



## **Draft - Vehicle Standard (Australian Design Rule 59/00 – Omnibus Rollover Strength) 2006**

I, JAMES ERIC LLOYD, Minister for Local Government, Territories and Roads, determine this vehicle standard under subsection 7 (1) of the *Motor Vehicle Standards Act 1989*.

Dated

2006

Minister for Local Government, Territories and Roads

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**A.1. NAME OF STANDARD**

A.1.1. This Standard is the Vehicle Standard (Australian Design Rule 59/00 – Omnibus Rollover Strength) 2006.

A.1.2. This Standard may also be cited as Australian Design Rule 59/0059/00 — Omnibus Rollover Strength.

**A.2. COMMENCEMENT**

A.2.1. This Standard commences on the day after it is registered.

**A.3. REPEAL**

A.3.1. This Standard repeals each vehicle standard with the name Australian Design Rule 59/00 — Omnibus Rollover Strength that is:

(a) made under section 7 of the Motor Vehicles Standard Act 1989; and

(b) in force at the commencement of this Standard.

A.3.2. This Standard also repeals each instrument made under section 7 of the Motor Vehicles Standard Act 1989 that creates a vehicle standard with the name Australian Design Rule 59/00 — Omnibus Rollover Strength, if there are no other vehicle standards created by that instrument, or amendments to vehicle standards made by that instrument, that are still in force at the commencement of this Standard.

**B FUNCTION AND SCOPE**

B.1 The function of this Australian Design Rule is to specify the strength of an omnibus superstructure to withstand forces encountered in rollover crashes.

**C APPLICABILITY AND IMPLEMENTATION**

C.1 Subject to the following clauses, this ADR applies to the design and construction of vehicles as set out in the table hereunder.

C.2 This rule applies to single-decked vehicles constructed for the carriage of more than 16 passengers, whether seated or standing, in addition to the driver and crew.

C.3\* ME category vehicle ‘Route Service Omnibuses’ need not comply with this rule until 1 July 1993.

C.4 Omnibuses are not required to comply with this rule if the following percentage of the area of the upper surface of the floor measured between its ‘Axles’, is not more than 550mm above the ground:

For a wheel base:	6.5 metres and over	75%
	less than 6.5 metres	70%
	less than 6.0 metres	65%
	less than 5.5 metres	60%
	less than 5.0 metres	55%
	less than 4.5 metres	50%

The floor height of 550 mm is measured at the ‘Suspension Height’ corresponding to the ‘Unladen mass’ of the vehicle.”

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## D APPLICABILITY TABLE

Vehicle Category	ADR Category Code	UNECE Category Code	Manufactured on or After	Acceptable Prior Rules
Moped 2 wheels	LA	L1	N/A	
Moped 3 wheels	LB	L2	N/A	
Motor cycle	LC	L3	N/A	
Motor cycle and sidecar	LD	L4	N/A	
Motor tricycle	LE	L5	N/A	
Passenger car	MA	M1	N/A	
Forward-control passenger vehicle	MB	M1	N/A	
Off-road passenger vehicle	MC	M1	N/A	
Light omnibus	MD	M2		
up to 3.5 tonnes 'GVM' and up to 12 seats	MD1		N/A	
up to 3.5 tonnes 'GVM' and more than 12 seats	MD2		1 July 1993	Nil
over 3.5 tonnes and up to 4.5 tonnes 'GVM'	MD3		1 July 1993	Nil
over 4.5 tonnes and up to 5 tonnes 'GVM'	MD4		1 July 1993	Nil
Heavy omnibus	ME	M3	1 July 1992*	Nil
Light goods vehicle	NA	N1	N/A	
Medium goods vehicle	NB	N2	N/A	
Heavy goods vehicle	NC	N3	N/A	
Very light trailer	TA	O1	N/A	
Light trailer	TB	O2	N/A	
Medium trailer	TC	O3	N/A	
Heavy trailer	TD	O4	N/A	

### 59.1 DEFINITIONS

Refer to section 2 of Appendix A.

