2003 and AIS-040/2003)

3.1.12	Flexible Range (where P>90% of Max. Power)
3.1.13	Speed at the beginning of the range (Min $^{-1}$)
3.1.14	Speed at the end of the range (Min $^{-1}$)
3.2	Traction Motor
3.2.1	Make
3.2.2	Working Principle
3.2.2.1	Direct current / alternating current / number of phases
3.2.2.2	Separate excitation / series / compound
3.2.2.3	Synchron / asynchron
3.2.2.4	Coiled rotor / with permanent magnets / with housing
3.2.2.5	Number of Poles of the Motor
3.2.3	Motor power curve (kW) with motor RPM (min^{-1}) / vehicle speed in (km/h)
3.3	Power Controller
3.3.1	Make
3.3.2	Type
3.3.3	Control Principle : vectorial / open loop / closed / other (to be specified)
3.3.4	Maximum effective current supplied to the Motor (A)
3.3.5	Voltage range use (V to V)
3.4	Cooling System motor : liquid / air controller : liquid / air
3.4.1	Liquid cooling equipment characteristics
3.4.1.1	Nature of the liquid , circulating pumps, yes / no
3.4.1.2	Characteristics or make(s) and type(s) of the pump
3.4.1.3	Thermostat : setting
3.4.1.4	Radiator : drawing(s) or make(s) and type(s)

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3.4.1.5	Relief valve : pressure setting
3.4.1.6	Fan : Characteristics or make(s) and type(s)
3.4.1.7	Fan : duct
3.4.2	Air-cooling equipment characteristics
3.4.2.1	Blower : Characteristics or make(s) and type(s)
3.4.2.2	Standard air ducting
3.4.2.3	Temperature regulating system yes / no
3.4.2.4	Brief description

3.4.2.5	Air filter : make(s) type(s)
3.4.3	Maximum temperatures recommended by the manufacturer:
3.4.3.1	Motor Outlet : °C
3.4.3.2	Controller inlet : °C
3.4.3.3	At motor reference point(s) °C
3.4.3.4	At controller reference point(s) °C
3.5	Insulating Category :
3.5.1	International Protection (IP)-Code :
3.6	Lubrication System Principle Bearings : friction / ball Lubricant : grease / oil Seal : yes / no Circulation : with / without
4.0	**Charger** :
4.1	Charger : on board / external
4.1.1	Trademark , model, rating
4.2	Description of the normal profile of charging system :
4.3	Specifications of mains
4.3.1	mains : single phase/ three phase :
4.3.2	Nominal Voltage (V) & frequency (Hz) with tolerances:
4.4	Reset period recommended between the end of the discharge and the start of the charge
4.5	Recommended duration of a complete charge
4.6	In case of on-board charger
4.6.1	Continuous rating of charger socket (A) :
4.6.2	Time rating (h) of charger socket, if any :
4.6.3	Whether soft-start facility Yes / No :
4.6.4	Maximum initial in-rush current (A)

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5.0	**Electrical details of vehicle for functional safety**
5.1	Schematic diagram showing the electrical layout giving all major electrical items along with their physical location in the vehicle. It shall include batteries, power-train components, protection fuses, circuit breakers etc. (Reference in AIS-038/2003 Clause 3.1.3)
5.2	Specifications of circuit breakers/ fuses used for protection of batteries / power-train (Reference in AIS-038/ 2003 Clause 3.1.3)
5.2.1	IS / IEC specifications

5.2.2	Rating (A)
5.2.3	Opening time (ms)
5.3	Working voltage V (Reference in AIS-038/ 2003 Clause 3.2)
5.4	Schematic highlighting physical location of live parts having working voltage greater than 60 V DC or 25 V AC (Reference in AIS-038/ 2003 Clause 3.2.1.2)
5.5	Electric cables / connectors / wiring harness (Reference in AIS-038/ 2003 Clause 3.2.2.2)
5.5.1	IEC protection class
5.5.2	Insulation material used
5.5.3	Conduits provided Yes / No
5.6	List of exposed conductive parts of on-board equipment. (Reference in AIS-038/ 2003 Clause 3.2.2.3)
5.6.1	Any potential equalization resistance used to electrically connect these parts Yes/ No
5.6.2	If yes, give details
5.7	List of failures due to which the vehicle will come to standstill (Reference in AIS-038/ 2003 Clause 3.3.6)
5.8	List of conditions under which the performance of vehicle is limited and how. (Reference in AIS-038/ 2003 Clause 3.3.13)
5.9	Declaration regarding Design guidelines followed with respect to various requirements.
6.0	Electrical energy consumption of Vehicle in W-h/km, as per Clause 5.5.1 of AIS-039

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BRIEF TECHNICAL SPECIFICATIONS FOR CONSTRUCTION EQUIPMENT VEHICLE

Details of the manufacturer	
Name and address	
Telephone No.	
Fax No. / E-mail ID	
Vehicle data	
Basic model	
Type (Brief description)	
Variant(s)	

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Type (Brief description)	
Implements / Attachments (Brief description)	
Engine No.	
Chassis No.	
Engine	
Make	
Model and identification	
Type	
Bore x stroke (mm)	
No. of cylinders	
Displacement	
Compression ratio	
Max. Engine output (kW@rpm)	
Max. Torque (Nm@rpm)	
Air cleaner	
Oil filter	
Fuel filter	
Capacity of cooling system	
Oil sump capacity (l)	
Weight of engine (kg) (complete)	
Radiator frontal area (core area)	
Catalytic converter details, if fitted	
Clutch	
Type	
Outside diameter	
Gear box	
Make	
Model & identification	
Type	
No. of gears	

Gear ratio 1st 2nd 3rd 4th 5th 6th Reverse	
Front axle ratio	
Rear axle ratio	
Steering	
Type	
Steering wheel diameter (mm)	
Ratio	
No. of rotation of the wheel (Lock to lock)	
Steered axle	
Frame	
Long member size (mm)	
Number of cross members	
Suspension	
Type (Brief description)	
Spring	
Anti-roll bar	
Shock absorbers	
Brake	
Service brake (Brief description)	
Front	
Rear	
Total braking area (cm^2)	
Secondary brake (Brief description)	
Parking brake (Brief description)	
Wheels and tyres	
Wheel rim size	
Tyre size and ply rating	

Dynamic rolling radius of tyre	
Tyre pressure (front & rear) (kg/cm^2)	
Electrical system	
System voltage (V)	
Battery rating	
Alternator type	
Max. output	
Wiping system (Brief description)	
Wiper motor	

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Fuel tank	
Material	
Capacity (l)	
Dimensions in travel mode	
Wheel base (mm)	
Overall width (mm)	
Overall length (mm)	
Overall height (mm)	
Front track (mm)	
Rear track (mm)	
Min. ground clearance (mm)	
Min. turning circle diameter (m)	
Max. clearance circle diameter (m)	
Weights	
Unladen FAW, kg (FAW1, FAW2 etc.)	
Unladen RAW, kg (RAW1, RAW2 etc.)	
Unladen weight, kg (weight in travel mode with 90% fuel, accessories and tools)	
Maximum gradeability (laden)	
Maximum speed (kmph)	
Seating capacity and layout	

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DETAILED TECHNICAL SPECIFICATIONS FOR CONSTRUCTION EQUIPMENT VEHICLES

1.0	**Details of Manufacturer**	
1.1	Manufacturer's name and address	
1.2	Telephone No.	
1.3	Fax No.	
1.4	E-mail ID	
1.5	Contact person	
2.0	**Vehicle Data**	
2.1	Basic model	
2.2	Variant(s)	
2.3	Type	
2.4	Engine No.	
2.5	Chassis No.	
2.6	Publications available (Owner's manual, service manual, spare parts list)	
3.0	**Performance**	
3.1	Max. speed (kmph)	
3.2	Stopping distance (m) (From initial speed kmph)	
3.3	Parking brake performance	

3.4	Climbing performance (start & stop)	
3.5	Min. turning circle diameter (m)	
4.0	**Weights**	
4.1	Vehicle kerb weight (kg)	
4.1.1	Front axle (FAW1, FAW2 etc.)	
4.1.2	Rear axle (RAW1, RAW2 etc.)	
4.1.3	Total	
5.0	**Dimensions**	
5.1	Overall length (m)	
5.2	Overall width (m)	
5.3	Overall height (m)	
5.4	Wheel base (m)	
5.5	Tread (m)	
5.5.1	Front wheel	
5.5.2	Rear wheel	
5.6	Min. road clearance (m)	
5.7	Road clearance from floor (m)	

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5.8	Body overhang (m)	
5.8.1	Front end	
5.8.2	Rear end	
5.9	Gravity height (m)	
5.10	Max. stable inclination angle	
5.10.1	Left	
5.10.2	Right	
5.11	Riding capacity	
	Note : (i) The essential characteristics of the Parent engine and the Engines falling in the same family are as given in the enclosed Annexure - 1. Clause 6.0 to Clause 27.0 are related to the characteristics of the parent engine. (ii) Clause A 6.0 to A 27.0 are related to the characteristics of every engine that falls within the same family. This may be filled separately for each engine.	

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6.0	**Engine (Parent)**	
6.1	Type (NA/TC/TCIC, DI/IDI)	
6.2	Manufacturer's name & Address of the Manufacturing Plant.	
6.3	Working principle (four / two stroke)	
6.4	Model name and identification	
6.5	Type of fuel used	
6.6	No.& Layout of cylinders & firing order	
6.7	Swept volume (cc)	
6.8	Bore (mm)	
6.9	Stroke (mm)	
6.10	Compression ratio (specify tolerance)	
6.11	**Engine performance (declared by the manufacturer)**	
6.11.1	Max. Gross power of engine on bench kW (Specify standard and tolerance)	
6.11.2	Maximum Gross torque on bench Nm @ rpm	
6.11.3	Engine RPM at max. Power (specify tolerance)	
	Note: In case of diesel engines the max. power and max. torque shall be specified as per conditions given in Chapter 6 of Part IV of Doc. MoSRTH / CMVR / TAP-115 / 116 Issue No 3.	
6.12	Location of engine (Front / Rear)	

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7.0	**Combustion**	
7.1	Type of combustion chamber (Hemispherical / squish/others)	
7.2	Drawings of combustion chamber and piston crown (mention drawing no)	
7.3	Minimum cross section area of ports	
7.3.1	Inlet (mm^2)	
7.3.2	Outlet (mm^2)	
8.0	**Liquid cooling system**	
8.1	Nature of liquid and capacity	
8.2	Circulating pump yes/no	

8.3	Characteristics of Circulating pump or make(s) & type(s)	
8.3.1	Drive ratio	
8.4	Thermostat type and setting	
8.5	Air ducting (std production)	
9.0	**Air Cooling system**	
9.1	Blower characteristics	
9.1.1	Make(s)	
9.1.2	Type(s)	
9.1.3	Drive ratio(s)	
10.0	**Temperature regulating system (yes/no)**	
10.1	Brief description	
11.0	**Temperature permitted by manufacturer (^{0}C)**	
11.1	Liquid cooling :-	
11.1.1	Max. temp. at engine Outlet	
11.2	Air cooling:-	
11.2.1	Reference point	
11.2.2	Max. temperature at reference point	
11.3	Max. outlet temperature of the intercooled-air (Location of measurement be specified)	
11.4	Max. exhaust temperature (in case of diesel engines, at the point in the exhaust pipe(s) adjacent in outlet flange(s) of exhaust manifolds)	

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12.0	**Fuel temperature (^{0}C) :**	
12.1	Minimum	
12.2	Maximum	
13.0	**Lubricant Temperature (^{0}C)** (Location of measurement be specified)	
13.1	Minimum	
13.2	Maximum	

14.0	**Intake system**	
14.1	Supercharger / Turbocharger – yes/no	
14.1.1	Description of system	
14.1.2	Make(s)	
14.1.3	Type(s) & Part No.	
14.2	Intake manifold	
14.2.1	Description & Drawings	
14.3	Air filter	
14.3.1	Make	
14.3.2	Type & Part No.	
14.3.3	Dimensional drawing, with drawing number and part number	
14.4	Intake silencer	
14.4.1	Make	
14.4.2	Type	
14.5	Description & dimensional drawing of inlet pipe & their accessories (dash pot, heating device, additional air intake etc.)	
14.6	Inter cooler	
14.6.1	Make	
14.6.2	Identification mark / & Part No.	
15.0	**Fuel feed**	
15.1	Injection system description	
15.2	Working principle: intake manifold/ direct injection/ indirect injection/swirl chamber/others	
15.3	Fuel Pump	
15.3.1	Make(s) & Place /	

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15.3.2	Type(s) & Part No.	
15.4	Delivery mm^3/per stroke at Rated speed and at Max Torque speed (specify tolerance) or characteristic diagram (specify tolerance)	

15.5	Calibration procedure on engine/pump bench	
15.6	Injection timing deg BTDC (specify tolerance)	
15.7	Injection advance curve (attach the same)	
15.8	Injection advance (specify the tolerance)	
15.9	Injectors	
15.9.1	Type, (mention holder, nozzle and assembly no(s))	
15.9.2	Make	
15.9.3	Opening pressure (specify tolerance) or characteristic diagram	
15.9.4	Injection piping	
15.9.5	Length (mm)	
15.9.6	Internal diameter (mm)	
16.0	**Device for recycling crank-case gases**	
16.1	Description & diagrams	
17.0	**Governor**	
17.1	Make(s) &	
17.2	Type(s)	
17.3	Cut off point under load (rpm)	
17.4	Max. Speed without load (rpm)	
17.5	Idle Speed (rpm)	
18.0	**Cold start device (starting aid)**	
18.1	Make(s)	
18.2	Type(s)	
18.3	System description	
19.0	**Starting System**	
19.1	Make(s)	
19.2	Type(s)	
19.3	System description	

20.0	**Valve timing / Port timing or equivalent data**	

20.1	Max. lift of valves	
20.1.1	Inlet (mm)	
20.1.2	Exhaust (mm)	
20.2	Angle of valves / port (w.r.t. top dead center)	
20.3	Inlet	
20.3.1	Opening	
20.3.2	Closing	
20.4	Exhaust	
20.4.1	Opening	
20.4.2	Closing	
20.5	Transfer	
20.5.1	Opening	
20.5.2	Closing	
20.6	Reference or setting ranges	
20.7	Valve gap (Hot & Cold)	
20.7.1	Inlet	
20.7.2	Exhaust	
20.8	Distribution by ports	
20.8.1	Volume of crank-case cavity with piston at TDC	
20.8.2	Description of reed valve if any with drawing	
20.8.3	Description (with drawing) of inlet ports, scavenging and exhaust ports with corresponding timing. (The drawing should include one representing the inner surface of the cylinder)	
21.0	**Lubrication system**	
21.1	Description of system	
21.2	Lubrication oil capacity lit	
21.3	Position of lubricant reservoir	
21.4	Lubricating oil grade	
21.5	Feed system (pump, injection in to intake mixing with fuel etc.)	
21.6	Lubricating pump	

21.6.1	Make	
21.6.2	Type	

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21.7	Mixture with fuel : yes/no, and if yes %	
21.8	Oil cooler : yes/no, and if yes Drawings/ makes & types	
22.0	**Electrical equipment**	
22.1	Generator/alternator characteristics (specify tolerance) or	
22.1.1	Make	
22.1.2	Type	
23.0	**Other engine driven auxiliaries**:	
23.1	Enumeration & brief description, if necessary	
24.0	**Idling System**	
24.1	Idling speed (rpm) (specify the tolerance)	
24.2	Description of settings and relevant requirements	
25.0	**Additional requirements**	
25.1	Maximum permitted depression of air intake at characteristic place (Specify location of measurement) (kPa)	
25.2	Exhaust back pressure at maximum Gross power and location of measurement (kPa)	
25.3	Effective volume of exhaust -System (specify the tolerance & range) in liters (from exhaust manifold / TC outlet to tail pipe end), Enclose the exhaust system drawing and indicate the volume of each parts clearly.	
25.4	Moment of inertia of combined flywheel & transmission at condition when no gear is engaged	
25.5	Maximum rated speed (Specify the tolerance)	
25.6	Minimum rated speed (Specify the tolerance)	
25.7	Power absorbed by fan kW (specify the tolerance)	
25.8	Max. Gross torque on bench, Nm@ rpm	

25.9	Declared speed and powers of the engine submitted for type approval (Speeds to be agreed with the testing agency)	

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Measurement point*	Engine speed rpm	Gross Power kW**	

*	See Chapter 3 of Part IV of Doc.MoSRTHST/CMVR/TAP115/116 Issue No 3.
**	Gross power according to Chapter 6 of Part IV of Doc.MoSRTHST/CMVR/TAP115/116 Issue No 3.

