



# Trailer Manual

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## General Driving Principals

The addition of the trailer will add weight and length to the tow vehicle. The additional weight will alter the performance characteristics of the tow vehicle, it will take longer to accelerate and more importantly, stop. When driving, you need to plan ahead, allowing extra time and space when changing lanes, turning, stopping and passing other vehicles.

Turning the combined unit in a forward motion needs consideration as the trailer will not follow the exact path taken by the tow car, larger trailers, especially those with a wheel base wider than the tow car, will cut the corner so a wider sweep is required if the turn is to be completed safely.

When under way, it is essential that the trailer remains stable, this is particularly important at speed, when poorly placed, or insecure loads can induce trailer sway. Trailer sway is an erratic, uncontrolled, side to side movement of the trailer which, in severe cases can result in the overturning of the trailer and / or tow car. Trailer sway can be induced by the load itself, a gust of wind, or the down draft from a passing commercial vehicle

For larger, heavy trailers, such as a caravan, the tow vehicle can be fitted with an anti-sway device.

Should you experience trailer sway, here is a list of 'Do's and Don'ts' to bring the unit back under control.

### Do's

- Gradually reduce speed
- Steady the steering wheel – sudden turns can cause a greater degree of sway

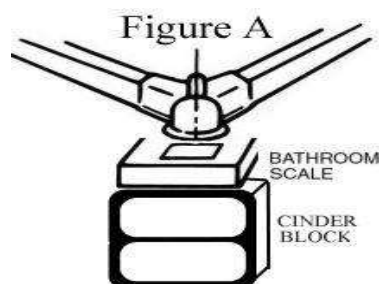
### Don'ts

- Slam on the brakes – This can induce jack-knifing
- Attempt to steer out of a sway situation
- Increase speed as this will increase the degree of sway

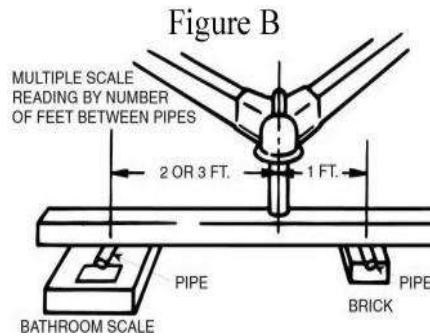
## Correct Trailer Loading

The loading of the trailer is important if the unit is to remain stable at speed. The weight at the towing hitch is critical and should be in the region of 10 – 15% of the overall combined weight of the trailer and load.

For smaller trailers, the weight at the tow hitch can be measured using a standard set of bathroom scales as per Figure A below



For larger trailers, a slightly different setup is required to measure the hitch weight as per Figure B below



One of the main reasons for trailer sway is insufficient hitch weight. To increase the hitch weight, move the load closer to the front of the trailer, to decrease it, move the load towards the rear.

All loads should be centred left to right and secured to prevent movement during transit.

### Towing Capacity of Vehicle

The towing capacity of vehicles differs from model to model. Under no circumstances should the towing capacity of the vehicle be exceeded. Reference should be made to the vehicle handbook to determine the capability of the vehicle before towing commences. The manual will often state two Towing Capacities, one each for trailers with and without brakes

### Trailer Maintenance

Regular maintenance of the trailer is important if the unit is to function correctly. Trailers are often left in the open and remain unused for long periods of time. Simple maintenance checks include:-

- 1/ Tyres – all tyres, (including the spare) should be correctly inflated, free from defects and have the legal depth of tread. Particular attention should be paid to the side wall of the tyre to ensure the tyre is not showing signs of degradation which often produces a series of small cracks in the rubber. You should note that normal car tyres cannot be fitted to trailers. Specialist trailer tyres should be fitted; these have an 8 ply construction for added strength and durability.
- 2/ The inside of the towing hitch should be free from debris and lightly greased to allow a smooth action when turning.
- 3/ Lights should be checked for functionality.
- 4/ Brakes, if installed should be in full working order, this includes the handbrake mechanism.
- 5/ The restraint chain should be free from corrosion and damage and the attaching mechanism must be in full working order.