### 59.2. REQUIREMENTS

59.2.1. Omnibus superstructure strength shall comply with the requirements of this Rule.

59.2.2. Appendix A is an extract from the ECE document with administrative provisions not relevant to this Design Rule deleted or identified by cross-hatching. In the case of deletion of whole sections or annexes, that section's or annex's title will be cross-hatched and the words "Not Applicable" placed beside its title.

### 59.3. ALTERNATIVE STANDARDS

Provided that all the additional requirements as set out in inverse text in Appendix A are complied with, the technical requirements of ECE R 66/00 to R66/01, "Superstructure Strength of Large Passenger Vehicles", shall be deemed to be equivalent to the technical requirements of this Standard.

E/ECE/324  
E/ECE/TRANS/505 } Rev. 1/Add. 65  
3 January 1987

ECE R 66/00

**APPENDIX A**

**AGREEMENT**

**CONCERNING THE ADOPTION OF UNIFORM CONDITIONS  
OF APPROVAL AND RECIPROCAL RECOGNITION OF APPROVAL  
FOR MOTOR VEHICLE EQUIPMENT AND PARTS**

done at Geneva on 20 March 1958

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**Addendum 65: REGULATION No. 66**

**Date of entry into force as an annex to the Agreement:  
1 December 1986**

**UNIFORM PROVISIONS CONCERNING THE APPROVAL OF LARGE PASSENGER VEHICLES  
WITH REGARD TO THE STRENGTH OF THEIR SUPERSTRUCTURE**



**UNITED NATIONS**

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Regulation No. 66

~~Regulation No. 66~~

UNIFORM PROVISIONS CONCERNING THE APPROVAL OF LARGE PASSENGER VEHICLES WITH REGARD  
TO THE STRENGTH OF THEIR SUPERSTRUCTURE

REGULATION

1. Scope
2. Definitions
3. ~~Application for approval~~
4. ~~Approval~~
5. General specifications and requirements
6. Test methods
7. Residual space
8. Interpretation of test results
9. Modifications and extension of approval of a vehicle type
10. ~~Conformity of production~~
11. ~~Penalties for non-conformity of production~~
12. ~~Production definitely discontinued~~
13. ~~Names and addresses of technical services responsible for conducting approval tests, and of administrative departments~~

ANNEXES

~~Annex 1 - Communication concerning the approval or refusal or extension or withdrawal of approval or production definitely discontinued of a vehicle type with regard to the strength of its superstructure pursuant to Regulation No. 66.~~

~~Annex 2 - Arrangement of the approval mark~~

~~Annex 3 - Roll-over test on a complete vehicle~~

~~Annex 4 - Roll-over test on a body section~~

~~Annex 5 - Pendulum test on a body section~~

~~Annex 6 - Verification of strength of superstructure by calculation~~

## Regulation No. 66

### UNIFORM PROVISIONS CONCERNING THE APPROVAL OF LARGE PASSENGER VEHICLES WITH REGARD TO THE STRENGTH OF THEIR SUPERSTRUCTURE

#### 1. SCOPE

This Regulation applies to single-decked vehicles constructed for the carriage of more than 16 passengers, whether seated or standing, in addition to the driver and crew.\*

#### 2. DEFINITIONS

For the purposes of this Regulation:

~~2.1. "Approval of a vehicle" means the approval of a vehicle type with regard to the construction features specified in this Regulation.~~

~~2.2. "Vehicle type" means a category of vehicles which do not differ essentially in respect of the constructional features specified in this Regulation~~

2.3. "Passenger compartment" means the space intended for passengers' use excluding any space occupied by fixed appliances such as bars, kitchenettes or toilets;

2.4. "Driver's compartment" means the space intended for the driver's exclusive use and containing the driver's seat, the steering wheel, controls, instruments and other devices necessary for driving the vehicle;

~~2.5. "Unladen kerb mass" means the mass of the vehicle in running order, unoccupied and unladen but complete with fuel, coolant, lubricant, tools and spare wheel, if any;~~

2.6. "Residual space" means the space to be preserved in the passenger compartment during and after the structure has been subjected to one of the tests prescribed in paragraph 6 of this Regulation;

2.7. "Superstructure" means the parts of a vehicle structure which contribute to the strength of the vehicle in the event of a roll-over accident;

2.8 "Body section" means a section containing at least two identical vertical pillars on each side representative of a part or parts of the structure of the vehicle;

2.9. "Total energy" means the energy assumed to be absorbed by the complete structure of the vehicle. This may be determined as shown in appendix 1 of annex 5 to this Regulation.

