



Innovation
that excites

AN ESSENTIAL GUIDE TO TOWING



DRIVING WITH HORSES

For many of us, there's nothing more rewarding than riding a horse and feeling a connection with nature. Quite often, this wonderful hobby can take us further afield, and when it does, ensuring the safe transport of your horse is of paramount importance.

That's why Nissan is working with The British Horse Society to promote responsible horse towing as well as providing members with the right vehicle to help make tough towing challenges simpler. The British Horse Society is a charity that puts horses first. Everything they work for, from keeping bridleways open to making it safer to ride on the road, is driven by the desire to improve the lives of horses.

This booklet will provide simple and easy pointers to help ensure you are transporting safely and sensibly, and maintaining your trailer and towing vehicle combination to help you keep your horse safe.





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**CONNECTING
WITH
NATURE
AND
SAFETY**





MATCHING TOWING VEHICLE AND TRAILER

When coupling a towing vehicle and horse trailer, it's vital to ensure that the tow ball height on your vehicle is set at the height specified by the trailer manufacturer. This ensures the trailer is level when towed and the weight correctly balanced between the trailer axles, the coupling and the towing vehicle.

If the tow ball is too low, too much weight will be transferred onto the rear axle of the towing vehicle and the first axle of the trailer. This increases mechanical wear, overloads the tyres, and means that the hitch damper cannot work efficiently, resulting in a jolting ride for your horse. It may also result in poor braking action on the trailer or the trailer snaking.

If the tow ball is too high, the weight is transferred onto the rear of the trailer. This again may lead to increased mechanical wear, tyres being overloaded, vehicle and trailer instability and increased upward pressure on the trailer coupling which may lead to the trailer becoming detached from the towing vehicle.

A worn tow ball can result in trailers breaking free, so before coupling, be sure to grease the tow ball and check the hitches for wear. Modern trailers have wear indicators in the hitch to warn of wear. Tow balls should be periodically measured by a professional.



**MAX.
WEIGHT
MIN.
RISK**

VEHICLE AND TOWING WEIGHTS

For the safety of you and your horse, it is vital that the vehicle used is suitable and capable of towing your trailer when it is fully laden. 'The combined actual weight of towing vehicle and trailer combinations should never exceed the maximum gross train weight of the towing vehicle' (VOSA, 2012).

Always check your vehicle handbook or consult your local dealer. If you are in any doubt about the details given on your vehicle, contact the manufacturer for assistance and clarification.

You can find the permitted weights for your vehicle specified on the manufacturer's plate which is usually fixed to the inside frame of either front door, or just under the bonnet of the vehicle. Trailers will also have a similar plate on the chassis rails at the front of the trailer, showing the maximum weight and the capacity of each axle. There is an example below:

Manufacturer's Name Chassis No.....

Gross Wt – 2810
Train Wt – 6200
AXLE 1 – 1320
AXLE 2 – 1650

It's worth remembering these weights include the driver, any passengers, loads – including horses, tack, hay, feed, water – and fuel.

You can check that your towing vehicle and trailer meet their specified maximum weights by visiting a weighbridge when you are fully laden. Alternatively, visit a weighbridge with your empty towing vehicle, a full tank of fuel and subtract the 'unladen weight' from the permitted gross weight. This will give you the 'payload' for your vehicle and trailer – what each may legally carry. If you then add the weights of all items you wish to carry – driver, passenger, horse, tack, feed, water, dog – you can determine whether your vehicle combination will be within its permitted weights.

To find your local weighbridge visit
chrishodgetrucks.co.uk/useful-info/weighbridges





TOWING WEIGHTS

The definitions below will help you achieve the ideal combination of vehicle and what it's towing. It's all down to weights versus car performance. Matching the two means applying a little common sense and staying on the right side of the law.

Braked Towing Capacity is the towing capacity of a vehicle if the trailer being towed has its own braking system, typically 'overrun' brakes are fitted to light trailers.

Unbraked Towing Capacity is typically significantly lower, and is the capacity of a vehicle towing a trailer that does not have its own braking system. For example, with the X-Trail, the maximum braked towing weight is 2200kg – maximum unbraked towing weight is 750kg. With the Pathfinder and Navara, the maximum braked towing weight is 3000kg – maximum unbraked towing weight, 750kg.

