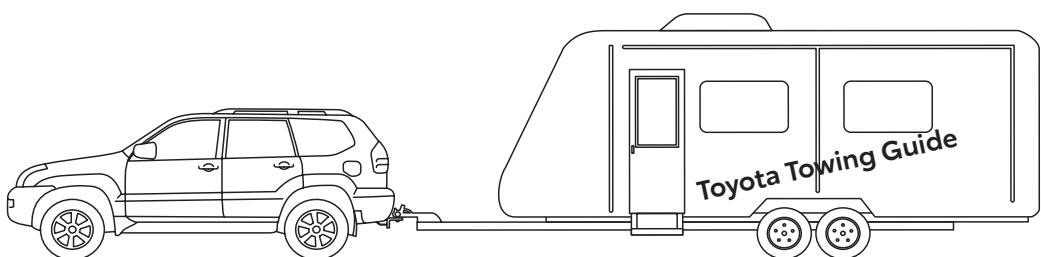


TOYOTA

Basic Towing Guide



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Towing Guide

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Towing Guide

Foreword

Now that you have purchased a Toyota vehicle, we would like to pass on some towing tips to make your driving experience safe and enjoyable.

Toyota Motor Corporation Australia recommends Toyota Genuine tow bars because they're designed to suit your vehicle and are manufactured to exacting standards, giving you the best possible performance and peace of mind.

Remember that Toyota Genuine tow bars and accessories, if installed by an authorised Toyota Dealer, are warranted for the remainder of the new vehicle warranty or 12 months, whichever is greater.

Disclaimer

This publication is intended as a general guide only and covers single or tandem type trailers or caravans, of less than 3.5 tonne, with a rigid axle being towed via a rigid drawbar using a ball type coupling. This publication is not intended for use with dog trailers or trailers of more than 3.5 tonne.

For the specific details for your vehicle, refer to your vehicle's Owner's Manual or your Toyota dealer.

Definitions

Definitions

Gross Vehicle Mass or Weight (GVM/GVW) * – The maximum laden weight of the vehicle; including the kerb weight of the vehicle plus driver, passengers, luggage, tow bar, bull bar, any other accessories and the tow ball down load.

Kerb Mass or Weight * – The weight of the vehicle including all options, fluids and full fuel tank, but not including accessories.

Tare Mass or Weight * – Is the same as Kerb Weight but with only 10 litres of fuel in the fuel tank instead of a full tank.

Gross Vehicle Axle Mass or Weight * – The maximum load on either the front or rear axle resulting from the distribution of the GVM.

Gross Trailer Mass (GTM) * – Is the mass transmitted to the ground by the tyres of the trailer when coupled to a vehicle and carrying the maximum load recommended by the manufacturer or importer, with the weight uniformly distributed over the load bearing areas (Generally 9% - 11% less than the ATM or GTW).

Gross Combination Mass or Weight * – The maximum allowable mass or weight of a towing vehicle and its trailer.

Aggregate Trailer Mass (ATM) or Gross Trailer Weight (GTW) * – The maximum allowable mass or weight of the trailer specified by the manufacturer. ATM is the sum of GTM plus the tow ball download.

* Specified by the manufacturer

Note:

All vehicle weights / mass and dimensions specified by the manufacturer are approximate and subject to individual variances. Vehicles should be individually weighed and measured before fitting any accessories, towing or designing any compatible trailer / caravan or otherwise using the vehicle in any way that depends on this value.

Loading

Weights

Before towing confirm that the total Gross Vehicle Mass (GVM), Gross Trailer Mass (GTM), trailer tow ball download and Gross Vehicle Axle Weight are all within the limits stated by the vehicle and trailer manufacturers.

For more information on vehicle towing see page 11.

The GVM can be found either in the "Trailer Towing" section of the vehicle Owner's Manual or on the vehicle compliance plate.

Trailer tow ball download weight must be included as part of the tow vehicle GVM.

