

June 09

HITCHED

fit to tow

Utility Trailers - Caravans - Livestock Trailers - Heavy Plant



Free towing guide and UK road atlas



With thanks to our partners for their contributions



WELCOME TO HITCHED, THE MAGAZINE DEDICATED TO HELPING YOU STAY FIT TO TOW.

If you are planning to tow something large or small; frequently used or often neglected, Hitched will help you avoid the common pitfalls, with stacks of essential information, from legal requirements to top tips from the experts.

With a free set of UK road maps, Hitched is designed to be a constant companion for your tow car, with information you can come back to again and again as you couple up for your next journey. As well as informative general articles, there are dedicated sections focussing on utility trailers, caravans, livestock trailers and large trailers for heavy loads.

Of course, we always recommend you refer to your driving licence and vehicle handbook or dealer to find out exactly what you and your vehicle can tow.

So, whether you are a seasoned expert, fully versed in kerb weights, noseweights and so on, or a total beginner, this magazine will make a good addition to your glovebox.

Happy towing.

CONTENTS

p2 TRAILER LIFE How to keep your trailer or caravan safe and running. Includes a glossary of essential terms.

p6 THE LONG HAUL Preparing for and managing a long journey with a trailer or caravan, in the UK or abroad.

p10 TO TOW OR NOT TO TOW? Essential knowledge covering the type of trailers you and your car are allowed to tow.

p12 GOODS, BOAT AND MOTORBIKE TRAILERS A detailed look at this category of recreational and utility trailers, including a visual overview.

p18 CARAVANS A detailed look at the do's and don'ts for a happy and stress-free caravanning trip, including a visual overview.

p22 HORSE, STOCK AND VAN TRAILERS A detailed look at the precautions you need to take to transport animals, including a visual overview.

p28 HEAVY GOODS, PLANT AND LOW LOADER TRAILERS A detailed look at what it takes to move the largest trailers and their contents, including a visual overview.

p32 READY STEADY TOW Traffic Officers recount tales of drivers who got it wrong whilst, of course, imparting expert advice from the front line.

p34 ROAD MAPS OF THE UK

TRAILER LIFE

Like a trusty pet, a trailer can bring a new dimension to life, but only if you look after it and treat it properly. Towing enthusiast and Highways Agency accessibility specialist, Roger Wright, outlines the basics of life with a trailer.

WHERE TO STORE IT

If you can, leave the trailer on a hard surface, rather than grass or soil which will corrode the tyres, wheels, brakes and chassis over time. Even better if it is flat, then you can leave the handbrake off to stop it seizing up, but chocks under the wheels are a good precaution. The coupling is a vital part of your trailer, so grease it well and cover it up. Finally, fit a lock as there's a healthy black market in stolen trailers.

BEFORE YOU GO

A sound floor and ramp are pretty crucial, particularly for livestock trailers! So get on board and give it a thorough check before loading up.



Cover it, Chock it!

Also check hinges and fastenings to make sure they can't come open once you're bouncing along – a good tip is to double secure them with small karabiners or R-clips.

After standing about for months, tyres are the most likely part to fail, through under-inflation, degradation or just age. Keep them pumped up to their maximum pressure for the trailer's load capacity, even when parked up. On the road, under-inflated tyres flex too much, building up excess heat which can cause a blow-out. Tyres that have degraded in the sun develop small cracks in the sidewall near the rim which cause them to fall apart. Whatever they look like when you set off, tyres can deteriorate quickly after being unused for a long time, so have a look at them whenever you stop.

Change the tyres every five years as a matter of course and only at a reputable dealer; never just stick on a standard vehicle tyre – very few fit trailers. It also goes without saying that you should have a properly inflated spare, a suitable wheel-brace and a jack.

OCCASIONAL CHECKS

Keeping the ball, ring and pin or hook coupling greased or lubricated will protect from rust. Check to make sure the back-up connection mechanism works.

Note: For caravans with internal stabilisers, such as Alko or Winterhoff, clean all grease or oil from the tow-ball before coupling up or they'll fail. You must

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Trailers have heavy duty work to do and can weigh as much as a loaded van, so it's important to keep them in good condition and understand some basics of weight distribution.

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use a breakaway cable or chain secured to the brake assembly, which will pull the brakes on should the trailer become detached.

If you have a braked trailer, check the over-run brake from time to time and adjust it if need be. It's a good idea to look at the wheel-bearings while you are doing this.

VISIBILITY

To be road legal, trailers must have rear lights that match those at the rear of the vehicle, plus triangular reflectors and a number plate. Over time, the weather can corrode the wiring and plug, leading to unreliable lights, which of course you can't see once on the road! So, it is a good idea to use a lighting board which can be stored indoors, or keep one as a back-up. But remember there are specified dimensions and locations for lights. A good tip is to fit a pair of triangular reflectors permanently, and then use a board that's a similar width to the trailer:

LOADING THE TRAILER

If the trailer has them, always put out rear prop stands or supports before you load up – especially for vehicle trailers. If you don't, you'll strain the rear axle and chassis members. The front of the trailer may also lift and wrench the coupling off the hitch or even pick up the rear of the towing vehicle – spectacular but expensive! This is more likely the heavier the vehicle and the longer the trailer:

It's worth taking the time to understand the on-road stability of trailers, particularly platform trailers carrying heavy or tall loads. The centre of gravity should be just in front of the axle and at a height of no more than 95% of the track width of the trailer or no more than 40% of the distance from the trailer axle to the towing hitch, whichever is least. In general, platform trailers are less suitable than goods trailers for tall loads such as vehicles, but better for mass loads and access from the sides.

