## Guide on Trailers

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This section will help you to use your trailer safely and stay within the law.

The first step is to ensure that the vehicle you intend to use is suitable for the trailer of your choice.

Many of the regulations mentioned in this Guide will be updated and amended from time to time.

If you are in any doubt about specific legislation, please refer to the latest text of the Road Vehicles (Construction and Use) Regulations or the Road Vehicles Lighting Regulations.

These, with their amendments are available from Her Majesty's Stationery Office or any bookshop which sells Government publications.

The SMMT Guide is available via SMMT (The Society of Motor Manufacturers)

### Buying a Trailer

The guide will help you to use your trailer safely and stay within the law, but how do you choose your trailer in the first place?

If you are buying new you have a wide range of manufacturers and trailer models to choose from, but the first thing to do is to ensure that the vehicle you intend to tow with is suitable.

The trailer manufacturer should be able to advise you, but the first essential step is to cheek the towing limit of your vehicle in the handbook or manufacturer's plate, or by contacting the vehicle dealer or manufacturer.

Separate figures are normally given for braked and unbraked trailers. (See also the sections on manufacturer's plates and towing unbraked trailers).

If you are buying second-hand from anyone other than a reputable trailer distributor, take great care to verify that the seller is the rightful owner before completing the transaction. You will have no right of ownership in the event that the trailer is later found to have been stolen.

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## Trailer Registration

There is no registration system in the UK for <u>category</u> 01 and 02 trailers.

This greatly simplifies matters, but has also led to trailer theft becoming a serious problem as the thief has less difficulty disposing of a trailer than a motor vehicle.

There are various ways of reducing the risk of theft which are covered later.

### Maximum Trailer Dimensions

Length (excluding the coupling and drawbar) for a four or more wheeled trailer. 7 meters or 12 meters if towed by a vehicle over 3500kg GVW.

Length of towing vehicle and trailer combined 18 meters.

Maximum overhang of load from rear of trailer 3.05 meters.

### Marking of rear overhang:

Between 1 metre and 2 metres, ensure the end is clearly visible by attaching a piece of cloth or similar.

Between 2 metres and 3.05 metres, a marker board as defined in the regulations must be fitted and must be illuminated at night.

If the overhang exceeds 3.05 metres, the police must be notified before commencing the journey.

#### "Long Vehicle" marker plate

Not a legal requirement, though for longer combinations, particularly where the towing vehicle is over 7500kg gross weight, it is advisable to fit a plate in the interests of safety. Details can be found in the Road Vehicle Lighting Regulations, Schedule 18.

Width 2.3 meters or 2.55 meters for a trailer towed by a vehicle over 3500kg GVW.

Loads must not project more than 305 mm either side of the trailer.

Loads over 2.9 metres in width are classed as abnormal loads, and the police must be notified before commencing a journey.

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Height no limit stated. - Recommended maximum height 3m or 1.7 x wheel track.

## Trailer Loading

Loads must be securely tied down or restrained.

Wherever possible, loads should be evenly distributed across the trailer and positioned in such a way as to keep the nose weight within the recommended limits.

If uneven loads have to be carried, ensure that individual wheels/axles are not overloaded. It may be necessary to reduce the overall load to achieve this

## Trailer Electrics - Lighting Systems

All lights must be in working order.

Lenses and reflectors must be in good condition. Bulbs must be of correct wattage for the application.

#### **Electrical Connection**

Trailers are fitted with a 7-pin plug (I2N) for connection to the towing vehicle lighting system.

These are wired to an international standard to ensure correct operation on any towing vehicle. Towbars are fitted with the corresponding socket. Although not a legal requirement in the UK, it is advisable to use a system incorporating a rear fog light bypass to disable the vehicle fog light when the trailer is connected, preventing glare in the rear view mirror. Where additional electrical circuits are required, a supplementary 7-pin plug (12S) and socket is available. This is commonly used for reversing lights, battery charging and powering refrigerators and interior lights in caravans.

Some European vehicles are now fitted with a 13-pin electrical socket incorporating the functions of the 12N & 12S sockets. Special connecting lead assemblies are available to allow connection between this socket and the 12N & 12S system on the trailer.