Examples of varying load conditions:

Gross Vehicle Mass (GVM) = 2740 kg

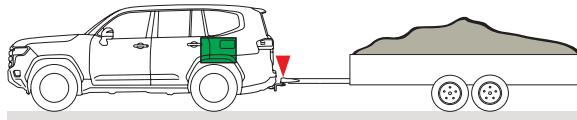
Gross Combination Mass (GCM) = 4600 kg

Gross Trailer Mass (GTM) = 2250 kg

■ = Vehicle Load

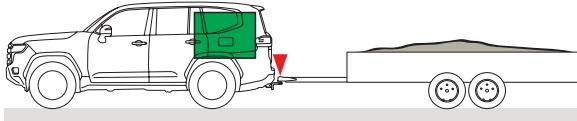
▼ = Trailer Tow Ball Download

If the trailer is loaded to maximum, then: $4600 \text{ kg} - 2250 \text{ kg} = 2350 \text{ kg}$ maximum allowable vehicle load.



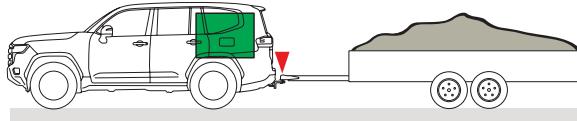
$$2350 \text{ kg} + 2250 \text{ kg (GTM)} = 4600 \text{ kg (At GCM)}$$

If the vehicle is loaded to maximum, then: $4600 \text{ kg} - 2740 \text{ kg} = 1860 \text{ kg}$ maximum allowable trailer load.



$$2740 \text{ kg} + 1860 \text{ kg (GTM)} = 4600 \text{ kg (At GCM)}$$

If the vehicle is loaded to maximum and the trailer is loaded to maximum, then: the total weight will exceed the allowable limit.

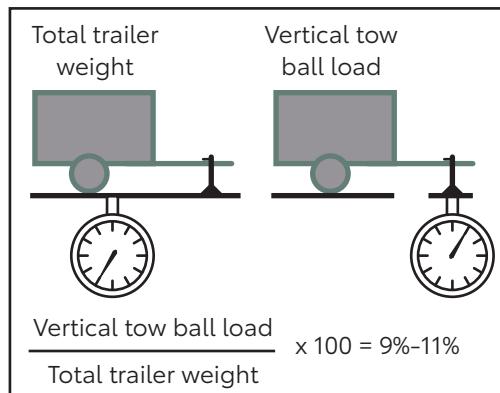


$$2740 \text{ kg} + 2250 \text{ kg (GTM)} = 4990 \text{ kg (Over GCM)}$$

Loading

Tow Ball Downloads

Trailer cargo load should be distributed so that the tow ball download is within the specification shown in the “Trailer Towing” section of the vehicle Owner’s Manual and tow bar ID plate. The tow ball download is a percentage of the total trailer weight and does not exceed the maximum load for the vehicle / tow bar design. In the following example the download is between 9%-11% of the total trailer weight.



Trailer tow ball download weight can be determined by weighing the trailer at the coupling point. Always have the tow ball coupling at the same height as it is when coupled to the vehicle in the loaded condition.

Note: Use of a Load Distribution Hitch (LDH) does not reduce the trailer tow ball download.

If the tow ball download is less than 7% do not use an LDH.

Trailer tow ball download weight must be included as part of the tow vehicle GVM.

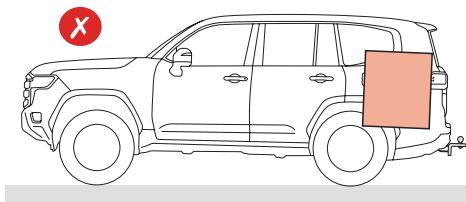
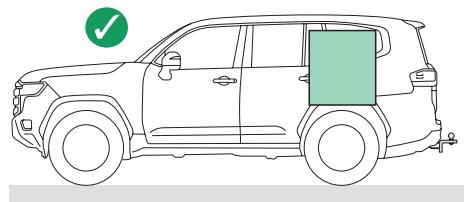
Vehicle Loading

Your vehicle is designed primarily as a passenger carrying vehicle. Towing any type of trailer will affect the vehicle’s handling, performance, braking, durability and fuel consumption.