03



Look after your coupling

TRAILER LIFE



COUPLING HEIGHTS OF CLOSE-COUPLED TRAILERS

Unlike single-axle trailers which can adapt to different coupling heights, heavy duty close-coupled trailers need to remain level. If the coupling is too high, the trailer will run on the rear axle, straining suspension, running gear, tyres and chassis. In addition, the coupling could break away from the A-frame drawbar, putting too much weight on the towing bracket. More common than a high coupling is a low coupling,

which causes the trailer to run on its front axle and, much more seriously, may cause the coupling to lift-off the ball completely, which would have serious consequences at speed! In any event, both cases seriously affect braking.

If you are unsure, a height-adjustable towing bracket will help guarantee the right coupling height. These require certain types of mounting with the top bolted to a rigid chassis cross member.



Keep it level and you won't lose that load



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A well maintained trailer can bring a new dimension to life.

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GLOSSARY OF TERMS

Here's a quick explanation of some essential terms used throughout this magazine, which will help you work out which trailer is best for you.

Breakaway cables, chains and loops:

Braked trailers must be fitted with a cable that links the trailer brake mechanism to the towing bracket, which will pull the trailer brakes on and then break in the event of the trailer becoming detached from the tow-car. Unbraked trailers must have a strong loop or chain to hook over the towing bracket to stop the trailer separating from the tow-car if it becomes detached. The loop should be short enough to prevent the trailer coupling hitting the road.

Close-coupled trailer: A trailer with two or three non-steering axles, with two wheels per axle. It is not permissible to travel with less than the designed number of wheels in operation.

Kerb weight: Sometimes called the unladen weight, this is the weight of the empty vehicle. This will be quoted in your owner's manual. There are different versions, try to avoid "EC Kerb weight" because it includes a notional weight for the driver.

Maximum Authorised Mass (MAM): This is your vehicle's maximum permissible weight, also known as the gross vehicle weight. This will be quoted in your owner's manual.

Maximum Combination

Weight: The total permissible weight of the fully laden tow-car and trailer combined. It particularly affects drivers with the minimum category B licence who passed their test after 31/12/1996.

Noseweight: This is the weight pushing down on the towbar of your towing vehicle and there will be a maximum permissible noseweight which will be quoted in your owner's manual (there may be different weights quoted depending on the type of hitch being used). The easiest way to test the noseweight of your trailer is to use some bathroom scales and a piece of wood. For more information visit; www.highways.gov.uk/towing.

Payload: This is the weight your vehicle can carry. This may be quoted in your owner's manual but it is calculated by taking the difference between MAM and the Kerb weight.



THE LONG HAUL

In many ways, the world is getting smaller but journey planning is essential for long distance or overseas towing.

LIFE IN THE SLOW LANE

Towing needs much greater concentration than just driving and takes its toll on you. It's sensible to plan for a much slower journey with stops for a break every 2 hours at least.

If you check on traffic, roadworks and weather before you leave and keep an eye on the signs and an ear on the radio traffic reports on the way, you should avoid unexpected delays. For a range of useful travel information, visit: www.highways.gov.uk/traffic

When you do stop, it's sensible to do a walk-round and run through a little routine of checks. Feel the tyres for heat – if they're abnormally hot they're probably under-inflated; check the coupling, make sure the lights all still work and that catches are secure. Stand back and check the overall stance; if it's leaning to one side you may have a broken spring or suspension.

Before you set off again, make sure you have plenty of fuel for the next stint – your range will be much shorter with that heavy weight on the back. As you continue your journey, keep an eye through the mirrors on the behaviour of the trailer – if you suspect any glitch, stop at the earliest possible opportunity to check it out.

WHATEVER THE ROAD

On a long tow, you're more likely to make unscheduled roadside stops, to check or secure something for instance, or just for a rest, so it's a good idea to carry reflective jackets or waistcoats – especially if you are abroad. If you are in a breakdown or incident on an all-purpose road, it's likely you'll block part of the road, so highlight the scene as well as you can with hazard lights, cones or warning triangles, then call your recovery provider.

Finally, you should NEVER work on a vehicle in the carriageway.

THE LONG HAUL



MOTORWAY DRIVING

If you tow on motorways you really should have comprehensive breakdown cover as recovery of a trailer or caravan is considerably more time consuming and expensive. Recovery may be limited to certain times, a lane may need to be closed and you could need two recovery vehicles – that's double the cost!

When the unforeseen happens, your priority should be the safety of your passengers and any other people involved. Get the outfit onto the hard shoulder if possible and use hazard warning lights and side lights to make your position clear – don't put out a triangle or cones. Get out of the vehicle on the side away from traffic lanes and stay away from the carriageway, and away from the hard shoulder too if it is safe. Never attempt repairs or a wheel change on the hard shoulder.

The best way to call for help on the motorway is to use the nearest Emergency

Roadside Telephone – follow the arrows on the roadside reflector posts. The operator will call your breakdown service and inform Traffic Officers of your location and circumstance.

TOWING ABROAD

Some European countries have extra regulations for vehicles with trailers, so it is always a good idea to check before travelling. Scandinavia, for example, demands lower speed limits for trailers as does France but only where the maximum weight of car and trailer exceeds 3.5 tonnes and the total length exceeds 7 metres.