26.0	**Exhaust system :**	
26.1	Silencer, Number, Type and make	
26.2	Identification mark (If proprietary) / Part No.	
26.3	Internal dia. of exhaust pipe	
26.4	Description (with a general arrangement , dimensional drawing of exhaust system along with its routing indicating the lengths of exhaust pipe, tail pipe and exhaust outlet location)	
26.5	Minimum distance between exhaust pipe(s) and the fuel line	
27.0	**Additional emission control devices, such as catalytic converter etc. (if any & if not covered by another heading)**	
27.1	Catalyser make, Number	
27.2	Identification Mark / Part No	
27.3	Type of catalytic action (One/two/three way)	
27.4	Total charge of precious metal (g/vehicle)	

27.5	Relative concentration (%)	
27.5.1	Platinum	
27.5.2	Rhodium	
27.5.3	Palladium	
27.6	Substrate (Monolythic metal/ Ceramic/ honeycomb)	
27.7	Cell density (cells per sq. inch)	
27.8	Type of casing for catalyser	
27.9	Diagram indicating the arrangement and position of catalytic converter w.r.t. exhaust manifold)	

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27.10	**Electronic Control Unit (ECU)**	
27.10.1	Make	
27.10.2	Identification mark	
27.10.3	Calibration Identification No.	
27.11	**Secondary Air Injection**	
27.11.1	Make	
27.11.2	Identification mark	
27.12	**Exhaust Gas Recirculating System**	
27.12.1	Make	
27.12.2	Type	
27.12.3	Identification mark	
	Note : The following Clause A 6.0 to A 27.0 are to be filled separately for each of the engines that fall within the same family :	
A6.0	**Engine (Type within the Family)**	
A6.1	Type (NA/TC/TCIC, DI/IDI)	
A6.2	Manufacturer's name & Manufacturing Plant address.	
A6.3	Working principle (four / two stroke)	
A6.4	Model name and identification	
A6.5	Type of fuel used	
A6.6	No.& Layout of cylinders & firing order	

A6.7	Swept volume (cc)	
A6.8	Bore(mm)	
A6.9	Stroke (mm)	
A6.10	Compression ratio (specify tolerance)	
A6.11	**Engine performance (declared by the manufacturer,)**	
A6.11.1	Max. Gross power of engine on bench (kW) (Specify standard and tolerance)	
A6.11.2	Maximum Gross torque on bench (Nm @ rpm)	
A6.11.3	Engine RPM at max. Power (specify tolerance)	
	Note: In case of diesel engines the max. power and max. torque shall be specified as per conditions given in Chapter 6 of Part IV of Doc. MoSRTH / CMVR / TAP-115 / 116 Issue No 3.	
A6.12	**Location of engine (Front / Rear)**	

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A7.0	**Combustion :**	
A7.1	Type of combustion chamber (Hemispherical / squish/others)	
A7.2	Drawings of combustion chamber and piston crown (mention drawing no)	
A7.3	Minimum cross section area of ports	
A7.3.1	Inlet mm^2	
A7.3.2	Outlet mm^2	
A8.0	**Liquid cooling system**	
A8.1	Nature of liquid and capacity	
A8.2	Circulating pump yes/no	
A8.3	Characteristics of Circulating pump or make(s) & type(s)	
A8.3.1	Drive ratio	
A8.4	Thermostat type and setting	
A9.0	**Air Cooling system**	
A9.1	Blower characteristics	
A9.1.1	Make(s)	

A9.1.2	Type(s)	
A9.1.3	Drive ratio(s)	
A9.2	Air ducting(std production)	
A10.0	**Temperature regulating system (yes/no)**	
A11.0	**Temperature permitted by manufacturer (^{0}C)**	
A11.1	Liquid cooling:-	
A11.1.1	Max. temp. at engine Outlet	
A11.2	Air cooling:-	
A11.2.1	Reference point	
A11.2.2	Max. temperature at reference point	
A11.3	Max. outlet temperature of the intercooled - air (Location of measurement to be specified)	
A11.4	Maximum exhaust temperature (^{0}C)	
A11.4.1	Max. exhaust temperature (in case of diesel engines, at the point in the exhaust pipe(s) adjacent in outlet flange(s) of exhaust manifolds)	
A12.0	**Fuel temperature (^{0}C)**	
A12.1	Minimum	
A12.2	Maximum	

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A13.0	**Lubricant Temperature (^{0}C) (Location of measurement to be specified)**	
A13.1	Minimum	
A13.2	Maximum	
A14.0	**Intake system**	
A14.1	Supercharger / Turbocharger - yes/no	
A14.1.1	Description of system	
A14.1.2	Make(s)	
A14.1.3	Type(s) & Part No.	
A14.2	**Intake manifold**	
A14.2.1	Description & Drawings	
A14.3	**Air filter**	
A14.3.1	Make	
A14.3.2	Type & Part No.	

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A14.3.3	Dimensional drawing, with drawing number and part number	
A14.4	**Intake silencer**	
A14.4.1	Make	
A14.4.2	Type	
A14.5	Description & diagrams of inlet pipe & their accessories (dash pot, heating device, additional air intake etc.)	
A14.6	**Inter cooler**	
A14.6.1	Make	
A14.6.2	Identification mark / & Part No.	
A15.0	**Fuel feed**	
A15.1	Injection system description	
A15.2	Working principle: intake manifold/ direct injection / indirect injection / swirl chamber/others	
A15.3	**Fuel Pump**	
A15.3.1	Make(s) & (if imported)	
A15.3.2	Type(s) & Part No.	
A15.4	Delivery mm^3/per stroke at Rated speed and at Max Torque speed (specify tolerance) or characteristic diagram (specify tolerance)	
A15.5	Calibration procedure on engine/pump bench	
A15.6	Injection timing deg BTDC (specify tolerance)	
A15.7	Injection advance curve (attach the same)	
A15.8	Injection advance (specify the tolerance)	

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A15.9	**Injectors**	
A15.9.1	Type, (mention Holder, Nozzle & assembly no(s))	
A15.9.2	Make	
A15.9.3	Opening pressure (specify tolerance) or characteristic diagram	
A15.9.4	Injection piping	
A15.9.5	Length mm	
A15.9.6	Internal diameter (mm)	
A16.0	**Device for recycling crank-case gases**	
A16.1	Description & diagrams	
A17.0	**Governor**	
A17.1	Make(s) &	
A17.2	Type(s)	

A17.3	Cut off point under load (rpm)	
A17.4	Max. Speed without load (rpm)	
A17.5	Idle Speed (rpm)	
A18.0	**Cold start device (starting aid)**	
A18.1	Make(s)	
A18.2	Type(s)	
A18.3	System description	
A19.0	**Starting System**	
A19.1	Make(s)	
A19.2	Type(s)	
A19.3	System description	
A20.0	**Valve timing / Port timing or equivalent data**	
A20.1	Max. lift of valves	
A20.1.1	Inlet (mm)	
A20.1.2	Exhaust (mm)	
A20.2	Angle of valves / port (w.r.t. top dead center)	
A20.3	Inlet	
A20.3.1	Opening	
A20.3.2	Closing	
A20.4	Exhaust	
A20.4.1	Opening	
A20.4.2	Closing	
A20.5	Transfer	
A20.5.1	Opening	
A20.5.2	Closing	
A20.6	Reference or setting ranges	

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A20.7	Valve gap (Hot & Cold)	
A20.7.1	Inlet	
A20.7.2	Exhaust	
A20.8	Distribution by ports	
A20.8.1	Volume of crank-case cavity with piston at TDC	
A20.8.2	Description of reed valve if any with drawing	

A20.8.3	Description (with drawing) of inlet ports, scavenging and exhaust ports with corresponding timing. (The drawing should include one representing the inner surface of the cylinder)	
A21.0	**Lubrication system**	
A21.1	Description of system	
A21.2	Lubrication oil capacity lit	
A21.3	Position of lubricant reservoir	
A21.4	Lubricating oil grade	
A21.5	Feed system(pump, injection in to intake mixing with fuel etc.,)	
A21.6	Lubricating pump	
A21.6.1	Make	
A21.6.2	Type	
A21.7	Mixture with fuel : yes/no, and if yes %	
A21.8	Oil cooler : yes/no, and if yes Drawings/ makes & types	
A22.0	**Electrical equipment**	
A22.1	Generator/alternator characteristics (specify tolerance) or	
A22.1.1	Make	
A22.1.2	Type	
A23.0	**Other engine driven auxiliaries**	
A23.1	Enumeration & brief description, if necessary	
A24.0	**Idling System**	
A24.1	Idling speed (rpm) (specify the tolerance)	
A24.2	Description of settings and relevant requirements	
A25.0	**Additional requirements**	
A25.1	Maximum permitted depression of air intake at characteristic place, in kPa (Specify the location of measurement)	
A25.2	Exhaust back pressure at maximum Gross power and location of measurement (kPa)	

A25.3	Effective volume of exhaust-System (specify the tolerance & range) in liters (from exhaust manifold / TC outlet to tail pipe end), Enclose the exhaust system drawing and indicate the volume of each parts clearly.	
A25.4	Moment of inertia of combined flywheel & transmission at condition when no gear is engaged	
A25.5	Maximum rated speed (Specify the tolerance)	
A25.6	Minimum rated speed (Specify the tolerance)	
A25.7	Power absorbed by fan (kW) (specify the tolerance)	
A25.8	Max. Gross torque on bench (Nm@ rpm)	
A25.9	Declared speed and powers of the engine submitted for type approval (Speeds to be agreed with the testing agency)	

Measurement point*	**Engine speed rpm**	**Gross Power kW****	

*	See Chapter 3 of Part IV of Doc.MoSRTHST/CMVR/TAP115/116 Issue No 3.
**	Gross power according to Chapter 6 of Part IV of Doc.MoSRTHST/CMVR/TAP115/116 Issue No 3.

A26.0	**Exhaust system**	
A26.1	Silencer, Number, Type and make	
A26.2	Identification mark (If proprietary) / Part No.	
A26.3	Internal dia. of exhaust pipe	
A26.4	Description (with a general arrangement dimensional drawing of exhaust system along with its routing indicating the lengths of exhaust pipe, tail pipe and exhaust outlet location)	
A26.5	Minimum distance between exhaust pipe(s) and the fuel line	

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A27.0	**Additional emission control devices, such as catalytic converter etc. (if any & if not covered by another heading)**	
A27.1	Catalyser make, Number	
A27.2	Identification Mark / Part No.	
A27.3	Type of catalytic action (One/two/three way)	
A27.4	Total charge of precious metal (g/vehicle)	
A27.5	Relative concentration (%)	
A27.5.1	Platinum	
A27.5.2	Rhodium	
A27.5.3	Palladium	
A27.6	Substrate (Monolythic metal/ Ceramic/ honeycomb)	
A27.7	Cell density (cells per sq. inch)	
A27.8	Type of casing for catalyser	
A27.9	Diagram indicating the arrangement and position of catalytic converter w.r.t. exhaust manifold)	
A27.10	**Electronic Control Unit (ECU)**	
A27.10.1	Make	
A27.10.2	Identification mark	
A27.10.3	Calibration Identification No.	
A27.11	**Secondary Air Injection**	
A27.11.1	Make	
A27.11.2	Identification mark	
A27.12	**Exhaust Gas Recirculating System**	
A27.12.1	Make	
A27.12.2	Type	
A27.12.3	Identification mark	
28.0	**Fuel tank**	
28.1	Name of producer	
28.2	Material	
28.3	Capacity	

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28.4	Position	
29.0	**Transmission system**	
29.1	Mechanism from engine to transmission	

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29.2	Reduction ratio from engine to transmission	
29.3	**Clutch**	
29.3.1	Name of producer	
29.3.2	Type	
29.3.3	Control system	
29.4	**Facing**	
29.4.1	Name of producer	
29.4.2	Dimension (mm)	
29.4.3	Area (cm^2)	
29.4.4	Number of operating faces	
29.4.5	Material	
29.5	Transmission clutch fluid capacity	
29.6	**Booster type**	
29.6.1	Name of producer	
29.6.2	Type	
30.0	**Control system**	
30.1	**Gear ratio**	
30.1.1	1^{st}	
30.1.2	2^{nd}	
30.1.3	3^{rd}	
30.1.4	4^{th}	
30.1.5	5^{th}	
30.1.6	6^{th}	
30.1.7	Reverse 1^{st}	
30.2	**Sub transmission**	
30.2.1	Type	
30.3	**Gear ratio**	

30.3.1	High	
30.3.2	Low	
30.4	Propeller shaft	
30.5	**Length inside & outside diameter, mm**	
30.5.1	1st	
30.5.2	2nd	
30.5.3	3rd	
30.5.4	4th	
30.6	**Universal joint**	

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30.6.1	Type	
30.6.2	Number	
30.7	**Crown wheel**	
30.7.1	Type	
30.7.2	Reduction ratio	
30.8	**Differential**	
30.8.1	Type	
30.9	**Running system**	
30.9.1	Front axle	
30.9.1.1	Type	
30.9.1.2	Toe-in (mm)	
30.9.1.3	Camber angle	
30.9.1.4	Caster angle	
30.9.1.5	King pin angle	
30.9.1.6	Trial (mm)	
30.9.2	Rear axle	
30.9.2.1	Type	
30.9.2.2	Toe-in (mm)	
30.9.2.3	Camber angle	
30.9.2.4	Caster angle	

30.9.2.5	King pin angle	
30.9.2.6	Trial (mm)	
31.0	**Steering system**	
31.1	Type	
31.2	Steering wheel Position	
31.3	Outside diameter mm	
31.4	Maximum number of rotations of steering wheel from lock to lock	
31.5	Type of axis & joint	
31.6	Steering gear type	
31.7	Steering gear ratio	
31.8	**Steering angle**	
31.8.1	Inside	
31.8.2	Outside	
31.9	**Booster**	
31.9.1	Name of producer	
31.9.2	Type	

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31.9.3	Kind of oil	
31.9.4	Oil capacity (l)	
31.10	**Locking device**	
31.10.1	Name of producer	
31.10.2	Type	
31.10.3	Mounting position	
32.0	**Tyres**	
32.1	**No. and arrangement of wheels**	
32.1.1	Front	
32.1.2	Rear	
32.1.3	Others	
32.2	**Tyre type (Radial/cross ply), size & ply rating**	
32.2.1	Front wheel	

32.2.2	Rear wheel	
32.2.3	Other	
32.3	**Rolling radius (mm)**	
32.3.1	Static	
32.3.2	Dynamic (if data is available)	
32.4	**Inflation pressure – Unladen (kg/cm² / kPa)**	
32.4.1	Front	
32.4.2	Rear	
32.4.3	Other	
32.5	**Inflation pressure – Laden (kg/cm² / kPa)**	
32.5.1	Front	
32.5.2	Rear	
32.5.3	Other	
32.6	Makes:	
32.7	Tread Wear Indicator, Provided (Yes/No)	
32.8	Month & Year code of manufacture, Provided (Yes/No)	
32.9	Maximum loading capacity, Provided (Yes/No)	
33.0	**Wheel rim**	
33.1	Size	
33.1.1	Front	

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33.1.2	Rear	
33.1.3	Others	
33.2	Name of manufacturer	
33.3	Identification mark	
33.4	Pitch circle dia. of mounting bolts (mm)	
33.5	Number of mounting bolts	
33.6	Material (Steel/ Aluminum alloy etc.)	
34.0	**Braking system**	

34.1	**Service brake (Description)**	
34.1.1	Name of producer	
34.1.2	Type	
34.2	**Secondary brake (Description)**	
34.2.1	Name of producer	
34.2.2	Type	
34.3	**Control system & braking wheel**	
34.4	**Dimensions of lining or pad, (L x W x t)**	
34.4.1	Front wheels (mm)	
34.4.2	Rear wheels (mm)	
34.5	**Area of lining or pad (cm^2)**	
34.5.1	Front wheels (cm^2)	
34.5.2	Rear wheels (cm^2)	
34.6	**Brake drum or disc effective diameter (mm)**	
34.6.1	Front wheel	
34.6.2	Rear wheel	
34.7	**Lining or pad**	
34.7.1	Name of producer	
34.7.2	Material (Asbestos / Asbestos free)	
34.8	**Master cylinder or brake valve**	
34.8.1	Name of producer	
34.8.2	Type	
34.9	Inner diameter of master cylinder (mm)	
34.10	Type of supply tank	
34.11	Inner diameter of wheel cylinder or brake piston cap	
34.11.1	Front wheel	
34.11.2	Rear wheel	
34.12	**Booster**	
34.12.1	Name of producer	

34.12.2	Type	
34.12.3	Magnification	
34.13	Air compressor & others	
34.14	Vacuum or air	
34.15	Air pressure (kg/cm^2)	
34.16	Type of vacuum pump or air compressor	
34.17	Type of pressure regulator	
34.18	Tank	
34.18.1	Position	
34.18.2	Capacity (l)	
34.19	**Brake pipe**	
34.19.1	Name of producer	
34.19.2	Material	
34.19.3	Rust proof treatment	
34.20	**Brake hose (Hydraulic)**	
34.20.1	Make	
34.20.2	Identification mark / Part Number	
34.30.3	Length of hose (mm)	
34.20.4	Nominal bore diameter (mm)	
34.20.5	End fitting type	
34.20.6	Material	
34.21	**Brake fluid**	
34.21.1	Name of manufacturer	
34.21.2	Trade name	
34.21.3	Specification / grade as per Indian standard	
34.22	Braking force (stepping force kg)	
34.23	Type of braking force control system	
34.24	Warning device for braking	
34.24.1	Type	
34.25	Operation pressure (kg./cm^2)	
34.26	Type of safety device	

