



This supplement is not intended to replace your vehicle Owner's Manual, which contains more detailed information concerning the features of your vehicle as well as important safety warnings designed to help reduce the risk of injury to you and your passengers. Please read your entire Owner's Manual carefully as you begin learning about your new vehicle and refer to the appropriate sections when questions arise.

All information contained in this supplement was accurate at the time of publication. We reserve the right to change features, operation and/or functionality of any vehicle specification at any time. Your Ford dealer is the best source for the most current information. For detailed operating and safety information, please consult your Owner's Manual.



## FORD RANGER RAPTOR SUPPLEMENT

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JB3B 19A285 CKA



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# Introduction

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## ABOUT THIS SUPPLEMENT

Thank you for choosing Ford Performance. If you have owned or leased a Ford Performance vehicle before, welcome back. If this is your first Ford Performance vehicle, welcome to the family. We are confident that our dedication to performance, quality, craftsmanship and customer service will provide you with many miles of exhilarating, safe and comfortable driving.

We strive to build engaging vehicles that involve the driver in every aspect of the driving experience. Although performance is at the heart of every Ford Performance vehicle, we go further.

Our goal is to deliver a comprehensive, complete vehicle, paying close attention to the smallest details such as the sound of the exhaust, the quality of the interior materials and the functionality and the comfort of the seats, to make sure that you enjoy not only exceptional performance but an outstanding driving environment as well. This philosophy is expressed in this vehicle through a sophisticated powertrain, outstanding chassis dynamics and significant interior and exterior enhancements.

We have created this supplement to help you get to know the unique features of your Ford Performance vehicle. It only contains the instructions for the unique features of the Ford Performance vehicle and is not a substitute for the Owner's Manual. You must read the full instructions in the Owner's Manual. The more that you know about your vehicle, the greater the safety and pleasure you will get from driving it.

**Note:** *This supplement describes product features and options available throughout the range of available models, sometimes even before they are generally available. It may describe options not fitted to the vehicle you have purchased.*

**Note:** *Some of the illustrations in this supplement may show features as used in different models, so may appear different to you on your vehicle.*

## FORD PERFORMANCE

Welcome to the Ford Performance family!

Performance and racing are deeply embedded in Ford's DNA, dating back to October 10, 1901 when Henry Ford won his first race against Alexander Winton, America's greatest racer at the time. Henry Ford founded Ford Motor Company 18 months later with capital raised on the back of this remarkable upset victory.

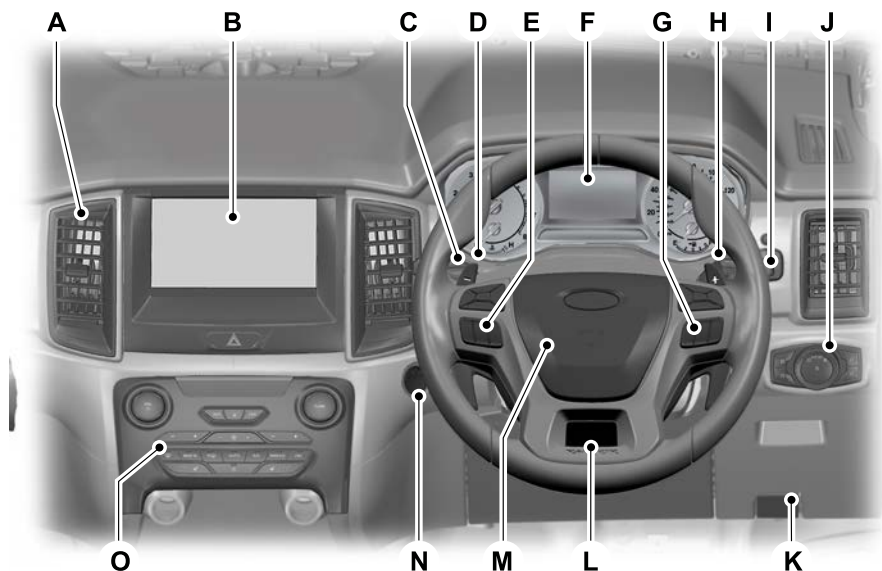
Today, that spirit of passion, innovation and performance lives on through Ford Performance. Established in 2015, Global Ford Performance have a unified mission to create the world's leading performance vehicles, parts, accessories and experiences for enthusiasts. This includes accelerating the development of advanced aerodynamics, light weighting, electronics, powertrain performance, fuel efficiency and other technologies that can be applied across Ford's product portfolio.

We are proud and passionate about what we do and we look forward to a long and exciting relationship with you. Thank you for choosing Ford Performance!

# At a Glance

## INSTRUMENT PANEL OVERVIEW

### Right-hand Drive

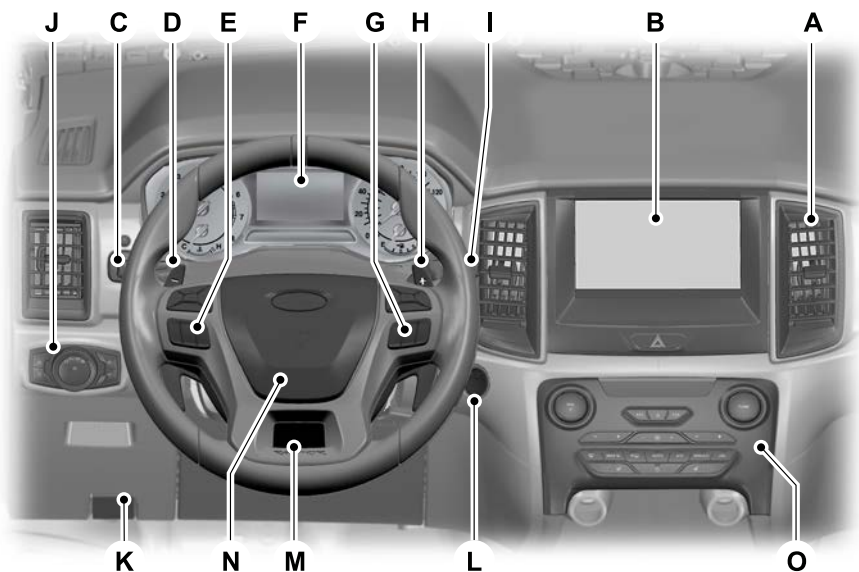


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- |   |                               |   |                                  |
|---|-------------------------------|---|----------------------------------|
| A | Air vents.                    | H | Paddle Shifter.                  |
| B | Multi-function display.       | I | Direction indicators.            |
| C | Windshield wipers.            | J | Lighting control.                |
| D | Paddle Shifter.               | K | Hood release lever.              |
| E | Audio control. Voice control. | L | Steering wheel adjustment lever. |
| F | Instrument cluster.           | M | Horn.                            |
| G | Cruise control switches.      | N | Push button ignition switch.     |
|   |                               | O | Climate control.                 |

# At a Glance

## Left-hand Drive



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- A Air vents.
- B Multi-function display.
- C Direction indicators.
- D Paddle Shifter.
- E Cruise control switches.
- F Instrument cluster.
- G Audio control. Voice control.
- H Paddle Shifter.
- I Windshield wipers.
- J Lighting control.
- K Hood release lever.
- L Push button ignition switch.
- M Steering wheel adjustment lever.

- N Horn.
- O Climate control.

## UNIQUE FEATURES

### Powertrain

- 2.0L BiTurbo Diesel.
- 10-speed automatic transmission.
- Unique transmission calibration.

### Chassis

- Longer, cast aluminum lower control arms.
- Longer forged aluminum upper control arms.



## At a Glance

---

- Fox Racing 2.5 inch, internal bypass front shocks.
- Fox Racing 2.5 inch, internal bypass, remote reservoir rear shocks.
- Long travel coil spring front and rear suspension.
- Unique brake system with front and rear vented disc brakes.
- Heavy duty fully boxed frame.

### Exterior

- Modified rear bumper with integrated rear tow hooks.
- Unique underbody shields plus front tow hooks.
- Front fenders with functional air extractors.
- 17 x 8.5 aluminum wheels.
- LT 285/70 R17 BF Goodrich all-terrain tires.