You cannot drive in the outside lane of 3-lane motorways and you have to drive at 10 kph less than the speed limit on single and dual carriageways. You also have to leave a 50 metre distance from the vehicle ahead.

This tells you how complicated it can be so put in some research on your route as well



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A loaded trailer can double your overall weight, meaning slower acceleration, reduced hill climbing ability, lower overall speed, greater fuel consumption and, most importantly, significantly longer braking distances.

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as knowing your dimensions and weight (Kerb weight / MAM).

EXTRA KIT REQUIRED

In most European countries you have to carry a warning triangle, spare bulbs, first aid kit, spare glasses and your vehicle registration documents. Austria, Belgium, Croatia, France, Italy, Slovakia, Spain and Portugal also require high-visibility waistcoats or jackets to be carried in the passenger area and used by every adult in case of breakdown.

LENGTH AND WEIGHT RESTRICTIONS

Some alpine countries, particularly Switzerland, limit the size of caravans and trailers unless they are towed by a 4x4 vehicle. Weight limits, particularly on bridges, relate to the Maximum Authorised Mass of the whole outfit.

CHANGED ROAD PRIORITIES

Vehicles climbing hills generally have priority, except in some alpine countries where service buses have right of way. You are obliged to make it easy for faster vehicles to overtake safely even though they're supposed to give way to towing vehicles going up hills!

HIRING OR BUYING A TRAILER ABROAD

In Europe all trailers over 500kg MAM are registered as separate vehicles with their own registration number. If you buy a trailer abroad you'll need to change the plate or cover it with a British one matching your vehicle. Lending a British caravan or trailer over 500kg MAM to someone abroad to tow with a foreign vehicle is very difficult as it needs to be imported and given foreign registration and documentation.

TO TOW OR NOT TO TOW



When it comes to towing, there are strict rules on which licence you hold and the relative weights of vehicles and trailers. With the help of this article and your owner's manual, you should be able to work out if you can or can't tow that trailer.

WHAT THE DRIVER CAN TOW

If you passed your car driving test before 1st January 1997, you can drive vehicles up to 3.5 tonnes MAM towing large trailers (category B+E).

You may also hold entitlement to drive categories C1 and C1+E, which allows you to drive vehicles between 3.5 and 7.5 tonnes MAM and tow a trailer, provided the combination does not exceed 8.25 tonnes.

If you passed a standard test (category B vehicles) after 31st December 1996, the maximum combined weight you can tow is much lower. To find out what you are allowed to tow, you will have to make a calculation based on the weights of both the car and the trailer. Here are the key figures:

- Category B vehicles can tow a trailer with a MAM up to 750kgs, provided the combined MAM does not exceed 4.25 tonnes.

- Category B vehicles can tow a trailer with a MAM over 750kgs, if the MAM does not exceed the kerb weight of the towing vehicle and the combined MAM does not exceed 3.5 tonnes.

Example: Your car's kerb weight is 1.25 tonnes and it has a MAM of 2 tonnes. You can tow a trailer with a MAM of 1.25 tonnes because it is less than the kerb weight of your car and your combined MAM is under 3.5 tonnes. You can't tow a trailer with a MAM of 1.5 tonnes because it is more than the kerb weight of your car, even though the combined MAM would be under 3.5 tonnes. In this case, you would need to take a licence that covers B+E vehicle categories.

You can take an extra test to qualify you for category B+E vehicles.

RENEWAL OF LICENCES AT 70

When the ordinary licence expires at the age of 70, you will retain your B+E category but your entitlements to drive vehicles with a MAM of more than 3.5 tonnes will lapse. You will have the choice of renewing these entitlements provided you can meet the higher medical standards.

WHAT THE VEHICLE CAN TOW

Before you go any further, you must consult your vehicle's handbook, an authorised dealer or the manufacturer's website for the maximum specified trailer noseweight for the vehicle. This is the weight pushing down on the towbar. Some will have different weights depending on the type of hitch being used.



CONSTRUCTION AND USE REGULATIONS

All vehicles and trailers have their maximum authorised mass (MAM) defined on a plate. Vehicles either show the maximum weight that can be towed or the gross combination weight of car and trailer, which allows you to work out the maximum towing weight.

N.B: Exceeding the towing capacity or the payload of the vehicle may be considered an offence under the Construction and Use Regulations. It may also invalidate the vehicle insurance and any warranty on the vehicle, as well as increasing the likelihood of a mechanical fault.

DIMENSIONS

Trailers and caravans towed by vehicles with a MAM of 3.5 tonnes or less are limited to a maximum body length of 7m (excluding drawbar) and a maximum width of 2.3m. The maximum overall length of the combination is 18m.

MIRRORS

It is a legal requirement that you fit additional towing mirrors when you are towing your caravan or any other trailer that is wider than the narrowest part of the rear of your vehicle. If you are towing blind, without towing mirrors, or using illegal towing mirrors (not E-marked), you can be prosecuted by the police.

TOWING SPEED LIMITS

Towing units are limited to 50 mph on rural single carriageway roads and 60 mph on dual carriageways and motorways, provided there aren't any local or temporary lower limits in force.

MOTORWAY LANE RESTRICTIONS

You can't tow trailers and caravans in the outside lane of any 3 or 4-lane motorway, unless of course you are told to, eg: a contraflow or the nearside lanes are closed.