34.27	Parking brake	
34.27.1	Name of producer	
34.27.2	Type	
34.27.3	Braking wheel	
34.28	**Lining**	
34.28.1	Name of producer	
34.28.2	Dimension of lining or pad (L x W x t)	
34.28.2.1	Front wheel (mm)	

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34.28.2.2	Rear wheel (mm)	
34.28.3	Area of lining pad	
34.28.3.1	Front	
34.28.3.2	Rear	
34.28.4	Material	
34.29	Diameter of brake drum, mm	
34.30	Braking force (Operation force kg.)	
34.31	Auxiliary brake	
34.31.1	Type	
34.31.2	Performance	
34.32	**Emergency brake**	
34.32.1	Type	
34.32.2	Performance	
34.33	**Separate brake**	
34.33.1	Type	
34.33.2	Performance	
35.0	**Suspension system**	
35.1	**Front axle**	
35.1.1	Type of suspension	
35.1.2	Type of spring	
35.1.3	Dimension of main spring (mm)	
35.1.3.1	Stack	

35.1.3.2	Flat length	
35.1.3.3	Free camber	
35.1.3.4	Dimension of auxiliary spring	
35.2	**Rear axle**	
35.2.1	Type of suspension	
35.2.2	Type of spring	
35.2.3	Dimension of main spring	
35.2.3.1	Stack	
35.2.3.2	Flat length	
35.2.3.3	Free camber	
35.2.3.4	Dimension of auxiliary spring	
35.3	**Type of shock absorber**	
35.3.1	Front wheel	
35.3.2	Rear wheel	
35.4	**Type of stabilizer**	
35.4.1	Front wheel	
35.4.2	Rear wheel	

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36.0	**Chassis frame**	
36.1	Type	
36.2	Cross sectional view	
36.3	Dimension, mm	
36.4	Type of side protection device	
37.0	**Windscreen wiping system**	
37.1	**Wind screen wiper**	
37.1.1	Type (manual/power)	
37.1.2	No. of wipers	
37.2	**Wiper motor**	
37.2.1	Name of manufacturer	
37.2.2	Type and identification	
37.2.3	Rated voltage	
37.2.4	Number of sweep Frequencies	
37.2.5	Highest sweep frequency (cycles/min)	
37.2.6	Lowest sweep frequency (cycles/min)	
37.3	**Wiper arm**	
37.3.1	Length	
37.3.2	Manufacturer and Identification	
37.4	**Wiper blade**	
37.4.1	Length	
37.4.2	Manufacturer and Identification	
37.4.3	Rubber material	
37.5	Type of fixing (as per IS 7827)	
37.6	H point	
37.7	Windscreen washing system	
37.8	Type	
37.9	Make	
37.10	Defroster	
37.11	Type	
37.12	Make	

37.13	Drawing indicating the seat back angle, seat travel, H point, Rake angle ,F point, steering wheel position and the related dimensions (Ref : Figure 1 and Figure 2 of AIS-011)	

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38.0	**Equipment for safety**	
38.1	**Seat belt anchorages**	
38.1.1	Name of producer	
38.1.2	Type	
38.1.3	Number	
38.2	**Seat belt**	
38.2.1	Name of producer	
38.2.2	Type	
38.2.3	Number	
38.3	**Head restraint**	
38.3.1	Name of producer	
38.3.2	Type	
38.3.3	Number	
38.4	Type of room safety device	
38.5	Type of air conditioner	
38.6	Position of emergency exit	
38.7	Type of device preventing vehicle starting with door opened	
39.0	**Safety Glass**	
39.1	**Front wind shield**	
39.1.1	Name of producer	
39.1.2	Type	
39.1.3	Thickness, mm	
39.1.4	Radius of curvature if curved	
39.2	**Glasses other than front wind shield**	
39.2.1	Name of producer	

39.2.2	Type	
39.2.3	Thickness	
39.2.4	Radius of curvature if curved	
40.0	**Rear view mirror**	
40.1	**Left**	
40.1.1	Name of producer	
40.1.2	Type	
40.1.3	Dimension & radius of curvature (mm)	
40.2	**Right**	
40.2.1	Name of producer	
40.2.2	Type	
40.2.3	Dimension & radius of curvature (mm)	
40.3	**Inside**	
40.3.1	Name of producer	

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40.3.2	Type	
40.3.3	Dimension & radius of curvature (mm)	
41.0	**Horn**	
41.1	Name of producer	
41.2	Type	
41.3	Operating voltage	
41.4	Identification No. / Part No.	
43.5	Number	
42.0	**Controls (Specify method of operation)**	
42.1	Ignition	
42.2	Horn	
42.3	Lamps (Head lamp, Tail lamp, Parking lamp and Number plate lamp)	
42.4	Turn signal	
42.5	Transmission shift lever	
42.6	Wind shield wiper	
42.7	High beam/low beam	
42.8	Parking brake	
42.9	Master switch for electrical	
42.10	Hazard warning signal	
42.11	Service Brake	
42.12	Accelerator Pedal (Floor hinged/hanging type)	
42.13	Others	
43.0	**Displays and tell tales**	
	(Indicate the type of tell tales provided and whether they are symbols or letters)	
43.1	Head lamp – upper / lower control	
43.2	Ignition cut-off	
43.3	Turn signal	
43.4	Fuel Gauge	
43.5	Engine coolant temperature	
43.6	Low oil pressure	
43.7	High beam indicator	
43.8	Electrical charge indicator	
43.9	Brake failure	
43.10	Battery Charging	
43.11	Engine oil	

43.12	Horn	
43.13	Speedometer	
43.14	Odometer	

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44.0	**Auto lamps (bulbs)**	
44.1	**Head lamp bulb (main and dip)**	
44.1.1	Make	
44.1	Designation as per AIS-034	
44.2	**Parking Lamp bulb – Front**	
44.2.1	Make	
44.3	**Designation as per AIS-034**	
44.4	**Parking Lamp bulb – Rear**	
44.4.1	Make	
44.4.2	Designation as per AIS-034	
44.5	**Direction indicator lamp bulb - front**	
44.5.1	Make	
44.5.2	Designation as per AIS-034	
44.6	**Direction indicator lamp bulb - rear**	
44.6.1	Make	
44.6.2	Designation as per AIS-034	
44.7	**Direction indicator lamp bulb - side**	
44.7.1	Make	
44.7.2	Designation as per AIS-034	
44.8	**Front Position Lamp bulb**	
44.8.1	Make	
44.8.2	Designation as per AIS-034	
44.9	**Rear Position Lamp (tail lamp)Bulb**	
44.9.1	Make	
44.9.2	Designation as per AIS-034	
44.10	**Stop lamp bulb**	
44.10.1	Make	

44.10.2	Designation as per AIS-034	
44.11	**Number plate lamp bulb**	
44.11.1	Make	
44.11.2	Designation as per AIS-034	
44.12	**End out Marker bulb**	
44.12.1	Make	

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44.12.2	Designation as per AIS-034	
44.13	**Reversing lamp bulb**	
44.13.1	Make	
44.13.2	Designation as per AIS-034	
44.14	**Stop Lamp Bulb (S3)**	
44.14.1	Make	
44.14.2	Designation as per AIS-034	
44.15	**Front Fog Lamp Bulb**	
44.15.1	Make	
44.15.2	Designation as per AIS-034	
44.16	**Rear Fog Lamp Bulb**	
44.16.1	Make	
44.16.2	Designation as per AIS-034	
44.17	**Side Marker Lamp Bulb**	
44.17.1	Make	
44.17.2	Designation as per AIS-034	
45.0	**Lighting equipment**	
45.1	**Head lamp**	
45.1.1	Main beam	
45.1.1.1	Make	
45.1.1.2	Type of lens (Glass / Plastic)	
45.1.1.3	Identification No. / Part No.	

45.1.1.4	Number and Colour of Lens	
45.1.2	Dipped beam	
45.1.2.1	Make	
45.1.2.2	Type of lens (Glass / Plastic)	
45.1.2.3	Identification No. / Part No.	
45.1.2.4	Number and Colour of Lens	
45.2	**Front Fog Lamp**	
45.2.1	Make	
45.2.2	Type of lens (Glass / Plastic)	
45.2.3	Identification No. / Part No.	
45.2.4	Number and Colour of Lens	

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45.3	**Rear Fog Lamp**	
45.3.1	Make	
45.3.2	Type of lens (Glass / Plastic)	
45.3.3	Identification No. / Part No.	
45.3.4	Number and Colour of Lens	
45.4	**Side Marker lamps**	
45.4.1	Make	
45.4.2	Type of lens (Glass / Plastic)	
45.4.3	Identification No. / Part No.	
45.4.4	Number and colour of Lens	
45.5	**Registration Plate lamp**	
45.5.1	Make	
45.5.2	Type of lens (Glass / Plastic)	
45.5.3	Identification No. / Part No.	
45.5.4	Number and colour of Lens	
45.6	**Position lamp / Parking Lamp - Front**	
45.6.1	Front Position Lamp	
45.6.1.1	Make	

45.6.1.2	Type of lens (Glass / Plastic)	
45.6.1.3	Identification No. / Part No.	
45.6.1.4	Number and colour of Lens	
45.6.2	**Front Parking Lamp**	
45.6.2.1	Make	
45.6.2.2	Type of lens (Glass / Plastic)	
45.6.2.3	Identification No. / Part No.	
45.6.2.4	Number and colour of Lens	
45.7	**Position lamp / Parking Lamp - Rear**	
45.7.1	**Rear Position Lamp**	
45.7.1.1	Make	
45.7.1.2	Type of lens (Glass / Plastic)	
45.7.1.3	Identification No. / Part No.	
45.7.1.4	Number and colour of Lens	
45.7.2	**Rear Parking Lamp**	
45.7.2.1	Make	
45.7.2.2	Type of lens (Glass / Plastic)	
45.7.2.3	Identification No. / Part No.	
45.7.2.4	Number and colour of Lens	

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45.8	**Stop lamp (S1 / S2)**	
45.8.1	Make	
45.8.2	Type of lens (Glass / Plastic)	
45.8.3	Identification No. / Part No.	
45.8.4	Number and colour of Lens	
45.9	**Stop lamp (S3) for M1 category**	
45.9.1	Make	
45.9.2	Type of lens (Glass / Plastic)	
45.9.3	Identification No. / Part No.	
45.9.4	Number and colour of lens	
45.10	**Reversing lamp**	

45.10.1	Make	
45.10.2	Type of lens (Glass / Plastic)	
45.10.3	Identification No. / Part No.	
45.10.4	Number and colour of Lens	
45.11	**Direction indicator Lamp**	
45.11.1	Front	
45.11.1.1	Make	
45.11.1.2	Type of lens (Glass / Plastic)	
45.11.1.3	Identification No. / Part No.	
45.11.1.4	Number and colour of Lens	
45.11.2	Rear	
45.11.2.1	Make	
45.11.2.2	Type of lens (Glass / Plastic)	
45.11.2.3	Identification No. / Part No.	
45.11.2.4	Number and colour of Lens	
45.11.3	Side	
45.11.3.1	Make	
45.11.3.2	Type of lens (Glass / Plastic)	
45.11.3.3	Identification No. / Part No.	
45.11.3.4	Number and colour of Lens	
45.11.4	Type of flasher	
45.12	**Hazard warning signal**	
45.12.1	Front	
45.12.1.2	Make	
45.12.1.3	Type of lens (Glass / Plastic)	
45.12.1.4	Identification No. / Part No.	
45.12.1.5	Number and Colour of lens	
45.12.2	Rear	
45.12.2.1	Make	
45.12.2.2	Type of lens (Glass / Plastic)	

45.12.2.3	Identification No. / Part No.	
45.12.2.4	Number and Colour of lens	
45.12.3	Side	
45.12.3.1	Make	
45.12.3.2	Type of lens (Glass / Plastic)	
45.12.3.3	Identification No. / Part No.	
45.12.3.4	Number and Colour of lens	
46.0	**Reflector**	
46.1	Front	
46.1.1	Name of producer	
46.1.2	Type & identification	
46.1.3	Number and colour	
46.1.4	Performance	
46.2	Rear	
46.2.1	Name of producer	
46.2.2	Type & identification	
46.2.3	Number and colour	
46.2.4	Performance	
46.3	Side	
46.3.1	Name of producer	
46.3.2	Type & identification	
46.3.3	Number and colour	
46.3.4	Performance	
46.4	Yellow flasher	
46.4.1	Name of producer	
46.4.2	Type & identification	
46.4.3	Number and colour	
46.4.4	Performance	
46.5	Warning device horn	
46.5.1	Name of producer	
46.5.2	Type & identification	

46.5.3	Number	
46.5.4	Performance	
46.6	Visibility ensuring device	
47.0	**Meters**	
47.1	**Speedometer**	
47.1.1	Name of producer	

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47.1.2	Model	
47.1.3	Type	
47.1.4	Performance & error	
47.2	**Odometer**	
47.2.1	Name of producer	
47.2.2	Model	
47.2.3	Type	
47.2.4	Performance & error	
47.3	**Tachograph**	
47.3.1	Name of producer	
47.3.2	Model	
47.3.3	Type	
47.3.4	Performance & error	
47.4	**Pressure gauge**	
47.4.1	Name of producer	
47.4.2	Model	
47.4.3	Type	
47.4.4	Performance	
47.5	**Engine speed indicator**	
47.5.1	Name of producer	
47.5.2	Model	
47.5.3	Type	
47.5.4	Performance	
47.6	**Fire extinguisher**	

47.6.1	Name of producer	
47.6.2	Model	
47.6.3	Type	
47.6.4	Performance	
47.7	**Pressure container**	
47.7.1	Name of producer	
47.7.2	Capacity of producer	
47.7.3	Max. Pressure for use (kg/cm^2)	
47.7.4	Material	
47.8	List of spare tools normally given with the vehicle	
48.0	**Additional information, if any**	

Annexure I

ESSENTIAL CHARACTERISTICS OF THE ENGINE FAMILY

1.0 Common Parameters (1)

1.1. Combustion cycle: .

1.2. Cooling medium: .

1.3. Method of air aspiration: .

1.4. Combustion chamber type/design: .

1.5. Valve and porting - configuration, size and number:

1.6. Fuel system: .

1.7. Engine management systems:

Proof of identity pursuant to drawing number(s):

- charge cooling system: .
- exhaust gas recirculation (2): .
- water injection/emulsion (2): .
- air injection (2): .

1.8. Exhaust after-treatment system (2): .

Proof of identical (or lowest for the parent engine) ratio: system capacity/fuel delivery per stroke, pursuant to diagram number(s):

2.0 Engine Family Listing

2.1. Name of engine family: .

2.2. Specification of engines within this family:

Manufacturer :	Document No :	Test Agency :	Cert No :
Signature		Signature	Seal
Name	Sheet No :	Name	
Designation	Date	Designation	
		Date of Issue	Page No of

					Parent engine
Engine Type					
No of cylinders					
Rated speed (rpm)					
Rated Gross power (kW)					
Maximum torque speed (rpm)					
Fuel delivery per stroke at Rated Speed (mm3)					
Fuel delivery per stroke at Max Torque Speed (mm3)					
Maximum torque (Nm)					
Low idle speed (rpm)					
Cylinder displacement (in % of parent engine)					100

(1) To be completed in conjunction with the specifications given in Annexure II

(2) If not applicable mark n.a.