### Interior

- Unique terrain-mode and hill descent functionality.
- Off-road specific calibrations for engine, transmission, driveline, steering and Stability Control system.
- Unique seats.

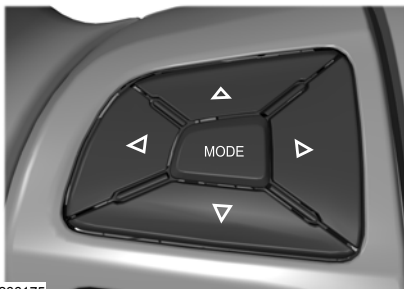
# Steering Wheel

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## INFORMATION DISPLAY CONTROL

### Terrain Control

#### Right-hand Drive



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#### Left-hand Drive



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See **Terrain Control** (page 19).

# Information Displays

## GENERAL INFORMATION

### Average Speed (If Equipped)

Your Ford Performance vehicle tracks your average driven speed. Average Speed is available on your **Tripcomp./fuel** menu. Press and hold the **OK** button to reset your average speed.



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## INFORMATION MESSAGES

**Note:** Depending on your vehicle options and instrument cluster type, not all of the messages will display or be available. The information display may abbreviate or shorten certain messages.

Press the **OK** button to acknowledge and remove some messages from the information display. The information display will automatically remove other messages after a short time.

You need to confirm certain messages before you can access the menus.

### Terrain Control

Message	Action
Locking differential not available in current terrain mode	Displays when the locking differential cannot be used in the current terrain mode.
Terrain management system malfunction	Displays when the terrain management system detects an error.
Selected terrain mode preconditions not met	Displays when the preconditions have not been met to select the desired terrain mode.

# Unique Driving Characteristics

## AUTO-START-STOP (If Equipped)

The system helps reduce fuel consumption by automatically shutting off and restarting the engine while your vehicle is stopped. The engine will restart automatically when you release the brake pedal. In some situations, your vehicle may restart automatically, for example:

- To maintain interior comfort.
- To recharge the battery.

**Note:** *Power assist steering is turned off when the engine is off.*



**WARNING:** Always fully apply the parking brake. Make sure you shift into park (P) for vehicles with an automatic transmission. Switch the ignition off and remove the key whenever you leave your vehicle.



**WARNING:** Before opening the hood or performing any maintenance, fully apply the parking brake, shift into park (P) or neutral (N) and switch the ignition off.



**WARNING:** Always switch the ignition off before leaving the vehicle. If the ignition is switched on an automatic restart may occur at any time.



**WARNING:** The system may require the engine to automatically restart when the auto-start-stop indicator illuminates green or flashes amber. Failure to follow this instruction could result in personal injury.

The Auto-Start-Stop system status is available at a glance within the information display.

## Enabling Auto-Start-Stop

The system is automatically enabled every time you start your vehicle if the following conditions are met:

- The Auto-Start-Stop button is not pressed (not illuminated).
- Your vehicle exceeds an initial speed of 5 km/h after you have initially started the vehicle.
- Your vehicle is stopped.
- Your foot is on the brake pedal.
- The transmission is in drive (D).
- The driver's door is closed.
- There is adequate brake vacuum.
- The interior compartment has been cooled or warmed to an acceptable level.
- The front windshield defroster is off.
- The steering wheel is not turned rapidly or is not at a sharp angle.
- The vehicle is not on a steep road grade.
- The battery is within optimal operating conditions (battery state of charge and temperature in range).
- The engine coolant is at operating temperature.
- Elevation is below approximately 3,050 m.
- Ambient temperature is moderate.



The green Auto-Start-Stop indicator light on the instrument cluster will illuminate to indicate when the automatic engine stop occurs.



If the instrument cluster is equipped with a grey Auto-Start-Stop indicator light, it is illuminated when automatic engine stop is not available due to one of the above noted conditions not being met.

# Unique Driving Characteristics

## Automatic Engine Restart

Any of the following conditions will result in an automatic restart of the engine:

- Your foot is removed from the brake pedal.
- You press the accelerator pedal.
- You press the accelerator and the brake pedal at the same time.
- The driver safety belt becomes unfastened or the driver door is ajar.
- The transmission is moved from drive (D).
- Your vehicle is moving.
- The battery is not within optimal operating conditions.
- The maximum engine off time is exceeded.
- When you press the Auto-Start-Stop button while the engine is stopped automatically.
- The heated windshield is turned on.

Any of the following conditions may result in an automatic restart of the engine:

- The blower fan speed is increased or the climate control temperature is changed.
- An electrical accessory is turned on or plugged in.

## Disabling Auto-Start-Stop



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Press the Auto-Start-Stop button located on the center console to switch the system off. The button will illuminate. The system will only be deactivated for the current ignition cycle. Press the button again to restore Auto-Start-Stop function.

If your vehicle is in an Auto-Start-Stop state and you shift the transmission to reverse while the brake is not depressed, a message telling you to press the brake pedal will appear. You must press the brake pedal within 60 seconds, or a shift to park and a manual restart will be required.

**Note:** *If the Shift to P, Restart Engine message appears and the amber Auto-Start-Stop indicator light is flashing, automatic restart is not available. The vehicle must be restarted manually.*

# Transmission

## AUTOMATIC TRANSMISSION

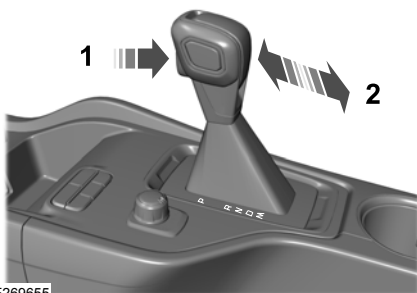


**WARNING:** Always fully apply the parking brake. Make sure you shift into park (P) for vehicles with an automatic transmission. Switch the ignition off and remove the key whenever you leave your vehicle.



**WARNING:** Do not apply the brake pedal and accelerator pedal simultaneously. Applying both pedals simultaneously for more than a few seconds will limit engine performance, which may result in difficulty maintaining speed in traffic and could lead to serious injury.

### Transmission Selector Lever Positions



E269655

P	Park.
R	Reverse.
N	Neutral.
D	Drive.
M	Manual mode and manual shifting.

Press the button (1) on the transmission selector lever (2) to select reverse (R) or drive (D). After the transmission is in drive (D), you can then press the button (1) on the transmission selector lever (2) again to select manual (M). The current gear displays on the instrument panel.

### Manual (M)

With the transmission selector lever in the manual (M) position, you can change gears up or down. By moving the transmission selector lever from drive (D) to manual (M), you now have control of selecting the gear you desire using the paddle shifters on the steering wheel. To return to normal drive (D) position, move the transmission selector lever back from manual (M) to drive (D).

### SelectShift™ Automatic Transmission

Your vehicle has a SelectShift automatic transmission gearshift lever and steering wheel mounted shifter paddles. The SelectShift Automatic transmission gives you the ability to change gears up or down, without a clutch.

As long as the engine speed does not exceed the maximum allowable limit, downshifts are allowed. SelectShift downshifts at low engine speeds to prevent engine stalls.

**Note:** *Engine damage may occur if you maintain excessive engine revving without shifting.*

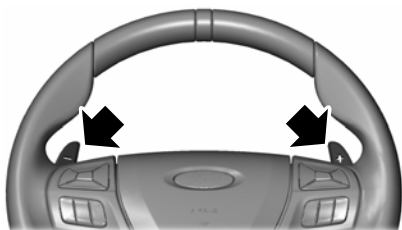
SelectShift does not automatically upshift, even if the engine is approaching the RPM limit.

10 speed transmissions - with the transmission selector lever in the manual (M) position:

- Pull the right paddle (+) to upshift.
- Pull the left paddle (-) to downshift.

# Transmission

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E269194

To exit SelectShift mode, return the transmission selector lever to drive (D).

When your vehicle is stationary, you can only select the 1st and 2nd gears. Manual shifting is sequential, therefore gears cannot be skipped.

## **Live in Drive (LID) - Functionality**

With the transmission selector lever in drive (D), use the (+) or (-) paddles to temporarily change a gear up or down for each press. The selected gear displays on the cluster. After a few seconds, LID cancels and normal automatic shifting resumes.