PARKING RESTRICTIONS

You can't use two on-street parking spaces for a car and trailer or caravan. You also can't park a trailer without lights on a public road at night, whether or not it is attached to a vehicle.



How not to do it!

GOODS, BOAT AND MOTORBIKE TRAILERS



Seasoned trailer users have libraries of tales but many of us use one rarely; for a trip to the tip or for camping perhaps. Here's a top-to-bottom look at what to expect.

Can I tow it?

Typically with maximum authorised mass (gross weight) of 300kg to 750kg, these types of trailers must be towed by a vehicle whose kerb-weight is at least double that weight (see page 10 for full details). That means trailers plated between 500kg and 750kg need tow-cars of 1 tonne to 1.5 tonnes kerb weight – probably a large estate or medium 4x4 for the larger ones.

Visibility

Baggage trailers are usually around half the width of most cars and only a metre or so long, so they are invisible in the rear-view mirror. Their narrow track means they hit road hazards like pot holes or speed humps that the tow-car straddles.

Lights and reflectors

All trailers must have side, brake, indicator and number-plate lights, while trailers over 1300mm wide also need rear fog lights. They must also have rear red triangular reflectors plus a pair of white front reflectors. A removable lighting board of suitable width is a good idea if the trailer lives outdoors – just take the light board off and store it inside. A good tip for low motorcycle trailers is to add some reflectors along the sides, as drivers and pedestrians often don't see them when they are unloaded.

Loading and unloading

Many boat, motorbike and quadbike trailers are un-braked and so need to be hitched up for loading and unloading. Whilst boats are usually loaded away from the road, for motorbikes and quads you may be on the road, so make sure you can be easily seen by other road users. You may also need room for a good run-up to get the bike up the ramp, or to stop it as it comes off.

Maker's plate and number plate

The trailer must be fitted with a maker's plate showing its serial number, gross weight, axle weights and noseweight. It must also have a number plate that matches the tow-car.

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Baggage trailers are easily forgotten, especially when parking after a long journey it is virtually impossible to reverse with a short trailer!

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Wheels and tyres

Many small trailers have wheels with rims of less than 10" diameter, which means they turn up to 50% faster than the wheels on the tow-car. With a very basic tread, they're not designed to go over 60mph. Different manufacturers use different fixings so wheels are not easily interchangeable carry a suitable spare wheel at all times.

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GOODS, BOAT AND MOTORBIKE TRAILERS





Boats

There are a wide range of free-fixing boat supports and rollers available to support the hull during transit and help with loading and unloading. They clamp onto the chassis members so they can be positioned in the best positions.

Hot hubs and cold water – a deadly combination

Always keep the wheel-hubs on a road-going trailer out of water, especially if they are hot after towing or standing in the sun. Water will be drawn in and emulsify the grease, making it useless. Shortly afterwards the bearings will fail, leaving the trailer stuck wherever it happens to be.

Straps, winches, cables, tie-downs and hooks:

Boats sat on rollers can move or fall off, so use good quality lashing straps. For anything larger than a dinghy you'll need a trailer with a hand-winch for loading and this usually stays connected for extra security. Keep an eye out for damage to the winch wire which would weaken it and always handle

the wire-ropes with good gloves as they can ruin your hands. Don't stand too close to cables or straps under tension – they can cause bad injuries if they snap or break free. A tip for a long winch cable is to lay a mat or blanket over it, so it's easy to spot and to reduce whiplash if it fails.

Motorbikes

Motorbike wheels must be in fixed runways with 4 straps – preferably ratchet – to tie it down; two at each end. The bike's suspension must also be compressed or the straps will come undone with obvious consequences! Motorbike trailers should have substantial runways with sides to guide the bike wheels up and stop them slipping about during the journey – the best ones have a cut-out for the front wheel. Depending on the size and weight of the bike, the loading ramp could be as long as the runway on the trailer, so give yourself plenty of room. It's also much easier to secure the bike standing on decking alongside the trailer runways than from the ground.



A good quality modern bike trailer

SPOTLIGHT ON: GOODS, BOAT AND MOTORBIKE TRAILERS

Your essential guide to small trailers, their key features and how to look after them.

Mesh sides

These help safely carry light but bulky loads such as branches and grass cuttings.

Electrics

Keep 7-pin plugs dry and off the ground.

Manufacturer's plate

Should give name of manufacturer; maximum authorised mass and serial number.

