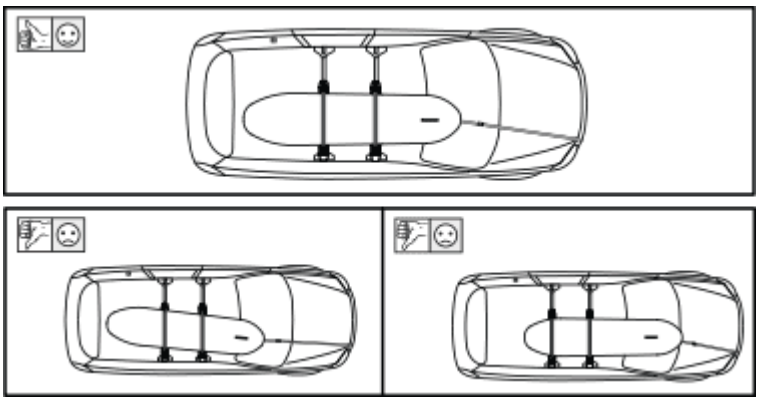
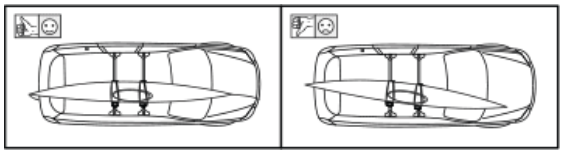
Surf Gear, Canoe & Kayaking Safety

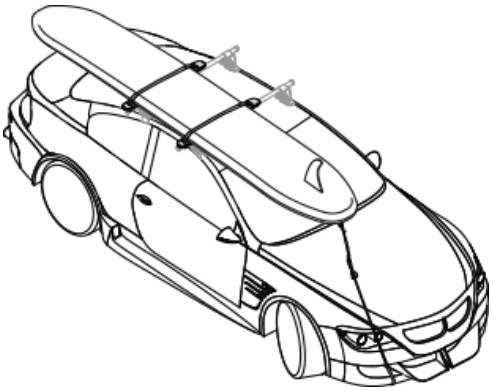
Any long and flat gear when carried on the roof of your vehicle can act like a sail. Due to the way air flows over certain vehicles, this can increase the effects of updraft. With this in mind and for the safety of yourself and others, ensure all loads are secured properly.

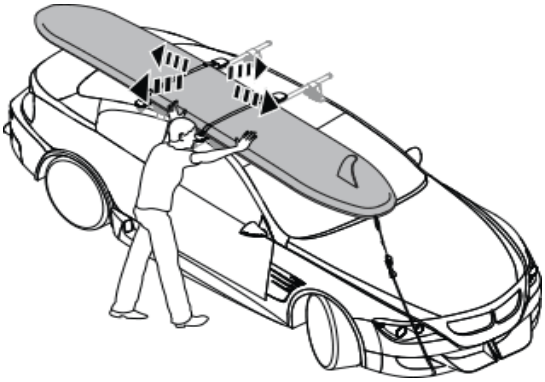
When loading your surf gear or kayak, ensure that it is mounted correctly using the tiedowns provided and is positioned centrally, parallel to the vehicle.



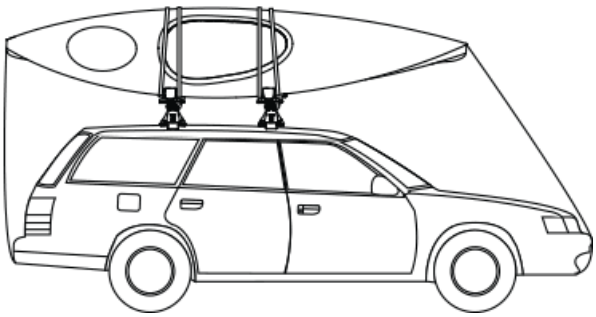


Ensure carried gear is properly secured front and back (e.g. kayaks), where appropriate.



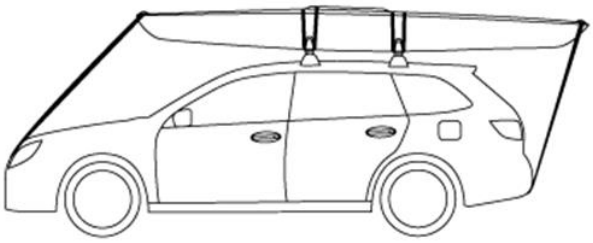


During long journeys, regularly check your gear and retighten all secure points.



WARNING

- Long loads should be secured with non-elastic straps to the front and rear of the vehicle.
- A loaded roof rack system can alter the performance of your vehicle. Be especially aware of the effects of side winds, changing of direction, and braking performance. Avoid rapid acceleration and deceleration. Drive carefully.
- Do not exceed the maximum load specified for the roof rack, accessory rack or the maximum load recommended by the vehicle manufacturer. Max Roof Load = weight of roof rack + weight of accessory racks + weight of load.
- NOTE - Maximum load limits apply in static and dynamic situations. Do not overload your vehicle roof or racks at any time regardless of your vehicle being stationary or in motion.
- Do not carry odd shaped or unstable objects such as furniture, mattresses, or any other objects that can not be securely tied down.
- In the event of product use on a vehicle that is driven off sealed roads the maximum load is reduced by 50% for clamp mounted systems and 33% for track, fixed point and other types of mounting systems.
- NOTE: Tie downs necessary to secure kayaks or similar long equipment front and rear (sold separately).



Supporting Roof Rack Loads

When carrying loads that extend beyond the roof racks there are aerodynamic forces that need to be considered and protected against.

As a vehicle travels through the air, the air is deflected around the vehicle; the picture below illustrates this quite well. Ahead of the car the streamlines are evenly spaced but as they travel over the car they are compressed, and the closer the spacing the higher the air velocity.

It can be seen that across the roof of the car the air velocity is higher than the car velocity and it should also be noted that ahead of the windscreen the air is travelling upwards and behind the rear window it is travelling downwards.

If a load extends forward of the front crossbar by any significant amount, the aerodynamic forces need to be considered, especially if the load is to be carried at motorway speeds.

Another consideration is whether the load is flexible, such as thin sheet materials like plasterboard or plywood, as they can bend upwards and catch much more air – producing an upwards force on the roof rack much greater than the weight of the load. It is not uncommon to see plasterboard debris on the road near hardware stores, where people have not considered the wind load on the sheets they have just bought and strapped to their roof racks. If carrying flexible materials it is a good idea to strap them to a stronger material such as a suitable piece or pieces of timber.

All loads with a significant area exposed to the wind should, in the first instance, be mounted so as to reduce the overhang at the front since the wind force is higher there. Next, if the area exposed is still high, they should be strapped down to the front (and rear) of the car to prevent lifting and in all cases this should be done with non-stretchy tie-downs.

Further to the aerodynamic effects, it is preferable to back up long flexible materials with a stiffer material and tie them down to prevent bounce when going over bumps such as speed-humps. These flexible materials can swing excessively causing breakage, in the case of plasterboard, or damage to the vehicle if contact is made with the boot or bonnet.