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Trailer Owner's Manual

(Rev 2.5)

Congratulations on choosing an Extreme boat trailer. All of our trailers are designed and built in Britain using industry standard parts and materials to deliver many years of reliable service.

Please read this manual carefully, the following information and tips will help you to get the best out of your new trailer and avoid the most common pitfalls. It is not possible however to cover all eventualities so if there is anything you do not understand please contact the supplying dealer or Extreme Trailers for advice or clarification.

Before Moving Off

1. Check your driving license to see what weight and trailer configuration you are legally allowed to tow. A license issued after 1997 will generally have different restrictions to one issued before this date.
2. Know the maximum combined weight of your vehicle plus trailer plus boat (this is called the Maximum Gross Train Weight) as well as any further towing restriction imposed by your vehicle's manufacturer. The MGTW can generally be found either in your vehicle's handbook or on a data plate attached to the vehicle which is often inside the bonnet or in one of the door shuts. In the case of an unbraked trailer, the actual weight of the trailer and its load must not exceed half the kerbside weight of the tow vehicle. Please also note that the kerbside weight of the towing vehicle must not exceed 22 Tonnes.
3. Assess that the weight of the boat (with engine, gear, fuel etc) plus the weight of the trailer is within the trailer's rated Maximum Gross Weight. The MGW of the trailer (in Kgs) can be found on the Certificate of Conformity Page 1, Section 0.2 under 'Version'. It may also be found by looking at the unique 17 digit VIN number beginning SHW on Page 1 Section 0.10 of the Certificate of Conformity and it is digits 6-9 (in Kgs). This number is also stamped on the front RHS of the trailer chassis and is on the VIN plate. The weight of the unladen trailer is on Page 2 of the Certificate of Conformity Section 13 'Mass of the vehicle in running order'. The weight of the unladen trailer plus the weight of the boat with all equipment and fuel must not under any circumstances be greater than the MGW of the trailer.
4. Obtain the correct nose weight of the loaded trailer. Excessive trailer nose weight can cause understeer (light steering) and lack of braking and damage to the jockey wheel when disconnected from the tow vehicle.. Insufficient trailer nose weight can cause oversteer, snaking and possible jack knifing and for the trailer to tip up backwards when disconnected from the tow vehicle. To obtain the correct nose weight please see the section 'Setting up your Trailer'.
5. Ensure the trailer tyres are inflated correctly. Correct inflation pressures and maximum road speed for tyres fitted to the 'Extreme' trailer range are as follows:

MGW	Tyre Size	Correct Pressure	Maximum Trailer Speed
300, 350, 400 & 500 kg	400x8	58 psi	130 km/h
300, 350, 400 & 500 kg	145/80B10	36 psi	130 km/h
650 kg	145/80B10	36 psi	130 km/h
750 kg	145/80B10	36 psi	130 km/h
750 kg	20.5x10	35 psi	130 km/h
1100 kg	165R13C	65 psi	140 km/h
1300 kg	165R13C	65 psi	140 km/h
1400 & 2800 kg	165R13C	65 psi	140 km/h
1460 & 2900 kg	175R13C	65 psi	140 km/h
1500 & 3000 kg	175R13C	65 psi	100 km/h
1800, 1900 & 3500 kg	185/70R13C	85 psi	140 km/h

6. Check that the lights and (where fitted) the brakes, are in good working order. Check that the red triangular rear reflectors have their points uppermost on the lightboard and that it is central on its attachment hooks to the trailer with an equal length of lightboard protruding from either side. Check that the lightboard arm adjusters are fully tightened and the light board cable is clear of the road and any moving parts on the trailer (eg swinging arm cradles which can rotate when the trailer is unloaded). Check that it is supported on the trailer in such a way that the tow vehicle can turn full lock both ways without the electrical plug pulling out.
7. Make sure that the vehicle's tow ball is correctly inside the coupling and not just resting on top by observing either the green 'safe' tell-tale is showing (braked trailers) or the red 'unsafe' tell-tale is not showing (unbraked trailers). If these are not fitted check by looking underneath that the ball is within the coupling socket. Check that the secondary coupling (unbraked trailers) or the breakaway cable (braked trailers) is present and correctly secured to the tow vehicle.
8. Check that your mirrors are correctly adjusted. You may need extension mirrors fitted if the boat is significantly wider than your vehicle.
9. Ensure that the boat is secured onto the trailer to stop fore-aft, sideways and upwards movement. Check that the boat's bow-eye is secured to the winch post by a means in addition to the winch strap (such as a chain, a rope or a strap). The winch strap is not designed to absorb road shocks and may break if under tension whilst towing.
10. Ensure the jockey wheel is fully wound up and tightened either against its upward stop or as close to it as allows the 'R' or other spring clip (where fitted) to be inserted. Ensure the jockey wheel clamp is tight.

