

1. APTA PR-CS-RP-001-98 Recommended Practice for Passenger Equipment Roof Emergency Access

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Abstract: This Recommended Practice contains suggested requirements for roof emergency access to the interior of railroad passenger equipment.

Keywords: access cut-out, emergency access, hatches

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Recommended Practice for Passenger Equipment Roof Emergency Access

1. Overview

This recommended practice has three sections. Section 1 provides the scope of this recommended practice. Section 2 provides the recommended design features that are intended to assure the functionality of the emergency access features. Section 3 contains suggestions for making the operating crew and the local emergency response teams aware of the emergency access features.

1.1 Scope

This recommended practice contains suggested requirements for emergency access to the occupied areas of railroad passenger equipment in the event of complete access blockage of all side doors and end doors after a roll-over. Two types of means of access to the vehicle interior are recommended:

Provision for designed and identified areas of the roof where heavy structure does not impede the cutting-out of access holes of suitable size with tools that are routinely carried on fire department emergency response vehicles.

- Provision of built-in access openings of suitable size, each covered by a hatch, which is mechanically locked or latched into place in a watertight manner.
- APTA recommends that at least one extra provision for emergency access to crew members be incorporated into locomotive crew cabs in addition to the side doors and side windows.

These recommended practices apply to all newly purchased rail passenger equipment.

1.2 Purpose

This document recommends approaches to provide emergency access of rail passenger equipment through the roof.

2. Recommended design features

2.1 Location and size

2.1.1 Location

A minimum of two means of roof access should be provided from the exterior of the vehicle to the space occupied by passengers.

If the opening is rectangular in shape, then the long side should be parallel to the longitudinal axis of the vehicle. One access means opening should be at least wholly on one side of the vertical plane through the longitudinal axis of the vehicle, and the other access means opening should be located

similarly on the other side of the plane. The two access means openings should each be located as far apart laterally in order to place one access means as close as possible to the track bed when the vehicle is overturned through 90 degrees.

2.1.2 Opening size

The built-in openings and the cut-away openings at the designated areas should have the following minimum sizes:

- In the car longitudinal direction, the sides should extend from a roof transverse structural member by at least 24 inches (61 cm), to which should be added any remaining distance to the next roof transverse structural member.
- Transverse sides to be at least 24 inches (61 cm) long.

2.1.3 Secondary obstruction

The ceiling space below the built-in opening or below the area for the cut-away opening should be free from:

- Wire, cabling, conduit, piping.
- Rigid secondary structure(s) e.g. duct walls, diffusers and diffuser support, lighting back fixtures, mounted PA equipment, etc.

After removal of the hatch over the built-in opening, or making the cutout hole in the designated area, it should be possible to push interior panels or liners out of their retention devices, into the interior of the vehicle.

2.2 Access means, hatch provision, identification

2.2.1 Watertightness

The requirements for watertightness of the installed hatch should match those of the basic carbody.

2.2.2 Identification

A sign with a retro-reflective border, or entirely retro-reflective, in either case of a contrasting color, should be applied to the outside of each hatch. This sign should as a minimum state:

- In large letters: “EMERGENCY ACCESS”, or words to that effect.
- In smaller letters, instructions for opening the hatch.

This sign should be no smaller than 7 inches (17.78 cm) by 14 inches (35.56 cm).

2.3 Access means, cut-away, identification

The line along which the roof skin may be cut should be clearly shown with retro-reflective tape of contrasting color.

A sign plate with a retro-reflective border should also state (unique to the vehicle and to the particular railroad):

CAUTION - DO NOT USE FLAME CUTTING DEVICES.

CUT ALONG DASHED LINE TO GAIN ACCESS.

CAUTION - WARN PASSENGERS BEFORE CUTTING

ROOF CONSTRUCTION -- (STATE RELEVANT DETAILS)

3. Documentation

The existence of the type of emergency access provision should be indicated in the train crew operator's manual.