Gross Vehicle Weight is the maximum allowable legal weight at which a vehicle can be used when fully loaded with passengers, cargo, and a full tank of fuel. Often referred to as Maximum Authorised Mass (MAM)

Maximum Gross Train Weight is the highest legally permitted weight of the car and trailer combined, including all passengers and luggage. A maximum is set for each model and it can't be exceeded, because it has an important effect on the car's handling, performance and safety. There's also a recommended limit on the amount of weight carried on the roof rack.

Kerb Weight is the total weight of the towing vehicle as defined by the vehicle manufacturer. This includes a full tank of fuel, all necessary liquids such as engine oil and coolant, a 75kg driver allowance but without passengers, cargo and towing bracket.

Nose Weight is the load that the trailer places on the towbar and the car's rear suspension. Too much nose weight will place undue strain on the towbar and adversely affect handling. Too little will de-stabilise both car and trailer. Aim for a figure fairly close to the maximum allowed for the particular car. For maximum stability the nose weight should ideally be 4-7% of the laden weight of the trailer but shouldn't exceed the maximum specified for the vehicle or the trailer (typically between 50-100kg). The nose weight for the X-Trail manual transmission is 100kg and 75kg for the automatic.

You can buy a special device for checking the nose weight, preferably one that conforms with the BS7961 quality standard for nose weight gauges.

Power to Weight Ratio is the engine's power divided by the vehicle's weight – a useful calculation for gauging towing ability. Obviously, the higher the figure the better when you're towing.

Torque is quite literally the pulling power of the vehicle, measured in Nm or lb/ft. Again, it obviously affects towing ability. It's worth noting that diesels always offer more torque at lower revs than petrol engines. Good torque at low engine speeds will allow easy pulling away and towing with a minimum number of gear changes. The X-Trail for example, has a maximum torque of 360/2000 (Nm/rpm). The Pathfinder has a maximum torque of 450/2000 (Nm/rpm).

Trailer Tongue/Coupling Body/A Frame is the part of the trailer that extends forwards to meet up with the tow vehicle. It also incorporates the coupling assembly.

TRAILER AND TOWING SAFETY

You probably spend a great deal of time, money and effort in preparing your horse for exciting outings, but what about the trailer and towing vehicle you use? Can you be certain they're 100% safe, in good working order and comply with the law? Truth is, towing vehicles will undergo checks during compulsory MOT inspections and servicing, but there is no legal requirement for small trailers to be tested. It is therefore your responsibility to ensure they are safe and fit for purpose.

Overloading, incorrect loading and poorly maintained tyres on either the trailer or towing vehicle compromise the safety of both you and your horse and greatly increase the chance of an accident. It may also mean enforcement action being taken if stopped and checked by VOSA (The Vehicle and Operator Services Agency) or the police. Similarly, a poorly maintained (and possibly weakened) floor or ramp puts a horse at risk of serious injury. And it's not only wooden floors that are at risk – metal can corrode and become damaged through impact, too.

GETTING READY TO GALLOP OFF









FLOORS AND RAMPS

Trailers generally have rubber mats laid over the floor. These are important to spread the weight of the horse's hoof over a larger surface area, decreasing the pressure on the particular area where the hoof stands.

These mats must be lifted every few months to allow the floor to be thoroughly checked, by prodding with a screwdriver from above and below, to identify any soft, rotten, or woodworm infested areas. Metal floors must also be checked for corrosion and damage.

Whilst the mats are out you should disinfect the floor and allow them to completely dry. If you are leaving the trailer to stand for any length of time, leave the mats lifted.

If you do find any cause for concern DO NOT use the trailer. Get the floor professionally replaced. Check ramps, oil hinges and latches in the same way.

TYRES

To keep the combination stable, it is vital to check the tyre pressure on both car and trailer before every trip. The correct pressure for your car's tyres whilst towing will be in the manufacturer's handbook. There are special devices to help you do this quickly and efficiently. Visit www.tyrepal.co.uk for further information.

At the same time also look for signs of wear and damage. Tyres must have a minimum tread of 1.6mm over the central 75% of the tread width for the whole circumference.