For your safety and the safety of others, do not overload the vehicle or trailer.

Confirm your vehicle’s Gross Vehicle Mass or Weight (GVM), refer to the “Trailer Towing” section, of the vehicle Owner’s Manual or a Toyota dealer for information on your vehicle’s GVM.

Ensure that any load is placed as close as possible to the rear axle.

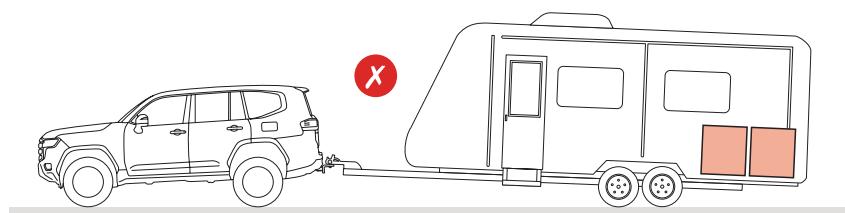
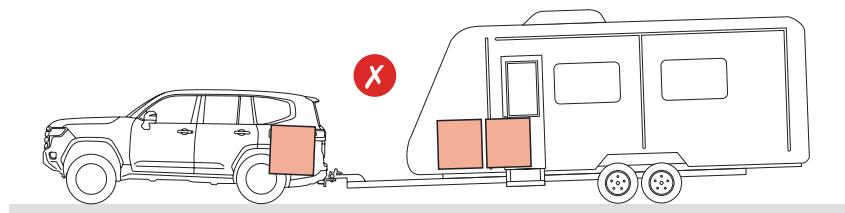
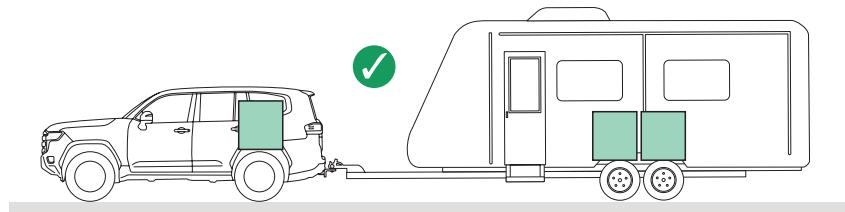


Trailer Loading

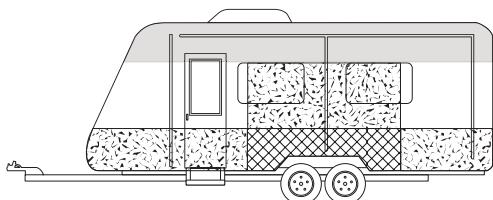
Always ensure heavy items are placed over the trailer axle/s and as low down as possible, whilst maintaining a tow ball download of between 9-11%.

Ensure that the trailer coupling is the same height as the vehicle coupling point. In the first instance, always distribute vehicle and trailer loads accordingly to achieve a relatively flat vehicle and trailer posture without the assistance of load levelling or load distribution devices.

Overloading a trailer will place undue stress on the components of the trailer, tow bar and tow vehicle.



Caravan Loading



- Heavy items
- Medium items
- Light items

Vehicle and Trailer Coupling

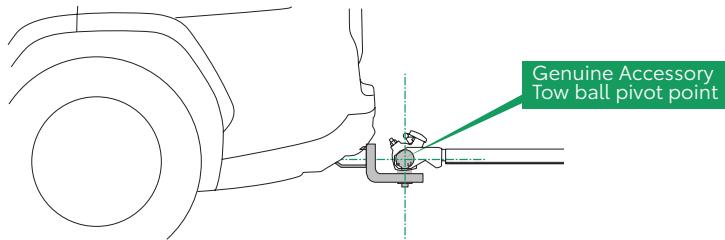
Vehicle and Trailer Coupling

Hitches

Always use a tow bar coupling appropriate for the type of towing to be undertaken, most commonly a 50 mm ball.

