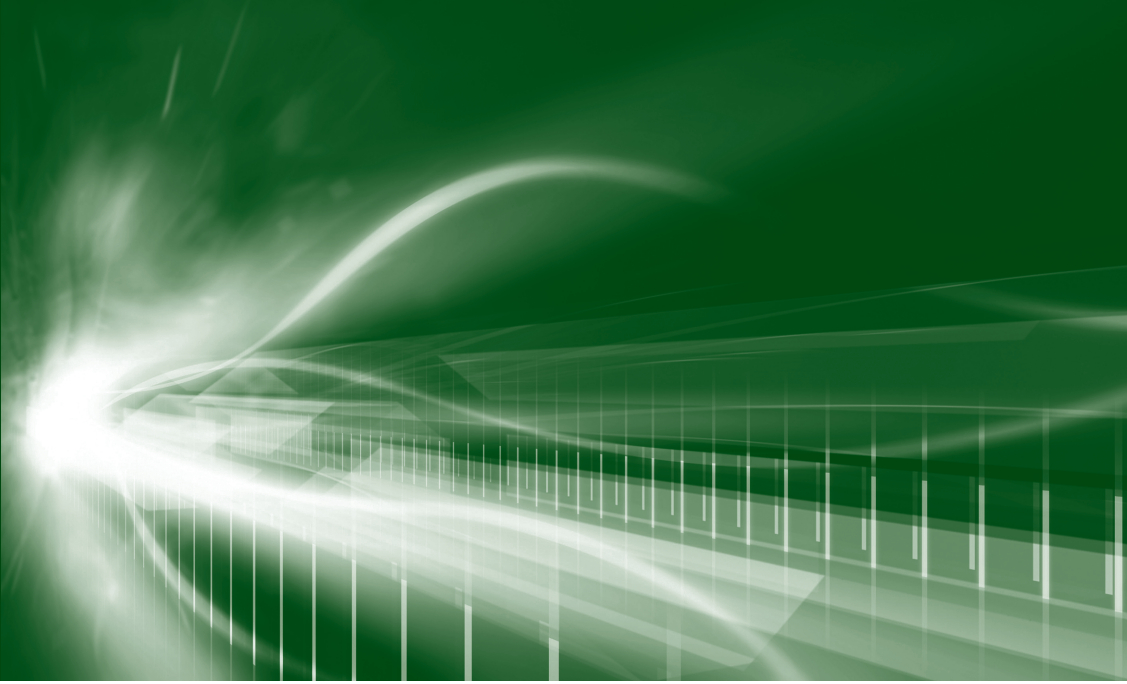

Advanced Information Guide for Australian Conditions

TOYOTA

Advanced Information Guide for Australian Conditions

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TOYOTA MOTOR CORPORATION AUSTRALIA LIMITED
A.B.N. 64 009 686 097

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02/08/2023

Advanced Information Guide for Australian Conditions

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Foreword

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

This Advanced Information Guide for Australian Conditions includes important vehicle information relating to Toyota Genuine Parts and Accessories, towing, diesel fuel systems, diesel fuel filter, severe usage and off-road driving.

Please take the time to read this booklet thoroughly and store it in the vehicle for future reference. For further information refer to the Owner's Manual and Warranty and Service Booklet.

If you have any questions contact your Authorised Toyota Service Centre.

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Toyota Genuine Parts and Accessories

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Why Choose Toyota Genuine Parts and Accessories

It is important to know the difference between Toyota Genuine Parts and Accessories and counterfeit parts and accessories.

1. **What are Toyota Genuine Parts and Accessories?**

   Toyota Motor Corporation Australia Limited **("Toyota Australia")** is the authorised distributor of Toyota motor vehicles, parts and services in Australia.

   In Australia, Toyota Genuine Parts are spare parts are available at Toyota Dealerships for the repair and maintenance of Toyota vehicles.

   Toyota Genuine Parts and Accessories are designed and developed for Toyota vehicles. Toyota designs and manufactures parts and accessories for vehicles to which stringent quality standards are applied. Every **Toyota Genuine Part** is rigorously tested and is built and engineered to attain the highest quality standards.

   Many components begin their development and testing up to 5 years before the launch of the vehicle, incorporating all requirements into the vehicle design to ensure absolute synergy with the vehicle's specifications and safety system compatibility.

2. **What are counterfeit parts and accessories?**

   Counterfeit parts and accessories are non-genuine copies of the manufacturer's original equipment parts. These non-genuine parts bear Toyota's trade marks, including Toyota's logos, to mislead consumers into thinking they are genuine.

   It is estimated that more than 70% of counterfeit parts and accessories are purchased online. Thousands of counterfeits are circulating through common online platforms such as eBay, Amazon, Gumtree and Facebook Marketplace.

3. **Risks of counterfeit Toyota parts and accessories.**

   Counterfeit parts are generally of significantly inferior quality than Genuine Toyota Parts and may pose serious risks to the safety of the driver, passengers, and to vehicle performance.

   If involved in a car accident, there is a chance that counterfeit parts and accessories will fail or cause more damage to the vehicle.

   Fitting a counterfeit part such as a spark plug, may cause engine misfires resulting in costly engine replacement. Installing counterfeit accessories such as a grille, may lead to cracking and durability problems, or potentially interfere with a vehicle's safety system.

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Brake failure, cracked wheels, engine damage and misfiring airbags are just some of the serious issues that can stem from the use of counterfeit parts in vehicle repairs and services.

4. **How to ensure that you only purchase Toyota Genuine Parts and Accessories.**

   Whether a Toyota vehicle needs replacement parts following a collision, during a service and maintenance or fitting accessories for your next big adventure, it is essential that Toyota Genuine Parts and Accessories are fitted.

   Sourcing parts outside of Toyota Australia's authorised Dealership may increase the chances of being exposed to counterfeit products. To be sure you are purchasing Toyota Genuine Parts and Accessories, always visit your local Toyota Dealership.

5. **Reporting suspicious counterfeit activity.**

   Think you've purchased or been offered counterfeit parts? Report any suspicious activity to **brandprotection@toyota.com.au**.

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Towing Guide

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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.

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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 →**P. 2-12**.

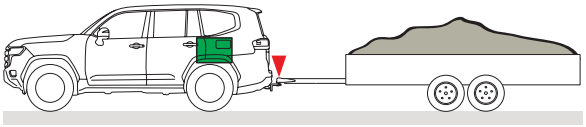
The GVM can be found either in the "Trailer Towing" section of the vehicle Owner's Manual or on the vehicle compliance plate.

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

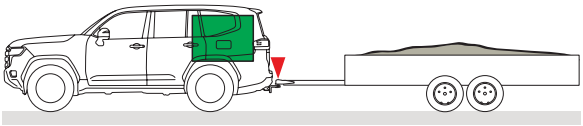
■ = Vehicle Load ▼ = Trailer Tow Ball Download

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



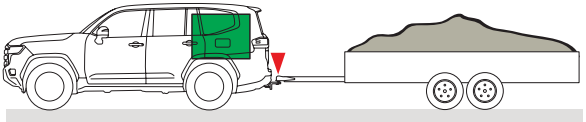
2350 kg + 2250 kg (GTM) = 4600 kg (At GCM)

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



2740 kg + 1860 kg (GTM) = 4600 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 kg + 2250 kg (GTM) = **4990 kg (Over GCM)**

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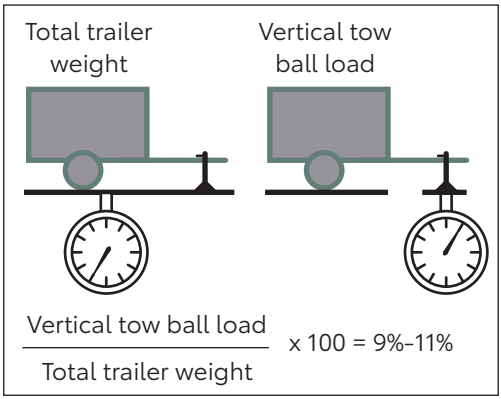
Tow Ball Downloads

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.

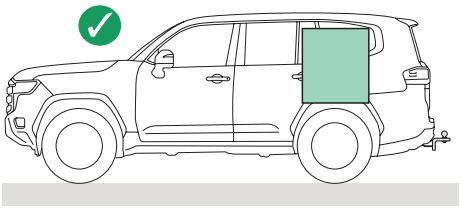
Vehicle Loading

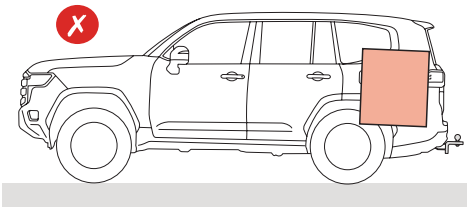
Your vehicle is designed primarily as a passenger carrying vehicle. Towing any type of trailer will affect the vehicle's handling, performance, braking, durability and fuel consumption.

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.



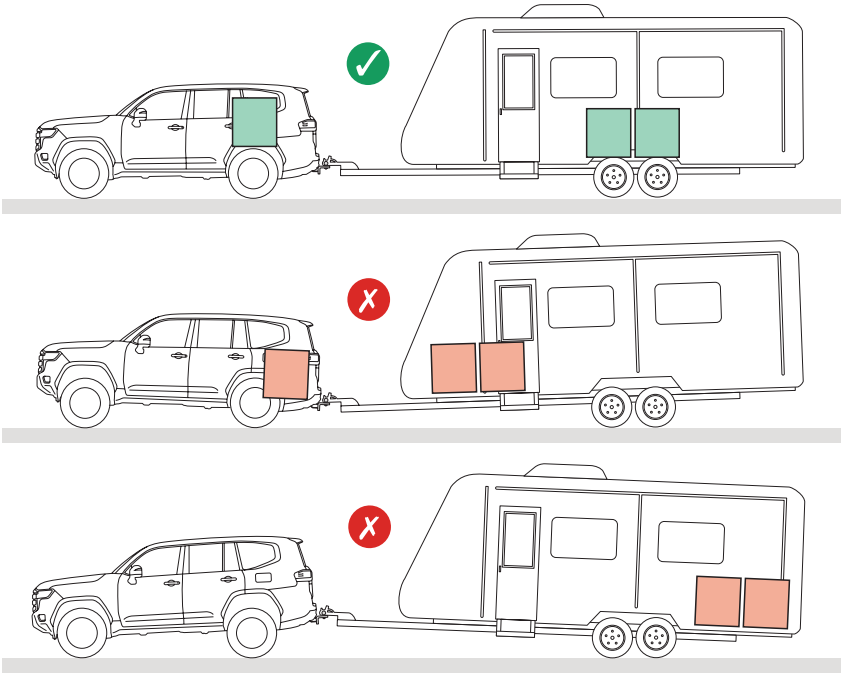


Trailer Loading

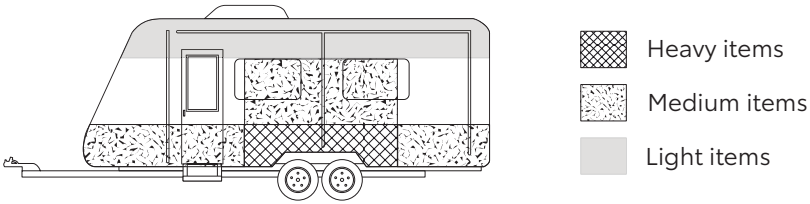
Always ensure heavy items are placed over the trailer axle/s and as low down as possible, whilst maintaining a tow ball download of between 9-11%.

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



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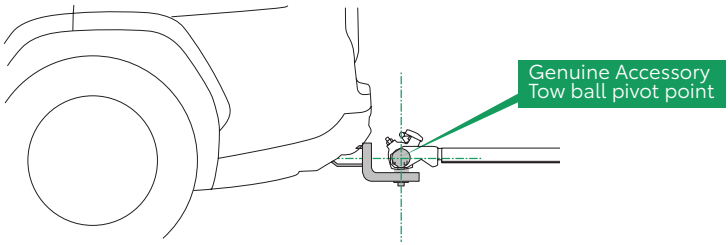
Vehicle and Trailer Coupling

Hitches

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

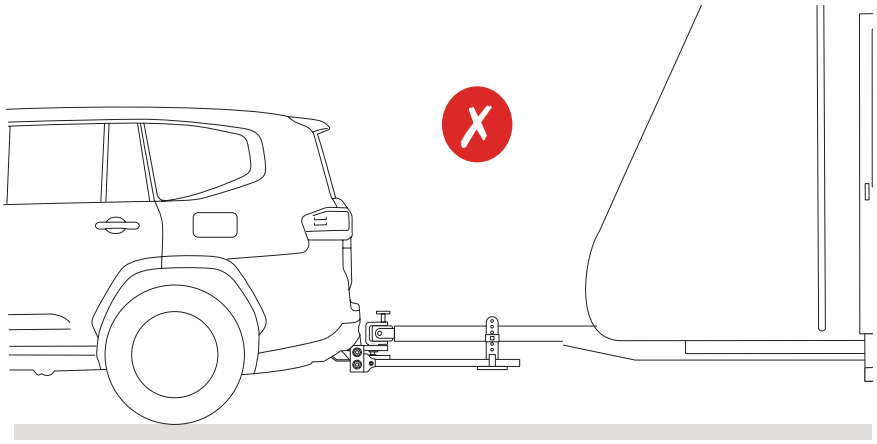
If travelling off road, use a high articulation towing coupling such as a Pintle, Hyland or Treg style, for more information refer to your Toyota dealer.

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 (→**P. 2-9**).



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

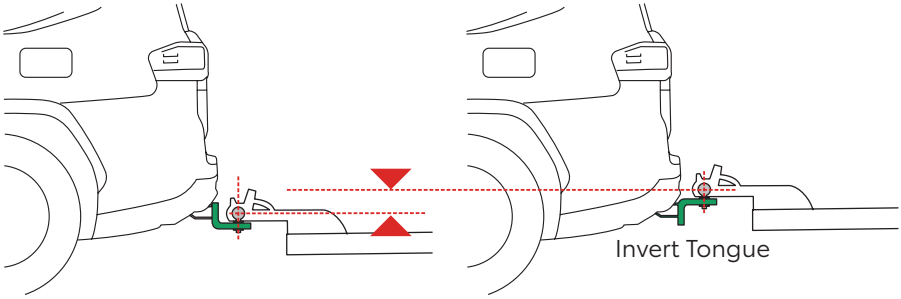
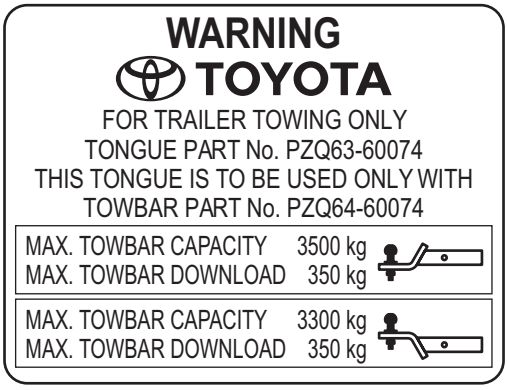


Illustration purpose only

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.



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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.

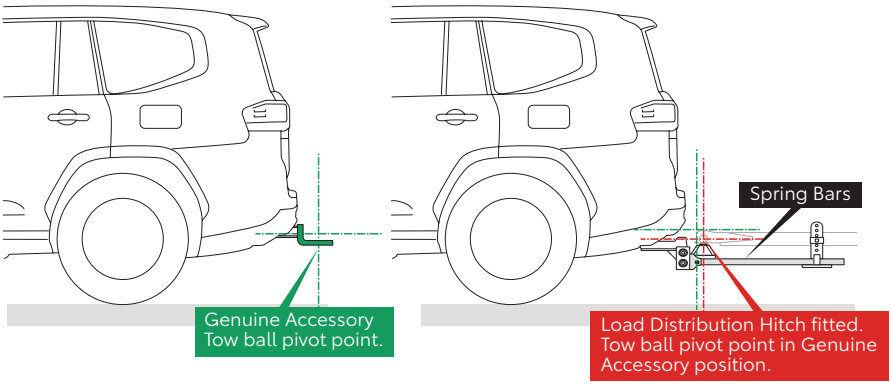
  Access ramps.

  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

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.

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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

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.

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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.

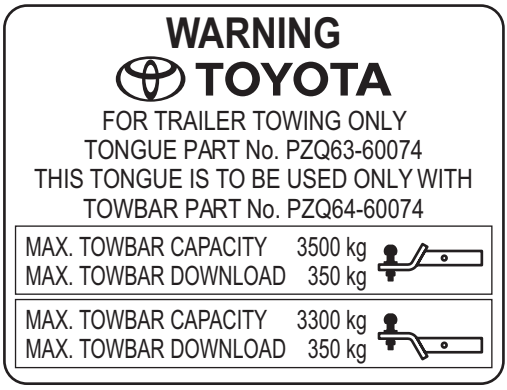
These checks include, but are not limited to:

- 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.

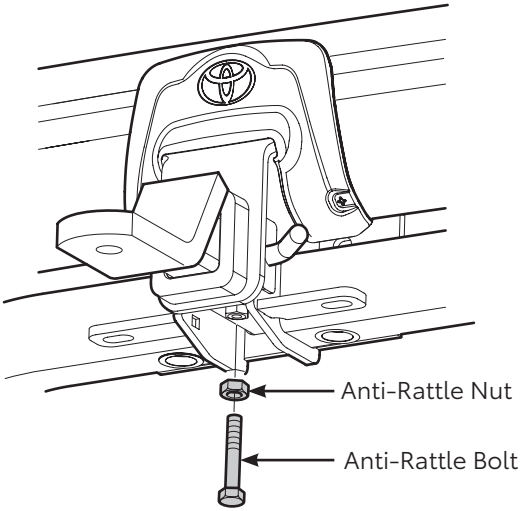


Anti-Rattle Bolt

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.

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Diesel Particulate Filter Information

Contents

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Glossary of Terms

Auto Regeneration: When PM (soot) collected by the DPF reaches a certain level, it triggers a process of fuel injection which increases exhaust temperature. This way, even if the vehicle is not travelling at high speed, the exhaust becomes hot enough to burn off the PM (soot) collected in the DPF.

CO: Carbon monoxide.

DOC: Diesel Oxidation Catalyst.