Remember, trailer tyres often perish long before tread wears out, so look out for cracks, bulges or cuts in the tyre walls, which may result in a blow out and a very unpleasant experience for your horse.

When you replace trailer tyres, ensure they are the correct weight and rating and never buy part-used tyres. Do not use car tyres on trailers. See the Tyresafe leaflet available at www.horseaccidents.org.uk/Advice_and_Prevention/Transporting_Your_Horse for more details.

GROOMING YOUR CAR AND TRAILER



CHECKING BRAKE SHOES FOR WEAR

A new trailer, or new brake shoes on your trailer, will need the brake shoes adjusting for wear after 500 miles, then again between every 2,500 and 3,000 miles. It is important to also check brake shoe wear, usually through holes in the backs of the brake drums, plugged with plastic bungs. Shoes need replacing when the friction material is down to 1.5mm.

Wheel bearings on new trailers may be 'sealed for life' bearings, but bearings in older trailers will need to be re-greased every two years. If you do not know which type your trailer has, remove the cap in the wheel centre and if the nut underneath is castellated, with a pin through the slots, the bearings are the type requiring re-greasing.

Your trailer handbook will provide further help with these jobs but, if you are in any doubt, use a caravan or trailer dealer for maintenance checks.

Breakaway cables are a legal requirement; activating the trailer brakes should the trailer become detached. The cable must be attached to a purpose made towbar ring or a substantial part of the vehicle.



COUPLING UP BEFORE SADDLING UP



HITCHES

Hitches that aren't cared for correctly can wear quickly and become rusty. To prevent this, clean your hitch cup with white spirit every three months to remove the dirty grease. Once dry, smear clean grease in the cup and moving parts.

A grease gun should be used every 3,000 miles to inject grease into the nipples in the drawbar housing, behind each hitch and, if your trailer has one, the nipple underneath on the pivot of the lever that links the break cables with the end of the drawbar.

LIGHTS

Once you've hitched up, it's vital to check all lights are clean, undamaged and in good working order. Hazard lights are usually on a separate circuit so ensure you check them specifically.

Wet weather and dampness can cause corrosion of bulbs, so every six months you should remove the lamp lenses and clean the bulb contacts. Do the same with plug and car socket contacts using a fine emery paper and then protect with WD40 spray or a similar protective lubricant.



COUPLING A TRAILER

The more you couple up, the quicker and easier it gets, however with no margin for error, our advice is to follow the same process every time.

To begin, ensure the trailer parking brake is applied, remove any security devices and the vehicle tow ball cover. With someone to help you, reverse the vehicle until the tow ball is just beneath the trailer coupling head. While the coupling head is unlatched, lower the jockey wheel until the coupling head engages over the tow ball.

It's a good idea at this point to check the security of the tow hitch by carefully winding down the jockey wheel and if secure, the rear of the vehicle will raise slightly. With the tow hitch connected, fully wind up the jockey wheel and secure.

Now attach the breakaway cable and trailer electric socket to the vehicle where appropriate. Release the trailer parking brake and check the trailer's lights are working.

Before using the trailer on the road, check tyre condition, pressure and wheel nut security. Finally, always ensure you have a clear view along the sides and rear corners of the trailer. In some cases, supplementary mirrors may be necessary.





UNCOUPLING A TRAILER

After finding firm, level ground that will bear the weight of the trailer, apply the vehicle brakes and switch off your engine. Apply the trailer brake, disconnect the trailer electrics and the breakaway cable and store securely on the trailer.

Position the jockey wheel so that it is in contact with the ground. Release the trailer coupling and wind down the jockey wheel, so the coupling becomes detached from the vehicle tow ball.

Drive the vehicle forwards and cover the vehicle tow ball with a protective cover. If you're leaving the trailer for a prolonged period, securely chock the wheels and then release the trailer parking brake.

Finally, fit any security devices such as a tow hitch lock or wheel clamp.

SPEED LIMITS WHEN TOWING

Most of us take great care to drive at a suitable speed when carrying horses, but remember there are different speed limits when towing a trailer. These currently are: 30mph in built-up areas, 50mph on single carriageways, 60mph on dual carriageways and on motorways.

