



# Standard Consumer Safety Performance Specification for Stationary Activity Centers<sup>1</sup>

This standard is issued under the fixed designation F 2012; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## INTRODUCTION

This consumer safety performance specification is intended to mitigate potential safety hazards associated with a child's use of a stationary activity center and thereby minimize the risk of injury or death. The specific hazards addressed by this specification are seat strength to support the occupant, product tip over, openings for finger entrapment and small parts.

### 1. Scope

1.1 This consumer safety performance specification covers performance requirements, test methods and marking requirements to promote safe use of a stationary activity center by an occupant.

1.2 This consumer safety performance specification is intended to minimize the risk of incidents to an occupant resulting from normal use and reasonably foreseeable misuse or abuse of a stationary activity center.

1.3 No stationary activity center produced after the approval date of this consumer safety performance specification shall, either by label or other means, indicate compliance with this specification unless it conforms to all requirements contained herein.

1.4 This consumer safety performance specification is not intended to address incidents and injuries resulting from the interaction of other persons with the child occupant in the stationary activity center or the incidents resulting from abuse and misuse by children able to walk.

1.5 The test values in inch-pound units stated in this Consumer Safety Specification are to be regarded as the standard. The metric values in parentheses are given for information only.

1.6 The following precautionary caveat pertains only to the test method portion, Section 7, of this consumer safety performance specification: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:

D 3359 Test Methods for Measuring Adhesion by Tape Test<sup>2</sup>

F 963 Consumer Safety Specification on Toy Safety<sup>3</sup>

#### 2.2 Federal Regulations:

16 CFR 1303 Ban of Lead-Containing Paint and Certain Consumer Products Bearing Lead-Containing Paint<sup>4</sup>

16 CFR 1500 Hazardous Substances Act Regulations including sections:<sup>4</sup>

1500.18(a)(6) Banned Toys and Other Banned Articles Intended for Use by Children

1500.48 Technical Requirements for Determining a Sharp Point in Toys or Other Articles Intended for Use by Children Under Eight Years of Age

1500.49 Technical Requirements for Determining a Sharp Metal or Glass Edge in Toys or Other Articles Intended for Use by Children Under Eight Years of Age

1500.50-.52 Test Methods for Simulating Use and Abuse of Toys and Other Articles Intended for Use by Children 15.00.86(a)(4) Exemptions from Classification as a Banned Article for Use by Children

16 CFR 1501 Method for Identifying Toys and Other Articles Intended for Use by Children Under Three Years of Age Which Present Choking, Aspiration or Ingestion Hazards Because of Small Parts<sup>4</sup>

#### 2.3 Other References:

CAMI Infant Dummy, Mark II (see Fig. 1)<sup>5</sup>

<sup>2</sup> Annual Book of ASTM Standards, Vol 06.01.

<sup>3</sup> Annual Book of ASTM Standards, Vol 15.07.

<sup>4</sup> Available from Superintendent of Documents, US Government Printing Office, Washington, DC 20402.

<sup>5</sup> Department of Transportation Memorandum Report AAC-119-74-14, Revision II, Drawing No. SA-1001 by Richard Chandler, July 2, 1974. Federal Aviation Administration, Civil Aeromedical Institute, Protection and Survival Laboratory, Aeronautical Center, Oklahoma City, OK 73125.

<sup>1</sup> This consumer safety performance specification is under the jurisdiction of ASTM Committee F15 on Consumer Products and is the direct responsibility of Subcommittee F15.17 on Carriages, Strollers, Walkers, and Stationary Activity Centers.

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FIG. 1 CAMI Infant Dummy—Mark II

### 3. Terminology

#### 3.1 Definitions of Terms Specific to This Standard:

3.1.1 *conspicuous, adj*—a label that is visible, when the activity center is in a manufacturer’s recommended use position, to a person standing near the activity center at any one position around the activity center but not necessarily visible from all positions.

3.1.2 *dynamic load, n*—application of an impulsive force through free fall of a weight.

3.1.3 *manufacturer’s recommended use position(s), n*—any position that is presented as a normal, allowable or acceptable configuration for the use of the product by the manufacturer in any descriptive or instructional literature. This specifically excludes positions that the manufacturer shows in a like manner in its literature to be unacceptable, unsafe or not recommended.

3.1.4 *non-paper label, n*—any label material (such as plastic or metal) which either will not tear without the aid of tools or tears leaving a sharply defined edge.

