AUTOMOTIVE INDUSTRY STANDARD

Procedure for Type Approval & Certification of Agricultural Tractors for Compliance to Central Motor Vehicles Rules

(Revision 2)

PRINTED BY
THE AUTOMOTIVE RESEARCH ASSOCIATION OF INDIA
P.B. NO. 832, PUNE 411 004

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

October 2016

Introduction

The Government of India felt the need for a permanent agency to expedite the publication of standards and development of test facilities in parallel when the work on the preparation of the standards is going on, as the development of improved safety critical parts can be undertaken only after the publication of the standard and commissioning of test facilities. To this end, the erstwhile Ministry of Surface Transport (MOST) has constituted a permanent Automotive Industry Standard Committee (AISC) vide order No.RT-11028/11/97-MVL dated September 15, 1997. The standards prepared by AISC will be approved by the permanent CMVR Technical Standing Committee (CTSC). After approval, the Automotive Research Association of India, (ARAI), Pune, being the secretariat of the AIS Committee, has published this standard. For better dissemination of this information ARAI may publish this standard on their Web site.

In the joint meeting of the Agricultural Tractor Manufacturers and Test Agencies held at CFMTTI Budni and ARAI, it was agreed that there is a necessity of a detailed procedure for Type approval & certification of an agricultural tractor compliance to CMVR to be prepared, which will cover the following:

- Definition of Vehicle Category / Variant / Version
- Methods of Establishing Compliance
- Changes to agricultural tractor model (Criterion for Extension of Approval)
- Guidelines for Selection of Test Sample as per CEA
- Provision for imported Completely Built Unit (CBU) Vehicles
- Withdrawal of TA
- Standard formats for certificates

This standard also serves the purpose of all the information related to CMVR certification and will serve as a guide for the Agricultural Tractor Manufacturer to get the details of references to all applicable regulations and standards at one place in respect of the procedure applicable for Type Approval and Certification of Agricultural Tractors for compliance to Central Motor Vehicles Rules, 1989.

A draft prepared by the a panel, was submitted to the AISC. Panel had discussed the issues in several meetings.

AISC has already finalized the technical specification formats indicating the technical details of the agricultural tractor to be type approved in the form of AIS-007 and has already been implemented.

In case of models, which have been product approved before this procedure comes into effect, where the consolidated certificates of compliance may not have been issued or the Technical Specifications may not have been in the format prescribed in this procedure, the certificates already issued would continue to be valid till a fresh consolidated certificate is issued due to requirement of any fresh CMVR compliance; provided there is no change in the technical specifications. This standard addresses the requirements as applicable for Agricultural Tractors only.

This standard consolidates the procedures to be followed for the Product Approval of an Agricultural Tractor for compliance to Central Motor Vehicles Rules (CMVR).

Any subsequent amendments to the CMVR may need consequential amendments to this standard. Till such amendments are issued, the Test Agencies shall follow appropriate applicable methods for establishing compliance and certification.

The Automotive Industry Standards Committee (AISC) responsible for approval of this standard is given in Annex G.

Procedure for Type Approval & Certification of Agricultural Tractors for Compliance to Central Motor Vehicles Rules

INDEX

Procedure for Type Approval & Certification of Agricultural Tractors for Compliance to Central Motor Vehicles Rules

0	**ABBREVIATIONS** Following are the abbreviations used in this standard:
AIS	Automotive Industry Standard
AISC	Automotive Industry Standards Committee
ARAI	Automotive Research Association of India
BIS	Bureau of Indian Standards
BSI	British Standards Institute
CFMTTI	Central farm Machinery Training and Testing Institute
CEA	Criterion for Extension of Approval
COP	Conformity of Production
CMVR	Central Motor Vehicles Rules
CTSC	CMVR Technical Standing Committee
DOAC	Department of Agriculture and Cooperation
DIN	Deutsche Institute fur Normung
ECE	Economic Commission for Europe
EEC	European Economic Community
ISO	International Organization for Standardization
MOA	Ministry of Agriculture
MORTH	Ministry of Road Transport and Highways
OECD	Organization for Economic Co-operation and Development
PA	Product Approval
SS	Safety Standard
TA	Type Approval
TMA	Tractor Manufacturers Association

1.0 SCOPE

1.1 This standard specifies the procedure to be followed for evaluating the Agricultural Tractor model, its variant(s), Type & Version (s) for issue of a Certificate of Compliance as notified by Rule No. 126 of the CMVR from time to time and the Criteria for extension of approval for selection of test vehicle during fresh / Extension of Type approval certification.

1.2 This standard applies to the type-approval of vehicles defined in clause 2.3 having a maximum design speed of not less than 6 km/h.
This standard also applies to the type-approval of the systems, components and separate technical units intended for use on such vehicles whose performance can only be check in vehicle installed conditions.

2.0 DEFINITION

For the purpose of this standard, in addition to the definitions given in AIS-000 and AIS-053, the following definitions shall apply

2.1 **Agricultural Tractor –** As per AIS-053.

2.2 **'Vehicle'** means any tractor whether complete, incomplete or completed which is intended to be used in agriculture or forestry applications.

2.3 **'Vehicle Category'** means any set of vehicles which have identical design characteristics as categorized in Annex - A.

2.4 **'Type of vehicle'** means vehicles of a particular category which do not differ in the essential respects referred to in Annex - A.
A type of vehicle may contain variants and versions as defined in Annex - A**.**

2.5 **'Model'** is the Commercial identification name as defined by manufacturer for a particular vehicle submitted for type approval.
Identification of the type , variant (s) /version (s) either in the ATIN (as per AIS-117) section or by commercial name is left to the choice of the manufacturer.

2.6 **'Base model'** is the vehicle whose performance results can be used to represent a range of model/variant(s)/version (s) considering the CEA for any of the provisions.

To represent an entire range of model, variant(s)/version(s)/option(s), declared by the manufacturer, for all the provisions of CMVR, tests on more than one base model may be necessary, considering the CEA guidelines. Also, there could be different base models for each CMVR test (s).

2.7 **'Component'** means a device subjected to a provision intended to be part of a vehicle, which may be type-approved independently of a vehicle. Type approval of such components are being covered in AIS-037 separately.

2.8 **'System'** means an assembly of devices combined to perform one or more specific functions in a vehicle and which is subject to the requirements of CMVR Rules or any of the standard as adopted under CMVR & corresponding notified standards;

2.9 **'Separate technical unit' (STU)** means a device subject to the requirements of a provision and intended to be part of a vehicle, which may be type-approved separately, but only in relation to one-or more specified types of vehicle where the provision makes express permission for doing so.

2.10 **'Manufacturer'** means the person or body who is responsible to the approval authority for all-aspects of the type-approval and for ensuring conformity of production. It is not essential that the person or body be directly involved in all stages of the construction of the-vehicle, system, component or separate technical unit which is the subject of the approval- process.

2.11 Type Approval means the procedure whereby a testing agency certifies that a type of vehicle or its systems satisfies the relevant provisions of CMVR

2.12 **'CMVR certificate'** means the document whereby the approval authority officially certifies-that a type of vehicle model, variant (s) / version (s) with its', system (s), component (s) is approved.

2.13 **'Testing Agency'** is an organization specified in Rule 126 of CMVR for certification of compliance to the provisions or any other testing agency approved by the CMVR Technical Standing Committee for the purpose of testing of parts / components /systems / vehicles.

2.14 **'Competent authority'** means either the Testing / Approval agency or a designated authority; or an accreditation body acting on their behalf.

2.15 **'Technical Service'** means an organization or body designated by the Testing / Approval agency as a testing laboratory to carry out tests, or as a conformity assessment body to carry out the Initial assessment and other tests or inspections, on behalf of Testing / Approval agency, it being possible for the Testing / Approval agency itself to carry out those functions; Procedure for the assessment of Technical service shall be referred as in Annexure - B of AIS-017 (Part 4).

2.16 **'Notified standards' means** A standard referred to in CMVR or notified separately under the provisions of CMVR, which specifies details of requirements to be complied with. This may be in the form of

- An Indian Standard issued by BIS
- A standard prepared by the AISC
- Any other Standard notified by MORT&H

2.17 **'Equivalent International standard'** means those international standards as covered in Annex - C from which test reports available for vehicle/systems/components are acceptable during CMVR type approval procedures.

2.18 **'Information documents'** means one or more forms applicable as per AIS-007 or the corresponding annexures to a separate directive or provided in this standard , setting out what information is to be supplied by the applicant.

2.19 '**Information folder'** means the complete folder or file containing, in particular, the data, drawings and details as per AIS-007 and supplied by the applicant to the technical service or test agency as required by the information document provided for in a separate directive or in AIS-007.

2.20 '**Information package'** means the information folder plus any test reports or other documents that the technical services or test agency has added to the information folder while carrying out its tasks;

2.21 '**Index to the information package**' means the document setting out the contents of the information package which has been suitably numbered or otherwise marked in order clearly to identify all pages

2.22 **'Criterion for Extension of Approval (CEA)'** is the guidelines to be followed:

(a) For considering whether a change in the Technical Specifications affects the compliance adversely or not, and

(b) If the change affects the compliance adversely, to decide the tests to be carried out for establishing compliance.

2.22.1 **Criterion for Extension of Approval is also to be used for:**

(a) Selection of the base model(s) for establishing compliance from a number of models/variants at the time of Type Approval

(b) Deciding on the extension of Type Approval when changes are made in the Technical Specification.