# Four-Wheel Drive

## PRINCIPLE OF OPERATION

The four-wheel drive system in your vehicle is a part-time system activated using the rotary switch mounted in the centre console. In normal rear-wheel drive operation (**2H**) drive torque is directed to the rear axle. When the switch is moved to **4H** or **4L**, drive torque is directed to both the front and rear axles, providing four-wheel drive operation.

Depending on your vehicle, further four-wheel drive options may be available on the switch panel located on the centre console.

## USING FOUR-WHEEL DRIVE

**Note:** A clicking sound from the drive line may be heard while shifting between ranges, which is normal.



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### Two-Wheel Drive, High Range - 2H

Use for all normal road driving and also for off-road driving across dry, level terrain.

### Four-Wheel Drive, High Range - 4H

**Note:** Do not use four-wheel drive 4H for normal road driving.

Use for off-road driving.

**Note:** Do not use on paved or sealed roads.

We recommend that you frequently inspect your vehicle's chassis components if your vehicle is subject to off-road use.

**Note:** The four-wheel drive indicator lamp will come on when the transfer shift switch is in the 4H position.

### Four-Wheel Drive, Low Range - 4L

**Note:** Do not use four-wheel drive 4L for normal road driving.

Use for more extreme off-road conditions, such as steep ascents and descents.

Also use when low speed maneuvering is necessary, such as negotiating a boulder-strewn river bed.

We recommend that you frequently inspect your vehicle's chassis components if your vehicle is subject to off-road use.

**Note:** The four-wheel drive low range 4L and four-wheel drive indicator lamps will come on when the transfer shift switch is in the 4L position.

### Shifting Between 2H and 4H

**Note:** Shift to 2H will reactivate all the stability control (ESP) functions.

Shift between 2H and 4H can be done with the vehicle moving up to 110 km/h, but only with the accelerator pedal released. During the shift the indicator lamp will flash.

### Shifting Between 2H and 4L

**Note:** Shift to 4L will deactivate Engine Traction Control and Trailer Stability Control but Hill Descent Control, Hill Start Assist and Brake Traction Control remain active.

**Note:** Shift to 2H will reactivate all the stability control (ESP) functions.

1. Stop the vehicle when it is safe to do so.



# Four-Wheel Drive

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2. Place the transmission in neutral (N).
3. Turn the transfer shift switch from 2H to 4L or 4L to 2H.

During the shift the indicator lamp will flash. If it continues to flash, check meeting the above conditions.

## Shifting Between 4H and 4L

**Note:** *Shift to 4L will deactivate Engine Traction Control and Trailer Stability Control but Hill Descent Control, Hill Start Assist and Brake Traction Control remain active.*

1. Stop the vehicle when it is safe to do so.
2. Place the transmission in neutral (N).
3. Turn the transfer shift switch from 4H to 4L or 4L to 4H.

During the shift the indicator lamp will flash. If it continues to flash, check meeting the above conditions.

## Driving in Special Conditions With Four-Wheel Drive

Four-wheel drive vehicles are suitable for driving on sand, snow, mud and rough roads and have operating characteristics that are somewhat different from conventional vehicles, both on and off the freeway.

When driving at slow speeds off road under high load conditions, use a low gear when possible. Low gear operation will maximize the engine and transmission cooling capability.

## Basic Operating Principles

When driving your vehicle on surfaces made slippery by loose sand, water, gravel, snow or ice proceed with care.

## If Your Vehicle leaves the Road

If your vehicle leaves the road, reduce your vehicle speed and avoid severe braking. When your vehicle speed has been reduced ease your vehicle back onto the road. Do not turn the steering wheel sharply while returning your vehicle to the road.

It may be safer to stay on the shoulder of the road and slow down gradually before returning to the road. You may lose control if you do not slow down or if you turn the steering wheel too sharply or abruptly.

It may be less risky to strike small objects, such as freeway reflectors, with minor damage to your vehicle rather than attempt a sudden return to the road which could cause your vehicle to slide sideways out of control or roll over. Remember, your safety and the safety of others should be your primary concern.

## Emergency Maneuvers

In an unavoidable emergency situation where a sudden sharp turn must be made, remember to avoid over-driving your vehicle (i.e. turn the steering wheel only as rapidly and as far as required to avoid the emergency). Excessive steering can result in loss of vehicle control. Apply smooth pressure to the accelerator pedal or brake pedal when changes in vehicle speed are required. Avoid abrupt steering, acceleration and braking. This could result in an increased risk of vehicle roll over, loss of vehicle control and personal injury. Use all available road surface to bring your vehicle to a safe direction of travel.

In the event of an emergency stop, avoid skidding the tires and do not attempt any sharp steering wheel movements.

If your vehicle goes from one type of surface to another (i.e. from concrete to gravel) there will be a change in the way your vehicle responds to a maneuver (i.e. steering, acceleration or braking).

# Four-Wheel Drive

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## Sand

When driving over sand, try to keep all four wheels on the most solid area of the trail. Shift to a lower gear and drive steadily through the terrain. Apply the accelerator slowly and avoid excessive wheel slip.

Do not drive your vehicle in deep sand for an extended period of time. This will cause the system to overheat.

To resume operation, switch the ignition off and allow the system to cool down for a minimum of 15 minutes.

When driving at slow speeds in deep sand under high outside temperatures, use a low gear when possible. Low gear operation will maximize the engine and transmission cooling capability.

Avoid driving at excessive speeds, this causes vehicle momentum to work against you and your vehicle could become stuck to the point that assistance may be required from another vehicle. Remember, you may be able to back out the way you came if you proceed with caution.

## Mud and Water

### Mud

Be cautious of sudden changes in vehicle speed or direction when you are driving in mud. Even four-wheel drive vehicles can lose traction in slick mud. If your vehicle does slide, steer in the direction of the slide until you regain control of your vehicle.

After driving through mud, clean off residue stuck to rotating drive shafts and tires. Excess mud stuck on tires and rotating drive shafts can cause an imbalance that could damage drive components.

### Water

If you must drive through high water, drive slowly. Traction or brake capability may be limited.

When driving through water, determine the depth and avoid water higher than the bottom of the wheel rims. If the ignition system gets wet, your vehicle may stall.

Once through water, always try the brakes. Wet brakes do not stop your vehicle as effectively as dry brakes. Drying can be improved by applying light pressure to the brake pedal while moving slowly.

**Note:** *Driving through deep water may damage the transmission. If the front or rear axle is submerged in water, the axle lubricant and power transfer unit lubricant should be checked and changed if necessary.*

## Driving on Hilly or Sloping Terrain

Although natural obstacles may make it necessary to travel diagonally up or down a hill or steep incline, you should always try to drive straight up or straight down.

**Note:** *Avoid turning on steep slopes or hills. A danger lies in losing traction, slipping sideways and possible vehicle roll over. Whenever driving on a hill, determine beforehand the route you will use. Do not drive over the crest of a hill without seeing what conditions are on the other side. Do not drive in reverse over a hill without the aid of an observer.*

When climbing a steep slope or hill, start in a lower gear rather than downshifting to a lower gear from a higher gear once the ascent has started. This reduces strain on the engine and the possibility of stalling.

If your vehicle stalls, do not try to turn around because this could cause vehicle roll over. It is better to reverse back to a safe location.

Apply just enough power to the wheels to climb the hill. Too much power will cause the tires to slip, spin or lose traction, resulting in loss of vehicle control.

## Four-Wheel Drive



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Descend a hill in the same gear you would use to climb up the hill to avoid excessive brake application and brake overheating. Do not descend in neutral. Disengage overdrive or move the transmission selector lever to a lower gear. When descending a steep hill, avoid sudden hard braking as you could lose control. The front wheels have to be turning in order to steer your vehicle.

Your vehicle has anti-lock brakes, therefore apply the brakes steadily. Do not pump the brake pedal.

### Driving on Snow and Ice



**WARNING:** If you are driving in slippery conditions that require tire chains or cables, then it is critical that you drive cautiously. Keep speeds down, allow for longer stopping distances and avoid aggressive steering to reduce the chances of a loss of vehicle control which can lead to serious injury or death. If the rear end of your vehicle slides while cornering, steer in the direction of the slide until you regain control of your vehicle.