3.1.5 *occupant, n*—that individual who is in a product that is set up in one of the manufacturer’s recommended use positions.

3.1.6 *open base stationary activity center, n*—a stationary activity center that allows the occupant’s feet to contact the floor.

3.1.7 *paper label, n*—any label material which tears without the aid of tools and leaves a fibrous edge.

3.1.8 *static load, n*—a vertically downward force applied by a calibrated force gage or by dead weights.

3.1.9 *stationary activity center, n*—a freestanding product intended to remain stationary that enables a sitting or standing occupant whose torso is completely surrounded by the product to walk, rock, play, spin or bounce, or all of these, within a limited range of motion.

### 4. Calibration and Standardization

4.1 All testing shall be conducted on a concrete floor that may be covered with 1/8 in. (3 mm) thick vinyl flooring, unless test instructs differently.

4.2 The product shall be completely assembled, unless otherwise noted, in accordance with the manufacturer’s instructions.

4.3 No testing shall be conducted within 48 h of manufacturing.

4.4 The product to be tested shall be in a room with an ambient temperature of 73 ± 9°F (23 ± 5°C) for at least 1 h prior to testing. Testing shall then be conducted within this temperature range.

4.5 All testing required by this specification shall be conducted on the same unit.

### 5. General Requirements

5.1 *Hazardous Sharp Edges or Points*—There shall be no hazardous sharp edges or points as defined by 16 CFR 1500.48 and 16 CFR 1500.49 before and after testing to this consumer safety specification.

5.2 *Small Parts*—There shall be no small parts as defined by 16 CFR 1501 before testing or liberated as a result of testing to this specification

5.3 *Wood Parts*—Prior to testing, any exposed wood parts shall be smooth and free of splinters.

5.4 *Latching or Locking Mechanisms*—Any product that folds shall have a latching or locking device or other provision in the design that will prevent the unit from unintentionally folding when properly placed in the manufacturer’s recommended use position. The unit shall remain in its manufacturer’s recommended use position during and upon completion of the test in accordance with 7.2. If a unit is designed with a latching or locking device, that device shall remain engaged and operative after testing.

5.5 *Openings*—Holes or slots that extend entirely through a wall section of any rigid material less than 0.375 in. (9.53 mm) thick and admit a 0.210-in. (5.33-mm) diameter rod shall also admit a 0.375-in. (9.53-mm) diameter rod. Holes or slots that are between 0.210 in. (5.33 mm) and 0.375 in. (9.53 mm) and have a wall thickness less than 0.375 in. (9.53 mm), but are limited in depth to 0.375 in. (9.53 mm) maximum by another rigid surface shall be permissible (see Fig. 2). The product shall be evaluated in all manufacturer’s recommended use positions.

5.6 *Scissoring, Shearing, Pinching*—A product, when in a manufacturer’s recommended use position, shall be designed and constructed so as to prevent injury to the occupant from any scissoring, shearing or pinching when members or components rotate about a common axis or fastening point, slide, pivot, fold or otherwise move relative to one another. Scissoring, shearing or pinching that may cause injury shall not be permissible when the edges of the rigid parts admit a probe greater than 0.210 in. (5.33 mm) and less than 0.375 in. (9.53 mm) diameter at any accessible point throughout the range of motion of such parts.

5.7 *Exposed Coil Springs*—Any exposed coil spring which is accessible to the occupant, having or capable of generating a space between coils of 0.210 in. (5.33 mm) or greater during