(c) Deciding on approval for new variant (s) / version (s)

2.23 **'New Vehicle'** means a vehicle which has never been previously registered or entered into service or Type approved.

2.24 **'Registration'** means the administrative authorization for the entry into service including for road traffic of a vehicle, involving the identification of the latter and the issuing to it of a serial number to be known as the registration number, be it permanently, temporarily or for a short period of time;

2.25 **'Importer'** means any natural or legal person established in the country, who places on the market a vehicle, system, component, separate technical unit, part or equipment from a third country;

2.26 **'Distributor'** means any natural or legal person in the supply chain, other than the manufacturer or the importer, who makes available a vehicle, system, component, separate technical unit, part or equipment on the market;

2.27 **'Provisions'** mean the requirements related to the construction of a vehicles notified in the CMVR, either directly or through a reference to Notified Standards / separate standards.

2.28 **'Small volume production models'** mean models of same type, (including variants and versions) whose annual production is less than 2500 vehicles per financial year

2.29 **'Un-laden mass'** is the mass of vehicle including roll-over protection structures (only if provided) & excluding optional accessories (like top link / drawbar / tow hook etc. if provided) , but with coolant, lubricants, fuel.

3.0 APPLICABILITY OF PROVISIONS

3.1 Applicable to the category of vehicle, effective as on the date of issue of the CMVR certificate shall be applicable.

3.2 However, at manufacturer's option, the provisions whose notified implementation date is after the date of the issue of the certificate may also be verified for compliance and be certified so.

Note In such cases, COP, where applicable will start as per the new provision from the date of completion of Initial Quality Assessment & Verification of Product Conformity Arrangements after the start of production as per the so type approved specification.

3.3 In the case of modifications of notified standard, or conversion of an AIS to BIS, provisions of AIS-000 shall be applicable

3.3.1 In cases, where the applicant opts to implement the changed standard between the effective date and implementation date (as defined in AIS-000), the CMVR certificate will indicate compliance to the notified standard. After revised standard is notified, the CMVR certificate shall be extended to the revised standard, at any convenient time, prior to the notified date of implementation of the revised standard.

In such cases no additional verification or testing is needed, unless there is a change in the specification of the affected model (s) / version (s) / variant (s) / Component.

3.4 **Dates of implementation**

3.4.1 Unless otherwise specified in the provision, the date of implementation of the provision shall be date of manufacture of the vehicle.

3.4.2 If the date of implementation is the first day of the calendar month, the date of manufacture shall be ascertained from the month of production inscribed on the Chassis number (ATIN as per AIS-117).

3.4.3 Where different dates of implementation are prescribed in the provision for "new models" or "existing models":

3.4.3.1 The date of implementation for "new models" shall be applicable to vehicles of same type, as defined in 2.4, which has not been certified earlier than the date specified in the provision for new models.

3.4.3.2 The date of implementation for "all models" shall be applicable to vehicles of same type, as defined in 2.4, for which the date of CMVR Certificate is earlier than the date specified in the provision for new models.

4.0 APPLICATION FOR TYPE APPROVAL

4.1 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:

4.2 All the relevant information specified in the Table – 16&17 of AIS-007 to be submitted by Manufacturer".

4.2.1 The manufacturer shall provide a list of features for all the Variants and Versions of the Type and the respective identification number / model name, along with the application for Type Approval.

4.2.2 Identification of the Type, Variants and Versions either in the ATIN section or by commercial name is left to the choice of the manufacturer.

4.3 Copies of certificates, copies of licenses in case of ISI marked parts or test reports of compliance to various provisions, which may have already been obtained from other recognized Testing Agencies.

4.4 Copies of test reports for other models/variants, if any, which can be used for establishing compliance of the model to be type approved, with a note explaining the details.

4.5 Copy of certificate of incorporation of the manufacturer, if not already submitted.

5.0 TYPE APPROVAL PROCESS:

5.1 Each test agency shall grant

(a) The type-approval to the vehicle types which conform to the particulars in the information folder and which, according to their category, meet the technical requirements of all the provisions notified in CMVR / Annex - B.

(b) System, type-approval to all types of systems, which conform to the particulars in the information folder and which meet technical requirements of all the provisions notified in CMVR / Annex - B.

Where the system, to be approved fulfils its function or offers a specific feature only in conjunction with other parts of the vehicle, and where, for this reason, compliance with one or more requirements can be verified only when the system, component or separate technical unit to be approved operates in conjunction with other vehicle parts, whether real or simulated, the scope of the type-approval of the system, must be restricted accordingly.

In this case, the type-approval certificate for such a system, shall indicate any restrictions on its use and any conditions for fitting it. Observance of these restrictions and conditions shall be verified at the time of type-approval of the vehicle.

5.2 SELECTION REQUIREMENTS

5.2.1 The specific standards / Provisions as notified in CMVR cover the main vehicle characteristics considered to have an effect on compliance with the concerned vehicle performance/ Road safety parameters. Where variations of a relevant vehicle characteristic not covered in this standard/CMVR are encountered, manufacturers wishing to select a smaller number of vehicles for testing than otherwise required should seek approval of the basis for the reduction and provide evidence to support their proposal by way of engineering analysis, laboratory or road testing. Approval may be sought prior to submission of evidence or with the evidence. In the latter case, issue of CMVR certificate indicates acceptance of the manufacturer's selection.

5.2.2 The general basis of selection criteria is to select the CEA for vehicles for demonstration of compliance with the respective CMVR rule. In some cases where the variation of a parameter within a specified range does not have a significant effect on CMVR compliance, the test agency may accept the selection of one from that range as being representative of the others in the range in consent with the manufacturer.

5.2.3 Where the selection for CEA or a sufficiently representative test vehicle cannot be justified in relation to a particular parameter affecting CMVR compliance, the selection of test vehicles with different values of this parameter including its extreme values experienced may be accepted as sufficient to demonstrate compliance of untested vehicles.

5.2.4 Where one vehicle does not meet all the selection parameters for a range of vehicles, the vehicles may be separated into groups and the selection of test vehicles made from each group to enable the entire range to be covered.

5.2.5 For easy assessment of worst case criteria for a range of variants / versions all tests/activities has been divided in following 3 categories :-

5.2.5.1 **Type 1:-** This category involves those activities / test which involves performance testing & physical verification/functional checks on test sample & are critical in terms of vehicle, road & operator’s safety like brake, steering, noise level etc.

5.2.5.2 **Type 2:-** This category involves those activities / test which involve only fitment check & functionality checks on vehicle along with document verification etc. Most of these activities can also be done on samples selected for type-1 test only.

5.2.5.3 **Type 3:**- This category involves only those activities which needs to be declared by the application, verification of specifications against the declarations, test report verification & other documentation formalities which do not require any physical activity on tractor. For verification test agency can also verify these things on sample already selected for type 1 & type 2 tests.

Note: Refer Annex D & E for Guidelines for CEA for Agricultural tractors to verify CMVR requirements.

5.3 Criteria for Extension of Approval

5.3.1 General Guidelines:

5.3.1.1 In general, when changes in Technical Specifications of a model / variant do not affect the performance adversely, and are still within the stipulated limits /tolerances, the Type Approval (CMVR compliance) can be extended without further verification. If the changes affect some of the performance parameters, tests shall be carried out only for those parameters.

5.3.1.2 The changes in parameters, with respect to an agricultural tractor tested, as declared in the Technical Specifications (AIS-007) that are deemed to affect the performance in respect of various provisions/notified standards and the tests to be performed, if any, for extending the Type Approval are given below.

5.3.1.3 Changes other than those given against each provision / notified standard considered to be having no adverse effect on the compliance to the provision/notified standard to the satisfaction of the Testing Agency.

5.3.1.4 Decision on any such parameter shall be informed by that Testing Agency to other Testing Agencies, TMA, and other AISC members giving the logic for such a consideration.

5.3.2 Guidelines for applying CEA:

5.3.2.1 If the manufacturer has indicated a range of models/variant(s) to be certified, at the time of initial type approval, necessary model shall be selected from this range to represent the entire range, considering the CEA of each of the provisions.

5.3.2.2 It may be necessary to have more than one representative test sample to represent the entire range and all the provisions.

5.3.2.3 The details of tests to be carried out on each of these models and the provisions for which each of features / variant(s) /model can be certified, shall also be worked out.

5.3.2.4 The format for submitting the information necessary for working out the above is provided in AIS-007 (Table 16 / 17)

5.3.2.5 If there is not a range of models / variant(s) to be certified, at the time of initial type approval, the model tested initially shall be treated as the base model.

5.3.2.6 The interrelation ship between CEA and CMVR are tabulated and enclosed as Annex – D to act as a ready reckoner.

5.3.2.7 When the validity of the certificate is to be extended for changes in the Technical Specifications, the manufacturer shall declare the changes and the base models to be considered and the details to given in the appropriate tables of AIS-007. The Testing Agency shall evaluate changes in the system and tractor related parameters with respect to the test results of the applicable base model based on CEA, and where applicable, decide the new base model(s), and tests to be carried out on them which are required to establish compliance.

5.3.2.8 If tests are carried out, they shall be also treated as those of a Base model, for future evaluations.

5.3.2.9 Any changes related to statutory/regulatory requirements shall be acceptable in the base model and variants. Extension approval for these requirements shall be done on the basis of submission of required compliance certificates of components / Assemblies & completion of required inspection/tests on base model and variants, if applicable.