**Note:** Excessive tire slippage can cause transmission damage

Four-wheel drive vehicles have advantages over two-wheel drive vehicles in snow and ice but can skid like any other vehicle. Should you start to slide while driving on snowy or icy roads, turn the steering wheel in the direction of the slide until you regain control.

Avoid sudden applications of power and quick changes of direction on snow and ice. Apply the accelerator slowly and steadily when starting from a full stop.

Avoid sudden braking. Although a four-wheel drive vehicle may accelerate better than a two-wheel drive vehicle in snow and ice, it will not stop any faster as braking occurs at all four wheels. Do not become overconfident as to road conditions.

Make sure you allow sufficient distance between you and other vehicles for stopping. Drive slower than usual and consider using one of the lower gears. In emergency stopping situations, apply the brake steadily. As your vehicle has a four wheel anti-lock brake system, do not pump the brake pedal.

### If Your Vehicle Gets Stuck In Mud or Snow

If your vehicle gets stuck in mud or snow, it may be rocked out by shifting between forward and reverse gears, stopping between shifts in a steady pattern. Press lightly on the accelerator in each gear.

**Note:** Do not rock your vehicle if the engine is not at normal operating temperature, damage to the transmission may occur.

**Note:** Do not rock your vehicle for more than a minute, damage to the transmission and tires may occur or the engine may overheat.

# Four-Wheel Drive

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## Maintenance and Modifications

The suspension and steering systems on your vehicle have been designed and tested to provide predictable performance whether loaded or empty. For this reason, we strongly recommend that you do not make modifications such as adding or removing parts (i.e. lift kits or stabilizer bars) or by using replacement parts not equivalent to the original factory equipment.

We recommend that you use caution when your vehicle has either a high load or device (i.e. ladder or luggage racks). Any modifications to your vehicle that raise the center of gravity may cause your vehicle to roll over when there is a loss of vehicle control.

Failure to maintain your vehicle correctly may void the warranty, increase your repair cost, reduce vehicle performance and operational capabilities and adversely affect you and your passenger's safety. We recommend you frequently inspect your vehicle's chassis components when your vehicle is subject to off road usage.

## Rear Axle

### ELECTRONIC LOCKING DIFFERENTIAL

**Note:** Do not operate the system on sealed roads. Doing so may lead to excessive tire noise and wear. Use the system only in consistently slippery or loose surface.

The system locks the left and right portions of the rear axle together to form a solid driving axle, resulting in increased rear wheel traction in certain conditions.

Press the electronic differential lock button to activate the system.



E214414

The electronic differential lock will lock and unlock when the internal gears are aligned and no torque load is placed on the differential. To aid alignment, drive the vehicle in a straight line with the accelerator pedal released. Alternatively, drive slowly forward and backward while moving the steering wheel from side to side to allow the electronic differential lock to lock.

The system will:

- Automatically disengage when a speed of 40 km/h is exceeded.
- Automatically re-engage when the speed drops below 30 km/h.
- Automatically disengage when the ignition is turned off.

**Note:** The system activates when the vehicle speed is less than 30 km/h and accelerator pedal released.

**Note:** The system can be used in any drive mode (2H, 4H or 4L).

If the system is selected when driving above 40 km/h, the request is stored and will be engaged when the vehicle speed reduces to 30 km/h. The electronic differential lock indicator lamp will flash until either the vehicle speed reduces and the differential lock is engaged or the driver deselects the electronic differential lock button.

**Note:** When the system is engaged, the Electronic Stability Program (ESP) functions such as Stability Control, Traction Control, Hill Descent Control, Emergency stop signal, Hill Start Assist and Trailer Sway Control will be deactivated, the ESP Off indicator illuminates, and the HDC on indicator turns off.

**Note:** When the anti-lock braking system is operating, the system will be disengaged.

# Terrain Control

## PRINCIPLE OF OPERATION

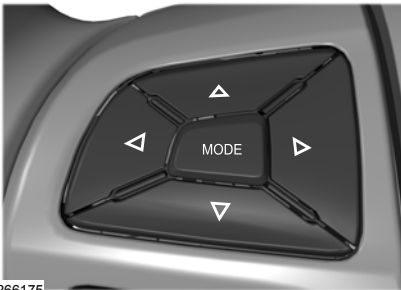
The system delivers a driving experience through a suite of sophisticated electronic vehicle systems. These systems optimize steering, handling and powertrain response. This provides a single location to control multiple systems performance settings.

Changing the drive mode changes the functionality of the following systems:

- Electronically power-assisted steering system adjusts steering effort and feel based on the mode you select.
- Electronic stability control and traction control maintains your vehicle control in adverse conditions or high performance driving.
- Electronic throttle control enhances the powertrain response to your inputs.
- Transmission controls are optimized with shift schedules tuned to each terrain.

**Note:** Do not use electronic locking differential on dry, hard surfaced roads. Doing so may produce excessive noise, vibration and increase tire wear. See **Electronic Locking Differential** (page 18).

## Using Terrain Control



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Use the control on the steering wheel to access the system and to select a mode.

After you move to the desired mode, remain on that mode to select it. You do not need to press any additional controls to select the mode.



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**Note:** Mode changes are not available when the vehicle ignition is off.

## On-Road Modes



**Normal** - For everyday driving. Normal mode is a perfect balance of excitement, comfort and convenience.

# Terrain Control



**Sport** - For aggressive on-road driving. Sport mode increases throttle response, provides a sportier steering feel, along with quicker shifting. The transmission also holds gears longer, helping your vehicle accelerate faster.

## Off-Road Modes

**Note:** Off-Road Modes are to be used only for off-road terrains.



**Grass/Gravel/Snow** - For less than ideal road conditions, such as snow or ice covered roads. This mode inspires confidence without taking away from driving pleasure. This mode prompts you to put your vehicle in 4H and engages the electronic locking differential to lower throttle response and optimize shifting for slippery surfaces.



**Mud/Sand** - For navigating tight trails and over obstacles. Mud/Sand mode prompts you to put your vehicle in 4H and engages the electronic locking differential for improved off-road capability, and provides a comfortable steering feel.



**Baja** - For high speed off-road driving. Baja mode prompts you to put your vehicle in 4H and optimizes the throttle control for better response and torque delivery.



**Rock** - For optimum rock-climbing ability. Rock mode prompts you to put your vehicle in 4x4 Low and engages the electronic locking differential. Rock mode optimizes the throttle and transmission response to provide you additional control of your vehicle.

**Note:** If you select the Mud and Sand, Baja or Rock mode, the traction and stability control performance degrades and the warning indicator illuminates in the instrument cluster.

**Note:** The Terrain Control System has diagnostic checks that continuously monitor the system for proper operation. Certain drive modes are not available based on gear shifter position. If a mode is unavailable due to a system fault, the mode defaults to Normal.

## Terrain Control Mode Configurations

### Normal

System	Configuration
4X2.	Available.
4X4 High.	Available.
4X4 Low.	Available.
Traction Control System (TCS).	Normal.
Electronic Stability Control (ESC).	On.
Electronic Locking Rear Differential (ELRD).	Available below 30 km/h if switched on.
	Automatically disengages above 40 km/h.
Steering Effort.	Normal.

# Terrain Control

## Sport

System	Configuration
4X2.	Available.
4X4 High.	Not available.
4X4 Low.	Not available.
Traction Control System (TCS).	Normal.
Electronic Stability Control (ESC).	On.
Electronic Locking Rear Differential (ELRD).	Available below 30 km/h if switched on.
	Automatically disengages above 40 km/h.
Steering Effort.	Sport.

## Mud/Sand

System	Configuration
4X2.	Not available.
4X4 High.	Available.
4X4 Low.	Available.
Traction Control System (TCS).	Mud Ruts.
Electronic Stability Control (ESC).	On.
Electronic Locking Rear Differential (ELRD).	Available below 70 km/h if switched on.
	Automatically disengages above 80 km/h.
Steering Effort.	Comfort.

