SURFACE VEHICLE RECOMMENDED PRACTICE

J213 SEP2014

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(R) Motorcycle Classifications

RATIONALE

This document has been revised as follows:

- Pictures were added to illustrate motorcycle configurations
- Steering wheel has been eliminated as a standalone subclassification of steering means (steering wheel can be subclassified as “other”)

1. SCOPE

This SAE Recommended Practice provides uniform definitions and classifications for motorcycles.

2. REFERENCES

There are no referenced publications specified herein.

3. DEFINITIONS

3.1 COMPETITION MOTORCYCLE

A motorcycle designed and equipped to operate in designated course competitive events.

3.2 CURB WEIGHT

The total weight of the motorcycle including all operating fluids, at recommended levels and fuel level of more than 90% of rated capacity, and tool kit (if supplied) but without operator, passengers, or cargo.

3.3 LONGITUDINAL PLANE OF SYMMETRY

3.3.1 Two-Wheeled Motorcycle

The plane which bisects the front and rear wheels and is perpendicular to their respective axes of rotation with the steering centered. (Figure 1)

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3.3.2 Three-Wheeled Motorcycle

For an upright and symmetrical configuration, with the steering centered, the vertical plane which bisects the single wheel and the midpoint between the two wheels sharing the same axis of rotation and is perpendicular to their respective axes of rotation.(Figures 2 and 3)

3.4 MOTORCYCLE

A motor vehicle designed to operate on no more than 3 wheels in contact with the ground, having a curb weight of 793 kg (1749 lb) or less, 1134 kg (2500 lb) or less for electric-powered motorcycles.

3.5 ON-ROAD MOTORCYCLE

A motorcycle designed and equipped to operate on public roadways.

3.6 OFF-ROAD MOTORCYCLE

A motorcycle designed, marketed or modified to be used on surfaces other than improved roadways.

3.7 SIDE CAR

An accessory containing a third wheel which attaches asymmetrically to the side of a two-wheeled motorcycle, generally for the purpose of transporting persons or property. A motorcycle's Class changes when a Side Car is attached. (Figure 4)

4. CLASSIFICATIONS

4.1 On-Road

See Table 1.

TABLE 1 - ON-ROAD CLASSIFICATIONS

Class	Wheel Configuration
R1	Two wheels
R2	Three wheels asymmetrical to longitudinal axis
R3	Three wheels symmetrical to longitudinal axis, single front wheel
R4	Three wheels symmetrical to longitudinal axis, single rear wheel

4.2 Off-Road

See Table 2.

TABLE 2 - OFF-ROAD CLASSIFICATIONS

Class	Wheel Configuration
O1	Two wheels
O2	Three wheels asymmetrical to longitudinal axis
O3	Three wheels symmetrical to longitudinal axis, single front wheel
O4	Three wheels symmetrical to longitudinal axis, single rear wheel

4.3 Competition

See Table 3.

TABLE 3 - COMPETITION CLASSIFICATIONS

Class	Wheel Configuration
C1	Two wheels
C2	Three wheels asymmetrical to longitudinal axis
C3	Three wheels symmetrical to longitudinal axis, single front wheel
C4	Three wheels symmetrical to longitudinal axis, single rear wheel

4.4 Subclassification Selection Criteria

The classes of motorcycles are further defined by applying the following Subclass Selection Criteria. See Table 4.

TABLE 4 - SUBCLASSIFICATION SELECTION CRITERIA

Criteria	Subclass Designator
1. Steering means:	
handlebar	H
other	O
2. Operator seat configuration:	
straddle seat	S
bench or bucket seat	B
3. Number of riders [design maximum, operator included]:	
one	1
two	2
three or more	3
4. Engine displacement, cc:	
less than 50	A
50 to 169.9	B
170 to 279.9	C
280 or larger	D
electric	E
5. Maximum speed [with a design maximum number of 75 kg rider(s)]:	
less than 50 km/h	L
50 km/h or higher	H

5. CLASSIFICATION EXAMPLE

A subclass designator consists of the applicable letter and number from the Class, followed by the applicable subclass designators obtained from the Subclassification Selection Criteria parts 1 through 5. For example, an on-road motorcycle with two wheels, handlebar steering, straddle seating for two riders, a 750 cc displacement engine, and capable of speeds greater than 50 km/h, is fully classified as a R1HS2DH motorcycle.