These are upper limits, not targets. It's important to drive at a speed suitable for the road conditions, whilst remembering you'll need extra braking distance. More details can be found at <https://www.gov.uk/speed-limits>

DRIVER LICENSING

Importantly, you need to know whether you are legally allowed to tow in the first place and the requirements differ depending on when you passed your car driving test. If you got it prior to 1 January 1997, you'll be entitled to drive any vehicle up to 7.5 tonnes or a vehicle/trailer combination up to 8.25 tonnes. If you passed on 1 January 1997 or later, you are only allowed to tow a trailer up to 750kg on a vehicle up to 3.5 tonnes and will need to take another test to gain a B&E driving licence. Don't forget, you need a registration plate that matches the towing vehicle. For more information, visit www.gov.uk/towing-with-car

BREAKDOWN COVER

Ensure you have breakdown cover for your trailer. Many people assume their car breakdown will be sufficient, but this is not necessarily the case. Ordinary car breakdown cover EXCLUDES recovery of a trailer with horses aboard, so you could be left stranded with your horses. It is possible to add Horse Trailer Assistance to some policies.

BRITISH HORSE SOCIETY SAFETY TIPS

BEFORE FIRST USE

- Check trailer and towing vehicle are suitable and combination meets legal weight limit
- Ensure trailer body, floor, ramp, hitch, tyres, mechanics and lights are fit for purpose
- Ensure you have a driving licence for towing, plus breakdown cover for vehicle and trailer
- Always carry horse passports which is a legal requirement

LOADING

- Park trailer in a safe location
- If carrying one horse, with a partition, load on the right to make steering easier
- With two horses, the heavier should be on right
- Wear protective clothing – boots, hat, gloves
- Allow time to load confidently, quietly and carefully
- Raise ramp carefully to avoid startling the horse
- Complete walk around ensuring door and fastenings are secure

TOWING

- Drive smoothly avoiding harsh braking
- Allow sufficient braking and pulling away distances in accordance with extra weight
- Make other road users aware of your intentions as early as possible

UNLOADING AND STORING THE TRAILER

- Calm horse before ramp is dropped
- Ensure handler is wearing protective clothing
- Untie horse before detaching the breast bar
- Lead slowly and carefully
- Clean trailer thoroughly and lift rubber matting to aid drying
- Park on level surface and attach security devices

CHECKLIST

EVERY TRIP:

- Tyre pressure and condition
- Lights and indicators
- Fittings are secure
- Breakaway cable correctly attached
- Trailer number plate matches that of towing vehicle

EVERY THREE MONTHS:

- Clean and re-grease hitch cup
- Ramp condition
- Clean and check floor

EVERY SIX MONTHS:

- Clean lights and electrical contacts
- Clean and check aluminium floors

EVERY 2,500 – 3,000 MILES:

- Grease drawbar nipples
- Check brake shoe wear
- Adjust brakes

EVERY TWO YEARS:

- Grease wheel bearings

MODEL OPTIONS

	X-TRAIL		PATHFINDER		NAVARA (DOUBLE CAB)			
ENGINE	2.0 dCi 173PS	2.0 dCi 150PS	2.5 dCi 190PS		2.5 dCi 144PS	2.5 dCi 190PS		3.0 V6 231PS
TRANSMISSION	MAN	AUTO	MAN	AUTO	MAN	MAN	AUTO	AUTO
SEATING CAPACITY	5		7		5			
KERB WEIGHT (KG)	1,660	1,690	2,210	2,225	2,085		2,100	2,150
TOWING CAPACITY (BRAKED KG)	2,200	1,350	3,000	3,000	2,600	2,600	2,600	3,000
TOWING CAPACITY (UNBRAKED KG)	750		750		750			
NOSE WEIGHT (MAX KG)	100	75	120		104			120
REVERSING CAMERA STANDARD (SPECIFICATION)	n-tec+ and Tekna		Tekna		Tekna Connect and Outlaw			
BRITISH HORSE SOCIETY SUPPORTERS SAVING AVAILABLE	All grades		All grades		Tekna and Outlaw			



