SAE International™

SURFACE VEHICLE RECOMMENDED PRACTICE

J2750

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Assigned Identification Number Structure and Usage for North American Vehicles/Watercraft Other than Certified to Federal Regulations

RATIONALE

Not applicable.

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TO PLACE A DOCUMENT ORDER: **Tel: 877-606-7323 (inside USA and Canada)**
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FOREWORD

This document was established to encourage commonality in identifier designation of vehicles by state or provincial governments when an original-equipment Identification Number is unavailable or inappropriate for use.

1. SCOPE

This SAE Recommended Practice establishes recommended procedures for the issuance, assignment, and structure of Identification Numbers on a uniform basis by states or provinces for use in an Assigned Identification Number (AIN).

1.1 Purpose

This procedure was developed to assist in identifying the vehicle, including its point of origin. Coordination of state-wide or provincial-wide World Manufacturer Identifiers (WMIs) by a single organization avoids duplication of state assigned identifiers and assists in the identification of vehicles by agencies such as those concerned with motor vehicle titling and registration, law enforcement, and theft recovery.

2. REFERENCES

2.1 Applicable Publications

The following publications form a part of the specification to the extent specified herein. Unless otherwise indicated the latest revision of SAE publications shall apply.

2.1.1 SAE Publications

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001, Tel: 877-606-7323 (inside USA and Canada) or 724-776-4970 (outside USA), www.sae.org.

SAE J187 Truck Vehicle Identification Numbers

SAE J218 Passenger Car Identification Terminology

SAE J272 Vehicle Identification Number Systems

SAE J853 Vehicle Identification Numbers

SAE J1044 World Manufacturer Identifier

SAE J1229 Truck Identification Terminology

3. DEFINITIONS

3.1 Bus

A motor vehicle with motive power, except a trailer, designed for carrying more than 10 persons.

3.2 Low-Speed Vehicle (LSV)

A motor vehicle, (1) that is 4-wheeled, (2) whose speed attainable in 1.6 km (1 mile) is more than 32 kilometers per hour (20 miles per hour) and not more than 40 kilometers per hour (25 miles per hour) on a paved level surface, and (3) whose GVWR is less than 1134 kilograms (2500 pounds).

3.3 Motorcycle

A motor vehicle with motive power having a seat or saddle for the use of the rider and designed to travel on not more than three wheels in contact with the ground.

3.4 Motor Home

A multi-purpose vehicle with motive power that is designed to provide temporary residential accommodations, as evidenced by the presence of at least four of the following facilities: cooking; refrigeration or ice box; self-contained toilet; heating and/or air conditioning; a potable water supply system including a faucet and a sink; and a separate 110-125 volt electrical power supply and/or an LP gas supply.

3.5 Multipurpose Passenger Vehicle (MPV) (SUV)

A motor vehicle with motive power, except a low-speed vehicle or trailer, designed to carry 10 persons or less which is constructed either on a truck chassis or with special features for occasional off-road operation

3.6 Passenger Car

A motor vehicle with motive power, except a low-speed vehicle, multipurpose passenger vehicle, motorcycle, or trailer, designed for carrying 10 persons or less.

3.7 Truck

A motor vehicle with motive power, except a trailer, designed primarily for the transportation of property or special purpose equipment.

3.8 Truck Tractor

A truck designed primarily for drawing other motor vehicles and not so constructed as to carry a load other than a part of the weight of the vehicle and the load so drawn.

3.9 Trailer

A motor vehicle with or without motive power, designed for carrying persons or property and for being drawn by another motor vehicle.

3.10 Assigned Identification Numbers (AIN)

The number assigned to a motor vehicle by the state, or province primarily for registration and identification purposes.

3.11 World Manufacturer Identifier (WMI)

The first section of the AIN consisting of a code designating the issuer of the AIN. WMI codes have been reserved for each US and Mexican state. **US States must apply to SAE for a WMI code. Applications for a WMI by a Mexican state must be submitted to the Secretary of the Economy, Mexico City, Mexico. Canada's provincial assignments will be handled by the Canadian Vehicle Manufacturer's Association.**

3.12 Check Digit

A single number or the letter X used to verify the accuracy of the transcription of the vehicle identification number.

3.13 Registration Year

Initial year of vehicle registration.

3.14 Other

For other basic definitions, see SAE J218 and SAE J1229.

4. BACKGROUND

a. ***SAE does not establish the requirement for any state or province to apply for or use a WMI. SAE will issue a WMI only upon application.***

b. The WMI shall consist of three characters.

c. The WMI, once issued, will not be re-issued for use by a different state, province, or vehicle manufacturer for a period of 10 years following the last known usage for a vehicle with that WMI.

d. If necessary, more than one WMI may be issued to a given state, province, or manufacturer.

5. ASSIGNMENT OF WMIs

SAE shall maintain, under the direction of the SAE Vehicle Identification Numbers Committee, a bank of WMIs.

Each state or province shall apply to their national organization for assignment of a unique, dedicated WMI to be used for all government issued AINs. WMIs have been reserved for each state and province.