#### ~~3. APPLICATION FOR APPROVAL~~ NOT APPLICABLE

#### 4. APPROVAL NOT APPLICABLE

#### 5. GENERAL SPECIFICATIONS AND REQUIREMENTS

5.1. The superstructure of the vehicle shall be of sufficient strength to ensure that during and after it has been subjected to one of the methods of test or calculation prescribed in paragraph 6:

5.1.1. No displaced part of the vehicle intrudes into the residual space, as specified in paragraph 7, and

5.1.2. No part of the residual space projects outside the deformed structure.

5.2. The requirements of paragraph 5.1. above shall apply to the vehicle including all its structural parts, members and panels and all projecting rigid parts such as luggage racks, ventilation equipment, etc. However, bulkheads, partitions, rings or other members reinforcing the superstructure of the vehicle and fixed appliances such as bars, kitchenettes or toilets shall be ignored for the purposes of paragraph 5.1.

5.3. In the case of an articulated vehicle each part of the vehicle shall comply with the requirements specified in paragraph 5.1. above.

#### 6. TEST METHODS

6.1. Each type of vehicle shall be verified according to one of the following methods at the discretion of the manufacturer or according to an alternative method approved by the ~~competent authority:~~

~~'Administrator of Vehicle Standards'~~

6.1.1. A roll-over test on a complete vehicle in accordance with the procedure set out in annex 3 to this Regulation;

6.1.2. A roll-over test on a body section or sections representative of a complete vehicle in accordance with annex 4 to this Regulation;

6.1.3. A pendulum test on a body section or sections in accordance with annex 5 to this Regulation; or

6.1.4. A verification of strength of superstructure by calculation in accordance with annex 6 to this Regulation.

6.2. If the methods prescribed in paragraphs 6.1.2., 6.1.3. or 6.1.4. cannot take account of a significant variation between one section of the vehicle and another, for example an air-conditioning installation on the roof, additional test methods or calculations shall be ~~submitted to the technical service.~~

~~conducted.~~

\* Nothing in this Regulation shall prevent the Contracting Parties from restricting its scope to particular categories of vehicle.

In the absence of such additional information the vehicle may be required to undergo the method of test prescribed in paragraph 6.1.1.

## **7. RESIDUAL SPACE**

**7.1** For the purpose of paragraph 5.1 of this Regulation, the residual space means the volume within the passenger compartment which is swept when the transverse vertical plane defined in figure l(a) of this Regulation is moved in a straight line or lines so that the point "R" in figure l(a) passes from the "R" point of the rearmost outer seat, through the "R" point of every intermediate outer seat to the "R" point of the foremost outer passenger seat.

**7.2** The position of the "R" point shown in figure l(b) shall be assumed to be 500 mm above the floor under the passengers' feet, 300 mm from the inside surface of the side of the vehicle and 100 mm in front of the seat back in the centre line of the outboard seats.

## **8. INTERPRETATION OF TEST RESULTS**

**8.1.** If body sections are tested, the ~~technical service responsible for conducting the test~~  
test facility

shall ensure that the vehicle complies with the conditions specified in appendix 2 of annex 5 to this Regulation which contains requirements for the distribution of the main energy absorbing parts of the superstructure of a vehicle.