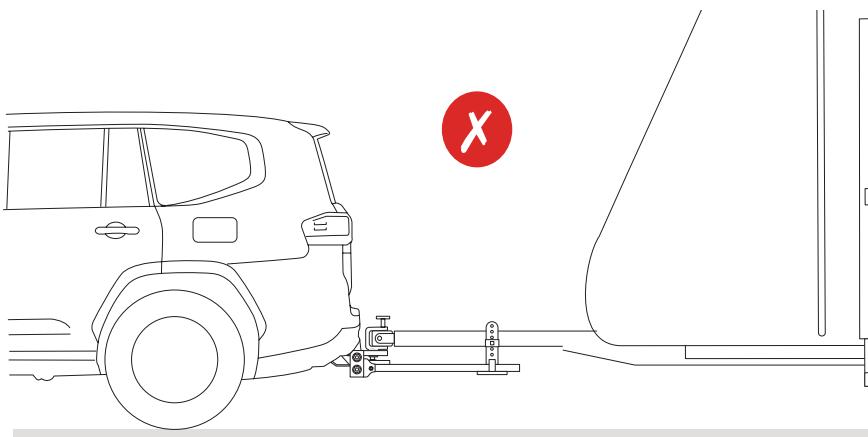
If travelling off road, use a high articulation towing coupling such as a Pintle, Hyland or Treg style, for more information refer to your Toyota dealer.

Always maintain the genuine tow bar pivot point (tow ball) position.



CAUTION

High articulation couplings when used with load distribution hitches (LDH's) should only be used for highway driving. Do not use for off-road driving (see page 8).



Vehicle and Trailer Coupling

The levelness of the trailer may be adjusted on some tow bars by inverting the tow ball tongue to more appropriately suit the trailer.

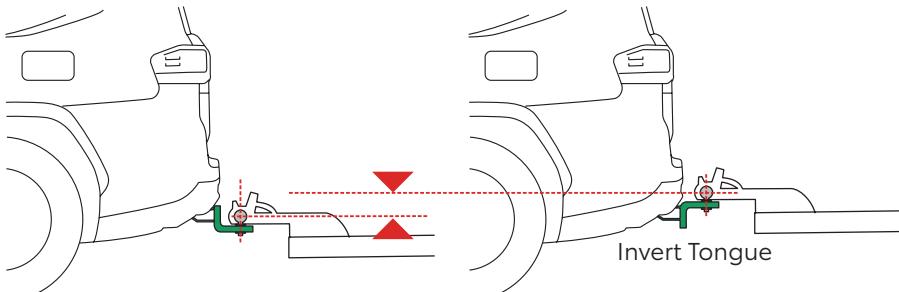
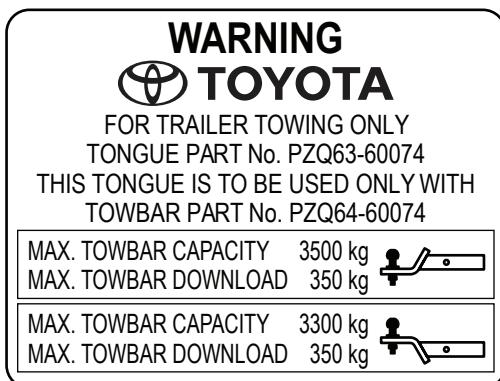


Illustration purpose only

Note:

- Some Toyota Genuine tow bar tongues are in the inverted position as standard.
- Some Toyota Genuine tow bar tongues cannot be inverted. Tow ball position can only be changed to allowable genuine tow bar designed positions. The load rating may change with a different orientation of the tow bar tongue.
- A tow bar that can be inverted will have a plaque fitted to the tow bar showing the position that it can be changed to and the load rating in the changed position.