## Grass/Gravel/Snow

System	Configuration
4X2.	Not available.
4X4 High.	Available.
4X4 Low.	Not available.
Traction Control System (TCS).	Winter.
Electronic Stability Control (ESC).	On.
Electronic Locking Rear Differential (ELRD).	Available below 30 km/h if switched on.
	Automatically disengages above 40 km/h.
Steering Effort.	Normal.

## Baja

System	Configuration
4X2.	Available.
4X4 High.	Available.
4X4 Low.	Available.
Traction Control System (TCS).	Baja.
Electronic Stability Control (ESC).	On.
Electronic Locking Rear Differential (ELRD).	Available below 70 km/h if switched on.
	Automatically disengages above 80 km/h.
Steering Effort.	Comfort.



# Terrain Control

---

## Rock

System	Configuration
4X2.	Not available.
4X4 High.	Not available.
4X4 Low.	Available.
Traction Control System (TCS).	Off.
Electronic Stability Control (ESC).	Off.
Electronic Locking Rear Differential (ELRD).	Available below 30 km/h if switched on.
	Automatically disengages above 40 km/h.
Steering Effort.	Comfort.

# Towing

---

## RECOMMENDED TOWING WEIGHTS

### Towing Capacities

Variant	Transmission	Drive	FDR	Gross Combination Mass	Max Tow Without Trailer Brake	Max Tow With Trailer Brake
2.0L TDCi Diesel	10-Speed Automatic Transmission	Four-wheel drive	3.73	5,350 kg	750 kg	2,500 kg

# Driving Hints

---

## OFF-ROAD DRIVING

In addition to providing an excellent on-road driving experience, your vehicle excels at all types of off-road driving. The truck has been designed and equipped to allow you to explore those places where the road doesn't take you whether it's a forest trail or the open desert. Before going off-roading, consult with your local governmental agencies to determine designated off-road trails and recreation areas. Also, be sure to understand any off-road vehicle registration requirements for the area in which you plan on driving.

Before taking your vehicle off-roading, a basic vehicle inspection should be done to make sure that the vehicle is in top working condition.

It is always recommended that at least two vehicles are used while off-roading. The buddy system helps make sure that help is close at hand should a vehicle become stuck or damaged. It is also wise to take supplies such as a first aid kit, supply of water, tow strap, cell or satellite phone with you any time an off-road excursion is planned.

## Basic Off-road Driving Techniques

- Grip the steering wheel with thumbs on the outside of the rim. This will reduce the risk of injury due to abrupt steering wheel motions that occur when negotiating rough terrain. Do not grip the steering wheel with thumbs inside the rim.
- Throttle, brake and steering inputs should be made in a smooth and controlled manner. Sudden inputs to the controls can cause loss of traction or upset the vehicle, especially while on sloped terrain or while crossing obstacles such as rocks or logs.
- Look ahead on your route noting upcoming obstacles, surface texture or color changes or any other factors which may indicate a change in available traction, and adjust the vehicle speed and route accordingly. During pre-run, mark obstacles with GPS markers to make sure appropriate speeds are used to avoid potential vehicle damage.
- When driving off-road, if the front or rear suspension is bottoming-out and or excessive contact with the skid-plates is encountered, reduce vehicle speed to avoid potential damage to the vehicle.
- When running with other vehicles, it is recommended that communication is used, and the lead vehicle notify other vehicles of obstacles that could cause potential vehicle damage.
- Always keep available ground clearance in mind and pick a route that minimizes the risk of catching the underside of the vehicle on an obstacle.
- When negotiating low speed obstacles, applying light brake pressure in conjunction with the throttle will help prevent the vehicle from jerking and will allow you to negotiate the obstacle in a more controlled manner. Using 4L will also help with this.
- Use and equip supplemental safety equipment as discussed later in this chapter.
- Please consult your local off-road group for other helpful tips.
- Off-roading requires a high degree of concentration. Even if your local law does not prohibit alcohol use while driving off-road, Ford strongly recommends against drinking if you plan to off-road.

# Driving Hints

## Crossing Obstacles

- Review the path ahead before attempting to cross any obstacle. It is best if the obstacle is reviewed from outside the vehicle so that there is a good understanding of terrain condition both in front of and behind the obstacle.
- Approach obstacles slowly and slowly inch the vehicle over.
- If a large obstacle such as a rock cannot be avoided, choose a path that places the rock directly under the tire rather than the undercarriage of the vehicle. This will help prevent damage to the vehicle.
- Ditches and washouts should be crossed at a 45 degree angle, allowing each wheel to independently cross the obstacle.

## Hill Climbing



**WARNING:** Extreme care should be used when steering the vehicle in reverse down a slope so as not to cause the vehicle to swerve out of control.

- Always attempt to climb a steep hill along the fall line of the slope and not diagonally.
- If the vehicle is unable to make it up the hill, DO NOT attempt to turn back down the slope. Place the vehicle in low range and slowly back down in reverse.
- When descending a steep slope, select low gear and engage hill descent control. Use the throttle and brake pedals to control your descent speed as described earlier in this section using hill descent control. Note that hill descent control is functional in reverse and should be used in this situation.

## Water Wading

Your vehicle is designed to operate in water depths up to 850 mm. However, as the water depth increases, vehicle speed must be reduced to avoid potential vehicle damage.

- Always determine the depth before attempting a water crossing.
- Proceed slowly and avoid splashing water any more than is necessary.
- Be aware that obstacles and debris may be beneath the water's surface.
- Keep the doors fully closed during the water crossing.
- Upon completion of the water crossing, slowly drive a short distance and check the brakes for full effectiveness.

Refer to the chart below for the maximum allowable speeds when driving through water.

**Note:** *Failure to follow the recommended speeds may result in vehicle damage.*

Water Depth	Maximum Allowable Vehicle Speed
150 mm	65 km/h
200 mm	50 km/h
250 mm	30 km/h
300 mm	12 km/h
450 mm - 850 mm	7 km/h
Reverse – up to 760 mm	Less than 10 km/h

# Driving Hints

---

## High Speed Off-Roading

The off-road driving discussed thus far focuses on the type of events typically encountered during slow speed off-road driving conditions. Your vehicle provides excellent performance in a mid size pick-up truck during these slower speed conditions, but truly excels at higher speed baja style off-road driving. High speed off-roading presents a unique challenge, therefore you need to take extra care and caution before engaging in this type of driving.

If you plan on using the truck for severe, high speed off-road use, we recommend the following:

- Equip your truck with the safety equipment used for the Stock-Full Class as defined in the rule books for SCORE International Off-Road Racing ([www.score-international.com](http://www.score-international.com)).
- Use personal safety equipment including a SNELL SA certified helmet and approved neck restraint device.
- Before venturing off-road in unfamiliar areas at high speeds, do a low speed reconnaissance run (pre-run) to become aware of any obstacles that you will encounter.

Your vehicle has been engineered for off-road use beyond what is normal for a Ranger. However, it can incur damage if driven beyond its capabilities. We design skid plates, shock guards and running boards to help limit damage to vital components and exterior finishes, but we cannot prevent all damage if driven in extreme off-road conditions. We will not honor your warranty for damage to skid plates, shock guards, running boards and exterior finishes as well as bent, cracked or broken body, frame and chassis components.

It is important that you take the time to become familiar with the controls and dynamics of your vehicle before attempting higher speed off-roading.

Some points to consider:

- Build up speed slowly. Initially, drive at a pace that allows ample time to fully assess the terrain around you and to understand how your vehicle responds to both the terrain and driver inputs. Increase pace as comfort increases while always being mindful of how the vehicle responds to various events at different speeds.
- Find a wide open place to experiment with different functions on the truck. Try a given maneuver with different vehicle settings (4H verses 4L), (differential locked verses unlocked) and see how the truck responds. Start slowly and build pace as comfort increases.
- Similarly, in a wide open space, experiment with different driving techniques. For example, if the vehicle is tending to push straight ahead when trying to negotiate a turn (understeering or plowing), a light application of the brake when turning may help rotate the truck. A wider entry to the corner or entering the corner more slowly may help the truck turn and allow you to apply the throttle sooner after negotiating the turn.
- Remember the phrase "smooth is fast". This refers to your steering, throttle, and brake movements. Smooth decisive movements improves results and helps to increase safety.