Towing Tips

1. Generally drive more slowly and if in any doubt give way to other vehicles. Allow more space on the inside of a turn so you don't clip the curb. Be mindful of any overhang of the trailer behind the rear wheels swinging into oncoming traffic when turning sharply. Allow more time for braking. Anticipate the road ahead, alter your speed in good time and make gear changes more often. Check your mirrors frequently.
2. When approaching an incline or a decline, select a lower gear in good time. When travelling uphill this gives you extra power and avoids an uphill gear change. Coming downhill it provides engine braking and reduces the strain on your vehicle's braking system and avoids the possibility of brake fade.
3. Remember your increased length when pulling out of or across a junction.
4. Bear in mind that the road camber on a left bend helps keep a high load stable and that a right bend has the opposite effect and causes the top to sway to the left.
5. Snaking is generally caused by insufficient nose weight on a single axle trailer or an excessively low tow hitch on a tandem trailer causing it to pivot about the first axle with little weight on the rear axle. The situation is made worse as speed increases and is generally worse travelling downhill. Should it occur the correct action is to reduce speed very gently using the accelerator and not to use the brakes.
6. Get in the habit of occasionally checking the temperature of your trailer hubs especially on a long journey. They should be either warm or hot but should not be too hot to touch.
7. When disconnecting your loaded trailer for the very first time put some blocks under the rear of the trailer or have a couple of people stand on the drawbar to avoid the possibility of it over balancing backwards through incorrect positioning of the axle and/or load.

Rules of the Road

1. Know the UK national speed limits, generally 60mph on dual carriageways and motorways and 50mph on single carriageways unless indicated otherwise.
2. Know the maximum design speed of your trailer (see previous).
3. You are not legally allowed to tow a trailer in the right hand lane on a motorway with three or more lanes in the UK.

Setting up your Trailer

The easiest way to set up your craft on the trailer is by lifting it on with a crane. If that is not possible then the next easiest way is to use a slipway.

1. Check that you have the correct type of trailer for your boat and that the boat's load can be properly and evenly distributed across those supports fitted to the trailer. When it is on the trailer, check that the boat is correctly positioned for nose weight and in relation to the roller and/or bunk supports should be clear of any spray rails etc. fully supported at the transom for an outboard engine powerboat etc). In the case of an outboard engine powerboat, the hull should generally be positioned with the supporting rollers or bunks positioned at the extreme rear of the boat directly underneath and fully supporting the weight of the transom.
2. All models of Extreme Trailers come with axles that are adjustable in position in the fore-aft direction in order that you can obtain the correct nose weight. The recommended nose weights for our trailers are listed below together with Maximum Nose Weights which must never be exceeded:

Maximum Gross Trailer Weight	Recommended Nose Weight Range	Maximum Nose Weight
300 kg	20 - 30 kg	30 kg
350 kg	20 - 30 kg	35 kg
400 kg	20 - 30 kg	40 kg
500 kg	20 - 30 kg	50 kg
650 kg	20 - 50 kg	65 kg
750 kg	20 - 50 kg	75 kg
1100 - 1500 kg (Pressed Over-run)	40 - 60 kg	100 kg
1800 - 1900 kg (Pressed Over-run)	40 - 60 kg	120 kg
1800 - 1900 kg (Cast Over-run)	40 - 60 kg	150 kg
2400 - 2600 kg (Pressed Over-run)	40 - 80 kg	120 kg
2400 - 3000 kg (Cast Over-run)	40 - 80 kg	150 kg
3500 kg (Cast Over-run)	40 - 100 kg	350 kg