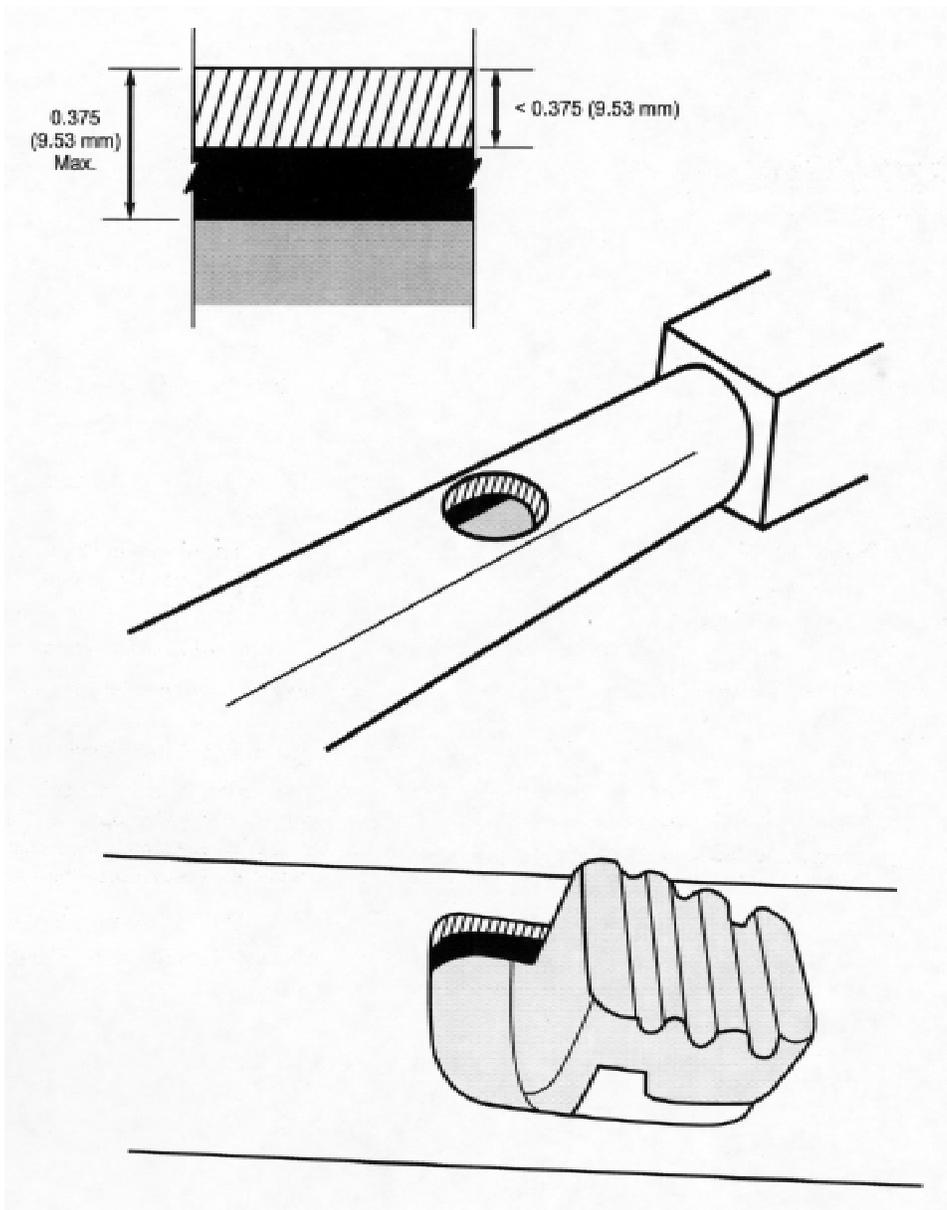


FIG. 2 Opening Example

static load testing in accordance with 7.1.2 shall be covered or otherwise designed to prevent injury from entrapment.

5.8 Labeling:

5.8.1 Warning labels (whether paper or non-paper) shall be permanent when tested in accordance with 7.5.1-7.5.3.

5.8.2 Warning statements applied directly onto the surface of the product by hot stamping, heat transfer, printing, wood burning, etc. shall be permanent when tested in accordance with 7.5.4.

5.8.3 Nonpaper labels shall not liberate small parts when tested in accordance with 7.5.5.

5.9 Toys—Toy accessories attached to, removable from, or sold with a stationary activity center, as well as their means of attachment, must meet applicable requirements of Specification F 963.

5.10 Protective Components—If a child can grasp components between the thumb and forefinger, or teeth (such as caps,

sleeves, or plugs used for protection from sharp edges, points, or entrapment of fingers or toes), or if there is at least a 0.040 in. (1.00 mm) gap between the component and its adjacent parent component, such component shall not be removed when tested in accordance with 7.4.4.

6. Performance Requirements

NOTE 1—The forces which are to be applied to the sample in the tests described in Section 7 of this standard are readily applied by means of a calibrated force gage, or in the case of static load and dynamic load tests, by dead weights.