Drawbar

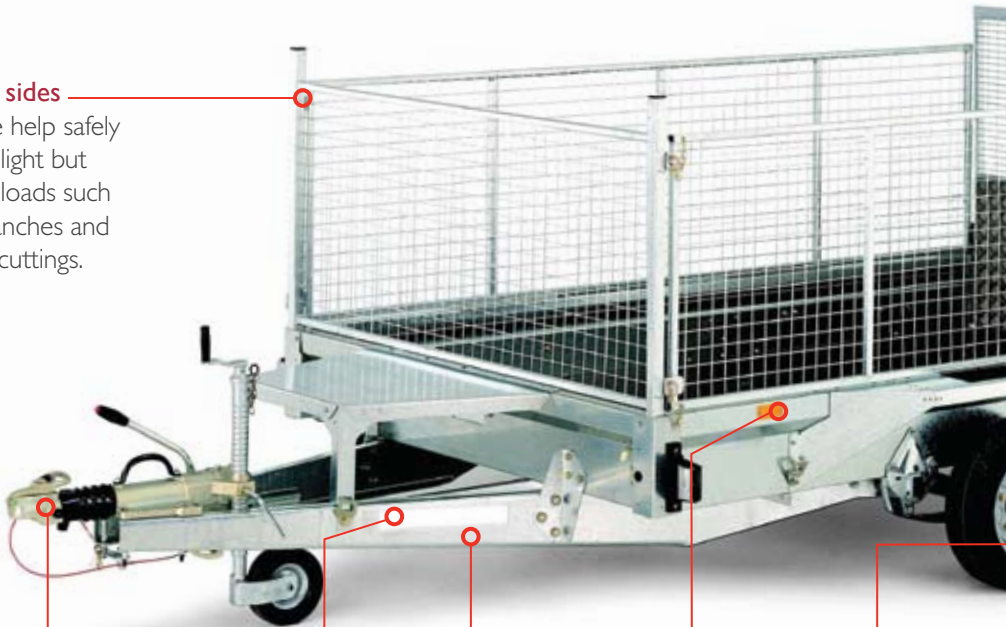
Should be rigid, with secure coupling bolts.

Reflectors

Compulsory white at the front and amber on the sides.

Wheels

Larger wheels (over 12") ride better and reduce stress on bearings. Check brakes and wheel bearings once a year.

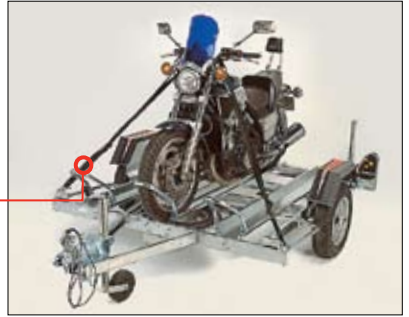


Bike trailers

A solid metal or timber deck helps loading and can carry accessories such as petrol cans. A deep wheel channel wide enough for the back tyre will help stability, as will a wheel-stop to hold the front wheel.

Straps

To restrain a bike, compress the suspension to avoid it bouncing about and loosening the straps, which should be heavy duty with ratchet or metal friction adjusters.



Tyres

Check pressure and condition, including spare, regularly and before every journey. Check tread depth and condition of sidewalls – look for cracks near the rim and evidence of “kerbing”. Keep fully inflated and try to avoid storing on grass or in direct sunlight. Replace every 7 years.

Construction

Look for heavy duty chassis, secure bodywork, hinges, catches and jockey wheel, plus sound floor and bearers. Check all bolts, welds and rivets. Galvanised steel is better than painted. Adding a plywood lining protects contents and reduces rattling.

Loading

Distribute heavy loads to achieve a maximum of 100kg noseweight. Keep loads as low as possible, well secured and covered if possible, with lights and reflectors visible. 100 bottles of wine weigh around 110kg. Parking or driving over kerbs can damage twin or triple-axle trailers.

Propstands

Always recommended when loading from the rear.

Brakes

Braked trailers are better to tow, especially in hilly areas. Check the brakes every 12,000 miles. Un-braked trailers are allowed up to 750kg MAM, provided the towing vehicle kerb weight is at least double. Brakes advisable over 600kg MAM.

CARAVANS



There are probably more than a million caravans in use today, and they are the largest trailers towed by private cars. Read on to make sure your memories are happy ones.

Can I tow it?

There is a huge variety of caravans, some almost double the size of others but it's the weight that determines if you can tow it.

Firstly, to tow a 2-axle caravan with a Maximum Authorised Mass (gross weight) over 1.5 tonnes, you need to have a "B+E" or equivalent driving licence (see page 4 for full details). In terms of the tow car, there is a well-founded recommendation that the gross weight of the caravan should not exceed 85% of the kerb-weight of the tow-car.

There are some 4x4s that can tow a heavier load than this but you should always follow the manufacturers' specifications.

Whatever the size of the caravan or the towing vehicle, never underestimate the effects of cross-winds on the big box on wheels!

Maximum size

The maximum length of the caravan body, excluding the drawbar and coupling, is 7 metres and the maximum width is 2.3 metres, when towed by a vehicle of 3.5 tonnes or less. The maximum length of the caravan and tow-car combined is 18 metres.

Weight distribution and noseweight

Correct weight distribution, position and nose-weight are vital for towing stability. Heavy items should be carried close to the axle, preferably slightly ahead, on the floor. Roof lockers should be empty, or virtually so, with the overall intention to lower the centre of gravity. Nose-weight on the tow-ball should be around 5-7% of the caravan's actual laden weight (typically 50-100kg) but you should never exceed specific limits for the car, caravan and towbar.

Nose weight is closely linked to the payload of the tow-car and should be calculated as part of it. Best practice is to double the nose-weight for the calculation, in order to compensate for the leverage exerted behind the rear axle of the tow-car. Therefore, 75 kg actual nose-weight would be treated as 150 kg for the calculation, and leave only 250 kg remaining payload on the average car. Where bike racks are fitted to the rear of the tow-car, their loaded weight must be considered as a supplement to the nose-weight. Roof-boxes are also part of the payload, along with passengers and luggage.

Internal friction stabilisers and greased tow-balls

Several makes of internal friction stabilisers have appeared over the last decade and are now almost universal on new caravans. They use tensioned friction pads to grip the tow-ball on hitching, with the tension released to unhitch. Never oil or grease the tow-ball, as was previous good practice with other couplings – any lubricant rapidly destroys the friction pads. The tow-ball must also be hardened steel to generate the right grip. These can be noisy when towing on undulating roads.