DPF: Diesel Particulate Filter.

ECM: Engine Control Module.

HC: Hydrocarbons.

Limp Mode: "Limp Mode" occurs when the ECM detects a problem with the vehicle. When a signal value sent by a sensor to the ECM is not within a specified range, the vehicle will switch to "limp mode" as a precautionary measure. The vehicle can still be driven safely, although at a lower speed and the vehicle should be inspected by a Toyota dealer immediately. The driver will experience a gradual reduction in maximum power output and limited gear selection (automatic vehicles only). The vehicle may be less responsive to acceleration and gear changes may become more pronounced.

Manual Regeneration: Regeneration is initiated by the driver using a DPF switch fitted in the vehicle. In order for manual regeneration to occur, the driver must push the DPF switch when the vehicle is stationary with the engine running. Engine RPM will increase until the exhaust becomes hot enough to burn off the PM (soot) collected in the DPF.

MID: Multi Information Display.

MIL: Malfunction Indicator Lamp.

w-MID: Vehicles without Multi Information Display.

PM: Particulate Matter; also referred to as "soot" in this DPF Information Booklet.

PPE: Personal Protection Equipment.

Regeneration: A regeneration is a cycle completed within the DPF to clean the filter of accumulated PM (soot).

RPM: Engine speed (Revolutions Per Minute).

W/: With.

W/O: Without.

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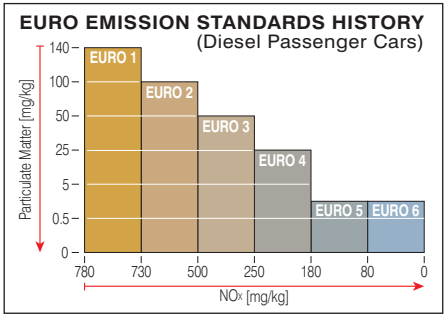
DPF System Introduction

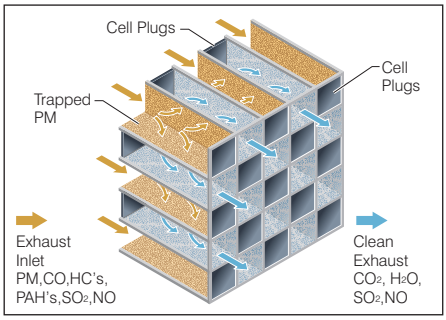
Background

This vehicle is equipped with a DPF. In 2011, Australian regulations adopted the EURO 5 vehicle emissions standards which require all registered diesel vehicles to be equipped with an emission reduction device. Toyota Australia has adopted the DPF system to meet emission targets.



How a DPF System Works

The DPF is a filter system that processes exhaust gas through a combination of filtration, thermal and chemical reactions. DPF systems are designed to reduce the emission of hydrocarbons (HC), carbon monoxide (CO) and PM (soot).

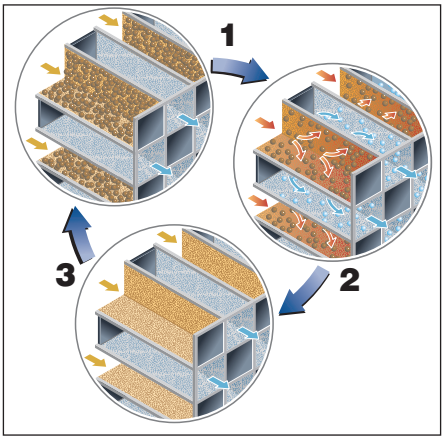


The DPF is housed in a unit which also contains the DOC. Using a porous ceramic monolith wall-flow filter, and chemical reactions, the DOC enables the oxidation of engine emissions into carbon dioxide and water, which then pass through the DPF to the exhaust. The DPF captures and oxidises PM (soot), which is emitted through the exhaust as carbon dioxide.

DPF System Auto Regeneration Operation

The regeneration process occurs automatically . During regeneration the ECM injects small quantities of fuel into the exhaust after combustion, increasing the temperature within the exhaust system and creating an environment where it is possible to burn off the accumulated PM (soot).

In some cases, the regeneration process may not occur or may be interrupted by certain operating conditions such as low speed, prolonged idling and engine stop / start, etc.



1: PM (soot) threshold met

2: DPF regeneration

3: Clean DPF

If the process does not occur or is interrupted, the ECM is programmed to recommence the regeneration process again when the vehicle is in motion or the engine is restarted, and the requisite temperature has again been reached.

The above mentioned operating conditions may sometimes not allow the DPF to reach the optimum temperature to complete auto regeneration. If this occurs, manual intervention may be required using the DPF switch.

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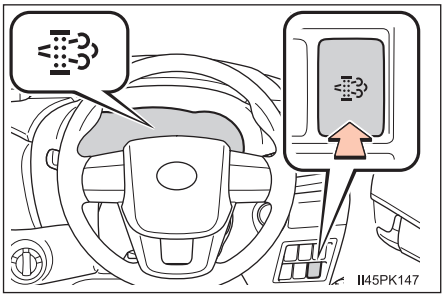
Manual Regeneration Operation



All Toyota Diesel models built from June 2018 are equipped with a manual regeneration switch. When activated, this will force regeneration of the DPF.

Provided there is sufficient PM (soot) in the DPF, manual regeneration can be activated when a driver chooses to do so. It may also become necessary in circumstances including the following:

Note: During manual regeneration engine speed will increase and drivers will notice a higher rpm.

Auto Regeneration was Unsuccessful

Under certain operating conditions, regeneration may not be completed for some time. At this point, the DPF will become saturated with PM (soot) and a DPF warning lamp will illuminate, or a notification will be displayed on the MID to indicate to the driver to take corrective measures. Further details can be found in the Owner's Manual and this Information Booklet.

Driving in Long Grass / Vegetation

It is recommended that drivers perform a manual regeneration prior to operating the vehicle in long grass and vegetation.

Method for Performing Manual Regeneration

Step 1: Park the vehicle safely in a well-ventilated open space, free of any flammable material (including long grass and vegetation). Shift the transmission into "Park" with the engine running and apply the parking brake.

Step 2 for:

Land Cruiser 70 Series (up to September 2023 / 200 Series / 300 Series)

Coaster

Prado (up to July 2020 Production)

Hiace (KD Engine)

Hilux and Fortuner (up to May 2020 Production)

Press the DPF Switch.

Manual Regeneration Operation

Step 2 for:

Land Cruiser 70 Series (September 2023 Production onwards)

Hiace and Granvia (GD Engine)

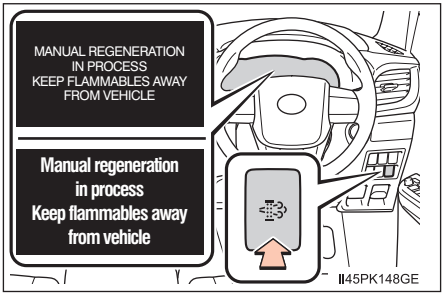
Hilux and Fortuner (May 2020 Production onwards)

Prado (August 2020 Production onwards)

Press and **hold** the DPF Switch.

Step 3: The DPF system warning lamp flashes or a warning notification MANUAL REGENERATION IN PROCESS is displayed and the engine idling speed will increase.

Step 4: Manual regeneration can take up to 30 minutes to complete. Once completed the warning notification or DPF lamp will turn off and the engine's idling speed returns to normal.



⚠ CAUTION

- **DO check underside of vehicle and remove any accumulated vegetation before performing manual regeneration.**
  Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.
- **DO NOT perform manual regeneration in long grass or vegetation.**
- **DO NOT press the accelerator pedal during manual regeneration, as this will cancel the manual regeneration process.**

Note: Image is for illustration purposes only and the notifications displayed will vary depending upon the vehicle model.

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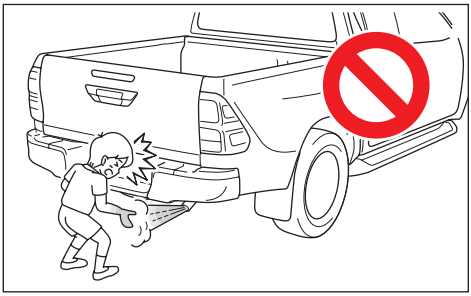
DPF Warnings

Observe the following warnings. Failure to do so may result in serious injury such as burns caused by the hot exhaust pipe and gases or may cause a fire.

General Warnings

- Do not drive the vehicle over, or stop the vehicle near, flammable materials. The exhaust system and exhaust gases can be extremely hot. These hot components may cause a fire if there is any flammable material nearby.
- Keep people and combustible materials away from the exhaust pipe while the engine is running. The exhaust gas is very hot.
- Do not idle or park the vehicle where flammable materials such as grass, leaves, paper or rags might burn easily.
- Do not pull- or push-start the vehicle, it may damage the vehicle or cause a collision when the engine starts. The catalytic converter may overheat and become a fire hazard.
- Do not use fuel and engine oil other that the specified / recommended type.
- Do not modify the vehicle exhaust.
- Remove grass / vegetation from the underside of the vehicle, following the removal procedure. Refer to “Off Road / Rural Use – Cleaning Procedure” →**P. 3-42**.
- Ensure the engine has been turned off and cooled down before performing any maintenance work.



DPF Warnings

Manual Regeneration Warnings

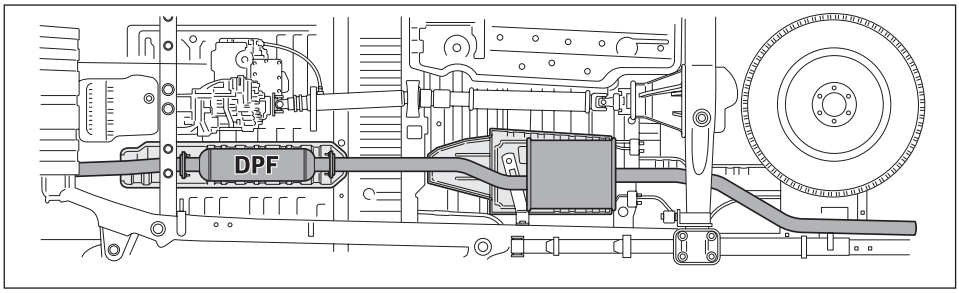
- Do not perform regeneration when the vehicle is in an enclosed area, such as a garage, etc.
- Do not touch the exhaust pipe and exhaust gases during manual regeneration.
- The DPF switch may not operate when the vehicle is higher than 4000 m (13,123 ft) above sea level.
- Do not drive for long periods of time while the following are illuminated and have your vehicle inspected immediately by your Toyota Dealer:

  W/ MID: DPF system warning notification “DPF FULL Visit Your Dealer” appears on the display.

  W/O MID: DPF indicator malfunction light is flashing and / or accompanied with the malfunction indicator lamp (MIL).
- Remove grass / vegetation from the underside of the vehicle by following the removal procedure. Refer to “Off Road / Rural Use – Cleaning Procedure” →**P. 3-42**.

Off Road and Rural Use

The exhaust / DPF system operates at high temperature during regeneration. If operating the vehicle in long grass / vegetation is unavoidable, the driver should periodically inspect the under-body of the vehicle and remove accumulated grass / vegetation prior to the regeneration cycle.



02/08/2023

Hilux / Fortuner – GD Engine (up to May 2020 Production)
Prado – GD Engine (up to July 2020 Production)

How Often Will an Automatic Regeneration Occur?

Automatic regeneration will occur approximately every 100 to 300 km depending on vehicle operation.

How Long Does an Automatic Regeneration Take?

Automatic regeneration can take up to 30 minutes depending on vehicle operation.

Characteristics of a DPF Regeneration

The DPF system may have the following characteristics during regeneration:

- Idle speed increase to 1200 rpm (M/T) / 900 rpm (A/T) when stationary;
- Noticeably different exhaust smell when compared to a conventional diesel smell;
- A small amount of white smoke may be emitted from the exhaust tail pipe during regeneration. However, this does not indicate a malfunction;
- It is possible that a small amount of smoke may be emitted from the underside of the vehicle due to small trapped grass / vegetation matter. Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.

Note: If automatic regeneration operates during engine idle (i.e. vehicle stationary) the engine rpm will be increased up to 1200 rpm. If the vehicle continues to idle without the engine ECM receiving a vehicle speed signal for approximately 5 minutes or the engine is switched off, the automatic regeneration will be postponed until a vehicle speed signal (i.e. without vehicle driving / moving off again) is received, at which point automatic regeneration will resume.

DPF System Operation

When the system is using the default manufacturer setting, manual regeneration cannot be started by pressing the DPF switch unless the PM (soot) in the DPF has reached a particular level.

Automatic Regeneration

Automatic regeneration will start at a pre-determined level. However, if the operating conditions are not ideal, the ECM will continue to attempt to complete the regeneration until DPF warning message "DPF Filter Partially Full" is displayed.

Default DPF Switch operation

The Driver can use the DPF switch to perform the following function:

1. **To Initiate Manual Regeneration:** Press the DPF switch to start manual regeneration, this function will be available when either of the following messages are displayed (See "Warning Notification Matrix" →**P. 3-14**);
   a. **Vehicles without MID** - DPF light will flash at 0.5 second intervals;
   b. **Vehicles with MID** - DPF warning message "DPF Filter Partially Full" will be displayed.

Custom Mode Manual Regeneration

By having the system set to custom mode, manual regeneration can be started by pressing the DPF switch when there is a much lower level of PM (soot) in the DPF. This enables the driver more flexibility as to when manual regeneration can be activated.

DPF Switch Operation with Custom Mode Installed

The Driver can use the DPF switch to perform the following function:

1. **Initiate Manual Regeneration:** Press the DPF switch to start manual regeneration, this function will be available when either of the following messages are displayed (See "Warning Notification Matrix" →**P. 3-14**);
   a. Vehicles without MID - DPF Light illuminates for 5 seconds on vehicle start up;
   b. Vehicles with MID - DPF warning message 'DPF Manual Regeneration available' will display for 5 seconds on vehicle start up.

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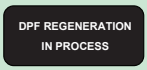
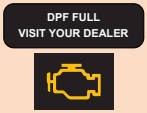
		Manual Regeneration Available	
DPF PM Level	**Automatic Regeneration**	**Without Custom Mode**	**With Custom Mode**
Low	–	–	–
	–	–	●
	–	–	●
	●	–	●
	●	–	●
	●	–	●
	●	●	●
	–	●	●
	–	●	●
Full	–	–	–
Legend: * Auto Regeneration Start Point			

A warning notification will illuminate to alert the driver of the following stages.
See “Warning Notification Matrix” on the next page.

Warning Notification Matrix

		Instrument Cluster Type	Warning Description	Warning Notification Image	Driver Action If Required
Normal Operation	Manual Regeneration Available Notification on Start-Up	Without MID	DPF Light illuminates for 5 seconds		No driver action required – normal operation
		With MID	DPF Notification appears for 5 seconds		
	Automatic Regeneration Warning Notification	Without MID	DPF Light will flash at 1 second intervals for approx. 20-30 min		
		With MID	DPF Notification appears for 20-30 min		
Driver Intervention Required	DPF Filter Partially Full – Requires Driver Intervention	Without MID	DPF Light will illuminate		Drive vehicle at over 60 km/h for approx 30 min until DPF lamp or notification in Multi Information Display extinguishes (if equipped)
		With MID	DPF Notification will appear		
	DPF Filter Full – Requires Driver Intervention Urgently	Without MID	DPF Light will flash at 0.5 second intervals		STOP in a safe location and perform a manual regeneration
		With MID	DPF Warning Notification will appear		
Dealer Intervention Required ASAP	DPF Filter Full Requires Dealer	Without MID	DPF Light and MIL will illuminate	Flashing ON 	Driver action is not possible and vehicle will need to be inspected by the nearest Toyota Dealer
		With MID	DPF Warning Notification will appear and MIL will illuminate		

Note: To confirm instrument cluster type please refer to your vehicle Owner's Manual.

Note: Warning notifications can be customised to alert the driver when regeneration is occurring or available. This can be enabled by any Toyota Dealer.

If the malfunction indicator lamp (MIL) illuminates and you continue driving while the DPF system warning light is on or flashing, as a precaution, the ECM may activate limp mode and reduce engine power.

02/08/2023

Hilux / Fortuner – GD Engine (May 2020 Production onwards)
Prado – GD Engine (August 2020 Production onwards)

How Often Will an Automatic Regeneration Occur?

Automatic regeneration will occur approximately every 100 to 300 km depending on vehicle operation.

How Long Does an Automatic Regeneration Take?

Automatic regeneration can take up to 30 minutes depending on vehicle operation.

Characteristics of a DPF Regeneration

The DPF system may have the following characteristics during regeneration:

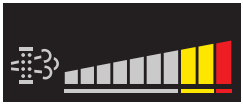
- Idle speed increase to 1200 rpm (M/T) / 900 rpm (A/T) when stationary;
- Noticeably different exhaust smell when compared to a conventional diesel smell;
- A small amount of white smoke may be emitted from the exhaust tail pipe during regeneration. However, this does not indicate a malfunction;
- It is possible that a small amount of smoke may be emitted from the underside of the vehicle due to small trapped grass / vegetation matter. Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.

Note: If automatic regeneration operates during engine idle (i.e. vehicle stationary) the engine rpm will be increased up to 1200 rpm. If the vehicle continues to idle without the engine ECM receiving a vehicle speed signal for approximately 5 minutes or the engine is switched off, the automatic regeneration will be postponed until a vehicle speed signal (i.e. without vehicle driving / moving off again) is received, at which point automatic regeneration will resume.

DPF System Operation

When the system is using the default manufacturer setting, manual regeneration cannot be started by pressing the DPF switch unless the PM (soot) in the DPF has reached a particular level.

DPF PM (Soot) Indicator

Location	DPF PM Indicator Level
Odometer	

Note: Press the DPF switch to display the DPF PM Indicator.

Automatic Regeneration

Automatic regeneration will start at PM Level 4. However, if the operating conditions are not ideal, the ECM will continue to attempt to complete the regeneration up to PM Level 7.

Default DPF Switch Operation

The Driver can use the DPF switch to perform the following 2 functions:

1. **Display DPF PM Indicator Level:** Short press of DPF switch to display DPF PM Indicator Level;
2. **Initiate Manual Regeneration:** Press and **hold** the DPF switch to start manual regeneration, this function will only be available at DPF PM Indicator Level 7 to Level 9.