6.1 Structural Integrity—All tests that cover static and dynamic loading, and occupant retention, are to be performed on the same product, sequentially and without refurbishing or repositioning of adjustment, if any. At test conclusion, there shall be no failure of seams, breakage of materials or changes of adjustments that could cause the product not to fully support

the child or create a hazardous condition as defined in Section 5. Maximum slippage of adjustable features, if any, is 1 in. (25 mm).

6.1.1 *Dynamic Load*—Test in accordance with 7.1.1.

6.1.2 *Static Load*—Test in accordance with 7.1.2.

6.2 *Occupant Retention*—The seat of the stationary activity center shall be designed so that the leg openings will not permit the passage of a 6 in. (150 mm) weld cap as shown in Fig. 3 when tested in accordance with 7.1.3.

6.3 *Stability*:

6.3.1 *Occupant Leaning Over Edge*—A stationary activity center shall remain upright i.e. not tip over, when weights are applied to the front, side and rear in accordance with 7.3.

6.4 *Protective Components*—If a child can grasp protective components between the thumb and forefinger or teeth, such as caps, sleeves or plugs used for protection from sharp edges, points or entrapment of fingers or toes, or if there is at least a 0.040 in. (1.00 mm) gap between the protective component and its adjacent parent component, such protective component shall not be removed when tested in accordance with 7.4.

6.5 *Motion Resistance for Open Base Stationary Activity Center*—The open base stationary activity center shall not move more than 1.0 in. (24.4 mm) in the direction of the applied force from its original position when tested in accordance with 7.6.

**7. Test Methods**

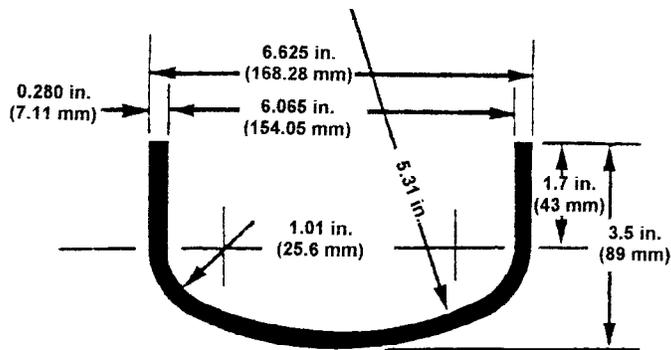
NOTE 2—Except for the Structural Integrity tests in 7.1, which shall be performed first, the tests can be performed in any sequence.

7.1 *Structural Integrity*:

7.1.1 *Dynamic Load*:

7.1.1.1 Position the stationary activity center in the manufacturer’s recommended use position. If adjustable, adjust to the highest and most upright position.

7.1.1.2 Affix to the stationary activity center seat a 6 by 6 in. (150 by 150 mm) wood block 3/4 in. (19 mm) thick. If the unit has a hammock type seat, use a standard 6 in. (150 mm) weld cap, convex surface down, as identified in Fig. 3, attached to the bottom of the test weight.



NOTE 1—Caps furnished to ANSI standards unless otherwise specified. Welding caps are formed from steel plate and are ellipsoidal in shape. The minor axis being equal to one half the major axis radii “R” and “r” closely approximate the actual semi-ellipsoidal shape. All dimensions in inches and are in accordance with ANSI B16.9.

**FIG. 3 Nominal 6-in. Weld Cap Weight (Approximately) 6.4 lb (2.90 kg)**

7.1.1.3 Drop a test weight of 33 lb (15 kg), with the mass of the weld cap shown in Fig. 3 included, onto the seat at least a distance of 1 in. (25 mm) one hundred times.

7.1.1.4 When testing a spring supported adjustable stationary activity center, test with the product in the highest adjustment position and support the frame so that the dropping of the 33 lb (15 kg) weight does not cause the seat to bottom out.

7.1.2 *Static Load*:

7.1.2.1 Position the stationary activity center as in 7.1.1.1.

7.1.2.2 Center a weight of 90 lb (41 kg) for a period of 1 min on a 6 by 6 in. (150 by 150 mm) wood block 3/4 in. (19 mm) thick affixed to the stationary activity center seat. If the unit has a hammock type seat, use a standard 6 in. (150 mm) weld cap, convex surface down, as identified in Fig. 3 instead of the specified wood block. Make weight allowance for the weld cap. If the natural action of a bouncer type stationary activity center allows the seat to contact the floor and will not allow the full application of the 90 lb (41 kg) static load, then restrict the bouncer mechanism by any means possible so that the full static load can be applied to the seat or section of the stationary activity center occupied by the child. Inspect the action of all supporting, locking and adjusting components to assure that they do not create a hazardous condition as defined in Section 5.