Adjust the nose weight of your trailer by slackening off the chassis attachment U bolts on both sides of the axle (or both axles on a tandem trailer as they should be moved together to maintain the same space between them) and moving to the required place, taking care to keep the alignment straight by measuring the same distance from the rear of each side of the chassis to each side of the rear of the axle and there distance between the axles on a tandem axle trailer. Move it forward to reduce the nose weight and backwards to increase it. The nose weight can be measured with the trailer level by using a set of bathroom scales under the jockey wheel. Braked trailers will also require the brake rod adjustment changing. This is done by slackening off the locknut at the brake balance beam just in front of the centre of the axle where the brake cables are attached. If adjusting the axle rearwards, spin the sleeve nut and locknut backwards before moving the axle. If adjusting it forwards, move the axle first then move the sleeve nut and locknut forward to it. When you are happy with the position of the axle, tighten the U bolt nuts and readjust the brake rod setting. With the handbrake off, there should be a small amount of movement of the brake rod when pulled fore and aft. Put the handbrake on and note the balance beam to be pulling approximately the same amount on both brake cables (or on both sets on a tandem axle trailer). Now look at the angle of the handbrake lever. This should be between about 11 and 1 o'clock and the trailer brakes should be fully on. Release the handbrake lever and the trailer brakes should be completely free with no binding of the brake shoes. Re-adjust and check again if necessary. Be sure to tighten the lock nut on the brake rod when you are finished. If you have a tandem axle trailer the technique is the same except both axles are moved as a pair making sure you keep the same relative distance between them.

3. When adjusting the supports for the boat, it is desirable to keep the centre of gravity of the craft as low as possible. You will need to adjust the various keel, side and roller platter supports to ensure the boat is clear of the mudguards and frame and there is minimum interference (preferably none) from the spray rails when launching and recovering the craft. Note any supports that are not adjustable eg. fixed keel roller or those that are only adjustable in fixed increments, and look to position the boat down onto these first if possible and then bring the adjustable supports up to the hull afterwards.
4. When the boat is in situ on the trailer, the height of the winch strap as it meets the top of the winch drum needs to be level with, or slightly higher than the bow eye. This ensures smooth winching and no tendency to pull the craft downwards at the front. See the maximum height note in the next paragraph.
5. The transom on a powerboat needs to be fully supported by the rear side/keel rollers/ bunks as appropriate. Any roller sets should have the rearmost roller positioned directly underneath the transom. If your craft has an inboard engine thought should be given to support directly under that area. It is not generally necessary (or possible) on a sailing boat to support the very rear but you should have well distributed support further forward.
6. Once the trailer is adjusted, ensure you check tighten all fasteners. If you have changed the brake linkage adjustment, then road test the brakes at low speed afterwards.