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BRIEF TECHNICAL SPECIFICATIONS FOR AGRICULTURAL / OTHER TRACTORS
(To be submitted by the Applicant/ Manufacturer to testing Agency in quadruplicate)

1.0	**General description about manufacturer**	
1.1	**Details of tractor Manufacturer**	
1.1.1	Name & Address of Manufacturer / Applicant	
1.1.2	Telephone Number (s)	
1.1.3	Fax Number (s)	
1.1.4	E mail Address	
1.1.5	Website	
1.2	**Details of Applicant, if other than manufacturer**	
1.2.1	Address of applicants	
1.2.2	Telephone number(s)	
1.2.3	Fax number(s)	

1.2.4	E mail address	
1.2.5	Website	
2.0	**Brief technical specification of tractor**	
2.1	**Agricultural Tractor**	
2.1.1	Make	
2.1.2	Model	
2.1.3	Type	
2.1.4	Chassis No.	
2.1.5	Variant(s) if any – give Annexure	
2.1.6	Max. PTO power, kW @ rpm (declared value)	
2.1.7	Rated PTO power, kW @ rpm (declared value)	
3.0	**Prime Mover for the Tractor (ENGINE)**	
3.1	Make	
3. 2	Model	
3. 3	Type	
3. 4	Engine No.	
3. 5	Bore / stroke, mm	
3. 6	Capacity (cc)	
3. 7	No. of cylinders	
3. 8	Rated engine speed (rpm)	
3. 9	Max engine out put (kW @ rpm) (declared value)	
3.10	Rated engine out put (kW @ rpm) (declared value)	

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3.11	**Fuel Injection Pump:**	
3.11.1	Make	
3.11.2	Model	
3.12	**Governor:**	
3.12.1	Make	
3.12.2	Model	
3.13	**Turbocharger (if fitted):**	

3.13.1	Make	
3.13.2	Model	
3.14	Air Cleaner Type	
3.15	Cooling System : Liquid / Air Cooled	
3.15.1	Type	
4.0	**Clutch :**	
4.1	Type : Main / PTO	
5.0	**Gear box :**	
5.1	Make	
5.2	Model	
5.3	Type	
6.0	**No. of speeds**	
6.1	- Forward	
6.2	- Reverse	
7.0	**Maximum design speed (as per AIS-116) kmph**	
7.1	Range of speeds (kmph) (at Rated Engine RPM)	
7.1.1	- Forward	
7.1.2	- Reverse	
8.0	**Steering**	
8.1	Type & Description	
8.2	TCD	
8.3	Steering wheel dia. (mm)	
9.0	**Wheel equipment & tyres**	
9.1	Front :	
9.1.1	Tyre size & ply rating	
9.1.2	Recommended tyre pressure, kPa (kgf/cm2)	
9.2	Rear :	
9.2.1	Tyre size & ply rating	
9.2.2	Recommended tyre pressure, kPa (kgf/cm2)	
10 .0	**Brakes :**	
10.1	Service brake	

Manufacturer :	Document No :	ITA Agency :	Cert No :
Signature		Signature	
Name	Sheet No	Name / Designation	Seal
Designation	Date	Date of Issue	Page No of

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10.2	Type, Mechanical/Hydraulic /Any other(describe briefly)			
10.3	Hand / Parking brake			
10.4	Type and brief description			
11.0	**Electrical system of tractor**			
11.1	System voltage,(V)			
11.2	Battery			
11.2.1	- Capacity and rating	:--------Ah at 20hours discharge rate		
12.0	**Mass (kg)**	**Front**	**Rear**	**Total**
12.1	Unballasted			
12.2	Max permissible Ballasted			
13.0	**Seat (s) Seat (s)**			
13.1	Operator's seat			
13.2	- Location			
14.0	**Overall Dimension, (mm)**			
14.1	Overall length			
14.2	Overall width			
14.3	Overall height			
14.4	Wheel Base			
14.5	Min. ground clearance			
14.6	Front Track width			
14.7	Rear Track width			
15.0	**Fuel system**			
15.1	Type			
16.0	**Maximum Gradeability in degrees**			

I, ---------- of M/s ---------- hereby declare that information given above in page no. 1 to 3 is as per design / drawings of the prototype / commercial model of tractor ---------- submitted for inspection / test and is complete and correct to the best of my knowledge and belief. I also understand that in case of any information furnished above is found to be not correct or incomplete, then among other actions, the certificate is liable to be cancelled. It is further declared that this machine has never been tested by any of the test agency as referred in Rule 126 of CMVR 1989. It is further declared that no application has been submitted to any other agencies as referred in Rule 126 of CMVR 1989.

Applicant / Manufacturer :

Signature of Authorised Signatory :

Name :

Designation :

Place:

Date:

Countersigned:

Manufacturer :	**Document No :**	**Test Agency :**	**Cert No :**
Signature		**Signature**	Seal
		Name	
Name	**Sheet No**	**Designation**	
Designation	**Date**	**Date of Issue**	**Page No of**

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DETAILED TECHNICAL SPECIFICATIONS FOR AGRICULTURAL TRACTORS

1.1	**General**	
1.1.1	Name of Manufacturer / Importer	
1.1.2	Address	
1.1.3	Name of the contact Person	
1.1.4	Telephone Numbers	
1.1.5	Fax No.	
1.1.6	Email	
1.2	List of Imported components (% By value) (Attach list separately indicating Name and Part Number)	
1.3	Method of selection (by Testing Authority or by the manufacturer / applicant)	
1.4	Recommended duration and Schedule of Running-In by manufacturer	
1.4.1	Engine	
1.4.2	Transmission	
2.0	**Tractor**	
2.1	Type	
2.1.1	Make	
2.1.2	Model No.	
2.1.3	Brand name, if any	
2.1.4.	Indian Trade name	
2.1.5	Chassis Number and its place of location on the tractor	
2.1.6	Serial No.	
2.1.7		
2.1.8	Year of Manufacture	
2.1.9	Variant(s), if any (Variant name and variant features, also Include a model wise separate sheet for necessary details)	

Manufacturer :	Report No :	Test Agency :		Cert No :
Signature		Signature		
Name	Sheet No	Name	Seal	
Designation	Date	Designation	Date of Issue	Page No of

2.1.10	Maximum PTO Power, kW (Declared value)		
2.1.11	Rated PTO Power, kW (Declared value)		
2.1.12	CFMTTI Test Report Number		
2.1.13	**Assembly identification**	**Identification mark**	**Location**
2.1.13.1	Engine identification / Sl. Number		
2.1.13.2	Chassis identification / Sl. Number		

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2.1.13.3	Gearbox/Transmission housing identification Mark / No.		
2.1.13.4	Hydraulic System identification Mark/No.		
2.1.13.5	Other major assemblies, if any		
3.0	**Description of engine**		
3.1	**Name and address of engine manufacturer:**		
3.1.1	Telephone Number(s)		
3.1.2	Fax Number(s)		
3.1.3	E-mail Address		
3.1.4	Website		
3.1.5	Make		
3.1.6	Model		
3.1.6.1	Place of embossing / punching of the engine model on the engine		
3.1.7	Type		
3.1.8	Serial No./ Identification Number and its place of location on engine		
3.1.9	Year of manufacture		
3.1.10			
3.1.11	Engine speed (Manufacturer's recommended production settings), (rpm)		
3.1.11.1	Max speed at no load i.e. high idling speed and tolerance		
3.1.11.2	Low idling speed and tolerance		
3.1.11.3	Speed at maximum torque and tolerance		

3.1.12	Rated speed, (rpm):	
3.1.12.1	- For PTO work	
3.1.12.2	- For drawbar work	
3.1.13	Type of suction, [Naturally aspirated / super charged / turbo charged (Please specify)]	
3.1.14	Working principle (Four / Two stroke)	
3.1.15	Bore, mm	
3.1.16	Stroke, mm	
3.1.17	Number and layout of cylinders and firing order	
3.1.18	Type of cylinder liners [Dry/wet, replaceable/ Non replaceable (please specify)]	
3.1.19	Cylinder capacity, cc	
3.1.20	Compression ratio (Specify the tolerance)	

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3.1.21	Drawing of combustion chamber and piston crown	
3.1.22	Number of valves per cylinder, (inlet and exhaust)	
3.1.23	Arrangement of valves	
3.1.24	Minimum cross-sectional area of ports	
3.1.25	Inlet, mm^2	
3.1.26	Outlet, mm^2	
3.1.27	Valve clearance in cold/Hot condition (mm) Inlet Valve Exhaust Valve	
3.1.28	No. of valve springs /valve	
3.1.29	Valve lift, (Inlet and Exhaust)	
3.1.30	Free length of valve springs when new Inner / Outer (mm)	
3.1.31	Compressed (assembled) length of valve springs (mm)	
3.2	**Cooling System**	
3.2.1	liquid / air cooling	

3.2.2	Characteristics of liquid-cooling system	
3.2.3	Nature of liquid circulating pump: Yes / No	
3.2.4	Drive ratio	
3.2.5	Means of Temp control :	
3.2.5.1	- Type	
3.2.5.2	- Location	
3.2.5.3	- Opening temp. of thermostat valve (˚C)	
3.2.5.4	- Temp. of fully open thermostat valve (˚C)	
3.2.6	Radiator : make(s) and Model / type(s)	
3.2.6.1	- Outer dimensions (mm)	
3.2.6.2	- Size of frontal area, (cm^2)	
3.2.7	- Recommended Pressure of cap, kPa/ (kgf/cm^2)	
3.2.8	- Name & or brand name of coolant	
3.2.9	- Coolant water ratio (as applicable)	
3.2.10	- Bare radiator capacity (l)	
3.2.11	- Capacity of expansion tank (l)	

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3.2.12	- Total capacity of cooling system (l)	
3.2.13	Fan : characteristics or make(s) and type(s)	
3.2.13.1	- Number of fan blades	
3.2.13.2	- Outer diameter of fan, (mm)	
3.2.13.3	- Inner diameter of cowl, (mm)	
3.2.13.4	Fan cowl	
3.2.13.5	Fan drive system	
3.2.14	Coolant pump:	
3.2.14.1	- Make and Type	
3.2.14.2	- Type of impeller,	
3.2.14.3	- Diameter of impeller (mm)	

3.2.14.4	- Number of vanes	
3.2.14.5	- Number and Type of bearings	
3.2.14.6	- Arrangement for Lubrication	
3.2.14.7	- Period/Frequency of lubrication	
3.2.14.8	- Method of drive	
3.2.14.9	- Size of drive belt and No.(s)	
3.2.15	Characteristics of air-cooling system	
3.2.16	Blower : characteristics or make(s) and type(s)	
3.2.17	Drive ratio(s)	
3.2.18	Air ducting (standard production)	
3.2.19	Temperature regulating system : yes/no (Brief description)	
3.2.20	Temperature permitted by the manufacturer	
3.2.21	Liquid cooling: Reference point	
3.2.22	Air cooling: Reference point	
3.2.23	Max. temperature at reference point	
3.2.24	Max. Temperature of the inlet intercooler	
3.2.25	Max. exhaust temperature at the point in the exhaust pipe(s) adjacent in outlet flange(s) of the exhaust manifolds	
3.2.26	Fuel temperature	
3.2.27	Lubricant temperature	

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3.3	**Supercharger : yes/no (Description of the system)**	
3.4	**Turbocharger/Supercharger/EGR (If fitted):**	
3.4.1	-Make	
3.4.2	-Model	
3.4.3	-Type	
3.4.4	-Boost (Pressure ratio)	
3.4.5	-Speed at rated engine speed (rpm)	
3.4.6	-Method of lubrication	
3.4.7	-Location	

3.5	**Pre-cleaner:**	
3.5.1	Make	
3.5.2	Type	
3.5.3	Location	
3.6	**Air Cleaner:**	
3.6.1	- Make	
3.6.2	- Type	
3.6.3	- Location	
3.6.4	- Suction pressure at Maximum power, (kPa)/ (mm of Hg)	
3.7	**If dry type:**	
3.7.1	Air filter (Make / Type/ No.)	
3.7.2	- Vacuum indicator and its range (mm of water/mm of Hg)	
3.7.3	- Whether dust unloading valve has been provided	
3.7.4	- Servicing/maintenance schedule	
3.8	**Air intake and fuel feed**	
3.8.1	Description and diagrams of inlet pipes and their accessories (dash pot, heating device, additional air intake, etc.)	
3.8.2	Maximum permitted depression of air intake at characteristic place (Specify location of measurement) kPa (Specify the tolerance) (Specify range if applicable)	
3.9	**Fuel supply system type**	
3.9.1	Fuel tank:	
3.9.1.1	- Make	
3.9.1.2	- Material	
3.9.1.3	- Capacity, (l)	
3.9.1.4	- Location	
3.9.1.5	- Type of mounting	
3.9.1.6	- Provision for draining of sediments/water	

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3.9.1.7	- Type of strainer at filling mouth	
3.9.2	Water Separator (if provided):	
3.9.2.1	Make	
3.9.2.2	Type	
3.9.2.3	Location	
3.9.3	Primary Pump (Fuel transfer pump/ Feed pump):	
3.9.3.1	- Make	
3.9.3.2	- Model/Group combination No.	
3.9.3.3	- Type	
3.9.3.4	- Location	
3.9.3.5	Method of drive	
3.9.3.6	- Whether sediment bowl has been provided	
3.9.4	Fuel Filters:	
3.9.4.1	- Make	
3.9.4.2	- Type	
3.9.4.3	- Number	
3.9.4.4	- Model / Group Combination No	
3.9.5	Type of filter element(s):	
3.9.5.1	- Primary	
3.9.5.2	- Secondary	
3.9.5.3	- Capacity of Secondary filter bowl with filter elements,(l)	
3.9.6	Additional filter(s), if any:	
3.9.6.1	- Make	
3.9.6.2	- Type	
3.10	Injection System	
3.11	Working principle : intake manifold/direct injection/ Injection pre-chamber / swirl chamber	
3.12	**Fuel Injection Pump**	
3.12.1	Make(s),	
3.12.2	Type(s)	
3.12.3	Model and Identification No.	

3.12.4	Fuel Delivery :	mm3/stroke at a pump speed of_____ rpm

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3.12.5	Injection or characteristics diagram	
3.12.6	(Specify the tolerance)	
3.12.7	Calibration procedure: On engine / on pump bench. If boost pump is supplied, state the characteristics fuel delivery and boost pressure versus engine speed.	
3.12.8	Injection timing	
3.12.9	Injection advance curve	
3.12.10	Injection advance (specify the tolerance)	
3.13	**Injectors**	
3.13.1	Make	
3.13.2	Type	
3.13.3	Model and Identification (Holder Number and Nozzle Number)	
3.13.4	No. of holes in each injector	
3.13.5	Diameter of holes (mm)	
3.13.6	Opening pressure or characteristics diagram (specify the tolerance)	
3.13.7	Injection Piping Length	
3.13.8	Internal diameter of injection piping	
3.14	**Governor**	
3.14.1	Make(s)	
3.14.2	Type(s)	
3.14.3	Cut off point under load (rpm)	
3.14.4	Max. speed without load	
3.14.5	Range of Speed (rpm)	
3.14.6	Rated speed	
3.14.7	Idle speed	
3.15	**Cold start device**	

3.15.1	Make(s)	
3.15.2	Type(s)	
3.15.3	System description	
3.16	**Exhaust System**	
3.16.1	Make ,Type of silencer, Position of silencer	
3.16.2	- Provision of spark arresting device, (Yes / No)	
3.16.3	-Make and Type of spark arresting device, if provided	
3.16.4	Specify the back pressure at maximum Gross power and the location of measurement (kPa) (Specify the tolerance and range)	

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3.16.5	Device for recycling crank-case gases Description and diagrams	
3.17	**Lubrication system**	
3.17.1	- Type	
3.17.2	- Minimum permissible lubricating oil pressure, kPa (kgf /cm2)	
3.18	**Lubricating pump**	
3.18.1	Make	
3.18.2	Model	
3.18.3	Method of drive	
3.18.4	Type	
3.18.5	Discharge of pump at rated (Engine/pump) rpm (l/min)	
3.18.6	Pressure release seating Kpa (kgf/cm2)	
3.18.7	Oil sump capacity (l)	
3.18.8	Total Lub. Oil capacity (l)	
3.18.9	Lub. Oil Grade	
3.18.10	Oil changing period (hr)	
3.19	**Oil cooler (Yes / No)**	
3.19.1	make(s) and type(s)	
3.20	**Lub. oil filter (s):**	

3.20.1	- Make /model identification	
3.20.2	- Number(s)	
3.20.3	- Type	
3.21	**Starting System:**	
3.21.1	- Type	
3.21.2	- Aid for cold starting	
3.21.3	- Any other device for easy starting	
3.22	**Electrical System:**	
3.22.1	Batteries:	
3.22.1.1	- Make	
3.22.1.2	- Model, if any	
3.22.1.3	- Type	
3.22.1.4	- Capacity and rating	
3.22.1.5	- Location	
3.22.1.6	- Ground polarity	

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3.22.2	Self Starter:	
3.22.2.1	- Make	
3.22.2.2	- Model	
3.22.2.3	- Capacity & Power rating	
3.22.2.4	- Serial Number	
3.22.3	Generator (Alternator/Dynamo):	
3.22.3.1	- Make	
3.22.3.2	- Model	
3.22.3.3	- Type	
3.22.3.4	- Out put rating	
3.22.3.5	- Power rating	
3.22.3.6	- Serial Number	
3.22.4	Details of Instruments panel:	
3.22.4.1	Engine speed –cum-cumulative run hour meter.	
3.22.4.2	Lubricant oil pressure gauge/ indicator lamp	

3.22.4.3	Coolant (water) temperature gauge (with colour zones).	
3.22.4.4	Fuel level gauge (with colour zones).	
3.22.4.5	Main switch (key-turn type).	
3.22.4.6	Light switch (rotary type).	
3.22.4.7	Turn indicator light switch	
3.22.4.8	Hazard light switch	
3.22.4.9	Head light (long beam) indicator lamp.	
3.22.4.10	Battery charging indicator lamp.	
3.22.4.11	Turn indicator-cum-hazard indicator tell-tale	
3.22.4.12	Fuel shut-off knob	
3.22.4.13	Horn push button.	
3.22.4.14	Specify other if any	
3.22.5	Lighting Installation requirements	