7.1.2.3 Position the stationary activity center in the manufacturer’s recommended use position. If adjustable, adjust to the lowest position.

7.1.2.4 Center a weight of 50 lb (22.7 kg) for a period of 1 min on a 6 by 6 in. (150 by 150 mm) wood block 3/4 in. (19 mm) thick affixed to the stationary activity center seat. If the unit has a hammock type seat, use a standard 6 in. (150 mm) weld cap, convex surface down, as identified in Fig. 3 instead of the specified wood block. Make weight allowance for the weld cap. In this test, DO NOT restrict the bouncer mechanism from folding or bottoming out. Inspect the action of all supporting, locking and adjusting components to assure that they do not create a hazardous condition as defined in Section 5.

7.1.3 *Occupant Retention Testing*:

7.1.3.1 If the seat is adjustable, adjust the seat to obtain the largest leg opening.

7.1.3.2 Position the stationary activity center so that the plane of the leg opening is horizontal. Center the convex surface of a 6 in. (150 mm) weld cap shown in Fig. 3 in the leg opening. Attempt to pass it through by the force of its own weight.

7.2 *Latching or Locking Mechanism Activation*:

7.2.1 *Stationary Activity Centers with Single Action Release Mechanism*—With the product in each manufacturer’s recommended use position, gradually apply a 10 lbf (45 N) force to the latching or locking mechanism in the direction tending to release it.

7.2.2 *Stationary Activity Centers with Double Action Release Mechanism*—Each double action locking/latching mechanism shall require two distinct and separate actions for release of the mechanism.

7.3 *Occupant Leaning Over Edge*

7.3.1 Position the stationary activity center in the most disadvantageous manufacturer’s recommended use position. If adjustable, adjust to the highest and most upright position.

7.3.2 Clamp a 1 by 1 in. (25 by 25 mm) rigid aluminum angle to the uppermost front and rear horizontal frame members of the stationary activity center. The length of the aluminum angle should be such that it extends forward at least 12 in. (300 mm) beyond the front edge of the occupant seating area as shown in Fig. 4.

7.3.3 Place a weight of 17 lb (7.7 kg) on the aluminum angle at a distance “X” which is 1 in. (25 mm) less than one-half the difference between 32 in. (810 mm) or the maximum height of the user (whichever is greater) as defined in 9.2.3. The height of the stationary activity center is the vertical measurement from the top edge of the tray adjacent to the occupant seating area to the point on the occupant’s support surface directly below the center of the seating area as shown in Fig. 4.

The formula to determine “X” in. = ((32 in. or max height of user - height of tray adjacent to occupant seating area)/2) – 1

7.3.4 Repeat 7.3.1, 7.3.2 and 7.3.3, except position the aluminum angle in both sideward directions perpendicular to the position tested in 7.3.2. Be sure the aluminum angle extends at least 12 in. (300 mm) beyond the inside edge of the tray or horizontal frame member. Placement of the 17 lb (7.7 kg) weight at the side shall not cause the stationary activity center to tip over.

7.3.5 Repeat 7.3.1, 7.3.2 and 7.3.3, except position the aluminum angle in the rearward direction tested in 7.3.2. Be sure the aluminum angle extends at least 12 in. (300 mm) beyond the inside of the tray or horizontal frame member. Placement of the 17 lb (7.7 kg) weight at the rear shall not cause the stationary activity center to tip over.

7.4 Removal of Protective Components:

7.4.1 Protective components shall be tested in accordance with each of the following methods in the sequence listed.

7.4.2 Secure the stationary activity center so that it cannot move during the performance of the following tests.

7.4.3 Torque Test:

7.4.3.1 A torque of 3 lbf-in (0.3 N-m) shall be applied evenly within a period of 5s in a clockwise direction until a rotation of 180° from the original position has been attained or 3 lbf-in (0.3 N-m) has been exceeded. The torque or maximum

rotation shall be maintained for an additional 10s. The torque shall then be removed and the protective components permitted to return to a relaxed condition. This procedure then shall be repeated in a counterclockwise direction.