Custom Mode Manual Regeneration

By having the system set to customise mode, manual regeneration can be started by pressing the DPF switch when there is a much lower level of PM (soot) in the DPF. This enables the driver more flexibility as to when manual regeneration can be activated.

DPF Switch Operation with Custom Mode Installed

The Driver can use the DPF switch to perform the following;

1. **Display DPF PM Indicator Level:** Short press of the DPF switch to display DPF PM Indicator Level;
2. **Initiate Manual Regeneration:** Press and **hold** the DPF switch to start manual regeneration. This function will be available at DPF PM Indicator Level 2 to Level 9.

		Manual Regeneration Available	
DPF PM Indicator Level	**Automatic Regeneration**	**Without Custom Mode**	**With Custom Mode**
0	–	–	–
1	–	–	–
2	–	–	●
3	–	–	●
4*	●	–	●
5	●	–	●
6	●	–	●
7	●	●	●
8	–	●	●
9	–	●	●
10	–	–	–
Legend: * Auto Regeneration Start Point			

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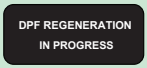
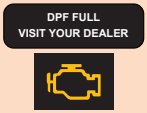
A warning notification will illuminate to alert the driver of the following stages. See "Warning Notification Matrix" below.

Warning Notification Matrix

		Warning Description	Warning Notification Image	Driver Action If Required
Normal Operation	Manual Regeneration Available Notification on Start-Up	DPF Notification appears for 5 seconds		No driver action required – normal operation
	Automatic Regeneration Warning Notification	DPF Notification appears for 20–30 min		
Driver Intervention Required	DPF Filter Partially Full – Requires Driver Intervention	DPF Notification will appear		Drive vehicle at over 60 km/h for approx 30 min until DPF lamp or notification in Multi Information Display extinguishes (if equipped)
	DPF Filter Full – Requires Driver Intervention Urgently	DPF Warning Notification will appear		STOP in a safe location and perform a manual regeneration
Dealer Intervention Required ASAP	DPF Filter Full Requires Dealer	DPF Warning Notification will appear and MIL will illuminate		Driver action is not possible and vehicle will need to be inspected by the nearest Toyota Dealer

Note: To confirm instrument cluster type please refer to your vehicle Owner's Manual.

Note: Warning notifications can be customised to alert the Driver when regeneration is occurring or available. This can be enabled by any Toyota Dealer.

If the malfunction indicator lamp (MIL) illuminates and you continue driving while the DPF system warning light is on or flashing, as a precautionary measure, the ECM may activate limp mode and reduce engine power.

Land Cruiser 70 Series – VD Engine (up to September 2023 Production)

How Often Will an Automatic Regeneration Occur?

Automatic regeneration will occur approximately every 100 to 150 km depending on vehicle operation.

How Long Does an Automatic Regeneration Take?

Automatic regeneration can take up to 30 minutes depending on vehicle operation.

Characteristics of a DPF Regeneration

The DPF system may have the following characteristics during regeneration:

- Idle speed increase to 750 rpm when stationary;
- Noticeably different exhaust smell when compared to a conventional diesel smell;
- A small amount of white smoke may be emitted from the exhaust tail pipe during regeneration. However, this does not indicate a malfunction;
- It is possible that a small amount of smoke may be emitted from the underside of the vehicle due to small trapped grass / vegetation matter. Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.

Note: If automatic regeneration operates during engine idle (i.e. vehicle stationary) the engine rpm will be increased up to 750 rpm. If the vehicle continues to idle without the engine ECM receiving a vehicle speed signal for approximately 5 minutes, or the engine is switched off, the automatic regeneration will be postponed until a vehicle speed signal (i.e. without vehicle driving / moving off again) is received, at which point automatic regeneration will resume.

DPF System Operation

When the system is using the default manufacturer setting, manual regeneration cannot be started by pressing the DPF switch unless the PM (soot) in the DPF has reached a particular level.

DPF PM (Soot) Indicator

Location	DPF PM Indicator Level
Odometer	

02/08/2023

Automatic Regeneration

Automatic regeneration will start at PM Level 4. However, if the operating conditions are not ideal, the ECM will continue to attempt to complete the regeneration up to PM Level 7.

Default DPF Switch operation

The Driver can use the DPF switch to perform the following function;

1. **Initiate Manual Regeneration:** Press the DPF switch to start manual regeneration, this function will only be available at DPF PM Indicator Level 7 to Level 9.

Custom Mode Manual Regeneration

By having the system set to customise mode, manual regeneration can be started by pressing the DPF switch when there is a much lower level of PM (soot) in the DPF. This enables the driver more flexibility as to when manual regeneration can be activated

DPF Switch Operation with Custom Mode Installed

The Driver can use the DPF switch to perform the following function:

1. **Initiate Manual Regeneration:** Press the DPF switch to start manual regeneration. This function will be available at DPF PM Indicator Level 2 to Level 9.

		Manual Regeneration Available	
DPF PM Indicator Level	Automatic Regeneration	Without Custom Mode	With Custom Mode
0	–	–	–
1	–	–	–
2	–	–	●
3	–	–	●
4*	●	–	●
5	●	–	●
6	●	–	●
7	●	●	●
8	–	●	●
9	–	●	●
10	–	–	–
Legend: * Auto Regeneration Start Point			

A warning notification will illuminate to alert the driver of the following stages. See “Warning Notification Matrix” on the next page.

Warning Notification Matrix

Up to June 2021 Production:

		Instrument Cluster Type	Warning Description	Warning Notification Image	Driver Action If Required
Driver Intervention Required	DPF Filter Partially Full – Requires Driver Intervention	All	DPF Light will illuminate. DPF level meter = 7		Drive vehicle at over 60 km/h for approx 30 min until DPF lamp or notification in Multi Information Display extinguishes (if equipped)
	DPF Filter Full – Requires Driver Intervention Urgently		DPF Light will flash. DPF level meter = 9		STOP in a safe location and perform a manual regeneration
Dealer Intervention Required ASAP	DPF Filter Full Requires Dealer	All	DPF Light and MIL will illuminate. DPF level meter = 10		Driver action is not possible and vehicle will need to be inspected by the nearest Toyota Dealer

June 2021 Production up to September 2023 Production:

		Instrument Cluster Type	Warning Description	Warning Notification Image	Driver Action If Required
Normal Operation	Automatic Regeneration	All	DPF Light will illuminate		No driver action required. Normal operation
Driver Intervention Required	DPF Filter Partially Full – Requires Driver Intervention	All	DPF Light will illuminate. DPF level meter = 7		Drive vehicle at over 60 km/h for approx 30 min until DPF lamp or notification in Multi Information Display extinguishes (if equipped)
	DPF Filter Full – Requires Driver Intervention Urgently		DPF Light will flash. DPF level meter = 9		STOP in a safe location and perform a manual regeneration
Dealer Intervention Required ASAP	DPF Filter Full Requires Dealer	All	DPF Light will flash and MIL will illuminate. DPF level meter = 10		Driver action is not possible and vehicle will need to be inspected by the nearest Toyota Dealer

Note: Warning notifications can be customised to alert the driver when regeneration is occurring or available. This can be enabled by any Toyota Dealer.

If the malfunction indicator lamp (MIL) illuminates and you continue driving while the DPF system warning light is on or flashing, as a precautionary measure, the ECM may activate limp mode and reduce engine power.

02/08/2023

Land Cruiser 70 Series – VD Engine (September 2023 Production onwards)
Land Cruiser 70 Series – GD Engine (September 2023 Production onwards)

How Often Will an Automatic Regeneration Occur?

Automatic regeneration will occur approximately every **100 to 150 km (VD Engine)** or **100 to 300 km (GD Engine)** depending on vehicle operation.

How Long Does an Automatic Regeneration Take?

Automatic regeneration can take up to 30 minutes depending on vehicle operation.

Characteristics of a DPF Regeneration

The DPF system may have the following characteristics during regeneration:

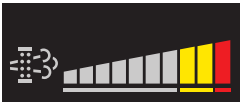
- Idle speed increase to **750 rpm (VD Engine)** or **900 rpm (GD Engine)** when stationary;
- Noticeably different exhaust smell when compared to a conventional diesel smell;
- A small amount of white smoke may be emitted from the exhaust tail pipe during regeneration. However, this does not indicate a malfunction;
- It is possible that a small amount of smoke may be emitted from the underside of the vehicle due to small trapped grass / vegetation matter. Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.

Note: If automatic regeneration operates during engine idle (i.e. vehicle stationary) the engine rpm will be increased up to **750 rpm (VD Engine)** or **900 rpm (GD Engine)**. If the vehicle continues to idle without the engine ECM receiving a vehicle speed signal for approximately 5 minutes, or the engine is switched off, the automatic regeneration will be postponed until a vehicle speed signal (i.e. without vehicle driving / moving off again) is received, at which point automatic regeneration will resume.

DPF System Operation

When the system is using the default manufacturer setting, manual regeneration cannot be started by pressing the DPF switch unless the PM (soot) in the DPF has reached a particular level.

DPF PM (Soot) Indicator

Location	DPF PM Indicator Level
Odometer	

Note: Press the DPF switch to display the DPF PM Indicator.

Automatic Regeneration

Automatic regeneration will start at PM Level 4. However, if the operating conditions are not ideal, the ECM will continue to attempt to complete the regeneration up to PM Level 7.

Default DPF Switch Operation

The Driver can use the DPF switch to perform the following 2 functions:

1. **Display DPF PM Indicator Level:** Short press of DPF switch to display DPF PM Indicator Level;
2. **Initiate Manual Regeneration:** Press and **hold** the DPF switch to start manual regeneration, this function will only be available at DPF PM Indicator Level 7 to Level 9.

Custom Mode Manual Regeneration

By having the system set to customise mode, manual regeneration can be started by pressing the DPF switch when there is a much lower level of PM (soot) in the DPF. This enables the driver more flexibility as to when manual regeneration can be activated.

DPF Switch Operation with Custom Mode Installed

The Driver can use the DPF switch to perform the following;

1. **Display DPF PM Indicator Level:** Short press of the DPF switch to display DPF PM Indicator Level;
2. **Initiate Manual Regeneration:** Press and **hold** the DPF switch to start manual regeneration. This function will be available at DPF PM Indicator Level 2 to Level 9.

		Manual Regeneration Available	
DPF PM Indicator Level	Automatic Regeneration	Without Custom Mode	With Custom Mode
0	–	–	–
1	–	–	–
2	–	–	●
3	–	–	●
4*	●	–	●
5	●	–	●
6	●	–	●
7	●	●	●
8	–	●	●
9	–	●	●
10	–	–	–
Legend: * Auto Regeneration Start Point			

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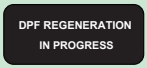
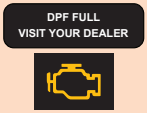
A warning notification will illuminate to alert the driver of the following stages. See "Warning Notification Matrix" below.

Warning Notification Matrix

		Warning Description	Warning Notification Image	Driver Action If Required
Normal Operation	Automatic Regeneration Warning Notification	DPF Notification appears for 20-30 min		No driver action required – normal operation
Driver Intervention Required	DPF Filter Partially Full – Requires Driver Intervention	DPF Notification will appear. DPF level meter = 7		Drive vehicle at over 60 km/h for approx 30 min until DPF lamp or notification in Multi Information Display extinguishes (if equipped)
	DPF Filter Full – Requires Driver Intervention Urgently	DPF Warning Notification will appear. DPF level meter = 9		STOP in a safe location and perform a manual regeneration
Dealer Intervention Required ASAP	DPF Filter Full Requires Dealer	DPF Warning Notification will appear and MIL will illuminate. DPF level meter = 10		Driver action is not possible and vehicle will need to be inspected by the nearest Toyota Dealer

Note: Warning notifications can be customised to alert the driver when regeneration is occurring or available. This can be enabled by any Toyota Dealer.

If the malfunction indicator lamp (MIL) illuminates and you continue driving while the DPF system warning light is on or flashing, as a precautionary measure, the ECM may activate limp mode and reduce engine power.

Land Cruiser 200 Series – VD Engine

How Often Will an Automatic Regeneration Occur?

Automatic regeneration will occur approximately every 100 to 150 km depending on vehicle operation.

How Long Does an Automatic Regeneration Take?

Automatic regeneration can take up to 30 minutes depending on vehicle operation.

Characteristics of a DPF Regeneration

The DPF system may have the following characteristics during regeneration:

- Idle speed increase to 750 rpm when stationary;
- Noticeably different exhaust smell when compared to a conventional diesel smell;
- A small amount of white smoke may be emitted from the exhaust tail pipe during regeneration. However, this does not indicate a malfunction;
- It is possible that a small amount of smoke may be emitted from the underside of the vehicle due to small trapped grass / vegetation matter. Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.

Note: If automatic regeneration operates during engine idle (i.e. vehicle stationary) the engine rpm will be increased up to 750 rpm. If the vehicle continues to idle without the engine ECM receiving a vehicle speed signal for approximately 5 minutes or the engine is switched off, the automatic regeneration will be postponed until a vehicle speed signal (i.e. without vehicle driving / moving off again) is received, at which point automatic regeneration will resume.

DPF System Operation

When the system is using the default manufacturer setting, manual regeneration cannot be started by pressing the DPF switch unless the PM (soot) in the DPF has reached a particular level.

DPF PM (Soot) Indicator

Location	DPF PM Indicator Level
GX – Odometer	dPF 3
Location	**DPF PM Indicator Level**
GXL, VX, & Sahara – MID	

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Note: DPF PM Indicator Level can be accessed by scrolling though the menus on the Odometer / MID.

Automatic Regeneration

Automatic regeneration will start at PM Level 3. However, if the operating conditions are not ideal, the ECM will continue to attempt to complete the regeneration up to PM Level 8.

Default DPF Switch Operation

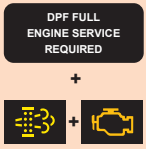
The Driver can use the DPF switch to perform the following function:

1. **Initiate Manual Regeneration:** Press the DPF switch to start manual regeneration. This function will only be available at DPF Indicator PM Level 4 to PM Level 9.

		Manual Regeneration Available	
DPF PM Indicator Level	Automatic Regeneration	Without Custom Mode	With Custom Mode
0	–	–	–
1	–	–	–
2	–	–	–
3*	●	–	–
4	●	●	–
5	●	●	–
6	●	●	–
7	●	●	–
8	●	●	–
9	–	●	–
10	–	–	–
Legend: * Auto Regeneration Start Point			

A warning notification will illuminate to alert the driver of the following stages. See “Warning Notification Matrix” on the next page.

Warning Notification Matrix

		Instrument Cluster Type	Warning Description	Warning Notification Image	Driver Action If Required
Driver Intervention Required	DPF Filter Partially Full – Requires Driver Intervention	Without MID	DPF Light will illuminate and DPF Notification will appear. DPF level meter = 7		Drive vehicle at over 60 km/h for approx 30 min until DPF lamp or notification in Multi Information Display extinguishes (if equipped)
		With MID			
	DPF Filter Full – Requires Driver Intervention Urgently	Without MID	DPF Light will flash and DPF Warning Notification will appear. DPF level meter = 9		STOP in a safe location and perform a manual regeneration
		With MID			
Dealer Intervention Required ASAP	DPF Filter Full Requires Dealer	Without MID	DPF Light will flash and MIL will illuminate. DPF level meter = 10		Driver action is not possible and vehicle will need to be inspected by the nearest Toyota Dealer
		With MID	DPF Warning Notification will appear, DPF light will flash and MIL will illuminate		

Note: To confirm instrument cluster type please refer to your vehicle Owner's Manual.

If the malfunction indicator lamp illuminates and you continue driving while the DPF system warning light is on or flashing, as a precautionary measure, the ECM may activate limp mode and reduce engine power.

02/08/2023

Land Cruiser 300 Series – F33A Engine

How Often Will an Automatic Regeneration Occur?

Automatic regeneration will occur approximately every 100 to 300 km depending on vehicle operation.

How Long Does an Automatic Regeneration Take?

Automatic regeneration can take up to 30 minutes depending on vehicle operation.

Characteristics of a DPF Regeneration

The DPF system may have the following characteristics during regeneration:

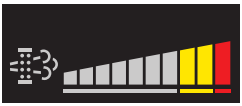
- Idle speed increase to 850 rpm when stationary;
- Noticeably different exhaust smell when compared to a conventional diesel smell;
- A small amount of white smoke may be emitted from the exhaust tail pipe during regeneration. However, this does not indicate a malfunction;
- It is possible that a small amount of smoke may be emitted from the underside of the vehicle due to small trapped grass / vegetation matter. Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.

Note: If automatic regeneration operates during engine idle (i.e. vehicle stationary) the engine rpm will be increased up to 850 rpm. If the vehicle continues to idle without the engine ECM receiving a vehicle speed signal for approximately 5 minutes or the engine is switched off, the automatic regeneration will be postponed until a vehicle speed signal (i.e. without vehicle driving / moving off again) is received, at which point automatic regeneration will resume.

DPF System Operation

When the system is using the default manufacturer setting, manual regeneration cannot be started by pressing the DPF switch unless the PM (soot) in the DPF has reached a particular level.

DPF PM (Soot) Indicator

Location	DPF PM Indicator Level
Multi Information Display	

Note: DPF PM Indicator Level can be accessed by scrolling though the menus on the Odometer / MID.

Automatic Regeneration

Automatic regeneration will start at PM Level 4. However, if the operating conditions are not ideal, the ECM will continue to attempt to complete the regeneration up to PM Level 8.

Default DPF Switch Operation

The Driver can use the DPF switch to perform the following function:

1. **Initiate Manual Regeneration:** Press the DPF switch to start manual regeneration. This function will only be available at DPF Indicator PM Level 7 to PM Level 9.

		Manual Regeneration Available	
DPF PM Indicator Level	**Automatic Regeneration**	**Without Custom Mode**	**With Custom Mode**
0	–	–	–
1	–	–	●
2	–	–	●
3	–	–	●
4*	●	–	●
5	●	–	●
6	●	–	●
7	●	●	●
8	●	●	●
9	–	●	●
10	–	–	–
Legend: * Auto Regeneration Start Point			

A warning notification will illuminate to alert the driver of the following stages. See “Warning Notification Matrix” on the next page.