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Description	**Producer**	**Type**	**No. and colour**	**Arra-ngement**	**Orientation**	**Position in width (from outer edge), height, Length (mm)**	**Tell tale**	**Geo m-etric visibility**	**Identi-fication Mark (if available)**
1	2	3	4	5	6	7	8	9	10
Head lamps:									
- Main beam (optional)									
- Dipped beam									

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Front fog lamp (optional)									
Front Position lamp (Parking lamp)									
Side Marker lamps (optional)									
Tail lamp									
Rear Position lamp (Parking lamp)									
Stop lamp (Brake lights)									
Registration plate lamp									
Reversing lamp (Optional)									
Direction indicator lamps									
- Front									
- Rear									
- Side (optional)									
Hazard warning signal lamps									
- Front									
- Rear									
- Side (optional)									
Reflectors, Non-Triangular:									
- Front									
- Rear									
- Side (optional)									
Additional lamps if any (Plough lamp)									
- Purpose : To illuminate implement working area									

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4.0	**Transmission**	
4.1	- Make	
4.2	- Model	
4.3	- Type	
4.4	Transmission ratio	Please enclose line diagram of complete transmission system as **Annexure-III**
4.5	Arrangement of power transmission	2WD / 4WD
4.6	Clutch	
4.6.1	Make	
4.6.2	Type	
4.6.2.1	- No. of friction plate(s)	
4.6.3	Transmission/PTO	
4.6.3.1	- Outer diameter (mm)	
4.6.3.2	- Inner diameter (mm)	
4.6.3.3	- Material of lining	
4.6.4	- Method of operation	
4.7	**Gear Box**	
4.7.1	Make	
4.7.2	Model/identification mark	
4.7.3	Type	
4.7.4	Number of speeds	
4.7.5	- Forward	
4.7.6	- Reverse	
4.7.7	Location of main gear shifting levers	
4.7.8	Location of speed range selector (L/M/H) lever	
4.7.9	- Gear shifting pattern	

Nominal Speeds

Movement	Gear	Number of Engine Revs. for one Rev. of driving wheel		Nominal speed at rated engine speed when fitted with---------- size tyres of ____ mm radius index, (kmph)	
		LOW	HIGH	LOW	HIGH
Forward	1				
Forward	2				
Forward	3				
Forward	4				
Reverse	1				

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5.0	**Wheel rim**	
5.1	Size	
5.2	Front	
5.3	Rear	
5.4	Others	
5.5	Name of manufacturer	
5.6	Identification mark for front and rear rims	
5.7	Pitch circle dia of mounting bolts mm	
5.8	Number of mounting bolts	
5.9	Material (Steel/ Aluminum alloy etc.)	
6.0	**Wheel nut and Wheel disc**	
6.1	**Wheel Nut**	
6.1.1	Name of manufacturer	
6.1.2	Size	
6.1.3	No. per wheel	
6.1.4	Tightening torques for front and rear	
6.2	**Wheel disc**	
6.2.1	Name of manufacturer	
6.2.2	Size	
6.2.3	Material	

6.2.4	Method of fitment (Press/bolted/others)	
7.0	**List of tools normally provided with tractor**	
8.0	**Power take-off shaft**	
8.1	Location	
8.2	Height above Ground Level (mm)	
8.3	No. of Splines	
8.4	Direction of Rotation (Viewed from Driving End)	
8.5	Size (mm)	
8.6	Name of Standard to which it conforms	
8.7	Rated Speed (rpm)	
8.8	Proportional Erpm at Std. 540 PTO rpm	
8.9	PTO Speed at Rated Engine Speed (rpm)	
8.10	Details of Other PTO Shaft, if any	
9.0	**Belt pulley**	

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10.0	**Power lift**	
10.1	Make	
10.2	Type of Pump	
10.3	Oil Capacity	
10.4	Pump Capacity at Rated Erpm and	
10.5	Minimum Pressure, (Ipm)	
10.6	Rated Speed of Pump corresponding To Rated Erpm (rpm)	
10.7	Relief Valve Opening Pressure, kPa (kgf/cm2)	
10.8	Pressure Sustained by Open Relief Valve.	
10.9	Hydraulic Power at 90% of Min. Relief Valve	
10.10	Setting (Crack-Off setting), kW	
10.11	Lifting Capacity, kN (kgf) (Max. Force exerted through full range & Corrected to those values corresponding to Hydraulic Power)	
10.12	At Hitch Points	

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10.13	On Standard Frame	
10.14	Means of Position and Response Control	
10.15	Means of Draft Control	
11.0	**Drawbar (s)**	
11.1	Swinging drawbar :	
11.2	Linkage drawbar :	
12.0	**Hitch**	
12.1	Front :	
12.2	Type & Location	
12.3	Height above Ground level (mm)	
12.4	Type of adjustment	
12.5	Width (mm)	
12.6	Diameter of pinhole (mm)	
12.7	Rear	
12.8	Type	
12.9	Location	
12.10	Height above Ground level (mm)	
12.11	Type of adjustment	
13.0	**Steering**	
13.1	Make	
13.2	Type	

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13.3	Location	
13.4	Method of Operation	
13.5	Diameter of Steering Wheel (mm)	
13.6	Steering Housing Oil Capacity (I)	
14.0	**Brakes**	
14.1	**Service Brake**	
14.1.1	Make Type	
14.1.2	Location	
14.1.3	Thickness of Brake Lining (mm)	

14.1.4	Area of Liner (sq. cm)	
14.1.5	Material of Lining (Asbestos/Non-asbestos)	
14.1.6	Method of Operation	
14.2	**Parking brake**	
14.2.1	Make	
14.2.2	Type	
14.2.3	Size	
14.2.4	Method of Operation	
15.0	**Wheel Equipment**	
15.1	**Steering Wheels**	
15.1.1	Make	
15.1.2	No., Size and Ply Rating	
15.1.3	Arrangement	
15.1.4	Type of Tyres	
15.1.5	Max. Permissible Load of each Tyre (kgf)	
15.1.6	Recommended inflation pressure, kPa (kgf/cm^2)	
15.1.7	For Field (Including Wet land) kpa(kgf/cm^2)	
15.1.8	For Road	
15.1.9	Track Width (mm)	
15.1.10	Method of Changing Track Width	
15.2	**Driving Wheels**	
15.2.1	Make	
15.2.2	No., Size and Ply Rating	
15.2.3	Type of Tyres	
15.2.4	Max. Permissible Load of each tyre, kg	
15.2.5	Pressure	
15.2.6	Recommended inflation pressure, kPa (kgf/cm^2)	
15.2.7	different conditions	
15.2.8	For Field	

15.2.9	Track Widths (mm)				
15.2.10	Method of changing Track Width				
16.0	**Wheel base (mm)**				
16.1	Method of changing Wheelbase, if any Range of adjustment (mm)				
17.0	**Minimum ground clearance (mm)**				
17.1	Method of changing Ground Clearance, if any				
17.2	Clearance Limiting part				
18.0	**Seat**				
18.1	Make				
18.2	Type				
18.3	Type of Suspension /Type of Damping				
18.4	Range of Adjustment				
19.0	**Lubricants/Coolant Capacity, liters**				
19.1	**Lubricants:**				
S. No.	**Particulars**	**Recommended grade**	**Capacity (l)**	**Change period (h)**	**Filter change period (h)**
19.1.1	Air cleaner oil				
19.1.2	Bare engine sump				
19.1.3	Total lub. oil of engine				
19.1.4	Steering housing				
19.1.5	Gearbox housing oil				
19.1.6	Differential housing oil				
19.1.7	Front axle				
19.1.8	Rear axle				
19.1.9	Final drive (front)				
19.1.10	Final drive (rear)				
19.1.11	Hydraulic system (*)				
19.1.12	Other (Brake etc)				
19.1.13	Grease				
19.2	**Number of lubricating points:**				

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19.2.1	Oiling	
19.2.2	Grease nipples	
19.2.3	Grease cups	

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20.0	**Tightening torque (kgm / Nm):**			
20.1	Cylinder head nut & bolts			
20.2	Main bearings nut & bolts			
20.3	Big end bearings nut & bolts			
20.4	Flywheel bolts			
21.0	**Mass and Ballast:**	**Front**	**Rear**	**Total**
21.1	**Unballasted Tractor:** Mass of the tractor in working order with full tanks & radiators. [Optional front & rear weights (ballast), tyre ballast, the tractor operator, mounted implements, mounted equipments or any specialized components are not included].			
21.2	**Tractor with standard ballast:** Mass of the tractor in working order with standard ballast of -------- kgf at front and ------- kgf at rear, full tanks & radiators. [Tyre ballast, the tractor operator, mounted implements, mounted equipments or any specialized components are not included].			
22.0	**Recommended ballast for different test:**			
22.1	**Ballast mass**	**For drawbar test**	**For field test**	**For road test**
22.1.1	Front - C.I. Ballast (kg)			
22.1.2	- Water ballast (kg)			
22.1.3	Rear - C.I. Ballast (kg)			
22.1.4	- Water ballast (kg)			
22.1.5	Front - Location of C.I. ballast weights			
22.1.6				

	Rear - Location of C.I. ballast weights			
23.0	**Mass of tractor in Ballasted condition (kg):**			
S. No	**Test**	**Front**	**Rear**	**Total**
23.1	For drawbar			
23.2	For Field tests			
23.3	For Puddling			
23.4	For Haulage			

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24.0	**Overall Dimension of Tractor (mm):**	
24.1	- Length	
24.2	- Width	
24.3	- Height	
24.4	- Ground clearance(mm)	------- (Specify the limiting part)
25.0	**Colour of tractor:**	
25.1	- Chassis & Engine	
25.2	- **Sheet metal**	
25.3	- Bonnet	
25.4	- Mudguards	
25.5	- Wheel rims	

26.0	**Performance Characteristics:** **(Please refer IS 12207:2008 for the declarations and tolerances)**		
	Characteristics	**Requirements or Tolerance as per IS 12207:2008**	**Values declared by the applicant**
	2	**3**	**4**
26.1	**PTO Performance :**		
26.1.1	- Max. power under 2 h test, (kW) (Natural ambient condition)	Declared value to be achieved with a tolerance of: -5 / +10% for PTO power >35hp. – 7.5/+10% for PTO power ≤ 35 hp	
26.1.2	Power at rated engine speed, (kW)	--do--	

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26.1.3	Specific fuel consumption corresponding to maximum power, (g/kWh)	± 5%
26.1.4	Maximum equivalent crankshaft torque, (Nm)	± 8%
26.1.5	Equivalent crankshaft torque at maximum power, Nm (kgf-m)	--
26.1.6	Back-up torque, percent	7 percent, min.
26.1.7	**Maximum operating temperature (˚C)**	
26.1.7.1	- Engine oil	To be declared by the manufacturer under high ambient conditions.
26.1.7.2	- Coolant (water)	-- do--
26.1.8	Engine oil consumption, (g/kWh)	Not exceeding 1% of SFC at max. power under High ambient conditions

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26.1.9	Smoke level	Maximum light absorption coefficient of 3.25 / m or equivalent BOSCH No. 5.2 or 75 Hatridge value (As per CMVR)	
26.2	**Belt pulley performance (if desired by the manufacturer)**		
26.2.1	Power at rated engine speed	Declared value to be achieved with a tolerance of: -5 / +10% for PTO power >35hp. – 7.5/+10% for PTO power ≤ 35 hp	
26.2.2	Power at standard linear belt speed [(15.75±0.25) m/s]	--do--	
26.2.3	Maximum operating temperature of oil in the belt pulley, °C	Nil	
26.3	**Drawbar Performance :**		
26.3.1	Max. drawbar pull with ballast corresponding to 15 percent wheel slip or 7 percent track slip, (kN)	Minimum 65% of static mass with ballast	

26.3.2	Max. drawbar pull without ballast or with standard ballast corresponding to 15 percent wheel slip or 7 percent track slip, (kN)	Minimum 65% of static mass of tractor without ballast or with standard ballast	
26.3.3	Maximum drawbar power without ballast or with standard ballast, (kW).	Minimum 80% of PTO power as referred in 13.1(a) above of PTO performance	
26.3.4	Max. transmission oil temperature (˚C)	To be declared by the manufacturer	
26.4	**Power lift and hydraulic pump performance:**		
26.4.1	Maximum lifting capacity throughout the range of lift, (kN):		
26.4.1.1	- At hitch points	To be declared by the manufacturer	
26.4.1.2	- With the standard frame	The lift capacity should at least be 18 kg/PTO hp and it should be 16 kg/engine hp where the tractor is not provided with a PTO shaft.	
26.4.2	Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 minute, (mm)	To be declared by the manufacturer	

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26.5	**Brake performance at 25 kmph:**		
26.5.1	Maximum stopping distance at a force equal to or less than 600 N on brake pedal with ballast, (m):		
26.5.1.1	-Cold brake	10 m	
26.5.1.2	-Hot brake	10 m	
26.5.2	Maximum force exerted on the brake pedal to achieve a deceleration of 2.5 m/s^2	600 N	
26.5.3	Whether parking brake is effective at a force of 600 N at foot pedal(s) or 400 N at hand lever	Yes / No	
26.6	**Noise measurement :**		
26.6.1	Maximum ambient noise emitted by the tractor dB(A)	As per CMVR	
26.6.2	Maximum noise at operator's ear level dB(A)	As per CMVR	

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26.7	**Amplitude of mechanical vibrations at:**		
26.7.1 26.7.2 26.7.3	-Foot rest (left / right)	100 microns, max	
	-Seat (with driver seated)	100 microns, max	
	-Steering wheel	100 microns, max	
26.8	**Air Cleaner Oil Pull Over:**		
	Max. percentage of oil pull over	0.25 % Maximum	
26.9	**Haulage requirements :**		
26.9.1 26.9.2 26.9.3 26.9.3.1	- Gross mass of the trailers, (tones):		
	(1) Two wheel	To be specified by the manufacturer	
	(2) Four wheel	--do--	
26.9.4 26.9.5	- Distance travelled / litre of fuel consumption, (km/l)		
26.9.5.1	(1) Two wheel	To be specified by the manufacturer	
	(2) Four wheel	--do--	
	- Fuel consumption (ml/km/gross mass tonne)		
26.9.6	(1) Two wheel	To be specified by the manufacturer	
26.9.7	(2) Four wheel	--do--	

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26.10	**Wetland cultivation :**		
26.10.1 26.10.2 26.10.3	Sealing for the following assemblies: Clutch assembly Brake assembly Front axle hubs	The identified assemblies should essentially meet the requirement of IS 11082. No water ingress in the identified assemblies given in column 2. Note – Water droplets due to condensation not to be considered as water ingress.	
26.11	**Safety features:**		

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26.11.1	Guards against moving and hot parts	As per CMVR	
26.11.2	Lighting arrangement	As per CMVR	
26.12	**Labelling of Tractors:**		
26.12.1	Provision of labelling plate	Should conform to the requirements of CMVR along with declared value of PTO HP	
26.13	**Discard limits for:**		
26.13.1	Cylinder bore diameter, (mm)		
26.13.2	Cylinder ovality and taperness, (mm)		
26.13.3	Piston diameter, (mm)		
26.13.4	Clearance between piston and cylinder liner at the skirt, (mm)		
26.14 26.14.1 26.14.2	**Piston ring end gap (mm):**		
	- Compression rings		
	- Oil rings		
26.15 26.15.1 26.15.2	**Piston ring groove clearance (mm):**		
	- Compression rings		
	- Oil rings		
26.16 26.16.1 26.16.2	**Clearance of main bearings (mm):**		
	Diametrical clearance		
	Crankshaft end float		
26.17 26.17.1 26.17.2	**Clearance of big or small end bearings, (mm):**		
	Diametrical		
	Axial		
26.18	Clearance between king pin and bush, (mm)		
26.19	Clearance between center pin and bush, (mm)		
26.20	Clearance between valve guide and stem (mm)		

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26.21	Spring index of valve springs N/mm/ (kgf/mm)		
26.21.1	Inner spring		
26.21.2	Outer spring		
26.22	Backlash of timing gears (mm)		
26.22.1	Overall thickness of clutch plate (mm)		
26.22.1.1	- Transmission clutch		
26.22.1.2	- PTO shaft		
26.23	Height of lining over rivet head of clutch lining (mm)		
26.23.1	- Transmission clutch		
26.23.2	- PTO shaft		
26.24	-Thickness of brake lining (mm)		
26.24.1	Height of lining over rivet head of brake lining (mm)		
26.24.2	Depth of oil groove of brake disc in case of oil immerse brake		
26.25	**Backlash of transmission gears (mm):**		
26.25.1	- Transmission gears		
26.25.2	- Crown wheel and pinion		
26.25.3	- Final drive gear		
26.25.4	- Safety features, if any		
26.26	**Optional requirements :**	**Requirements**	**Declaration**
26.26.1	Seating requirements	Should meet the requirements of IS 12343:1998	
26.26.2	Fitment of ROPS	With a provision for fitment of ROPS. If ROPS fitted it should meet the requirement of IS 11821:1992	
26.26.3	Technical requirements for PTO shaft	Should meet the requirements of IS 4931:1995	
26.26.4	Dimensions of three point linkage	Should meet the requirements of IS 4468 (Part-I):1997	

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26.26.5	Specifications of linkage and swinging drawbars	Should meet the requirements of IS 12953:1990 and IS 12362 Part 3:1994.	
26.26.6	Accessories	Trailer hitch, front tow hook, linkage drawbar may be provided.	

