

# You and your Boat Trailer

A CARE AND OPERATIONAL GUIDE



Government  
of South Australia (Image of boat trailer here)

## Introduction

This booklet has been designed with recreational boat owners in mind. It provides you with some helpful tips on using, maintaining and towing your boat and trailer. This booklet also summarises some of the regulations that apply when you are towing your boat and trailer.

To ensure that you operate your boat trailer safely, you will need to read, understand and follow any advice in this booklet, and comply with the regulations detailed in it.

Any warnings or information provided by the manufacturer about the make and model of your boat trailer must also be complied with.

Before you travel on the road system in South Australia, you must make sure that you understand the legal and registration requirements and any load limitations that apply. A Transport SA Customer Service Centre can provide you with more information. Alternatively, you can visit the Transport SA website at:

[transport.sa.gov.au](http://transport.sa.gov.au)

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## Selecting your Boat Trailer

(images of multi roller trailer and trailer with skids)

### **Supporting the boat**

When you are purchasing a new or second hand boat trailer, you must choose the right trailer for your boat. Poorly adjusted or maintained boat trailers can cause major damage to boats, and can be dangerous when they are towed on the road.

The hull of a boat is designed to be supported by water. It is important that when your boat it is being transported on a boat trailer, it should be supported as evenly as possible across the hull to help keep damage to a minimum.

### **Heavy duty trailers**

The trailer should be long enough to support the whole length of the hull, but short enough to allow unrestricted movement of any outboard motor that has been fitted to the boat.

If you intend to tow your trailer long distances with a heavy load, a heavy duty trailer with a higher weight capacity would be a better choice than a regular trailer loaded right to its limit.

## Matching your Boat to your Trailer

### **Weight**

When you are choosing a suitable trailer, the weight of a boat and the hull configuration (width and length) need to be taken into consideration.

When you calculate the gross weight of the trailer, you need to include the weight of the boat, trailer, engine (if outboard) and fuel (around 1 kilogram per litre), as well as any equipment you are carrying.

Check the compliance plate to make sure that the gross weight limit specified for the trailer is not exceeded. Rather than overloading the trailer, try to have a safety margin. This will help minimise the possibility of any bearing or structural problems.

### **Length**

Choose a long trailer. The extra distance between the tow hitch and the trailer wheels will make it easier to reverse and to tow.

### **Support skids/roller**

Ask the dealer or boat manufacturer if they would recommend either rollers or support skids. Generally, rollers do not have to be reversed as far into the water in order to launch. Skids, however, need to be wetted for smooth launching and to minimise possible friction damage to the hull.

On most trailers, the support skids, rollers, winch post and axle or axles can be adjusted to accommodate different types of boats.

### **Finish and materials**

Painted trailers are generally suitable only for use in freshwater. If you are planning any salt water launching, a galvanised trailer would be a more suitable choice for your long-term needs.

# Trailer Equipment

## Lights

Your trailer should be fitted with submersible trailer lights that must operate simultaneously with all the lights of the towing vehicle.

## Wheels

The wheels on your trailer should be fitted with bearing buddies or similar wheel bearing protectors. Include wheel chocks and, if you are travelling in remote areas, spare wheel bearings.

You should always carry a spare wheel that has a correctly inflated tyre, as well as suitable jack and wheel brace. Your car jack may not be suitable for changing the tyre on your trailer, so you will need to check this before travelling.

In order to support the front of the trailer as you are disconnecting it from the towing vehicle, you should make sure a jockey wheel with an inflatable tyre is fitted. This will allow the trailer to be moved more easily.

Heavy duty tyres should be fitted to your trailer and heavier boats and trailers would benefit from being fitted with light truck tyres.

## Brakes

You are required to comply with all trailer brake requirements detailed in this booklet (See Page xx). Suitable trailer brake systems i.e. vacuum assisted hydraulic or hydraulic override brakes and hand brakes, must be fitted to most boat trailers.

## Safety Chains

In case the tow coupling fails and to prevent a breakaway, you must fit your trailer with suitable safety chains. Safety chains should be crossed over underneath the main coupling and stop the trailer draw bar from hitting the ground.