## Hitching Up

For the sake of this explanation, assume your trailer is too large or heavy to be moved very far by hand - you will need to reverse your car into position rather than just man-handling the trailer.

1. Make sure any stabilising legs on your trailer have been fully wound up - the trailer should be standing on its travel wheels and the jockey wheel (the small wheel at the front) only.
2. Check the hitch weight of the trailer.
3. Reverse your car until the tow ball is close to the trailer hitch (less than 30cm, ideally just a few cm's)
4. Wind down the jockey wheel on the trailer (the small wheel at the front) so the tow hitch on the trailer is high enough to be above the tow ball on your car.
5. Connect the restraint cable from the trailer to your tow bar. This is a legal requirement for braked trailers - it ensures that the trailer brakes come on if the trailer comes unhitched in transit. Note it is illegal to wind the cable around the tow ball - it must be fastened to the tow bar itself.
6. Reverse under the tow hitch or pull the trailer forwards until the trailer's tow hitch is directly above the tow ball.
7. Wind the jockey wheel up so the tow hitch drops down onto the tow ball. It should lock into place with a firm 'click' - make sure you understand the locking mechanism on your tow hitch and always check it has locked on correctly.
8. Now wind the jockey wheel down again until the back of the car starts to lift up - this proves the trailer is securely connected to the car.
9. Wind the jockey wheel all the way up and secure it in the travel position - you may have to unclamp it and slide the whole assembly upwards to do this. Some jockey wheels are secured by a 'R' clip to prevent them unwinding in transit. If the 'R' clip is fitted you must ensure it is used.
10. Connect your trailer's electric cable to the socket on your tow bar (usually a black one). This is essential so that the trailer's external lights will work. Test these once connected. With a caravan, you may also have a second 12V cable to connect for internal caravan power (the socket for this is usually grey).
11. Release the handbrake (if any) on your trailer.
12. Double check the following:
  - All stabiliser legs and the jockey wheel have been fully wound up and are secure for travel.
  - The trailer's tow hitch is correctly connected to your car's tow bar.
  - All electric cables are securely plugged in and the trailer's lights are working (indicators, tail and brake lights and number plate light at least).
  - Your trailer should have an identical number plate to your car - ensure this is securely in place.
13. Ensure you take with you the tools required to change a wheel on the trailer. Often, car jacks are unsuitable to raise the trailer and the wheel nut sizes often differ from those on the tow car.

**Finally:** Make sure that any load in your trailer (or inside your caravan) is carefully packed and secured so that it won't move while travelling.

## Driving Forwards with a Trailer

Driving forwards with a trailer is not too difficult. The main things to remember are:

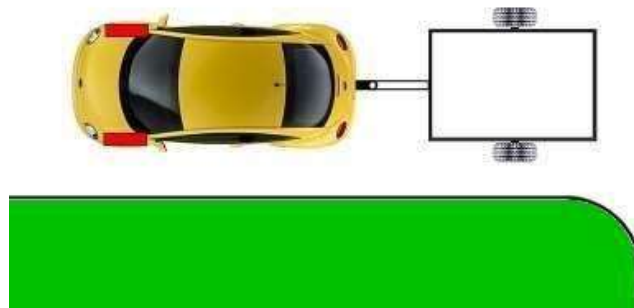
- Take corners wider than usual - drive further forwards before swinging round, otherwise the trailer will cut the corner behind you, possibly riding up on a curb, clipping a bollard or worse...
- Allow much more space for braking and brake more gently.
- Remember any extra width - this mostly applies to caravans, which are usually significantly wider than the cars towing them.
- Take it easy and remember that lower speed limits apply when towing any trailer behind a car:
  - 30mph on all roads with street lighting unless signs show otherwise
  - Single carriageways: 50mph unless signs show otherwise
  - Dual carriageways & motorways: 60mph unless signs show otherwise
- You can't use the outside lane of three-lane motorways/dual carriageways (but you can on two lane roads).