I, ………………………………………………………….of M/s ……………………………………………. hereby declare that information given above in page no. 1 to 21 is as per design / drawings of the prototype/commercial model of tractor submitted for **Confidential/Commercial** test and is correct to the best of my knowledge and belief.

Applicant / Manufacturer :
Signature of Authorised Signatory :
Name :
Designation :

Place:
Date:

Manufacturer :	Document No :	Test Agency :	Cert No :
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		Name	
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PRE-TEST CONDITION CERTIFICATE

FOR COMMERCIAL TEST (I.C.T./VARIANT/SUPPLIMENTARY)

Make of tractor	:	
Model of tractor	:	
Nature of test	:	

(a)	The selection procedure followed for submitting the tractor meets the requirement of clause 4.3 of Indian Standard 5994-1998.
(b)	It is certify that the specification of machine submitted for test conforms to the production model, which we propose to introduce.
(c)	It is also understood that the test will be carried out on the machine as it stands together with accessories and attachments essential to the satisfactory performance of the machine. We will not be allowed to introduce alternations or modifications on the machine which should affect its normal performance during the progress of tests. If any major modifications or alterations are considered necessary, we shall withdraw the machine from tests and submit another machine of same make and model with fresh application for testing.

I / We do hereby abide by the above preconditions referred to at (a), (b) & (c) above in respect of the test sample submitted for confidential / commercial Test at this Institute and in case of any violation we shall withdraw the tractor from test.

Signature of Applicant/Authorized signatory	:	
Name & Designation	:	
Address:	:	
Telephone No.		
Fax No.	:	
Date	:	

Rule No.	Subject	Test Report Nos.	If certificate is not available likely date of submission of test report
100	Safety Glass d) Windscreen e) Side f) Rear (For Construction Equipment Vehicles)		
104 A	Reflex Reflector a) White, Front b) Amber, side c) Red, Rear Retro Reflective Tape or Paint		
104B(2)	Reflex Reflector d) Rear, Red		
119	Horns Horn Installation		
124(A)1	Automotive Lamps Bulbs used for: a) Head light main & dip. b) Parking light c) Direction indicator lamp d) Tail lamp e) Reversing lamp f) Stop lamp g) Rear registration mark indicating lamp h) Top light		
124A(2)	Lighting Signalling & Indicating Systems: Head Light: Fog Light: Rear Licence Plate Light: Rear Position Light: Tail Light: Stop Light: Directional Indicator Light: Front : Rear : Side :		

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Manufacturer :	Document NO :	Test Agency :	Cert No :
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Rule No.	Subject	Test Report Nos.	If certificate is not available likely date of submission of test report
	Parking Light: Reversing Light: High Mounted Stop Light: Rear Warning Triangle (Slow moving emblem)		
124A(3)	Hydraulic Brake Hose		
124A(4)	Hydraulic Brake Fluid		
124A(5)	Tow Hook		
124A(6)	Fuel Tank		
124A(7)	Wheel Nuts & Hub Caps		

Note :

4) Please enclose test report copies wherever required.

5) In case samples are submitted to the testing agency for testing, please provide reference docket no.

Manufacturer :	**Document No :**	**Test Agency :**	**Cert No :**
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List of Test Report / Certificates of other models for Agricultural Tractors / Construction Equipment Vehicles

Rule No.	Subject	Model	No. of test report/ certificate *	Issued by	Justification for applicability for the model under consideration

* Xerox copies of the certificates to be submitted in case if it is from another testing agency or whenever necessary.

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Manufacturer :	Document No :	Test Agency :	Cert No :
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		Name	
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TECHNICAL SPECIFICATION OF CNG RELATED PARTS
TO BE SUBMITTED BY VEHICLE MANUFACTURER
(To be used for approval of OE CNG vehicles in lieu of Annex I of AIS-024)

1.0	**Name of Vehicle Manufacturer**	
2.0	**CNG Cylinder (DOE approved/endorsed)**	
2.1	Name of manufacturer	
2.2	**Identification No.**	
2.3	Working pressure (kg/cm^2)	
2.4	Max. test pressure (kg/cm^2)	
2.5	Cylinder capacity (water equivalent)	
2.6	Approval reference from DOE	
3.0	**Cylinder Valve(s) (DOE approved/ endorsed)**	
3.1	Name of manufacturer	
3.2	Model name/Identification No.	
3.3	Type	
3.4	Working pressure (kg/cm^2)	
3.5	Max. test pressure (kg/cm^2)	
3.6	Approval reference from DOE	
4.0	**CNG Solenoid Valve**	
4.1	Name of manufacturer	
4.2	Model Name/Identification No	
4.3	Type	
4.4	Working pressure (kg/cm^2)	
4.5	Max test pressure (kg/cm^2)	
5.0	**Petrol Solenoid Valve**	
5.1	Name of manufacturer	
5.2	Model Name/Identification No.	
5.3	Type	
5.4	Working pressure (kg/cm^2)	
5.5	Max test pressure (kg/cm^2)	
6.0	**Refilling valve**	

Manufacturer :	Document No :	Test Agency :	Cert No :
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		Name	Seal
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6.1	Name of manufacturer	
6.2	Model Name/Identification No.	
6.3	Type	

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6.4	Working pressure (kg/cm^2)	
6.5	Max test pressure (kg/cm^2)	
7.0	**Pressure Regulator**	
7.1	Name of manufacturer	
7.2	Model name/Identification No.	
7.3	Type	
7.4	Inlet pressure (kg/cm^2)	
7.5	Outlet pressure (kg/cm^2)	
7.6	No. of stages	
8.0	**CNG Filter**	
8.1	Name of manufacturer	
8.2	Model name/Identification No.	
8.3	Type	
8.4	Inlet pressure (kg/cm^2)	
8.5	Outlet pressure (kg/cm^2)	
9.0	**High Pressure Tubing**	
9.1	Name of manufacturer	
9.2	Model name/Identification No.	
9.3	Type	
9.4	Working pressure (kg/cm^2)	
9.5	Max. test pressure (kg/cm^2)	
9.6	Outer diameter/Inner Diameter	
9.7	Protection quality (material used)	
10.0	**Low Pressure Tubing**	
10.1	Name of manufacturer	
10.2	Model name/Identification No.	

10.3	Type	
10.4	Working pressure (kg/cm^2)	
10.5	Max test pressure (kg/cm^2)	
10.6	Outer diameter/Inner Diameter	
10.7	Protection quality (material used)	
11.0	**Gas-Air Mixer**	
11.1	Name of manufacturer	
11.2	Model name/Identification No	
11.3	Type & drawing	
11.4	Venturi Size	
12.0	**Selector Switch**	
12.1	Name of manufacturer	
12.2	Model name/Identification No	
12.3	Type	

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13.0	**Wiring Harness (for CNG system) (Ref. Clause A11 of Table 2 of AIS-007)**	
13.1	Name of manufacturer	
14.0	**Interfacing Unit (for closed loop engines)**	
14.1	Name of manufacturer	
14.2	Model name/Identification No.	
14.3	Type	
15.0	**Ignition Timing Advancer**	
15.1	Name of manufacturer	
15.2	Type	
15.3	Timing on CNG mode	
15.4	Timing on baseline fuel.	

16.0	**Brief Description of System Including Dimensional Layout for Cylinder and other CNG components installation, ventilation details etc.**	
17.0	**Refilling valve interlocking switch**	
17.1	Name of manufacturer	
17.2	Identification No.	
17.3	T y p e	
18.0	**Current limiting Device (Fuse)**	
18.1	Name of manufacturer	
18.2	Identification No.	
18.3	Voltage/current rating	
18.4	Type	
19.0	**Pressure Indicator**	
19.1	Name of manufacturer	
19.2	Identification No.	
19.3	Type	
20.0	**Service shut off valve**	
20.1	Name of manufacturer	
20.2	Identification No.	
20.3	Type	
21.0	**Compartment/Sub-compartment/Gas tight housing**	
21.1	Name of manufacturer	
21.2	Identification No.	
21.3	Type	
22.0	**Conduit**	
22.1	Name of manufacturer	
22.2	Identification No.	
22.3	Inner & outer diameter	

22.4	Type	

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23.0	**Details of Seat/Upholstery/roof and side lining**	
23.1	Name of manufacturer	
23.2	Model name/Identification No.	
23.3	Type	
24.0	**Details of non-moisture retaining hard rubber/equivalent material padding/lining provided for inner side of the cylinder mounting band(s)**	
24.1	Name of manufacturer	
24.2	Identification No.	
24.3	Type	
25.0	**Any other information**	

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TECHNICAL SPECIFICATION OF LPG RELATED PARTS TO BE SUBMITTED BY VEHICLE MANUFACTURERS

(To be used for approval of LPG OE vehicles in lieu of Annex I of AIS-025)

1.0	**Name of Vehicle Manufacturer**	
2.0	**LPG Cylinder (DOE approved/endorsed)**	
2.1	Name of manufacturer	
2.2	**Identification No.**	
2.3	Type	
2.4	Max. test pressure (kg/cm^2)	
2.5	Working pressure (kg/cm^2)	
2.6	Cylinder capacity (water equivalent)	
2.7	Approval reference from DOE	
3.0	**Cylinder Valve/Multi-Function Valve assembly (DOE approved/endorsed)**	
3.1	Multi-Function Valve shall have following	
	- Automatic fill limiter	
	- Service valve	
	- Excess flow check valve	
	- Pressure relief device	
	- Fusible plug	
	- Content gauge	
	- Inlet connected to the fill connector having non-return valve	
3.2	Name of manufacturer	
3.3	Model name/Identification No.	
3.4	Vapor/Liquid withdrawal	
3.4.1	Type	
3.4.2	Max. test pressure (kg/cm^2)	
3.4.3	Working pressure (kg/cm^2)	
3.4.4	Approval reference from DOE	
4.0	**LPG Solenoid Valve**	

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4.1	Name of manufacturer	
4.2	Model Name/Identification No.	
4.3	Type	
4.4	Working pressure (kg/cm^2)	
4.5	Max test pressure (kg/cm^2)	

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5.0	**Petrol Solenoid Valve (if fitted)**	
5.1	Name of manufacturer	
5.2	Model Name/Identification No.	
5.3	Type	
5.4	Working pressure (kg/cm^2)	
5.5	Max test pressure (kg/cm^2)	
6.0	**Refilling valve**	
6.1	Name of the manufacturer	
6.2	Model name/Identification No.	
6.3	Type	
6.4	Working pressure (kg/cm^2)	
6.5	Max test pressure (kg/cm^2)	
7.0	Pressure Regulator/Vaporizer	
7.1	Name of manufacturer	
7.2	Model name/Identification No.	
7.3	Type	
7.4	Inlet pressure (kg/cm^2)	
7.5	Outlet pressure (kg/cm^2)	
7.6	No. of stages	
8.0	**LPG Filter**	
8.1	Name of manufacturer	
8.2	Model name/Identification	
8.3	Type	
8.4	Inlet pressure (kg/cm^2)	
8.5	Outlet pressure (kg/cm^2)	
9.0	**High Pressure Tubing**	
9.1	Name of manufacturer	
9.2	Model name/Identification No.	
9.3	Type	

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9.4	Working pressure (kg/cm^2)	
9.5	Max. test pressure (kg/cm^2)	
9.6	Outer diameter/Inner Diameter	
9.7	Protection quality (material used)	
10.0	**Low Pressure Tubing**	
10.1	Name of manufacturer	
10.2	Model name/Identification No.	
10.3	Type	
10.4	Working pressure (kg/cm^2)	
10.5	Max test pressure (kg/cm^2)	
10.6	Outer diameter/Inner Diameter	
10.7	Protection diameter	

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11.0	**Gas-Air Mixer**	
11.1	Name of manufacturer	
11.2	Type and Drawing	
11.3	Venturi Size	
12.0	**Selector Switch**	
12.1	Name of manufacturer	
12.2	Model name/Identification No.	
12.3	Type	
13.0	**Wiring Harness (for LPG System)**	
13.1	Name of manufacturer	
14.0	**Interfacing Unit (for closed loop engines)**	
14.1	Name of manufacturer	
14.2	Model name/Identification No.	
14.3	Type	
15.0	**Timing advancer**	

15.1	Name of manufacturer	
15.2	Model name / Identification No.	
15.3	Type	
16.0	**Brief Description of System Including Dimensional Layout for Cylinder and other kit component installations, ventilation details etc.**	
17.0	**Current limiting Device (Fuse)**	
17.1	Name of manufacturer	
17.2	Identification No.	
17.3	Voltage/current rating	
17.4	Type	
18.0	**Compartment/Sub-compartment/Gas tight housing**	
18.1	Name of manufacturer	
18.2	Identification No.	
18.3	Type	
19.0	**Conduit**	
19.1	Name of manufacturer	
19.2	Identification No.	
19.3	Inner & outer diameter	
19.4	Type	
20.0	**Details of Seat/Upholstery/roof and side lining**	
20.1	Name of manufacturer	
20.2	Identification No.	
20.3	Type	

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21.0	**Details of non-moisture retaining hard rubber/equivalent material padding/ lining provided for inner side of the cylinder mounting band(s)**	
21.1	Name of manufacturer	
21.2	Identification No.	
21.3	Type	
22.0	**Battery cut off switch (if applicable) Provided Y/N**	
22.1	Name of the manufacturer	
22.2	Identification No.	
22.3	Type	
23.0	**Any other information (not covered)**	

TECHNICAL SPECIFICATION OF BUS CODE RELATED PARAMETERS TO BE SUBMITTED BY BUS MANUFACTURER OR BUS BODY BUILDER

(To be used for approval of BUS BODY in lieu of Annex I of AIS-052 (Rev. 1))

1.0	**Details of Bus manufacturer / Bus Body Builder**	
1.1	Name & Address :	
1.2	Telephone No :	
1.3	Fax. No. :	
1.4	E mail address :	
1.5	Contact person :	
1.6	Name of model :	
1.7	Name of variants, if any:	
1.8	Type and General commercial description (s) :	
1.9	Plant/(s)of manufacture :	
1.10	**Details of Bus Manufacturing facility Accreditation**	
1.10.1	Category of Bus Body Builder	
1.10.2	Details of provisional certificate issued by the Zonal Accreditation Board(ZAB), (Certificate Number and date)	
1.10.3	Details of final certificate issued by the National Accreditation Board (ZAB), (Certificate Number and date)	
1.11	Details of the base CMVR Compliance Certificate issued to the Chassis (Certificate Number and date)	
2 .0	**Vehicle Chassis Characteristics**	
2.1	Chassis types approved for Body installation :	
2.2	Type of Control (normal control/Full forward control etc.) :	
2.3	Number of Axles and wheels :	
2.4	Chassis (overall drawing) :	
2.5	Frame Type :	
2.6	Cross sectional view :	
2.7	Position and arrangement of engine:	
2.8	**Dimension (in mm) (Specify drawing reference) :**	
2.8.1	Length mm :	
2.8.2	Width mm :	

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2.8.3	Height (Unladen) mm :	
2.8.4	Wheel base mm :	

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2.8.5	Wheel track mm : Front : Rear :	
2.8.6	Body overhang mm : Front end : Rear end :	
2.9	**Category of vehicle :**	
2.9.1	As per IS 14272 Part 1 :	
2.9.2	As per IS 11852 Part 2 :	
3.0	Body :	
3.1	Type of Body : (Type I, Type II, Type III & Type IV)	
3.2	Comfort Category : (NDX, SDX, DLX & ACX)	
3.3	Dimension drawing and photograph of the vehicle with representative body :	
3.4	Range of vehicle dimension (overall) :	
3.5	Dimension drawing of the body depicting chassis connecting members :	
3.6	Material used for construction :	
3.6.1	Structural Material :	
3.6.2	Size of sections :	
3.7	Method of construction : (Brief construction method)	
3.8	Area for Passenger (m^2) : For seated passengers: For standing passengers:	
3.9	Number of passengers : Seated : Standing :	
3.10	Number of Passenger seats : (As per Seat Layout)	
3.11	Passenger capacity : Maximum (Including driver) : Crew (Including driver) :	

3.12	Number of Service doors :	

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3.13	Number of emergency exits :	
3.14	Number of escape hatches :	
3.15	Volume of luggage compartments (m^3):	
3.16	Area of luggage Transportation on roof (m^2) :	
4.0	Clearance	
4.1	Minimum road clearance :	
4.2	Road clearance from floor (for buses) :	
4.3	Approach angle :	
4.4	Departure Angle :	
4.5	Ramp-over Angle :	
5.0	Weights	
5.1	Vehicle kerb weight kg : Front axle : Rear axle : Total :	
5.2	Gross vehicle weight kg :	
5.3	Maximum permissible axle weights kg Front axle: Rear axle:	
5.4	Reference mass kg :	
6.0	Vehicle Stability & Roll Over	
6.1	Max. stable inclination (Laden Condition) Left ° deg : Right ° deg :	