## Tie Downs

To prevent movement during road travel and braking, boat tie-downs should be placed in a suitable location to allow the bow of your boat and transom to be properly fixed to the trailer

## General

To assist you centre your boat during retrieval, you can fit your trailer with a bow location device.

You are required to fit your trailer with a heavy duty retrieval winch. You can fit either a manual or electric model, with either a cable or webbing.

# Travelling with your Boat Trailer

## Preparation

Before you make your first trip with your boat trailer, familiarise yourself with driving and the handling of the vehicles and make sure that everything is working correctly.

Practice reversing and braking in a quiet, secluded area.

## Speed

There is much less strain on your boat, boat trailer, car and you when you drive at slow to moderate speeds.

Use a lower gear when travelling up or down hill and avoid using your overdrive, if fitted, and you will reduce the load on your brakes and make stopping safer.

Always allow more time to brake, accelerate, overtake and stop when you are towing your trailer.

## Braking

Try to avoid any sudden braking and turns. Your towing vehicle not only has to slow itself, but also the several hundred kilograms of boat and trailer it is towing.

To ensure the safety of other motorists when you are travelling, leave plenty of room in front of, behind and beside your vehicle.

If your car is fitted with a trailer brake hand control adjustment, adjust it so that when you brake, your trailer brakes come on just before your car brakes do. This will minimise the chance of jack-knifing your trailer and assist to obtain controlled straight-line braking.

## General

When you are towing a boat trailer, the turning circle is greater than when you are driving just your towing vehicle. Allow more room when you turn corners as running over kerbs will damage the sidewalls of your tyres and could result in a blow-out.

Windy back drafts from semi-trailers etc. or any windy conditions can make towing your boat trailer more challenging. Be aware of the conditions, and adjust your driving to suit.

Before turning or changing lanes, signal your intentions to other drivers well in advance. As a safety precaution, always check your rear view mirrors before turning or changing lanes.

Always keep as far to the left-hand side of the road as practicable and allow any faster moving vehicles to pass you whenever you can. Be prepared to slow down to allow any vehicles that are passing you a quick return to the correct side of the road.

Any sudden bumping or fishtailing may be the result of a flat tyre. It is best not to jam on the brakes or flatten the accelerator to try and drive out of it. Apply gentle braking pressure and stop in as straight a line as possible. If any problems do occur, make sure that you stay calm and try to avoid any sudden braking or steering corrections.

## Pre-travel Checklist

Before travelling with your boat trailer, be sure to check:

- Tyres are in good order and correctly inflated.
- Tow coupling between the trailer and car is the correct size (usually 50mm diameter balls) and securely connected.
- Safety chains are attached correctly.
- The electrical plug is connected to the vehicle and all lights are operating correctly.
- All wheel studs are present and correctly tensioned.
- Your boat is correctly secured to the boat trailer.
- Wheel bearings are full of waterproof grease.
- The boat trailer is loaded evenly from front to rear and side to side and all loose objects are either secured or stored away.
- Your side mirrors are properly adjusted and large enough to provide a clear view to the rear.
- That any accumulated water, such as rain, is drained away from inside the boat, as this adds extra weight and could cause fishtailing as it moves from side to side during travel motion.
- Your brakes are working and properly adjusted, and the master cylinder fluid level is checked.
- Your braking system for signs of air or hydraulic fluid leaks.
- That you have attached a flag to the outboard motor leg.
- You have a light for night time travel.

## Launching your Boat

### Before the launch

To make sure that the launch is safe, Transport SA recommends that before you start backing down the ramp, you seek help from a passenger or bystander. If your helper stands where you are able to see them and where they are able to see directly behind your boat, injuries or damage to your boat will be minimised.

If you back your trailer slowly, you will easily be able to correct it as you reverse down the ramp. A popular technique to use when you are reversing, and this can be practised in your driveway, is to put your hand on the bottom of the steering wheel, use your mirrors and turn the wheel slowly in the direction you want the trailer to go.

### Launching

Keep gentle pressure on the footbrake as you ease the rig down the ramp. When you have determined where you need to stop, gently increase the braking pressure until you have stopped. Any sudden braking pressure could cause a lock up, and on a slippery ramp, may cause the whole rig to slide towards the water.