Models shown above are the X-Trail Tekna 2.0 dCi Manual, Pathfinder Tekna 2.5 dCi Manual and Navara Tekna 2.5 dCi Manual. Fuel consumption figures for Nissan 4X4 range (i.e. X-Trail, Navara, Pathfinder): URBAN 22.2-36.2mpg (12.7-7.8L/100km), EXTRA URBAN 37.2-51.4mpg (7.6-5.5L/100km), COMBINED 29.7-44.1mpg (9.5-6.4L/100km) CO2 emissions 250-168g/km. MPG figures are obtained from laboratory testing, in accordance with 2004/3/EC and intended for comparisons between vehicles and may not reflect real driving results. (Optional equipment, maintenance, driving behaviour, road and weather conditions may affect the official results).



No matter how tough your towing challenge is, Nissan's 4x4 range can make it simpler. Packing powerful engines, the Nissan X-Trail, Pathfinder and Navara boast excellent towing capacities with impressive on-road and off-road capabilities to match.

To take advantage of this offer, call Nissan Customer Services now on **01923 899 334**. The Nissan 4x4 range, from £21,687 (including 17.5% saving).

Model shown is X-Trail Tekna 2.0 dCi manual priced at £24,806 On The Road with optional metallic paint at £453.75 inc VAT (all prices stated after British Horse Society offer saving). Refer to dealer or nissan.co.uk/x-trail for exact model specification. All figures shown here relate to vehicle without load and whilst not towing. Models subject to availability. *Offer available to British Riding Club members and British Horse Society e-newsletter registrants, on a qualifying retail purchase of new Nissan Navara (Tekna and Outlaw grades), X-Trail or Pathfinder (all grades) before 30 September 2013. Offer is 17.5% discount off the basic list price. Some models have been available at a discounted price during the previous 12 months. Eligible membership card or email address (as applicable) required. Owner should be the registered keeper of the vehicle for at least 12 months. Vehicle must be registered at the address of the applicant. Offer cannot be used in conjunction with any other Nissan consumer offer. Nissan Motor (GB) Ltd, The Rivers Office Park, Denham Way, Rickmansworth, Hertfordshire WD3 9YS.

**HOOK
UP TO
A SAVING OF UP TO
£6,471
WHEN YOU BUY
A NISSAN 4X4
THROUGH THE BRITISH HORSE SOCIETY***

Selected information provided by:



The British Horse Society

Abbey Park, Stareton, Kenilworth,
Warwickshire CV8 2XZ
02476 840500
www.bhs.org.uk

Other useful contacts:

Nissan

www.nissan.co.uk

Department for Transport

www.gov.uk/government/organisations/department-for-transport

National Trailer and Towing Association

www.ntta.co.uk

National Caravan Council Limited

thencc.org.uk

VOSA

www.vosa.gov.uk

FURTHER READING

- Your trailer's handbook
- The Glovebox Guide to Transporting Horses by John Henderson (£16.99, J A Allen) available from www.britishhorse.com Towing Horse Trailers, Photographic Guide by John Henderson with amendments 2010 (£5.99, J A Allen), available from www.britishhorse.com
- VOSA Guide for Horsebox and Trailer Owners, available to download from www.horseaccidents.org.uk
- Tyresafe, Horsebox and Trailer Tyres, available to download from www.horseaccidents.org.uk
- Tyresafe, Part Worn Tyres, available to download from www.horseaccidents.org.uk

Disclaimer: This is a guide only. This guide is obviously not intended to constitute legal advice and it is not legally binding. Please note that, whilst we have aimed to produce a guide which is accurate, we provide no warranty as to its accuracy. Note in particular that each load, vehicle, trailer, equipment, road, (etc) will be different. You should seek advice from specialist suppliers or manufacturers, as appropriate. Specialist instruction should also be undertaken before any towing is carried out. The British Horse Society and Nissan Motor (GB) Ltd accept no responsibility or liability for (or in connection with) the advice and information contained in this guide. Any rules and figures referred to in this guide are subject to change without notice, so please refer to the original sources/regulations as appropriate. Nissan Motor (GB) Ltd, The Rivers Office Park, Denham Way, Rickmansworth, Hertfordshire WD3 9YS. British Horse Society, Abbey Park, Kenilworth CV8 2XZ. Registered Charity Numbers 201504 and SC038516.