Assignment of a WMI shall be made by the national organization upon receipt of a written request for such assignment by a state or province.

Requests for the assignment of a specific WMI will be honored, provided that the WMI conforms to the established system for identification and has not been previously assigned.

If a state or province does not accept the WMI assignment made by the national organization, a request may be made, in writing, for the assignment of a different WMI.

SAE shall maintain an alphabetical listing of all requesting states or provinces and their respective WMI.

6. STRUCTURE OF THE AIN

The AIN shall consist of numerals, letters, or combinations thereof.

The WMI shall be the first section of the AIN and consist of 3 characters.

The fourth and fifth (4-5) positions of the AIN shall be used to identify the vehicle type. Vehicle types shall be designated in accordance with Table 1.

TABLE 1 - VEHICLE TYPE DESIGNATIONS

Vehicle Type	Type Designation
Passenger Vehicle (Car or MPV/SUV)	PV
Motorcycle (non-electric)	MC
Motorcycle (Electric)	ME
Semi-truck / Truck-tractor	TT
Trailer (Camper, boat, utility, etc.)	TL
Truck (Cargo van; light, medium, and heavy duty truck)	TK
Motor home	MH
Low Speed Vehicles (LSV)	LS
Watercraft	BT
Bus	BS
Other	ZZ
Off-road use vehicle (construction equipment, farm equipment, snowmobile, motorcycle, all terrain vehicle)	AT

6.1 Vehicle Descriptor Section

Positions six through eight (6-8) shall be the Vehicle Descriptor Section (VDS) of the AIN. These positions are left to the discretion of the registering agency, although it is recommended that the character assignment be made in accordance with Tables 2, 3, and 4 to provide consistency. Any blank or unused position shall be filled with zero (0).

TABLE 2 - VEHICLE DESCRIPTOR SECTION - POSITION 6

Vehicle Type	Vehicle Characteristic		Character / Position 6
AT BS MH PV TK TL TT ZZ LS	Number of Axles	1	1
		2	2
		3	3
		4	4
		5	5
		6	6
		7	7
		8	8
		9	9
		10 or more	X
		Crawler Track	C
BT	Type	Boat without Power or Sails	B
		Powered Boat	M
		Personal Watercraft	P
		Sail Boat	S
MC ME	Number of Wheels	2	D
		3	T

TABLE 3 - VEHICLE DESCRIPTOR SECTION - POSITION 7

Vehicle Type	Vehicle Characteristic		Character / Position 7
AT BS MH PV TK TL TT ZZ LS	GVWR	3000 lbs or less	A
		3001 – 10 000 lbs	B
		10 001 – 14 000 lbs	C
		14 001 – 16 000 lbs	D
		16 001 – 19 500 lbs	E
		19 501 – 26 000 lbs	F
		26 001 – 33 000 lbs	G
		33 001 lbs or more	H
BT	Length	Less than 16‘	R
		16’ and over but under 26’	S
		26’ and over but under 40’	T
		40’ to 65’	V
		Over 65’	W
MC	Number of Engine Cylinders	1	1
		2	2
		3	3
		4	4
		5	5
		6	6
		7	7
		8	8
		9	9
		10 or more	X
ME	Electric Powered	Electric Powered	Z

TABLE 4 - VEHICLE DESCRIPTOR SECTION - POSITION 8

Vehicle Type	Vehicle Characteristic		Character / Position 8
AT BS BT MH PV TK TL TT ZZ LS	Power Type	CNG (Compressed Natural Gas)	C
		Diesel	D
		Electric	E
		Flex/Dual Fuel	F
		Gas	G
		LPG (Liquefied Petroleum Gas)	L
		Multi or Hybrid	M
		Towed Trailer	N
		Other	S
MC	Engine Displacement	250 cc or less	T
		251 – 499 cc	U
		500 – 900 cc	V
		901 – 1200 cc	W
		1201 – 1600 cc	X
		1601 cc or more	Y
ME	Motor Rating	500 Watts or less	1
		501 Watts to 749 Watts	2
		750 Watts to 1000 Watts	3
		Over 1000 Watts	4

6.2 Ninth Position

The ninth (9th) position of the AIN shall consist of a single character check digit. After all other characters in the AIN have been determined by the state or province; the check digit shall be calculated by carrying out the mathematical computation specified in this section. A sample calculation is included as Table 8.

a. Assign to each number in the AIN its actual mathematical value and assign to each letter the value specified in Table 5.

b. Multiply the assigned value for each character in the AIN by the position weight factor specified in Table 6.

c. Add the resulting products and divide the total by 11.

d. The numerical remainder or decimal equivalent determines the check digit value and the numbers 0-9 or the letter X that are used to indicate the check digit is obtained from Table 7.