General Operation

1. Once they have been set up correctly, all Extreme trailers are designed for launching and recovering your craft directly out of the water.
2. The trailer needs to be in a sufficient level of water for the winch to recover the boat safely and not cause the transom or an outboard engine gearbox to hit the concrete of a shallow slipway. It is important to disconnect and remove the lightboard and it's attached wiring harness from the trailer prior to launch or recovery and it is recommended not to allow the tow vehicle's rear wheels to enter the water. On a steeper slipway you may find that the boat just floats off whilst on a shallower one you may sometimes need to attach a rope to the vehicle coupling and push the trailer further into the water.
3. The maximum height adjustment for a winch-post with an adjustable height top is for a maximum of half the stem height of the top section to be protruding above the top of the base. More than this risks damage and if you feel this is inadequate for your needs then please contact your supplying dealer or Extreme Trailers directly for advice.
4. It should be noted that trailers with a high winch-post necessitated by a high bow eye (eg. sailboats etc) should not be used to recover boats from water deeper than that which allows the boat to float at least halfway onto the trailer before winching otherwise damage may occur.
5. In the case of roller assemblies, ensure that they are all positioned at an inward angle in the correct orientation to accept the shape of the boat's hull. The central attachment bolt should be done up sufficiently tight to hold them in this position but not so tight that they cannot move to follow the contour of the hull as it moves forward along the trailer.
6. It is important to ensure that the boat is level and centralized across the width of the trailer during both launch and recovery. If on recovery this is not the case then push it back into the water and try again.
7. Do not tow the trailer up or down a slipway or drive on the road using only the winch to secure the boat forwards against the bow snubber. Always use a rope, a chain or a strap in case the winch pawl should become disengaged and the boat roll-off backwards.
8. Once recovered, stop on level ground and secure the boat onto the trailer. If this is the first time you have recovered that particular boat onto the trailer, you need to look at the position of all of the supports to see whether they need moving. Any rollers should be positioned to straddle spray rails etc on the underside of the hull. The boat should now be secured to stop movement both fore and aft and also laterally. Use strong rope or adequately rated ratchet straps. If your trailer has a winch-post higher than 600mm take special care to ensure the boat is adequately secured against it moving forward under heavy braking conditions.
9. Re-attach the light board before moving off. To do this position the extending lightboard arms so the hooks are at least 40mm clear to the rear of the rear rollers (if unladen) or the rear face of the transom of the boat (if laden) or of any outboard or outdrive leg if it would otherwise obscure the number plate. Ensure the lightboard is central on the mounting hooks with the red triangular reflector points uppermost. Secure with the bungee bands over the top and bottom hooks using 2 bands either side on longer boards. Ensure both light board arms protrude the same amount so the board is square across the rear of the trailer and tighten both securing knobs fully so neither arm can move.

Maintenance

The following service schedule should be adhered to. It is recommended that you have your trailer serviced annually by a competent person or organisation who will have access to special tools and workshop equipment or on any other occasion you do not feel completely confident yourself or do not understand any of the terms or necessary procedures in the schedules below. If the trailer has been frequently immersed in water, the following service schedules will need to be done more often.

After each use (recommended)

1. Hose down the trailer with fresh water and flush out the brake drums (if a flushing kit is fitted).
2. Spray WD40 into the front chassis lightboard electrical connector (where fitted).
3. Visual detailed inspection.

After First 25 miles

Check and tighten the wheel nuts, the torque values of which are as follows:

<u>Stud/Bolt Size</u>	<u>Socket Size/Fastener Type</u>	<u>Torque (NM)</u>
M12 x 1.5 8.8	(19mm Head)	90
M12 x 1.5 10.9	(17mm Head)	130
M16 x 1.5 8.8	(27mm Nut)	195

After every 3 months (or every 500 miles if sooner)

1. Visual detailed inspection.
2. Check wheel nut torque, tyre pressures and tyre wear/damage.
3. Check tyre wear/damage. Check wheel bearings for excess play/rumble.
5. Check and tighten all fasteners.

Annually, after 3 of the above inspections, or every 3,000 miles (whichever comes sooner)

1. Visual detailed inspection.
2. Check tyre wear/damage. Check wheel bearings for excess play/rumble.
3. Remove the brake drums, check the brake lining wear and remove the brake dust. Check the brake springs for excessive corrosion, free-off any corroded brake parts.
4. Clean and re-pack taper roller wheel bearings (where fitted) and any bearing savers with waterproof grease.
5. Replace any wheel bearings if on inspection they have excess play or rumble when the wheel is rotated. A precautionary replacement every 2 years is recommended. Torque the wheel nuts on re-assembly.
6. Check brake cables for free movement. Adjust and check the brake linkage adjustment.
7. Check the coupling head for excess wear by moving up and down on the vehicle ball. Smear some waterproof grease inside the coupling head and grease the nipples on the overrun shaft (if braked) with a grease gun.
8. Check tighten all fasteners.
9. Road test.

Warranty

Your new trailer is warranted by the manufacturer for a period of 1 year from the date of purchase and an additional complementary second year if you complete and return the Warranty Registration Form to us.

Your warranty is return to base and covers defects in manufacture and workmanship.

It needs to be serviced according to the schedule at the back of this manual and accident, misuse and normal service items are excluded. Also excluded is galvanizing, which is itself a sacrificial coating and the condition of which is greatly influenced by whether it is washed down with freshwater after use, whether it is kept continuously in a salty environment and whether any preservative such as wax or lanolin has been applied to the trailer.