5.4 Guidelines for Grouping of vehicles

It is considered that an untested vehicle variant, with the same unique braking system as a tested vehicle variant, will not require testing of the braking system if when compared to the tested vehicle it:

5.4.1 Has the same calibration of any ECU controlling the braking system;

5.4.2 Has the same linkage routing / linkage ratio/ arrangement of pedals.
In case of difference linkage ratios / arrangement of pedals with other similar component only the vehicle with minimum linkage ratio shall be selected for testing purpose.

5.4.3 Has same active lining surface area inside brake pressure plate assemblies. In case only lining area is reduced by > 10%, vehicle selection shall be done for the only the vehicle with minimum surface area of lining.

5.4.4 Has the same configuration of axles;

5.4.5 Has tires that vary by ≤ 5% in diameter;

5.4.6 Has tires of the same or greater section width;

5.4.7 Has no higher Max speed as per AIS 116 at fly up for the gear ratio required for the Service Brake performance Test unless the tested vehicle was fitted with an automatic transmission such that negligible engine braking is provided (e.g. a system with a fluid coupling torque converter).

5.4.8 For a range of vehicle keeping other things same except maximum speed the vehicle will maximum speed shall be selected for brake performance test.
Out of 2WD / 4WD version with only rear wheel braking (single axle braking) 4WD version with 2WD mode can be preferred from a number of combination for conducting brake performance test.
For 4WD models with all wheels braking arrangement if there is no provisions for disconnecting one of the braked axle, the test shall be preferred on 2WD model of the tractor if available.

5.4.9 For vehicles without ABS or a load sensing variable proportioning system fitted;

5.4.9.1 Has no less of the proportion of the un laden mass on the rear wheels (lightest tractor to be preferred for test out of all configurations);

5.4.9.2 Has a wheelbase no shorter than +/- 5% in length;

5.4.9.3 Has no greater Maximum Loaded Test Mass;

5.4.9.4 Has an equal or lower un-braked trailer mass.

5.5 Guidelines for Selection of Variant/s for Testing

5.5.1 The least dynamically competent variant of any group of variants shall be tested. In determining the least dynamically competent (see note below) vehicle variant, manufacturers should consider the following criteria:

Note: "Dynamically Competent" describes the handling behavior of a vehicle as an attribute when tested for various dynamic test like brake, steering etc. A vehicle's dynamic competence is relative to the level of assistance a driver required to control the vehicle.
Maximum speed

5.5.1.1 Suspension settings if available (e.g. Spring, sway bar, shock absorber rates);

5.5.1.2 Tire specifications (i.e. Rim diameter, tire width, profile and diameter);

5.5.1.3 Overall mass and mass distribution;

5.5.1.4 Type of steering system (diameter of steering wheel , power/mechanical/electric steering system)

Note: Where a manufacturer is unable to determine a single variant that is the least dynamically competent variant from a group of vehicle variants, multiple variants may be required to be tested.

5.5.2 A manufacturer may elect to perform (and document) an assessment of an additional variant or group of variants and determine additional testing is not required. The manufacturer shall hold documentary evidence of this assessment.

5.5.3 Vehicles should be selected for testing purposes in accordance with the following criteria:

5.5.4 Where the maximum vehicle speeds of all the vehicles in the range are less than 40 km/h, at least one test vehicle shall have the power train giving the highest maximum vehicle speed of all vehicles within the range.

5.5.5 Where the maximum vehicle speed of any vehicle in the range is 40 km/h or greater, at least one test vehicle shall have a power train giving a maximum vehicle speed of 40 km/h or greater.

5.5.6 A previously tested vehicle variant fitted with a variation of a unique braking system may be tested only to the tests that are relevant to the variation in the braking system.

6.0 METHODS OF ESTABLISHING COMPLIANCE:

Depending upon the provision, the compliance can be established by the following methods:

- Documents verification
- Check fitment
- Testing

For new or existing rules/ standards /provisions where no specific guidelines are mentioned in this standard, testing agency in discussion with manufacturer can decide for method of establishing compliance, necessary supporting documents, undertakings etc. to ensure that requirements of notified standards / provisions under CMVR fulfilled.

6.1 Document Verification

It involves verification of declarations / specifications / installations /drav submitted by manufacturer with suitable undertaking, if applicable on Comparison of details given in the documents submitted with those spec in the provisions. Physical sample inspection/ submission is not requir Document verification c is used as method of establishing compliance:

Typical examples where this method is applicable are:

- Provision for display of vehicle registration mark on Front & Rear.
- Overall Dimensions for Agricultural Tractors.
- Size & Ply rating of tires.
- All components, systems which involves type approval / COP conformity of verification like fuel tanks , head lamps installation, emission , horn fitment, other safety components mentioned under rule 124 A.
- Those which are so specified in the notified standard.

For detailed guidelines refer Annexure B for identification of provisions / rules against which document verification can be used for establishing compliance for type approval.

6.2 Check fitment:

6.2.1 This is applicable where the provision requires fitment of certain devices (Component or STU).

6.2.2 It involves verification of fitment / installation on test sample, comparison with specifications as submitted by manufacturer , general Operational checks / Functioning verification etc.

6.2.3 While checking fitment of STU's, where applicable, verification that details on vehicle are within the range of such parameters for which the component has been verified.

6.2.4 Guidelines mentioned in Annexure B be referred for identification of provisions / rules against which "**fitment checking**" can be used for establishing compliance for Type approval.

6.3 Test:

Provisions, where performance parameters are specified in CMVR provisions /standards notified there in, shall be established by testing.

6.3.1 The tests may be carried out either at the premises of the Testing Agencies or at the manufacturer's premises. When the tests are carried out at the manufacturers' premises, the manufacturer shall demonstrate the adequacy of the test facilities for carrying out the tests as per the provisions.

The Testing Agency may also, at the request of the manufacturer, certify, in advance, the adequacy of the test facilities at his premises, in such cases manufacturer shall demonstrate routine calibration of the equipment etc. at the time of testing.

6.3.2 The compliance to individual provisions can also be established by verifying the documents submitted by the manufacturer such as :

6.3.2.1 **In the case of system/(s):**

(a) Certificates or test reports issued by any test agency for another type, model, variant/version. The Technical Specifications of which are comparable to those of the model sought to be type approved, and the changes are within the limits prescribed in the Criteria for Extension of Approval.

(b) If such certificate or test report is issued for specific purpose of Step by Step approval, the name of model /version /variant /option under consideration shall be indicated in the test report.

For the purpose of subsequent usage of these certificates or test reports as per 4.4, the names of the model/version/variant/option need not be incorporated in to it.

6.3.2.2 **In the case of provisions/notified standard for a component or STU:**

(a) Test reports/certificates issued by test agencies (As per Rule 126) or any other test agency notified in CMVR or approved by CMVR TSC for a specific component or STU

(b) In case notified standard is an Indian Standard, certificates or test reports issued by any testing agency or laboratory duly authorized by BIS for carrying out certification work for the standards issued by BIS when the notified standard is published by BIS.

Note: The CMVR Technical Standing Committee may issue instructions regarding disqualifying the test reports from any such agency. However, such disqualification shall affect only those the test reports issued after the date of instruction from CMVR TSC

(c) BIS License issued by BIS for affixing "ISI" mark and the device is so marked, In case notified standard is an Indian Standard.

In these cases no additional verification is required for components or STU.

(d) In case of alternate standard notified under Rule 92 (3), the agencies prescribed in the same sub-rule.

6.3.2.3 In the cases described in **6.3.2.1** and **6.3.2.2:**

(a) Subject to provisions of AIS-037, where applicable, in the case of applications for compliance to individual provision(s), the test report(s) issued by the Testing Agency (**4.3.**) Shall be considered as proof of compliance for issuing the Consolidated Certificate.

In such cases, the test report shall indicate:

(i) whether compliance has been established or not

(ii) the provision(s) for which compliance is established

(iii) the list of variant(s), if any, for which compliance is established. (Not applicable in the case of test reports for components and STUs.

For the purpose of subsequent usage of these certificates or test reports as per 4.4, it the names of the model/version/variant need not be incorporated.

(b) In cases of components and STU's coming under the purview of AIS 037, the approval certificates.

6.3.2.4 In the case of test reports referred in **6.3.2** and its sub-clauses, the use of such reports is not restricted by the type (model/variant/version) but only on the technical parameters of the type (model/variant/version) tested and the one to which it is to be extended.

6.3.3 In the case of provisions listed in Table 1, undertaking of compliance by the manufacturer, along with the reports of test carried out by the vehicle manufacturer, or where applicable, carried out by manufacturer of component/STU shall be considered to establish the compliance.

7.0 PROVISION FOR IMPORTED COMPLETELY BUILT UNIT (CBU) VEHICLES (Other than those exempted from the need for CMVR certificate**):**

7.1 Compliance to requirements of provisions involving destructive tests of such CBU Vehicle Models need not be carried out, if the test reports/ certificates as per the corresponding ECE Regulation or EEC directive/ OECD code submitted by the applicant are vetted and found satisfactory by the test agency.

Examples of provisions involving destructive tests are given in **Table 2**

7.2 Verification of other provisions and their exemptions shall be as prescribed in this standard.

However, test agency may exempt verification of any of these provisions if:

7.2.1 The test reports/certificates as per the corresponding ECE Regulation or EEC directive submitted by the applicant are vetted and found satisfactory by the test agency.