## Reversing a Trailer

Revering a trailer takes thought and planning, particularly if the area in which the turn is to be completed is tight or congested. When reversing a trailer, the pivot motion at the back of the car will cause the trailer to be pushed sideways turning it in the opposite direction to the tow car, as a result, a larger than expected area is required to complete the manoeuvre. It all sounds complicated but below is a series of diagrams which show the different stages of reversing a trailer into a side road

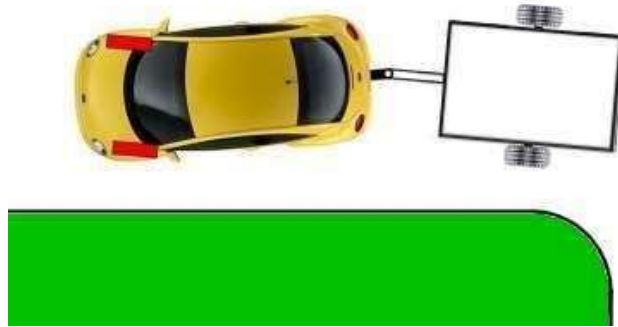
### Initial Preparation.

Pull up towards the centre of the road ensuring the trailer is past the entrance to the side road in to which you need to turn. As you pull up scan the side road entrance for small walls, high kerbs or hidden posts.



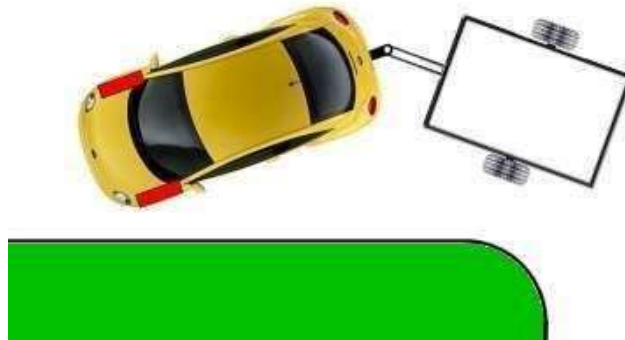
### Step One

Turn your wheels slightly to reverse away from the corner as you start to reverse. This action will make the trailer turn in the opposite direction i.e. towards the corner.



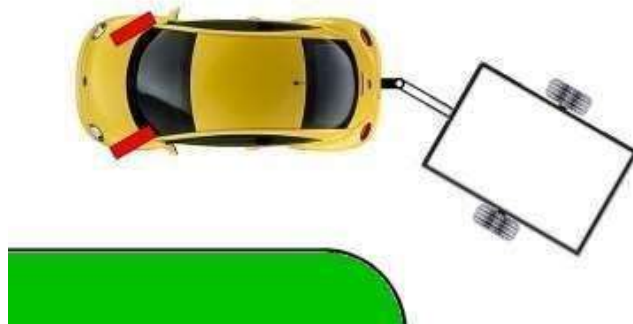
### Step Two

Straighten the wheels, as you reverse the trailer will angle more towards the corner.



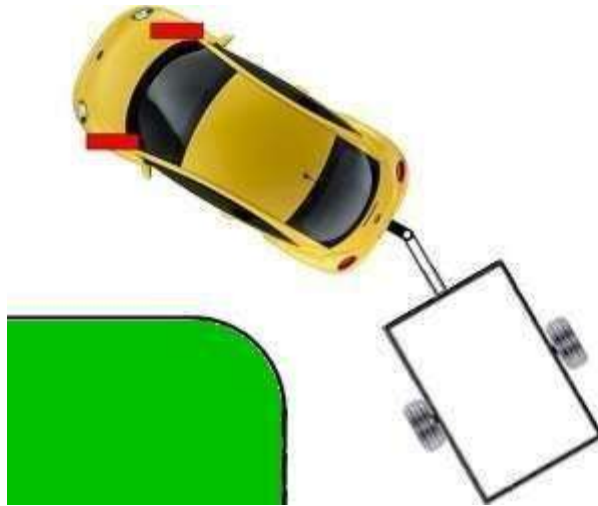
### Step Three

When the trailer reaches the desired angle, turn the wheels to the opposite lock. The car will now follow the trailer.