Pre-journey checks – services, doors, windows

Before you set off, there are some essential checks to go through. Close gas taps and lift connectors off the gas bottle(s), switch off all interior lights and other electrical equipment, disconnect the mains supply and carefully stow the cable. Empty the fresh and waste water tanks – water is heavy and sloshes about! Stow all loose equipment and belongings with heavy items as low as possible. Make sure windows and roof lights, doors, hatches and aerials are secured. Lift all the prop-stands and make a final check of nose-weight.

Towing mirrors

Only large cars, minibuses or 4x4s towing the smallest caravans can get away with standard mirrors. For the majority of combinations, you must fit extension mirrors that let you see both along the side of the caravan and some road at the back. Some taller tow-cars, such as large 4x4s, allow a view through the caravan where there are suitable windows at both ends.



Towing dollies – un-braked regulations apply

You often see motor-homes pulling cars behind them on towing dollies and there are strict rules on the weight of the car. If the dolly is un-braked and the rear brakes of the car can't be linked up, the car effectively becomes an un-braked trailer which has a weight limit of 750kg for the car and dolly.

SPOTLIGHT ON: CARAVANS

About a million families take their breaks on wheels in a caravan each year. If you are new to the phenomenon, here's a quick top-to-toe on what to look out for.

Final checks

Ensure doors and windows are secure, ensure prop-stands are fully up, aerial is in travel position or removed. Ensure hatches are secure.

Hitching up

Ensure the tow-ball is clean and grease-free when using an integral stabiliser: Slacken stabiliser; hitch up; tighten stabiliser. Lift and secure jockey wheel, attach breakaway cable to towing bracket. Connect electric plug and check operation of lights.

Electrics

Keep electrical plugs dry and off the ground.

Control weight

Ensure that any heavy equipment is loaded on the floor between the axle and the front. Ensure noseweight is 5-7% of actual laden weight, which typically means around 50-100kg.



Additional mirrors

Buy and fit good quality towing mirrors. You need to see behind the caravan.



Tyres

Check pressure and condition, including spare, regularly and before every journey. Check tread depth and condition of sidewalls – look for cracks near the rim and evidence of "kerbing". Keep fully inflated and try to avoid storing on grass or in direct sunlight. Replace at least every seven years, more if the tyres deteriorate.

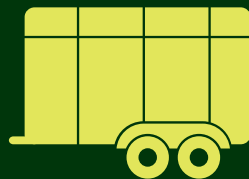
Wheels

Larger wheels (over 12") ride better and reduce stress on bearings. Check brakes and wheel bearings once a year.

Manufacturer's plate

Should give name of manufacturer; maximum authorised mass and serial number.

HORSE, STOCK AND VAN TRAILERS



A load of live animals adds the potential for calamity! For that reason, there are extra regulations to comply with, extra insurance and breakdown cover needed and you must have the right vehicle and a sound trailer.

Extra regulations

Firstly, there are extra regulations that apply to anyone loading and transporting animals, and anyone who assists in cases of emergency. For reference, the legislation is The Welfare of Animals (Transport) (England) Order 2006 in conjunction with EC Regulation No. 1/2005. You can also consult a DEFRA leaflet ref: PB 12460 called Animal Welfare Laws – Now it's your duty to care.

Insurance and breakdown cover

Your insurance policy needs to cover you not only for the recovery of the vehicle and trailer/horsebox, but also for the removal of any animals in transit. The same goes for your breakdown assistance – you should have extra cover for animal rescue and veterinary help.

Always keep details of rescue organisations and veterinary contacts close at hand.

Dealing with a breakdown

A breakdown with a load of animals can get serious quickly, especially in hot weather and on busy roads. Get as close to the edge of the road as possible, switch on hazard lights and put on a high-vis jacket if you have one. On side roads, phone your breakdown company.

If you don't have it or the situation looks likely to escalate, call 999.

On the motorway, you can use an Emergency Roadside Telephone to get assistance. If you don't have cover tell the operator exactly what you are carrying and any other information that will help them provide the best response in the shortest time. They will have details of local specialists in horsebox or animal removal as well as a local vet if you are too far from your own. Expect there to be a cost for any service which is called out to assist you.

It's tempting to stay with animals, especially if they are distressed, but it is better not to – it could put you at extra risk and you could inadvertently worsen the situation.

Finally, don't even think of changing wheels on the road – it'll probably need a special jack and you'll end up lying in the path of the traffic.

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If anything is a bit wobbly or unsound, especially the floor, replace it – you really don’t want an animal breaking through or falling out.
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Can I tow?

Horseboxes and Stock trailers with 2 or 3 close-coupled axles can have a Maximum Authorised Mass (gross weight) of up to 3.5 tonnes. At that weight, only the largest 4x4s can handle them – even pick-ups will struggle (see pages 10 for more details on trailer weights and always consult your vehicle’s own specifications).

On top of this, the over-run braking systems common to these trailers put extra braking forces on the towing vehicle when decelerating or on hill starts. This is a problem for front-wheel drives, particularly in slippery conditions – 4-wheel drive will be a distinct advantage.



