

**AUTOMOTIVE INDUSTRY STANDARD**

**Construction Equipment Vehicles  
or Earth-moving Vehicles / Machinery  
- Product Identification  
Numbering System**

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 & HIGHWAYS  
(DEPARTMENT OF ROAD TRANSPORT & HIGHWAYS)  
GOVERNMENT OF INDIA

October 2015

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

<b>Sr. No.</b>	<b>Corrigenda.</b>	<b>Amendment</b>	<b>Revision</b>	<b>Date</b>	<b>Remark</b>	<b>Misc.</b>

**General remarks:**

## 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 Standards 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 (CMVR-TSC). After approval, the Automotive Research Association of India, (ARAI), Pune, being the Secretariat of the AIS Committee, will publish this standard. For better dissemination of this information ARAI has published this document on their Web site.

Presently most of the Construction Equipment Vehicles and self-propelled Earth moving Vehicles / Machinery are complying ISO 10261:2002 for Product Identification Numbering (PIN) system. Prevailing CMVR requirements for Vehicle Identification Numbering (VIN) system as per AIS-065 notified under CMV Rule 122 is not applicable for Construction Equipment Vehicles. However, GSR 810 (E), regarding VAHAN data requires Vehicle Identification Number (chassis number) for uploading registration details of these vehicles as well from 1<sup>st</sup> October 2015. To fulfill this urgent need, AISC panel has prepared a new AIS based on ISO 10261:2002.

The AISC panel and the Automotive Industry Standards Committee (AISC) responsible for preparation of this standard are given in Annex B and Annex C respectively.

**Construction Equipment Vehicles or Earth-moving Vehicles /  
Machinery - Product Identification Numbering system**

<b>Paragraph No.</b>	<b>Contents</b>	<b>Page No.</b>
1.	Scope	1/10
2.	Definitions	1/10
3.	General requirements	2/10
4.	Product label/Plate	4/10
5.	Marking	5/10
6.	PIN character readability	6/10
7.	Instruction manual references	6/10
8.	Approval for compliance	7/10
<b>List of Annexes</b>		
Annex A	WMC listing procedure	8/10
Annex B	Composition of AISC panel on product identification numbering for Construction Equipment Vehicle	9/10
Annex C	Committee composition Automotive Industry Standards Committee	10/10

## **Construction equipment vehicles or Earth-moving Vehicles / Machinery-Product Identification Numbering system**

### **1. SCOPE**

This standard specifies the requirements, content, structure and identification location of a product identification numbering system for Construction Equipment Vehicle and/or Earth-moving vehicles / machinery as may be defined in CMV Rule 2 (cab).

It is not applicable to the identification of components or attachments.

### **2. DEFINITIONS**

For the purposes of this standard, the following terms and definitions apply.

#### **2.1 Product Identification Number (PIN)**

Unique set of 17 alphanumeric characters assigned to a complete vehicles by the manufacturer for identification purposes.

NOTE: The PIN consists of four fields as defined in 2.1.1 to 2.1.4.

##### **2.1.1 World Manufacturer Code (WMC)**

First field of the PIN, alphanumeric code designating the manufacturer of the vehicle/ machine.

##### **2.1.2 Vehicle/ Machine Descriptor Section (MDS)**

Second field of the PIN, comprising information describing the vehicle.

##### **2.1.3 Vehicle/ Machine Indicator Section (MIS)**

Last field of the PIN, distinguishing, in conjunction with the WMC and MDS, one vehicle/ machine from another by designation.

##### **2.1.4 Check Letter Section: (CL)**

Third field of the PIN, consisting of an alpha character in the ninth position based on a calculation of the remaining 16 characters in the PIN and determining its validity or assigned, non-calculated, alpha character.

#### **2.2 Primary marking**

PIN placed on a vehicle/ machine in a visible location.

#### **2.3 Concealed marking**

PIN, or derivative consisting of the MIS, placed on the vehicle/ machine in a concealed location.

#### **2.4 Product label/plate**

Means of displaying the PIN and vehicle /machine details on the machine.

## 2.5 **Field**

Set of one to eight character positions reserved for specific information

EXAMPLES: WMC, MDS, MIS, CL.

## 2.6 **Manufacturer**

Individual, partnership or company responsible for ensuring the uniqueness of the PIN.

NOTE: The manufacturer may be a single entity even when several factories produce the product.