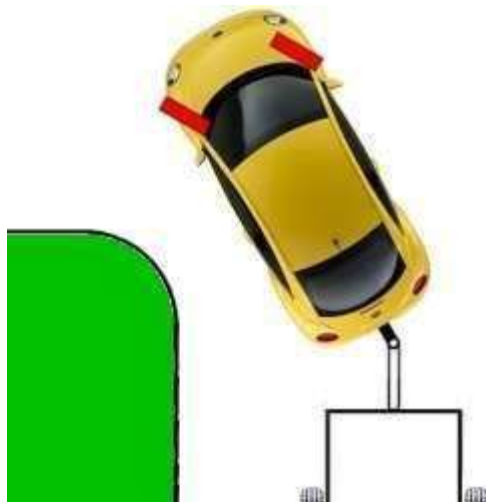
#### Step Four

If the trailer tightens up then apply more lock, if the trailer starts to straighten too much then take some lock off.



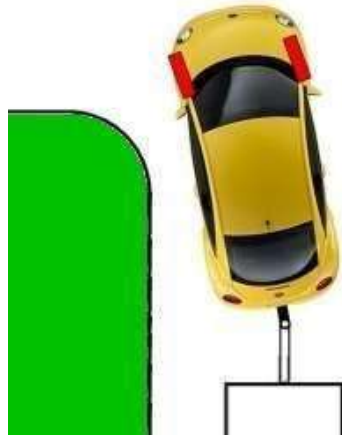
#### Step Five

Continue to follow the trailer round the corner.



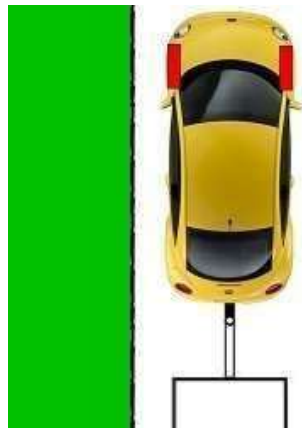
### Step Six

As the trailer approaches the angle you wish to finish at, straighten up.



### Step Seven

Keep straight until you reach our required destination. As you control the reverse of the trailer remember to steer in the opposite direction you wish the trailer to turn in.



### **Top Tips**

- 1/ Compete all manoeuvres slowly as this will give time to correct the movement of the trailer.
- 2/ Don't be afraid to pull forward slightly if the trailer turns too far. This will straighten the trailer slightly.
- 3/ To steer in reverse put your hand at the bottom of the wheel. Moving your hand to the right moves the trailer to the right and vice versa.





## Unhitching the Trailer

To unhitch the trailer you must:-

- 1/ Stop the vehicle and trailer on level, stable ground ensuring the trailer is level front to back and side to side.
- 2/ Apply the trailer brakes if fitted. If no brakes are fitted chock the trailer wheels front and rear to prevent the trailer rolling when disconnected.
- 3/ Disconnect the Trailer Lights from the vehicle
- 4/ Lower the jockey wheel and remove the 'R' clip if fitted
- 5/ Lift the trailer hitch lock and wind the jockey wheel raising the trailer off the vehicle tow hitch
- 6/ Once the trailer is stable, disconnect the Brake Safety Cable from the vehicle
- 7/ Lower any leg posts fitted to the trailer
- 8/ Test trailer stability by attempting to push the trailer to detect unwanted movement