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Warning Notification Matrix

		Warning Description	Warning Notification Image	Driver Action If Required
Normal Operation	Manual Regeneration Available Notification on Start up	DPF notification appears: 5 sec	DPF MANUAL REGENERATION AVAILABLE	No driver action required. Normal operation
	Automatic Regeneration Warning Notification	DPF notification appears: 20 — 30 min	DPF REGENERATION IN PROCESS	
Driver Intervention Required	DPF Filter Partially Full – Requires Driver Intervention	DPF notification will appear	DPF FULL SEE OWNERS MANUAL	Drive vehicle at over 60 km/h for approx 30 min until DPF lamp or notification in Multi Information Display extinguishes (if equipped)
	DPF Filter Full – Requires Driver Intervention Urgently	DPF notification will appear	DPF FULL VISIT YOUR DEALER	STOP in a safe location and perform a manual regeneration
Dealer Intervention Required ASAP	DPF Filter Full Requires Dealer	DPF notification and EML will appear	DPF FULL VISIT YOUR DEALER + 	Driver action is not possible and vehicle will need to be inspected by the nearest Toyota Dealer

Note: To confirm instrument cluster type please refer to your vehicle Owner's Manual.

If the malfunction indicator lamp illuminates and you continue driving while the DPF system warning light is on or flashing, as a precautionary measure, the ECM may activate limp mode and reduce engine power.

Hiace and Granvia – GD Engine

How Often Will an Automatic Regeneration Occur?

Automatic regeneration will occur approximately every 100 to 300 km depending on vehicle operation.

How Long Does an Automatic Regeneration Take?

Automatic regeneration can take up to 30 minutes depending on vehicle operation.

Characteristics of a DPF Regeneration

The DPF system may have the following characteristics during regeneration:

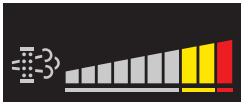
- Idle speed increase to 1200 rpm when stationary;
- Noticeably different exhaust smell when compared to a conventional diesel smell;
- A small amount of white smoke may be emitted from the exhaust tail pipe during regeneration. However, this does not indicate a malfunction;
- It is possible that a small amount of smoke may be emitted from the underside of the vehicle due to small trapped grass / vegetation particles. Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.

Note: If automatic regeneration operates during engine idle (i.e. vehicle stationary) the engine rpm will be increased up to 1200 rpm. If the vehicle continues to idle without the engine ECM receiving a vehicle speed signal for approximately 5 minutes or the engine is switched off, the automatic regeneration will be postponed until a vehicle speed signal (i.e. without vehicle driving / moving off again) is received, at which point automatic regeneration will resume.

DPF System Operation

When the system is using the default manufacturer setting, manual regeneration cannot be started by pressing the DPF switch unless the PM (soot) in the DPF has reached a particular level.

DPF PM (Soot) Indicator

Location	DPF PM Indicator Level
Odometer	

Note: Press the DPF switch to display the DPF PM Indicator.

02/08/2023

Automatic Regeneration

Automatic regeneration will start at PM Level 4. However, if the operating conditions are not ideal, the ECM will continue to attempt to complete the regeneration up to Level 7.

Default DPF Switch operation

The Driver can use the DPF switch to perform the following 2 functions:

1. **Display DPF PM Indicator Level:** Short press of the DPF switch to display the DPF PM (Soot) Indicator Level;
2. **Initiate Manual Regeneration:** Press and **hold** the DPF switch to start manual regeneration. This function will only be available at DPF PM Indicator Level 7 to Level 9.

Custom Mode Manual Regeneration

By having the system set to customise mode, manual regeneration can be started by pressing the DPF switch when there is a much lower level of PM (soot) in the DPF. This enables the driver more flexibility as to when manual regeneration can be activated.

DPF Switch Operation with Custom Mode Installed

The Driver can use the DPF switch to perform the following 2 functions:

1. **Display DPF PM Indicator Level:** Short press of the DPF switch to display DPF PM (Soot) Indicator Level;
2. **Initiate Manual Regeneration:** Press and hold the DPF switch to start manual regeneration, this function will be available at DPF PM Indicator Level 2 to Level 9.

		Manual Regeneration Available	
DPF PM Indicator Level	Automatic Regeneration	Without Custom Mode	With Custom Mode
0	–	–	–
1	–	–	–
2	–	–	●
3	–	–	●
4*	●	–	●
5	●	–	●
6	●	–	●
7	●	●	●
8	–	●	●
9	–	●	●
10	–	–	–
Legend: * Auto Regeneration Start Point			

A warning notification will illuminate to alert the driver of the following stages. See "Warning Notification Matrix" below.

Warning Notification Matrix

		Instrument Cluster Type	Warning Description	Warning Notification Image	Driver Action If Required
Normal Operation	Manual Regeneration Available Notification on Start Up	All	DPF Notification appears for 5 seconds	DPF MANUAL REGENERATION AVAILABLE	No driver action required, normal operation.
	Automatic Regeneration Warning Notification		DPF Notification appears for 20–30 minutes	DPF REGENERATION IN PROCESS	
Driver Intervention Required	DPF Filter Partially Full – Requires Driver Intervention	All	DPF Notification will appear	DPF FULL SEE OWNERS MANUAL	Drive vehicle at over 60 km/h for approx 30 mins until DPF lamp or notification in Multi Information Display extinguishes (if equipped)
	DPF Filter Full – Requires Driver Intervention Urgently		DPF Warning Notification will appear	DPF FULL VISIT YOUR DEALER	STOP in a safe location and perform a manual regeneration
Dealer Intervention Required ASAP	DPF Filter Full Requires Dealer	All	DPF Warning Notification will appear and MIL will illuminate	DPF FULL VISIT YOUR DEALER + 	Driver action is not possible and vehicle will need to be inspected by the nearest Toyota Dealer

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Note: Warning notifications can be customised to alert the driver when regeneration is occurring or available. This can be enabled by any Toyota Dealer.

If the malfunction indicator lamp (MIL) illuminates and you continue driving while the DPF system warning light is on or flashing, as a precautionary measure the ECM may activate limp mode and reduce engine power.

Hiace – KD Engine

How Often Will an Automatic Regeneration Occur?

Automatic regeneration will occur approximately every 100 to 300 km depending on vehicle operation.

How Long Does an Automatic Regeneration Take?

Automatic regeneration can take up to 30 minutes depending on vehicle operation.

Characteristics of a DPF Regeneration

The DPF system may have the following characteristics during regeneration:

- Idle speed increase to 1050 rpm (M/T) / 750 rpm (A/T in drive) / 1050 rpm (A/T in neutral) when stationary;
- Noticeably different exhaust smell when compared to a conventional diesel smell;
- A small amount of white smoke may be emitted from the exhaust tail pipe during regeneration. However, this does not indicate a malfunction;
- It is possible that a small amount of smoke may be emitted from the underside of the vehicle due to small trapped grass / vegetation particles. Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.

Note: If automatic regeneration operates during engine idle (i.e. vehicle stationary) the engine rpm will be increased up to 750 rpm. If the vehicle continues to idle without the engine ECM receiving a vehicle speed signal for approximately 5 minutes or the engine is switched off, the automatic regeneration will be postponed until a vehicle speed signal (i.e. without vehicle driving / moving off again) is received, at which point automatic regeneration will resume.

DPF System Operation

When the system is using the default manufacturer setting, manual regeneration cannot be started by pressing the DPF switch unless the PM (soot) in the DPF has reached a particular level.

DPF PM (Soot) Indicator

Location	DPF PM Indicator Level
Instrument Cluster	

Note: DPF PM Indicator Level can be accessed by scrolling though the menus on the Odometer / MID.

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Automatic Regeneration

Automatic regeneration will start at PM Level 4. However, if the operating conditions are not ideal, the ECM will continue to attempt to complete the regeneration up to Level 7.

Default DPF Switch operation

The Driver can use the DPF switch to perform the following function:

1. **Initiate Manual Regeneration:** Press the DPF switch to start manual regeneration. This function will only be available at DPF Indicator PM Level 7 to Level 9.

		Manual Regeneration Available	
DPF PM Indicator Level	**Automatic Regeneration**	**Without Custom Mode**	**With Custom Mode**
0	–	–	–
1	–	–	–
2	–	–	–
3	–	–	–
4*	●	–	–
5	●	–	–
6	●	–	–
7	●	●	–
8	–	●	–
9	–	●	–
10	–	–	–
Legend: * Auto Regeneration Start Point			

A warning notification will illuminate to alert the driver of the following stages. See “Warning Notification Matrix” on the next page.

Warning Notification Matrix

		Instrument Cluster Type	Warning Description	Warning Notification Image	Driver Action If Required
Driver Intervention Required	DPF Filter Partially Full – Requires Driver Intervention	All	DPF Light will illuminate. DPF level meter = 7		Drive vehicle at over 60 km/h for approx 30 min until DPF lamp or notification in Multi Information Display extinguishes (if equipped)
	DPF Filter Full – Requires Driver Intervention Urgently		DPF Light will flash. DPF level meter = 9		STOP in a safe location and perform a manual regeneration
Dealer Intervention Required ASAP	DPF Filter Full Requires Dealer	All	DPF Light and MIL will illuminate. DPF level meter = 10		Driver action is not possible and vehicle will need to be inspected by the nearest Toyota Dealer

If the malfunction indicator lamp illuminates and you continue driving while the DPF system warning light is on or flashing, as a precautionary measure, the ECM may activate limp mode and reduce engine power.

02/08/2023

Coaster – N04C Engine (up to January 2022 Production)

How Often Will an Automatic Regeneration Occur?

Automatic regeneration will occur approximately every 200 to 250 km depending on vehicle operation.

How Long Does an Automatic Regeneration Take?

Automatic regeneration can take up to 30 minutes depending on vehicle operation.

Characteristics of a DPF Regeneration

The DPF system may have the following characteristics during regeneration:

- Idle speed increase to 1200 rpm when stationary;
- Noticeably different exhaust smell when compared to a conventional diesel smell;
- A small amount of white smoke may be emitted from the exhaust tail pipe during regeneration. However, this does not indicate a malfunction;
- It is possible that a small amount of smoke may be emitted from the underside of the vehicle due to small trapped grass / vegetation matter. Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.

Note: If automatic regeneration operates during engine idle (i.e. vehicle stationary) the engine rpm will be increased up to 1200 rpm. If the vehicle continues to idle without the engine ECM receiving a vehicle speed signal for approximately 5 minutes or the engine is switched off, the automatic regeneration will be postponed until a vehicle speed signal (i.e. without vehicle driving / moving off again) is received, at which point automatic regeneration will resume.

DPF System Operation

When the system is using the default manufacturer setting, manual regeneration cannot be started by pressing the DPF switch unless the PM (soot) in the DPF has reached a particular level.

Default DPF Switch operation

The Driver can use the DPF switch to perform the following function:

1. **Initiate Manual Regeneration:** Press the DPF switch to start manual regeneration, this function will be available when the following message is displayed (See "Warning Notification Matrix" on the next page);

- DPF Light will flash for more than 10 seconds.

A warning notification will illuminate to alert the driver of the following stages. See “Warning Notification Matrix” below.

Warning Notification Matrix

	Warning Description	Warning Notification Image	Driver Action If Required
Driver Intervention Required	DPF Light will flash for more than 10 seconds		Drive vehicle at over 60 km/h for approx 30 min until DPF lamp or notification in Multi Information Display extinguishes (if equipped)
	DPF Light will flash with Warning buzzer		STOP in a safe location and perform a manual regeneration
Dealer Intervention Required ASAP	MIL will illuminate and limp home mode is activated		Driver action is not possible and vehicle will need to be inspected by the nearest Toyota Dealer

If the malfunction indicator lamp illuminates and you continue driving while the DPF system warning light is on or flashing, as a precautionary measure, the ECM may activate limp mode and reduce engine power.

Coaster – GD Engine (January 2022 Production onwards)

How Often Will an Automatic Regeneration Occur?

Automatic regeneration will occur approximately every 100 to 300 km depending on vehicle operation.

How Long Does an Automatic Regeneration Take?

Automatic regeneration can take up to 30 minutes depending on vehicle operation.

Characteristics of a DPF Regeneration

The DPF system may have the following characteristics during regeneration:

- Idle speed increase to 1200 rpm when stationary;
- Noticeably different exhaust smell when compared to a conventional diesel smell;
- A small amount of white smoke may be emitted from the exhaust tail pipe during regeneration. However, this does not indicate a malfunction;
- It is possible that a small amount of smoke may be emitted from the underside of the vehicle due to small trapped grass / vegetation matter. Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.

Note: If automatic regeneration operates during engine idle (i.e. vehicle stationary) the engine rpm will be increased up to 1200 rpm. If the vehicle continues to idle without the engine ECM receiving a vehicle speed signal for approximately 5 minutes or the engine is switched off, the automatic regeneration will be postponed until a vehicle speed signal (i.e. without vehicle driving / moving off again) is received, at which point automatic regeneration will resume.

DPF System Operation

When the system is using the default manufacturer setting, manual regeneration cannot be started by pressing the DPF switch unless the PM (soot) in the DPF has reached a particular level.

DPF PM (Soot) Indicator

Location	DPF PM Indicator Level
Odometer	dPF 3
Location	**DPF PM Indicator Level**
Multi-information Display	

Note: Press the DPF switch to display the DPF PM Indicator.

Automatic Regeneration

Automatic regeneration will start at PM Level 4. However, if the operating conditions are not ideal, the ECM will continue to attempt to complete the regeneration up to PM Level 8.

Default DPF Switch Operation

The Driver can use the DPF switch to perform the following 2 functions:

1. **Display DPF PM Indicator Level:** Short press of DPF switch to display DPF PM Indicator Level;
2. **Initiate Manual Regeneration:** Press and **hold** the DPF switch to start manual regeneration, this function will only be available at DPF PM Indicator Level 7 to Level 9.

Custom Mode Manual Regeneration

By having the system set to customise mode, manual regeneration can be started by pressing the DPF switch when there is a much lower level of PM (soot) in the DPF. This enables the driver more flexibility as to when manual regeneration can be activated.

DPF Switch Operation with Custom Mode Installed

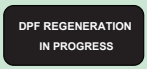
The Driver can use the DPF switch to perform the following;

1. **Display DPF PM Indicator Level:** Short press of the DPF switch to display DPF PM Indicator Level;
2. **Initiate Manual Regeneration:** Press and **hold** the DPF switch to start manual regeneration. This function will be available at DPF PM Indicator Level 1 to Level 9.

		Manual Regeneration Available	
DPF PM Indicator Level	**Automatic Regeneration**	**Without Custom Mode**	**With Custom Mode**
0	–	–	–
1	–	–	●
2	–	–	●
3	–	–	●
4*	●	–	●
5	●	–	●
6	●	–	●
7	●	●	●
8	●	●	●
9	–	●	●
10	–	–	–
Legend: * Auto Regeneration Start Point			

A warning notification will illuminate to alert the driver of the following stages. See "Warning Notification Matrix" below.

Warning Notification Matrix

		Warning Description	Warning Notification Image	Driver Action If Required
Normal Operation	Manual Regeneration Available Notification on Start-Up	DPF Notification appears for 5 seconds		No driver action required – normal operation
	Automatic Regeneration Warning Notification	DPF Notification appears for 20 — 30 min		
Driver Intervention Required	DPF Filter Partially Full – Requires Driver Intervention	DPF Warning Light will blink and DPF Notification will appear		Drive vehicle at over 60 km/h for approx 30 min until DPF lamp or notification in Multi Information Display extinguishes (if equipped)
	DPF Filter Full – Requires Driver Intervention Urgently	DPF Warning Light will blink and DPF Notification will appear		STOP in a safe location and perform a manual regeneration
Dealer Intervention Required ASAP	DPF Filter Full Requires Dealer	DPF Warning Notification will appear, DPF Warning Light and MIL will illuminate		Driver action is not possible and vehicle will need to be inspected by the nearest Toyota Dealer

Note: Warning notifications can be customised to alert the Driver when regeneration is occurring or available. This can be enabled by any Toyota Dealer.

If the malfunction indicator lamp (MIL) illuminates and you continue driving while the DPF system warning light is on or flashing, as a precautionary measure, the ECM may activate limp mode and reduce engine power.

Off Road / Rural Use – Cleaning Procedure

Under Vehicle Cleaning Procedure

This customer information is prepared for Toyota commercial vehicle owners and drivers that may operate their vehicle in long grass / vegetation environments.

- If driving in long grass / vegetation environments, vegetation may accumulate at the vehicle's under-body in the vicinity of the exhaust.
- The exhaust / DPF system operates at high temperature during the regeneration cycle. If operating the vehicle in long grass / vegetation is unavoidable, the driver should periodically inspect the under-body of the vehicle and remove accumulated grass / vegetation prior to the regeneration cycle.

Additional information is available in the vehicle's Owner's Manual.

Cleaning Procedure

Personal Protective Equipment (PPE)

- Safety Glasses
- Gloves (heat resistant)
- Ground Sheet

Preparation Prior to Cleaning

Park vehicle on a hard level environment clear of any obstructions / traffic.

- Wait for a minimum of 1 hour to allow vehicle to cool down.
- Ensure the vehicle is in the following condition:
  - Engine: Off
  - Parking Brake: On
  - Chock wheels
  - Correct gear position:
    Automatic transmission: Park position
    Manual transmission: Neutral position

Inspection / Cleaning Procedure

- Wear the correct PPE
- Place ground sheet under the vehicle if required
- Inspect the underside of vehicle for accumulation of grass / vegetation near or around the vehicle's exhaust system. See example on the next page
- Remove any grass / vegetation that has accumulated from near or around the vehicle's exhaust system

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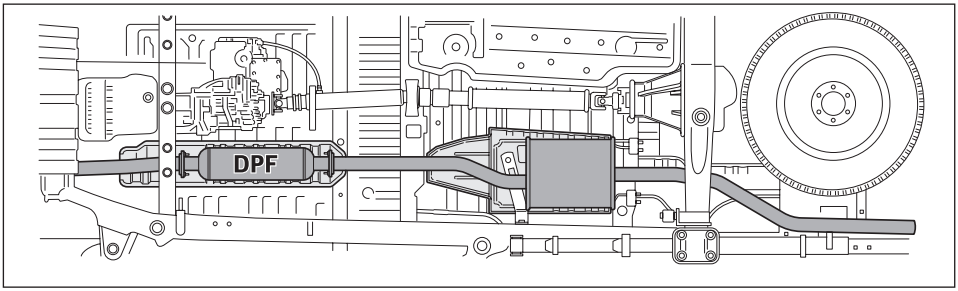
Off Road / Rural Use – Cleaning Procedure

⚠ CAUTION

Be careful of sharp edges around the vehicle's under-body components such as exhaust heat shields.

