

Vehicle Stability

505. (1) Subject to subsection (2), the height of the centre of mass, shown in Figure 1, of a motor tricycle or a three-wheeled vehicle shall not exceed one and a half times the horizontal distance from the centre of mass to the nearest roll axis, shown in Figure 2.

(2) Subsection (1) does not apply to a motor tricycle designed in such a way that it leans during a turning manoeuvre in the same direction as the turn.

(3) The total weight of a motor tricycle or three-wheeled vehicle on all its front wheels, as measured at the tire-ground interfaces, shall be not less than 25 per cent and not greater than 70 per cent of the loaded weight of that vehicle.

(4) The loaded weight of a motor tricycle or three-wheeled vehicle and the location of its centre of mass shall be determined under the following conditions:

(a) the fuel tank is filled to any level from 90 to 95 per cent of the vehicle fuel tank capacity;

(b) a 50th percentile adult male anthropomorphic test device or an equivalent mass is located at every front outboard designated seating position but, if an equivalent mass is used, its centre of mass shall coincide, within 12 mm in the vertical dimension and 12 mm in the horizontal dimension, with a point 6 mm below the position of the H-point as determined by using the equipment and procedures specified in SAE J826 (June 1992), except that the length of the lower leg and thigh segments of the H point machine shall be adjusted to 414 mm and 401 mm, respectively, instead of the 50th percentile values specified in Table 1 of SAE J826; and

(c) adjustable seats are placed in the adjustment position that is midway between the forward-most and rearmost positions and, if separately adjustable in a vertical direction, shall be at the lowest position but, if an adjustment position does not exist midway between the forward-most and rearmost positions, the closest adjustment position to the rear of the midpoint shall be used.

(5) For a motor tricycle or three-wheeled vehicle with one wheel at the front and two wheels at the rear, the horizontal distance from the centre of mass to the nearest roll axis, shown in Figure 2, shall be determined using the equation

$$d = L \sin (\arctan (t / 2W))$$

where

d is the horizontal distance from the centre of mass to the nearest roll axis;

L is the longitudinal distance between the centre of mass and the centre of the front axle;

t is the width of the wheel track of the rear axle; and

W is the wheelbase.

(6) For a motor tricycle or three-wheeled vehicle with two wheels at the front and one wheel at the rear, the horizontal distance from the centre of mass to the nearest roll axis, shown in Figure 2, shall be determined using the equation

$$d = (W - L) \sin (\arctan (t / 2W))$$

where

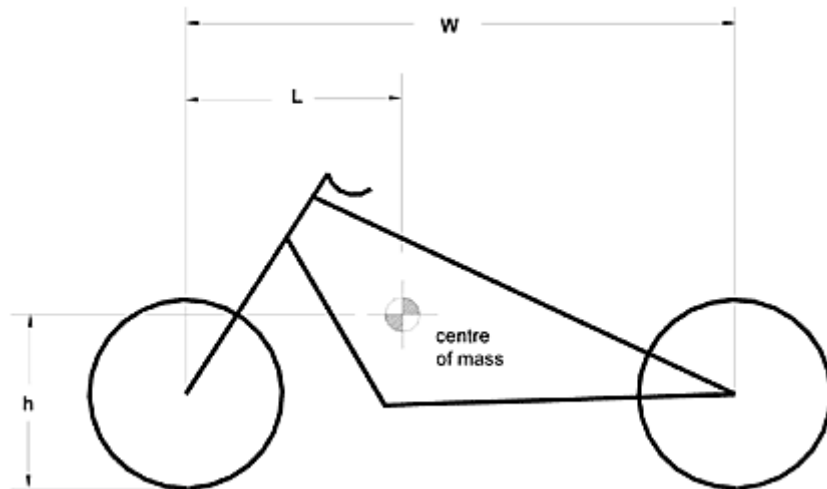
d is the horizontal distance from the centre of mass to the nearest roll axis;

W is the wheelbase;

L is the longitudinal distance between the centre of mass and the centre of the front axle;
and

t is the width of the wheel track of the front axle.

(7) Motor tricycles manufactured before September 1, 2004 need not comply with this section.



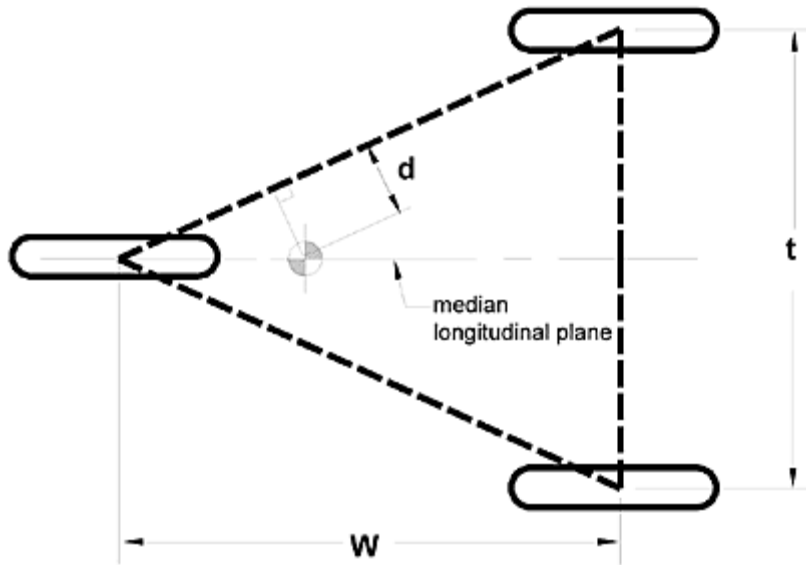
Legend

h is the height of the centre of mass

L is the longitudinal distance between the centre of mass and the centre of the front axle

W is the wheelbase

Figure 1 — Side View



Legend

d is the horizontal distance from the centre of mass to the nearest roll axis

t is the width of the wheel track of the front or rear axle

W is the wheelbase

Figure 2 — Top View

Amendments Coming into Force Immediately after the Coming into Force of Certain Provisions of the Regulations Amending the Motor Vehicle Safety Regulations (Transmission Control Functions)