Vehicle and Trailer Coupling

Load Distribution Hitches (LDH)

LDH's should only be used on highway style roads as a dynamic supplementary support to a correctly loaded vehicle / trailer combination.

Toyota recommends that only a Toyota Genuine Accessory Load Distribution Hitch (LDH) is used with Toyota Vehicles. Not all Toyota models can accommodate an LDH; refer to your vehicle's Owner's Manual for LDH compatibility with your vehicle.

- Genuine tow bar tow ball position must be maintained.
- Do not use with a high articulation coupling if driving off-road.
- Trailer override brakes are not recommended with the use of LDH's.
- LDH's should never be used to compensate for incorrectly loaded vehicle and trailer combinations.
- When negotiating the following conditions, the LDH spring bars must be disconnected:

When driving or reversing into or out of driveways.

Uneven or off-road terrain.

Short steep gutters.

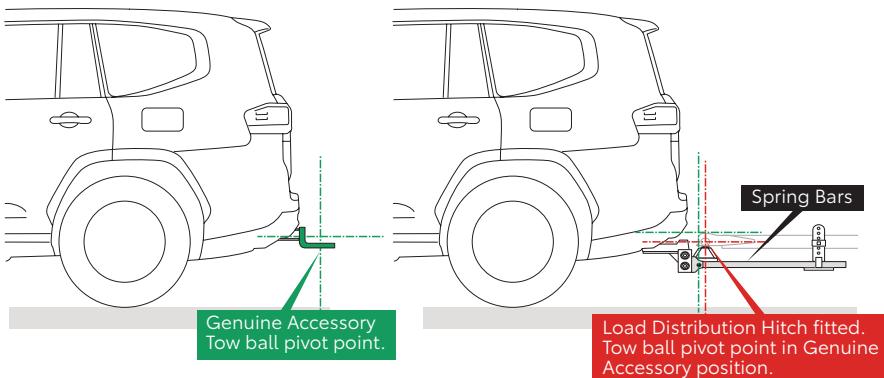
Access ramps.

Speed humps and dips.

Performing tight turns at slow speeds.

Travelling on severe undulating road surfaces.

Steep abrupt inclines or declines.



Special Note: Toyota bears no responsibility for verifying the suitability of using a non-genuine LDH in conjunction with a Toyota Genuine Towbar.

Operation of Vehicles and Trailers Coupled Together

Operation of Vehicles and Trailers Coupled Together

Stability

There are many factors that will have an affect on the stability of your vehicle and/or trailer/caravan.

Tyre pressures	Ensure all tyres and tyre pressures on the vehicle and trailer are to manufacturer's specifications.
Vehicle weight	Check that maximum loaded weight of the vehicle does not exceed the manufacturer's specification. Redistribute the load/weight in the vehicle and or trailer. Keeping in mind tow ball download.
Vehicle axle load	Ensure that the vehicle axle load is within manufacturer's specification. Refer to the vehicle Owner's Manual for more information.
Trailer weight	Check that maximum loaded weight of the trailer does not exceed the manufacturer's specification; or the tow bar towing capacity.
Combined weight	Check that the combined vehicle and trailer weight does not exceed manufacturer's specification. If necessary redistribute the load/weight in the vehicle and or trailer. Keeping in mind tow ball download and tow bar capacity.
Tow ball download	Ensure tow ball download is correct. Adjust tow ball download to between 9%-11% of trailer weight to achieve the best stability.
Driving styles	Change driving styles to suit trailer towing and road condition. No fast steering inputs, hard braking, or high speeds.
Blind Spot Monitoring System	Toyota recommends the Blind Spot Monitoring System is turned OFF when towing to prevent unnecessary activation.
Worn suspension	Check both vehicle and trailer for any worn or broken suspension components. Replace or repair accordingly.