# Driving Hints

---

- As speed increases, it is wise to look farther ahead of the vehicle so that there is time to react to oncoming obstacles. Remember that in many off-road environments, obstacles are hard to see until they are relatively near. A good strategy is to alternate between looking far ahead and up close to the front of the vehicle as you are driving.
- Also, remember to drive what you can see. This means to not drive faster than you are able to negotiate unforeseen upcoming obstacles. This could refer to obstacles over a brow, in a ravine, in brush, in dusty conditions, and in the darkness, among others.
- If you are driving in a dusty area, be sure to leave ample distance between you and any other vehicles to allow for adequate vision.
- Always remember that you may not be the only one in a particular recreational area, always be cognizant of others in your area. This is especially true of motorcycles and ATV's which may be more difficult to spot than a full-sized vehicle.
- If driving in desert conditions, it is advised that you always drive with your headlights on to help other drivers more easily see you.
- When driving in desert conditions, the midpoint of the day is the most difficult time to see many of the small ridges and dips due to flat shadows from the sun being at its highest point. Use extreme care at these times to not inadvertently run into these obstacles.
- We highly encourage you to switch to off-road mode for off road operation. Please see the See **Four-Wheel Drive** (page 13). for more details.

## After Off-Road Driving

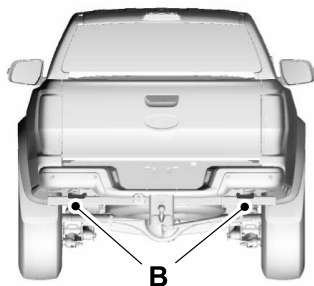
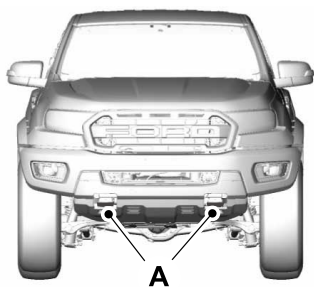
It is important to complete a full vehicle inspection after off-road driving. Some items to check include:

- Make sure that you inflate the tires to the proper tire pressure as indicated on the tire placard.
- Check the wheels and undercarriage for a buildup of mud or debris, which can cause vehicle vibration.
- Make sure that the grille and radiator are clear of any obstructions that may affect cooling.
- Make sure that the brakes are in proper working order and free of any mud, stones and debris, which can become trapped around the brake rotor, backing plate and caliper.
- Check that the air filter is clean and dry.
- Inspect for torn or punctured boots on ball joints, half shafts, steering gears.
- Inspect exhaust system for damage or looseness.
- Inspect undercarriage fasteners. If any are loose or damaged, tighten or replace and make sure that you use the proper torque specification.
- Inspect the tires for any cuts in the tread or sidewall area. Also inspect the sidewall for any bulge, indicating damage to the tire.
- Inspect the wheels for dents, cracks, or other damage.

# Roadside Emergencies

## TOWING POINTS

The towing points on your vehicle are enthusiast rated.



E266677

Recovery Hook	Rating
Front (A)	4,635 kg
Rear (B)	3,863 kg

## CLEANING THE EXTERIOR

**Note:** *Do not use front bumper openings as a step. This could cause damage to your vehicle.*

Do not drive your vehicle through an automated, commercial car wash due to the vehicle's tire width and track. Wash your vehicle by hand, or by using a touchless commercial wash with no mechanical tracks on the floor. Do not use a commercial or high-pressure wand on the bed-side graphic surface or graphics edges.



# Wheels and Tires

## WHEELS

Your vehicle has unique wheels matched to the tires. To avoid damage to your wheels:

- Maintain proper tire pressure. See **Tire Care** (page 30).
- Due to extreme tire and wheel width, this vehicle cannot be taken through an automatic car wash that uses mechanical tracks, as wheel damage may result.
- When installing wheels, always torque lug nuts to specification with a torque wrench.
- Inspect your wheels for damage on a regular basis. If you have a damaged wheel, replace it immediately.
- In the event that you encounter an abnormally harsh impact, inspect the outside tire wall of your wheels, both inside and out, for damage.



**WARNING:** Replace the wheels and tires with the exact original brand, size and construction that came originally on your vehicle. Use of any other wheel or tire combinations, even with identical size ratings, may result in insufficient running clearances, tire rubbing and eventual puncture. Failure to follow tire replacement recommendations can lead to tire failure, loss of vehicle control, serious injury or death.

**Note:** Only use tire sizes listed on the tire label. Incorrect tire sizes may cause damage not covered by the vehicle Warranty.

Your vehicle is equipped with high performance, all-terrain tires designed to optimize handling, steering and braking to provide the performance you expect in a Ford Performance vehicle. These tires are optimized for both on and off-road performance, and their ride, noise and wear characteristics are different from other tires. Also, because of their aggressive tread profile, it is important that you maintain your tires properly.



**WARNING:** Always re-inflate tires to recommended tire pressures before the vehicle is operated on-road. The recommended pressure is located on the tire label or safety certification label, located on the B-pillar, inside the driver's door.



**WARNING:** After off-road use, before returning to the road, check the wheels and tires for damage. Off-road use may cause damage to your wheels and tires that can lead to tire failure, loss of vehicle control, serious injury or death.

- Always maintain your tire pressures according to the tire information placard located on the driver's door B-pillar, using an accurate gauge. Remember to be prepared to re-inflate your tires before returning to the road. If a tire filling station is not available, remember to prepare a supplemental means to inflate the tires, such as a portable compressor.
- In cold temperature, check the tire pressure after the vehicle has been parked for more than three hours. Do not reduce pressure of warm tires.
- Check your tire pressure often to maintain it properly. Tire pressure can diminish over time and fluctuate with temperature.

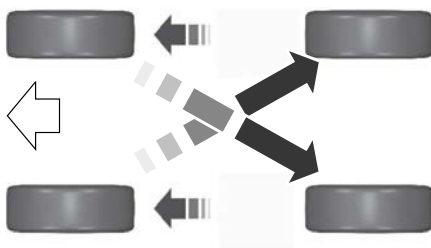
# Wheels and Tires

- Do not overload your vehicle. Maximum vehicle and axle weights are listed on the tire information placard.
- Extra caution should be taken when operating the vehicle near its maximum load, including assuring proper tire pressure and reducing speeds.
- In the event that you encounter an abnormally harsh impact, inspect your tires for damage.
- Inspect your tires for damage on a regular basis. Replace a damaged tire immediately.
- Proper suspension alignment is critical for maximum performance and optimal tire wear. If you notice uneven tire wear, have your alignment checked.

## Tire Rotation

Because your vehicle's tires perform different jobs, they often wear differently. To make sure your tires wear evenly and last longer, have them rotated.

**Note:** Front tires are shown on the left side of the diagram.



E142548

**Note:** Your vehicle requires tire rotations every scheduled oil change, see *Servicing Your Vehicle in the Owner's Manual* for more information. If you notice that the tires wear unevenly, have them checked.

**Note:** Uneven tread depth between the front and rear tires may lead to degradation in 4WD engagement and disengagement performance, additional noise from the 4WD system or possible damage.

## Spare Tire and Wheel

Your vehicle has an LT285/70R17 spare tire. The spare tire and wheel assembly has the same capability as the road tire and wheel assembly, but does not have a tire pressure monitoring sensor.

## USING SNOW CHAINS



**WARNING:** Do not exceed 50 km/h. Failure to follow this instruction could result in the loss of control of your vehicle, personal injury or death.



**WARNING:** Do not use snow chains on snow-free roads.



**WARNING:** Only fit snow chains to specified tires.



**WARNING:** If your vehicle is fitted with wheel trims, remove them before fitting snow chains.

**Note:** Only use snow chains on applicable tire sizes. See **Technical Specifications** (page 38).

Only use S-Class snow chains, 15 mm chain links.

Only use manual tensioning chains. Do not use self-tensioning chains.

Only use snow chains on the rear axle. More information on applicable tire sizes that support snow chains usage can be found later in this Owner's Manual. See **Technical Specifications** (page 38).