Be careful of the vehicle's under-body components that may have a high temperature, such as the exhaust system.

Note: Ensure all foreign material (including grass / vegetation) has been removed prior to driving the vehicle.



Questions and Answers

What Engine oil should I use?

Toyota recommends using Genuine Low-Ash engine oil.

Vehicle	Oil Grade	Viscosity
All Vehicles equipped with DPF*	ACEA C2	SAE 0W-30
Land Cruiser 70 Series VD Engine	ACEA C2	SAE 0W-30
Coaster (Euro 5) Up to January 2022 production	API CH-4 / CJ-4	SAE 15W-30
Coaster January 2022 production onwards	ACEA C5	SAE 0W-20
Hilux and Fortuner May 2020 production onwards	ACEA C5	SAE 0W-20
Prado August 2020 production onwards	ACEA C5	SAE 0W-20
Land Cruiser 70 Series GD Engine September 2023 production onwards	ACEA C5	SAE 0W-20
Land Cruiser 300 Series	ACEA C5	SAE 0W-20

***Note:** Only applicable for Hilux and Fortuner up to May 2020 production.
Only applicable for Prado up to July 2020 production.

What type of diesel is most suitable?

Ensure only low sulphur diesel is used (Sulphur content 10 ppm or lower).

Do I need to replace the diesel particulate filter during normal servicing?

DPFs do have a capacity limit and can become full. Unlike traditional air, oil or pollen filters that need to be replaced at regular intervals, the DPF filter has a much longer service life and is designed to regenerate to restore its performance.

The vehicle's ECM is programmed to do this automatically, neutralising the PM (soot) by burning it off at high temperatures within the exhaust system while the vehicle is running.

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How can I ensure the DPF regeneration process is completed successfully?

1. For vehicles where custom mode has not been enabled, drive the vehicle continuously at a sustained speed (e.g. around 60 km/h or above for up to 30 minutes).
2. For vehicles where custom mode has been enabled, an indicator will inform the driver that regeneration is being performed. Drive the vehicle continuously at a sustained speed (e.g. around 60 km/h or above for up to 30 minutes until the indicator is extinguished).

What if the auto regeneration process has been unsuccessful?

The DPF will continue to accumulate PM (soot) and a DPF warning lamp or notification will be displayed on the MID to indicate to the driver to take corrective measures. Further details can be found in the relevant vehicle model page of this DPF Information Booklet.

If further assistance is required, please contact any Toyota Dealer.

What will happen if I don't do anything about the DPF warning light / notifications not going out?

The warning light / notifications are there to either notify you to keep driving until regeneration is achieved, or to warn you the vehicle is not able to complete automatic regeneration. If you continue driving, the DPF will continue to fill with PM (soot) and limp mode may be activated as a precautionary measure. Automatic and manual regeneration will no longer be available at this point and you will need to present your vehicle to any Toyota Dealer.

Will my DPF cause a fire?

The regeneration process will not cause a fire if the operation is done in a safe manner as per the DPF warnings. Move the vehicle to a safe place before manual regeneration is performed. Refer to "DPF Warnings" →**P. 3-9**.

Diesel Fuel System

Contents

4

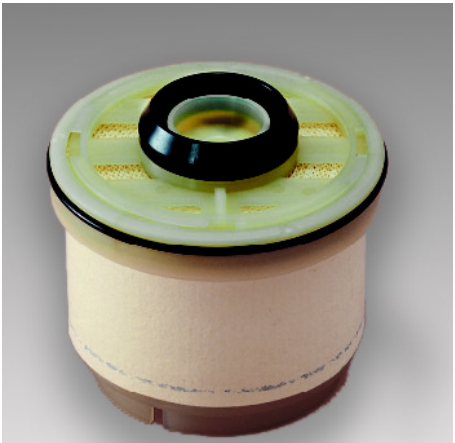
Important Information

Be Aware

Condensation can occur in your vehicle's fuel tank and the fuel sedimenter system is designed to provide you with a warning. The fuel system warning lamp illuminates if your vehicle requires prompt action. However, if fuel contamination occurs with a large quantity of water from an external source then the fuel sedimenter cannot prevent water entering the fuel injection system.

If contamination occurs with poor quality fuel, then damage to the fuel injection system may occur.

Fuel sedimenter, incorporates fuel filter, condensation indicator and fuel element blockage indicator



GENUINE FUEL FILTER

Fuel System Warning Lamp / Message

A warning lamp / message illuminates in the instrument panel to alert the driver when there is a problem in the fuel system.

If this lamp / message illuminates, immediately contact your Toyota Dealer for an inspection. If this lamp is flashing and / or a buzzer sounds on some models, you will need to immediately drain water from the fuel filter. The procedure for this can be found in the Owner's Manual.

DO NOT RUN THE ENGINE IF FUEL CONTAMINATION IS SUSPECTED. CONTACT YOUR NEAREST TOYOTA DEALER IMMEDIATELY.

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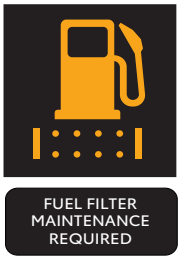
⚠ CAUTION

If the warning lamp / message illuminates

If the fuel warning lamp / message comes on, immediately contact your nearest Toyota Dealer for an inspection of the system. If the fuel filter is replaced by someone other than a Toyota Dealer, they could decide to use a non-genuine part which may not remove foreign particles in the fuel. These foreign particles may enter the high precision fuel pump and injectors and damage them. Your Toyota Dealer can be trusted with the responsibility of keeping your vehicle's engine running smoothly.



⚠ IMPORTANT

If the warning light flashes

If the warning lamp flashes and / or a buzzer sounds (depending on the model) you must stop your engine and drain out the water from the fuel sedimenter **IMMEDIATELY!**

The fuel filter sedimenter function is designed to trap condensation that may build up over time within the fuel tank.

It will not protect the fuel injection system from water introduced with contaminated fuel from an outside source.

Do not operate the engine if fuel contamination is suspected. Contact your nearest Toyota Dealer **IMMEDIATELY!**

Important Information

B5 Biodiesel Fuel

Toyota encourages the development of fuels based on renewable energy sources.

Biodiesel fuels are now becoming available in our market, with many variations of blends such as B20 and B30 (20% and 30% blends).

Toyota approves B5 (5% Biodiesel blend) for use in Toyota Diesel engines, but only where the fuel meets National Diesel Fuel Standard EN590.

OWNERS MUST ENSURE THAT REFUELLING IS CARRIED OUT ONLY FROM A SOURCE WHERE FUEL SPECIFICATION AND QUALITY CAN BE GUARANTEED

A Note from Toyota

The fuel system warning lamp / message is the way your vehicle notifies you that maintenance is needed. Make sure to give it the best care available. Contact your Toyota Dealer.

FUEL FILTER MAINTENANCE REQUIRED

Toyota Genuine Service

Toyota Genuine Parts

22/06/2021

Severe Usage

Contents

5

Additional Service Schedule

How and where you operate your Toyota vehicle along with the distance and duration determines how often you should service your vehicle.

If the operation of your vehicles falls under at least one of the operating conditions listed below then your vehicle may require further maintenance as described in your vehicle's Warranty and Service booklet under Additional Service Schedule. Please discuss your vehicle usage and service requirements with the Service Advisor at your preferred Toyota Dealer.

Examples:

1. Customer **A** operates the vehicle Monday to Friday to commute to their workplace with no passengers or extra load (towing or luggage). Customer **A** tows a 1,700 kg trailer with 1 adult passenger every weekend for 300 kms round trip (3 hours 45 minutes towing time). The overall time towing time on average is greater than 30 minutes per day therefor the vehicle meets the criteria for additional maintenance.
2. Customer **B** operates the vehicle Monday to Friday to commute to various worksites (average 5 sites per day) and leaves the vehicle to idle for approximately 10 minutes at each stop. The overall idle time is 50 minutes per day. On average the idle time is greater than 30 minutes per day. Therefore the vehicle meets the criteria for additional maintenance.

Operating Conditions	Criteria
Heavy loaded vehicle	50% of payload or towing over 1,500 kg for 30 minutes or more per day
Repeated short trips below 0° ambient temperature	Less than 8 km per trip
Repeated short trips (coolant does not meet normal operating temperature)	Less than 15 km per trip
Continuous high speed	Greater than 140 km/h for over 2 hours
Off-road operation Example: Rough / muddy Roads Unsealed / corrugated Roads Dusty conditions Off-road tracks	30 minutes of more per day
Operating frequently 2,000 m above sea level (with altitude sensor)	
Operating frequently 700 m above sea level (without altitude sensor)	
Extensive idling / low speed	

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Off-Road Driving

Contents

6

continued overleaf

⚠ WARNING

The following information in this "Off-Road Driving" section only applies to vehicles suitable to be driven off-road. It excludes Hiace, Granvia and Coaster vehicles.

Points to Note Before Driving Off-Road

Read the Following Before Driving Off-Road.

⚠ WARNING

Before driving off-road

- When driving off-road, you do so at your own risk.
- Be sure to read each part of this manual, and to pay close attention to safety while driving.

Advice for off-road driving

- Off-road driving is inherently dangerous.
- In some cases, the vehicle may be seriously damaged, and the driver and occupants could be killed or seriously injured.

⚠ NOTICE

About off-road driving

Observe the following precautions when driving off-road:

- Drive your vehicle only in areas where off-road vehicles are permitted to travel.
- Respect private property. Get owner's permission before entering private property.
- Do not enter areas that are closed. Honour gates, barriers and signs that restrict travel.
- Stay on established roads. When conditions are wet, driving techniques should be changed or travel delayed to prevent damage to roads.

Things to do Before Setting Off

When driving off-road, certain types of terrain and objects may be impassable depending on the driving line you take.

Understand the Physical Dimensions of your Vehicle

Before driving off-road, understand the dimensions of your vehicle and the positions of the tyres so that you can take the driving line you want. Doing so will allow for a smoother drive.

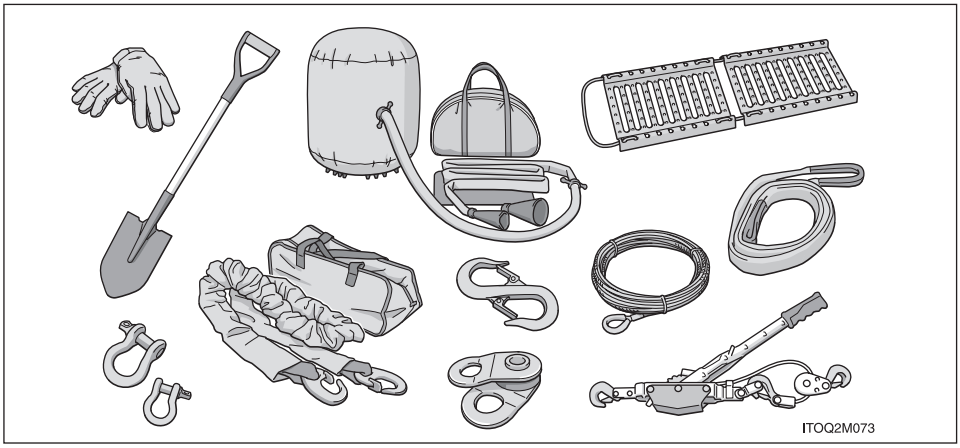
About Tyres

Wheel and tyre check:

- Inspect the conditions of the wheels and tyres before driving off-road.
- At the same time, check that the tyre inflation pressure is within the recommended level. Refer to the **Owner's Manual** for inspection instructions and tyre inflation pressure specifications.

About Luggage

- Remove any unnecessary items from the interior pockets or the luggage compartment. Firmly secure any needed items to prevent them from moving around during driving.
- Following your driving plan, prepare all necessary rescue tools (such as a shovel, ropes for freeing the vehicle when stuck, maps, flashlights, etc.) and load them into the vehicle. Refer to →**P. 6-45** or to specialised handbooks for information regarding which rescue tools are convenient for off-road driving.



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About Fuel

Check that there is an appropriate amount of fuel remaining for your driving plan. Add fuel beforehand if you think that refuelling will be difficult at your driving location.

Vehicle Inspection

Conduct regular checks as you would for everyday driving, and check that all lights and indicators are working and that the brakes are effective.

If you discover an abnormality, have the vehicle inspected by your Toyota dealer as soon as possible.

For scheduled maintenance information, refer to the **Warranty and Service Booklet**.

When driving in severe conditions

If regularly driving in severe off-road conditions such as crossing rivers, driving in mud or sand, etc., conduct the checks on (→**P. 6-48**) without fail.

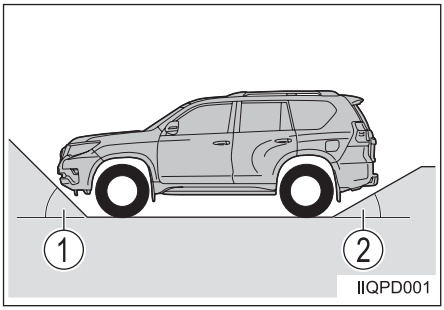
Clearance dimensions and incline angles

1. Approach angle:

   Gives a rough indication of whether or not the front bumper will contact the ground when crossing obstructions or an incline.

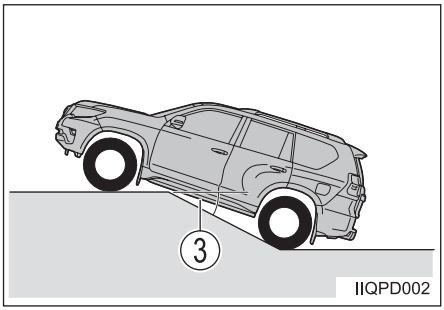
2. Departure angle:

   Gives a rough indication of whether or not the rear bumper will contact the ground when crossing obstructions or an incline.

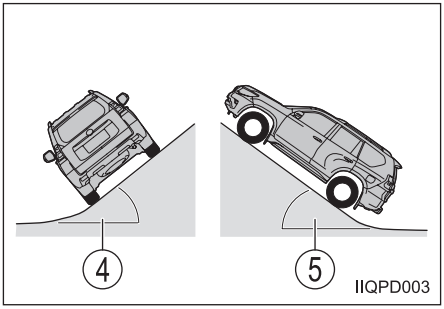


3. Ramp breakover angle:

   Gives a rough indication of whether or not the bottom of the vehicle will contact the ground when crossing obstructions or the peak of an incline.



4. Maximum side tilt angle.
5. Maximum climbing angle.



⚠ WARNING

Physical dimensions of the vehicle

Understand the dimensions of your vehicle before driving off-road. If you drive off-road without doing so, you may not be able to follow your intended driving line, and cause the vehicle to become stuck or could result in death or serious injury.

Objects inside the vehicle

- Firmly secure all items. If not firmly secured, items may move or be propelled while driving and could cause an accident, possibly resulting in death or serious injury.
- Drive cautiously when carrying luggage on the roof.
  Driving with luggage on the roof will raise the vehicle's centre of gravity, which could cause the vehicle to lose balance and roll over, resulting in damage to the vehicle, or in death or serious injury.

⚠ NOTICE

If the remaining fuel level is low

Avoid off-road driving. Driving on undulating or severely sloping roads may cause problems with the fuel supply, and the fuel system may be damaged.

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Basic Off-Road Driving Techniques

This section outlines information you should know when driving off-road.

Refer to the **Owner's Manual** for information on basic vehicle operations such as starting the engine, operating the shift lever, etc.

Things to Check Before Driving Off-Road

Check the following points before driving off-road:

Avoid travelling alone

It is a good idea to travel with at least one other vehicle, so that emergency situations, such as the vehicle becoming stuck, can be dealt with easily. Also, carrying rescue equipment in the vehicle is recommended. (→**P. 6-45**)

Confirm the minimum ground clearance

Confirm that the suspension components and the front and rear bumpers do not make contact with the ground while driving. Before driving, plan a route that will not cause the lower parts of the vehicle to make contact with the road surface and, whenever possible, avoid any obstacles that look as though they may make contact.

Correct posture for off-road driving

Refer to the **Owner's Manual**.

Points to note while driving off-road

When driving off-road, observe the following points and conduct shift changes and deceleration appropriately.

Selecting a shift position

- Different shift positions are appropriate for different road surface conditions.

  Refer to "Driving styles in various conditions". (→**P. 6-13**)

  For shift position selection procedure, refer to the **Owner's Manual**.
- Avoid shift changes when driving on sand or other yielding surfaces.

  Loss of speed by changing shift position on such high-resistance surfaces may cause the vehicle to become stuck.

When accelerating

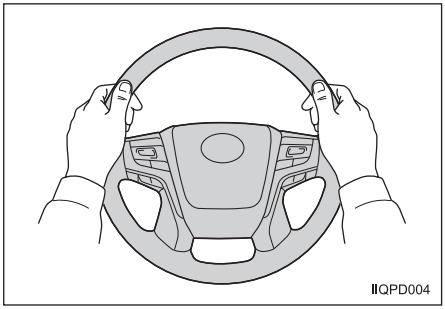
Operate the accelerator pedal cautiously and with discretion. Rapid acceleration could cause you to lose control of the vehicle.

When decelerating

Operate the brake pedal cautiously while using the engine brake. In the event that strong engine braking is necessary, you can shift to the lower shift position.

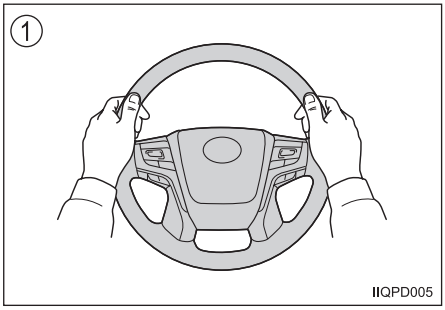
Steering wheel operation

Do not grip the steering wheel spokes when driving off-road. A bad bump could jerk the wheel and injure your hands. Keep both hands and especially your thumbs on the outside of the rim.