TABLE 5 - ASSIGNED VALUES FOR LETTERS

A = 1	G = 7	N = 5	V = 5
B = 2	H = 8	P = 7	W = 6
C = 3	J = 1	R = 9	X = 7
D = 4	K = 2	S = 2	Y = 8
E = 5	L = 3	T = 3	Z = 9
F = 6	M = 4	U = 4	

TABLE 6 - AIN POSITION AND WEIGHT FACTORS

Position	Weight Factor	Position	Weight Factor
1	8	10	9
2	7	11	8
3	6	12	7
4	5	13	6
5	4	14	5
6	3	15	4
7	2	16	3
8	10	17	2
9	0		

TABLE 7 - 9TH POSITION CHECK DIGIT VALUES

Fractional Remainder	0	1/11	2/11	3/11	4/11	5/11	6/11	7/11	8/11	9/11	10/11
Decimal Equivalent Remainder	0	0.091	0.182	0.273	0.364	0.455	0.545	0.636	0.727	0.818	0.909
Check Digit	0	1	2	3	4	5	6	7	8	9	X

TABLE 8 - SAMPLE CHECK DIGIT CALCULATION

IN Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Sample AIN	1	G	4	A	H	5	9	H	-	5	G	1	1	8	3	4	1
Assigned Value	1	7	4	1	8	5	9	8	-	5	7	1	1	8	3	4	1
Weight Factor	8	7	6	5	4	3	2	10	0	9	8	7	6	5	4	3	2
Product	8	49	24	5	32	15	18	80	0	45	56	7	6	40	12	12	2
Sum of Products	8+49+24+5+32+15+18+80+0+45+56+7+6+40+12+12+2 = 411																
Divide by 11	411 / 11 = 37.364 or 37 4/11 (Whole number 37 with Remainder 4 or 0.364 rounded up)																
Check Digit	Check Digit = 4 (See Table 7)																
Completed AIN	1	G	4	A	H	5	9	H	4	5	G	1	1	8	3	4	1

6.3 Tenth Position

The tenth (10th) position of the AIN shall consist of a single alphanumeric character representing the year of initial vehicle registration. Character assignment shall be made in agreement with Table 9.

TABLE 9 - REGISTRATION YEAR CODES

Year	Code	Year	Code	Year	Code	Year	Code
1980	A	1997	V	2014	E	2031	1
1981	B	1998	W	2015	F	2032	2
1982	C	1999	X	2016	G	2033	3
1983	D	2000	Y	2017	H	2034	4
1984	E	2001	1	2018	J	2035	5
1985	F	2002	2	2019	K	2036	6
1986	G	2003	3	2020	L	2037	7
1987	H	2004	4	2021	M	2038	8
1988	J	2005	5	2022	N	2039	9
1989	K	2006	6	2023	P		
1990	L	2007	7	2024	R		
1991	M	2008	8	2025	S		
1992	N	2009	9	2026	T		
1993	P	2010	A	2027	V		
1994	R	2011	B	2028	W		
1995	S	2012	C	2029	X		
1996	T	2013	D	2030	Y		

6.4 Positions Eleven through Seventeen

Positions eleven through seventeen (11-17) shall be unique for the year of registration as designated in AIN position ten (10). States/Provinces may wish to further identify particular vehicles to provide details that may relate to licensing and other regulatory issues. Table 10 provides examples for the 11th, 12th, and 13th characters that would allow such detail to be noted and still provide 9999 possible unique Identification Numbers for each type of vehicle, each model year of use. Each year sequential numbers for each type of assembled vehicle should start with 0001 and run consecutively though 9999.

TABLE 10 - (POSITIONS 11, 12 AND 13)

Letter Designator	Vehicle
REB	Rebuilt, Reconstructed, Reconditioned
REP	Replica
SPC	Specially Constructed vehicles; assembled from spare parts
HMD	Homemade
STR	Stolen and recovered with the manufacturer VIN missing

7. AIN EXAMPLES

Example A

The following is an example of a potential “Assigned Identification Number” for a gas powered truck with two axles, a GVWR of 9000 lbs, assembled from parts in the Province of Alberta, Canada, first registered in 2005.

AIN Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Sample AIN	2	X	1	T	K	2	B	G	?	5	S	P	C	1	1	1	1
Assigned Value	2	7	1	3	2	2	2	7	0	5	2	7	3	1	1	1	1
Weight Factor	8	7	6	5	4	3	2	10	0	9	8	7	6	5	4	3	2
Product	16	49	6	15	8	6	4	70	0	45	16	49	18	5	4	3	2
Sum Of products	16+49+6+15+8+6+4+70+45+16+49+18+5+4+3+2=316																
Divide by 11	316/11=28.72 (Decimal Equivalent Remainder 0.727)																
Check Digit	Check Digit = 8 (See Table 7)																
Completed AIN	2	X	1	T	K	2	B	G	8	5	S	P	C	1	1	1	1

2X1= Alberta, Canada WMI
TK= Truck
2= Number of axles
B= 9000 GVWR
G= Gas engine
?= Check Digit – Calculated per formula
5= Year vehicle is first registered
SPC= Assembled from spare parts
1111= Sample unique sequence number