# Wheels and Tires

Vehicle	Tire	Approved Chain Model Only
Raptor	LT 285/70R17	Konig Polar 296 4.35mm 15mm chain link with 4.35mm wire thickness

**Note:** The anti-lock brake system continues to operate normally.

## Vehicles with Stability Control

When stability control is on, your vehicle may exhibit some unusual driving characteristics. To reduce this, switch traction control off.

## CHANGING A ROAD WHEEL

### Locking Wheel Nuts (If Equipped)

You can obtain a replacement locking wheel nut key and replacement locking wheel nuts from your dealer using the reference number certificate.

### Vehicle Jack

**WARNING:** Ensure screwthread is adequately lubricated before use.

**WARNING:** The jack should be used on level firm ground wherever possible.

**WARNING:** Switch the ignition off and apply the park brake fully before lifting vehicle.



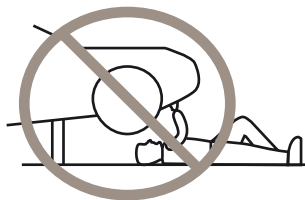
**WARNING:** It is recommended that the wheels of the vehicle be chocked, and that no person should remain in a vehicle that is being jacked.



**WARNING:** No person should place any portion of their body under a vehicle that is supported by a jack.



**WARNING:** Do not get under a vehicle that is supported by a jack.



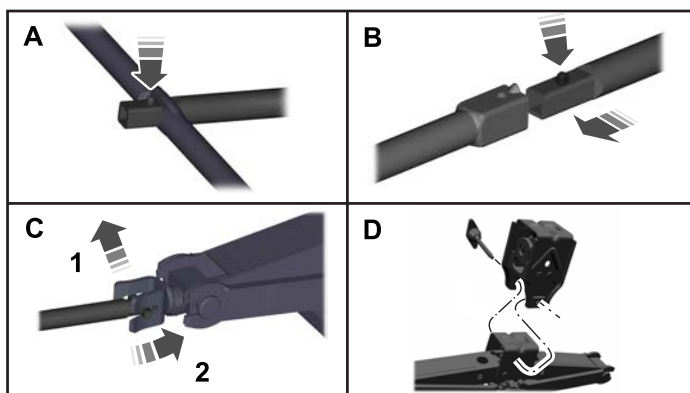
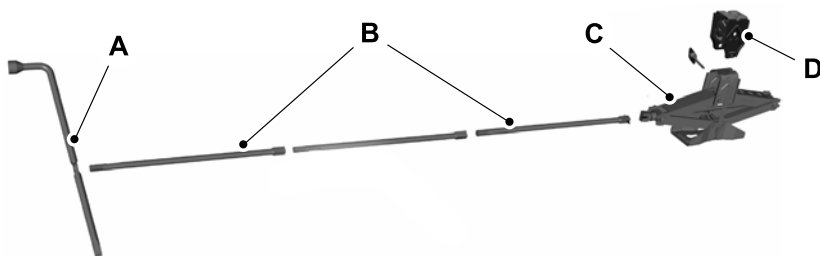
E166722



**WARNING:** The jack supplied with this vehicle is only intended for changing wheels. Do not use the vehicle jack other than when you are changing a wheel in an emergency.

# Wheels and Tires

## Vehicle Jack Assembly



E263487

- A Wheel Brace.
- B Jack Handle and Extensions.
- C Vehicle Jack.
- D Extension Adaptor - Raptor Only.

**Note:** The Extension Adaptor is only used for the front jacking points of your vehicle, do not use for the rear jacking points.

The jack, wheel brace, extension adaptor and jack handle are in the cab.

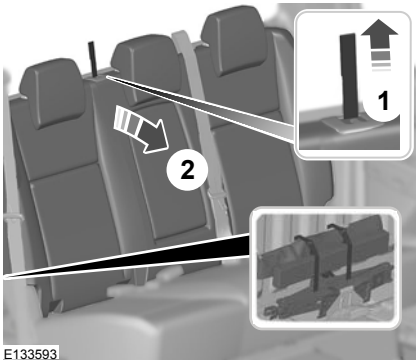
Your jack does not require maintenance or additional lubrication over the service life of your vehicle.

Do not use the jack if it is visibly damaged or does not operate freely. Replace the damaged jack with a jack specified for use on your vehicle if you detect these conditions.

### Double Cab - Jack and Tools Behind Seat

**Note:** There are two different double cab jack location configurations.

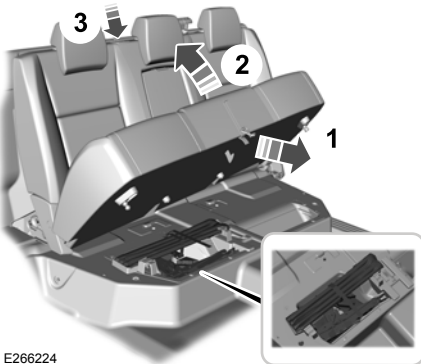
# Wheels and Tires



E133593

1. Lift the release strap.
2. Lower the seat back.
3. Remove the locking strap.
4. Remove the bolt.
5. Remove the jack and tools.

## Double Cab - Jack and Tools Under Seat



E266224

1. Pull the release strap out.
2. Lift the seat cushion up.
3. Use the tether strap to lock seat cushion.

4. Remove the locking strap.
5. Remove the jack and tools.

## Spare Wheel

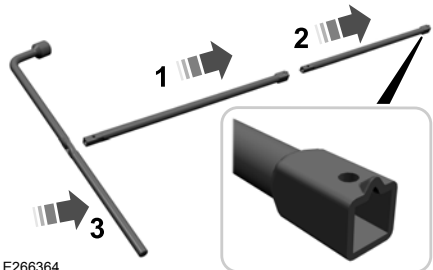
**Note:** If the spare wheel is not the same type and size as your vehicle road wheel, drive the shortest distance possible.

**Note:** Do not fit more than one spare wheel on your vehicle at any one time.

**Note:** The spare wheel has a label showing the maximum driving speed. Drive with caution and at no more than the permitted maximum speed.

**Note:** The usage of a dissimilar spare wheel or tire at any one wheel location can lead to impairment of the handling, stability and braking performance, comfort and noise.

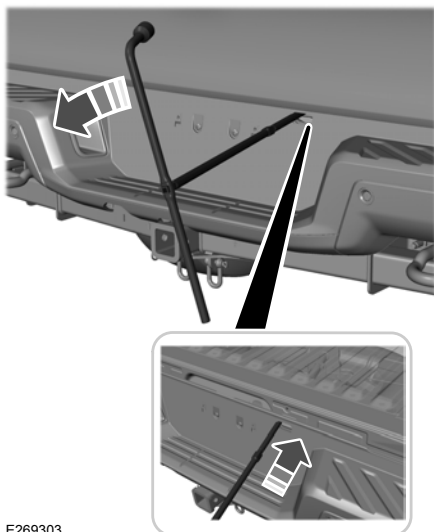
**Note:** The spare wheel is underneath the rear of the vehicle.



E266364

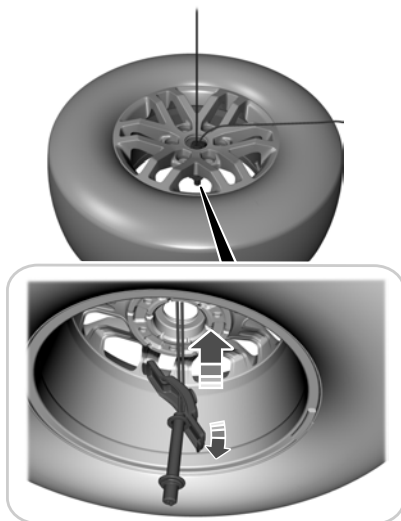
1. Assemble the handle.

## Wheels and Tires



E269303

2. Insert the jack handle into the guide hole. Turn counterclockwise until the wheel rests on the ground, and there is slack in the cable.