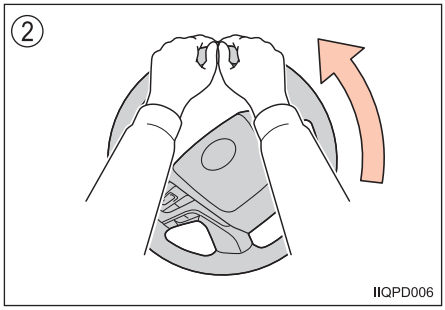


Turning the steering wheel

1. Turn the steering wheel using your right hand.



2. Slide your left hand on the steering wheel until your hands touch on the upper part of the steering wheel.



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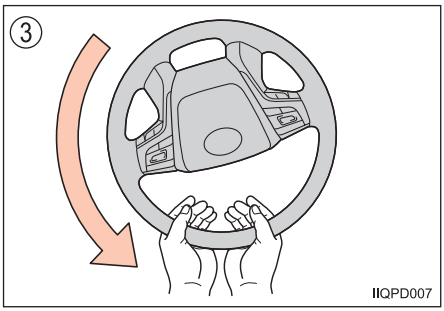
3. Turn the steering wheel with your left hand, sliding your right hand on the steering wheel. Then, return to the position shown in 1.



Using the off-road functions

Utilise the following off-road functions to help enhance safety while driving off-road and to improve drivability in each road condition.

Multi-terrain Select (if equipped)

Select different modes suited to various types of terrain when driving off-road.

Multi-terrain Monitor (if equipped)

Use to observe road conditions and obstacles around the vehicle when driving off-road.

Four-wheel drive control switch (if equipped)

Switch the transfer position with this switch in accordance with road conditions.

Centre differential lock (if equipped)

Use when the vehicle is stuck or when traction is otherwise necessary.

The centre differential lock can be used by pressing the centre differential lock/unlock switch regardless of the transfer position.

Make sure that the centre differential is unlocked when not needed.

Rear differential lock (if equipped)

Use when a large amount of traction is needed, such as when the vehicle is stuck and cannot be freed even by using the centre differential lock.

The rear differential lock can be operated only when the four-wheel drive control switch is in L4 and the centre differential is locked.

Make sure that the rear differential is unlocked when not needed.

Crawl control (if equipped)

Crawl control may assist with driving comfort when switched ON in the following situations:

- When the road is extremely bumpy
- When driving uphill or downhill
- When crossing rivers
- When driving in deep snow
- When freeing the vehicle from a stuck position

Rear height control air suspension (if equipped)

Switch to match the road surface conditions or driving conditions.

Downhill assist control system (if equipped)

Use on severely downward sloping roads.

Hill-start assist control (if equipped)

This function gives assistance when starting off on a hill.

It will operate automatically when needed.

KDSS (Kinetic Dynamic Suspension System) (if equipped)

This function helps keep contact between the tyres and the road surface by controlling the suspension stabilizers.

It will operate automatically when needed.

Using the audio system

Avoid playing CD/Blu Rays while driving on rugged or precipitous courses. Vibrations and shocks may cause CD/Blu Rays to skip.

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⚠ WARNING

Precautions when driving off-road

- Always observe the following precautions to minimise the risk of death, serious injury or damage to your vehicle:
- Make sure that all occupants are sitting in the correct posture and are wearing their seatbelts.

  See →**P. 6-7** for the correct driving posture. For seatbelt use, refer to the **Owner's Manual**.
- Avoid sudden acceleration, braking or turning of the steering wheel.

  You may lose control of the vehicle and cause the vehicle to roll over.
- Do not jump the vehicle.

  Doing so may damage the underside of the vehicle or cause the vehicle to roll over.
- Do not intentionally drive into objects.
- Reduce speed in strong crosswinds.

  Crosswinds may cause the vehicle to roll over due to the vehicle's high centre of gravity.
- Make sure that all windows, the glass hatch* and the moon roof* are closed.

When exiting the vehicle while stopped sideways on an incline

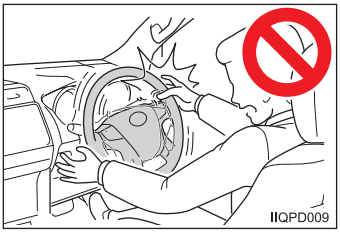
- Avoid exiting the vehicle while stopped on an incline. If you need to exit, use the uphill-facing door. If you try to exit using the downhill-facing door, the chances of the vehicle rolling over will increase. As a result, the vehicle may roll onto you and could result in death or serious injury.

*: If equipped

⚠ NOTICE

When driving off-road

Take care not to put your thumbs on the inside of the steering wheel. Driving in ruts or over rocky terrain may cause the steering wheel to move, and may injure your thumbs. Be especially careful on severely undulating roads.



Precautions before driving off-road

Drive after making sure that the underside of the vehicle will not make contact with the road surface. Whenever possible, avoid areas that will cause contact. Failure to do so may cause the vehicle to become immovable, or the underside of the vehicle may be damaged causing the vehicle to become unable to be driven.

If ground effects parts are equipped

The minimum ground clearance will be lower than on standard vehicles, and the ground effects parts may be damaged by off-road driving. Check the ground clearance before driving off-road.

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Driving Styles in Various Conditions

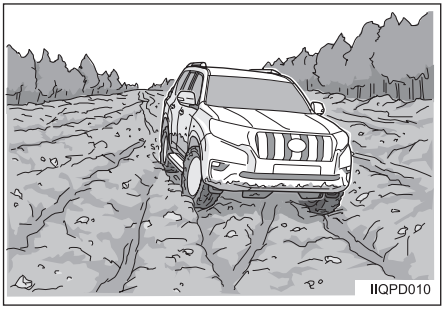
This section outlines the points of concern, driving styles and precautions corresponding to each type of typical off-road driving condition.

Make sure to read each description carefully before driving, and observe the precautions.

Driving on Muddy Roads

Driving style

- To prevent the tyres from spinning, depress the accelerator pedal as lightly as possible when starting off.
- Drive at a low speed and avoid use of the foot brake as much as possible.



- Find a steering position which allows the vehicle to move straight.

  The vehicle may not always move in the direction in which the steering wheel is turned. Driving with the steering wheel turned may cause increased driving resistance and may also increase the possibility of the vehicle becoming stuck.
- If the vehicle does not move in the direction in which the steering wheel is turned, avoid unreasonable steering and handle the steering wheel after the tyres grip the ground.
- If the tyres begin to spin, move the steering left and right or apply varying amounts of force to the accelerator pedal to find the point where the tyres grip the ground.

When stopping the vehicle

- Stop on as flat a surface as possible with shallow mud.
- When stopping on an incline, point the front of the vehicle downhill to reduce the risk of rolling over.

When driving uphill or downhill

→P. 6-33, **P. 6-36**

Selecting shift position and other settings

When driving on muddy roads, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 2 or 3 range of S mode).
Four-wheel drive control switch*	Select H4 if the mud is less than 200 mm (7.9 in.) deep, otherwise select L4.
Centre differential lock/ unlock switch*	In most situations, select unlock. When the vehicle is stuck, select lock.
Rear differential lock*	In most situations, select unlock. If unable to free the vehicle even when the centre differential is locked, select lock.
Multi-terrain Select*	Mud & Sand
Crawl Control*	Not ordinarily used. When the vehicle is stuck, switching ON may make freeing the vehicle easier.

*: If equipped

When the vehicle is stuck

→P. 6-44

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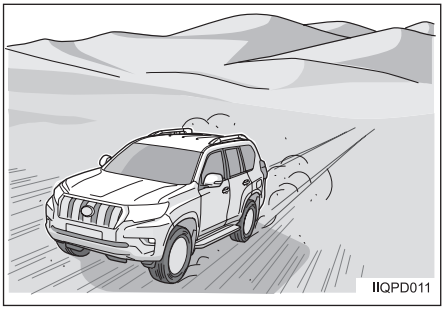
If the treads are muddy

Tyre grip will worsen. In this event, it is possible to spin the tyres intentionally to expel the mud that is collected in the treads, and then drive while maintaining tyre grip.

Driving on Sand

Driving style

- Depress the accelerator pedal as lightly as possible.
- Select a shift position appropriate to the traction, and operate the accelerator pedal in a way that allows you to maintain a constant speed.



When stopping the vehicle

- Stop on as flat a surface as possible.
- When stopping on an incline, point the front of the vehicle downhill to reduce the risk of rolling over.
- Stop slowly while being careful not to form a wall of sand around the front and rear of the tyres.

When driving uphill or downhill

→**P. 6-33**, **P. 6-36**

Selecting shift position and other settings

When driving on sand, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 2, 3 or 4 range of S mode).
Four-wheel drive control switch*	In most situations, select H4 and try to maintain a constant speed while driving. Select L4 if unable to maintain a constant speed.
Centre differential lock/ unlock switch*	In most situations, select unlock. When traction is required, such as when driving uphill, select lock.
Rear differential lock*	Unlock
Multi-terrain Select*	Mud & Sand
Crawl Control*	Not ordinarily used. When the vehicle is stuck, switching ON may make freeing the vehicle easier.

*: If equipped

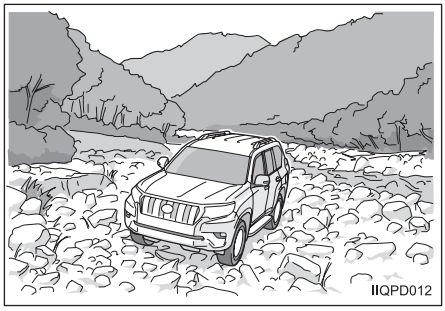
When the vehicle is stuck

→P. 6-44

Driving on Rubble

Driving style

To prevent the tyres from spinning, depress the accelerator pedal as lightly as possible when starting off.



When stopping the vehicle

- Stop on as flat a surface as possible.
- When stopping on an incline, point the front of the vehicle downhill to reduce the risk of rolling over.

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When driving uphill or downhill

- The tyres can easily become buried when driving uphill. Select a high shift position and ascend without stopping and while maintaining a slightly high speed.
- Also see →**P. 6-33**, **P. 6-36**.

Selecting shift position and other settings

When driving on rubble, apply settings as shown in the following table.

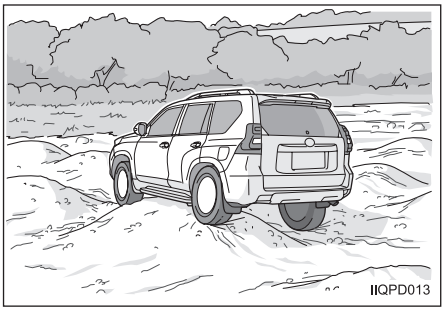
Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 2, 3 or 4 range of S mode).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. When traction is required, such as when driving uphill, select lock.
Rear differential lock*	In most situations, select unlock. When traction is required, such as when driving uphill, select lock (the centre differential must be locked).
Multi-terrain Select*	Loose Rock.
Crawl Control*	Not ordinarily used. When switched ON, may make downhill driving more comfortable.

*: If equipped

Driving on Moguls

Driving style

- To prevent the tyres from spinning, depress the accelerator pedal as lightly as possible when starting off.
- Drive slowly and carefully, ensuring that the underside of the vehicle does not make contact with the road surface.



- Take care not to drive over the top of a hump.
- Find a driving line that will allow you to keep at least 3 wheels (or 4 wheels) in contact with the ground as much as possible. Drive along an estimated line that allows the inner rear wheel to trace around the depressions of the moguls.

When stopping the vehicle

- Stop on as flat a surface as possible.
- When stopping on an incline, point the front of the vehicle downhill to reduce the risk of rolling over.

When driving uphill or downhill

- When driving uphill or downhill also, find a driving line that will allow you to keep at least 3 wheels (or 4 wheels) in contact with the ground, and drive carefully.
- Also see →**P. 6-33**, **P. 6-36**.

Selecting shift position and other settings

When driving on moguls, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 1 or 2 range of S mode).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck.
Rear differential lock*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck (the centre differential must be locked).
Multi-terrain Select*	Mogul
Crawl Control*	Not ordinarily used. When switched ON, may make uphill or downhill driving more comfortable.

*: If equipped

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When the vehicle is stuck

→**P. 6-44**

If traction is lost when the tyres of opposing corners do not make contact with the ground

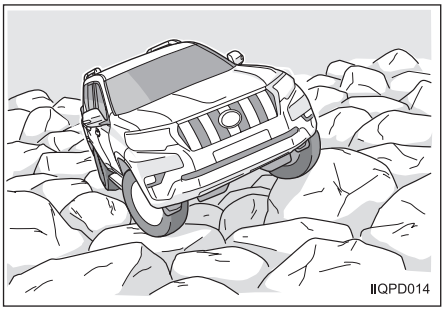
Change your driving line, move the steering wheel left and right to find the point where the tyres grip the ground.

Driving on Rocky Terrain

Before driving

As driving on rocky terrain can be very difficult, it is strongly recommended that you travel with at least one other vehicle.

Also, follow the lead of someone with experience driving over such terrain.



Driving style

- Choose a driving line with the tyres on the rocks so that the underside of the vehicle does not make contact with the ground.
- Use the brake and accelerator pedals to drive at a slow and careful speed.

When driving uphill or downhill

- When driving uphill, set the four-wheel drive control switch to L4, shift the shift lever to 1 or 2 range of S mode and use the brake and accelerator pedals to drive at a slow and careful speed.

  The Crawl Control* may also assist with driving.
- When driving downhill, set the four-wheel drive control switch to L4, shift the shift lever to 1 or 2 range of S mode, use the foot brake and drive slowly and carefully taking care not to allow the wheels to lock.

  The downhill assist control* or Crawl Control* may also assist with driving.
- Choose a driving line where the tyres are on the rocks and that travels straight up or down inclines.
- Also see →**P. 6-33**, **P. 6-36**.

Selecting shift position and other settings

When driving on rocky terrain, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 1 or 2 range of S mode).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck.
Rear differential lock*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck (the centre differential must be locked).
Multi-terrain Select*	Rock
Crawl Control*	Not ordinarily used. When switched ON, may make uphill or downhill driving more comfortable.

*: If equipped

When the vehicle is stuck

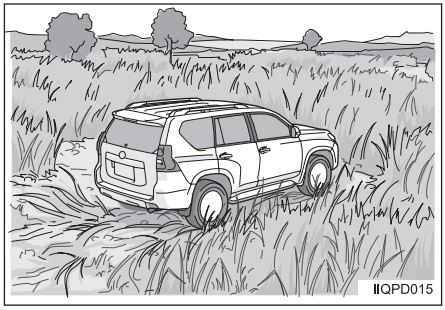
→P. 6-44

Driving Through Undergrowth

Driving style

Choose a driving area which is relatively clear of undergrowth.

If unavoidable, drive slowly as you use your tyres to flatten the undergrowth.



- If the bumpiness of the road surface cannot be determined due to its covering of undergrowth, drive slowly and carefully while paying attention to the inclination of the vehicle.

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- If you need to back up after the undergrowth has been flattened, drive while steering to avoid becoming entangled in undergrowth.

When driving uphill or downhill

→P. 6-33, P. 6-36

Selecting shift position and other settings

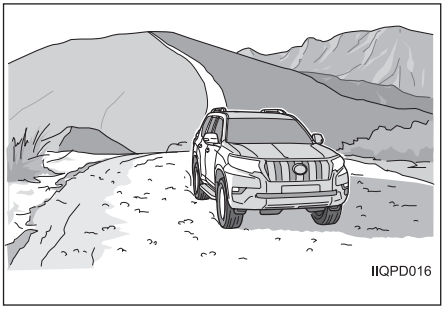
When driving through undergrowth, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 1 or 2 range of S mode).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck.
Rear differential lock*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck (the centre differential must be locked).
Multi-terrain Select*	Loose Rock
Crawl Control*	Not ordinarily used.

*: If equipped

Driving on Dirt Roads

Since dirt road surfaces can be slippery, avoid sudden acceleration, braking or turning of the steering wheel, and drive cautiously.



When driving uphill or downhill

→P. 6-33, P. 6-36

Selecting shift position and other settings

When driving on dirt roads, apply settings as shown in the following table.

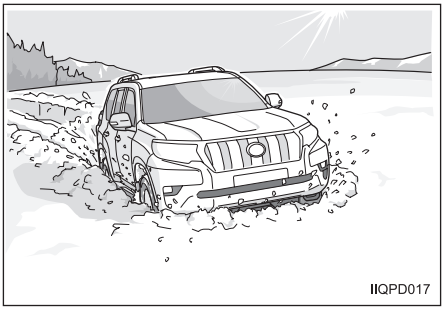
Item	Selection suitable for road type
Shift position	D
Four-wheel drive control switch*	H4
Centre differential lock/ unlock switch*	Unlock
Rear differential lock*	Unlock
Multi-terrain Select*	Not used
Crawl Control*	Not used

*: If equipped

Driving in Deep Snow

Driving style

Shift the shift lever to D or R, and repeatedly alternate between driving forward and reversing to tread down the snow.



Bring the vehicle to a complete stop before shifting between forward and reverse gears.

When driving uphill or downhill

→P. 6-33, P. 6-36

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Selecting shift position and other settings

When driving in deep snow, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	D or R
Four-wheel drive control switch*	In most situations, select H4 If the snow is making progress difficult, select L4.
Centre differential lock/ unlock switch*	In most situations, select unlock. When traction is required, select lock.
Rear differential lock*	In most situations, select unlock. When traction is required, select lock (the centre differential must be locked).
Multi-terrain Select*	Mud and Sand
Crawl Control*	Not ordinarily used. When switched ON, may assist when alternating between forward and reverse.

*: If equipped

When the vehicle is stuck

→P. 6-44

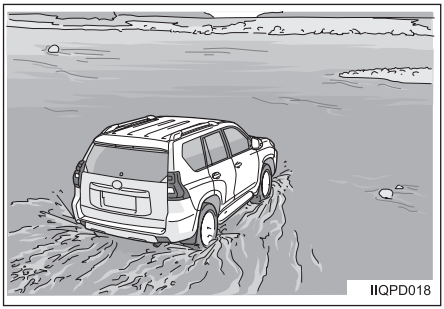
Drivable snow depth

Snow with a depth of 600 mm (23.6 in.) or less can be driven through.