6.2	**Superstructure Strength / Roll Over Strength compliance established (Yes / No)**	
6.2.1	Center of Gravity of the bus in vehicle unladen condition (X-Y-Z, mm)	
6.2.2	Drawings of superstructure (LH, RH, Front, Rear, Roof)	
6.2.3	Drawing indicating details of residual space	
7.0	**Tyres**	

1.	No. and arrangement of wheels : Front : Rear : Other :	

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	Inflation pressure – Unladen : Front : Rear : Other	
	Inflation pressure – Laden : Front : Rear : Other :	
8.0	**Body Panels**	
8.1	Outer Panels :	
8.1.1	Material :	
8.1.2	Thickness :	
8.2	**Inner Panels :**	
8.2.1	Material :	
8.2.2	Thickness :	
8.3	**Roof Panels :**	
8.3.1	Material :	
8.3.2	Thickness :	
8.4	**Floor Panels :**	
8.4.1	Material :	
8.4.2	Thickness :	
8.4.3	Type of anti-slip coating :	
9.0	**Service Doors**	
9.1	No. of Service Doors :	
9.2	Position of Service Doors :	
	Dimension of Service Door : - Front Height : Width : - Rear Height : Width : - Middle Height : Width :	
10.0	**Emergency Exit**	

Manufacturer :	Document No :	Test Agency :	Cert No :
Signature		Signature	
		Name	Seal
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10.1	No. of Emergency Doors :	
10.2	Position of Emergency Doors :	

10 3	Dimension of Emergency Door : - Ist Height : Width : - IInd Height : Width	
11.0	**Window**	
11.1	**Window (other than Emergency exit)**	
11.1.1	Dimension of Window aperture along with the detailed drawing showing the dimensions	
11.1.2	Height of upper edge of window aperture from gangway floor (mm)	
11.1.3	Type of window	
11.1.4	Compliance to AIS-068 (Yes/No):	
11.2	**Emergency Windows**	
11.2.1	No. of Emergency Windows :	
11.2.2	Position of Emergency Windows :	
11.2.3	Area (HxW in sq. m) :	
12.0	**Escape Hatch**	
12.1	No. of Emergency Hatches :	
12.2	Position of Emergency Hatches :	
12 3	Area (HxW in sq. m)	
13.0	**Steps**	
13.1	Height of Ist Step :	
13.2	Height of Other Steps :	
13.3	Depth of steps :	
14.0	**Floor :**	
14.1	Floor Height from the ground (unladen):	
14.2	Slope of floor :	
15.0	**Gangway**	
15.1	Height :	
15.2	Width (diameter of gauging device – lower cylinder) :	
15.3	Width (diameter of gauging device – upper cylinder) :	

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16.0	**Handrails & Handholds :**	
16.1	Position (attach dimension layout) :	
16.2	No. of Handholds :	
16.3	Diameter of Handholds :	
16.4	Type of anti-slip coating / covering :	
17.0	**Stepwell Guard :**	
17.1	Height from the floor :	
17.2	Projection from the side wall :	
18.0	**Seats**	
18.1	**Driver/Co-driver or Front Passenger Seat**	
18.1.1	Make	
18.1.2	Type	
18.1.3	Identification Number	
18.1.4	Seat Drawing no.	
18.2	**Passenger Seats :**	
18.2.1	Make	
18.2.2	Type	
18.2.3	Identification Number (S)	
18.2.4	Seat Drawing no.	
18.2.5	Seat Layout(S) : Enclose the Layout Drawings	
18.2.6	Seat width :	
18.2.7	Width of available space for one seating position :	
18.2.8	Height of backrest :	
18.2.9	Width of Armrest :	
18.2.10	Depth of Seat cushion (base) :	
18.2.11	Seat Pitch :	
18.2.12	Seat base height :	
18.2.13	Torso angle :	
18.2.14	Seat base thickness :	

18.2.15	Seat back thickness :	
18.2.16	Clearance space for seated passengers facing partition :	
18.2.17	Free Height over seating position :	
18.2.18	Seat anchorage layout drawing (with anchorage cross section and hardware used details)	

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19.0	**Cabin Luggage Rack :**	
19.1	Width from side wall :	
19.2	Height from Roof :	
20 .0	**Driver Partition :**	
20.1	Dimension of partition with respect to rear edge of driver seat : (rear most position of driver seat)	
21.0	**Driver's Work Area :**	
21.1	Width from the right side wall :	
	Distance of driver partition from the driver seat back :	
	Distance from H-point to Roof Top :	
	Distance between Heel Point and H-Point :	
	Distance of H-Point from Floor :	
	Distance of lower end of steering wheel from driver seat back :	
	Thigh clearance of Steering Wheel	
22.0	**External Projections**	
22.1	Ornaments :	
22.2	Projection for head light :	
22.3	Radiator grills (Applicable of on external surface) :	
22.4	Gap between individual elements :	
22.5	Radius of curvature of individual element :	
22.6	Body Panel (In case of radius of curvature of folds in body panels are less than 2.5mm the scaled drawing of folds contour and H value as per Annex A of SS29/IS 13942 is required (to be submitted) :	
22.7	Radius of curvature of lateral Rain/Air deflector: Hinges : Handles :	

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23.0	**Power Operated Service door**	
23.1	Name of the Manufacturer :	
23.2	Identification :	
23.3	Position of control :	

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24 0	**Automatic Service door**	
24.1	Name of the Manufacturer :	
24.2	Identification :	
24.3	Position of controls :	
24.4	Control Circuit (schematic diagram) :	
25.0	**Emergency Door – Warning Device**	
25.1	Name of the Manufacturer :	
25.2	Identification :	
25.3	Position of device :	
26.0	**Door locks and hinges**	
26.1	**Door lock :**	
26.1.1	Name of Manufacturer :	
26.1.2	Identification mark :	
26.2	**Door hinge :**	
26.2.1	Name of Manufacturer :	
26.2.2	Identification mark :	
27.0	**Safety glass**	
27.1	Front wind shield (laminated) :	
27.1.1	Make	
27.1.2	Identification :	
27.1.3	Type (flat/curved, clear/tinted) :	
27.1.4	Thickness mm :	
27.1.5	No. of pieces :	
27.1.6	Radius of curvature (If curved) :	
27.2	**Side Windows:**	
27.2.1	Make	
27.2.2	Identification	
27.2.3	Type (flat/curved, clear/tinted, toughened) :	
27.2.4	Thickness mm :	

27.2.5	Radius of curvature (If curved) :	
27.3	**Rear Window:**	
27.3.1	Make	
27.3.2	Identification	
27.3.3	Type (flat/curved, clear/tinted, toughened) :	
27.3.4	Thickness mm :	
27.3.5	Radius of curvature (If curved) :	

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28.0	**Rear view mirror**	
28.1	Left :	
28.1.1	Name of Manufacturer :	
28.1.2	Type :	
28.1.3	Dimension & radius of curvature :	
28.1.4	Identification Mark:	
28.2	Right :	
28.2.1	Name of Manufacturer :	
28.2.2	Type :	
28.2.3	Dimension & radius of curvature :	
28.2.4	Identification Mark:	
28.3	Inside :	
28.3.1	Name of Manufacturer :	
28.3.2	Type :	
28.3.3	Dimension & radius of curvature :	
28.3.4	Identification Mark:	
28.4	Sketch showing mounting arrangement of mirrors	
29.0	**Wind Screen Wiper**	
29.1	Type :	
29.2	No. of wipers :	
29.3	Wiper motor :	
29.3.1	Name of Manufacturer :	
29.3.2	Type and identification :	
29.3.3	Rated voltage :	
29.3.4	Frequency of wiping :	
29.4	**Wiper arm :**	
29.4.1	Length :	

29.4.2	Name of Manufacturer :	
29.4.3	Identification Mark:	
29.5	**Wiper blade :**	
	Length :	
29.5.2	Name of Manufacturer :	
29.5.3	Identification Mark:	
	Rubber material :	
29.6.1	Type of fixing (As per IS 7827) :	
29.6.2	Drawing indicating the seat back angle, seat travel, H point, Rake angle ,F dimension And steering wheel position as per AIS-011	

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30.0	**Wind Screen Washer**	
30.1	Name of Manufacture: :	
30.2	Type :	
30.3	Number of nozzles :	
30.4	Spray Area :	
30.5	Identification Number:	
31.0	**Equipment for occupant's safety**	
31.1	Driver Seat belt :	
31.1.1	Name of Manufacture: :	
31.1.2	Type :	
31.1.3	Number :	
31.1.4	Identification Number:	
31.2	**Driver Seat belt anchorage :**	
31.2.1	Name of Manufacturer :	
31.2.2	Type :	
31.2.3	Number :	
31.3	**Head restraint :**	
31.3.1	Name of Manufacturer :	
31.3.2	Type :	
31.4	**Passenger Seat :**	
31.4.1	Name of Manufacturer :	
31.4.2	Type :	
31.4.3	Frame structure Material :	
31.4.4	Section size:	

31.4.5	Pad material:	
31.4.6	Upholstery :	
31.4.7	Identification Number:	
32.0	**Bumper**	
32.1	Front Size:	
32.2	Rear Size:	
32.3	Clearance between bumper & body :	
33.0	**Fuel filler**	
33.1	Aperture :	
33.2	Position :	

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34.0	**Fire Extinguisher**	
34.1	Number :	
34.2	Type :	
34.3	Capacity :	
34.4	Name of Manufacture: :	
35.0	**First Aid Equipment**	
35.1	Number :	
35.2	Contents :	
36.0	**Towing devices**	
36.1	Type :	
36.2	Name of manufacturer :	
36.3	Capacity :	
36.4	Identification Number	
37.0	**Automotive bulbs :**	
37.1	**Head lamp bulb (main and dip)**	
37.1.1	Make	
37.1.2	Designation as per AIS-034	
37.2	**Parking Lamp bulb – Front**	
37.2.1	Make	
37.2.2	Designation as per AIS-034	
37.3	**Parking Lamp bulb - Rear**	
37.3.1	Make	
37.3.2	Designation as per AIS-034	
37.4	**Direction indicator lamp bulb - front**	
37.4.1	Make	
37.4.2	Designation as per AIS-034	
37.5	**Direction indicator lamp bulb – rear**	
37.5.1	Make	
37.5.2	Designation as per AIS-034	
37.6	**Direction indicator lamp bulb – side**	
37.6.1	Make	
37.6.2	Designation as per AIS-034	
37.7	**Front Position Lamp bulb**	
37.7.1	Make	

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37.7.2	Designation as per AIS-034	

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37.8	Rear Position Lamp (tail lamp)Bulb	
37.8.1	Make	
37.8.2	Designation as per AIS-034	
37.9	**Stop lamp bulb**	
37.9.1	Make	
37.9.2	Designation as per AIS-034	
37.10	**Number plate lamp bulb**	
37.10.1	Make	
37.10.2	Designation as per AIS-034	
37.11	End out Marker bulb	
37.11.1	Make	
37.11.2	Designation as per AIS-034	
37.12	**Reversing lamp bulb**	
37.12.1	Make	
37.12.2	Designation as per AIS-034	
37.13	Stop Lamp Bulb (S3)	
37.13.1	Make	
37.13.2	Designation as per AIS-034	
37.14	Front Fog Lamp Bulb	
37.14.1	Make	
37.14.2	Designation as per AIS-034	
37.15	**Rear Fog Lamp Bulb**	
37.15.1	Designation as per AIS-034	
37.16	**Side Marker Lamp Bulb**	
37.16.1	Make	
37.16.2	Designation as per AIS-034	
38.0	**Head Lamp**	
38.1	Name of Manufacturer :	
38.2	Type and Identification :	
38.3	Number and colour :	
39.0	**Tail lamp**	
39.1	Name of Manufacturer :	
39.2	Type and Identification :	

39.3	Number and colour :	

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40.0	**Parking lamp**	
40.1	**Front :**	
40.1.1	Name of Manufacturer :	
40.1.2	Type and Identification :	
40.1.3	Number and colour :	
40.2	**Rear :**	
40.2.1	Name of Manufacturer :	
40.2.2	Type and Identification :	
40.2.3	Number and colour	
41.0	**Stop lamp**	
41.1	Name of Manufacturer :	
41.2	Type and Identification :	
41.3	Number and colour :	
42.0	**Reversing lamp**	
42.1	Name of Manufacturer :	
42.2	Type and Identification :	
42.3	Number and colour :	
43.0	**Direction indicator lamp**	
43.1	**Front :**	
43.1.1	Name of Manufacturer :	
43.1.2	Type and Identification :	
43.1.3	Number and colour :	
43.2	**Rear :**	
43.2.1	Name of Manufacturer :	
43.2.2	Type and Identification :	
43.2.3	Number and colour :	
43.3	**Side :**	
43.3.1	Name of Manufacturer :	
43.3.2	Type and Identification :	
43.3.3	Number and colour :	
43.4	**Type of flasher :**	

44.0	**Number Plate Lamp**	
44.1	Name of Manufacturer :	
44.2	Type and Identification :	
44.3	Number and colour :	

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45.0	**Emergency signaling equipment**	
45.1	**Front :**	
45.1.1	Name of Manufacturer :	
45.1.2	Type and Identification :	
45.1.3	Number and colour :	
45.2	**Rear :**	
45.2.1	Name of Manufacturer :	
45.2.2	Type and Identification :	
45.2.3	Number and colour :	
45.3	**Side :**	
45.3.1	Name of Manufacturer :	
45.3.2	Type and Identification :	
45.3.3	Number and colour	
46.0	**Reflector**	
46.1	**Rear :**	
46.1.1	Name of Manufacturer :	
46.1.2	Type and Identification :	
46.1.3	Number and colour :	
46.1.4	Area :	
46.2	**Side :**	
46.2.1	Name of Manufacturer :	
46.2.2	Type and Identification :	
46.2.3	Number and colour :	
46.2.4	Area :	
47.0	**Top light**	
47.1	Name of Manufacturer: :	
47.2	Type and Identification :	
47.3	Number and colour :	
48.0	**Internal Lighting & Illumination**	
48.1	**Driver Cab lighting :**	

48.1.1	Type :	
48.1.2	Name of Manufacturer :	
48.1.3	Number :	
48.1.4	illumination intensity :	

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48 .2	**Passenger Compartment Lighting**	
48.2.1	Type :	
48.2.2	Name of Manufacturer :	
48.2.3	Number :	
48.2.4	Illumination intensity :	
48.3	**Other Area Lighting**	
48.3.1	Type :	
48.3.2	Name of Manufacturer :	
48.3.3	Number :	
48.3.4	Illumination intensity :	
49.0	**Electrical Circuit**	
49.1	Circuit Diagram (attach details):	
50.0	**Electrical Cables**	
50.1	Name of Manufacturer :	
50.2	Conductor Cross section :	
50.3	Insulation Class :	
51.0	**Fuse**	
51.1	Type & Make :	
51.2	Name of Manufacturer :	
52.0	**Master switch for electrical :**	
52.1	Type & Make :	
52.2	Name of Manufacturer :	
53.0	**Flammability Test as per IS 15061:2002 (as applicable)**	
53.1	**Seat and its accessories**	
53.1.1	Name of Manufacturer :	
53.1.2	Material Grade	
53.1.3	Material Type	
53.1.4	Component Part No. and Batch No.	

53.1.5	Identification Code	
53.1.6	Drawing No.	
53.2	**Interior lining of the roof**	
53.2.1	Name of Manufacturer :	
53.2.2	Material Grade	
53.2.3	Material Type	
53.2.4	Component Part No. and Batch No.	