Stop so that the rear wheels of your vehicle are clear of the water which and this will usually stop the exhaust pipes from being immersed. If the exhaust pipes are submerged, you have backed too far down the ramp and your engine may stall.

Reverse the trailer only as far as you need to so that the boat can roll or float off the trailer without striking the bottom. The gradient of the ramp and design of the trailer and boat will determine how far this needs to be. Generally, multi-roller trailers do not need to be reversed as far into the water as trailers that are fitted with support skids. Support skids should be wetted to enable smooth friction-free launching.

If you are driving an automatic towing vehicle, select park and engage the handbrake. Put chocks behind the rear wheels of your vehicle to help keep your rig safely on the ramp. **Do not** rely on just the towing vehicle handbrake to hold several tonnes of vehicle boat and trailer. Release the winch and then remove the winch cable hook and bow tie-down from the bow eye. If the boat doesn't start moving off the trailer, you can give it a gentle push to help it along.

When easing the boat off the trailer, make sure that you or your helper/s are holding the bow and stern lines. If you are having difficulty moving the boat off the trailer, you will need to have the settings and condition of your rollers or skids checked for future trips.

### Once your boat is launched

Once you have launched your boat, and before you secure it, manoeuvre the boat further down the jetty or pontoon (if provided), so that the mooring area immediately next to the ramp is kept clear. This will allow others to use the ramp while you are parking your towing vehicle. If there is no jetty or pontoon, simply manoeuvre your boat clear of the immediate launching area.

As soon as you can, clear your empty trailer away from the launch ramp and secure in the designated vehicle and trailer park. Pull the winch cable and hook down to the back of the trailer ready for retrieval.

## Launching Checklist

- When you launch your boat, always consider others and follow correct ramp etiquette.
- Choose either a quiet area in the car park away from the ramp, or in an area set aside for rigging/de-rigging to load your gear and prepare your boat for launching.
- Check your boat to make sure that no damage was caused by the trip.
- Load all your equipment, fishing gear etc. on board at this time.
- If you are not familiar with the launch ramp, plan your launch strategy and take the time to inspect the ramp for general condition, gradient, depth and other features.
- Make a note of the wind direction, strength and water current and determine how this will effect your boat once it is launched
- Remove the stern tie-downs but make sure that the winch cable is properly attached to the boat bow eye and locked in position.
- Loosen the bow tie-down so that it can be easily removed and leave it connected to the bow eye. If the boat starts to move backwards on the trailer too soon, the tie-down will prevent the boat from launching on the ramp.
- Raise the motor outboard leg (unless an inboard motor) to make sure that it does not hit the bottom while launching.
- Ensure that the drain plug or plugs are in and tightened correctly.
- Disconnect the trailer lights, unless they are submersible.
- Attach bow and stern lines to your boat which will allow you to manoeuvre your boat once it is floated off the trailer.
- When you take your towing vehicle back to the car park, spray the brake callipers (if fitted) with dewatering lubricant – this will help prevent corrosion.

## Retrieving your Boat

### Approaching the ramp

To retrieve your boat from the water, simply reverse your launch procedure. Be aware, however, that some conditions may have changed since you launched your boat.

As you approach the ramp area, note any:

- change in the wind direction and strength;
- change in the current, tide or depth of water;
- slime on the ramp that may make it slippery;
- increase in boating traffic.

### Securing your boat

Manoeuvre your boat back onto the trailer and secure the winch cable and bow tie down to the bow eye of your boat, then accelerate your towing vehicle gently up the ramp. If the rear wheels spin, you have lost traction. It may be difficult to remove the trailer from the ramp, but if this happens, adding more weight to the rear of the towing vehicle may solve this problem.

When you are back at the rigging/de-rigging area, prepare your boat and trailer for the road, as per Pre-travel Checklist on Page 13.

### After the retrieval

Where washing facilities are provided, take the time to wash your boat and trailer with fresh water. Ensure that all salt water is washed from the brakes, brake callipers, wheel bearings and springs. Salt water often collects in this area and causes corrosion. As an extra precaution, spray these areas with a dewatering agent such as RP-7 or similar.

To dry the brakes of any residual moisture, periodically apply gentle pressure as you drive away. Your brakes need to be dry to operate safely and efficiently when you travel.

