

Updates on ASTM F833 for Carriages and Strollers

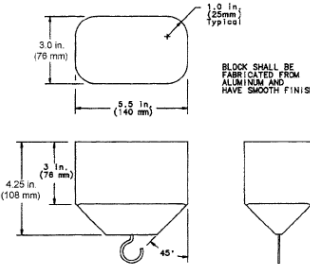
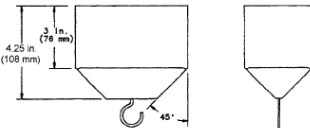

ASTM F833-07a, the safety performance specification for carriages and strollers, was published to revise the previous editions *ASTM F833-07* and *ASTM F833-05a*.

Carriage is defined as wheeled vehicle generally used for the transport of an infant who is generally in a lying down position. The motive power is supplied by a person or persons pushing or pulling on a handle attached to the vehicle. A carriage may be capable of being folded for storage.

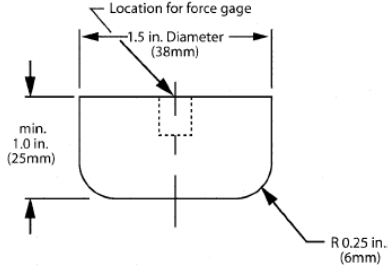
Stroller is defined as wheeled vehicle for the transport of infants or children generally in a sitting-up or semi-reclined position. The motive power is supplied by a person moving at a walking rate while pushing on a handle attached to the stroller. A stroller generally is capable of being folded for storage. Strollers normally are used for children from infancy to 36 months of age.



The major changes compared with *ASTM F833-05a* are summarized as follows.

Clause	Changes
§ 1.3 Unit of measurement	Emphasizes that the <i>SI units provided are for information only and are not considered standard</i> .
§ 2 Referenced Documents	Add the new references of <i>ASTM F963</i> and <i>16 CFR 1508.07(c)</i> , and delete the former reference of <i>CAMI Infant Dummy, Mark II</i> .
§ 5.12 Toy	Add a new requirement - <i>For toy accessories attached to, removable from, or sold with unit, as well as their means of attachment, shall meet applicable requirement of ASTM F963</i> .
§ 6.3 Stability	Amend the loading requirement for supplied accessories to: ...Products that include as original equipment manufacturer-supplied accessories for carrying any type of packages must be tested with these accessories both empty and loaded with the most adverse configured combination of weights, including the maximum weight(s) specified by the manufacturer, while each available seating position is occupied by the specified test weight.
§ 6.7 Impact Test	Renumber the original requirement as § 6.7.2 (<i>For carriage, stroller, or convertible carriage/stroller</i>), and add the new requirement § 6.7.1 (<i>For combination unit of a car seat on a carriage, stroller, or convertible carriage/stroller</i>). The new requirement § 6.7.1.1 <i>requires that the unit shall not allow the car seat to completely separate from the stroller when subjected to the impact test according to § 7.11.2 – § 7.11.6</i> .
§ 6.8 & § 7.12 Passive Containment / Foot Opening (Requirements & Test Method)	A new requirement applicable to all strollers and convertible carriage/strollers that have a tray(s) or grab bar(s) that create a completely or partial bounded opening(s) in front of the occupant. It requires that there shall be no opening(s) that will permit complete passage of the torso probe (Fig. 7) when tested according to § 7.12.2, unless it also permits passage of the head probe (Fig. 8) when tested according to § 7.12.3 . <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>NOTE—Not to scale. FIG. 7 Torso Probe</p> </div> <div style="text-align: center;">  <p>FIG. 8 Head Probe</p> </div> <div style="text-align: center;">  <p>8.0-in. (200-mm) hollow sphere Material: ABS Weight: 5 lb (2.3 kg) FIG. 8 Head Probe</p> </div> </div> <p style="font-size: small; text-align: center;">BLOCK SHALL BE FABRICATED FROM ALUMINUM AND HAVE SMOOTH FINISH</p>

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Clause (cont'd)	Changes (cont'd)
<p>§ 7.4.2 Front Stability (Child Climbing in) for Stroller or Convertible Carriage / Stroller in Stroller Use Only</p>	<ul style="list-style-type: none"> ▪ § 7.4.2.1 Add the additional requirement that <i>“If the wheels swivel, test with the wheels positioned to most likely cause failure”</i>. ▪ § 7.4.2.2 Amend the clause to: Apply a force of 40 lbf (178 N) with <i>a disk (Fig. 11)</i> vertically downward at a position on the centerline <i>not to exceed 1 in. (25 mm)</i> from the front edge of the forward <i>most member a child could use to climb into the stroller. The position must support the vertical force with pad and without the pad sliding off the surface. Gradually apply the force within 5 s, and maintain it for 10 s.</i> <div style="text-align: center;">  <p style="font-size: small;">Note—Disk shall be made of aluminum with a smooth finish. FIG. 11 1.5 in. Disk</p> </div> <ul style="list-style-type: none"> ▪ § 7.4.2.3 Amend the clause to: Repeat § 7.4.2.2 to any <i>member forward of the front edge of the front seat that a child could use to climb into the stroller</i> on the left and right of the centerline, applying the vertically download force on the location most likely to cause the unit to tip over.
<p>§ 7.5.3 Restraining System Test</p>	<p>Amend the requirement to: ...stroller back and seat (<i>see Fig. 3</i>) <i>with the stroller back in most upright position.</i> For strollers with a maximum child weight of greater than 40 lb (18.1 kg) per seat, a third, a third potential anchor shall be at 15 in. ± 1.0 in. (380 ± 26 mm).The measurement shall be from the junction of the seat/back to the lowest point of the <i>strap/seat back junction...</i></p>
<p>§ 7.11 Impact Test Method</p>	<ul style="list-style-type: none"> ▪ Renumber the original impact test to § 7.11.7, and add an additional impact test (for car seat), § 7.11.2 – § 7.11.6, which shall be the second to the last performance test, with the test in § 7.11.7 being the last performance test. ▪ In § 7.11.7, the loading weight was amended to: “a 40-lb (18.1-kg) bag weight (6 to 8-in. (150 to 200-mm) diameter using steel shot as the mass) <i>or manufacturer’s recommended maximum weight, which is greater</i>”.

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