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### Trailer Tyres

Tyres have to comply with exactly the same regulations for condition and tread depth as those for cars and light vans. Replacement tyres must be capable of sustained running at 60mph with the trailer at its <u>MAM</u>. However, it is recommended that tyres of the same size and load / speed rating as the originals are fitted: they do not have to be the same make. The load / speed rating is marked on the side of the tyre along with the size.

A load / speed index table is included in the Trailer section..

Note that any additional maximum load markings on the tyre in pounds (Ibs) should be ignored as they do not apply to the UK or Europe . Radial and cross ply tyres must not be mixed on the same axle.

It is recommended, though not a legal requirement, that they are not mixed between axles. If they are mixed, the radials should be on the rear.

Pressures must be maintained as recommended by the trailer manufacturer. Low tyre pressures are the most common cause of tyre failure and variations in pressure from tyre to tyre can adversely affect the handling of the trailer.

Spare wheels are not a legal requirement but if fitted the tyre has to comply with the regulations.

### Tyre Load Indices and Related Maximum Load / Tyre

Load	Load										
Index	kg										
60	250	71	345	82	475	93	650	104	900	115	1215
61	257	72	355	83	487	94	670	105	925	116	1250
62	265	73	365	84	500	95	390	106	950	117	1285
63	272	74	375	85	515	96	710	107	975	118	1320
64	280	75	387	86	530	97	730	108	1000	119	1360
65	290	76	400	87	545	98	750	109	1030	120	1400
66	300	77	412	88	560	99	775	110	1060	121	1450
67	307	78	425	89	580	100	800	111	1090	122	1500
68	315	79	437	90	600	101	825	112	1120	123	1550
69	325	80	450	91	615	102	850	113	1150	124	1600
70	335	81	462	92	630	103	875	114	1180	125	1650

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## Trailer Tyre Speed Symbols

Speed	Maximum car speed for which tyre is suitable				
Symbol					
	km/h	mph			
L	120	75			
M	130	81			
N	140	87			
P	150	93			
Q	160	100			
R	170	106			
S	180	113			
Т	190	118			
U	200	124			
H	210	130			
V	240	150			
W ++	270	168			
Y ++	300	186			
ZR +	Over 240	Over 150			

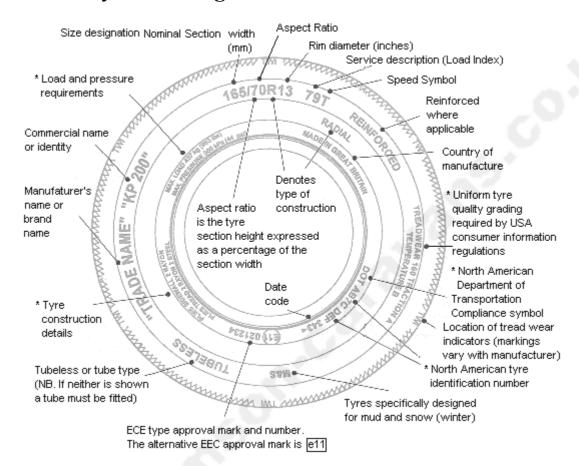
### Footnotes:

++ Tyres for speeds over 240 km/h may be marked for an interim period with both "ZR" and the relevant service description (e.g. 195/50ZR15 82W 195/50ZR15 82Y) to specify the tyre performance in the absence of a service description, consult the tyre manufacturer for actual maximum speed and the relevant load capacity.

+ Tyres with a marking "ZR" (e.g. 195/50ZR 15) are for speeds over 240 km/h

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## Trailer Tyre Markings



#### Footnotes:

This chart shows the markings which may be found on a typical car tyre.

Retread tyres must also show either "RETREAD" or "REMOLD" on the sidewall together with "BSAU144" marking in place of ECE Type Approval Mar

\* An asterisk adjacent to an annotation indicates that the information does not apply in the UK

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## Trailer Manufacturer's Plate

Braked trailers up to 3500kg MAM do not by law have to be fitted with a manufacturer's plate for use on UK roads.

