



A typical large motorhome towing a car on A frame

Towing behind your motorhome

For many campers a significant choice is whether to tow a caravan or drive a motorhome, but towing with a motorhome can often enhance the enjoyment of using your vehicle. While a VW campervan provides a terrific daytime base, for some its accommodation is too cramped for the evenings, but with a small caravan in tow you can be comfortable at the campsite while still enjoying the benefits of a daytime base anywhere. At the opposite end of the scale, a large motorhome is fine on the campsite but its size is limiting out and about. Tow a small car to the campsite and your daytime roaming knows no bounds. Alternatively if you wish to take a small boat or canoe on your travels a small trailer can make that possible.

So there are many good reasons to tow, but there are also some drawbacks concerning reversing, reduced speed limits and the detailed legal constraints of towing a trailer. This Data Sheet is intended to raise awareness of the issues involved in towing. All references to trailers also apply to towed caravans and A-frame systems.

Matching motorhome and trailer

Matching a trailer to a motorhome is similar to that of car and caravan. You need to ensure you operate within the capability of the towing vehicle and the conditions of your driving licence. Details of such matching can be found on the Club's Data Sheet 20 – Matching Car and Caravan.

You'll find an explanation of the various vehicle weight terms used in the text in the definitions panel on page 4. Please note also that the legal term for a motorhome is 'motor caravan', though we use the more commonly used term (motorhome) here.

Driving licence issues

Drivers with a driving licence gained before 1 January 1997 are permitted to drive a motorhome without a trailer up to a maximum authorised mass (MAM) or gross vehicle weight (GVW) of 7,500kg. If towing a trailer the combined MAM of motorhome and trailer must not exceed 8,250kg. Thus a motorhome with a MAM of 7,500kg can only tow a trailer with a MAM of 750kg.



In practice most coachbuilt motorhomes have a MAM of about 3,000kg to 5,000kg so this driving licence tends not to be restrictive. If you drive a heavier motorhome and are limited in trailer weight you can consider a further DVLA test to widen your driving entitlements.

When such a driver reaches 70 his or her licence has to be renewed and unless a medical examination is taken the original entitlement is downgraded to leave just categories B and E. This means the driver is now limited to driving a vehicle with a MAM not exceeding 3,500kg, but because the category E remains any weight of trailer compatible with the towing vehicle can be towed.

The position changes dramatically for drivers who gained their licence after 1 January 1997 as their entitlement is simply a

category B, which limits them to driving a vehicle with a MAM not exceeding 3,500kg and a maximum trailer weight of 750kg. A trailer in excess of 750kg is permitted if the combined MAM of trailer and motorhome does not exceed 3,500kg and the trailer MAM does not exceed the unladen weight of the towing vehicle. Thus a driver of a motorhome having a MAM of between 2,750kg and 3,500kg is only permitted to tow a trailer of up to 750kg. So in most cases motorhome drivers with a driving licence gained after 1 January 1997 will need to take the B+E driving test in order to tow a trailer with a MAM over 750kg.

Noseweight and towbars

Noseweight is a significant factor in towing stability and the National Caravan Council recommends a noseweight of about five to seven per cent of the weight of the loaded trailer. So a loaded trailer weighing 1,000kg should have a noseweight of not less than 50kg. The noseweight of the trailer applied on to the towball must also not exceed the motorhome manufacturer's towball limit. It should be noted that the use of a chassis extension on a coachbuilt motorhome may reduce the permissible noseweight originally specified by the base vehicle manufacturer.

With a luggage trailer or caravan, noseweight can be adjusted to or close to the desirable weight by relocating kit fore or aft of the trailer axle. Where trailers are used to carry one large item such as a boat or car it is best to have a purpose-made trailer where the trailer axle is located to give a desirable noseweight with that fixed load.

Whatever you tow, whether a normal trailer or car using an A-frame, you will need to ensure you have a good towbar and towing electrical system fitted. If you have a relatively recent motorhome it is likely to have been the subject of European Type approval and as such must have a type-approved towbar fitted. Before buying a trailer check to confirm that a suitable towbar is available for your motorhome.

Sometimes there can be complications with underslung water tanks or other equipment impeding the satisfactory fitting of a towbar. A towbar fitter specialising in motorhomes is therefore recommended, especially where a chassis extension or towbar needs to be fabricated for the particular requirements of your motorhome.



A towbar being fitted to a motorhome



A base vehicle weight plate next to convertor's plate

Basic towing law issues

When towing you are automatically restricted to a maximum speed of 50mph on single carriageways and 60mph on dual carriageways and motorways, except where a lower general speed limit applies. Also you are not permitted in the outside lane of a motorway where there are three lanes or more.