HORSE, STOCK AND VAN TRAILERS



TOWING LIVESTOCK TRAILERS

Coupling height for level trailer

Animals will stumble about on a sloping trailer so keep it level! Most vehicles that can tow these trailers tend to have a similar coupling height but some will have adjustable height towing brackets. These allow the coupling height to be adjusted for loading but they do make it easier to drive off with the height wrong. Vans with rear steps may not be suitable as they tend to have very low towing brackets – don't try to raise the height of the towing ball.

Floor, panels and fittings

It goes without saying that the floor, ramp, hinges, fastenings, restraint bars and tie-rings have to be completely sound. Over time, wooden floors, ramps and panels rot and crack, metal fixings and panels corrode, especially if they get covered in fertiliser or manure. Get on board and tug, rattle and bang to your heart's content – just like the animals. If anything is a bit wobbly or unsound, especially the floor, replace it – you really don't want an animal breaking through or falling out.

Loading van trailers

Offering as much space as a conventional van, these are often fitted with specialist equipment or refrigerated units. But they don't have a side door, so you need to think about how you load them – a part-load at the back can seriously affect stability.

Rear visibility, mirrors

Always use good towing mirrors, even if the trailer is narrower than the towing vehicle. The views down the sides may look fine but it's easy to forget how big the trailer is. A good tip is to put some high-visibility patches on the rear corners to emphasise them in your mirror.

Tyres, spare wheel and running gear

Keeping tyres at their max specified pressure at all times helps stability and makes them last better – and don't forget the spare! Tyres can regularly get covered in muck and water, as can the wheels and chassis, so they'll need regular maintenance. And this really isn't a job for a DIY-er: Have your trailer professionally serviced and you'll be all the happier, as will the animals.



SPOTLIGHT ON: HORSE, STOCK AND VAN TRAILERS

Your essential guide to livestock trailers, their key features and how to look after them.

Bodywork
Ensure the trailer is rigid, without rattles that will stress animals.



Jockey wheel
Essential when unhitched. Raise front wheels off ground to move trailer more easily.

Wheels and running gear
Avoid parking on grass; a hardstanding or gravel is better. Keep tyres fully inflated and protect from sun if possible; check pressures and condition before journeys – replace at least every 7 years. Check brakes and wheel bearings at least once a year.

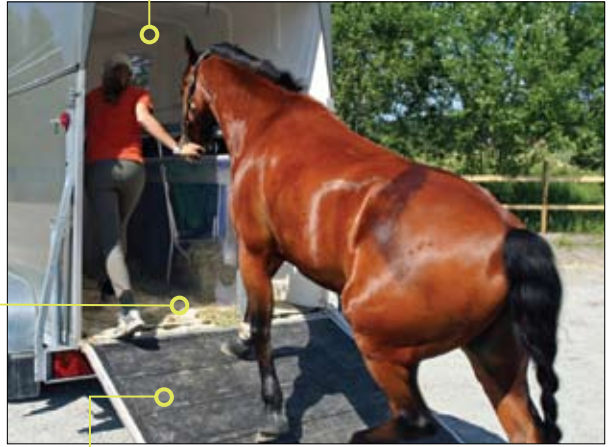
Floor

Regularly check condition of the floor, especially if it is wood. Wash out after every use.



Interior panels

Panels and pads must be securely fixed and in good condition.



Ramp

Check condition regularly, check and lubricate hinges, springs and catches, replacing defective parts.

27

Grooms Door

Makes loading easier, reassures horse. Room to store equipment.



HEAVY GOODS, PLANT AND LOW-LOADER TRAILERS



These are the heaviest class of trailers. With Maximum Authorised Mass ranging from 2 to 3.5 tonnes and 2 or 3 axles, they are not for the faint hearted and definitely need a big vehicle to tow them.

The heavy trailers category includes platform, goods, plant (excavators, etc.), car-transporter and low-loader types. They are perhaps the least versatile because you have to carefully consider what you are loading before buying one – even a multi-purpose one. For example, a digger can easily weigh 2.5 tonnes and has a very high centre of gravity, so you need a low loader with a low centre of gravity rather than a seemingly versatile platform trailer which puts all the weight above the wheels.

A simple way to calculate where a loaded trailer's centre of gravity lies is to measure 95% of the track (wheel width) of the trailer or 40% of the distance from the tow-ball to the centre line of the axle(s).

Keep it level

These are all close-coupled 2 or 3-axle trailers and so must ride level on the coupling to share loading and braking weights evenly between the axles. You should also take care to avoid parking or riding over kerbs or steep ramps when loaded, as this can put undue weight on a single axle.

Rear prop stands required

For the same reasons, it's essential to use rear prop stands or in-built supports when loading and rolling or sliding machinery along the trailer. If you don't you could damage the rear axle, bend the chassis, lift the coupling off the tow-ball or lift the towing vehicle.

Weight distribution

Place the load over the axles or equally front to rear, with a little extra weight on the nose – no more than 100kg though or you may overload the coupling, causing instability while towing. Zero or minus noseweight would lift the back end of the towing vehicle and really make the tail wag the dog!

Maximum size and weights

A trailer with a MAM of up to 3.5 tonnes can be up to 7m long (excluding drawbar) and 2.3m wide, while the maximum overall length of the towing vehicle and trailer is 18m. At this size, the trailer needs to have front and side marker lights and reflectors. The load itself can overhang the trailer by 305mm to the sides and 1.0m at the rear with markers and extra lights.