However, most manufacturers do fit a plate and the Department of Environment, Transport and Regions Code of Practice for the recall of defective trailers recommends that such a plate is fitted and that it should be marked with the manufacturer's name and address, the model number, serial number and maximum gross weight.

Some also give maximum loads for each axle.

Unbraked trailers must be clearly marked with their unladen weight, maximum gross weight and year of manufacture, though not necessarily on a plate.

# Towing Unbraked Trailers

In the absence of vehicle manufacturer's specific restrictions for unbraked trailers the following will apply: (1986 C&U Reg. 87)

Unbraked trailers may only be towed by vehicles having a kerbside weight of at least twice the actual in-use weight of the trailer.

For example, a vehicle with a kerbside weight of 1000kg is restricted to towing an unbraked trailer of 500kg including load, even if the trailer has a MAM of 750kg.

However, if the vehicle manufacturer recommends a lower weight, this figure should not be exceeded. This is not strictly a legal stipulation, but failure to comply may be viewed as using a vehicle in an unsafe condition and can lead to prosecution.

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# Scope of this Guide

This guide applies to the use on UK roads of trailers up to 750kg maximum gross weight unbraked and up to 3500kg maximum gross weight fitted with brakes. Above this weight, towing vehicle-operated air or other power-operated braking systems are required and different regulations apply.

Two EC categories are included in this weight range:

- O1 up to and including 750k. maximum gross weight
- O2 from 750kg to 3500kg maximum gross weight

Most regulations covering trailers used on UK roads are contained in the Construction & Use Regulations 1986. The guide has been written for users of trailers which comply with the construction element of these regulations and concentrates on the use element. If you intend to build your own trailer it is strongly recommended that a copy of these regulations is obtained and studied before you start building it.

Use of trailers in other European countries

Whilst trailers built to UK regulations can be legally driven through other European countries, if you intend to use the trailer abroad for an extended period, or sell a trailer to someone residing abroad, you should be aware that the trailer may not comply with national regulations in that country. It is essential to check with the trailer manufacturer at the earliest possible stage to avoid experiencing difficulties later. If the trailer does not carry full certification for use in the country concerned, it can be time consuming and costly, or, at worst, impossible to obtain the necessary documents to enable registration.



# Glossary of Terms

Unladen weight	The weight of the trailer (or towing vehicle) less removable optional equipment and load.			
Gross weight	the total weight of the trailer (or towing vehicle) and load.			
Gross Vehicle Weight (GVW)	the total weight of the towing vehicle and its load.			
Gross Vehicle Mass (GVM)	the total weight of the towing vehicle and its load.			
Maximum Gross Weight	the maximum figure set by the manufacturer for the gross weight. This will normally be the technically permissible maximum based on the carrying capacity of the tyres, axles, coupling, suspension and chassis but may have been adjusted downwards for commercial reasons.			
Technically Permissible Maximum Weight	The technically permissible maximum based on the carrying capacity of the tyres, axles, coupling, suspension and chassis.			
Maximum Authorised Mass (MAM)	As maximum gross weight above. The latest EC term as used in the driver licensing regulations.			
Gross Train Weight (GTW)	The maximum allowable combined weight (combined MAM) of the towing vehicle and trailer as set by the towing vehicle manufacturer.			
Payload	The difference between the gross weight of the trailer and its unladen weight: i.e., the load carrying capacity.			
Kerb weight (kerbside weight)	The weight of the towing vehicle (without payload) including all fluids required for operation.			
Vertical static load (nose load)	The weight imposed on the towball or eye by the trailer coupling.			
Overrun braking system	A trailer braking system operated by the action of the trailer bearing on the towing vehicle under deceleration.			
Power operated braking system	a trailer braking system which is operated directly by the action of the foot brake on the towing vehicle.			
Wheel track	Horizontal distance between the centrelines of the wheels across the width of the vehicle or trailer.			
Wheelbase	Horizontal distance between the centrelines of the wheels of multi-axle vehicles or trailers along the length of the vehicle.			

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