The Road Vehicles (Construction and Use) Regulations limits you to towing an unbraked trailer with a MAM not exceeding 750kg or half the kerbweight of the towing vehicle, whichever is less. Where a trailer is fitted with brakes, even if the trailer does not exceed 750kg those brakes must be operative.

Vehicle manufacturers also quote towing limits and these are normally given in the vehicle handbook. If only one towing limit is given assume it is for a braked trailer. The best way to check the braked trailer limit for a motorhome is to inspect the weight plate on the vehicle. The weight plate, which usually also carries the vehicle's Vehicle Identification Number (VIN), is normally located under the bonnet or on one of the door pillars.

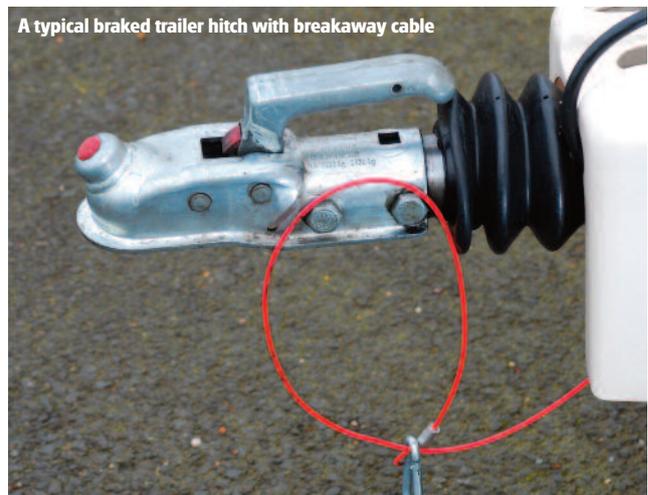
For coachbuilt motorhomes be sure to use the convertor's plate (or AL-KO plate where the base vehicle rear chassis has been substituted with an AL-KO chassis) in case the original specified loadings as indicated on the base vehicle manufacturer's plate have been amended. The top figure on the plate is the vehicle's GVW and the second figure down is the gross train weight (GTW). The GTW is the maximum combined weight of towing vehicle and trailer that is permitted. The figure you get when you subtract GVW from GTW is your towing limit when the vehicle is fully loaded.



A typical unbraked trailer

Do not be surprised if the towing limit given by the convertor is considerably less than the original base vehicle manufacturer's limit. This can be a result of the convertor increasing the original GVW or the GTW can be reduced due to rear chassis extensions. Although these extensions are adequate for the habitation load, they often cannot sustain the same trailer load as the original short chassis. Sometimes the base vehicle's original towing limit is reduced by half or more.

An unbraked trailer must have a secondary coupling that will keep the trailer attached to the towing vehicle if the primary coupling fails. Braked trailers up to 3,500kg must be fitted with a breakaway cable that will operate the trailer brakes if the primary coupling fails. Alternatively a braked trailer up to 1,500kg may have a secondary coupling (such as a strong chain) fitted.



Towing a car using an A-frame

The law when towing a traditional trailer is reasonably clear whether in the UK or Europe. But tow a car behind a motorhome on an A-frame and the situation is not so clear.

For many years the Department for Transport (DfT) was clear that the use of devices such as A-frames, spectacle lifts and dollies were intended only for the purposes of recovery of broken down vehicles. The current information sheet on this subject states: "We believe the 'A' frame and car become a single unit and as such are classified in legislation as a trailer." It continues: "We believe the use of 'A' frames to tow cars behind other vehicles is legal provided the braking and lighting requirements are met."

Lighting is one issue that can be largely resolved by a connection to the motorhome electrics so all the car's normal road lights function correctly. The regulations require a trailer to display two red triangular reflectors – which are often overlooked – and also to display the number plate of the towing vehicle.

Braking requirements are not so easy to comply with as many A-frame systems use a relatively simple overrun (also known as an inertia) braking system, as used on caravans, to operate the car's brakes. The DfT comments on its sheet: "If the trailer braking system has power assistance it is likely that this assistance will be required while in motion to meet the required braking efficiencies."



Smart car being towed by a motorhome

(courtesy Smart Tow)

There are also concerns about the ability to reverse a car on an A-frame when using an inertia braking system. Traditional braked trailers can be reversed without problem because they have auto-reversing systems in the wheel hubs that enable the brakes to collapse when rearward motion is instigated. Cars do not have such systems. The DfT information sheet states: "From 1 October 1988 the inertia braking system was required to allow the trailer to be reversed by the towing vehicle without imposing a sustained drag and such devices used for this purpose must engage and disengage automatically. This will be very difficult to achieve on an A-frame using an inertia (overrun) device."