Weight and width restrictions

Where minor roads and bridges have weight or width restrictions, they are based on the MAM (gross weight) of the vehicle or combination, not the actual load on-board at the time, so a road with a 2 tonne prohibition couldn't be used by a vehicle with a gross weight of 2.5 tonnes, even if it's not carrying anything and is under the weight restriction.

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SPOTLIGHT ON: HEAVY GOODS, PLANT AND LOW-LOADER TRAILERS

Your essential guide to heavy goods, plant and low-loader trailers, their key features and how to look after them.

Construction and Use

Check for secure bodywork and sound ramp, plus hinges, catches, bolts, welds and rivets. For tall loads, such as diggers, a low loader with a low centre of gravity is better than a seemingly versatile platform trailer which puts all the weight above the wheels.



Propstands

An absolute must when loading and unloading

Running gear

Check hubs, bearings and brakes every 12000 miles. Ideally, get it serviced by the supplier every year.

Tyres

Make regular checks of pressure and condition; particularly the sidewalls. Keep fully inflated and try to avoid parking the trailer on grass or in direct sunlight. Replace tyres at least every 5 years, more often if they start to deteriorate.



Weight of loads

One cubic metre of sand or soil weighs 1.5 tonnes, clay 2 tonnes, bricks 300 per tonne. Aim for maximum 100kg noseweight. Avoid parking or riding over kerbs or ramps when loaded; this puts undue weight on a single axle.



Drawbar

Check condition of drawbar 'A'-frame and all bolts. Check coupling, grease as needed, lubricate brake rods, ensure rubber bellows are secure, check condition of electric cable and plug, check breakaway cable and clip.

Manufacturer's plate

Should give name of manufacturer, maximum authorised mass and serial number.

READY, STEADY, TOW

Patrolling motorways 24-7, Highways Agency Traffic Officers see more than their fair share of mishaps. Their experiences provide some good lessons.

Towing a trailer or caravan needs planning and preparation before you set off, extra care on the road, plus an understanding of the effects of a large, heavy trailer. On top of that, regular inspection and maintenance will ensure the outfit doesn't ruin your day.

"The incidents we see involving towing vehicles come in three main categories," says Bob Jones, a Traffic Officer based at Weatherhill Outstation in Surrey; "poor maintenance, people driving beyond their ability or experience, and lack of journey planning."



Never change wheels in the road

Operations Manager Dominic Haydon agrees: "We see so many drivers towing without taking account of the conditions – particularly strong winds – or just driving poorly; braking and changing lanes too late or just going too fast."

Bob recalls an incident involving a couple towing their caravan to France on holiday: "They were trying to get from Manchester to Dover in one hit and hadn't planned any rest stops," he says. "Understandably tired, they had a crash on the M25. They were unhurt, but the damage to the caravan meant an early end to the holiday."

"We've also seen a horsebox whose axle had simply snapped while it was travelling. It had rusted right through. Surely the most basic maintenance check would have picked that up."

Dominic adds a note about insurance cover: "You must have the right level of insurance and breakdown cover; or recovering your vehicle will be slow and very expensive. This is especially true if you are carrying livestock; special arrangements need to be made for rescuing the animals as well as recovering the vehicle, and sometimes a vet is needed too."

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BOB'S TOP TIP: Tyres are incredibly important on any towed vehicle. Keeping the correct tyre pressure and having enough tread is just as important for trailers as it is for your main vehicle. And don't forget a spare!

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Bob has good experience of towing and the consequences of poor preparation. "Just a quick look can tell you if a towed vehicle has been prepared properly for a trip. There are different challenges for each type of trailer; for example, vehicles generally need to be more powerful to tow a horse box than a caravan. Also, while many caravans lie untouched for much of the year and will need a check up before they are used, a lot of horseboxes are shared and can suffer from wear and tear."

"I know nobody ends up on the hard shoulder on purpose, but doing so for something that's easily preventable puts you at risk, ruins your day and inconveniences thousands of other road users"

Both Bob and Dominic agree, that there's plenty of good information available to help with your journeys.

"The Highways Agency and VOSA websites will tell you if you and your vehicle are on the right side of the law, whilst caravanning and equestrian groups have excellent support networks. There's a wealth of information out there to help you."

33



Blow me! Look after your tyres and you will get there in one piece

For more information please visit www.highways.gov.uk/towing
To request a copy of the "Fit To Tow" DVD which contains
further practical advice on towing call: **08457 50 40 30***
email: **ha_info@highways.gsi.gov.uk**
24 hours a day, 365 days a year.

Live traffic information call: **08700 660 115*** or visit
www.highways.gov.uk/traffic
24 hours a day, 365 days a year

For more route planning advice visit **www.transportdirect.info**



If you need help using this or any other
Highways Agency Information, please
call: **08457 50 40 30*** and we will
assist you.

*Calls from landlines to 08457 and 08700 numbers can cost up to 8p per minute but are free from
some landline providers; mobiles usually cost more. Please check costs with your service provider.

Safety at roadworks



The Highways Agency is working with the industry and road users to reduce the risks of working on the roads.

For the safety of roadworkers and all road users, when you are approaching roadworks:

- Keep within the speed limit – it is there for your safety.
- Get into the correct lane in good time – don't keep switching.
- Concentrate on the road ahead, not the roadworks.
- Be alert for works' traffic leaving or entering roadworks.
- Keep a safe distance – there could be queues in front.
- Observe all signs – they are there to help you.

Directgov

Straight through to public services
www.direct.gov.uk/en/motoring

