



COMMONWEALTH OF AUSTRALIA

AUSTRALIAN DESIGN RULE 2
FOR
DOOR LATCHES AND HINGES

As Endorsed by the
Australian Transport Advisory Council

The intention of this Australian Design Rule is to specify requirements for side door locks and side door retention components including latches, hinges, and other supporting means, to minimise the likelihood of occupants being thrown from a vehicle as a result of impact.

The Australian Transport Advisory Council has recommended to Commonwealth, State and Territory Governments that all motor vehicles specified below shall be equipped with side door latches and side door retention components complying with Australian Design Rule 2 - Door Latches and Hinges.

VEHICLE CATEGORY	RULE			AMENDMENT		
	MANUFACTURED ON OR AFTER					
	2					
Passenger Cars						
Forward Control Passenger Vehicles up to 8 seats	1 Jan 1985					
9 seats	1 Jan 1985					
Other Passenger Cars	1 Jan 1971					
Passenger Car Derivatives	1 Jan 1971					
Multi-Purpose Passenger Cars	1 Jan 1973					
Omnibuses up to 3.5 tonnes GVM						
up to 12 seats	1 July 1983					
over 12 seats	1 July 1983					
up to 4.5 tonnes GVM	N/A					
over 4.5 tonnes GVM	N/A					
Motorcycles	N/A					
Mopeds	N/A					
Specially Constructed Vehicles	1 July 1975					
Other Vehicles not listed above						
up to 4.5 tonnes GVM	1 July 1974					
over 4.5 tonnes GVM	1 July 1975					

N/A - Not Applicable
GROSS VEHICLE MASS - Abbreviated to 'GVM'

Issued By: Department of Transport
PO Box 594
CIVIC SQUARE ACT 2608
AUSTRALIA

AUSTRALIAN DESIGN RULE NO. 2 - DOOR LATCHES AND HINGES

2.1 Definitions

2.1.1 Goods-Type Door - A door designed primarily to accommodate goods loading including, but not limited to, a two-part door that latches to itself.

2.1.2 Seating Reference Point - The manufacturer's design reference point which -

- (a) Establishes the rearmost normal design driving or riding position for each designated seating position in a vehicle;
- (b) Has co-ordinates established relative to the design vehicle structure;
- (c) Simulates the position of the pivot centre of human torso and thigh; and
- (d) Is the reference point employed to position the two dimensional templates described in Society of Automotive Engineers Standard J826, 'Manikins for Use in Defining Vehicle Seating Accommodations', November 1962.

2.2 Requirements

Side door components referred to herein shall conform to this Rule if any portion of a 90-percentile two-dimensional manikin as described in SAE Standard J826, when positioned at any seating reference point, projects into the door opening area on the side elevation or profile view. Components on folding doors, roll-up doors and on doors that are designed to be easily attached to or removed from motor vehicles manufactured for operation without doors need not conform to this Rule.

2.2.1 Hinged Doors, Except Goods-Type Doors

2.2.1.1 Door Latches - Each door latch and striker assembly shall be provided with two positions consisting of -

- (a) A fully latched position; and
- (b) A secondary latched position.

2.2.1.1.1 Longitudinal Load - The door latch and striker assembly, when in the fully latched position, shall not separate when a longitudinal load of 2,500 pounds is applied. When in the secondary latched position, the door latch and striker assembly shall not separate when a longitudinal load of 1,000 pounds is applied.

2.2.1.1.2 Transverse Load - The door latch and striker assembly, when in the fully latched position, shall not separate when a transverse load of 2,000 pounds is applied. When in the secondary latched position, the door latch and striker assembly shall not separate when a transverse load of 1,000 pounds is applied.

2.2.1.1.3 Inertia Load - The door latch shall not disengage from the fully latched position when a longitudinal or transverse inertia load of 30g is applied to the door latch system (including the latch and its actuating mechanism with the locking mechanism disengaged).

2.2.1.2 Door Hinges - Each door hinge system shall support the door and shall not separate when a longitudinal load of 2,500 pounds is applied. Similarly, each door hinge system shall not separate when a transverse load of 2,000 pounds is applied.

2.2.1.3 Door Locks - Each door shall be equipped with a locking mechanism with an operating means in the interior of the vehicle.

2.2.1.3.1 Front Door Locks - When the locking mechanism is engaged the outside door handle or other outside latch release control shall be inoperative.

2.2.1.3.2 Rear Door Locks - In passenger cars, when the locking mechanism is engaged, both the outside and inside door handles or other latch release controls shall be inoperative.

2.2.2 Hinged Goods-Type Doors

2.2.2.1 Door Latches

2.2.2.1.1 Longitudinal Load - Each latch system, when in the latched position shall not separate when a longitudinal load of 2,500 pounds is applied.

2.2.2.1.2 Transverse Load - Each latch system, when in the latched position, shall not separate when a transverse load of 2,000 pounds is applied. When more than one latch system is used on a single door, the load requirement may be divided among the total number of latch systems.

2.2.2.2 Door Hinges - Each door hinge system shall support the door and shall not separate when a longitudinal load of 2,500 pounds is applied, and when a transverse load of 2,000 pounds is applied.

2.2.3 Sliding Doors - The track and slide combination or other supporting means for each sliding door shall not separate when a total transverse load of 4,000 pounds is applied, with the door in the closed position.

2.3 Test Procedures

2.3.1 Hinged Doors, Except Goods-Type Doors

2.3.1.1 Door Latches

2.3.1.1.1 Longitudinal and Transverse Loads - Compliance with paragraphs 2.2.1.1.1 and 2.2.1.1.2 shall be demonstrated in accordance with paragraph 4 of Society of Automotive Engineers Recommended Practice J839b, 'Passenger Car Side Door Latch Systems', May 1965.

2.3.1.1.2 Inertia Load - Compliance with 2.2.1.1.3 shall be demonstrated by approved tests or in accordance with paragraph 5 of SAE Recommended Practice J839b, May 1965.

2.3.1.2 Door Hinges - Compliance with 2.2.1.2 shall be demonstrated in accordance with paragraph 4 of SAE Recommended Practice J934, 'Vehicle Passenger Door Hinge Systems', July 1965. For piano-type hinges, the hinge spacing requirements of SAE J934 shall not be applicable and arrangement of the test fixture shall be altered as required so that the test load will be applied to the complete hinge.

2.3.2 Hinged Goods-Type Doors

2.3.2.1 Door Latches - Compliance with 2.2.2.1 shall be demonstrated in accordance with paragraphs 4.1 and 4.3 of SAE Recommended Practice J839b, 'Passenger Car Side Door Latch Systems', May 1965. An equivalent static test fixture may be substituted for that shown in Figure 2 of SAE J839b, if required.

2.3.2.2 Door Hinges - Compliance with 2.2.2.2 shall be demonstrated in accordance with paragraph 4 of SAE Recommended Practice J934, 'Vehicle Passenger Door Hinge Systems', July 1965. For piano type hinges, the hinge spacing requirement of SAE J934 shall not be applicable and arrangement of the test fixture shall be altered as required so that the test load will be applied to the complete hinge.

2.3.3 Sliding Doors - Compliance with 2.2.3 shall be demonstrated by applying an outward transverse load of 2,000 pounds to the load bearing members at the opposite edges of the door (4,000 pounds total). The demonstration may be performed either in the vehicle or with the door retention components in a bench test fixture.

