The Engineering Society For Advancing Mobility Land Sea Air and Space®
INTERNATIONAL
400 Commonwealth Drive, Warrendale, PA 15096-0001

SURFACE VEHICLE RECOMMENDED PRACTICE

Submitted for recognition as an American National Standard

SAE J1369

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ANCHORAGE PROVISIONS FOR INSTALLATION OF CHILD RESTRAINT TETHER STRAPS IN REAR SEATING POSITIONS

Foreword—Many child restraint safety devices are equipped with top tether straps that are designed as a supplement to the required lap belt for attaching the device to the vehicle structure. This tether strap is normally secured to the child restraint near the top and requires an anchor provision on the vehicle to the rear of the passenger seat. When child restraints are used in the front seat, rear seat lap belts can be used for attachment of the tether strap, provided these seats are not occupied. However, in rearmost seating positions, or in vehicles having only one row of seats, special provisions are required. Consequently, if manufacturers of motor vehicles incorporate tether anchorages or provisions for easy installation of tether anchorage hardware, it is desirable that they conform to this SAE Recommended Practice. Vehicles manufactured with these provisions or anchorages will facilitate the proper use of child restraints with tether straps.

1. Scope—This SAE Recommended Practice provides design guidelines to vehicle manufacturers by establishing the characteristics of top tether anchorage provisions required for securing child restraints so equipped in forward facing rearmost designated passenger seating positions of all passenger cars, multipurpose passenger vehicles, and trucks and buses of 4500 kg (10 000 lb) Gross Vehicle Weight Rating or less, accommodating six occupants or less. Further, it provides interface information to child restraint manufacturers.

2. References

2.1 Applicable Documents—The following publications form a part of this specification to the extent specified herein. The latest issue of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS—Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J384—Motor Vehicle Seat Belt Anchorages—Test Procedure

SAE J385—Motor Vehicle Seat Belt Anchorages—Performance Requirements

SAE J826—Devices for Use in Defining and Measuring Vehicle Seating Accommodation

3. Anchorage Configuration—This guideline can be met by providing any one of the following configurations at the manufacturer's option:

a. Provide a hole (or knock-out), 9 mm in diameter, in locations where both sides of the hole are accessible, such as in the rear seat-to-backlight filler panel.

b. Provide a stamped conical depression (included angle 118 degrees ± 5 degrees, and minimum depth— 2 mm) to locate and aid the drilling of a 9 mm diameter hole where both sides of the hole are accessible, but prepunching the hole would be a manufacturing or sealing problem.

c. Provide an attached anchor plate where the structure of the anchor location prevents access for installation of a separate bolt, washer, nut assembly. This anchor plate shall have a threaded hole to accept an 8 mm coarse thread × 30 mm long anchor bolt.

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d. Provide installed or integral attachment hardware which conforms to the size and clearance restraints of the typical aftermarket anchorage hardware shown in Figure 1.

4. ***Anchorage Location***—The anchorage provision for any seating position (seat and seat back in design position) should be within the cross-hatched zone shown in Figures 2A and 2B referenced to the "shoulder reference point" of the two-dimensional manikin described in SAE J826. The manikin is positioned in the vertical longitudinal plane through the center of the design seating position, with its "H" point at the seating reference point and its torso line at the same angle from the vertical as the seat back. For the non-outboard seating positions in vehicles such as hatchbacks, station wagons, or similar types, where structural or other considerations may not allow anchorage configurations specified in Section 3, the use of the two outboard anchorage provisions with an optional belt assembly (shown in Figure 3) is permitted, provided that the performance, location, and interface requirements of this document are met at each seating position.

   Each anchorage location shall provide sufficient space for the installation of the appropriate anchorage option and attachment hardware.

5. ***Anchorage Performance***—The method of load testing and strength requirements shall be in accordance with the upper torso restraint requirements of SAE J384 (Section 4) and J385 (Section 4), except that the loading of the individual anchorage APPLIED DIRECTLY TO THE TETHER BELT shall be 5.34 kN (1200 lbf), folding or removable seats shall be adjusted to a normal seating position by means of their own positioning and locking mechanisms, and two adjacent anchorages shall be tested simultaneously.

6. ***Installation Instructions***—The vehicle owner's manual shall include information regarding the location of tether anchorage provisions as specified in Section 3 and, if appropriate, instructions for installing the anchorage hardware.