7.2.2 The test agency is satisfied with the reasoning and justification submitted by the applicant.

7.2.3 For Imported vehicle, Systems, test reports which conforms to equivalent international standards (EEC/ OECD) are acceptable as mentioned in Annex – C

8.0 NON-COMPLIANCES OBSERVED DURING THE VERIFICATION PROCESS:

8.1 **During testing**

8.1.1 During the verification /testing, if any of the requirements are not met, the manufacturer may request for a re-verification/ retest after carrying out necessary rectifications.

8.1.2 If the rectification involves changes in the Technical Specifications, as declared by the manufacturer tests shall be repeated for all those characteristics where the changes are not within the limits of Criteria for Extension of Approval.

8.1.3 If the rectification does not involve a change in the Technical Specifications, those tests already completed satisfactorily, need not be repeated.

9.0 USE OF OTHER STANDARDS

9.1 Test reports or certificates of compliance to standards, issued by agencies listed in para 9.2, other than the notified standards, shall be considered as proof of compliance to the notified standards, in the

following cases:

a) The alternate standard has been approved by the Government of India.

b) The standard is a conversion of a notified standard to an Indian Standard, but is pending for notification, approved by AISC/CTSC.

c) The alternate standard is a revision of the notified standard, but is pending for notification, approved by AISC/CTSC.

9.2 Explanatory Note:

Such standards may comprise an international standard (e.g. those issued by EEC, ECE, ISO, IEC etc.), a foreign national standard (such as those issued by DIN, JIS, BSI etc.) or an Indian standard prepared as a conversion of AIS or a revision of an already notified Indian Standard.

10.0 AMENDMENTS/ REVISIONS OF NOTIFIED STANDARDS

10.1 Procedure as prescribed in AIS 000 shall be followed as applicable for amendments /revisions of notified standards.

11.0 EXEMPTIONS FOR NEW TECHNOLOGIES OR NEW CONCEPTS

The manufacturer may apply for CMVR type-approval in respect of a type of vehicle , system, that are incompatible with one or more of the requirements of one or more of the notified standards/provisions of CMVR:

11.1 A test agency may grant a provisional type-approval , where all of the following conditions are met :-

(a) The application states the reasons why the technologies or concepts in question make the system, component or separate technical unit incompatible with one or more acts listed in Annex – B

(b) The application describes the safety and environmental implications of the new technology and the measures taken in order to ensure at least an equivalent level of safety and environmental protection as that provided by the requirements from which exemption is sought;

(c) Test descriptions and results are presented which prove that the condition in point (b) is met.

11.2 In this case, it must, within one month, send a copy of the provisional type- approval certificate and its attachments to the Nodal agency. At the same time, it shall send the nodal agency a request for authorization to grant type-approval for such cases.

(a) That request must be accompanied by a file containing the following information:

(i) the reasons for which the technologies/concept or principles at issue make the vehicle, system with the requirements of one or

more of the relevant requirements notified under CMVR.

(ii) A description of current compliance status with respect to notified CMVR rules / standards.

(iii) a description of the tests, together with their results, which show that the level of road safety is at least equivalent to that guaranteed by the requirements of one or more of the relevant separate standards;

(b) Within three months of receipt of the complete file, the nodal agency shall submit a draft decision to the CMVR TSC. The CMVR TSC shall decide whether or not to authorize the test agency to grant a type-approval for cases under considerations.
Only the request for an authorization and the draft decision shall be sent to the test agency.

(c) If the request is approved, the test agency may grant a full type-approval. In this case, the decision must also state whether restrictions are to be imposed on the validity of such type-approvals. In no case shall the period of validity of the type-approval be less than 36 months;

(d) where the notified standards have been adapted to technical progress in such a way that the types of vehicles, systems approved under this clause comply with the amended standard, on request of manufacturer the test agency shall convert those type- approvals into full type-approvals which comply with this standard, allowing the time needed for the necessary changes to components or separate technical units, in particular, the removal of any references to restrictions or exemptions;

(e) if the action needed to adapt the specific notified standard has not been taken, the validity of the type-approvals granted under this Article may be extended, at the request of the test agency having granted the type-approval, by means of another CMVR TSC decision;

(f) An exemption granted for the first time under this clause, can serve as a reference for the CMVR TSC/ Nodal agency/test agency for further, identical requests.

12.0 CERTIFICATE OF COMPLIANCE:

12.1 **For Systems level approval**

12.1.1 Test report (as per format prescribed in individual provisions, if any)

12.1.2 If the approval of system is part of Step-by-step type-approval

12.1.2.1 The test report shall indicate the details of the model/version /variant that are covered by this test report, at the time of first issue.

12.1.2.2 For use of such reports, for granting approval for another type/version/variant, the applicability shall be based on the CEA parameters and not on the names of type/version/variant/options listed in such report.

12.1.2.3 For the purpose of records, the detailed specification submitted by the manufacturer, as per details prescribed in the individual provision attested by test agency.

12.2 Final approval (CMVR certificate):

12.2.1 After compliance is established for all the provisions, applicable to that type/model/ variant(s)/version, a Certificate of Compliance consolidating all applicable provisions, (See 3.0) shall be issued by the Testing Agency.

Note In order to ensure that all the related verification activities are completed, the Testing Agency may use an appropriate check list.

12.2.2 Annex – F provides the details of:

(a) Formats to be used for different cases of issuing the approvals

(b) Enclosures to the certificates/extension of approvals

(c) Other necessary details

12.2.3 The Testing Agency shall issue two sets of the Certificate of Compliance, in original, to the Agricultural Tractor Manufacturer.

12.2.4 The Testing Agency shall also issue reports of all tests conducted by that agency to the manufacturer on request. For the purpose of records, the brief specification submitted by the manufacturer (As per Tables of AIS-007, as applicable) shall also be counter signed by the Testing Agency and given to the manufacturer. The test report shall indicate the identification number, of the relevant technical specifications submitted by the manufacturer as per AIS-007.

12.3 Approval number:

12.3.1 The approval number on the certificate shall be in accordance with that prescribed in AIS 117.

12.3.2 The extensions of approvals (see 13.0) shall be identified by affixing suitable alpha numeral (of test agencies choice) to the number of above base approval.

12.3.2.1 The numeral part of the above shall be serial. Two different series shall be used,

One for approvals involving

- Addition of variants
- Changes in the Brief technical specifications
- Changes in provisions.

Another series for approvals involving other changes in the technical specification.

12.4 Conditions of issuance of CMVR Certificate

12.4.1 Certificate is issued as per CMVR 126 to establish compliance with the provisions of Central Motor Vehicle Rules 1989 and shall not be construed as compliance to any other rules other than those listed in the certificate or its annexures.

12.4.2 Compliance to these rules have been verified based on use of specific components /parts/assemblies etc., details of which are submitted by the vehicle manufacturer. It is the vehicle manufacturer's responsibility to ensure that these details are adhered to on the vehicles submitted for registration.

12.4.3 The test agency is in no way responsible for any breach of statutory provision or laws of India or other countries, by the applicant, in relation to issue of the certificate.

12.4.4 The test agency is not liable for any claims or damages made by any party, arising out of the issuing of the certificate.

12.4.5 Appropriate local court where the testing agency is situated shall have jurisdiction in respect of any dispute, claim or liability arising out of the certificate.

12.4.6 The test agency has the right to initiate action for cancellation/withdrawal of the certificate in case any fraud or misrepresentation, when it surfaces and comes to the knowledge of the test agency.

12.5 The Testing Agency shall maintain confidentiality of the information submitted by the vehicle manufacturer, certificates, test reports and test data. However, if required, the test results may be given to the Ministry of Surface Transport and Ministry of Industry. The compiled test data without indicating the name of the manufacturer or model may be given to SCOE/CMVR TSC with a copy to TMA as and when needed.

12.6 Refusal of Type Approval:

In case, a Testing Agency has refused approval of a vehicle this should be informed to the vehicle manufacturer.

If a test agency finds that vehicle, system, which complies with the provisions of paragraph 5.1 is nevertheless a serious risk to road safety, the environment or occupational safety, it may refuse to grant type-approval. It shall forthwith notify the other test agency/nodal test agency and the CMVR TSC (If any further restrictions to be imposed or formulated), stating the reasons on which its decision is based.

For each vehicle type in respect of which they have granted, refused to grant or withdrawn type-approval, the test agency shall send a copy of the type- approval certificate accompanied by the attachments specified there in to the Nodal agency quarterly or frequency as per convenience but not later than 6 month.

Manufacturer may make a fresh application after making necessary changes.

13.0 EXTENSIONS OF TYPE APPROVAL:

Type Approval already granted shall need amendment, by an extension of the Type Approval whenever:

- Technical Specifications, already attested by Testing Agency are amended by the manufacturer
- Addition of a variant/version
- There are changes in the provisions of CMVR.

Note: Extension certificates may be issued by test agencies other than those who issued the CMVR certificate.

13.1 Changes in the Technical Specifications of the model/variant(s) already Type Approved:

13.1.1 Every modification pertaining to the information, even if the changes are not technical in nature (such as change of model name, addition of versions etc.), declared in accordance with Para 4 shall be intimated by the manufacturer to the certifying agency.

13.1.1.1 If the changes are in parameters not related to the provisions, no further verification need be taken.

13.1.1.2 If the changes are in parameters related to the provisions the test agency may then consider:

(a) Vehicle with modifications complies with specified performance requirements, or,

(b) Any verification is required.