7.4.4 Tension Test:

7.4.4.1 Attach a force gage to the cap, sleeve or plug by means of any suitable device. For protective components that cannot reasonably be expected to be grasped between thumb and forefinger or teeth on their outer diameter but have a gap of at least 0.040 in. (1.00 mm) between the rear surface of the protective component and the structural member of the stationary activity center to which they are attached, a clamp such as the one shown in Fig. 5 may be a suitable device.

7.4.4.2 Ensure that the attachment device does not compress or expand the protective component so that it hinders any possible removal.

7.4.4.3 Gradually apply a 15 lbf (67 N) force in the direction that would normally be associated with the removal of the protective component over a 5s period and hold for an additional 10s.

7.5 Permanency of Labels and Warnings:

7.5.1 A paper label (excluding labels attached by a seam) shall be considered permanent if, during an attempt to remove it without the aid of tools or solvents, it cannot be removed, it tears into pieces upon removal, or such action damages the surface to which it is attached.

7.5.2 A non-paper label (excluding labels attached by a seam) shall be considered permanent if, during an attempt to remove it without the aid of tools or solvents, it cannot be removed or such action damages the surface to which it is attached.

7.5.3 A warning label attached by a seam shall be considered permanent if it does not detach when subjected to a 15-lb pull force applied in any direction using a 3/4 in. diameter clamp surface.

7.5.4 Adhesion Test For Warnings Applied Directly Onto The Surface Of The Product:

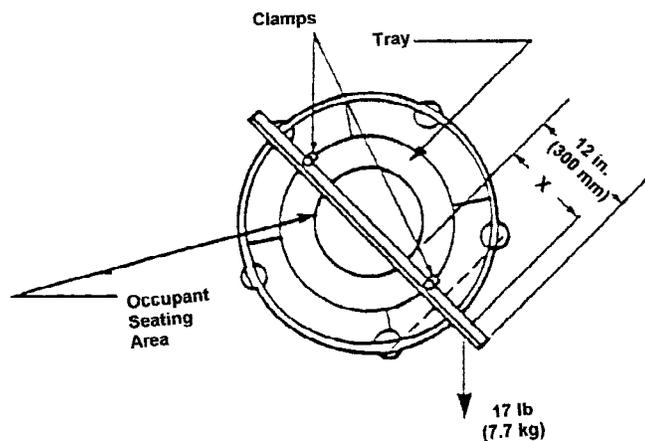


FIG. 4 Leaning Over Setup



FIG. 5 Tension Test Adaptor/Clamp

7.5.4.1 Apply the tape test defined in Test Method B, Cross-Cut Tape Test of Test Method D 3359, eliminating parallel cuts.

7.5.4.2 Perform this test once in each different location where warnings are applied.

7.5.4.3 The warning statements will be considered permanent if the printing in the area tested is still legible and attached after being subjected to this test.

7.5.5 A non-paper label, during an attempt to remove it without the aid of tools or solvents, shall not be removed or shall not fit entirely within the small parts cylinder defined in 16 CFR 1501 if it can be removed.

7.6 *Motion Resistance Test (see 6.5) (refer to Fig. 6):*

7.6.1 For the following test, adjust the stationary activity center seat and tray to the manufacturer’s highest recommended use position. If the stationary activity center has consumer controllable features that could impede motion, for example, fold out support legs, place them in the configuration deemed most likely to cause failure of this test. Place a CAMI Infant Dummy Mark II in the stationary activity center and position it with the legs raised above the platform.

7.6.2 Establish a vertical Plane A that passes through the center of the seating area and is parallel to the direction the child faces. Establish a vertical Plane B that is perpendicular to Plane A and passes through the center of the seating area.

7.6.3 *Forward Facing Stationary Test:*

7.6.3.1 Position the stationary activity center on the test platform facing forward so that Plane A is perpendicular to the front edge of the platform.

7.6.3.2 Gradually apply an 8-lb (35-N) force to the front of the stationary activity center base at Plane A over a 5s period

and hold for an additional 10s. If the product does not have a defined base, apply the force at a height of no more than 2 in. above the floor level.

7.6.4 *Sideward Facing Stationary Test*

7.6.4.1 Position the stationary activity center on the test platform facing sideways so that the Plane B is perpendicular to the front edge of the platform.

7.6.4.2 Gradually apply an 8 lb (35 N) force to the side of the stationary activity center base at Plane B over a 5s period and hold for an additional 10s. If the product does not have a defined base, apply the force at a height of no more than 2 in. above the floor level.