7. ***Interface Considerations***—To fully meet the intent of this document with regard to convenience and compatibility of the attachment hardware, it is recommended that the tether strap intended for use with the anchorage specified previously include buckles or clips compatible with the size and clearance constraints shown in Figure 1 to facilitate ease of child restraint installation. The anchorage shown in Figure 1 is not designed for direct attachment of the webbing.

PREPARED BY THE SAE RESTRAINT SYSTEMS STANDARDS COMMITTEE

All Dimensions in Millimeters

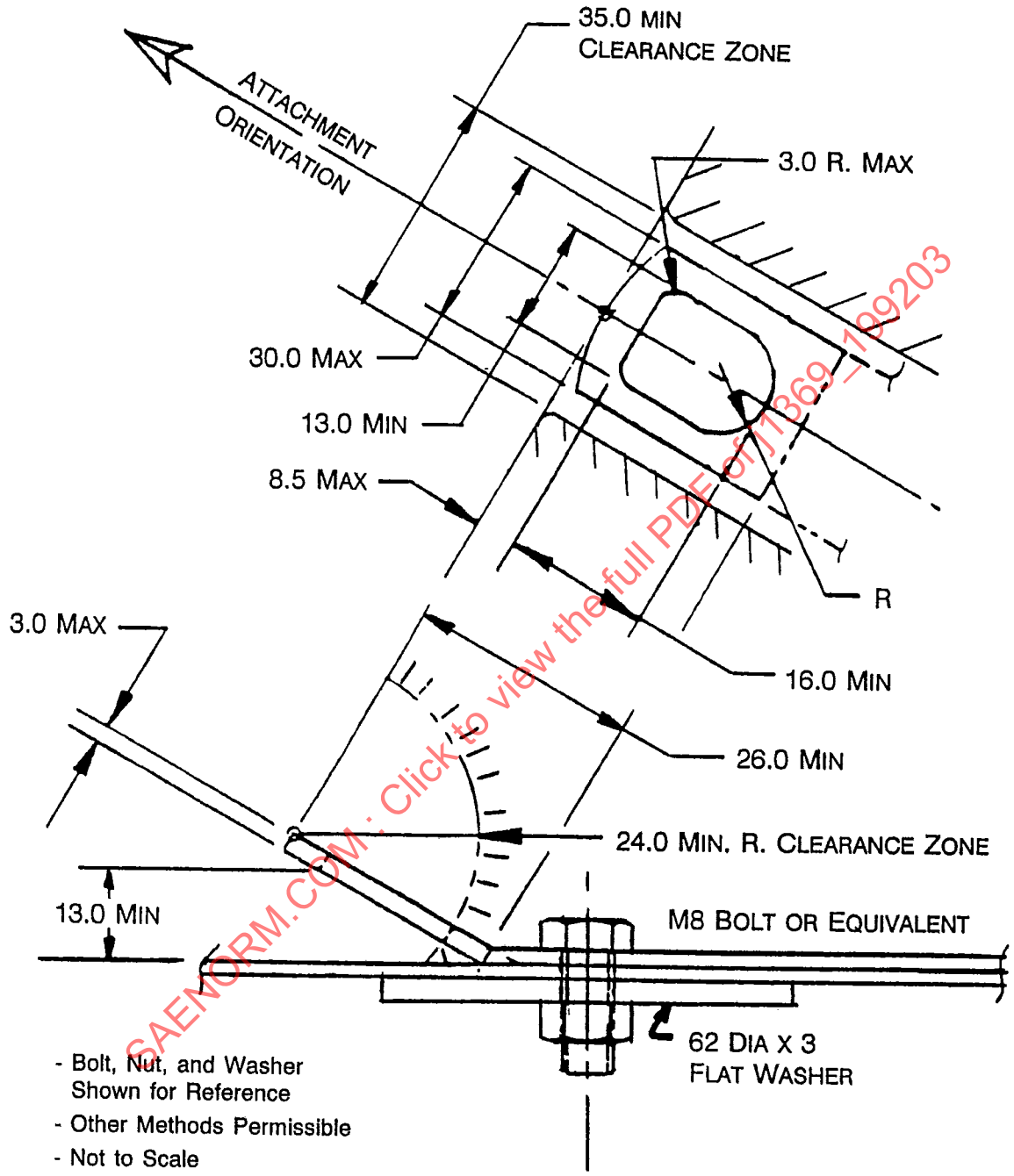
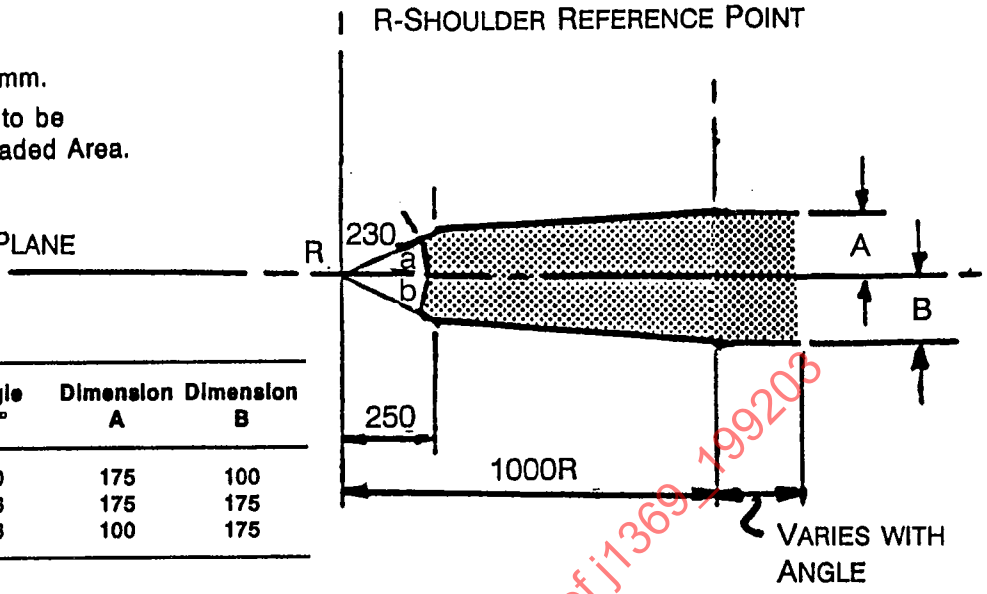