# 3 **GENERAL REQUIREMENTS**

## 3.1 **Characters in the PIN**

The primary marking on the vehicle / machine and on the product label/plate shall consist of 17 characters on a single horizontal line without breaks or separations between the characters. There shall be no additional signs, letters or characters before or after the preceding and ensuing symbols specified in 3.2. Zero (0) shall be used in the first positions of a field whenever fewer than the required number of characters is used.

EXAMPLE: In the MDS, for model “AF3”, write 00AF3, not AF3.

## 3.2 **Protection against adding characters**

An acceptable symbol shall immediately precede the first numeral or letter of the PIN and immediately follow the last numeral of the PIN.

The acceptable symbol shall be

- an asterisk (\*),
- greater-than and less-than signs (> <),
- a corporate symbol, or
- a company logo.

Instead of greater-than and less-than signs, angular brackets or similar “vee” symbols horizontally pointing inwards may be placed on either side of the PIN.

## 3.3 **Allowed characters**

The following characters only shall be used in the PIN:

1234567890

ABCDEFGHIJKLMNOPQRSTUVWXYZ

Characters I, O & Q shall not be used.

## 3.4 **World Manufacturer Code (WMC)**

WMC shall consist of three alphanumeric (alpha or numeric) characters in positions 1, 2 and 3. The manufacturer shall follow the procedure in Annex A to secure a WMC listing. The registration process will require sufficient information to identify a manufacturer.

### 3.5 Vehicle/ Machine Descriptor Section (MDS)

The MDS shall consist of five alphanumeric characters in positions 4, 5, 6, 7 and 8. The manufacturer is to determine the coding and sequence of the information. This field may be comprised of general descriptive attributes of the vehicle/ machine. It is recommended that this field make use of information that is readily visible on the vehicle/ machine.

EXAMPLE: For a model 493C, a suitable character sequence would be 00493 or 0493C.

### 3.6 Vehicle/ Machine Indicator Section (MIS)

The MIS shall designate a unique manufacturing number and consist of eight alphanumeric characters in positions 10, 11, 12, 13, 14, 15, 16 and 17. Alpha or numeric characters may be used in positions 10, 11, 12 and 13. Only numerals shall be used in positions 14, 15, 16 and 17. The content of the MIS is at the discretion of the manufacturer. The manufacturer may choose to designate the year of manufacture. It is recommended that the year be indicated by the first character of the MIS (position 10). The recommended code to be used to identify the year is given in Table 1.

### 3.7 Check Letter (CL)

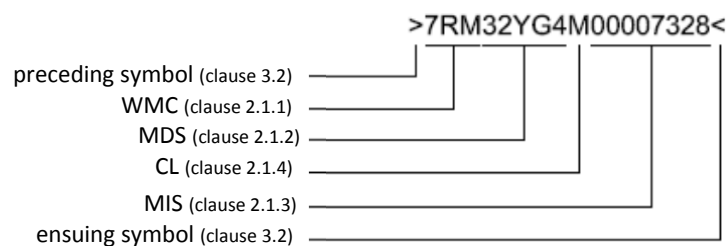
The calculation to determine the CL shall be based on a formula provided by the website manager to the manufacturer (see annex A). As an alternative, the website manager may provide a non-calculated letter that the manufacturer may use in this position for vehicle/ machine models having a volume of less than 100 units per year.

### 3.8 Duplication

The manufacturer shall ensure that the same 17-character PIN number shall not be reissued for 30 years. The manufacturer is responsible for maintaining a complete file of PIN records for all vehicle/ machine using the assigned WMC.

### 3.9 PIN format

The following example shows a PIN meeting the requirements of this Standard.



## 4 PRODUCT LABEL/PLATE

### 4.1 Components

The product label/plate (see Figure 1) shall contain at least the following information:

- a) name and address of manufacturer;
- b) machine model designation, or designation of series or type (if any), which shall be arranged according to the manufacturer's specifications;
- c) the words "Product Identification Number" written in full or PIN;
- d) the month and year of manufacturing shall be indicated by a suitable code or format decided by the vehicle/ machine manufacturer.

The brand name or company-trademarked logo may be included. The sample label/plate shown in Figure 1 meets the requirements of this standard.

Text on the product label/plate shall be in a colour that contrasts with the colour of the background. Product label/plate materials shall be selected to maintain legibility during the expected life of the vehicle/ machine.