## Security

### Security Devices

Your boat and boat trailer are expensive investments and could be a target for thieves. To minimise the possibility of theft, your boat and boat trailer should be secured away undercover when they are not being used.

Any car or boat trailer that is left unattended at remote boat ramps is vulnerable. Transport SA recommends that you buy trailer coupling lock, which is available from some trailer manufacturers. A coupling lock will make it difficult for a thief to hook up your boat trailer to their vehicle and drive off. This device can be used to secure the trailer to your towing vehicle and/or prevent the trailer coupling from being removed from the tow ball of your vehicle. A trailer coupling lock can also prevent the trailer coupling mechanism from operating when it is not connected to your car

Alternatively, you can make your own coupling lock by using a section of heavy duty chain or cable and a padlock. Wheels can be fitted with lockable wheel studs to prevent removal.

Make a note of your trailer serial number. This number should be welded or engraved onto the trailer frame, as the specification and registration number plates can also be easily removed by thieves.

### BoatCode

A Hull Identification Number (HIN) system known as BoatCode was introduced for recreational vessels in South Australia in September 2001.

Information about this system can be obtained from your nearest Transport SA Customer Service Centre, or by visiting the Transport SA website at:

[transport.sa.gov.au](http://transport.sa.gov.au)

## Maintenance and Storage Checklist

Always follow the manufacturer's instructions for regular maintenance. If you do not feel confident with some aspects of trailer maintenance or if you do not have the time, you should periodically have your trailer serviced by a recognised manufacturer or service outlet.

- If wash-down facilities were not provided at the boat ramp, thoroughly wash your boat and trailer at home, or wherever it is normally stored.
- Check and make sure that the wheel bearings are full of grease and that there is no evidence of free play in the bearings.
- Pump grease into any grease nipples in the springs (if fitted), but do not overfill the wheel bearings as this could blow out the 'O' ring seals.
- Use fish oil to coat springs, axles and other metal components that come into contact with water – galvanisation does not necessarily stop rust.
- Check the tow bar assembly regularly for wear and tear, and keep the ball and coupling lubricated with grease, RP7 or similar .
- Check the trailer for stress cracks and corrosion, remove any corrosion with a wire brush and paint with re-galvanising paint and fish oil.
- Inspect tyres regularly for signs of wear, ensure that wheel studs are correctly tensioned and that correct tyre pressure is maintained.
- Keep the brakes serviced and cables and rollers lubricated.
- Keep the trailer clean and remove any dirt and road grime from the springs and frame.
- Spray the winch with RP7 or similar and lubricate all shackles.
- Check all nuts and bolts on the trailer and immediately replace any frayed cables.
- Replace any deteriorated rollers or skids and make sure that they are adjusted to the correct height and lubricate the securing bolts.
- Where possible, keep the boat and trailer parked on a paved area, under cover.
- If you do not intend to use your boat and trailer for a long period of time, you can avoid flat spots on the tyres and also relieve the load on springs by jacking the trailer frame up onto blocks.

## Vehicle Dimensions

Dimension limits apply to all vehicles that use the road system in South Australia. For general unrestricted travel, your boat and trailer and towing vehicle combination must not exceed the following dimensions:

(Insert Picture)

X  
Y

**8.5m max**  
**3.7 m max**  
**12.2 m maximum length**

### Height

The overall height from the ground to the highest point on the boat must not be more than 4.3 metres.

### Rear overhang

The rear overhang, measured from the centre of the axle or axle group, must not exceed 3.7 metres.

### Length

The overall length of the towing vehicle and boat and trailer combination must not be more than 19 metres.

The length of the boat trailer must not be more than 12.2 metres.

The distance between the coupling pivot on the drawbar and the centre line of the axle or axle group must not be more than 8.5 metres.

### Width

The trailer with the boat must not be more than 2.5 metres in overall width.

The boat must not project more than 150mm over the sides of the trailer.

### Permits

If your vehicle and boat combination exceeds the above dimensions, it can only be driven on the road if Transport SA issues you with an individual exemption (permit). If this is the case, it is recommended that you consult with Transport SA because restrictions on vehicle configurations, routes and times of travel may apply.