FIGURE 1—TYPICAL ATTACHMENT HARDWARE

NOTES

1. All Dimensions in mm.
2. Tether Anchorage to be Located Within Shaded Area.



Seating Position	Angle a °	Angle b °	Dimension A	Dimension B
Left	26	20	175	100
Non-Outboard	26	26	175	175
Right	20	26	100	175

FIGURE 2A—LATERAL SECTION THROUGH R-POINT AT ANY ANGLE IN SIDE VIEW

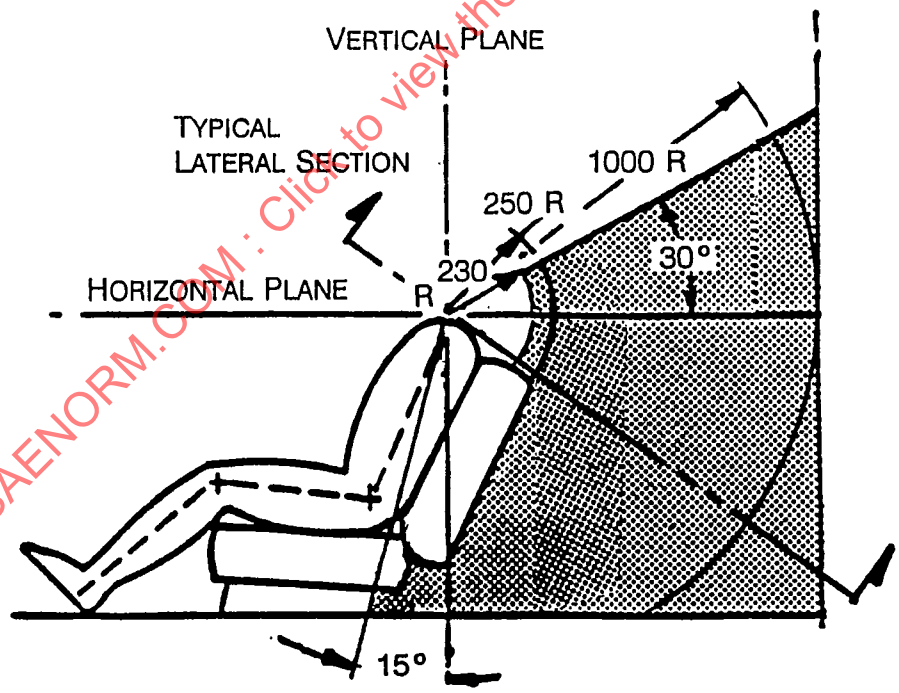


FIGURE 2B—SIDE VIEW TETHER ANCHORAGE LOCATION

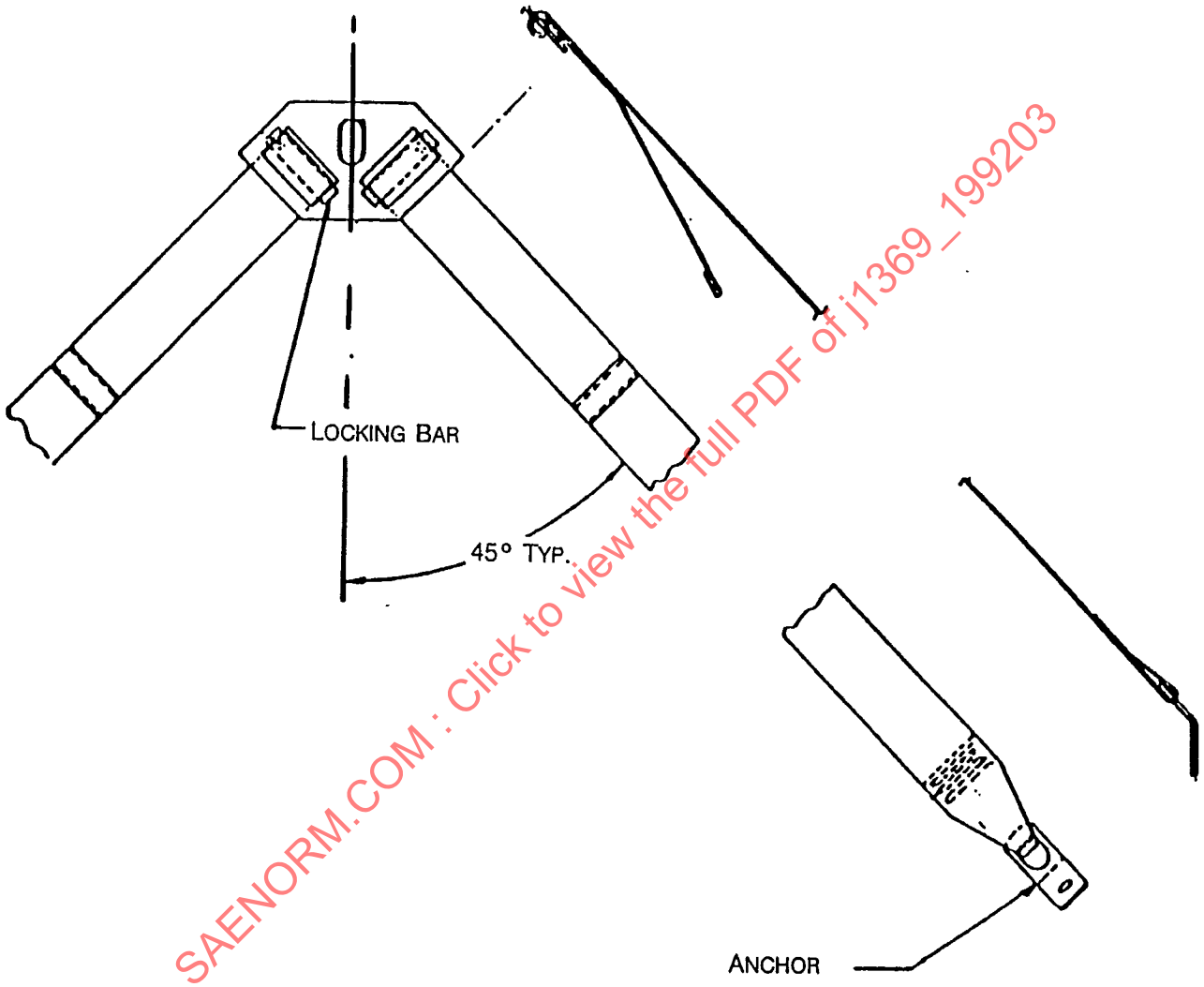


FIGURE 3—OPTIONAL CHILD SEAT TIE DOWN STRAP