13.1.2 For considering whether, verification/testing for performance assessment is required or not, guidelines given in the notified standards or in Criteria for Extension of Approval guidelines in this standard shall be followed

13.1.3 In case of 13.1.1.2, tests for only those parameters which are affected by the modifications need be carried out.

13.1.4 In case of fulfillment of criterion of para 13.1.1.1 and 13.1.1.2(a) or after results of further verification as per para of 13.1.1.2 (b) are successful, the approval of compliance shall be extended for the changes carried out.

13.1.5 With reference to the performance parameters related to the notified provisions, in order to facilitate the processing of extension certificate, the manufacturer shall submit declaration based on the requests by the Test Agency.

13.1.6 In case of 13.1.1 where the specifications changed does not affect CMVR compliance, test agency the extension certificate can be issued without any further testing.

13.2 Addition of a variant/version:

Procedure prescribed in 13.1 shall be followed in this case also.

For new variant/versions added, the test agency can consider test reports /results of other existing models with comparable specifications as per worst case criteria to establish compliance as per CEA criteria mentioned in this standard.

13.3 Changes in the CMVR Provisions:

For every subsequent change/addition in the provisions, the vehicle manufacturer shall get the Certificate of Compliance extended from any of the Testing Agencies. The procedure of establishing compliance shall be as per Para 6.0

13.3.1 In case testing is required for establishing compliance,

a) Tests need to be carried out only for those parameters, which are required to establish compliance to the additional/amended provision. If, for the purpose of complying with the additional/amended provisions, changes are made in the Technical Specifications of the model/variant, the additional verifications shall be

as per Para 13.1.

b) If requirements of additional /amended provisions were already satisfied in the previous Type Approval it is not necessary to carry out.

c) Guidelines mentioned in CEA to be referred for selection of test samples.

13.3.2 In cases where the provision relates to fitment of a component and the compliance is to be established by merely checking fitment on the vehicle, (as per para 6.2), it is not necessary for the Testing Agency to verify the fitment if the following conditions are satisfied:

a) The manufacturer gives an undertaking that the necessary fitments will be carried out by him from the date of applicability of provision

b) Submits the details of the provisions made in the vehicle for fitment of the item.

c) Submits test reports for the individual requirements, if any, specified for the components.

13.3.3 In case of notified provisions, which are to come into effect at a later date, the manufacturer may get the Type Approval in advance, which could be along with an original Type Approval or an extension. (See 3.2/3.3)

Note: In such cases, once the manufacturer implements the modified specification in production, the COP would be as per the new provision to the extent of implementation. Till then COP would be conducted based on the procedure for COP applicable at the time of manufacture of the vehicle.

14.0 Withdrawal of TA:

14.1 In the case of emission related issues, the withdrawal of TA shall be as prescribed in TAP document.

14.2 In all other cases, the decision will be taken by MoRT&H, as per advice of CMVR TSC

15.0 Transitional provisions:

Until each of the Type / Model / Variant of the vehicle is approved vide the new procedure, old approvals for that model will continue.

16 Resolving of operational difficulties:

In case of difficulties arising out of an interpretation of the provisions and other operational difficulties, the Testing Agency and the manufacturer shall endeavor to resolve these by mutual discussions,

within the frame work of CMVR and related procedures. However, if these cannot be resolved mutually, the matter shall be referred by the vehicle manufacturer under intimation to the Testing Agency, to the CMVR TSC/SCOE for a final decision and implementation.

17.0 TEST FACILITIES

17.1 If the test facilities for any of the provisions/notified standards are not available at any of the Testing Agencies, (as defined in para 2.13), TMA will bring it to the notice of AISC and request for a postponement of the implementation of such provisions/notified standards, taking into account the time for development, testing and certification after the facilities are fully commissioned. In case the postponement is not agreed to, the Testing Agencies may be authorized to implement alternative arrangements for establishing compliance.

Table-1

Provisions for which vehicles Manufacturers declarations are to be accepted

1. Identification of Controls
2. Masses & Dimensions
3. External Projections of Cabs
4. Installation of lighting & light signaling device including horn etc.
5. Vehicle Identification plate location
6. Reverse gear fitment
7. Wheel nut, wheel discs etc. if applicable
8. Towing devices provisions
9. Ballast weight requirements

Table-2
Examples of Destructive Tests

1. Rear mechanical coupling (Tow Hook) – Wherever applicable
2. ROPS / Cab Protective Structure – Wherever applicable
3. Safety Glass
4. Plastic Fuel Tank
5. Operator seat
6. Rear View Mirror
7. Seat Belt etc.,

ANNEX – A

Definition of Vehicle Categories / Type / Variant / Version

A **The Vehicle Categories are defined as follows:**

A.1 **'Category-A'** comprises all wheeled & forestry tractors as defined in AIS-053 ; each wheeled tractor category described in points A.2 to A.6 :-

A.2 **'Category A1'** wheeled tractors with a maximum design speed of not more than 40 km/h, with the closest axle to the driver having a minimum track width of not less than 1150 mm, with an unladen mass, in running order, of more than 600 kg, and with a ground clearance of not more than 1000 mm.

For reversible driver's position tractors (reversible seat and steering wheel), the closest axle to the driver to be considered must be the one fitted with the biggest diameter tyres.

A.3 **'Category A2'** wheeled tractors with a maximum design speed of not more than 40 km/h, with a minimum track width of less than 1150 mm, with an unladen mass, in running order, of more than 600 kg and with a ground clearance of not more than 600 mm. However, where the height of the center of gravity of the tractor (measured in relation to the ground & in accordance with IS-10743) divided by the average minimum track for each axle exceeds 0.90, the maximum design speed is restricted to 30 km/h.

A.4 **'Category A3'** wheeled tractors with a maximum design speed of not more than 40 km/h, and with an unladen mass, in running order, of not more than 600 kg.

A.5 **'Category A4'** special purpose wheeled tractors with a maximum design speed of not more than 40 km/h.

(a) **'Category A4.1' (high-clearance tractors)** comprises tractors designed for working with high-growing crops, such as grape yard. They feature a raised chassis or section of chassis, enabling them to advance in parallel with the crop with left and right wheels on either side of one or more rows of the crop. They are intended for carrying or operating tools which may be fitted at the front, between the axles, at the rear or on a platform. When the tractor is in working position the ground clearance perpendicular to the crop rows exceeds 1 000 mm. Where the height of the centre of gravity of the tractor, measured in relation to the ground, using the tyres normally fitted, divided by the average minimum track of all of the axles exceeds 0,90, the maximum design speed shall not exceed 30 km/h;

(b) **'category A4.2' (extra-wide tractors)** comprises tractors characterized by their large dimensions, primarily intended for working large areas of farmland;

(c) **'Category A 4.3' (low-clearance tractors)** comprises four- wheel drive tractors whose interchangeable equipment is intended for agricultural or forestry use and which are characterised by a supporting frame, equipped with one or more power take-offs, having a technically permissible mass no greater than 10 tonnes, for which the ratio of this mass to the maximum unladen mass in running order is less than 2,5 and having the centre of gravity, measured in relation to the ground using the tyres normally fitted, of less than 850 mm;

A.6 **"Category A5"** wheeled tractors with a maximum design speed of more than 40 km/h.

B-1 '**Type'** Tractors of the same category that do not differ in respect of following essential aspects :-

(a) Category

(b) Manufacturer

(c) Type designation given by the manufacturer

(d) Essential construction and design characteristics

(e) Backbone chassis/chassis with side members/articulated chassis (obvious and fundamental differences),

(f) For category A: axles (number)

Note: Manufacturer can designate a new type for a particular vehicle family even if it comes under the criteria as described under B-2 based on Commercial / Branding requirements.

B-2 **'Variant'** means vehicles of the same type which do not differ in at least the following respects:

(a) Engine (internal combustion/hybrid/electric/hybrid- electric),

(b) Operating principle

(c) Number and arrangement of cylinders

(d) Engine Power difference of no more than 30 % (the highest power being no more than 1.3 times the lowest power),

(e) Cylinder capacity difference of no more than 20 % (the highest figure being no more than 1.2 times the lowest figure),

(f) Powered axles (number, position, interconnection)

(g) Steered axles (number and position

(h) Maximum laden mass differing by no more than 15%

(i) Transmission (type),

(j) Rollover protection structure

(k) Braked axles (number);

B-3 'Version' of a variant means vehicles of each commercial model which consists of a feature or combination of features that does not affect the performance requirements of the applicable provisions.

