



HOME Mota-Bars

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What is 'Nose Load'?

The 'nose load' is the commonly used term for the load, weight or mass applied by the coupling head of the trailer or caravan onto the towball/towbar fitted to the towing vehicle.

Is 'Static Vertical Mass' the same as 'nose load'?

Yes. The static vertical mass is simply the technically correct terminology for 'nose load'. It is even sometimes referred to as the 'tongue load' in the USA!

How is the 'nose load' measured?

The 'nose load' can be measured by recording the force, or weight, applied by the trailer/caravan using a set of scales or proprietary device. The force, or weight, must be measured as close to the centre of the coupling head as possible and at the same coupling height as when coupled to the intended tow vehicle. To put the scales under the A-frame away from the coupling head will not give correct measure of the 'nose load'.

Note; There are devices on the market that incorporate a nose load measuring device e.g. integrated into the jockey wheel.

What is the maximum 'nose load' I can use?

The vehicle manufacturers should (legally) specify the maximum 'nose load' in the vehicle handbook, possibly using the technical terminology 'maximum static vertical load on towball', or a similar description. This may vary for different models in the range and if there is any doubt it is essential to contact the vehicle manufacturer.

What is the maximum 'nose load' I can use with my towbar?

The maximum 'nose load' for the towbar EC approval is specified on the type approval label as the 'S' value and is measured in kg. Please note that it is not necessarily the maximum appropriate to your model of vehicle, especially with some towbars being suitable for a range of different models and vehicles. Always refer to your car handbook for data for your specific model.

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What is the maximum 'nose load' of my trailer/caravan?

Currently it is not mandatory to EC or nationally type approve trailers and therefore it is not a legal requirement for the manufacturer to apply a rating/capacity plate or label. Many manufacturers do have rating plates, and many specify a maximum 'nose load'. This may be specified on the plate or label as the 'S' in kg.

Please note that the coupling head will almost certainly (for all modern trailers/caravans) have an EC approval marking or plate which itself will have a specified maximum 'nose load' or 'S' value. This may be in excess of the other trailer components. If in doubt contact the trailer manufacturer.

What 'nose load' should I use?

It is generally recommended that the trailer/caravan is used towards the upper range of the maximum recommended 'nose load', as research has shown that

trailers/caravan stability tends to increase with increasing nose load. However, there are sensible limits e.g. try to achieve a nose load of 150kg (for a Toyota Land Cruiser) when towing a 250kg trailer is obviously not likely to be easily achievable.

I use a towbar mounted cycle carrier which can be fitted and used whilst towing. How does this affect the maximum nose load?

The current recommendation is that the height of the cycles and cycle carrier should be subtracted from the maximum recommended 'nose load' i.e. The combined weight of the cycles, carrier and the trailer/caravan nose load should not exceed the vehicle's maximum recommended 'nose load'.

Can I exceed the maximum 'nose load' specified for my vehicle?

To do so may invalidate the warranty on the towbar and vehicle, as well as being potentially damaging to both the towbar and the vehicle mounting points.

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How can I change or adjust my 'nose load'?

On most trailers the only effective way of adjusting the 'nose load' is to redistribute the contents of the trailer. However, on some special purpose trailers e.g. boat trailers, there is scope to change the effective 'nose load' by moving the axle(s) forward or rearward along the trailer chassis. This is best left to the trailer manufacturer or an appointed representative.

I have a negative 'nose load'. Is this ok?

A negative 'nose load' is where it is necessary to push or force the trailer coupling onto the towball. This is potentially a dangerous situation as it significantly increases the likelihood of trailer instability or snaking.

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