7.6.5 *Rearward Facing Stationary Test*

7.6.5.1 Position the stationary activity center on the test platform facing rearward so that Plane A is perpendicular to the front edge of the platform.

7.6.5.2 Gradually apply an 8-lb (35-N) force to the rear of the stationary activity center base at Plane A over a 5s period and hold for an additional 10s. If the product does not have a defined base, apply the force at a height of no more than 2 in. above the floor level.

8. **Marking and Labeling**

8.1 Each product and its retail package shall be marked or labeled clearly and legibly to indicate the following:

8.1.1 Name and either place of business (city, state, and zip code) or telephone number of either the manufacturer, distributor, or seller.

8.1.2 A code mark or other means that identifies the date (month and year as a minimum) of manufacture.

8.1.3 The markings on the product shall be permanent.

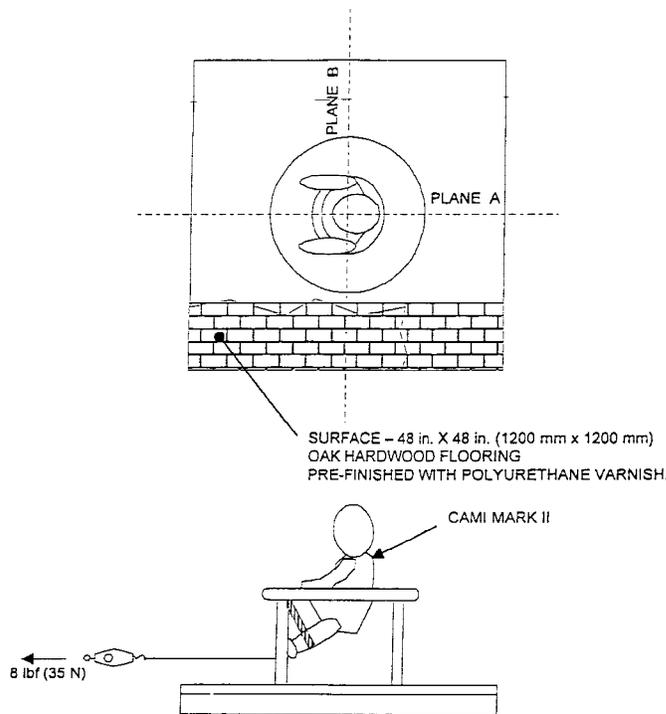


FIG. 6 Test Platform

8.2 Any upholstery label required by law shall not be used to meet their requirements in 8.1.

8.3 Each stationary activity center shall be labeled with warning statements. The warning statements shall be in contrasting color(s), permanent, conspicuous and in sans serif style font.

8.3.1 In warning statements, the word  $\triangle$  WARNING shall not be less than 0.2 in. (5 mm) high and the remainder of the text shall be in letters not less than 0.1 in. (2.5 mm) high except as specified.

8.3.2 The warning statements shall address the following, but not be limited to:

8.3.2.1  $\triangle$  WARNING

8.3.2.2 Never leave child unattended. Always keep child in view while in product (or product description).

8.3.2.3 Never use near stairs.

8.3.2.4 To avoid tip over, place product on a flat, level surface.

## 9. Instructional Literature

9.1 Instructions must be provided with the stationary activity center and shall be easy to read and understand. Assembly, maintenance, cleaning, operating and adjustment instructions and warnings, where applicable, must be included.

9.1.1 The instructions shall contain statements which include and address the following:

Read all instructions before assembly and use of the stationary activity center.

Keep instructions for future use.

Do not use the stationary activity center if it is damaged or broken.

9.2 *Warning Statements With The Instructional Literature:*

9.2.1 In warning statements located in the instructional literature, the letters of the word  $\triangle$  WARNING shall not be less than 0.2 in. (5 mm) high and the remainder of the text shall be in letters not less than 0.1 in. (2.5 mm) high.

9.2.2 If the product is designed with a restraint, the instructions must advise that the restraint system be used.

9.2.3 The instructions must include developmental criteria to begin using the product when the child can hold his head up unassisted at a minimum (or a later developmental level if deemed appropriate by the manufacturer) and when to discontinue using the product as a stationary activity center such as when the child begins to walk unassisted.

9.2.4 The instructions must include all warnings in 8.3.

## 10. Keywords

10.1 infant walker alternative; stationary activity center

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