ANNEX – B

Method of Establishing Compliance & List of Applicable Rules/Standards as per CMVR Provisions

Sr. No	CMVR RULE	Sub rule	Subject	Method for Establishing Compliance		
				DV[10]	CF[(1)(11)]	Test [(1)(12)]
1	**50**	1,4,5,6	Provision for display of vehicle registration mark on Front & Rear	□	□	
2	**93 A**	1,2,3,4	Overall Dimensions for Agricultural Tractors	□		□
3	94	1,2,3	Conditions of tyre		□	
4	95 (A)	1,2	Size & Ply rating of tyres [(2)]	□	□	
5	96	7 (d) , **8**	Brakes for Agricultural Tractors	□	□	
6	96 (C)	1	Brakes for Agricultural Tractors		□[(3)]	□
7	98 (B)	1	Steering gears, Joints , steering linkages for Agricultural Tractors		□	
7.1		2	Turning circle & Clearance	□		□
7.2		3	Steering effort performance requirements			□
8	99		Forward & Backward motion (Reverse Gear Fitment)		□	
9	101	2B	Windscreen wiper [(4)]	□	□[(5)]	□[(6)]
10	102	1,2	Signalling devices, Direction indicators and stop lights	□	□[(7)]	□[(8)]
11	103	1,2	Position of indicator & Hazard warning lamps		□	
12	104 B	1,2	Fitment of reflectors for agricultural tractors	□	□	
13	105	1a, 2, 3, 4, 7	Lamps		□	□
14	106	1	Head lamp construction/installation/In-service adjustment as per rule 124/124-A	□	□	
15	108		Use of red , white light		□	
16	109		Parking light		□	
17	111		Prohibition of spot light		□	
18	112		Exhaust gases		□	

19	113		Location of exhaust gases pipes		□	
20	115 A	2,3 & 7	Emission of smoke, vapour etc. from agricultural tractor.	□	□	
21	117	1	Engine RPM -cum-hour meter		□	
22	119	1,2	Fitment of Horn	□(9)	□	
23	120	1,3	Silencer & Noise Level requirement		□	□
24	121		Painting of Motor Vehicle		□	
25	122	1 (A) , 2	Embossment of chassis number on Vehicle & Engine serial number on engine	□	□	
26	123		Location of punching	□	□	
27	124	1,4	Type approval of component & their COP compliance.	□	□	
28	124 (A)	1	Requirement for bulbs fitted on following lamps :- (a) Head light main & dip , (b) Parking Light , (c) Direction indicator lamp , (d) Tail lamp , (e) Reversing lamp , (f) Stop lamp ,(g) rear registration lamp , (h) Top light	□	□	
28.1		2	Lighting & light signalling devices installation requirements (AIS-030) & Performance requirements (AIS-062)	□	□	
28.2		2	performance requirements of Rear warning triangle (AIS-088)	□		
28.3		3	Hydraulic brake hose wherever used.	□	□	
28.4		4	Vegetable , non-mineral hydraulic fluid wherever used	□		
28.5		5	Front/Rear Tow hook wherever used.	□		
28.6		6	Fuel tank (Metallic or Plastic)	□		
28.7		7	Wheel nuts & hub caps	□	□	□
28.8		8	Front & rear ballast mass where ever used on agricultural tractors	□	□	
28.9		9	Protective structures (CAB/ROPS etc) wherever fitted	□	□	
28.10		10	Load platform wherever used	□	□	
28.11		11	Attendant's seat wherever used	□	□	□
28.12		12	Driver’s Field of vision			□

28.13		13	Maximum designed speed	□		□
29	125	2	Rear view mirror performance & Installation requirements	□	□	

Method for Establishing Compliance
DV - Document verification
CF- Check Fitment
T- Testing

(1) Test samples to be selected as per CEA / Worst case criteria only.
(2) In case particular tyre is not listed in IS: 13154, any equivalent standard from ECE, JATMA, ETRTO, T&RA and ITAAC shall be accepted.
(3) Parking brakes fitment, General constructional Checks as per IS 12061
(4) Only for tractors provided with CAB / Front windscreen.
(5) Only Fitment inspection for power operated windscreen wiping system.
(6) Wiper frequency as per AIS-011 & Test field of vision as per AIS-107.
(7) Check fitment of turn signal indicators, Stop light on actuation of controls actuating rear brakes/front brake as applicable.
(8) Test flashing rate of indicator.
(9) Horns should conforms to IS: 1884.
(10) Verification of declarations/specifications submitted by manufacturer with suitable undertaking, if applicable. Verification of type approval certificates/ drawings/ installations only.
(11) Verification of fitment / installation on test sample, comparison with specifications as submitted by manufacturer. Operational checks / Functioning test etc.
(12) Conducting performance test with respect to notified standard under CMVR rules / AIS-017(Part-2).

ANNEX - C

For Imported vehicle, Systems, test reports which conforms to following equivalent international standards (EEC/ OECD) are acceptable (Exemptions for destructive test on imported vehicle / System/Component.)

The test reports (complete) which conform to the OECD codes/EEC Directives given below may be used in place of the test reports drawn up in compliance with the corresponding standards as mentioned below :-

Number given in the table in Part I (separate standard)		Subject	OECD codes (*)	EEC Directives (**)
1	IS 11821 Part-1	Official tests on the protection structures of agricultural or forestry tractors (dynamic testing)	Code 3	EC/2009/57
2	IS 11821 Part-2	Official tests on protective structures for agricultural or forestry tractors (static test)	Code 4	EC/2009/75
3	NA	Official tests on the rear-mounted protection structures of narrow- track wheeled agricultural or forestry tractors	Code 7	86/298/EEC - 76/115/EEC
4	NA	Official tests on protection structures mounted on the front of narrow-track wheeled agricultural or forestry	Code 6	87/402/EEC - 76/115/EEC
5	NA	Official tests on the protection structures of agricultural or forestry track-laying tractors	Code 8	76/115/EEC
6	NA	Official tests on the windscreen wipers of agricultural or forestry tractors		EC/2008/2
7	AIS-030 & AIS-062	Official tests on the light & light signaling devices of agricultural or forestry tractors		EC/2009/68

(*) Test reports must be in conformity with OECD Council Decision C (2008) 128 of October 2008. The equivalence of the test reports can only be recognized for seat belt anchorages if these have been tested. The test reports in conformity with the Codes following OECD Council Decision C(2000) 59 as last amended by OECD Council Decision C(2005) 1 will remain valid. As from the date of transposition of this Directive, new test reports shall be based on the new version of the Codes.

(**) Test reports issued as per latest amended EEC directives can also be used as an alternate standards for providing clearance.

(***) Any equivalent international standard
To be added in main clause for exemptions applicable to imported vehicle. All test report issued as per alternate EEC/ASABE/ISO/OECD shall be acceptable.

ANNEX – D

INTER-RELATIONSHIP BETWEEN CEA AND CMVR

Rules → **Parameters changed, others remaining same** ↓	Overall Dimensions **CMVR 93-A**	Tires CMVR **95-A; IS 13154 : 1991**	Brakes **CMVR 96-C ; IS 12061 : 1994 and IS 12207 : 2011**	Turning Circle **CMVR 98-B(2); IS 11859 :1986;**	Steering Effort **CMVR 98-B(3); AIS-042**	Light & Signaling devices **CMVR 102(1), 124-A, Installation AIS-030**	Location of Exhaust Gases discharge & Pipe **CMVR 112,**	Emission of Smoke and Vapor **CMVR 115-A(2)(3)(7),** Visible pollutant **IS 12062 : 1987**	**Driver's Field of vision**	Noise level **CMVR 120(1)(3); IS 12180 : 2000, IS 12207 : 2011**
Agricultural Tractor identification decals / Nomenclature / Manufacturing locations etc	N	N	N	N	N	N	N	N	N	N
Tractor Weight (As per Haulage Ballast)	**Y**	**P**	**Y**	N	**Y**	N	N	N	N	**P**
Cooling System (water / air cooled)	N	N	N	N	N	N	N	**Y**	N	N
Exhaust System	**P**	N	N	N	N	N	**Y**	**Y**	Y	**Y**
Engine Power	N	N	N	N	N	N	N	**Y**	N	**Y**
Tyre size	**P**	**Y**	**Y**	**P**	**Y**	N	N	N	P	**Y**
Maximum Forward Speed	N	**N**	**Y**	N	N	N	N	N	N	**Y**
Length, Width, Height	**Y**	N	N	N	N	N	**P**	N	P	N
Wheel Base	**Y**	N	**P**	**Y**	**P**	N	N	N	P	N
Standard Track Width (F / R)	N	N	**P**	**Y**	**P**	**P**	N	N	N	N
Bonnet Design	N	N	N	N	N	**Y**	**P**	N	P	N
Rear Mudguards	N	**P**	N	N	N	**Y**	N	N	N	N
Brake System	N	**P**	**Y**	N	N	N	N	N	N	N
Steering System	N	N	N	**Y**	**Y**	N	N	N	N	N
2 WD / 4 WD	N	**Y**	**Y**	**Y**	**Y**	N	N	N	P	**Y**
ROPS/CAB	**Y**	N	N	N	N	N	N	N	Y	N

Y: May affect, CEA to be studied in detail, **P**: May not affect directly. But consequential changes may affect only under limited circumstances, **N**:No Effect on CEA

For CMVR requirements not covered in table mentioned above testing agency in consultation with manufacturer can decide for the criteria of extension for the subject rule.