6. ILLUSTRATIONS

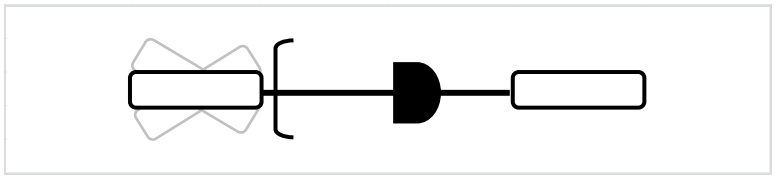

FIGURE 1 - TWO WHEELED MOTORCYCLE

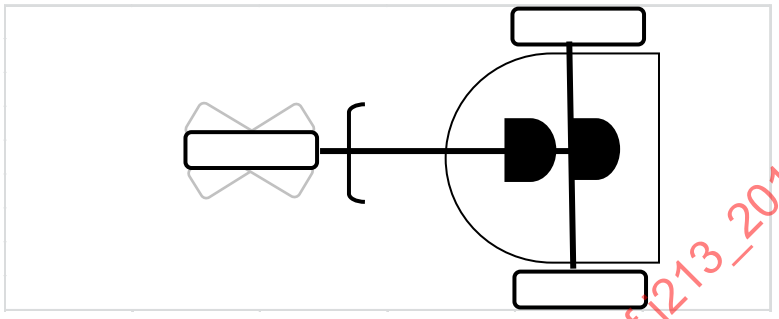

FIGURE 2 - THREE-WHEELED MOTORCYCLE, SINGLE FRONT WHEEL

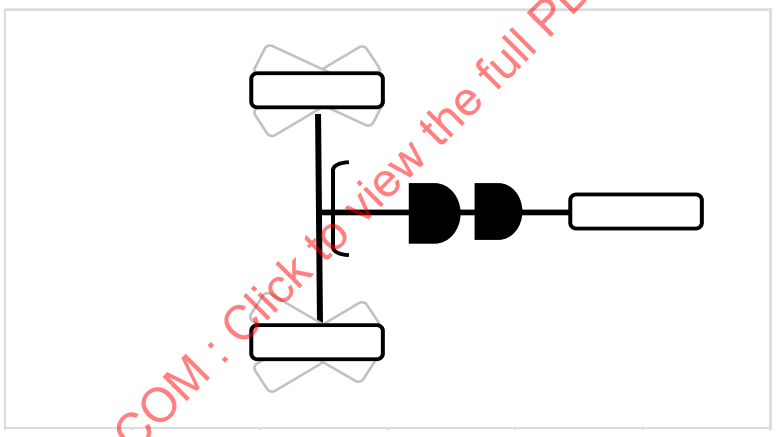

FIGURE 3 - THREE-WHEELED MOTORCYCLE, SINGLE REAR WHEEL

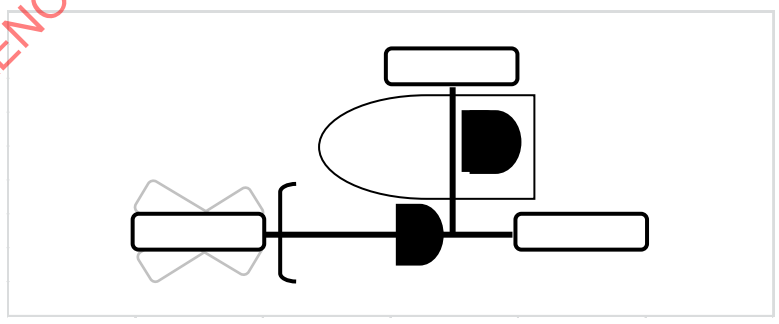

FIGURE 4 - MOTORCYCLE SIDECAR, THREE WHEELS ASYMMETRICAL TO LONGITUDINAL AXIS

7. NOTES

7.1 Marginal Indicia

A change bar (l) located in the left margin is for the convenience of the user in locating areas where technical revisions, not editorial changes, have been made to the previous issue of this document. An (R) symbol to the left of the document title