Crossing Rivers

Before crossing a river

- Check the water depth and river bed conditions beforehand.
- Make sure that all doors, windows, the glass hatch* and the moon roof* are closed.
- Drive with another vehicle.



*: If equipped

Driving style

- Enter the river at walking speed and drive while maintaining this speed.
- Cross perpendicular to the river or downstream.
- Avoid changing speed while crossing and cross without stopping.
- Do not cross rivers with powerful currents.

Things to check after crossing a river

→P. 6-48

Selecting shift position and other settings

When crossing a river, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 1 or 2 range of S mode).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck.
Rear differential lock*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck (the centre differential must be locked).
Multi-terrain Select*	Loose Rock
Crawl Control*	Not ordinarily used. When switched ON, may make driving more comfortable when a constant speed cannot be maintained.

*: If equipped

Drivable water depth

Water with a depth of 700 mm (27.6 in.) or less can be driven through.

However, be aware that the drivable depth may differ in accordance with factors such as the bumpiness of the river bed, vibrations and shocks that will affect the vehicle and waves on the surface of the water.

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Driving speed

Keep the vehicle speed at walking speed or below.

If many river crossings are likely

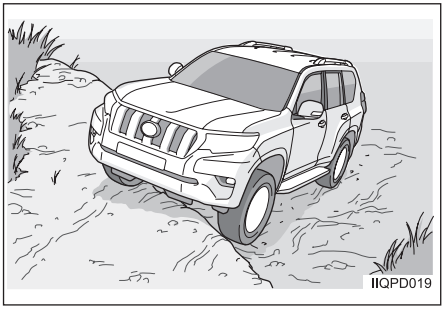
It may become necessary to check items that are not ordinarily checked.

Consult your Toyota dealer.

Driving on Uneven Surfaces

Driving style

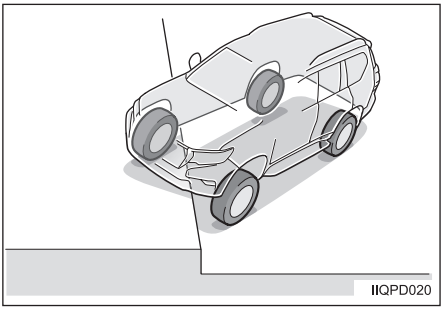
- Find a driving line that will allow you to keep at least 3 wheels (or 4 wheels) in contact with the ground at all times.
- Approach the step diagonally, allowing the wheels to mount the step one at a time.



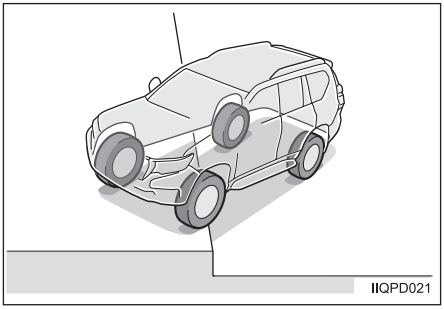
- Drive slowly and carefully, making sure that the underside of the vehicle does not make contact with the ground.

Overcoming steps

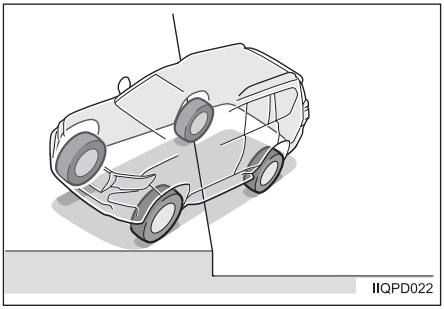
1. Approach the steps diagonally, allowing one of the front wheels to mount the step.



2. Before one of the rear wheels loses contact with the ground, depress the accelerator, transferring the load onto the remaining front wheel and allowing it to mount the step.



3. Drive straight forward without turning the steering wheel until the remaining rear wheel has been brought up onto the step.



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Selecting shift position and other settings

When driving on uneven surfaces, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 1 or 2 range of S mode).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck.
Rear differential lock*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck (the centre differential must be locked).
Multi-terrain Select*	Select a mode in accordance with the terrain. If there are no suitable modes, select Mogul.
Crawl Control*	Not ordinarily used. When switched ON, may make driving more comfortable.

*: If equipped

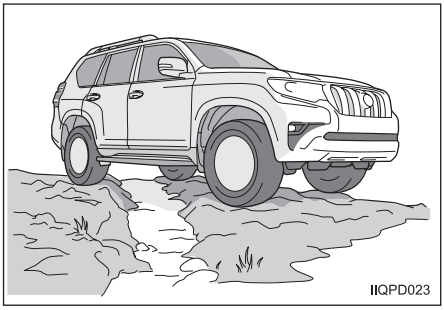
When the vehicle is stuck

→P. 6-44

Crossing Grooved Areas

Driving style

- Find a driving line that will allow you to keep at least 3 wheels (or 4 wheels) in contact with the ground at all times.
- Approach the groove diagonally, allowing the wheels to mount the step one at a time.

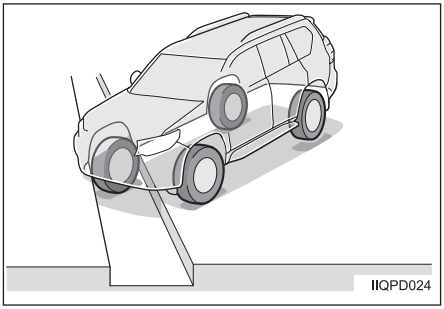


- Drive slowly and carefully, making sure that the underside of the vehicle does not make contact with the ground.

When crossing a groove

1. Approach the groove diagonally, and allow one of the front wheels to drop in.

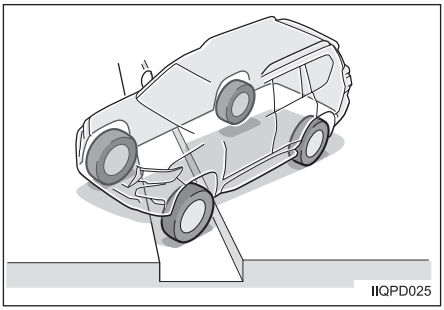
   Time your acceleration so that the inertia of the vehicle will be able to carry the tyre over the groove.



2. Once the first wheel has cleared the groove, allow the other front wheel to drop in.

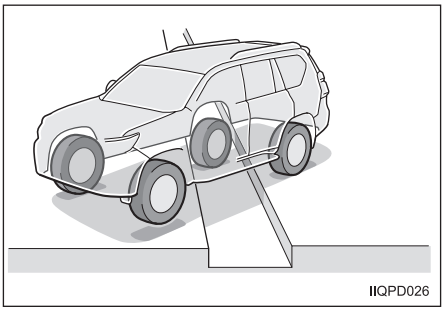
   Time your acceleration so that the inertia of the vehicle will be able to carry the tyre over the groove.

   Also, take care not to allow both the tyre which is dropped into the groove and the tyre at the opposing corner to fall into the groove at the same time.



3. Bring the rear wheels over the groove in the same way as the front wheels.

   Time your acceleration so that the inertia of the vehicle will be able to carry the tyre over the ditch.



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Selecting shift position and other settings

When crossing grooved areas, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 1 or 2 range of S mode).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck.
Rear differential lock*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck (the centre differential must be locked).
Multi-terrain Select*	Select a mode in accordance with the terrain. If there are no suitable modes, select Mogul.
Crawl Control*	Not ordinarily used. When switched ON, may make driving more comfortable.

*: If equipped

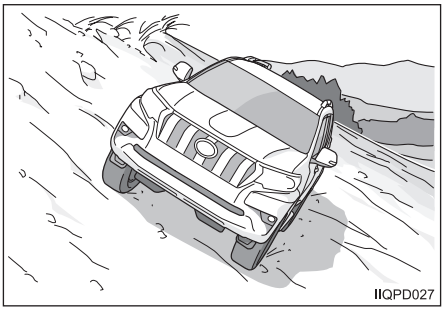
When the vehicle is stuck

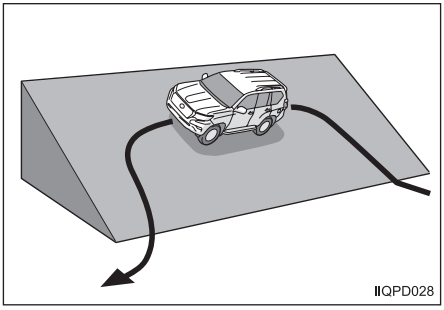
→P. 6-44

Driving Across Inclines

Driving style

- When driving across an incline, drive parallel to the surface of the incline and at a slow, constant speed.
- If the vehicle starts to slip, turn the steering wheel towards the base of the slope and either keep driving parallel to the incline or slide down the slope.





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Selecting shift position and other settings

When driving across an incline, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 1 or 2 range of S mode).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck.
Rear differential lock*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck (the centre differential must be locked).
Multi-terrain Select*	Select a mode in accordance with the terrain. If there are no suitable modes, select Mogul.
Crawl Control*	Not ordinarily used. When switched ON, may make driving more comfortable.

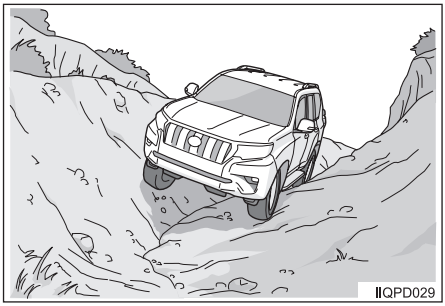
*: If equipped

When the vehicle is stuck

→P. 6-44

Driving Through V-Shaped Ditch

- Straddle both sides of the ditch while keeping the vehicle level, and drive in as low a shift position as possible.
- If you are unable to straddle the ditch, drive across the incline of one side.
  →P. 6-30



- If you encounter a curve in the ditch, drive across the incline of the outer side of the ditch.

- When crossing from slope to slope, tyres of diagonally opposite corners may leave the ground and the vehicle may become stuck. Therefore, drive while steering gently and try to time acceleration appropriately.
- If the vehicle begins to slide, turn the steering wheel towards the base of the slope.

Selecting shift position and other settings

When driving through a V-shaped ditch, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 1 or 2 range of S mode).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck.
Rear differential lock*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck (the centre differential must be locked).
Multi-terrain Select*	Select a mode in accordance with the terrain. If there are no suitable modes, select Mogul.
Crawl Control*	Not ordinarily used. When switched ON, may make driving more comfortable.

*: If equipped

When the vehicle is stuck

→P. 6-44

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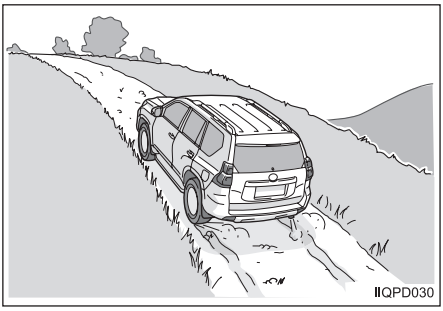
Driving Uphill

Before driving

- Check the condition of the path and decide on a driving line beforehand.
- Also check the condition of the summit.



Driving style

- Make sure that you drive directly up the incline in order to prevent lateral sliding and rolling over.
- Accelerate sufficiently beforehand, and drive forcefully up the hill without stopping.
- Avoid changing the shift position while driving uphill.
- If climbing a very steep incline, select a gear that will not cause the vehicle to stall.
- If the vehicle starts to slide, try to keep it aligned straight with the incline by turning the steering wheel slowly and carefully.
- If the wheels start to spin, momentarily release the accelerator pedal to allow traction to return, and continue driving.

  If the vehicle does stop moving forward, slide down the incline as described on →**P. 6-35**.
- Use hill-start assist control. (Refer to the **Owner's Manual**)

Selecting shift position and other settings

When driving uphill, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (In most situations, 1 or 2 range of S mode. Select 3 or 4 in accordance with road condition).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck.
Rear differential lock*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck (the centre differential must be locked).
Multi-terrain Select*	Select a mode in accordance with the terrain. If there are no suitable modes, select Mogul.
Crawl Control*	Not ordinarily used. When switched ON, may make driving more comfortable.

*: If equipped

When driving uphill through moguls

- Find a driving line that will allow you to keep at least 3 wheels (or 4 wheels) in contact with the ground.
- Crawl Control* may help make driving more comfortable.

When driving uphill over rubble

As it is easy for the tyres to become embedded, choose a higher gear and a slightly faster speed than usual, and drive up the incline without stopping while maintaining a constant speed.

When driving uphill over rocky terrain

Set the four-wheel drive control switch to L4, shift the shift lever to 1 or 2 range of S mode and use the brake and accelerator pedals to proceed slowly and carefully (Crawl Control* can carry out these operations automatically, thus it may enhance driving comfort).

*: If equipped

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If an incline cannot be climbed completely

On vehicles with downhill assist control

1. Stop the vehicle using the foot brake.
2. Shift the shift lever to R.
3. Allow downhill assist control to operate. (Refer to the **Owner's Manual**)
4. Reverse at a slow speed.

   Use downhill assist control to control the vehicle speed. Keep the vehicle straight and descend the incline while making sure to avoid wheel lock.
5. When flat ground is reached, cancel downhill assist control.

On vehicles with Crawl Control

1. Stop the vehicle using the foot brake.
2. Shift the shift lever to R.
3. Allow Crawl Control (low mode) to operate. (Refer to the **Owner's Manual**)
4. Reverse at a slow speed.

   If the wheels lock while Crawl Control is in low mode, select a slightly higher mode.
5. When flat ground is reached, cancel Crawl Control.

On vehicles without downhill assist control and Crawl Control

1. Stop the vehicle using the foot brake.
2. Shift the shift lever to R.
3. Proceed backward at a slow speed.

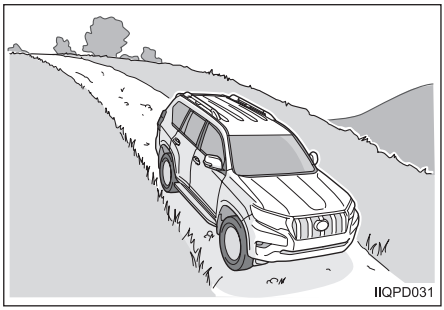
   Use the engine brake and brake pedal to control the vehicle speed. Keep the vehicle straight and descend the incline while making sure to avoid wheel lock.

*: If equipped

Driving Downhill

Before driving

Check the condition of the path and decide on a driving line beforehand.



Driving style

- Make sure that you drive directly down the incline in order to prevent lateral sliding and rolling over.
- Using both the engine brake and brake pedal, descend while trying to avoid wheel lock.

  If it appears that the wheels will lock while the shift position is set to 1 range of S mode and the engine brake is applied, depress the accelerator pedal slightly and avoid allowing the wheels to lock.
- If the vehicle slides, turn the wheel towards the base of the incline.
- Use downhill assist control if equipped. (Refer to the **Owner's Manual**)

When descending an incline

1. Stop the vehicle before the incline.

   Allow for an area that is at least as long as the overall length of the vehicle.
2. Depending on the angle of the incline, shift the shift lever to 1 or 2 range of S mode.
3. Allow downhill assist control* or Crawl Control* to operate.
4. Proceed forward at a slow speed.

   Use downhill assist control or Crawl Control to control the vehicle speed.
5. When flat ground is reached, cancel downhill assist control or Crawl Control.

*: If equipped

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Selecting shift position and other settings

When driving downhill, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (In most situations, 1 or 2 range of S mode. Select 3 or 4 in accordance with road condition).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck.
Rear differential lock*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck (the centre differential must be locked).
Multi-terrain Select*	Select a mode in accordance with the terrain. If there are no suitable modes, select Mogul.
Crawl Control*	Not ordinarily used. When switched ON, may make driving more comfortable.

*: If equipped

When driving downhill through rocky terrain

- Set the four-wheel drive control switch to L4, shift the shift lever to 1 range of S mode, and use the brake pedal to drive slowly and carefully (Crawl Control* can carry out these operations automatically, thus it may enhance driving comfort).
- Choose a driving line where the tyres are on the rocks and that travels straight down the incline.

*: If equipped

If it appears that the wheels will lock

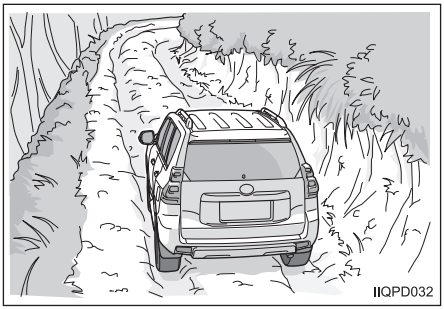
Depress the accelerator pedal slightly and drive while ensuring that the wheels do not lock.

Driving on Roads with Ruts

Driving style

- Drive along the ruts.
- Grip the steering wheel softly while not allowing the road to take control of the steering wheel.

  Take particular care if the road is wet.



Selecting shift position and other settings

When driving on roads with ruts, apply settings as shown in the following table.

Item	Selection suitable for road type
Shift position	Driving in D is possible, but select a gear that allows a constant speed to be maintained (in most situations, 1 or 2 range of S mode).
Four-wheel drive control switch*	L4
Centre differential lock/ unlock switch*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck.
Rear differential lock*	In most situations, select unlock. Select lock in situations where it is easy for the vehicle to become stuck (the centre differential must be locked).
Multi-terrain Select*	Select a mode in accordance with the terrain. If there are no suitable modes, select Mogul.
Crawl Control*	Not ordinarily used. When switched ON, may make driving more comfortable.

*: If equipped

When the vehicle is stuck

→P. 6-44

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⚠ WARNING

Assessing conditions accurately

When driving off-road, it is necessary to operate the accelerator pedal, brake pedal and steering wheel in response to the type and conditions of the terrain. The driver should assess conditions precisely and drive cautiously in response to each type of condition encountered.

Losing control can be dangerous especially in off-road conditions, where it could cause the vehicle to roll over, resulting in death or serious injury.