ANNEX – E Guidelines for selection for Agricultural Tractors to verify CMVR requirements				
S.no	**Category**	**Test / Activity involved**	**Compliance via**	**General Guidelines for Test Sample selection as per CEA**
1	Type -1	Overall Dimensions for Agricultural Tractors	DV +Test	Wheel base/track width :- Minimum and/or Overhang :- Maximum And/or LxWxH :- Maximum
2	Type -1	Service brake performance	CF+ Test	➢ Tyre radius index: - Maximum and/or Tyre width: - minimum and/or Unladen mass: - heaviest tractor. ➢ Each unique brake system to be tested (Hydraulic / pneumatic / Mechanical etc.). ➢ Hydraulic/pneumatic brake: - Minimum operating pressure ➢ Mechanical brake: - Minimum linkage ratio ➢ Number of braked axle: - Minimum. ➢ Unladen mass on braked axle if differ more than 15 %, then test to be conducted on heaviest vehicle to cover all combinations in between. Worst case to be studied in detail, based on change content among the variants/versions.
3	Type -1	Parking brake performance	CF+ Test	➢ Heaviest (Max permissible weight) and/or thinnest tyre. ➢ Same as mentioned in service brake. ➢
4	Type -1	Turning circle & Clearance	DV +Test	➢ Widest front tyre and/or vehicle (standard road ballast) and/or with any extra accessories/projections and/or maximum wheel base. ➢ Manufacturer declaration can be accepted for other variants/versions if verified on any sample selected for inspection provided variation in declared specification is between 15 % of measured values on test sample..
5	Type -1	Steering effort	Test	➢ Widest front tyre and/or maximum load on front axle and/or minimum steering diameter. ➢ Each unique steering system to be tested (Hydraulic / electric / Mechanical). ➢ Hydraulic steering: - Minimum operating pressure & / or minimum steering dia and / or Maximum number of joints/ cylinders. ➢ Mechanical steering: - Maximum linkages involved and/or smallest steering dia., steering gear box: - maximum number of gears to be preferred over recirculating ball type. ➢ Unladen mass on front axle if differ more than 15 %, then test to be conducted on heaviest vehicle to cover all combinations in between for a particular steering mechanism type. ➢ Worst case to be studied in detail, based on change content among the variants.
6	Type -1	Windscreen wiper	CF+ Test	Minimum Swept area for cabin tractors only

7	Type -1	Flasher Frequency	DV +Test	Flasher frequency can be verified on any sample.
8	Type -1	Bystander's Noise level	CF+ Test	➢ Fastest tractor and/or more number of rotating parts in transmission and/or position of exhaust outlet and/or each unique body construction & sheet metal styling and/or highest power @ rated rpm (if cubic capacity, number of cylinder, rated rpm remains same). ➢ If engine power among variants varies more than 20 % highest horse power tractor to be verified with same engine & body works.
9	Type -1	Operator ear level noise	CF+ Test	➢ More number of rotating parts in transmission and/or position of exhaust outlet and/or each unique body construction & sheet metal styling and/or highest power @ rated rpm (if cubic capacity, number of cylinder, rated rpm remains same). ➢ If engine power among variants varies more than 20 % highest horse power tractor to be verified with same engine & body works.
10	Type -1	Wheel nuts & Hub cab	CF+ Test	Each sample to be tested on any sample as per CMVR rules. Earlier reports if available can be extended for same size of wheel nuts / hub cap earlier tested.
11	Type -1	Driver's Field of vision	Test	➢ Max number of masking affects entering in to sector of vision,
12	Type -1	Maximum designed speed	DV +Test	Maximum designed speed
13	Type-2	Provision for display of vehicle registration mark on Front & Rear	DV+CF	Manufacturer's declarations, installation drawings to be accepted for different layouts for provision of display of registration marks on front & rear.
14	Type-2	Conditions of tyre	CF	To be verified on samples selected for type-1 test. For variants additions etc. manufacturer's declaration may be accepted.
15	Type-2	Size & Ply rating of tyres	DV+CF	To be verified on samples selected for type-1 test. For variants additions etc. manufacturer's declaration may be accepted.
16	Type-2	Steering gears, Joints , steering linkages for Agricultural Tractors	CF	Manufacturer's declaration to be accepted with suitable drawings etc. To be verified on samples selected for type-1 test.
17	Type-2	Forward & Backward motion (Reverse Gear Fitment)	CF	Manufacturer's declaration to be accepted with suitable drawings etc. To be verified on samples selected for type-1 test.
18	Type-2	Windscreen wiper (4)	CF	Each unique design to be physically inspected.
19	Type-2	Direction indicator turn signals	DV+CF	Fitment / Flasher frequency can be verified on any sample.
21	Type-2	Fitment of reflectors for agricultural	DV+CF	To be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable

		tractors		drawings etc.
22	Type-2	Head lamp construction/installation/In-service adjustment as per rule 124/124-A	DV+CF	To be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable drawings etc. Each unique installation layout with maximum and/or minimum tyre size to be provided by manufacturer for all variants / versions.
23	Type-2	Use of red , white light	CF	To be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable drawings etc.
24	Type-2	Prohibition of spot light	CF	To be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable drawings etc.
25	Type-2	Exhaust gases	CF	To be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable drawings etc.
26	Type-2	Location of exhaust gases pipes	CF	To27 be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable drawings etc.
27	Type-2	Emission of smoke, vapour etc. from agricultural tractor.	DV+CF	To be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable drawings etc.
28	Type-2	Engine RPM -cum-hour meter	CF	To be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable drawings etc.
29	Type-2	Fitment of Horn	DV+CF	To be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable drawings etc.
30	Type-2	Silencer & Noise Level requirement	CF	Fitment check with each silencer / air cleaner type
31	Type-2	Painting of Motor Vehicle	CF	To be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable drawings etc.
32	Type-2	Embossment of chassis number on Vehicle & Engine serial number on engine	DV+CF	To be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable drawings etc.
33	Type-2	Location of punching	DV+CF	To be verified on samples selected for type-1 test. For variants Manufacturer's declaration to be accepted with suitable drawings etc.
34	Type-2	Type approval of component & their COP compliance.	DV+CF	Type approval certificate validity to be checked for all safety related components. Fitment if required can be verified on samples selected for type-1 test. For variants/versions Manufacturer's declaration to be accepted with suitable drawings etc.

35	Type-2	"Requirement for bulbs fitted on following lamps :-	DV+CF	Type approval certificate validity to be checked for all safety related components. Fitment if required can be verified on samples selected for type-1 test. For variants/versions Manufacturer's declaration to be accepted with suitable drawings etc.
36	Type-2	(a) Head light main & dip , (b) Parking Light , (c) Direction indicator lamp , (d) Tail lamp , (e) Reversing lamp , (f) Stop lamp ,(g) rear registration lamp , (h) Top light "	DV+CF	Type approval certificate validity to be checked for all safety related components. Fitment if required can be verified on samples selected for type-1 test. For variants/versions Manufacturer's declaration to be accepted with suitable drawings etc.
37	Type-2	Hydraulic brake hose wherever used.	DV+CF	Type approval certificate validity to be checked for all safety related components. Fitment if required can be verified on samples selected for type-1 test. For variants/versions Manufacturer's declaration to be accepted with suitable drawings etc.
38	Type-2	Wheel nuts & hub caps	DV+CF	Each sample to be tested on any sample as per CMVR rules. Earlier reports if available can be extended for same size of wheel nuts / hub cap earlier tested.
39	Type-2	Protective structures (CAB/ROPS etc.) wherever fitted	DV+CF	Each tractor with unique ROPS/CAB structure to be verified. Results can be extended to non-rops variants /versions for ROPS only but for CAB version to be tested separately.
40	Type-2	Load platform wherever used	DV+CF	Each unique sample to be tested.
41	Type-2	Attendant's seat wherever used	DV+CF	Compliance can be done with installation, drawings & undertaking. If required can be verified on samples selected for type-1 test.
42	Type-2	Rear view mirror performance & Installation requirements	DV+CF	Type approval validity of each unique rear view mirror to be checked.
43	Type-3	performance requirements of Rear warning triangle (AIS-088)	DV	Type approval validity of each unique rear warning triangle to be checked.
44	Type-3	Vegetable , non-mineral hydraulic fluid wherever used	DV	Manufacturer's declarations can be accepted for compliance.
45	Type-3	Front/Rear Tow hook wherever used.	DV	Compliance can be done with installation, drawings & undertaking. If required can be verified on samples selected for type-1 test. Manufacturer's declarations can be accepted for variants/versions.
46	Type-3	Fuel tank (Metallic or Plastic)	DV	Type approval validity of each unique fuel tank to be checked. Manufacturer's declarations can be accepted for variants/versions.
47	Type-3	Front & rear ballast mass where ever used on agricultural	DV	Compliance can be done with installation, drawings & undertaking. If required can be verified on samples selected

		tractors		for type-1 test.

CF = Check fitment
DV = Document verification
Test = conducting test as per respective standard notified in CMVR.

1 – Guidelines mentioned in the table below are only for reference for test agency and manufacturer to decide for selection of test samples require for test, however test agency in consultation with manufacturer can formulate worst case criteria supported by earlier test results, change in specification & accordingly can select the test sample for CMVR verification.. It's in discretion power of test agency that in consultation with manufacturer it can further extend the test results to any variants / versions if change content does not affect the test parameters adversely or where there is sufficient margins in the test results with respect to requirements & change content criticality..

2- As & when new requirement / standards will be notified in CMVR, until this standard covers the WCC criteria for new requirements, test agency in consultation with manufacturer can apply worst case criteria for these new requirements also based on change content in aggregates among different models.

3- Earlier test results/reports wherever available can also be used for consideration to finalizes WCC for selection of test samples.

ANNEX – F
(See Para 12.0)
Formats for Certificate of Compliance

F-1.0 The format of the Certificate of compliance consolidating all applicable provisions, for a new model (type) is given Table **F1**.

Note 1 Para No.3 given in **Table F1** is to be included only in the case of certificates for incompletely built vehicles.

Note 2 If the numbers of variants/Versions are too many to be included in the certificate, a list may be attached.