E269304

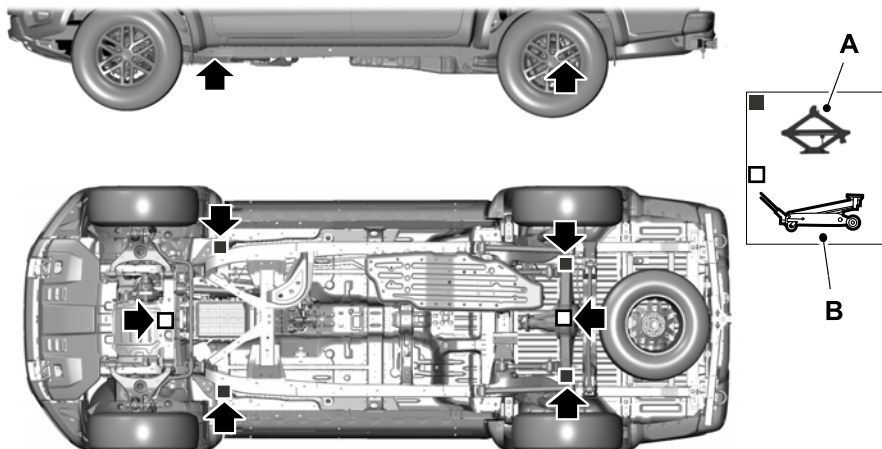
3. Pass the bracket and cable through the wheel opening.

### Jacking and Lifting Points



**WARNING:** Use only the specified jacking points. If you use other positions, you may damage the body, steering, suspension, engine, braking system or the fuel lines.

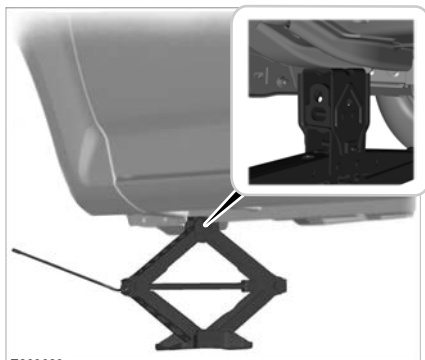
# Wheels and Tires



E266725

A. Emergency use only.

B. Maintenance.



E263629

## Removing a Road Wheel

**WARNING:** Park your vehicle in such a position that neither the traffic nor you are hindered or endangered.

**WARNING:** Make sure that the wheels are pointing straight ahead.

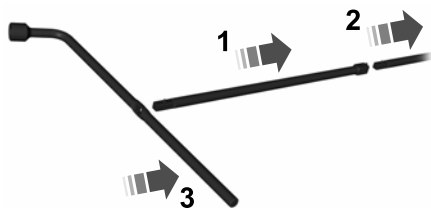
**WARNING:** If your vehicle has a manual transmission, shift into first or reverse gear. If your vehicle has an automatic transmission, shift into park (P).

**WARNING:** Secure the diagonally opposite wheel with an appropriate block or wheel chock.

**WARNING:** Make sure that the vehicle jack is vertical to the jacking point and the base is flat on the ground.

# Wheels and Tires

**Note:** Do not lay alloy road wheels face down on the ground.



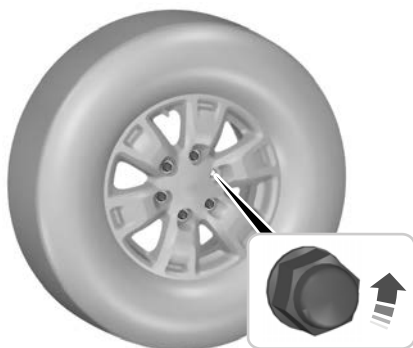
E79153

**Note:** The Extension Adaptor is only used for the front jacking points of your vehicle, do not use for the rear jacking points.

1. Assemble the jack handle.
2. Install the extension adaptor on the jack and secure with the wing bolt.

**Note:** Assemble the three handles to jack the rear of the vehicle.

3. Ensure screwthread on the jack is adequately lubricated before use.
4. Loosen the wheel nuts.
5. Raise your vehicle until the tire is clear of the ground.



E134693

6. Remove the wheel nuts and the road wheel.

## Installing a Road Wheel

**WARNING:** Use only approved wheel and tire sizes. Using other sizes could damage your vehicle.

**WARNING:** Do not fit run flat tires on vehicles that were not originally fitted with them. See an authorized dealer for more details about compatibility.

**WARNING:** Make sure there is no grease or oil on the threads or the surface between the wheel lugs and nuts. This can cause the lug nuts to loosen while driving.

**WARNING:** Have the lug nuts checked for tightness and the tire pressure checked as soon as possible.

**WARNING:** Do not install alloy wheels using lug nuts designed for use with steel wheels.

**Note:** Make sure the wheel and hub contact surfaces are free from foreign matter.

**Note:** Make sure that the cones on the wheel nuts are against the wheel.

1. Install the wheel.
2. Install the wheel nuts finger tight.
3. Install the locking wheel nut key.



# Wheels and Tires

**Note:** If the spare wheel is different in size or construction to the road wheels, replace it as soon as possible.

## Stowing the Flat Tire

**Note:** Do not use power tools on the spare wheel winch input drive.

1. Place the wheel flat on the ground, with the outer face of the wheel facing up.
2. Tilt the bracket, and pass it through the center of the wheel.
3. Fully insert the jack handle into the guide hole and turn the jack handle clockwise until the tire raises to its stowed position underneath your vehicle and securely seated. The spare tire carrier does not allow you to overtighten.
4. Stow the wheel brace, jack, and jack handle away.

## TECHNICAL SPECIFICATIONS

E79156

4. Partially tighten the wheel nuts in the sequence shown.
5. Lower the vehicle and remove the jack.
6. Fully tighten the wheel nuts in the sequence shown. See **Technical Specifications** (page 38).
7. Make sure that the projection of the cap is positioned on the same position as the projection of the hub.

## Wheel Nut Torque

Vehicle Type	Nm
All	135 Nm

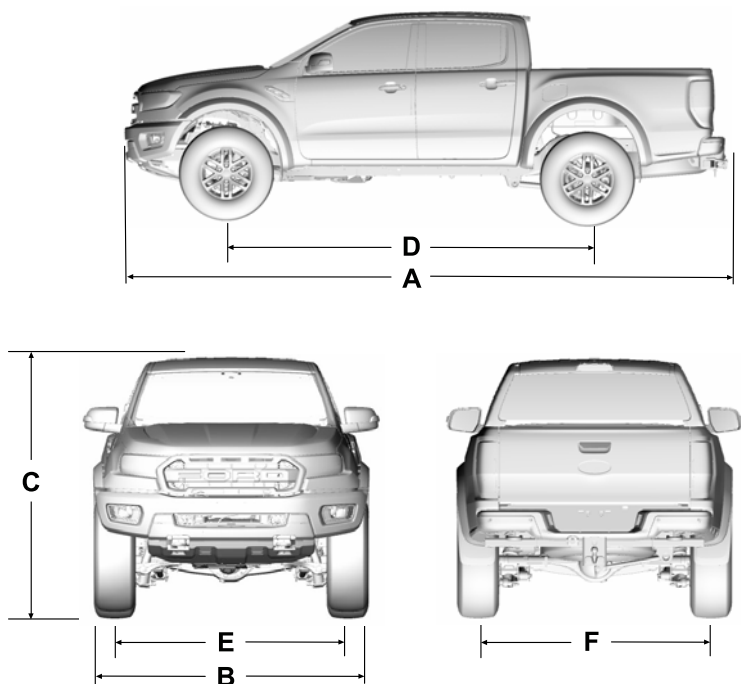
## Tire Pressures (Cold Tires)

Tire Size	Normal Load		ECO		Full Load	
	Front	Rear	Front	Rear	Front	Rear
LT 285/70 R17 116/113S <sup>1</sup>	240 kPa	240 kPa	N/A	N/A	240 kPa	240 kPa

<sup>1</sup> Only fit snow chains to specified tires.

# Capacities and Specifications

## VEHICLE DIMENSIONS



E266558

Item	Dimension	Specification
A	Maximum length	5,398 mm
B	Overall width excluding exterior mirrors	2,028 mm
C	Overall height	1,873 mm

# Capacities and Specifications

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Item	Dimension	Specification
D	Wheelbase	3,220 mm
E	Front Track	1,710 mm
F	Rear Track	1,710 mm

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