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53.2.5	Identification Code	
53.2.6	Drawing No.	
53.3	**Interior lining of side walls**	
53.3.1	Name of Manufacturer :	
53.3.2	Material Grade	
53.3.3	Material Type	
53.3.4	Component Part No. and Batch No.	
53.3.5	Identification Code	
53.3.6	Drawing No.	
53.4	**Interior lining of rear walls**	
53.4.1	Name of Manufacturer :	
53.4.2	Material Grade	
53.4.3	Material Type	
53.4.4	Component Part No. and Batch No.	
53.4.5	Identification Code	
53.4.6	Drawing No.	
53.5	**Separation walls**	
53.5.1	Name of Manufacturer :	
53.5.2	Material Grade	
53.5.3	Material Type	
53.5.4	Component Part No. and Batch No.	
53.5.5	Identification Code	
53.5.6	Drawing No.	
53.6	**Floor**	
53.6.1	Name of Manufacturer :	
53.6.2	Material Grade	
53.6.3	Material Type	

53.6.4	Component Part No. and Batch No.	
53.6.5	Identification Code	
53.6.6	Drawing No.	
53.7	**Luggage racks**	
53.7.1	Name of Manufacturer :	
53.7.2	Material Grade	
53.7.3	Material Type	
53.7.4	Component Part No. and Batch No.	
53.7.5	Identification Code	

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53.7.6	Drawing No.	
53.8	**Heating and ventilation pipe**	
53.8.1	Name of Manufacturer :	
53.8.2	Material Grade	
53.8.3	Material Type	
53.8.4	Component Part No. and Batch No.	
53.8.5	Identification Code	
53.8.6	Drawing No.	
53.9	**Thermal and or acoustic function**	
53.9.1	Name of Manufacturer :	
53.9.2	Material Grade	
53.9.3	Material Type	
53.9.4	Component Part No. and Batch No.	
53.9.5	Identification Code	
53.9.6	Drawing No.	
53.10	**Luminaries.**	
53.10.1	Name of Manufacturer :	
53.10.2	Material Grade	
53.10.3	Material Type	
53.10.4	Component Part No. and Batch No.	
53.10.5	Identification Code	
53.10.6	Drawing No.	
54.0	**Rear Under run protective Device (RUPD) fitment as per IS 14812:2000**	
54.1	Height of lower edge from ground (mm)	
54.2	Width of the device (mm)	

54.3	Location of Point P1 and P2 (mm)	
54.4	Overall width of rear axle	
54.5	Material	
54.6	Drawing of the RUPD with dimensions	
54.7	Installation drawing showing rear extremity of bus , chassis ROH (mm) and chassis cross section details	
55.0	**Lateral Protective Device (LPD) fitment as per IS 14682:1999**	
55.1	Drawing of the LPD with dimensions	
55.2	Installation drawing of the LPD with installation dimensions	
55.3	Material	

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56.0	**Interior fitting compliance as per AIS-047 established - Yes/No**	
57.0	**Interior Fittings as per AIS-047, as applicable**	
57.1	Instrument Panel (Dash Board)	
57.2	Make	
57.3	Identification No. / Part No.	
57.4	Material	
57.5	Drawing showing the mounting details, over all size and all control switches with dimensions	
57.6	Additional details for interior fitting tests to be given (if test is already conducted, this information need not be submitted).	
57.6.1	Instrument Panel Variants with photographs (With / without Airbag, Music system, AC)	
57.6.2	Material used for instrument Panel	
57.6.3	Drawings	
57.6.3.1	Instrument Panel mounting (With hardware details)	
57.6.3.2	'H' point co-ordinates for each seating position	
57.6.3.3	Cross sectional drawings for each projection more than 3.2	
57.6.3.4	Cross sectional Drawing of Gear shift lever	
57.6.3.5	Drawing of Grab handle with cross section	
57.6.3.6	Drawing of Sunvisor with details of metal wire used	

57.6.3.7	Drawing of lamp assembly mounted at roof	
57.6.4	Name of manufacturer of the Interior fitting components	
57.6.4.1	Instrument Panel	
57.6.4.2	Sun Visor	
57.6.4.3	Roof Light	
57.6.4.4	Grab Handle	
57.6.4.5	Gear Lever	
57.6.4.6	Hand Brake Lever	
57.6.4.7	Seats (Need not be specified if done already)	
57.6.4.8	Seat Belts (Need not be specified if done already)	
57.6.4.9	Music System (if provided)	
57.6.4.10	Cigarette lighter (if provided)	
58.0	**Any other additional information the Bus manufacturer /Bus body builder would like to declare**	

Foot Note:- The technical specification details for Sr. Nos.7.0 (tyres) , 28.0 (RVM), 29.0 (Wiper), 31.0 (seat belt and seat belt anchorages), 37.0 (automotive bulbs),38.0 (head lamp), 39.0 (tail lamp), 40.0 (parking lamp), 41.0 (stop lamp) , 42.0 (reversing lamp), 43.0 (indicator lamp), 44.0 (number plate lamp), 45.0 (emergency signaling equipment), 46.0 (reflector), 47.0 (top light), 53.0 (Flammability), 54.0 (RUPD), 55.0 (LPD), and 56.0 (Interior fittings) need not be filled by the applicant, if there is no change in basically approved specification issued during the certification of chassis (Drive away chassis/ Cowl & chassis/Cab & Chassis/Chassis with FES)

Table 22A of AIS-007 (Revision 5)
(To be submitted by the Bus manufacturer or the Bus Body Builder along with Table 22)

Rule No.	Subject	Name of the Manufacturer (Please give information for every supplier / vendor under the same para, separate lines)	TAC No. / BIS License No / Test Report No. as applicable. (indicate validity date) (Application Ref No. allotted by concerned Test Agency, If approval is in the process)	Possible date of submission of required approval, if the same is in process
100	Safety Glass			
	1. Windscreen			
	2. Side			
	3. Rear			
101	Windscreen Wiping System			
	1. Wiping Syste			
	2. Washing System			
	3. Wiper Blade			
104	Reflex Reflector			
	1. Rear, Red			
	2. Side, Amber			
119(1)	Horns			
119(1)	Horn installation			
124/ 1	Automotive Bulbs			
	Bulbs for Headlamp (main/ dipped)			
	Bulbs for Front position lamp			
	Bulbs for Front parking lamp			
	Bulbs for Rear position lamp			
	Bulbs for rear parking lamp			
	Bulbs for Stop lamp			
	Bulbs for Reversing lamp			
	Bulbs for Front Direction indicator lamp			
	Bulbs for Rear direction indicator lamp			
	Bulbs for Side repeater lamp			
	Bulbs for Hazard warning lamp			

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Signature		Signature	
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	Bulbs for High mount stop lamp			
	Bulbs for Top light lamp			

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	Bulbs for Number plate lamp			
	Bulbs for Front fog lamp			
	Bulbs for Rear fog lamp			
	Bulbs for Side marker lamps			
124(20)	Installation of Lighting and Light Signaling-devices			
124/2	Hydraulic Brake Hose, if applicable			
124/3	Hydraulic Brake Fluid, if applicable			
124/7	iii) Fuel Tank (metallic) or iv) Fuel Tank (plastic)			
124/8	Wheel Rims			
124/12	Bus Window Retention test			
124/14	Wheel fastener(s), Hub Caps			
124/16	Door Locks & Hinges			
	Door Locks			
	Passenger Door(s)			
	Driver door			
	Emergency exit (if provided)			
	Door Hinges			
	Passenger Door(s)			
	Driver door			
	Emergency exit (if provided)			
124/17	Hood Latch			
124/20	Lighting, Signaling & Indicating Systems :			
	1. Head Light :			
	2. Fog Light :			

		3. Rear License Plate Light :			
		4. Rear Position Light			
		5. Tail Light :			
		6. Stop Light :			
		7. Directional Indicator Light:			
		Front :			
		Rear :			
		Side :			
		8. Parking Light :			
		9. Reversing Light :			
		10. High Mounted Stop Light :			

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124/20	Installation of Lighting and Signaling systems			
124/36	Strength of superstructure of passenger vehicles.			
124/37	Flammability requirements for M3 category vehicles.			
	1. Seat and its accessories			
	2. Interior lining of the roof			
	3. Interior lining of side walls			
	4. Interior lining of rear walls			
	5. Separation walls			
	6. Floor			
	7. Luggage racks			
	8. Heating and ventilation pipe			
	9. Thermal and or acoustic function			
	10. Luminaries			
124/1A	Vehicle Rear Under run Protective device & Lateral Protective Device			
125/1A	Safety Belt and Safety Belt Anchorages			
125(1)	Rear View Mirror			

	Main Mirror large (Class-II)			
	Main Mirror small (Class-III)			
	Close proximity Mirror (Class-V)			
	Close proximity Mirror (Class-V)			
125/(2)	Installation of Rear View Mirror			
125/1C	Seats (Driver seat, Co-driver seat and passenger seat)			
125(6)	Seat Anchorages (Driver seat, Co-driver seat and Passenger seat)			
138	Warning Triangles			

Manufacturer :	**Document No :**	**Test Agency :**	**Cert No :**
Signature		**Signature**	Seal
		Name	
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Table 23 of AIS-007 (Revision 5)

ADDITIONAL TECHNICAL SPECIFICATION OF HYBRID / ELECTRIC VEHICLES TO BE SUBMITTED BY VEHICLE MANUFACTURER (To be used for approval of Hybrid / Electric Vehicles in lieu of Annex G of AIS-102 (Part 1) and Annex B of AIS-102 (Part 2)	
1.0	**General Description of Vehicle**
1.1	Vehicle Model
1.2	Vehicle Type
1.3	Drawing and /or photographs of the vehicle
1.4	Type of hybrid vehicle (Externally chargeable/Not externally chargeable)
1.5	Mode selection switch provided: Yes/No
1.5.1	If yes the modes available
1.5.2	In the case of Externally Chargeable HEV's
1.5.2.1	The hybrid mode which can be proven to have the highest electricity consumption
1.5.2.2	The hybrid mode which can be proven to have the highest fuel consumption
1.5.3	In the case of Not Externally Chargeable HEV's, the mode which is automatically set after turn on of the ignition key (normal mode)
2.0	**Description of the Traction Battery**
2.1	Trade Name and Mark of the Battery
2.2	Kind of Electro – Chemical Couple
2.3	Nominal Voltage , V
2.4	Battery Maximum Thirty Minutes Power (Constant Power Discharge), kW
2.5	Battery Performance in 2 h Discharge (Constant Power or Constant Current)
2.5.1	Battery Energy , kWh
2.5.2	Battery Capacity , Ah in 2 h
2.6	End of Discharge Voltage Value , V
2.7	Provision of ventilation for battery Yes / No
2.7.1	Brief description of the ventilation system adopted in the vehicle. (Refer AIS-038 clause 3.1.1). Provide drawing if necessary.
2.7.2	Brief description of the ventilation system adopted in the battery compartment. (Refer AIS-038 clause 3.1.2). Provide drawing if necessary.
2.8	On-board Indication of battery state of charge (Applicable if there is a "pure electric mode"
2.8.1	Details of indication when state of charge of the battery reaches a level when the manufacturer recommends re-charging.
2.8.1.1	Indication format.
2.8.1.2	Relationship of state of charge indicator and the indication.
2.8.1.3	Make

Manufacturer :	Document No :	Test Agency :	Cert No :
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Manufacturer :	**Document No :**	**Test Agency :**	**Cert No :**
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Name	**Sheet No**	**Designation**	
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2.8.1.4	Model
2.8.2	Indication of state of charge of battery reaches a level at which driving vehicle further may cause damage to batteries
2.8.2.1	Indication format.
2.8.2.2	Relationship of state of charge indicator and the indication.
2.9	Battery Mass, kg
2.10	Brief description of maintenance procedure, if any
3.0	**Description of the Drive Train**
3.1	**General**
3.1.1	Make
3.1.2	Type
3.1.3	Use : Mono motor / multi motors (number)
3.1.4	Transmission Arrangement parallel / transaxial / others
3.1.5	Test Voltage , V
3.1.6	Motor Nominal Speed , Min -1
3.1.7	Motor Maximum Speed, Min –1 or by default reducer outlet shaft / gear box speed (specify gear engaged)
3.1.8	Maximum Power Speed , Min –1 and km/h
3.1.9	Maximum Power , kW
3.1.10	Maximum Thirty Minutes Power, kW
3.1.11	Maximum Thirty Minutes speed km/h
3.1.12	Range
3.1.13	Speed at the beginning of the range, Min –1
3.1.14	Speed at the end of the range , Min –1
3.2	Traction Motor
3.2.1	Make
3.2.2	Working Principle
3.2.2.1	Direct current / alternating current / number of phases
3.2.2.2	Separate excitation / series / compound
3.2.2.3	Synchron / asynchron
3.2.2.4	Coiled rotor / with permanent magnets / with housing
3.2.2.5	Number of Poles of the Motor
3.2.3	Motor power curve (kW) with motor RPM (min-1) / vehicle speed in km/h
3.3	Power Controller
3.3.1	Make
3.3.2	Type

3.3.3	Control Principle : vectorial / open loop / closed / other (to be specified)

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3.3.4	Maximum effective current supplied to the Motor, A
3.3.5	Voltage range use , V to V
3.4	Cooling System motor : liquid / air controller : liquid / air
3.4.1	Liquid cooling equipment characteristics
3.4.1.1	Nature of the liquid , circulating pumps , yes / no
3.4.1.2	Characteristics or make(s) and type(s) of the pump
3.4.1.3	Thermostat : setting
3.4.1.4	Radiator : drawing(s) or make(s) and type(s)
3.4.1.5	Relief valve : pressure setting
3.4.1.6	Fan : Characteristics or make(s) and type(s)
3.4.1.7	Fan : duct
3.4.2	Air-cooling equipment characteristics
3.4.2.1	Blower : Characteristics or make(s) and type(s)
3.4.2.2	Standard air ducting
3.4.2.3	Temperature regulating system yes / no
3.4.2.4	Brief description
3.4.2.5	Air filter : make(s) type(s)
3.4.3	Maximum temperatures recommended by the manufacturer:
3.4.3.1	Motor Outlet: °C
3.4.3.2	Controller inlet : oC
3.4.3.3	At motor reference point(s) oC
3.4.3.4	At controller reference point(s) oC
3.5	Insulating Category :
3.5.1	International Protection (IP)-Code :
3.6	Lubrication System Principle: Bearings : friction / ball Lubricant : grease / oil Seal : yes / no Circulation : with / without
4.0	**Charger (Applicable only for Externally Chargeable HEV's)**
4.1	Charger : on board / external
4.1.1	Trademark , model, rating

4.2	Description of the normal profile of charging system:
4.3	Specifications of mains:
4.3.1	mains : single phase/ three phase
4.3.2	Nominal Voltage (V) & frequency (Hz) with tolerances :

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4.4	Reset period recommended between the end of the discharge and the start of the charge
4.5	Recommended duration of a complete charge
4.6	In case of on-board charger
4.6.1	Continuous rating of charger socket (A) :
4.6.2	Time rating (h) of charger socket, if any :
4.6.3	Whether soft-start facility Yes / No :
4.6.4	Maximum initial in-rush current (A)
5.0	**Electrical Details of Vehicle for Functional Safety**
5.1	Schematic diagram showing the electrical layout giving all major electrical items along with their physical location in the vehicle. It shall include batteries, power-train components, protection fuses, circuit breakers etc. (Reference in AIS-038 clause 3.1.3)
5.2	Specifications of circuit breakers/ fuses used for protection of batteries / power-train (Reference in AIS-038 clause 3.1.3)
5.2.1	IS / IEC specifications
5.2.2	Rating (A)
5.2.3	Opening time (ms)
5.3	Working voltage V (Reference in AIS-038 clause 3.2)
5.4	Schematic highlighting physical location of live parts having working voltage greater than 60 V DC or 25 V AC (Reference in AIS-038 clause 3.2.1.2)
5.5	Electric cables / connectors / wiring harness (Reference in AIS-038 clause 3.2.2.2)
5.5.1	IEC protection class
5.5.2	Insulation material used
5.5.3	Conduits provided Yes / No
5.6	List of exposed conductive parts of on-board equipment. (Reference in AIS-038 clause 3.2.2.3)
5.6.1	Any potential equalization resistance used to electrically connect these parts Yes/ No
5.6.2	If yes, give details
5.7	List of failures due to which the vehicle will come to standstill (Reference in AIS-038 clause 3.3.6)
5.8	List of conditions under which the performance of vehicle is limited and how. (Reference in AIS-038 clause 3.3.13)
5.9	Declaration regarding Design guidelines followed with respect to various requirements

6.0	Electrical energy consumption of Vehicle in W-h/km, as per clause 5.5.1 of AIS-039
7.0	Special gear shifting pattern if any

ANNEX I

(See introduction)

COMMITTEE COMPOSITION *
Automotive Industry Standards Committee

Chairman	
Shri Shrikant R. Marathe	Director, The Automotive Research Association of India, Pune
Members	**Representing**
Representative from	Ministry of Road Transport & Highways (Dept. of Road Transport & Highways), New Delhi
Representative from	Ministry of Heavy Industries & Public Enterprises (Department of Heavy Industry), New Delhi
Shri S. M. Ahuja	Office of the Development Commissioner, MSME Ministry of Micro, Small & Medium Enterprises, New Delhi
Shri P. C. Joshi	Bureau of Indian Standards, New Delhi
Director/ Shri D. P. Saste (Alternate)	Director , Central Institute of Road Transport, Pune
Director	Indian Institute of Petroleum, Dehra Dun
Director	International Centre for Automotive Technology
Director	Vehicles Research & Development Establishment, Ahmednagar
Representatives from	Society of Indian Automobile Manufacturers (SIAM)
Shri T. C. Gopalan	Tractor Manufacturers Association, New Delhi
Shri U. S. Harite	Automotive Components Manufacturers Association of India, New Delhi

Member Secretary
Mrs. Rashmi Urdhwareshe
Sr. Deputy Director
The Automotive Research Association of India, Pune

* At the time of approval of this Automotive Industry Standard (AIS)