If the vehicle slides when driving on an incline

Do not turn the steering wheel suddenly. Also, if the vehicle appears to be going into a lateral slide, turn the steering wheel towards the base of the incline.

Losing control can be dangerous especially in off-road conditions where it could cause the vehicle to roll over, resulting in death or serious injury.

When driving on an incline

- Do not drive continually on inclines with a forward or backward tilt that is greater than 35°, or a side to side tilt that is greater than 25°. The vehicle could roll over, resulting in death or serious injury.

  However, inclines with a forward or backward tilt of 42° can be driven on momentarily.
- When descending an incline, select an appropriate shift position. If an incline is descended without an appropriate amount of traction, you may lose control of the vehicle, which could cause the vehicle to roll over, resulting in death or serious injury.

When climbing an incline

Drive directly up the incline. If the incline is approached diagonally, the vehicle is likely to slide laterally, and you may lose control of the vehicle. This could cause the vehicle to roll over, resulting in death or serious injury.

If an incline cannot be climbed completely

If you change direction while climbing an incline, the vehicle may roll over, resulting in death or serious injury. Following the steps outlined on →**P. 6-35**, reverse directly down the incline until reaching flat ground.

⚠ WARNING

When descending an incline

Observe the following precautions.

Failure to do so may cause the vehicle to roll over, resulting in death or serious injury.

- Drive directly down the incline.
- Make sure to avoid extremely slippery areas where you cannot stop the vehicle.

When driving across an incline

- Check the following points before driving.

  Failure to do so may cause the vehicle to roll over, resulting in death or serious injury.

  - The driving path is stable and not slippery.
  - The total weight of the passengers is distributed equally throughout the vehicle.
  - Any passengers in the rear seats are seated on the uphill side of the vehicle.
  - There is no luggage on the roof luggage carrier.
  - Any luggage is stored at a low level and is firmly secured.
- Observe the following precautions while driving.

  Failure to do so may cause the vehicle to roll over, resulting in death or serious injury.

  - If it looks as though the vehicle will slide laterally, turn the steering wheel towards the base of the incline.
  - Make sure that the wheels on the downhill side of the vehicle do not fall into any depressions.
  - Make sure that the wheels on the uphill side of the vehicle do not ride over any rocks or tree roots.
  - It is dangerous if the tilt of the vehicle changes suddenly.
  - If the incline is extreme or the terrain conditions are very unforgiving, let any passengers out from the vehicle until safe ground has been reached.

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⚠ WARNING

When driving on roads with ruts

If the road is wet, drive particularly carefully and make sure that the control of the steering wheel is not taken from you. Leaving the ruts suddenly may cause the vehicle to spin, resulting in damage to the vehicle, or in death or serious injury.

When crossing a ridge

If a ridge is approached diagonally, the first front wheel to cross the ridge line and the rear wheel that is diagonally opposite to it may lose contact with the ground, or the vehicle may slide. This may cause the vehicle to roll over, resulting in damage to the vehicle, or in death or serious injury.

When driving rocky terrain

- As driving on rocky terrain can be very difficult, it is strongly recommended that you travel with at least one other vehicle. Also, follow the lead of someone with experience driving over such terrain.
- If a mistake is made while driving through rocky terrain, a component on the underside of the vehicle could be struck, possibly rendering the vehicle unable to be driven. Also, the vehicle could lose balance and roll over, resulting in damage to the vehicle, or in death or serious injury.

When driving through V-shaped ditch

When encountering a downward incline in the ditch, pay close attention to brake pedal operation. If the tyres lose grip, the vehicle may slide and lose balance. This could cause the vehicle to roll over, resulting in damage to the vehicle, or in death or serious injury.

When driving through undergrowth

If the bumpiness of the road surface cannot be determined due to its covering of undergrowth, drive slowly and carefully while paying attention to the inclination of the vehicle.

Failure to do so may cause the vehicle to lose balance without you noticing, which could cause the vehicle to roll over, resulting in damage to the vehicle, or in death or serious injury.

NOTICE

When driving across a groove

If a groove is approached head on, both front wheels could fall into the groove at the same time, possibly damaging the vehicle and rendering it immovable.

Drivable snow depth

Snow with a depth of around 600 mm (23.6 in.) or less can be driven through.

When crossing a river

Observe the following precautions.

Failure to do so may cause water to enter the engine or the vehicle and cause malfunctions.

- Check the water depth and river bed conditions beforehand.
- Enter the river at walking speed.
- Cross perpendicular to the river or downstream.
- Avoid changing speed while crossing and cross without stopping.
- If the engine stalls during a crossing a river, have the vehicle towed out of the water by a rescue vehicle and have the vehicle checked by your Toyota dealer as soon as possible.
- Even for only a short time, do not stop the vehicle where the water level is over the door opening.

When driving through V-shaped ditch

Exercise caution when straddling both sides of the ditch, as the sides of the vehicle could strike the walls of the ditch, possibly rendering the vehicle immovable. Drive particularly cautiously in these situations, or take an alternative route if possible.

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NOTICE

When driving through undergrowth

- Choose a driving area which is relatively clear of undergrowth. Undergrowth may become entangled in the underside components of the vehicle when driving through areas of heavy undergrowth for long periods of time, possibly rendering it immovable.
- If you need to back up after the undergrowth has been flattened, drive while steering to avoid becoming entangled in undergrowth. Undergrowth may become entangled in the underside components of the vehicle when the undergrowth is not avoided, possibly rendering it immovable.

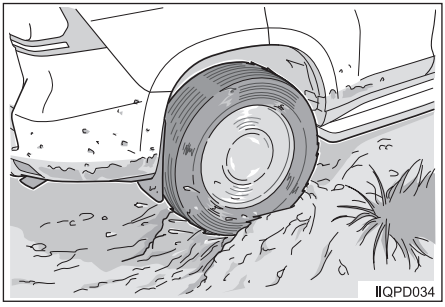
If Your Vehicle Becomes Stuck While Driving

This section explains ways of coping when the wheels have no grip, the tyres become stuck, or the vehicle becomes otherwise unable to move while driving off-road.

When the Vehicle is Stuck

There are numerous ways of freeing the vehicle when stuck, which vary in accordance with the situation.

Sometimes it will be possible to free the vehicle under your own power, whereas other times it may be necessary to use a rescue tool.



Freeing the vehicle under your own power

Functions and basic techniques for freeing the vehicle are described below. Use as necessary and in accordance with the situation.

- Repeatedly moving the vehicle forwards and backwards.
- Clearing away any obstacles, if possible.
- Removing rocks, etc. from the treads.
- Using the centre differential lock*. (Refer to the **Owner's Manual**)
- Using the rear differential lock*. (Refer to the **Owner's Manual**)
- Switching the four-wheel drive control switch*. (Refer to the **Owner's Manual**)
- Using Crawl Control*. (Refer to the **Owner's Manual**)
- Using Multi-terrain Select*. (Refer to the **Owner's Manual**)
- Cancelling VSC and TRC/Active TRC may make freeing the vehicle easier. (Refer to the **Owner's Manual**)

If you are unable to free the vehicle under your own power, have the vehicle freed by a rescue vehicle.

*: If equipped

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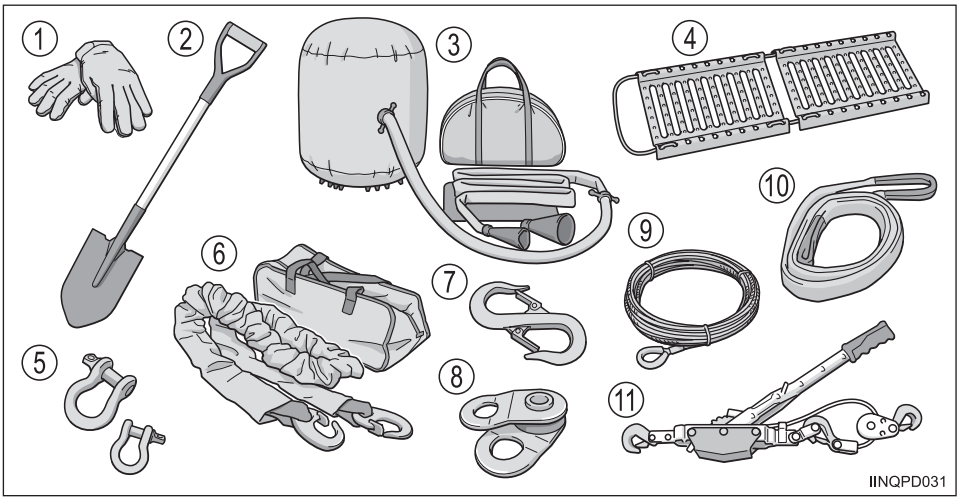
Freeing the vehicle using a rescue tool

- If you are unable to free the vehicle by yourself, it may be possible to free the vehicle using a rescue tool.
- Examples of rescue tools are listed below. Use as necessary and in accordance with the situation. For a detailed explanation, refer to the tool's accompanying manual.



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.
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 the direction from which the vehicle is being towed.
9. Wire
   Used when winching.
10. Strap
    Useful when used in place of the wire.
11. Hand winch
    Used when freeing the vehicle.

If Your Vehicle Becomes Stuck While Driving

To restore tyre grip

Placing a tree branch, a sack or something similar underneath the tyre may help to restore grip.

When stuck in mud and unable to move

- Shift the shift lever to D or R, and free the vehicle by rocking it back and forth. (You may be able to free the vehicle by first monitoring the vehicle's progression while using the accelerator pedal as little as possible, and then increasing acceleration gradually.)
- Freeing the vehicle may become easier if Crawl Control* is switched ON.

When stuck in sand and unable to move

- You may be able to free the vehicle by using the accelerator pedal as little as possible at first and then maintaining acceleration when the vehicle begins to move forward.

  If you are still unable to free the vehicle, remove the sand from around the tyres, check that the body of the vehicle is not in contact with the ground, and attempt to free the vehicle once again.
- Freeing the vehicle may become easier if Crawl Control* is switched ON.
- If you have an air jack, use it to raise the vehicle, then place sand under the tyre and return the vehicle to the height of the ground level. If you are still unable to free the vehicle, place a sandbag or sand ladder underneath the tyre and attempt to free it again.

When unable to move while driving uphill on rubble

- Shift the shift lever to R, and operate the steering wheel, engine brake and brake pedal to reverse directly down the incline while making sure that the tyres do not lock.
- Crawl Control* may assist driving comfort on extreme inclines.

When unable to move while driving through moguls

Shift the shift lever to D or R, and try to free the vehicle by rocking it back and forth while moving the steering wheel left and right.

When unable to move while driving through rocky terrain

Shift the shift lever to D or R, and try to free the vehicle either by rocking it back and forth or by moving the steering wheel left and right to search for grip.

When possible, reverse over your driving line. If you become stuck even when doing so, use the centre and rear differential locks*.

*: If equipped

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When being towed

Refer to the **Owner's Manual**.

When stuck

Also refer to the **Owner's Manual**.

⚠ WARNING

When exiting the vehicle while stopped sideways on an incline

Avoid exiting the vehicle while stopped on an incline. If you need to exit, use the uphill-facing door. If you try to exit using the downhill-facing door, the chances of the vehicle rolling over will increase. As a result, the vehicle may roll onto you and could result in death or serious injury.

After using the rear differential lock*

The rear differential lock is for use in freeing the vehicle in emergency situations. After freeing the vehicle, make sure that you unlock the rear differential.

*: If equipped

⚠ NOTICE

Precaution when freeing the vehicle

- If the steering wheel is overused or if the wheels are allowed to spin more than necessary when freeing the vehicle, the tyres could become further embedded and the situation could worsen.
- If you are unable to free the vehicle under your own power, have the vehicle freed by a rescue vehicle.

After Driving Off-Road

After driving off-road, confirm the points explained in this section and conduct any necessary checks.

Points to Confirm after Driving Off-Road

Check the following points before returning to regular roads after driving off-road.

- Remove any mud adhering to the tyres, and check that the tyres are not damaged.
- Confirm that there are no strange noises or vibrations while driving.
- Check the brake discs and callipers when having driven on sandy roads, muddy roads, through deep snow, when crossing rivers, etc.
- Check that the suspension, drive shaft boots and components on the underside of the vehicle are not damaged or leaking oil.
- Check that both the centre and the rear differentials are unlocked.
- Check that the four-wheel drive control switch is in H4.

After Crossing a River

- Drive a little and check that the brakes are operating properly.
- After driving through muddy water, remove any foreign objects or substances such as leaves or mud from the radiator.
- Check that no water has mixed with the oil in the engine, transmission, transfer, differential, etc.

  If water has mixed with the oil, the oil will be cloudy. In this event, change the oil. Consult your Toyota dealer if necessary.
- Check for changes in the amount and quality of the oil in the engine, transmission, transfer, differential, etc. and conduct maintenance.
- Replace the grease on the propeller shaft within 24 hours after driving.
- Check that no water has entered the air filter. Replace the air filter if it is wet.

  Consult your Toyota dealer.
- Wash the exterior and underside of the vehicle with fresh water after driving through seawater.

After Driving in Seawater

Wash the vehicle as soon as possible to prevent damage to the vehicle exterior, the underside components and the parking brake.

Refer to the **Owner's Manual**.

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WARNING

If you discover an abnormality

Without driving any further, contact your Toyota dealer. Driving with the abnormality could cause an unexpected accident and could result in death or serious injury. Also, if you feel that there is something wrong with the vehicle while driving, immediately stop in a safe place and inspect the vehicle.

After driving off-road

Remove any foreign objects or substances such as grass, undergrowth, paper, rubble, rocks, sand, etc. after driving through undergrowth, mud, rocks, rubble, sand, water, etc. If you drive without removing them, the vehicle may break down or catch fire and could result in death or serious injury.

To prevent damage to the centre differential

For normal driving on dry roads and highways, unlock the centre differential.

Off-Road Precautions

This vehicle belongs to the utility vehicle class, which has higher ground clearance and narrower tread in relation to the height of its centre of gravity to make it capable of performing in a wide variety of off-road applications.

Off-Road Vehicle Features

- Specific design characteristics give it a higher centre of gravity than ordinary passenger cars. This vehicle design feature causes this type of vehicle to be more likely to rollover. And, utility vehicles have a significantly higher rollover rate than other types of vehicles.
- An advantage of the higher ground clearance is a better view of the road allowing you to anticipate problems.
- It is not designed for cornering at the same speeds as ordinary passenger cars any more than low-slung sports cars are designed to perform satisfactorily under off-road conditions. Therefore, sharp turns at excessive speeds may cause the vehicle to rollover.

⚠ WARNING

Off-road vehicle precautions

Always observe the following precautions to minimise the risk of death, serious injury or damage to your vehicle:

- In a rollover crash, an unbelted person is significantly more likely to die than a person wearing a seat belt. Therefore, the driver and all passengers should always fasten their seat belts.
- Avoid sharp turns or abrupt manoeuvres, if at all possible. Failure to operate this vehicle correctly may result in loss of control or vehicle rollover causing death or serious injury.
- Loading cargo on the roof luggage carrier will make the centre of the vehicle gravity higher. Avoid high speeds, sudden starts, sharp turns, sudden braking or abrupt manoeuvres, otherwise it may result in loss of control or vehicle rollover due to failure to operate this vehicle correctly.
- Always slow down in gusty crosswinds. Because of its profile and higher centre of gravity, your vehicle is more sensitive to side winds than an ordinary passenger car. Slowing down will allow you to have better control.
- Do not drive horizontally across steep slopes. Driving straight up or straight down is preferred. Your vehicle (or any similar off-road vehicle) can tip over sideways much more easily than forward or backward.

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Off-Road Driving

When driving your vehicle off-road, please observe the following precautions to ensure your driving enjoyment and to help prevent the closure of areas to off-road vehicles:

- Drive your vehicle only in areas where off-road vehicles are permitted to travel.
- Respect private property. Get owner's permission before entering private property.
- Do not enter areas that are closed. Honour gates, barriers and signs that restrict travel.
- Stay on established roads. When conditions are wet, driving techniques should be changed or travel delayed to prevent damage to roads.

⚠ WARNING

Off-road driving precautions

Always observe the following precautions to minimise the risk of death, serious injury or damage to your vehicle:

- Drive carefully when off the road. Do not take unnecessary risks by driving in dangerous places.
- Do not grip the steering wheel spokes when driving off-road. A bad bump could jerk the wheel and injure your hands. Keep both hands and especially your thumbs on the outside of the rim.
- Always check your brakes for effectiveness immediately after driving in sand, mud, water or snow.
- After driving through tall grass, mud, rock, sand, rivers, etc., check that there is no grass, bush, paper, rags, stone, sand, etc. adhering or trapped on the underbody. Clear off any such matter from the underbody. If the vehicle is used with these materials trapped or adhering to the underbody, a breakdown or fire could occur (Refer to "Off Road / Rural Use – Cleaning Procedure" →**P. 3-42**.).
- When driving off-road or in rugged terrain, do not drive at excessive speeds, jump, make sharp turns, strike objects, etc. This may cause loss of control or vehicle rollover causing death or serious injury. You are also risking expensive damage to your vehicle's suspension and chassis.

Off-Road Precautions

NOTICE

To prevent the water damage

Take all necessary safety measures to ensure that water damage to the engine or other components does not occur.

- Water entering the engine air intake will cause severe engine damage.
- Water entering the automatic transmission will cause deterioration in shift quality, locking up of your transmission accompanied by vibration, and ultimately damage.
- Water can wash the grease from wheel bearings, causing rusting and premature failure, and may also enter the differentials, transmission and transfer case, reducing the gear oil's lubricating qualities.

When you drive through water

- If driving through water, such as when crossing shallow streams, first check the depth of the water and the bottom of the riverbed for firmness. Drive slowly and avoid deep water.

Inspection after off-road driving

- Sand and mud that has accumulated in brake drums and around brake discs may affect braking efficiency and may damage brake system components.
- Always perform a maintenance inspection after each day of off-road driving that has taken you through rough terrain, sand, mud, or water.

  For scheduled maintenance information, refer to the **Warranty and Service Booklet**.

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This Advanced Information Guide
for Australian Conditions covers:
Toyota Genuine Parts and Accessories
Towing Guide
Diesel Particulate Filter (DPF) Information
Diesel Fuel System
Severe Usage
Off-Road Driving

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