The product label/plate shall be constructed in a manner that makes it difficult to alter or remove without detection or mutilation.

In case of vehicle/ machine imported there shall be second plate with addition regional information's.

#### 4.1.1 CMVR type-approval number.

The testing agencies referred in Rule 126 of the Central Motor Vehicles Rules, 1989, shall adopt the following methodology for numbering the Type Approval Certificates. The Type Approval certificate shall be in 8 digits to indicate the following as given below.

1 digit code for the Test Agency	1 digit code for the Type of certificate	1 digit code for the year of certification	1 digit code for the miscellaneous information on the type of vehicle	4 digit code for the Serial Number of the Type Approval Certificate
(1)	(2)	(3)	(4)	(5)

The digit Codes referred above shall represent the following details.

#### (1) Code for test agency:

- A - Automotive Research Association of India (ARAI).
- V - Vehicles Research and Development Establishment (VRDE)
- P - Indian Institute of Petroleum (IIP).
- T - Central Machinery testing and Training Institute (CFMTTI).
- C – International Centre for Automotive Technology (ICAT).
- R – Central Institute of Road Transport (CIRT).



(2) Code for the Type of certificate:

A - Base Certificate

(3) Code for the Year of Certification:

A - 2005, B - 2006, C - 2007, D - 2008 ----- Z - 2029.

(4) Code for Miscellaneous Information:

N - Conventional vehicles like Gasoline and Diesel.

A - CNG vehicles.

L - LPG vehicles.

B - Battery Operated Vehicles.

H - Hybrid Vehicles.

(5) Four digit Code for the Serial Number of the Type Approval Certificate.

0009, ..... 0099..... 0999, ..... 9999

## 4.2 Location

The product label/plate shall be placed in such a location as to minimize the risk of damage during vehicle/ machine operation or from weathering.

The preferred location of the product label/plate is on the right/Left-hand side of the vehicle/ machine and on the frame or other permanent structure of the vehicle/ machine not considered a replaceable item. The location should be adjacent to the operator's access area in a clearly visible and accessible position.

The product label/plate shall be visible without removing any part of the vehicle/ machine and shall be readable under daylight conditions.

## 4.3 Fixation

The product label/plate shall be affixed to the vehicle/ machine in a manner that makes it difficult to alter or remove without detection or mutilation.

# 5 MARKING

## 5.1 Primary marking

The PIN shall be embossed, stamped or engraved on a frame or other permanent structure not subject to replacement and in a clearly visible and accessible position, readable from outside the vehicle/machine. For large vehicles/ machines, the preferred primary marking location is on the left/Right-hand side near the front of the vehicle/ machine.

## 5.2 Optional marking

### 5.2.1 Product label/plate

The label/plate shall be in accordance with clause 4.

### 5.2.2 Concealed marking

The vehicle/ machine may also have a concealed marking consisting of the PIN or a derivation of the PIN. The aim of this marking is to make identification of the vehicle/ machine possible if the primary marking is destroyed or becomes unreadable. The concealed marking location shall not

be published in the operator's or service manuals; it is to be divulged only to authorized law enforcement officers and others on a need-to-know basis.

The concealed marking location shall be

- a) difficult to discover accidentally,
- b) possible to read by use of a flashlight or mirror,
- c) placed on a permanent structure or a part of the machine not susceptible to damage or repair, and
- d) visible without removing, detaching or dismantling any major part of the vehicle/ machine (except for lightweight guards, shields, etc.).

## **6 PIN CHARACTER READABILITY**

PIN characters on the product label/plate shall be embossed, stamped, engraved, impressed, laser-cut or printed in a durable manner.

PIN characters on the vehicle/ machine structure shall be stamped, laser-cut or engraved in accordance with 5.1 or 5.2.2.

For stamped characters, the minimum depth shall be 0.2 mm.

The minimum height of characters (numerals and letters) shall be

- a) at least 5 mm for characters marked in the empty spaces on the product label/plate, and
- b) at least 7 mm for characters marked directly on the vehicle/ machine structure.

## **7 INSTRUCTION MANUAL REFERENCES**

The locations in which the primary marking and product label/plate appear on the vehicle/ machine shall be shown and described in the instruction manual for operation and maintenance, or equivalent product publications.