F-2.0 The format for certificates of extension approval

F-2.1 The format for certificates of extension approval given in **Table F2.1**, is applicable for approval of changes in the brief technical specification and/or Table 11 (of AIS-007), other than inclusion of a variant.

F-2.2 The format for certificates of extension approval given in **Table F2.2**, is applicable for approval of changes in the brief technical specification and/or Table 11(of AIS-007), for inclusion of a variant.

F-2.3 The format for certificates of extension approval given in **Table F2.3**, is applicable for approval of compliance to additional provisions of Central Motor Vehicle Rules 1989

F-2.4 In the case of **F2.1** and **F2.3,** where the information to be conveyed by the certificate of extension of approval is common for a number of models, at the manufacturer's request, the certificate of extension of approval shall be combined into one document, by giving the details of the base model and certificates in an attached annexure.

F-2.5 In the case of other changes, (those which do not have a change in brief technical specification of Table 11 of AIS-007) the extension of approval shall be communicated by the test agency to the vehicle manufacturer suitably.

F-2.6 **Tables F3.1**, **F3.2** and **F3.3** are formats for the annexes referred to in the above tables

F-3.0 The following shall be attached to the certificate, which along with the documents listed in constitute the compliance to the provisions of CMVR.

(a) Brief technical specification (Table 16 of AIS-007) submitted by the manufacturer, duly attested by the test agency.

(b) Table 11 of AIS-007, submitted by the manufacturer, duly attested by the test agency.

F-4.0 The Testing Agency shall also issue reports of all tests conducted by that agency to the vehicle manufacturer separately. For the purpose of records, the detailed specification submitted by the manufacturer, as per applicable tables of and other documents submitted as per AIS-007.

Reference to the documents as per **10.4** shall not be indicated in the certificate or certificate of extension of approval.

F-5.0 Certificate Number

F-5.1 Certificates issued as per F-1, shall have numbering system as given in AIS-117.

F-5.2 Certificates issued as per F-2.1, F-2.2 and F-2.3 shall have the number starting that allotted as per F-5.1, followed by characters of test agencies choice.

F-5.3 Certificates issued as per **F-2.4**, shall have the number at the choice of the

Test agency. However, this shall not be part of series used for the extra strings used for **F-5.2.**

TABLE F1

Format for Certificate of Compliance to the Central Motor Vehicles Rules.
(TEST AGENCIES TO FINALISE COMMON FORMAT FOR AGRICULTURAL TRACTOR – TO ERADICATE DIFFERENT FORMATS BEING USED BY DIFFERENT AGENCIES

Certificate No.			Date		
	Cert	Brief	table11	Drg.	Total
					# pgs

CERTIFICATE
FOR COMPLIANCE TO CENTRAL MOTOR VEHICLE RULES

1. In order to establish compliance to the provisions of CMVR, 1989 applicable as on date, documentary verification/necessary testing was carried out, on the following base model and its variants submitted by the vehicle manufacturer, referred below

This certificate supersedes *(If applicable, earlier certificate No)*		Vehicle Manufacturer/Applicant		
	Type / Description	category	Engine Power	PTO Power
Base Model				
Variants				

2. It is certified that the above model/variant comply with the provisions of Central Motor Vehicle Rules 1989, as amended upto date, as detailed at Annexure I. The Brief Technical specification of the model and variant, submitted by the manufacturer and duly attested by us, is attached to this certificate.
Seating layout / LPG / CNG

3. Compliance to rules listed in Annexure II, are to be verified after body building, at the time of registration.

4. This certificate is issued under the conditions specified in paragraph **9.4** of AIS-017

Authorized signatories

Name Designation	Name Designation

TABLE F 2.1
Format For Extension Certificate of Compliance to the Central Motor Vehicles Rules.

(For changes in Brief Technical Specification other than inclusion of variants)
(TEST AGENCIES TO FINALISE COMMON FORMAT FOR AGRICULTURAL TRACTOR – TO ERADICATE DIFFERENT FORMATS BEING USED BY DIFFERENT AGENCIES.)

Certificate No.				Date		
		Cert	Brief	table1 1	Drg	Total
						# pgs

CERTIFICATE
FOR COMPLIANCE TO CENTRAL MOTOR VEHICLE RULES

1. In order to establish compliance of changes carried out in the Brief Technical specification to the already certified model/variant, by the manufacturer, to the provisions of CMVR, 1989 applicable as on date, documentary Verification /necessary testing was carried out, on the following base model and its variants submitted by the vehicle manufacturer, and referred below.

Vehicle Manufacturer	
Base Model	

2. It is certified that the compliance to provisions of Central Motor Vehicle Rules 1989, as amended upto date, as per CMVR Certificate No. ----- dated----- is also applicable to the endorsed changes.
The Brief Technical specification of the model and variant, submitted by the manufacturer incorporating the changes and duly attested by us, is attached to this certificate.

3. This certificate is issued under the conditions specified in paragraph **9.4** of AIS 017

Authorized signatories

Name Designation	Name Designation

TABLE F 2.2
Format for Extension Certificate of Compliance to the Central Motor Vehicles Rules.

(For inclusion of variant/s)
(TEST AGENCIES TO FINALISE COMMON FORMAT FOR AGRICULTURAL TRACTOR – TO ERADICATE DIFFERENT FORMATS BEING USED BY DIFFERENT AGENCIES.)

Certificate No.			Date			
	Cert	Brief	table1 1	Drg	Total	
					# pgs	
CERTIFICATE FOR COMPLIANCE TO CENTRAL MOTOR VEHICLE RULES						
1. In order to establish compliance of additional variants to the already certified model/variant, to the provisions of CMVR, 1989 applicable as on date, documentary verification/necessary testing was carried out, on the following base model/variants submitted by the vehicle manufacturer, referred below.						
	Vehicle Manufacturer					
Base Model	Type/ Description	category	Engine power	PTO Power		
Additional Variants						
2. It is certified that the above additional variant/s comply with the provisions of Central Motor Vehicle Rules 1989, as amended up to date, as detailed at Annexure I. The Brief Technical specification of the model and variant, submitted by the manufacturer and duly attested by us, is attached to this certificate.						
3. Compliance to rules listed in Annexure II, are to be verified after body building, at the time of registration.						
4. This certificate is issued under the conditions specified in paragraph **9.4** of AIS 017						
Authorized signatories						
Name Designation	Name Designation					

TABLE F2.3
Format for Extension Certificate of Compliance to the Central Motor Vehicles Rules.
(For changes in provisions of CMVR)
(TEST AGENCIES TO FINALISE COMMON FORMAT FOR AGRICULTURAL TRACTOR – TO ERADICATE DIFFERENT FORMATS BEING USED BY DIFFERENT AGENCIES.)

Certificate No.			Date		
	Cert	Brief	table11	Drg	Total
					# pgs

CERTIFICATE
FOR COMPLIANCE TO CENTRAL MOTOR VEHICLE RULES

1. In order to establish compliance of additional variants to the already certified model/variant, to the additional provisions of CMVR, 1989 applicable as on date, documentary verification/necessary testing was carried out, on the following base model/variants submitted by the vehicle manufacturer, referred below.

Vehicle Manufacturer	
Base Model	

2. It is certified that the models and variants listed in CMVR Certificate No.---- - dated----- comply to the additional provisions of Central Motor Vehicle Rules 1989, as amended upto date, as listed in Annexure I.

3. This certificate is issued under the conditions specified in paragraph **9.4** of AIS 017

Authorized signatories

Name Designation	Name Designation

Table F
3.1
Format for Annexure I referred in Table F2.2

List of provision of CMVR for which compliance has been established				
CMV Rule No.	Subject	Sub-Rule No.	Standard (if any)	

Table F
3.2
Format for Annexure II referred in Table F1.

List of provision of CMVR for which are to be verified after body building at the time of registration			
CMV Rule No.	Subject	Sub-Rule No.	

Table F
3.3
Format for Annexure I referred in Table F2.3

	List of provision of CMVR for which compliance has been established				
Notification No and date	CMV Rule No.	Subject	Sub-Rule No.	Standard (if any)	

ANNEX-G
(See Introduction)
COMMITTEE COMPOSITION *
Automotive Industry Standards Committee

Chairperson	
Mrs. Rashmi Urdhwareshe	Director The Automotive Research Association of India, Pune
Members	**Representing**
Representative from	Ministry of Road Transport and Highways (Dept. of Road Transport and Highways), New Delhi
Representative from	Ministry of Heavy Industries and Public Enterprises (Department of Heavy Industry), New Delhi
Shri S. M. Ahuja	Office of the Development Commissioner, MSME, Ministry ofMicro, Small and Medium Enterprises, New Delhi
Shri Shrikant R. Marathe	Former Chairman, AISC
Shri N. K. Sharma	Bureau of Indian Standards, New Delhi
Director/ Shri D. P. Saste (Alternate)	Central Institute of Road Transport, Pune
Director	International Centre for Automotive Technology, Manesar
Director	Indian Institute of Petroleum, Dehra Dun
Director	Vehicles Research and Development Establishment, Ahmednagar
Representatives from	Society of Indian Automobile Manufacturers
Shri T. R. Kesavan	Tractor Manufacturers Association, New Delhi
Shri Uday Harite	Automotive Components Manufacturers Association of India, New Delhi

Member Secretary
Shri A. S. Bhale
General Manager
The Automotive Research Association of India, Pune

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