# Lighting and Rear Vision Requirements

## Lights

Your boat trailer needs to be fitted with the following lights:

- number plate light which may be combined with the tail lights;
- one pair of brake lights;
- a pair of tail lights;
- one pair of direction indicator lights that can also be used as hazard lights;
- one pair of red reflectors;
- for travel at night, a red light on any overhanging load or projection, for example, outboard motor legs.

## Reflectors

If your trailer is more than 2.2metres wide, you must fit reflectors symmetrically to the front of the trailer and also within 400mm of the sides of the trailer.

## Wiring

All trailers must have an earth wire connected through the wiring back to the towing vehicle, with the wiring secured at least every 600mm.

## Light Board

A light board correctly positioned on the trailer can also be used as alternative to permanently fixed lights.

## Fixed Rear Vision Mirrors

Fixed external rear vision mirrors must not project more than 150mm beyond the widest part of the vehicle and boat trailer combination.

## Adjustable Rear Vision Mirrors

Adjustable rear vision mirrors can project up to 230mm beyond the widest part of the vehicle and boat trailer combination as long as when they are folded, they must not project more than a Fixed Rear Vision Mirror.

## Boat Trailer Brakes

### Trailer Brake Requirements

Correctly installed trailer brakes are important to ensure safe vehicle braking under all normal driving conditions.

The following braking requirements apply to boat trailers that are towed on the road under normal driving conditions:

- if your boat trailer has a Gross Trailer Mass (GTM) that does not exceed 750kg, it does not require brakes. (*GTM is the combined weight of the boat, trailer and equipment transmitted to the ground through the axle(s) and wheels*);
- where your boat trailer has a GTM that is between 750kg and a total mass of 2 tonnes (referred to as the Aggregate Trailer Mass or ATM), it must be fitted with brakes. (*ATM is the total mass of the boat and trailer when not connected to the towing vehicle*);
- if your boat trailer has a ATM in excess of 2 tonnes, it must be fitted with brakes to the wheels of all axles. The brakes must engage immediately the brakes of the towing vehicle are activated **and** be automatically activated if the trailer breaks away.

### Boat trailers built before July 1990

Some boat trailers do not comply with the national trailer braking regulations. If your boat trailer was built before July 1990, a braking exemption currently applies in South Australia.

This exemption is valid until 30 September 2003, when it will be reviewed. The exemption is subject to certain conditions in order to ensure safe operation of the vehicle.

### Special Purpose Boat Trailer

A braking exemption applies to boat trailers that only travel very short distances to launch and retrieve boats i.e. from the storage yard or holiday home to the boat ramp.

This exemption is subject to mass and speed restrictions and is valid until 30 June 2003, when it will be reviewed.

### Further Information

For further information on these braking exemptions, please contact your nearest TSA Customer Service Centre, Service SA Customer Service Centre or Transport SA's Road Freight Operation and Regulation Section at Regency Park, telephone 1300 656 243.

## Vehicle Mass

### Towing Capacity

Your vehicle must be capable of towing the combined mass of the trailer and boat plus any equipment that is carried. The tow bar fitted to your vehicle must have the correct load rating, which is specified by the vehicle and tow bar manufacturer.

The towing capacity for most vehicles is found in the vehicle's handbook. You must not exceed the towing limits specified by the vehicle manufacturer. Also, the total mass of the boat and trailer, including any equipment, must not exceed the total mass of the towing vehicle.

If, however, the vehicle manufacturer has not specified a towing capacity, you must comply with the following regulations:

- where your boat trailer is fitted with brakes that are directly operated by the driver, the mass of the trailer with the boat must not be more than 1.5 times the unladen mass of the towing vehicle;
- where your boat trailer is fitted with over-ride or over-run brakes that are not directly operated by the driver, the mass of the trailer with the boat must not be more than the unladen mass of the towing vehicle;
- if your boat trailer is not fitted with brakes, the mass of the trailer transmitted through the axle or axle group with the boat, must not be more than 750 kg.

## Further Information

If you would like further information about anything you have read in this booklet, or to find out where your nearest Customer Service Centre is located, please contact the Transport SA Call Centre on 13 10 84.

You can also visit Transport SA's web site at:

[transport.sa.gov.au](http://transport.sa.gov.au)