Some inertia-braked A-frame suppliers claim testing has proved their system meets the necessary braking force regulations and argue that cars on inertia-braked A-frames can be reversed without the need to manually operate any mechanism. "It takes a little skill, but with care, gentle reversing can be successfully achieved" one supplier is quoted as saying.

In the past few years some A-frame suppliers have implemented designs to operate the car's braking systems, including the power assistance system using electrical power from the towing motorhome. Suppliers claim these electrical systems provide the required braking efficiency and allow trouble-free reversing as the car's braking operation depends on the motorhome's brakes being applied.

The continuing use of A-frame towing with inertia braking systems is under threat from prospective European legislation concerning trailers, which is due to come into force in 2014. Present UK Construction and Use Regulations incorporate a stipulation for trailer braking performance to conform to European Directive 71/320/EEC or UNECE Regulation No 13.09. The new legislation will require conformity with only the UNECE regulation. This latter regulation only permits overrun braking systems to be used on centre axle trailers such as caravans and traditional trailers and not cars towed as trailers.

VOSA, the Government's Vehicle and Operator Services Agency, has yet to decide how to implement the regulation into UK national legislation and so it is uncertain whether the legislation will be retrospective for existing A-frame systems. Electrical braking systems should be able to meet with the UNECE Regulation No 13.09.



Above: Smart cars fitted with A-frames designed for use with braking systems. Right: A-frame connectors being fitted to the front of a car to be towed.
(courtesy Smart Tow)



To avoid all the above technical problems relating to braking requirements, some campers have argued the braking requirements for A-frame towing of cars can be avoided by use of a lightweight micro car where the GVW does not exceed 750kg. The argument goes that with a gross weight (including A-frame) of less than 750kg, the unit can be considered as an unbraked trailer. A simple answer but regulations do require that if a braking system is fitted then all the brakes must operate correctly.

While the DfT has set out its interpretation of the regulations, it has declared it is unable to give an authoritative interpretation of the law as this is a matter for the courts to decide. As far as the Club is aware, no one has yet been taken court in the UK for towing a car using a braked A-frame. As there is no mandatory testing regime in place, it is down to individual manufacturers to ensure their products meet the statutory requirements. If you decide to purchase an A-frame it would be wise to seek written assurance from your supplier that it complies with the regulations as laid out by the DfT.

The situation is even less clear in mainland Europe where Club members towing with A-frames have been stopped by local police. You can fall back on European legislation that entitles you to drive in another EU country on the basis that as a visitor with an outfit legal in your home country it will be accepted there – and hope you don't fall into the arms of a difficult police officer. Many A-frame suppliers provide letters in different European languages that spell out the legality of such A-frame outfits, but you may have to be prepared to argue the point with the local traffic police. In several cases heard of in Spain, police officers have insisted on the decoupling of the A-frame and separate travelling, so be prepared for your partner or travelling companion to drive the car if requested.

If you do go down the A-frame route, check your car can be towed. Some cars, especially automatics, can have their transmission system damaged by being towed. Also inform your insurance company for both the car and your motorhome and check it is happy with the arrangement. And remember, reversing with a small towed trailer is notoriously difficult, especially when it is out of sight. Using a rear view camera can be helpful. Such cameras are now readily available as an aftermarket accessory.

Definitions

■ Unladen Weight

The weight of a vehicle when not carrying a load and excluding fuel

■ Kerbweight or Mass In Running Order (MIRO)

This is defined in European Directive 95/48/EC as “the mass of the vehicle with bodywork in running order (including coolant, oils fuel, tools spare wheel and driver)”

■ Maximum Authorised Mass (MAM), Maximum Gross Weight (MGW) or Gross Vehicle Weight (GVW)

The maximum a vehicle or trailer is allowed to weigh when fully loaded

■ Gross Train Weight (GTW)

The maximum allowed combined weight of towing vehicle and trailer permitted

■ Towing Limit

The maximum permissible trailer weight quoted by the towing vehicle manufacturer (usually quoted for a vehicle when towing up a one in eight hill)

Further information and contacts

■ Department for Transport information sheet, A Frames and Dollies:

www2.dft.gov.uk/pgr/roads/vehicles/vssafety/info-dollies.pdf

■ Specialist motorhome towbars

Watling Engineers: 01727 873661, watling-towbars.co.uk

■ A-frame suppliers

Caratow: 01202 632456, caratow.com

Towtal: 01782 333422, towtal.co.uk

Tow-Bars2Tow-Cars: 01469 560402, tow-bars2tow-cars.co.uk

■ A-frames and car transporter trailers:

0795 096 8348, smart-tow.com

■ Car transporter trailers: 01327 308833, brianjames.co.uk

Please note inclusion on these pages does not constitute endorsement by The Camping and Caravanning Club.

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