Operation of Vehicles and Trailers Coupled Together

Vehicle/trailer alignment	Check the alignment of the suspension on both vehicle and trailer. Repair or adjust accordingly.
Cross winds	Be aware of crosswinds and sudden wind gusts, reduce your speed accordingly.
Larger vehicles	Be prepared for wind buffeting and trailer movement whilst near trucks.
Correct trailer	The trailer must be suited to your vehicle and your intended use.

Additional Important Information

Additional Important Information

Warranty Limitations

Operating the vehicle in an overloaded condition or outside of Toyota's recommendations may void the vehicle warranty, refer to your vehicle's **Warranty and Service Book**.

Towing Capacities

For vehicle towing capacities refer to the "Trailer Towing" section of the Owner's Manual, tow bar plaque, or your Toyota dealer.

Note:

- Ensure that your tow bar's towing capacity is capable of towing the load that you intend to apply to it.
- Vehicle weight, trailer weight and tow ball download can be measured at a public weigh bridge.

Regulations

Ensure that the trailer load distribution, axle loads, vehicle loading, trailer lights, trailer brakes and rear view mirrors comply with all Federal and State regulations.

Trailer Lights

Trailer lights must comply with Federal and State regulations. See your Toyota dealer for the correct type of wiring and relays for your trailer.

Check for correct operation of the trailer lights each time you attach the trailer.

Direct splicing of the light to the vehicle wiring harness may damage your vehicle's electrical system. See your Toyota dealer for more information.

Trailer Brakes

Toyota recommends that trailer brakes conform to all Federal and State regulations. When your trailer exceeds a certain weight, trailer brakes are required. For information on maximum un-braked trailer weight, refer to the vehicle Owner's Manual or your Toyota dealer.

Sway Control Device

If the total trailer weight is greater than the vehicle weight, use a sway control device. For more information, refer to the Owner's Manual or your Toyota dealer.

Additional Important Information

Trailer Towing Tips

Refer to your vehicle Owner's Manual or your Toyota dealer for towing tips for your vehicle.

Safety Chains

Safety chains must always be used when towing any trailer. Ensure that the safety chains conform to all Federal and State regulations.

Before Towing

Before you begin towing your trailer, Toyota strongly recommends that you carry out a pre-towing safety check.

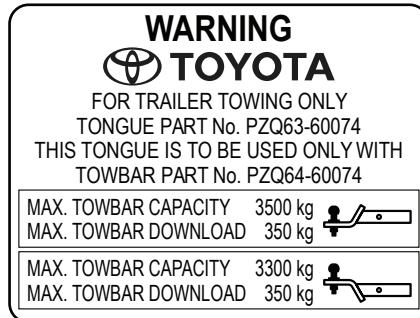
These checks include, but are not limited to:

- Correct vehicle tyre pressures
- Correct trailer tyre pressures
- Ensure the trailer lights operate correctly
- Correct installation of all towing equipment
- Ensure the tow ball is correctly tensioned
- Ensure the trailer cargo is securely loaded and tied down
- Ensure that all mirrors are installed

For more information, refer to your **Owner's Manual** or your **Toyota dealer**.

Tow Bar Tongue

The load rating may change with a different orientation of the tow bar tongue. A tow bar that can be inverted will have a plaque fitted to the tow bar showing the position that it can be changed to and the load rating in the changed position.



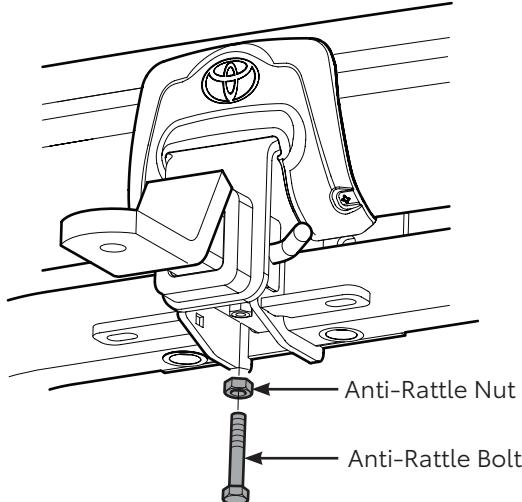
Additional Important Information

Anti-Rattle Bolt

Toyota recommends the removal of the tow bar tongue when not in use.