Year	Code	Year	Code	Year	Code	Year	Code
2015	F	2023	P	2031	1	2039	9
2016	G	2024	R	2032	2	2040	A
2017	H	2025	S	2033	3	2041	B
2018	J	2026	T	2034	4	2042	C
2019	K	2027	V	2035	5	2043	D
2020	L	2028	W	2036	6	2044	E
2021	M	2029	X	2037	7	2045	F
2022	N	2030	Y	2038	8	2046	G
						2047	H

**Table1**  
**Year Designation Code**

	Manufacturers name
	Manufacturers address
Model	ABC 123
Product Identification Number	*7RM32YG4M00007328*
Month & year	06/2013
Brand Name or company trademarked logo	

Figure 1

**Product Label/plate - Example****8. APPROVAL FOR COMPLIANCE**

8.1 **Compliance by the Vehicle manufacturer:** The compliance to this standard for certification purposes shall be established by the testing agencies referred in Rule 126 of the Central Motor Vehicles Rules, 1989 by verifying the documents submitted by the vehicle manufacturer. These documents shall include the following.

- i) Information as per Table – 11 of AIS: 007.
- ii) Information regarding the World Manufacturer's Code (WMC).

**ANNEX A**  
(Normative,  
See clause 3.4)

**WMC LISTING PROCEDURE**

**A.1 Initiation of listing**

The listing request procedure shall be initiated as follows.

- a) Log on to the website:

<http://standards.iso.org/iso/10261>

- b) Select “WMC list” (“World Manufacturer Codes List”). Review the list of currently used WMC characters and select an alphanumeric character set not yet used.

- c) Send communication to test agency where CMVR compliance is being sought providing the following information:

- 1) selected WMC character set;
- 2) name of manufacturer;
- 3) complete mail delivery address;
- 4) name of manufacturer’s representative;
- 5) telephone number;
- 6) facsimile number;
- 7) representative’s electronic mail address;
- 8) manufacturer’s Internet domain name.

**A.2 Confirmation of listing**

The listing shall be confirmed by the website manager as follows.

- a) Review and verify the submitted information.
- b) Reply to confirm the WMC listing and transmit the formula for calculating the CL and the letter to be used for a non-calculated CL.

The manufacturer shall notify the website manager of any change of representative within 30 days.

In the event of the manufacturer merging with another company that already has an existing WMC, either both codes may continue to be used or the use of one or the other discontinued.

**ANNEX B**  
(See Introduction)

**COMPOSITION OF AISC PANEL ON  
PRODUCT IDENTIFICATION NUMBERING  
FOR CONSTRUCTION EQUIPMENT VEHICLE\***

<b>Convener</b>	
Mr. A. A. Badusha	The Automotive Research Association of India (ARAI)
<b>Members</b>	<b>Representing</b>
Mr. Vishal Rawal	The Automotive Research Association of India (ARAI)
Mr. Saurabh Dalela	JCB India Ltd.,
Mr. Karthik Kaliappan	John Deere India Pvt Ltd.
Mr. K.Vijay	Ajax Fiori Engineering (I) Pvt. Ltd
Mr. K Reji Jose	Caterpillar India Ltd.
Mr. Vivek Rawat	JCB India Ltd.,
Mr. Suresh Kumar M.	Larsen & Toubro Limited
Mr. Rajeev Shalia	Case Construction Equipment
Mr. Bhaskaran Venkataramani	Caterpillar India Ltd.
Mr. Venkatesh Balasingam	Caterpillar India Ltd.
Mr. G,Rajendra.	Mahindra& Mahindra Construction Equipment Division
Mr. M.Rajendran	Komatsu India Pvt.Ltd.
Mr. Ashok	Volvo Construction Equipment Ltd.,
Mr. S. G. Roy	Indian Earthmoving & Construction Industry Association Ltd.

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

**ANNEX C**  
(See Introduction)

**COMMITTEE COMPOSITION \***  
**Automotive Industry Standards Committee**

<b>Chairperson</b>	
Mrs. Rashmi Urdhwareshe	Director The Automotive Research Association of India, Pune
<b>Members</b>	<b>Representing</b>
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 of Micro, 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	Indian Institute of Petroleum, Dehra Dun
Director	Vehicles Research and Development Establishment, Ahmednagar
Representatives from	Society of Indian Automobile Manufacturers
Shri T. C. Gopalan	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)