~~9. MODIFICATIONS OF THE VEHICLE TYPE AND EXTENSION OF APPROVAL NOT APPLICABLE~~

~~10. CONFORMITY OF PRODUCTION NOT APPLICABLE~~

~~11. PENALTIES FOR NON-CONFORMITY OF PRODUCTION – NOT APPLICABLE~~

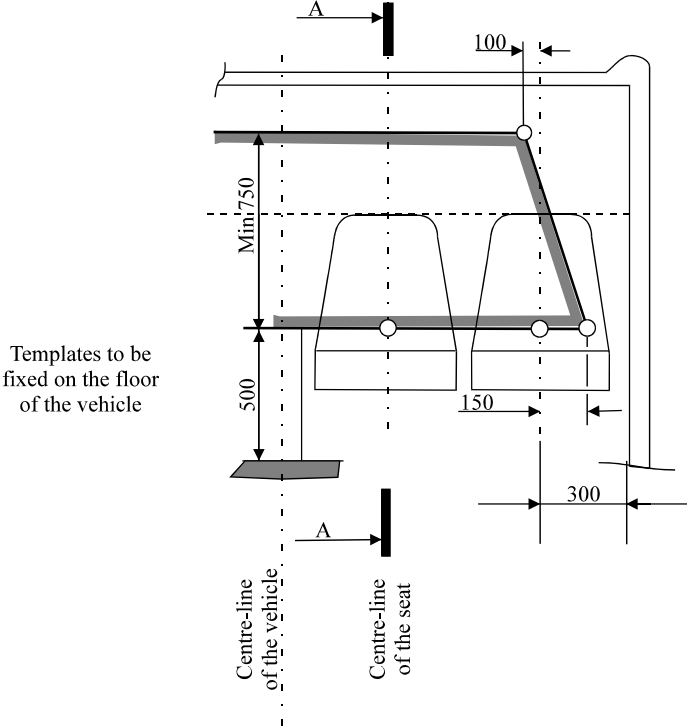
~~12. PRODUCTION DEFINITELY DISCONTINUED – NOT APPLICABLE~~

~~13. NAMES AND ADDRESSES OF TECHNICAL SERVICES RESPONSIBLE FOR CONDUCTING APPROVAL TESTS, AND OF ADMINISTRATIVE DEPARTMENTS NOT APPLICABLE~~

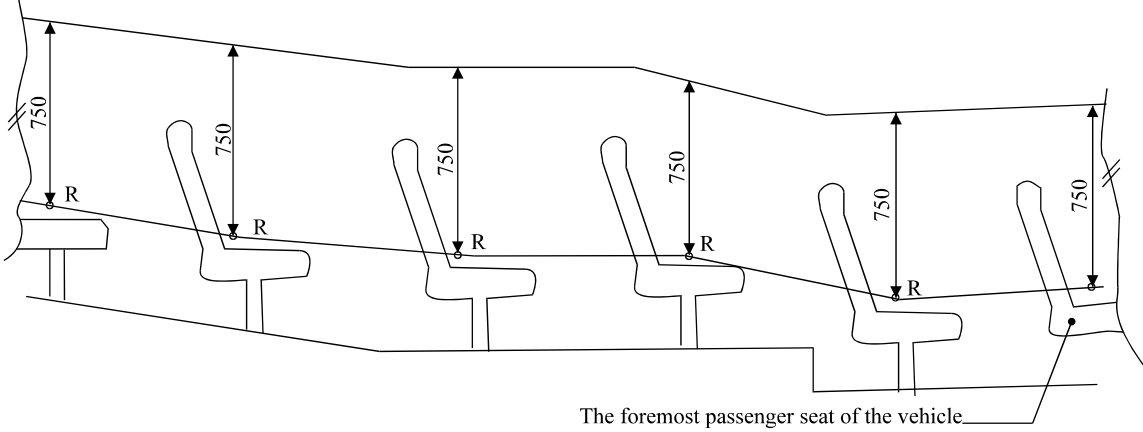


Figure 1  
RESIDUAL SPACE  
(all dimensions in millimetres)

1 (a) LATERALLY



1 (b) LONGITUDINALLY Section A-A of the vehicle in the vehicle plane of the centre-line of the inboard seats.



Note: See requirements of paragraph 7.2. of the Regulation