The anti-rattle bolt and nut (where fitted) is designed to prevent movement of the tow bar tongue when the tongue is unloaded.

The anti-rattle bolt must be removed when towing or damage to the tow bar may occur.



Tow Bar Modification

The tow bar is designed for trailer towing only. Do not modify the tow bar in any way as this may void the tow bar and vehicle warranties.

Maintenance

Vehicle:

Towing a trailer puts an additional load on your vehicle, therefore it will require more frequent servicing. For more information refer to the "Additional Maintenance" section of your **Warranty and Service Book** or your Toyota dealer.

Tow bar:

Frequent towing or towing of heavy loads, towing off-road or in rough conditions or any other operating conditions that require the vehicle to undergo severe servicing will mean that your tow bar also needs servicing.

Check all mounting bolts regularly. Toyota recommends checking at the time of vehicle periodic servicing.

Freeing The Vehicle Using A Rescue Tool

Freeing The Vehicle Using A Rescue Tool

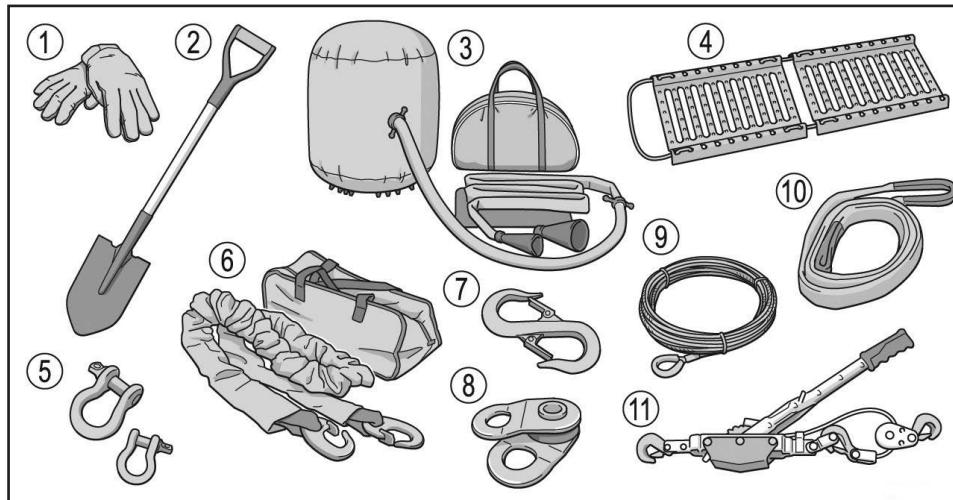
If you are unable to free the vehicle by yourself, it may be possible to free the vehicle using a rescue tool.

Special Note:

Use all rescue tools as necessary and in accordance with the situation following the tool manufacturer guidelines and specifications.

For a detailed explanation, refer to the tool's accompanying manual where applicable.

Examples of rescue tools are listed below:



1. Gloves

Useful for various tasks outside the vehicle.

2. Shovel

Can be used to remove earth, sand, etc. from around the tyre.

3. Air jack

Uses exhaust gas to raise the vehicle.

4. Sand ladder

Use by placing underneath a wheel with no grip.

5. U-shaped shackle

Used to attach straps, etc. when passed through the towing hook.

Freeing The Vehicle Using A Rescue Tool

6. Elastic towing rope

Used when the vehicle needs to be towed by another vehicle.

7. S-shaped hook

Used to connect the wire or the strap.

8. Pulley

Used to change direction from which the vehicle is being towed.

9. Wire cable

Used when winching.

10. Strap

Useful when used in place of the wire cable.

11. Hand winch

Used when freeing the vehicle.



NOTICE

Vehicle tie down points are not to be used in vehicle recovery.

Please refer to the Owner's Manual for towing hook locations.



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